BIOLOGIA
CENTRALI-AMERICANA.

INSECTA.

COLEOPTERA. Vol. II. Part 2.
PECTINICORNIA AND LAMEL LICORNIA.

BY

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1886–1890.
INTRODUCTION.

The present volume of the Coleoptera section of the Central-American fauna deals with the two allied Tribes Pectinicornia and Lamellicornia, well-defined groups which include many of the largest and most striking forms of the order. The genera representing the two tribes were placed by Linnaeus and other early systematists, apparently under a vague, but not less true, sense of their superior organization, at the head of the whole Coleopterous series, a position from which they have since been deposed in favour of the less specialized Cicindelidæ and allied groups of the Adephaga. The higher specialization of the Lamellicornia is clearly shown in the tendency they display to consolidation of parts of their external structure, especially the mouth-organs, the ligula with the mentum, and the labrum with the clypeus or epistome, and still more clearly in the concentration and reduction in number of the ganglia of the nervous system.

The two tribes were considered as forming one only by the eminent specialists Erichson and Burmeister, and were separated by Lacordaire in his classical 'Genera des Coléoptères,' in 1856, chiefly on the ground of the immobility of the antennal lamella, the same being movable like the leaves of a book in the more highly organized Lamellicornia. This constant difference is, however, supplemented by many other important and significant characters, which, though constant within subordinate groups of each respectively, do not apply to the whole tribe and are therefore of minor systematic value, though indicating sufficiently distinct tribal types of form and lines of development.

With regard to the contents and relations of the Central-American fauna of Pectinicornia and Lamellicornia, the two tribes present such different aspects that they must be considered separately.

In Pectinicornia our fauna is exceedingly poor in the chief family of the tribe, viz. the Lucanidæ, but, on the other hand, exceedingly rich in the other and more aberrant
families, the Passalidæ. Of Lucanidæ we are able to record only 5 species of 3 genera, whilst in Passalidæ we have 67 species of 27 genera. A comparison with such allied faunas in other parts of the world as have been worked out sufficiently to promise approximately accurate results, seems to show that the poverty in Lucanidæ arises from Central America lying too far south in the continent to have been reached by many species of Old-World genera, which in America extend no further south than the temperate zone, and too far north for the genera characteristic of South Brazil, Chili, and the Andes. The conditions seem, however, to be very favourable to the Passalidæ, which here reach their highest development and exhibit more diversity of form than in any other region. Other faunas show the following proportions:—North America (Henshaw's Catalogue, 1885, and Suppl. 1887) possesses of Lucanidæ 14 species of 5 genera, and Passalidæ 1 species of 1 genus; Brazil (Gemminger and Harold's Catalogue, 1868), Lucanidæ 22 species of 6 genera, Passalidæ 25 species of 16 genera. The Colombian subprovince probably approaches our fauna nearer in its proportions of the two families; but the data for an approximate enumeration, in this case, are not at hand. In the tropical regions of the Old World the predominance of the Lucanidæ is everywhere strongly marked. In the islands of the Malay Archipelago there are upwards of 80 species of Lucanidæ of a dozen genera, and only about 27 Passalidæ of 6 genera.

The Lamellicornia are well represented in Central America in all their families. In the following pages we are able to record the large total of 1028 species contained in 127 genera. This is about one-tenth of the number described to the present date from all parts of the world, which I find, on a rough enumeration, to be very nearly 10,000. On comparing this proportion with those of the previously completed tribes in the present work, we find that it is rather greater than in the Geodephaga, where the numbers are 1086: 12,000, and much less than in the Longicornia, of which Central America possesses 1273 species out of the total number described, viz. 8968. A comparison of the Lamellicorn fauna with that of other tropical regions of similar extent is impossible, as the necessary data do not exist in a connected form; we cannot say therefore whether our fauna is exceptionally rich for a tropical region; but as compared with temperate regions, e. g. Europe and North America, it is certainly very much richer than either. Of Lamellicornia Europe possesses only 636 species of 71 genera and North America 523 of 75 genera. In the less tropical tribe of Geodephaga the proportion is nearly reversed, our region furnishing only 1086 species, as compared with 1750 and 1223 for Europe and North America respectively; on the other hand, in the more tropical tribe of Longicornia Central America shows a still more decided superiority,
INTRODUCTION.

the number of species being 1273, whilst for North America (Henshaw's Catalogue) it is 579, and for Europe (with the Caucasus), according to the latest edition of Heyden, Reitter, and Weise's Catalogue, only 473 species.

The material for the present volume has been relatively richer than that for the former volumes on the Geodephaga and Longicornia, for in addition to that obtained by the four years' labours of Mr. Champion, and the fine collections of M. Sallé, Herr Höge, Herr Van Patten, Mr. Belt, and others mentioned in a previous Introduction, it includes a very large collection, a portion of the fruit of Herr Höge's second journey to Mexico, and another, rich in new and interesting forms, obtained by Mr. and Mrs. H. H. Smith during their recent journey, in which they visited parts of Mexico not previously explored. Many new species have also been obtained from Herr Conradt and from Dr. Gaumer, who collected in Guatemala and in Yucatan respectively. Mr. Flohr has also sent us specimens of many new species, some of the most remarkable of which were collected in the Sierra Madre of Durango.

The total number of species enumerated in the present volume is 1100: 494 new species (Pectinicornia 23 and Lamellicornia 471) and 19 new genera (Pectinicornia 4 and Lamellicornia 15) are described.

Of the 1028 species of Lamellicornia, 107 are left unnamed from want of sufficient material, such species being represented by single specimens only, often imperfect, which, in this family, where the sexual differences and degrees of development are so important, cannot afford reliable specific characters; these unnamed species chiefly belong to Lachnosterna (36), Anomala (24), and Diplotaxis (13). 492 species are figured (Pectinicornia 18 and Lamellicornia 474).

H. W. B.

January 1890.
ERRATA ET CORRIGENDA.

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Class INSECTA.

Order COLEOPTERA.

Tribe PECTINICORNIA.

Fam. LUCANIDÆ.

CANTHAROLETHRUS.


Three, perhaps four, closely allied species of this beautiful and peculiar genus of stag-beetles are known, all from Colombia or Ecuador. One of the Colombian species extends its range into the domain of our Fauna, and is remarkable as being, with the exception of two small Æsali, the only form known to inhabit Central America of the conspicuous Family of Lucanidæ, so numerously represented in all other tropical and subtropical regions.

1. Cantharolethrus luxerii. (Tab. I. figg. 1 ♂, 2 ♀.)


Cantharolethrus luxerii, Parry, Trans. Ent. Soc. 3 Ser. II. p. 6, t. 9. f. 6; id. ibid. 1872, p. 76 (♂);


Hab. Costa Rica (Van Patten); PANAMA, Volcan de Chiriqui 3000 feet (Champion).

—SOUTH AMERICA, Colombia 123.

Four examples, viz. two males from Costa Rica, and two females from Chiriqui. The largest of the two males measures 50 millim. and one of the females 33 millim.

The examples obtained by Mr. Champion were both found crawling on tree-trunks, in the dense forest bordering the upper margins of the coffee plantations in the district known as "Las Potrerillas," situate on the south-east slope of the Volcan de Chiriqui.

BIOL. CENTR.-AMER., Coleopt., Vol. II. Pt. 2, May 1886. BB
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ÆSALUS.


Three species of Æsalus have been recorded, one European, one Japanese, and one from Mexico.

1. Æsalus trogoïdes.

Æsalus trogoïdes, Albers, Deutsche ent. Zeit. 1883, p. 228 1.

Hab. Mexico, Oaxaca 1.

As no mention is made of an ocellar canthus, this species appears to be a typical Æsalus. It is much larger (6 millim.) than Æ. neotropicalis, and also differs in colour and in the form of the prosternum.

2. Æsalus neotropicalis. (Tab. i. figs. 3, 3 a.)

Oblongo-ovatus, sordide fuscus, antennis pedibusque rudioribus; supra brevior sat dense erecte setosis, opacus, grosse discrete punctatus; clypeo vix arcuato, oculis cantho angusto setifero dimido divisi; thorace ferre situm in Æ. scarabœoides; elytris interstitiis paullo convexit; setis plerumque in striis siti; tibias anteicis et intermediae extus denticulatissimae dentibusque acutis elongatis tribus, 1° apicali recte exstanti, alteris duobus medianis; prosterno piano, nec elevato.

Hab. Guatemala, near the city, Zapote, Capetillo (Champion).

Diffsers from the type of the genus, and all other members of the subfamily to which it belongs, in the eyes being divided (for half their width) by a canthus. The canthus is linear, convex, and studded with short blunt erect setae like the rest of the surface. The antennae are very similar; but the joints 6 and 7 are excessively short and acutely produced on their inner side. The mesosternum, as in the type, forms a subvertical plate on the front face of an intercoxal process of the metasternum, and is broadly excavated to receive the point of the prosternum; the latter is not elevated as in Æ. scarabœoides, but planed to the level of the anterior coxae.

Many examples, obtained by beating the withered leaves and boughs of fallen forest trees.

Fam. PASSALIDÆ.

The latest monographer of this family, Dr. Kaup, in 1871 (Monogr. der Passaliden, Berlin Ent. Zeitschr. xv.), formulated an elaborate classification, which, as it was founded on abundant material, and of course applied to the Passalidæ of the whole world, I would willingly have adopted, as the most convenient course in dealing with a limited fauna; but a careful examination has shown the classification to be so arbitrary and inapplicable that I have been compelled to reject it. How far the inconsistencies may be due to the quinary method which Kaup adopted it is unnecessary to inquire, but the necessity of making up the number five in the species of each genus, the genera of
each subfamily, and so forth, is certainly accountable for some of the errors. The Passalidae of the New World, instead of forming three out of the five subfamilies into which Kaup divided the family, seem to me to belong essentially all to one type of form, with very great diversity of minor characters, but no important differences of structure. The minor differences afford tolerably trustworthy characters for the formation of small generic groups of which Kaup established a large number, and in adopting most of these I have been obliged to institute numerous others on the same class of modifications, chiefly the ridges and armature of the head. I have grouped the genera into two sections, characterized by the form of the base of the elytra and the relative length of these organs, or the hinder body, with regard to the thorax. For convenience of reference and comparison I have adhered pretty closely to Kaup’s sequence of the genera, although it violates to some extent their natural affinities.

Section I. Elytra relatively short, more or less protuberant in the middle of the base.

A. Antennal leaflets very long.

**PROCULUS.**

*Proculus,* Kaup, Harold’s Col. Hefte, iv. p. 8 (1868); id. Monogr. der Passaliden, p. 65 (1871).

Three species of this fine genus, the giants of the family, are at present known. They appear to be restricted to Guatemala and the adjoining region of British Honduras.

In Guatemala *P. goryi* is confined to the Pacific slope, and found at elevations of from 1000 to 5000 feet; *P. opacipennis* and *P. maiszechi* to the Atlantic slope, and to the humid forest region of Alta Vera Paz, at elevations of from 3000 to 5000 feet; examples of the last-named species were only met with sparingly in various localities in this district by Mr. Champion, who, at the time not possessing means of preserving such large insects in a very humid climate, was unable to retain examples.

Decaying specimens of these and other Passalidae occasionally harbour rare Staphylinidae.

1. **Proculus goryi.**


*Proculus goryi,* Kaup, Monogr. der Passal. p. 66, t. 5, f. 11.

*Hab.* **Guatemala** 1, Pantaleon, Las Mercedes, Las Nubes above Mazatenango (*Champion*), Costa Cuca (*Sarg*).

This species was obtained plentifully, by Mr. Champion in the coffee estate of Las Nubes and elsewhere along the Pacific slope, by employing the Indians to turn over the fallen trunks of the largest forest trees, in the decaying wood on the under side of which the insect passes its earlier stages.

**BB 2**
2. **Proculus opacipennis.**

*Passalus opacipennis*, Thomson, Archiv Ent. i. p. 420, t. 21. f. 4.¹

*Proculus opacipennis*, Kaup, Monogr. der Passal. p. 68, t. 5. f. 3.

*Hab.* **Guatemala**¹, Coban, Senahu (Champion).

3. **Proculus mniszechi.**

*Passalus goryi*, Thomson, Archiv Ent. i. p. 421 (nee Melly)¹.


*Hab.* **British Honduras**, R. Sarstoon (*Blancaneaux*); **Guatemala**¹² (*Sallé*), Subo, Tactic, and elsewhere in Alta Vera Paz (Champion).

### B. Antennal leaflets moderately elongated.

**PROCULEJUS.**

*Proculejus*, Kaup, Monogr. der Passal. p. 60.

Kaup gives the antennal leaflets as "short." They are certainly much shorter than in *Proculus*, but not so short as in the restricted genus *Passalus* and its allies. The first and second leaflets are more than twice the length of the body of the joints, and the third leaflet is moderately slender.

The leaflets have an extremely finely-shagreened sensitive surface and short pubescence; in *Proculus* the surface is sparsely punctured and shining, and the pubescence very long.

Five species have been described, four from Mexico and one from Ecuador.

### § 1. Marginal interstices of the elytra more or less punctulate and hairy.

1. **Proculejus brevis.**


*Proculejus brevis*, Kaup, Monogr. der Passal. p. 61¹.

*Hab.* **Mexico**¹, Jacale (*Sallé*), Jalapa (*Höge*), Mirador² (*Dr. Sartorius*).

Kaup’s *P. brevis* is cited with doubt, as he says the mandibles have *three* apical teeth. M. Sallé’s specimens from Jacale, the locality whence came M. Truqui’s types, have only two apical teeth.

2. **Proculejus hirtus.**


*Proculejus hirtus*, Kaup, Monogr. der Passal. p. 62².

*Hab.* **Mexico**¹ (*Sallé*), Huachinango² (*coll. Mnisech*).
3. **Proculejus truquii.**


_Hab._ MEXICO¹ (coll. Mniszech).

4. **Proculejus sartorii.**


_Hab._ MEXICO, Mirador¹ (Dr. Sartorius), Oaxaca (var. ?, Sallé).

A specimen in the Sallé collection agrees well with Kaup’s description, especially in the flattened surface of the thorax and elytra and the bidentate apex of the mandibles. It differs, however, in the much less extent of the punctulate and hairy lateral interstices of the elytra, the basal portion of the tenth interstice only being so sculptured and clothed. Kaup describes _P. sartorii_ as having the second, third, and fourth marginal (i.e. eighth, ninth, and tenth from the suture) interstices punctulate throughout.

5. **Proculejus pubicostis.** (Tab. I. figg. 4, 4a.)

Breviter oblongus; verticis cornu elangato antice libero et paululum elevato, apud basin utrinque tuberculo subrotundato; carinis frontalibus vix acutis divaricatis usque clypeo tuberculo lateralem extensis ibique tuberculatis; clypeo acute marginato, fronte levissima; thorace sicut in _P. brevis_, sulculis marginalibus passim angustis, punctatis, foveaque laterali punctulato-pubescenti; elytris relative quam in hac specie brevioribus, sol antice medio paullo minus prominentibus, sulcatis, sulcis subtilius punctulatis; interstices 1°-6° latis, planis, 7° angustiori, glabro, 8°-10° punctulato-pubescentibus, 9° anguste subcarinato; tibiis 4 posticis extus absque spiniis.

_Long._ 28 millim.; _thorax_ 8, _elytra_ 15 millim. _long._

_Hab._ MEXICO, Orizaba (Sallé). One example.

Named _P. mexicanus_, Truqui, in the Sallé collection, but evidently in error as it does not at all agree with Truqui’s description. The antennal club has three moderately long, thin leaflets, as in the other species of _Proculejus_.

This species differs from the others of this section in the tubercle of the vertex being prolonged into a long, horizontal, laterally subcompressed horn, and in the frontal carinae being widely divergent and ending in a tubercle very close to a similar clypeal tubercle over the base of the mandibles. As it resembles in all other characters _P. brevis_, the modification in the armature of the head can scarcely be taken as a generic character.

§ 2. **Elytra entirely glabrous.**

6. **Proculejus championi.** (Tab. I. figg. 5, 5a.)

Breviter oblongus, elytris subovatis, convexus, niger politus; clypeo lato, carinique antice et postice sulco laevi marginatis; tuberculo verticis parum elevato, compresso-conico, postice late sulcato, spine declivi carinique frontalibus brevibus divergentibus utrinque in tuberculum validum longe ante clypeum terminatis; man-
PECTINICORNIA.

dibulis apice bidentatis; thorace relative magno, sulco marginali undique levii, antice intus dilatato; 
elyris profunde striatis, striis fundo punctulatis, interstititis omnibus aequalibus.
Long. 30 millim.; thorax 9, elytra 18 millim. long.

Hab. GUATEMALA, Purula in Vera Paz 4000 feet (Champion).

Very similar to P. brevis, Truqui, in all its proportions and in the sculpture of the head, the only differences in the latter being that the frontal carinae terminate long before the sulcus which limits the clypeus; the horn or tubercle of the vertex is broadly sulcate behind and the depressed areas are much smoother. The thorax differs in the dilated sulcus on the anterior margin and the perfectly smooth lateral fovea. The antennal club has the leaflets moderately elongated and minutely sculptured in both species, and the lobes of the mentum are very coarsely punctured and hairy. The elytra in both are almost angularly prominent in the middle of the base, and the basal edge runs obliquely backwards to the rectangular shoulders. The mesosternum is glabrous and impunctate; the flanks of the thorax densely hairy. The legs have only a few hairs; the middle tibiae two strong spines, the hinder tibiae only one.

Although Kaup gives the punctate-hairy sides of the elytra as one of the chief characters of the genus, he admits one species (P. quitensis) which has glabrous sides; this may be included in the same section as P. championi, although it differs in some important particulars.

Several examples, found in the dense humid forest.

OILEUS.

Oileus, Kaup, Monogr. der Passal. p. 58; id. ibid. p. 117.

Differs from Proculejius in the tubercle of the head being developed into a long horizontal horn, with a free tip projecting beyond the edge of the clypeus, and in the obsolete frontal carinae. The sole species is much larger than the Proculeji, and differs from them in the slightly impressed elytral striae. The elytra are relatively longer, but have the same prominence in the middle of the base and rather more obtuse shoulders.

Kaup founded his genus Oileus in his Prodromus (Harold's Col. Hefte, v.) on a miscellaneous set of species four in number, which he subsequently, in his monograph, separated into three genera with new names, transferring the name Oileus to a species which was not included in the original genus. It is perhaps expedient to overlook this irregularity, as a shifting of the names again, according to the rules of nomenclature, would only tend to increase the confusion.

1. Oileus heros. (Tab. I. figg. 6, 6a.)


Oileus heros, Kaup, Monogr. der Passal. p. 58.

Hab. MEXICO, Huachinango 

Truqui, type in coll. Sallé.)
OXYGES.—PROSOCLITUS.

OXYGES.

Oxyges, Kaup, Monogr. der Passal. p. 69.

Kaup refers the following two species to this genus.

1. Oxyges lævissimus. (Tab. I. figg. 7, 7a.)


Oxyges lævissimus, Kaup, Monogr. der Passal. p. 69 1.

Hab. Guatemala (Wagner 1, Sallé).

2. Oxyges lævior.

Oxyges lævior, Kaup, Monogr. der Passal. p. 70 1.

Hab. 1 Guatemala (Wagner 1).

PROSOCLITUS.

Gen. Proculejo affinis, sed elytris relative longioribus humerisque magis rotundatis. Clypeus flexuosus absque tuberulis; frons valde inaequalis, medio longitudinaliter usque ad clypei sulcum sulcata; cornu verticis latum, basi utrinque tuberulo aliformi valido, apice libere, ante epicem cum carinis frontalibus obtusis confusum, his subrecte usque carinam ocellorum extensis. Thorax convexus; sulculo marginali punctato, antice intus sat elongato vix dilatato; fovea laterali lævi. Elytra elongato-ovata, convexa, medio basi prominentia, humeris obtusis, basi declive punctulato-pubescenti; lateribus glabris; punctulato-sulcata, interstitialis equalibus sat latis. Tibiae 4 posteriores spina valida.

Differs from all the genera of the section in the shape and position of the cephalic prominences, and from Proculejus, with which it best agrees and to which it is further allied by the moderate length of the antennal leaflets, by the much greater relative length of the elytra.

The clypeus is distinct and separated from the front by a groove as in the allied genera, but the groove is multiflexuous instead of straight, and, probably in consequence of the transverse direction of the very obtuse frontal carinae, there is no distinct conical tubercle at each end of the groove. The metasternum has a patch of coarse punctures on each side near the apex, its sides have a very narrow punctured groove, and the base on each side near the middle coxae is punctulate-pubescent. The upper carina of the intermediate tibiae only has a fringe of hairs, as in Proculejus.

1. Prosoclitus obesus.

Convexus, politus; labro (sat profunde emarginato), antennis, prothorace, episternis tibisique posticus fulvo-hirtis; prosterno antice opaco, postice polito, convexo, acuminato; metasterno medio ventreque politissimis; thorace subtiliter punctulato, sulco dorsali marginem anteriorem longe hauat attingente; elytris elongato-ovatis, punctulato-sulcatis, interstitialis sat latissimis.

Long. 42 millim.; thorax 11, elytra 22 millim. long.

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TRIÆNURGUS.

Gen. Proculejo affinis; differt clypeo quadridentato etc. Oblongus, convexus, elytris relative brevibus undique glabris, humeris valde prominentibus. Clypeus quadridentatus, dentibus intermediiis inter se valde distantibus; sulco transverso nullo. Cornu verticis elongatum, apice liberum, una cum tuberulis basalis valvis liserisque tridentem elevatum horizontali efficiens; carina frontalis nulla. Thorax convexus, sucelo marginali punctato, antice intus paulllo dilatato et a margine recedenti. Elytra valde punctulato-sulcata, interstitii subconvexis et inequalibus, 7° angustissimo. Tibiae intermediae valde unispinosae spinisque duxbus minute, carina superiori ciliata; postice unispinosae. Antennarum clava longe trilamellata.

In its quadridentate clypeus this genus agrees with Pseudacanthus, Kaup, the typical species of which I have not seen. The two forms must, however, be generically distinct, as Kaup says of Pseudacanthus that the antennal leaflets are "ziemlich kurz."

1. Triænurgus subopacus. (Tab. I. figg. 8, 8a.)
Sat elongato-ovatus, valde convexus, politus; elytris fere opacis, valde punctato-sulcatis, interstitiis convexus, inequalibus, 6° 7° que angustioribus; thoracis fovea laterali laevissima; mesosterno lateribus punctatis; metasterno lateribus late punctulato-pubescentibus, apice utrinque plaga grosse punctata.
Long. 36 millim.; thorax 11, elytra 19 millim. long.

Hab. Guatemala, Totonicapam (Champion).

Two examples, found beneath pine bark at an elevation of about 10,000 feet.

C. Antennal leaflets very short.

PSEUDACANTHUS.

Pseudacanthus, Kaup, Monogr. der Passal. p. 73.

Kaup's definition of this genus is not satisfactory, and although I have not seen the typical species (P. mexicanus) I doubt whether his second species (P. laticornis) can remain associated with it. His third species (P. aztecs) is certainly not congeneric with P. laticornis. In the doubt concerning the form of the base of the elytra and the length of the antennal leaflets of the typical species, it seems advisable to leave P. laticornis as present in the genus. All the species are from Mexico.

1. Pseudacanthus mexicanus.
Pseudacanthus mexicanus, Kaup, Monogr. der Passal. p. 73, t. 4. f. 1 2.

Hab. Mexico 1, Vera Cruz 1 2.

No specimen of this species has reached us. One named P. mexicanus in the Sallé collection, as before mentioned, is a Proculejo.

2. Pseudacanthus (?) laticornis. (Tab. I. figg. 9, 9a.)
Pseudacanthus laticornis, Kaup, Monogr. der Passal. p. 74.

Hab. Mexico 1, Jacale (Sallé).
According to the type specimen, which I have examined, this species belongs to the same section of the family as *Proculejus*, the base of the elytra being prominent in the middle; but the leaflets of the antennae are extremely short. The flanking tubercles of the horn of the vertex are visible, though short and little elevated. The frontal carinae and their terminal tubercles are obsolete.

3. *Pseudacanthus (?) jalapensis.* (Tab. I. figg. 10, 10a.)

*P. laticorni* similis; minor, elytris relative brevioribus. Param convexus, nitidus; cornu ventris basi lato, apice elongato libero, tuberculis basalis sitae in *P. laticorni* conspicis, brevibus, paullo elevatis; carinis frontabilis late curvatis, obtusis, in tuberculum ante elypei antecaram terminanuibus; antennarum lamellae medioequirter elongatis; thorax angulis antecis rotundatis, sulculo margina ne undique angusto punctatulo, fossa laterali et lateribus laxibus; elytris medio basi parum prominentibus fere rectis, valde punctatostriatis, glabris, interstitialibus subequalibus; tubalis intermediis carinae superiori in medio gradatim elevata ibique dense ciliata, bispinosis; metasternum (juxta coxas intermedias grosse punctatulo excepto) lavisissimo. Long. 25 millim.; thorax 6½, elytra 13½ millin. long.

*Hab.* Mexico, Jalapa (Höge).

**PLATYVERRES.**


Kaup placed the species for which this genus is rendered necessary in his genus *Verres*, belonging to his subfamily “Passaline,” and therefore as far as possible apart from *Proculejus*, with which undoubtedly lie its true affinities. In the very short antennae it no doubt resembles the “Passalines,” but this is not more than a specific character in many of the Old World genera of the family, and cannot outweigh the form of the base of the elytra and the large size of the thorax. The parallel-sided and narrow lateral groove of the metasternum is also not unimportant as an indication of its true place. In *Verres* and all the allied large “Passalines” this groove is broadly dilated behind. In *Proculejus* and allies it is always narrow, and sometimes reduced to an impressed line.

1. *Platyverres intermedius.* (Tab. I. figg. 11, 11a, 12.)

*Verres intermedius*, Kaup, Monogr. der Passal. p. 115*.

*Hab.* Mexico*¹* (Sallé, ex coll. Sturm), Juquila (Sallé), Misantla (Höge).

The type specimen is in the British Museum and has been compared with one of M. Sallé’s examples by Mr. C. O. Waterhouse.

A specimen (Tab. I. fig. 12) taken by Herr Höge at Misantla has a thorax of extra-

ordinary size, considerably wider than the elytra. The following are its measurements: long. corp. 47 millim.; thorax long. 12\(\frac{1}{2}\), lat. 18 millim.; elytra long. 24, lat. basi 15 millim. The difference between this and the originally described specimen is probably sexual.

Section II. 

Elytra relatively long, the base broadly emarginate.

A. Antennal leaflets moderately elongated.

RIMOR.

Oileus (partim), Kaup, Monogr. der Passal. p. 60.
Rimor, Kaup, ibid. p. 119.

Two species are known, both from Central America.

1. Rimor sagittarius.

Passalus sagittarius, Smith, Cat. Brit. Mus. Passal. p. 14, t. 1. fig. 3\(^1\).
Passalus rimator, Truqui, Rev. et Mag. Zool. 1857, p. 266\(^2\).
Rimor sagittarius, Kaup, Monogr. der Passal. p. 120\(^3\).

Hab. Mexico \(^1\) \(^2\) \(^3\), Orizaba (Sallé, spec. typ.).

2. Rimor sargii.

Rimor sargii, Kaup, Monogr. der Passal. p. 119\(^4\).

Hab. Guatemala (Sary\(^1\)), San Joaquin, Cerro Zunil, Dueñas (Champion); Costa Rica, Volcan de Irazú (Rogers).

TRUQUIUS.


A genus rendered necessary for the reception of Passalus (Pseudacanthus) aztecus, Truqui, which differs from the other species in the relatively great difference in length between the thorax and the elytra.

1. Truquiarius aztecus.

Passalus aztecus, Truqui, Rev. & Mag. Zool. 1857, p. 314\(^1\).
Pseudacanthus aztecus, Kaup, Monogr. der Passal. p. 74\(^2\).

Hab. Mexico \(^1\) \(^2\), Toxpam (Sallé, specimen typ.), Orizaba (Sallé), Jalapa (Höge).
SPURUS.—POPILIUS.

SPURUS.

Spurius, Kaup, Monogr. der Passal. p. 75.

The following is the only species known of this well-marked genus.

1. Spurius bicornis.


Spurius bicornis, Kaup, Monogr. der Passal. p. 75, t. 4. f. 2.

_Hab._ Mexico, Cordova (Salle), Jalapa (Höge); British Honduras, R. Sarstoon (Blancaneaux); Guatemala, Escuintla, Coban (Champion).

POPILIUS.

Popilius, Kaup, Monogr. der Passal. p. 75.

Kaup enumerates five species under this genus, all from Mexico and Colombia. It is distinguished by its rather broad flattened clypeus, separated from the front by a fine or shallow (sometimes indistinct) line, having a tubercle at each end only; and by the oblique frontal declivity of the tubercle of the vertex, from the bottom of which spring the frontal carinae.

The antennal leaflets are moderately elongated, and the genus is not widely distinct from _Soranus_ of the subsection B.

1. Popilius klingelhoferi.


Popilius klingelhoferi, Kaup, Monogr. der Passal. p. 76.

_Hab._ Mexico.

2. Popilius mysticus.

Sat angustus, mediocrer depressus; tuberculo verticis compresso, tuberculis basilibus latissimis antice verticibus; carinis frontalis apud tuberculi verticis basia haud orientibus sed per lineam longitudinalam conjunctis; thorace margine antico utrinque prope angulum sinuato (sed angulis haud acutis), sulculo anteriori dilatato et punctato, lateribus medio plus minusve punctatis; elytris punctato-striatis, interstitialibus mediocrer convexis; metasterno basi et vitta lata laterali depressa, punctato-rugosis, apice utrinque punctis majoribus paucis vel nullis; tibiis intermediis unispinosis carinae superiori gradatim elevata ciliata.

_Long._ 25 millim.; _tmbx_ 6, _elytra_ 15 millim. long.

_Hab._ Guatemala, Cubilguitz 1000 feet (Champion), Yzabal (Salle).

Apparently very closely allied to _P. klingelhoferi_. Kaup, however, does not mention in his description of that species the remarkable position of the frontal carinae: these instead of originating at the apex of the central tubercle (which in _P. mysticus_ is almost vertical, and on nearly the same level as its broad flanking tubercles) commence lower
down, and describing a short curve end in a small tubercle long before the clypeal suture; at the same time they are joined to the base of the central tubercle by a longitudinal wheal, which shows traces of being composed of two obscure parallel keels, and is continued a short distance within and beyond the angle of the frontal carinae.

Mr. Champion collected a good series of specimens at Cubilguitz, in the low forest-region of northern Vera Paz.


*Popilius expositus,* Kaup, Monogr. der Passal. p. 77.

*Hab.* México?12.

4. *Popilius granulifrons.* (Tab. I. figg. 13, 13a.)

Sat anguste elongato-oblongus, supra planatus; tuberculis basalis latissimis antice verticalibus; tuberculo verticis cariniformi, apice valde declivi, carinis frontalibus apud declivitatis basin orientibus, imprimis usque ad tuberculam parum divaricatis deinde arcuatin usque ad tuberculam validum mandibularem continuavit; intra angulum acutum carinarum focea rotundata polita, deinde fronte granuloso-opaca; clypeo plano, vix nitido, medio plus minusve indentato; thorace lateribus impunctatis, angulis antecis rotundatis; elytris dorso planatis, punctulato-sulcatis, interstio interdum paullo convexis, 5°-7° angustioribus; metasterno convexo, polito, basi utrinque pauciter punctulato, apice utrinque punctis nonnullis majoribus; tibiis intermediis unidentatis, carinae superiori gradatim elevata et dense ciliata.

Long. 27 millim.; thorax 6, elytra 16 millim. long.

*Hab.* Guatemala, Totonicapam (Champion). Five examples.

Agrees in most points of the description with *P. expositus,* but larger (*P. expositus* is 10"=22 millim.) and differing in the granulated and opaque lower portion of the forehead. The usual impressed line separating the clypeus from the front is imperceptible, owing either to the granulate sculpture or to atrophy. Mr. Champion met with this species in the pine-forest region, at an elevation of about 10,000 feet.

5. *Popilius debilis.* (Tab. I. figg. 14, 14a.)

Minor et angustior, sat depressus; tuberculo verticis sicut in *P. granulifrons,* antice valde declivi carinisque frontalibus apud declivitatis apicem orientibus et flexuosa usque ad dentes mandibulares continuavit; angulo infra basin carinarum polito, fronte infra granuloso-opaca; thorace relative parvo, angulis antecis omnino rotundatis sulculeque anteriore valde dilatato et grosse punctato, lateribus late grosse punctatibus; elytris profunde punctato-striatis; metasterno et tibias sicut in *P. granulifrons.*

Long. 21 millim.; thorax 4½, elytra 14 millim. long.

*Hab.* Guatemala, Totonicapam, Capetillo (Champion).

Found in company with the preceding species, and also at a much lower elevation (4000-5000 feet) on the slope of the Volcan de Fuego at Capetillo.
6. **Popilius purulensis**.

*P. debili* paullo later, subdepressus; tuberculo verticis postice magis dilatato, et antice paullo producto; carinis frontalibus in media fronte orientibus, utrinque usque ad tuberculum mandibularem continuis, angulo intra basin carinarum granulato-episco; elypeo plano, polito, sutura nulla; thorace parvo, angulis antice rotundatis, sulculo anteriori dilatato, punctato, fovea laterali punctata; elytris sat profunde punctatostriatis, interstitiis subaequalibus; metasterno convexo aquali, postice vix punctato; tibias sicut in precedentibus.

Long. 21 millim.; thorax 4\(\frac{3}{4}\), elytra 13\(\frac{1}{2}\) millim. long.

*Hab.* Guatemala, Purula 4000 feet (Champion).

One example only, found in the humid forest-region of Alta Vera Paz.

**VINDEX.**

*Vindex*, Kaup, Monogr. der Passal. p. 78.

Founded by Kaup on a single, Mexican, species.

1. **Vindex agnoscedus**.

*Passalus agnoscedus*, Percheron, in Guérin, Mag. Zool. 1841, t. 78. f. 2\(^1\).

*Hab.* Mexico \(^1\), Jacale, Duransal, Parada (Sallé), Jalapa (Höye).

2. **Vindex sculptilis**.

Mediocriter elongatus, sat depressus; elytris late sulcatis sulcisque eleganter transversim punctatis, interstitiis \(5^\circ-9^\circ\) et omnibus versus apicem cariniformibus.

Long. 21 millim.; thorax \(8\frac{1}{2}\), elytra 12 millim. long.

*Hab.* Guatemala, Purula (Champion).

The frontal carinæ, as in *V. agnoscedus*, curve sharply round and end in long teeth which project over the clypeus and enclose a small semicircular space or fovea; at each end of the clypeus there is also a large and acute tooth. The metasternum shows no trace of flattened central plate, but the sides present a rather wide finely punctulate-pubescent depression.

**STEPHANOCEPHALUS.**

*Stephanocephalus*, Kaup, Monogr. der Passal. p. 78.

Two species are included by Kaup in this genus, one from Mexico, the other from Brazil. I have not seen specimens of either.

1. **Stephanocephalus stellaris**.

*Stephanocephalus stellaris*, Kaup, Harold’s Col. Hefte, v. p. 8; id. Monogr. p. 79\(^1\).

*Hab.* Mexico \(^1\) (*coll.* Mniszech).
PECTINICORNIA.

PAXILLUS.

Paxillus, MacLeay, Horae Entom. i. p. 105; Kaup, Monogr. der Passal. p. 80.

Two species are known, both widely distributed in Tropical and Subtropical America.

1. Paxillus leachi.

Paxillus Leachi, MacLeay, loc. cit. p. 106; Kaup, loc. cit. p. 80.

Hab. Mexico, Cordova, Orizaba, Tuxtlas (Sallé), Jalapa (Höge); British Honduras, Belize (Blancaneaux); Guatemala, Capetillo, Zapote, San Isidro, Las Mercedes, Miranda, Calderas, Panimá, Chacó, Cubilquit, Cahabón, Teleman (Champion); Nicaragua, Granada (Sallé), Chontales (Belt, Janson); Panama, Bugaba (Champion). — South America to South Brazil.

NELEUS.

Neleus, Kaup, Monogr. der Passal. p. 85.

Ninus, Kaup, loc. cit. p. 89.

The characters given by Kaup as distinguishing the two above-named genera are evidently only of specific value: one is the free apex of the horn or tubercle of the vertex in Neleus, which varies greatly, and another the median teeth of the clypeus, approximated and obtuse in Neleus and widely separate and acute in Ninus. The last-named character does not hold good, specimens of Neleus tlaeaca var. punctiger having the teeth as distant and acute as in Ninus interstitalis.

Seven species are known, distributed throughout Tropical America, north and south.

1. Neleus tlaeaca. (Tab. I. figg. 15, 15a *)

Hab. Mexico 1, Tres Marias Islands (Forrer), Cordova, Chiapas (Sallé), Jalapa (Höge); Guatemala, Yzabal (Sallé), Cerro Zunil, San Isidro, Zapote, San Gerónimo, Chacoj, Panimá, Laquín (Champion); Nicaragua, Chontales (Belt, Janson); Panama, Volcan de Chiriqui, Tolé (Champion). — South America to South Brazil and Paraguay.

Var. 2. N. punctiger, Serv. Enc. Méth. x. p. 20; Percheron, l. e. p. 47, t. 3. f. 6. — Magis depressus, elytris foribus punctatis, elyceo dentibus medianis acutis distantibus.

Long. 30-45 millim.

Hab. South America, Cayenne 1, Amazons.

Kaup reunited the two above-named species, whereby the older name, N. punctiger, was retained for the form so common in our region. Judging from Amazons examples, which agree with Percheron’s description of N. punctiger, for which he names Cayenne as the sole locality, the two forms seem to be sufficiently distinct to be treated as separate species.

* This species is badly drawn; the insect is much flatter than represented by our artist.
2. Neleus interstitialis.
Passalus interstitialis, Eschscholtz, Nov. Mem. Moscou, i. p. 13; Percheron, Monogr. des Passales, p. 73, t. 5, f. 6¹; Burmeister, Handbuch der Ent. v. p. 484.
Ninus interstitialis, Kaup, Monogr. der Passal. p. 89.
Passalus acuminatus, Eschscholtz, tom. cit. p. 21, var. minor.

Hab. Mexico, Ventanas (Forrer), Tuxtl, Teapa, Santa Cruz (Salad), Jalapa (Höye); British Honduras, R. Sarstoon (Blancaneaux); Guatemala, near the city (Salvin), Zapote, Cepetillo, Mirandilla, Pantaleon, San Gerónimo, Cubilguitz, Panzos (Champion); Nicaragua, Chontales (Janson); Panama, Volcan de Chiriqui (Champion).—South America, Ecuador, Peru, Amazons, South Brazil¹.—Antilles, Cuba.

NELEIDES.

Neleides, Kaup, Monogr. der Passal. p. 87.

Four Tropical-American species are included by Kaup in this genus. Neleides appears sufficiently distinct by its short frontal carinae, which end in a tubercle before reaching the straight clypeus.

1. Neleides punctulatus.

Hab. Panama¹.

Unknown to me.

RHODOCANTHOPUS.

Rhodocanthopus, Kaup, Monogr. der Passal. p. 90.

Kaup enumerates five species from different parts of Tropical America. It is well represented in our region. The species are of minor size, with strongly sculptured elytra and generally multispinose outer edge of the middle tibiae.

1. Rhodocanthopus maillei.
Rhodocanthopus maillei, Kaup, Monogr. der Passal. p. 90.

Hab. Mexico¹², Cordova, Orizaba (Salad, exempl. typic.); Nicaragua, Chontales (Belt, Janson); Panama, Volcan de Chiriqui (Champion).—Colombia¹; Ecuador.

2. Rhodocanthopus spiniger. (Tab. I. figg. 16, 16 a.)
R. maillei proxime affinis; differt clypeo quadrispinoso, spinis duobus intermedii plus minusve approximatis, exterioribus valde porrectis, canthisque oculorum bipinosis. Subdepressus, profunde punctato-striatus, striis 5*-9* latioribus et transversim punctatis; tibis intermedii et posticis extus multispinosis, parce ciliatis; thorace lateribus solum sparsim grosse punctatis, angulis anticis productis.
Long. 21–25 millim.
PECINICORNIA.

Hab. GUATEMALA, Cubilguitz (Champion); NICARAGUA, Chontales (Janson); PANAMA Volcan de Chiriqui (Champion).

Very closely allied to, and probably only a well-marked local variety of, R. maillei, which variety, however, does not embrace all the individuals of the localities in which it occurs. R. maillei in its normal form (clypeus obtusely indented in the middle) co-exists with it, and some Chiriqui examples show a tendency to bridge over the difference between the two forms. R. maillei and R. caelatus are related to each other in a similar way.

3. RHODOCANTHOPUS CAELATUS.

Rhodocanthopus caelatus, Kaup, Monogr. der Passal. p. 91.

Hab. BRITISH HONDURAS, R. Sarstoon (Blancaneaux); GUATEMALA, El Tumbador, Cerro Zunil, Capetillo, Calderas, Coban, Panima, Sinanja (Champion); NICARAGUA, Chontales (Janson); COSTA RICA, Volcan de Irazú (Rogers); PANAMA, Volcan de Chiriqui (Champion).—SOUTH AMERICA, PERU 1.

4. RHODOCANTHOPUS INOPS.

Rhodocanthopus morio, Kaup, Monogr. der Passal. p. 91 (= P. morio, Perch.).

Hab. MEXICO 1, Cordova, Orizaba (Sallé).

Kaup refers this species to Passalus morio and P. longulus of Percheron. It does not at all agree with Percheron’s description of either of those species, the former of which is said to be common in Brazil and the latter to be from an unknown locality.

5. RHODOCANTHOPUS GUATEMALENSI S.

Rhodocanthopus guatemalensis, Kaup, Monogr. der Passal. p. 92.

Hab. GUATEMALA 1, Tacút, San Gerónimo (Champion).

Found by Mr. Champion in decaying liquidambar and other trees at Tactic; and in the forest on the summit of the Chuaceus range of mountains, above San Gerónimo; in both places at an elevation of about 5000 feet.

6. RHODOCANTHOPUS PUNCTATUSTRIATUS.

Passalus punctatostriatus, Percheron, Monogr. des Passales, p. 78, t. 6. fig. 1.
Passalus contractus, Percheron, in Guérin’s Mag. Zool. t. 79. f. 2.
Rhodocanthopus punctatostriatus, Kaup, Monogr. der Passal. p. 92.

Hab. MEXICO, Orizaba, Vera Cruz, Juquila, Chiquihuite (Sallé), Jalapa (Morrison, Höge); BRITISH HONDURAS, R. Sarstoon (Blancaneaux); GUATEMALA, Yzabal (Sallé), near the city (Salvin), Aécituno, Capetillo, Pantaleon, San Isidro, Cerro Zunil, San
RHODOCANTHOPUS.—EPHIANUS.

Gerónimo, Purula, Tactic, San Joaquin, Coban, Cahabon (Champion); Nicaragua, Chontales (Janson); Costa Rica (Rogers); Panama, Volcan de Chiriqui (Champion).

7. **Rhodocanthopus curta**.

Brevius oblongus, elytris postice paullo dilatatis, subplanatis; clypeo medio obtuso et lanceolato, carinis frontalibus argutis, longe ante tuberculum mandibularem terminatis sed utrinque cum cantho oculari per carinas obtusas conjunctis; fronte ocellato-punctata; thorace quadrato, angulis antecis subrectis (apice obtusis), sulculo marginali intus dilatato et grosse punctato, lateribus (prope angulum) medio foveaque grosse punctata; elytris profunde striatis, striis transversim punctatis, 5–9 mm latioribus; metasterno medio planato, postice utrinque area depressa grosse punctata; tibiis intermediis 2a–3a et sparsissime ciliatis.

Long. 23 mm; thorax long. 6, lat. 8 mm; elytra long. 13 mm.

*Hab.* Guatemala, Mirandilla (Champion).

**PTICHOPUS.**

*Ptichopus*, Kaup, Monogr. der Passal. p. 96.

One of the very few well-marked generic forms in the American series of this family; distinguished from all others by the long pointed mandibles and the dilated anterior tibiae. Only one species is known.

1. **Ptichopus angulatus**.

*Passalus angulatus*, Percheron, Monogr. des Passales, p. 84, t. 6. f. 5.


*Ptichopus angulatus*, Kaup, Monogr. p. 96.

*Hab.* Mexico¹, Minas Viejas (Dr. Palmer), Presidio (Forrer), Jalapa (Höge), Orizaba, Guanajuato, Vera Cruz (Sallet); Costa Rica (Van Patten); Panama, Bugaba (Champion).

**EPHIANUS.**

*Ephianus*, Kaup, Monogr. der Passal. p. 98.

Kaup includes five species in this genus, which is distributed over a large part of Tropical America, including the West Indies.

1. **Ephianus binominatus**.


*Passalus occipitalis*, Percheron, Monogr. p. 80, t. 6. f. 2 (nee Eschscholtz)¹.


*Ephianus binominatus*, Kaup, Monogr. p. 98 (?)³.

*Hab.* Mexico²—South America, Brazil³; West Indies, Cuba¹.

Truqui includes this species in his paper on the Mexican Passali, but only on the *Biol. Centr.-Amer.*, Coleopt., Vol. II. Pt. 2, May 1886.
strength of a specimen in La Ferté's collection said to be from that country. No example is contained in the large Mexican collections of M. Sallé and Herr Höge. Kaup's description differs much from those of Percheron and Truqui.

* PHORONEUS.

**Phoroneus**, Kaup, Monogr. der Passal. p. 100.

Five species are enumerated by Kaup, viz. four from Brazil and one from Peru.

1. **Phoroneus jansoni.** (Tab. I. figg. 17, 17 a.)

Elongatus, convexus, vix planatus; clypeo trilegue, medio paullo producto ibique obtuse bidentato, denteque parvo utrinque supra labri marginae, max pone dentes linea impressa; tuberculo verticis parum elevato; apice haud libero; carinis frontalis brevissimis, acutis, lusis, longe ante clypeum terminatis; thorace angulis anticos products, sulculo marginali omnino levii antice intus dilatato, lateribus lusivis; elytris posterioribus impunctato-striatis, interstitiis subconvexis, 6°-9° paullo angustioribus, omnino glabris; metasterno disco planato, lateribus vitta depresso sed omnino impunctato; prosterno lateribus et tibiis parce hirsutis, his unidenticulatis.

Long. 32 millim.

*Hab.* Nicaragua, Chontales (Belt, Janson).

This species has the same facies and proportions as Undulifer incisus, but is not very closely allied to it generically. In the flattened disc (with sharp postero-lateral edges) of the metasternum it belongs to the *Neleus* group, in which its entirely smooth meso- and metasternum and sides of elytra give it generic distinction. Undulifer belongs to a group of genera, with long antennal leaflets, in which the "metasternum" is evenly convex, and the anterior angles of the thorax rounded instead of advanced, and more or less acute, as in *Neleus* and allies. Although the slightly arcuated middle part of the clypeus shows some approach to the singular form of the same member in Undulifer, the absence of spines in the latter constitutes a fundamental difference.

**UNDULIFER.**

*Undulifer*, Kaup, Monogr. der Passal. p. 103.

The following is the only recorded species.

1. **Undulifer incisus.**


*Undulifer incisus*, Kaup, loc. cit. p. 104.

*Hab.* Mexico, Parada, Oaxaca (Sallé), Cordova (Höge).
B. Antennal leaflets short.

SORANUS.

Kaup enumerates four Mexican and one Nicaraguan species under this genus. Its composition is, however, not satisfactory, as it contains species with moderately long and species with very short antennal leaflets, the former of which have a convex and impunctate metasternum and obtuse anterior thoracic angles, and the latter the commencement of a discal plate on the metasternum, with its patch of coarse punctures on its posterior sides, and somewhat produced thoracic angles. They are united only in the form of the carinae and tubercles of the head, the horn of the vertex being flanked by broad tubercles, which are vertical in front. *Soranus recticornis* is closely allied to *Popillus*.

1. *Soranus haagi*.


Unknown to me. If, as implied by Kaup originally referring this species to the genus *Passalus*, the antennal leaflets are very short, his genus *Soranus* should be limited to those species which possess that character, the others, or at any rate *S. recticornis*, being separated from it. To follow this course without examining his *S. haagi* seems, however, unadvisable.

2. *Soranus tropicus*.

*Passalus tropicus*, Percheron, Monogr. des Passales, p. 79, t. 7. fig. 4; Truqui, Rev. & Mag. Zool. 1857, p. 312.


*Hab. Mexico* 1 2, Jacale, Puebla (*Sallé*), Jalapa (*Höge*).

In this species the antennal leaflets are very short; the anterior angles of the thorax rectangular with the apex blunted; the metasternum without distinct discal plate, but with a slightly depressed patch of coarse punctures on each side.

3. *Soranus wagneri*.


*Soranus wagneri*, Kaup, Monogr. der Passal. p. 108, t. 7. f. 2.

*Hab. Guatemala* 1 2; *Nicaragua*, Chontales (*Janson*).

In *S. wagneri* the antennal leaflets are very short, the anterior angles of the thorax...
subacute, the disc of the metasternum and its punctured posterior margins the same as in *S. tropicus.*

4. **Soranus recticornis.**


*Soranus recticornis,* Kaup, Monogr. der Passal. p. 108, t. 7. f. 3.


The antennal leaflets in *S. recticornis* are rather longer than in the two preceding species, but the first is not twice as long as the body of the joint; the anterior angles of the thorax are rather obtuse; the metasternum convex and without trace of shield-formation or group of coarse punctures.

The middle tibiae have in the middle of the outer edge (not on the upper carina) an abruptly projecting horny process, a little curled inwards, on which the long hairs are much denser than on the rest of the edge.

5. **Soranus ellipticus.**


*Soranus ellipticus,* Kaup, Monogr. der Passal. p. 108.

*Hab.* *México* 1 2, *Puebla* (Salle); *Guatemala,* *Zapote* (Champion).

In this species the antennal leaflets, first and second, are twice as long as the body of the respective joints, but vary a little in length in different individuals; the anterior angles of the thorax are obtuse; the metasternum without trace of flattened plate or group of coarse punctures.

6. **Soranus championi.** (Tab. I. figg. 18, 18 a.)

*S. ellipticus* similis, sed differt cornu verticis antice valde elongato et libero, horizontali, postice dilatato; tuberculis basalis transversis antice verticalibus sed haud sicut in *S. ellipticus* culmine sulcatis; carinis frontalibus brevibus, obtasis, apice haud tuberculatis; thorace elytrisque sicut in ea specie; metasterno valde differt, latoribus late punctulato-pubescentibus abeque vitta laterali depressa; antennarum lamellis brevissimis.

Long. 35 millim.

*Hab.* *Guatemala,* *Purula* (Champion).

One example only.

7. **Soranus yucatanus.**

*S. recticorni* similis, sed major elytrisque relative longioribus; tibis intermedios simplicibus (carina breviter ciliata) unispinosis; cornu verticis horizontali, basi haud dilatato, apice tuberculo suberecto; tuberculis basalis minoribus, valde depressis, antice haud verticalibus; carinis frontalibus sicut in *S. recticorni,* validis, divaricatis, ante tuberculum mandibularem terminatis; thorace angulis antecis subobtusis, latoribus impunctatis, sulculo marginali antice profundo intus haud dilatato, punctato; elytris punctato-striatis,
interstitialibus subequalibus, sat planis; metasterno basi utrinque punctulato-pubescenti, apice utrinque plaga grosse punctato; antennarum clava breviter lamellata.

Long. 35 millim.

Hab. Mexico, S.W. Yucatan (Dr. Horn, coll. Bates).

One example.

8. Soranus (?) intergenus.

S. recticornis similis, sed differt clypeo antice deplanato, polito, postice leviter vel haud transversim carinato et post carinam linea impressa; cormo verticis anteae similis in S. recticornis sed apice minus libero et elevato; thorace angulis anteae rotundatis, lateribus grosse, et disco plus minus grosse punctatis, selenulo marginali antice flexuoso, lato, grosse punctato; elytris punctato-striatis, interstitialibus paullo paullo angustioribus; metasterno disco haud planato, basi utrinque punctulato-pubescenti, apice utrinque parum punctato; tibiis intermediis extus 1a 2aque spinosis, absque lobo hirsuto, carina gradatim paullo paullo elevata et sparsim ciliata. Long. 21 millim.

Hab. Mexico, Orizaba (Salle); Guatemala (Salle).

Five examples. This species bridges over the difference between the genera Soranus and Popilius, which Kaup places in distinct subfamilies. The antennal leaflets are somewhat elongated, as in Soranus recticornis and S. eclipiticus, and not shorter than in some species of Popilius. As it agrees so closely in the form and position of the cephalic elevations with Soranus, it is better left, for the present, in the same genus as that species, notwithstanding the flattened front edge of the clypeus.

PASSALUS.

Passalus, Fabricius, Ent. Syst. i. 2, p. 240; Kaup, Monogr. der Passal. p. 106.

Kaup included four species only in the genus Passalus as narrowly restricted by him. As the P. cornutus of the founder of the genus is included among the four, the application of the name to the group may be considered as justified, although that species was not known to Fabricius when he originally treated of the genus, being first mentioned in his subsequent work, the 'Systema Eleutheratorum.'

1. Passalus cornutus.

Passalus distinctus, Weber, Osa. Entom. i. p. 79 (1805); Percheron, Monogr. p. 99, t. 7. f. 6; Kaup, Monogr. p. 106, t. 7. f. 1a.

Hab. North America12.—Mexico 2.

2. Passalus zodiacus.


Hab. Mexico 1, Orizaba (Salle), Jalapa (Morrison).
3. **Passalus cuspidatus.**


_Hab._ Mexico.

4. **Passalus striato-punctatus.**


_Hab._ Mexico, Cordova (Sallé), Jalapa (Höge); Guatemala, San Gerónimo (Champion); Nicaragua, Chontales (Belt).

The antennal leaflets in this species are much more elongated than in _P. cornutus_ and _P. zodiacus_, but they vary in length in different individuals, the first leaflet being sometimes more than twice the length of the body of the joint.

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**Veturius.**

_Veturius,* Kaup, Monogr. der Passal. p. 110.

Kaup includes in this genus five species from various parts of Tropical America. All are of large size, and distinguished by the anterior margin of the thorax forming in the middle a rounded lobular projection.

1. **Veturius heydeni.**

*Passalus Heydenii,* Kaup, Harold’s Col. Hefte, iv. p. 27.

_Veturius Heydenii,* Kaup, Monogr. p. 110.

_Hab._ Mexico.

2. **Veturius platyrhinus.**

*Passalus platyrhinus,* Hope, Cat. Lucan. p. 28.


_Veturius platyrhinus,* Kaup, Monogr. p. 111, t. 7, ff. 4, 4 a.

_Hab._ Nicaragua, Chontales (Belt, Janson); Costa Rica (Sallé), Volcan de Irazú (Rogers); Panama, Volcan de Chiriquí, Bugaba (Champion).—South America, Colombia.

This species varies in length, from 32 to 52 millim.; in the depth of the elytral striae; and in the rugosity of the remarkably broad and deep sulci on the lateral margins of the thorax. One small example from Costa Rica has quite faint elytral striae.
3. **Veturius cirratus.** (Tab. I. figg. 19, 19 a.)

Pro hoc genere gracilis, elytris subopalescentibus; cornu verticis horizontali infra apicem carinam frontales ante elyceum in tuberculum terminatam emittente; labro apico fere recto; thorace antice medio brevissime lobulato, angulis anticus minus obtusis, sulco marginali apud lateram et antice sit dilatato-punctato; elytris humeris fulvo barbatis, striis concinne transversim punctatis, interstitiis convexis, 5°, 7° et 9° angustioribus; tibis 4 positis biseriatis sat longe ciliatis; metasterno vitta dilata apice dilatata laterali apice dilata basique utrinque punctulato-pubescenti.

Long. 33 millim.

*Hab.* Panama, Volcan de Chiriqui, Bugaba (Champion).

A large number of examples. Distinguished from all other species of the genera more immediately allied to the restricted genus *Passalus*, by the hairy shoulders of the elytra. In all other essential characters it agrees with *V. platyrhinus*; but the cephalic horn, instead of being conically elevated anteriorly, lies nearly flat, its flanking tubercles being depressed and obtuse; from the elevated tubercle terminating the frontal carina two ridges diverge to the side of the ocular canthus, and enclose a deep pit. The middle tibiae are unispinose. The milky or subopalescent gloss of the elytra, strongly marked in unworn specimens, is a striking feature. The entire lateral margin of the thorax is visible from above, and not concealed by the convexity of the limb as in *V. platyrhinus*.

**SERTORIUS.**


One species only of this genus is recorded. It agrees with *Veturius* and *Verres* in the metasternum having a rather broad shallow punctulate-pubescent groove, much dilated behind, on each side; but differs from *Veturius* in the anterior margin of the thorax being normal, and from *Verres* in the flanking tubercles of the horizontal cephalic horn being basal and depressed.

1. **Sertorius agassizi.**

*Sertorius agassizi*, Kaup, Monogr. p. 114.

*Hab.* Guatemala¹ (Sallé), Capetillo (Champion).

**VERRES.**


Four Tropical-American species were included in this genus by Kaup, of which three were from Mexico or Central America. One of these, *V. intermedius*, had little in common with the rest and forms the new genus *Platyverres*, dealt with in Section I. The new species described below restores the number to four. *Verres* as now restricted
may be known by the deeply emarginated and excavated labrum, and the form of the cephalic horn, which is elevated together with its closely-blended flanking tubercles.

1. **Verres corticicola.**


*Verres corticicola,* Kaup, Monogr. p. 115, t. 7. f. 7.

**Hab.** MEXICO, Cordova (*Sallé*); GUATEMALA, Yzabal (*Sallé*), Cubilguzt, Coban, San Joaquin, Tactic (*Champion*); NICARAGUA, Chontales (*Janson*).

2. **Verres hageni.**


**Hab.** MEXICO, Jalapa (*Höge*); GUATEMALA, Capetillo (*Champion*); NICARAGUA, Chontales (*Janson*); COSTA RICA (*Sallé, Van Patten*).

3. **Verres cavicollis.** (Tab. I. figg. 20, 20 a.)

*V. furcilabro* affinis, labro apice profunde exciso et supra profunde et longe excavato; sed differt thoracis sulculo marginali antice utrinque in foveam latissimam haud profundam dilatato; clypeo antice valde flexuoso medioque profunde emarginato; cornu verticis cum tuberculis lateralibus consolidato, antice tricuspidato, dente mediano prolongato libero; carinis frontalibus a cornu separatis, arcum transversum parum curvatum efficiens tuberibus utrinque in tuberculum longe ante clypeum terminatium; metasterno punctulato-pubescenti, medio solo glabro, lateribus vitta punctulato-pubescenti, posite valde dilatata depressa, plagaque grossius punctata utrinque juxta apicem.

**Long.** 37 millim.; thorax 9, elytra 20 millim. long.

**Hab.** MEXICO, Jalapa (*Höge*).
Tribe LAMELLICORNIA.

In dealing with this great and important tribe of Coleoptera, the described species of which from all parts of the world cannot now be fewer than 10,000, I have found it convenient to follow, with but slight modifications and omitting the main divisions founded on the situation of the abdominal spiracles, the classification given in the third volume of Lacordaire’s ‘Genera.’ The tribe has been considered by eminent entomologists to be the most highly organized of the entire order. The “Lamellicornia” are further remarkable as being more sharply severed than most others from the nearest allied tribes; thus the plan adopted in the “Carabidae” and “Longicornia” of the present work, of beginning with the least specialized forms (or those which show traces of approach to other tribes), is here impracticable, as no connecting links have been discovered. There are, nevertheless, numerous genera which exhibit characters intermediate between those of the chief Families composing the Tribe; such genera were included by Lacordaire in his ‘Orphnides,’ ‘Hybosorides,’ ‘Glaphyrides,’ and some of the earlier groups of his ‘Melolonthides;’ and it would perhaps be an improvement to displace these genera from the position he assigned to them and make them the starting-point of the classification of the whole tribe, taking afterwards in succession the larger families which radiate from this common root of the whole. But this course could not be taken with advantage in a Faunistic work; it is a task for a future Monographer, and will entail a careful study of numerous aberrant genera from various parts of the world, many of which are isolated forms and rare in collections. For the present I have taken the relations of the ligula to the mentum as offering a better main division of the Tribe than the position of the abdominal spiracles.

Subtribe I. Ligula distinct from the mentum.

Fam. COPRIDEÆ.

MEGATHOPA.

Megathopa, Eschscholtz, Entomogr. p. 34 (1822); Naturwiss. Abhandl. aus Dorpat, i. p. 90 (1823);
Lacordaire, Gen. Col. iii. p. 75.

Thirteen species of this genus have been described, more than half belonging to temperate South America, the rest spread over the tropical zone as far north as Yucatan.

1. Megathopa yucateca (Tab. II. fig. 1.)


Hab. Mexico, Yucatan, Merida (Salle), Tapachula in Chiapas (Höge).


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2. Megathopa candelezi. (Tab. II. fig. 5.)


_Hab._ NICARAGUA, Chontales1 (Belt, Janson); PANAMA, Volcan de Chiriqui (Champion).

An example from the Volcan de Chiriqui is figured.

CANTHON.


Like _Megathopa_ an exclusively American genus, extending in the north to the 41st parallel of latitude and to about the same distance from the equator in the south, the species being most numerous and varied in the equatorial subzone. 135 species have been described.

1. _Canthon sallei_. (Tab. II. fig. 2.)


_Hab._ NICARAGUA, Granada1 (Sallé), Chontales (Belt, Janson); COSTA RICA (Van Patten); PANAMA (Boucard), Taboga Island (Champion).—SOUTH AMERICA, Colombia2.

Two Nicaraguan examples in the Sallé collection are labelled “type”: these agree in colour with Harold’s original description of the species, but not with the subsequent one given in his ‘Monograph.’ The species seems to be represented in Nicaragua by one constant varietal form, in which the upper surface is shining testaceous-red, with the head, a narrow basal margin to the thorax and elytra, and the suture of the latter, dark brassy; the under surface and legs brassy-black, with the abdomen (except its basal and apical margins) and pygidium testaceous-red. In Costa Rica the local form is similar, except that the thorax has a broad brassy-black central vitta (sometimes interrupted in the middle), and the basal and sutural brassy-black borders of the elytra are more or less (sometimes very greatly) dilated. Examples from Panama and Taboga Island again differ, the thoracic vitta being narrower and dilated in the middle, the abdomen wholly black, except the pygidium (which is yellow with a dark central line), and the hind (and sometimes also the middle) femora testaceous-yellow in the middle.

In the form or forms described by Von Harold in his ‘Monograph,’ who, according to his habit, does not say to which of the numerous localities they refer, the colours are “piceus, thorace leviter virescente maculis quatuor in angulis dispositis testaceis, vel omnino piceo vel rufo, elytris nigris interdum rufo-signatis.”

A Nicaraguan specimen is figured.
2. Canthon speciosus.


_Hab._ Mexico¹; Guatemala, Cubilguitz, Teleman *(Champion)._

3. Canthon spinosus.


_Hab._ Mexico, Toxpan *(Sallé)¹*, South Mexico².

Von Harold described this species originally from specimens taken by Sallé at Toxpan, and subsequently redescribed it from examples from Southern Mexico in Bonvouloir’s collection. In the Sallé collection there are no specimens from Toxpan, and those labelled *C. spinosus* (from Tuxtla, Playa Vicente, and Cordova) seem to agree better with the description of *C. speciosus* than with that of *C. spinosus*. One, however, from Sturm’s collection, seems to be intermediate between the two species; so that it is possible they form really only one. It is to be remarked that Von Harold described his *C. speciosus* at a subsequent date, when he appears not to have had the type specimens of his original *C. spinosus* before him.


_Hab._ Panama *(Boucard), David, Tolé *(Champion)._—South America, Colombia¹².

The typical form as described and figured by Latreille alone occurs in our Fauna.

5. Canthon moniliatus. *(Tab. II. fig. 3.)*

*C. rufulo affinis*, late ovatus, subnittidus,clytris castaneis utrinque striis octo distantier et eleganter punctalatis; capite ameno, clypeo bidentato et prope dentes utrinque breviter recte truncato; thorace flavo-testaceo, medio juxta margines anticum et posterior ancho plagio; subitus pedibusque nigro-nitidis, femoribus medio albo-testaceis.

Long. 6–7 millim.

_Hab._ Panama, Bugaba *(Champion)._*

*Vor._ Thorax flavus, macula unica nigro-anca juxta marginem posteriorem.

_Hab._ Nicaragua, Granada *(Sallé)._*

Belongs to the *C. triangularis* group, and the subgroup *C. rufulus*, in which the sides of the prosternum are without transverse carina and the hind femor ungrooved near their anterior edge. The thorax is rather strongly but obtusely angulated in the middle of its sides, and the seventh and eighth elytral striae are obliterated on the humeral callus. The pygidium is dull reddish, opaque, and faintly carinated down the middle. The legs are blackish or castaneous, with the middle (and greater part) of the femora.
very pale testaceous. In well-developed examples the thorax has a strong golden-brassy tinge.

*C. moniliatus* may be distinguished from the nearly-allied *C. sexspilotus*, Guérin, and other neighbouring species, by the fine but sharply impressed elytral striae, in which are small and distinct but distant punctures. The variety is labelled in the Sallé collection "*C. cyanocephalus*, Har., type." It was probably named so by Von Harold on being communicated to him after his Monograph was published, as no mention is made of the specimen, nor is the locality Nicaragua given by him under *C. cyanocephalus*, which is stated to be from "Cayenne, Orinoco, and Guiana." The Nicaraguan insect does not correspond at all with Harold's description.

6. **Canthon femoralis.** (Tab. II. fig. 7.)

*Coprobius femoralis*, Chevr. Col. Mex. Cent. i. no. 74 (1834)¹.


*Canthon ochropus*, Harold, Col. Hefte, i. p. 79 (1867).

_Hab._ **Mexico** ¹², Cordova, Santecomapan, Teapa (Sallé), Juquila, Tapachula in Chiapas (Höge); **British Honduras**, River Sarstoorn (Blancaneaux); **Guatemala**, Coban, Zapote, Mirandilla (Champion); **Costa Rica** ².

Belongs to a numerous group of the genus, not indicated in Von Harold's Monograph, in which the robust hinder tibiae are straight on their inner side and strongly arcuated on their outer edge; generally also they are thickened and calf-like. I find that the sexual difference in the pygidium is the same as described by Von Harold in *C. angustatus*, this segment being remarkably short and convex; but the male anterior tibiae are broad and tridentate (with broad and notched apical spur), and not elongated and bidentate as in *C. angustatus*. An example from Juquila is figured.

7. **Canthon angustatus.** (Tab. II. fig. 4.)

*Canthon angustatus*, Harold, Col. Hefte, i. p. 79 (3); Berl. ent. Zeitschr. 1868, p. 63 (³ ⁴).

_Hab._ **Nicaragua**, Chontales (Belt, Janson); **Costa Rica** ¹.— **South America**, **Colombia** ¹.

8. **Canthon eurycelis.** (Tab. II. fig. 6.)

_Breviter ovatus, supra (principue thorace) convexus, politus, niger, interdum capite et apice castaneis; clypeo bidentato; thorace medio utrique angulato et antice arcuato denticulatoquo; elytris laevibus; tibis 4 posticis latissimis, subcompressis, extus valde arcuatis, vix bicornatis nec inter carinas sulcatis pro-stero transversim carinato; pygidio nitido._

³. Tibiae antice late, dentibus validis tribus approximatis, calcare apicali acuto valde furcato; pygidio convexo.

⁴. Tiba sicut in ³, sed calcaris acutissimo; pygidio sat elongato, vix convexo.

_Long._ 4½—5½ millim.

_Hab._ **Mexico**, Cordova, Playa Vicente, Orxaca (Sallé); **Guatemala** (coll. Bates); **Panama**, Bugaba (Champion).

Belongs to the same group as *C. femoralis, C. angustatus, C. nitidicollis, C. semiopacus,
C. quadrirugatus, C. subhyalinus, &c., but shorter in outline than in the larger species of the group, and showing only a slight narrowing behind. In the feeble carinae and absence of groove along the outer edge of the posterior tibiae it agrees with C. subhyalinus, C. quadrirugatus (Oliv.), and C. femoralis. The clypeus has two sharp triangular approximate teeth, and is rounded on each side immediately from the base of the tooth, showing a slight but sharp projection at the suture of the genæ. There is a strong sutural depression at the base of the elytra, which does not extend to the thorax. Immature specimens are glossy pale castaneous.

9. **Canthon lamprimus.** (Tab. II. fig. 8.)

**Browter ovatus, supra (precipue thorace) convexus, politissimus, nigro-cyaneus vel cupreus, pedibus rufo-testaceis; clypeo bidentato; thorace medio utrinque angulato et antice valde arcuato denticulatoque; elytris vix perspicue striatis; tibii 4 posticus subcompressis, extus arcuatis, acuto bicornatis, et inter carinis sulcatis; proterno transversum carinato; pygidio sericeo.**

♂. Tibiae antice late, dentibus 2 inferioribus approximatis, 3° superiore distanti et multo minore, calare spicato lato, apice angulariter emarginato.

Long. 5–5½ millim.

**Hab.** PANAMA, Tolé, San Miguel in the Pearl Islands (Champion).

Allied to C. euryscelis, but more glossy and metallic, and hind tibiae distinctly less dilated. A further distinguishing character lies in the anterior tibiae, in which the upper tooth is small and distant from the two lower ones, whilst in C. euryscelis all three are large and equally close together. The clypeus is not so evenly rounded on each side from the base of the teeth, but is flexuous, and the sharp denticle at the lateral suture is more prominent. The angular dilatation on the side of the thorax is unusually sharp, and the vertical arcuation of the side in front of the angle very highly developed; the hind angles of the thorax are prominent and acute. The base of the elytral suture is depressed, and the humeral callus free from traces of striae.

Four examples. The single specimen from Tolé is brilliant red-coppery, the others bluish-black; the former is figured.

10. **Canthon cælius.**

*C. lamprimus* proxime affinis, forsan ejus varietas, sed differt elytris subopacis nigro-cyaneis distincte striatis; capite thorace seceso-cyaneis politissimis, subtilissime punctulatis; pedibus piceo-rufis, femoribus metallicis; pygidio sericeo punctulato; caetera sicut in *C. lamprimus*.

Long. 5½ millim.

**Hab.** PANAMA, David (Champion).

The outline and dentition of the clypeus are exactly as in *C. euryscelis*, and also as in the common North-American *C. viridis*, from which the straight and simple inner edge of the anterior tibiae amply distinguish both the similar Panama species. The form of the thorax is also the same as in *C. lamprimus*, but the surface is finely punctulated, whilst under the same power that of *C. lamprimus* appears perfectly smooth; the elytra
differ in being silky opaque—a little more shining near the suture, and the striae, though very shallow, are much more distinct. The thorax is dark brassy-green, with a brilliant golden-coppery tinge on the disc. The upper tooth of the anterior tibiae is small and distant from the two lower teeth, and the hinder tibiae are sharply bicarinate down their outer edges and grooved between the carinae, as in *C. lamprimus*.

11. Canthon raripilus. (Tab. II. fig. 9.)

Parvus, rotundatus, nitidus, viridi-cyanus, passim (ventre excepto) sunt discrete punctatus, punctis grisco-piliferis; clypeo oblique angustato, bidentato; thorace minus convexo, medio utrinque acuto angulato et antice arcuato denticulatoque; elytris subtilissime striatis; pygidio nitido; prosterno transversim carinato; tibiis 4 posticis mediocriter dilatatis, extus arcuatis; tibiis antice spicis truncatis, denthe superiore remoto et minore.

Long. 3–4½ millim.

_Hab._ PANAMA, Taboga Island, San Miguel in the Pearl Islands (Champion).

Apparently closely allied to *C. juvencus*, Harold, but differing in the shining pygidium studded with large piliferous punctures; in *C. juvencus* the pygidium is described as "opacum, leue." The species belongs to the same group as the preceding and to the subgroup having sharply bicarinate and grooved outer edge of the posterior tibiae. The scutellar depression is very slight. The punctures on the head and thorax are large and equally distributed; on the elytra they are rather smaller and arranged in two rows along each interstice.


_Copris viridis_, Beauv. Ins. Afr. et Am. p. 23, t. 3. fig. 2 (1805)


_Canthon viridis_, Harold, Berl. ent. Zeitschr. 1868, p. 112

_Hab._ NORTH AMERICA 1 2 3 4.—MEXICO 3, Cordova, Orizaba, Eta, Cuernavaca, Yolotepec, Parada (Sallé), Ventanas, Mexico city, Iguala, Cerro de Plumas, Acapulco, Tapachula (Höge), Tehuantepec (Sumichrast); BRITISH HONDURAS (Blancaneaux); GUATEMALA, Dueñas, Capetillo, Cahabon, Telemán, Panzos (Champion); NICARAGUA, Granada (Sallé), Chontales (Janson); CENTRAL AMERICA 4.

Of similar general form and colours to *C. calicus* and its allies, and agreeing with them in the arcuated outer edge of the posterior tibiae, but these organs are scarcely so broadly dilated. It is distinguished, however, from the group by the anterior tibiae being abruptly dilated on the inner side from before the middle to the apex. Von Harold admits a wide range of variation within the species; and it is, in fact, impossible to detect valid differences between violet-coloured impunctate Mexican examples 7 millim. long, and brassy-green North-American specimens only 4 millim. long. The small bright green form, moreover, co-exists with the large examples of the violet and blue-
black variety in various Mexican localities. In all the varieties the elytra are less bright than the head and thorax, as Harold expresses it "nitidulus, elytris minus nitidis." The following form, in which the elytra are highly polished throughout, is doubtless, therefore, different, although exhibiting the same peculiar shape of the anterior tibiae.

13. Canthon championi.

_C. viridi_ proxime affinis, major, undique politissimus, viridi-cyaneus; capite lavi, elytrum bidentato et utrique flexuoso, genarum angulo acute; thorace subtilissime punctulato vel lavi, lateribus ante medium valde angulatis et antice arcuatis hau denticulatis; elytris vix striatis; prothoro transversim carinato; tibias anticus intus ante medium subito et valde dilatatis, apice recte truncatis, extus dente superiore minore et remoto; tibias posticae para dilatatis, intus rectis, extus arcuatis, biconvexis et parum profunde sulcatis.

_\textit{G.}_. Tibiae antice calcare acute basi lato et dentato.

Long. 6½-7½ millim.

_Hab._ Guatemala, Senahu (Champion).


_Hab._ South Mexico 1.—South America, Colombia 1.

I have not seen an example of this species from Mexico or Central America.

15. Canthon forrei. (Tab. II. fig. 10.)

_C. probo_ proxime affinis, aeneo-viridis, supra subtiliter alutaceus, thorace nitidiore elytrisque subopaci; capite et thorace discrete punctulatis; elytrum crebre rugulosopunctato, 4-dentato, angulisque genarum prominulis obtusis; elytris distincte striatis, stria humerali subtiliter carinulata, interstices guttulis nitidissimi conspersis.

Long. 6 millim.

_Hab._ Mexico, Presidio (Forrer).

Distinguished from its nearest allies by its rich dark green colour, and brilliant thorax covered with scattered punctures. In sculpture it comes nearest _C. probo_.


_C. puncticollis_ (Lec.) proxime affinis, nigro-violaceus, undique alutaceo-opaci et guttulis nitidissimi conspersi; capite punctulato, elytrum refiexo, sicut in _C. probo_ 6-dentato; thorace opaco, subtiliter sparsum punctulato, medio basi elytrisque regione scutellari profunde depressis; elytris laeviuscule exarato-striatis, stria humerali carinulata, interstices guttulis nitidissimi conspersis, 2° et 3° basi tumide elevatis; pygidio punctulato; corpore subtiliter podobusque nigris nitidis, ventro alutaceo; somoribus posticis setiferopunctatis tibialisque apice unicuscarinatis.

Long. 4-6½ millim.

_Hab._ Mexico, Santa Clara in Chihuahua, Chihuahua city, Durango city (Höge).

Distinguished from _C. puncticollis_ by the remarkable depression at the base of the thorax and elytra, and the corresponding elevation of the second and third elytral interstices at their base. The whole upper surface (including the pygidium) is smoothly and evenly alutaceous and opaque, sprinkled with fine punctures, except the elytra.
17. Canthon praticola.

*Canthon praticola*, Leconte, Col. of Kansas and Eastern New Mexico, p. 101; Horn, Tr. Am. Ent. Soc. 1870, pp. 44, 45a.

*Hab. NORTH AMERICA, Kansas*1 2.—*MEXICO*, Santa Clara in Chihuahua, Chihuahua city, Villa Lerdo in Durango (*Höge*).

Dr. Horn gives the size of the North-American form as 6½–9½ millim. The North-Mexican examples vary from 8–11 millim. In other respects the latter agree closely with Dr. Horn’s description and with numerous examples from Colorado (?) in my collection.

18. Canthon lævis.

*Scarabaeus lævis*, Drury, Ill. Exot. Ins. i. p. 79, t. 35. f. 7 1.

*Scarabaeus volvens*, Fabr. Ent. Syst. i. p. 66.


*Hab. NORTH AMERICA*1 2.—*MEXICO*, Monclova in Coahuila (*Dr. Palmer*), Nuevo Laredo in Tamaulipas, Villa Lerdo in Durango, Zacualtipan in Hidalgo, Monterey (*Höge*), Orizaba (*Sallé*).

Herr Höge obtained a good series of examples, all black with a scarcely perceptible greenish tinge, and rather smaller (12–16 millim.) than the typical form of the middle Atlantic States. The single specimen from Orizaba is very small (10 millim.).


*Hab. MEXICO*, Zacualtipan in Hidalgo, Aguas Calientes city (*Höge*).

The granulation is so fine that to the naked eye the insect appears smooth. The granules on the thorax are reduced to minute shining specks without elevation, the interstices between which are finely alutaceous. Rare examples with the granules on the elytra more elevated tend to bridge over the difference between this species and the North-Mexican form of *C. lævis*.

All the numerous examples, with the exception of one from Aguas Calientes, were taken at Zacualtipan.

20. Canthon circulatus.


*Hab. MEXICO* 1.

Our collections do not appear to contain this species.

_Canthon aequinoctialis_, Harold, Berl. ent. Zeitschr. 1868, p. 79.

_Hab. Nicaragua_, Chontales (Belt); _Panama_, Bugaba, David (Champion) — South America, Colombia, Amazonas.

Central-American differ from South-American examples only in being smaller (11 millim.), the latter varying little from 14 millim.

22. Canthon lituratus. (Tab. II. fig. 12, var.)

_Ateneus lituratus_, Germar, Mag. Ent. i. p. 117.


_Hab. Panama_, near the city, Volcan de Chiriqui 2500-4000 feet (Champion) — South America, Colombia to Patagonia, Ecuador.

All the Chiriqui examples belong to a well-marked variety, nearly agreeing with Guérin's description of _C. quadripustulatus_ from Ecuador. It is larger than the typical _C. lituratus_; and the elytra instead of having the peculiar and characteristic design of that common South-American form are silky-black with two large quadrate orange spots on each (sometimes united on the lateral border), one below the humeral callus, and one covering the apical callus. The antennae are darker in colour. The oblique position of the dorsal carina along the posterior tibiae and the form of the clypeus are the same as in typical _C. lituratus_.

23. Canthon gagatinus.


_Hab. Mexico_, Northern Sonora (Morrison), Pueblo, Orizaba, Duranayal, Cuernavaca, Parada, Capulalpam, Guanajuato (Sallé), Mexico City (Flohr), Chihuahua, Colima City, Morelia, Jalapa, Las Vegas, Rinconada, Zapotlan in Colima, Chilpancingo (Höge); Guatemala, San Gerónimo (Champion).

The dull black and the shining dark indigo-blue forms of this common species occur together in various localities in Mexico, and at San Gerónimo, Guatemala. Von Harold's third variety "obscure glauco-viridis" appears to be rare.


_Hab. Mexico_, Northern Sonora (Morrison), Pinos Altos in Chihuahua (Buchan-Hepburn), Ventanas, Presidio (Forrer), Campeche in Yucatan, Vera Cruz, Cordova, Biol. Centr.-Amer., Coleopt., Vol. II. Pt. 2, May 1887.
LAMELLICORNIA.

Toxpam, Jalapa, Matamoros Izucar, Parada, Orizaba, Guanajuato, Panistlahuaca (Sallé), Jalapa, Sayula, Misantla, Vera Cruz, Oaxaca, Rinconada, Cholula, Acapulco, Mazatlan, Tapachula (Höge), Mexico city (Flohr), Tehuantepec (Sumichrast); Guatemala (Salle), San Geronimo, Pantaleon, Mirandilla (Champion); Nicaragua, Chontales (Belt).

Varies in size from 7 to 12 millim.; in colour from brilliant brassy-green and golden-coppery to bluish-green, violet, and deep black. In northerly localities the elytra are much less glossy. A small rotundate ovate form, with pygidium only slightly convex even in the male (C. chloris, Sallé coll.) occurs in various localities in Mexico.

25. Canthon mutabilis. (Tab. II. fig. 11, var.)


Hab. PANAMA, Bugaba, Volcan de Chiriqui, Tolé (Champion).—SOUTH AMERICA
Colombia 2, Amazons 2, La Plata 2.

The Panama examples form a local variety of the species similar to the var. transversalis described by Von Harold, but differing in the bright brassy-green head and thorax. In Colombia the local form is similar, with the exception of having a brassy-black head and thorax. Some examples from the Lower Amazons are like the Colombian form, but they are there mingled with a great diversity of colour-variations.

An example from Tolé is figured.


Hab. BRITISH HONDURAS, R. Sarstoon (Blancaneaux); GUATEMALA, San Gerónimo (Champion); NICARAGUA, Chontales (Belt).

The locality of the species was unknown to Von Harold. C. deyrollei strongly resembles the blue-black colour-variety of C. chevrutati, from which its pluridentate clypeus at once distinguishes it.

27. Canthon chlorizans.

Obscure viridi-metallicus, nitidus, pedibus rufo-testaceis; capite thoracico sat crebre sed discrete punctatis; clypeo quadri-dentato, sutura genarum baud dentata; elytris sat acute simpliciter striatis, interstis disperse punctulatis, humeris baud carinulatis; pygidio parum convexo, punctato, medio prope basin obtuso carinato; corpore subtus nigro, subopaco; tibiis posticis subrectis baud dilatatis.

♂. Tibiarum antecarum calcare apice late bifido.

Long. 5 millim.

Hab. MEXICO, Juquila (Höge).

A little more oblong, and with the elytra relatively longer, than C. viridis.
28. Canthon atuechiiceps.

_C. depressi_ affinis, sed multo minor, proterno subitus hauud carinato, etc. Lante viridi-aneus, nitidus, sparsim punctulatus; capite sat magno, clypeo antice nigro-crepoe, subtiliter asebroso-punctato, sex-dentato, dentibus 4 medianis late triangularibus; thoraco medio late rotundato, margine laterali antico parum arcurato, regione scutellaris depressa; elyris hauud profunde punctulato-striatis; pygidio (\(d\)) mediocrer convexo, sparsim punctulato; tibiis anticus gradatim dilatatatis, posticis subrectis et uniculcaratis.

Long. 6 millim.

_Hab._ Mexico, Acapulco (Höge).

**PSEUDOCANTHON.**


The considerably longer mesosternum of *Canthon perplexus*, on which this genus is founded, separates it not only from *Canthon*, but from the group of genera to which *Canthon* belongs. The other peculiarities which distinguish the species have already been pointed out by Von Harold. The form of the four hinder tibie and tarsi and the proportionate length of the joints of the latter show a nearer relationship to *Canthon* than to the Epilissus and Epirhinus group; but it seems to form a step in the direction of Charidium rather than to form part of either group.

1. Pseudocanthon perplexus.


_Hab._ North America 1 2 3.—Mexico, San Juan Bautista in Tabasco (Höge); Guatemala, Paso Antonio (Champion); Nicaragua, Chontales (Janson).—South America, Amazonas (coll. Bates).

**DELTOCHILUM.**

_Deltochilum_, Eschscholtz, Entomogr. p. 37 (1822); Naturwiss. Abhandl. aus Dorpat, i. p. 93 (1823); Lacordaire, Gen. Col. iii. p. 79.


Like the preceding genera, peculiar to America, of which continent it constitutes one of the most remarkable and characteristic insect, forms. One species extends to temperate latitudes in North America, and two others to the banks of the Plata; but the great majority are confined to the central parts of the tropical zone. Thirty-eight species have been described.

1. Deltochilum parile. (Tab. II. fig. 14, \(\delta\))

_D. furcato_ affine, sed multo minor, nigro-caeruleus, supra fere opacus; clypeo angustiter ocellato-punctulato, dentibus approximatis utrinque fere rotundato; thorace medio utrinque vix angulato, supra anguli discrete FF 2
punctulato; elytris striis foventatis parum impressis, interstittii et forveis striarum (pygidioque) ocellato-punctulatis, carina humerali usque ad medium extensa calloque humerali obtusa carinato, apice 5-carinulatis. 

♂. Tibiae antice calcare apicali lato oblique truncato; ventris segmentis medio paululum contractis, apicali brevi. ♀. Tibiae antice calcare angusto acuto; ventris segmentis medio haud contractis, apicali longiore.

Long. 14 millim. ♂ ♀.

_Hab._ MEXICO, Santecomapan (Sallé); PANAMA, Volcan de Chiriqui (Champion).

The Mexican examples indicate a local variety. They are smaller (10–11 millim.) and have a much closer punctuation (the punctures stronger and ocellated) on the thorax and ventral segments. _D. parile_ is remarkable in this genus for the absence of conspicuous sexual differences in the legs, sternum, and abdomen; with the exception of the spur of the anterior tibiae (very often worn away), there is no external apparent disparity beyond the slight difference in the sutures of the ventral segments given in the foregoing diagnosis. In colour and sculpture it resembles _D. pretiosum_, Harold, which, besides being more elongate-oblong and larger (17 millim.), presents strongly defined differential characters in the male—the ventral segments 1–4 being consolidated in the middle and without sutures, and the mesosternum having an oblong tubercle in the centre; the legs, however, remaining without apparent difference.

We figure a male example from the Volcan de Chiriqui.

2. _Deltochilum acropyge_. (Tab. II. fig. 15, ♂)

_Nigrum, subnitidum; clypeo angustato, concavo, dentibus reflexis approximatis margineque extus valde angulato, sal crebre punctato; thorace utrinque obtuse angulato, crebre punctulato; elytris distincte punctato-striatis, interstittii convexi, undique ocellato-punctulatis, carina humerali brevi calloque humerali valde uncinato, apice carinis 5 valde elevatis tuberculque prope suturam; antennis rufis.

♂. Pygidium elongatum, planum, creberrime ocellato-punctatum, apice acuminato-recurrum; tibias posticae valde arcuatae; ventre grosse sparsim punctato, segmentis 2 et 3 medio contractis suturisque subtilibus, flexuosis, suturis 4 et 5 profunde sulcatis; metasternum apice fovea magna.

Long. 13 millim.

_Hab._ BRITISH HONDURAS, Belize (Blancaneaux). One male example only.

Unlike any other known species in its long, plane pygidium, with the apex upturned and acute. The clypeus also is peculiar in being more prolonged than usual, and narrowed to the front; the two teeth lie as close together as in some species of *Canthom*; and on each side the margin is strongly angulated, with an additional short and acute prominence at the suture dividing the clypeus from the genus. The sides of the thorax in front of the median obtuse angle are straight and simple. The punctuation of the upper surface does not differ from that of the Mexican var. of _D. parile_.

3. _Deltochilum gibbosum_.


_Hab._ NORTH AMERICA, Carolina.

Var. _sulcatae_. Nitidior; capite thoracique haud alutaeos, crebre punctulatis, hoc equaliter convexo, juxta basin punctis majoribus annularibus; elytris subtiliter punctato-striatis, interstittii planis, crebre annulato-
DELTOCHILUM.

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punctulatis, his illic rugulosus. ♂ major; tibiae postice apice intus lobulato-productae, femoribus intermediis infra carina elongata.

Long. 22-28 millim. ♂ ♀.

Hab. MEXICO, Misantla, Vera Cruz (Höge), Santecomapan (Sallé).

This Mexican variety agrees with the North-American type-form in the outline of the thorax in both sexes, the sides in both being rotundate-dilate in the middle, and not sinuate either before or behind the dilatation.

4. Deltochilum lobipes. (Tab. II. fig. 13, ♂.)

D. gibbosum proxime affinis; sed differt thorace medie valde angulato-dilatato, antice et postice (praecipe in maribus) sinuate. Cuprascenti-nigrum, subnitidum; thorace minute et sparsius punctato, limbo grossius annulato-punctato; elytris subtiliter punctato- striatis, interstitiis annulato-punctulatis, medio convexis ibique seriatim nitido granulatius. ♂ major; tibiae postice apice intus incurvatae et late lobatae, lobo apice rotundato; femoribus intermediis subitus carina brevissima.

Long. 22-30 millim. ♂ ♀.

Hab. MEXICO, Tehuantepec (Sumichrast), Tapachula (Höge); NICARAGUA, Chontales (Belt).

Less typical examples are in the collection from Jalapa and Tampico (Höge), but only a single male from each locality. They accord in the strongly angulate and bisinuate sides of the thorax, but differ from the type-form in the elytral interstices being scarcely perceptibly convex and almost destitute of shining granules*

The figure is taken from a well-developed male example from Tehuantepec.

5. Deltochilum mexicanum.

Deltochilum mexicanum, Burm. in D'Alton's Zeitschr. für Zool. i. p. 135 1.

Hab. MEXICO 1, Cordova (Sallé), Jalapa, Misantla, Vera Cruz (Höge); COSTA RICA (Sallé, Van Patten), Irazu (Rogers); PANAMA, Volcan de Chiriqui (Champion).

* It is interesting to find that the species of Deltochilum which represents the North-American D. gibbosum in the Amazon region is more nearly allied to the North-American than to the Central-American form, the shape of the thorax being very nearly that of D. gibbosum. The following is a description:—

Deltochilum amazonicum.

Obscurer nigro-cupreum; thorace medie angulato-dilatato, lateribus ante et post angulum subrectis, crebere annulato-punctato, disco simpliciter punctulato; elytris foveato-striatis, intersticiis subplanis, annulato-punctulatis, medio seriatisim nitido-granulatis. ♂ major; tibiae postice apice intus curvatae, sublobatae, lobo apice lato obtuso.

Long. 22-28 millim. ♂ ♀.

Hab. AMAZONAS, Ega, Pebas. Some examples from Pebas have very conspicuous and elevated rows of shining granules on the elytral interstices.

The females of this species, as well as of D. lobipes and D. gibbosum, var. sublunae, vary like the males in degree of development, and sometimes have rudimentary elytral bosses. All have rudiments of a tooth underneath the anterior tibium, which are narrow and sharply bent, almost as in the males, and the deep fossa of the metasternum is also present, but in a rudimentary state. The only constant sexual differences of outer structure lie in the ventral segments and the apex of the hind tibiae; the former being consolidated in the middle in the male, free in the female; and the latter produced, with an apparently short spur, in the male, and truncated, with a long spur, in the female.
Mexican examples (of which I have seen only seven) are dull bluish-black. Burmeister says "viridi- trium, opacum." All the numerous specimens received from Costa Rica and Chiriqui are of a rich dark blue colour. Well-developed males have a moderately-elevated umbo. The species belongs to a section of the genus (Burmeister's Section III.) in which the "carina humeralis" is absent, and in apparent compensation the short carina on the humeral callus is strongly developed. The true relation of this carina is evident when the interstices are counted, it being situated on the seventh from the suture (the position of the callus), whilst the humeral carina is at the base of the ninth, close to the eighth stria.

The carina exterior to the humeral one, which is the upper edge of the epipleura, is strongly flexuous in those species which have a humeral carina, but becomes straight in those in which it is absent, viz. in D. mexicanum and allies.

The male in D. mexicanum is distinguished from the female by very slight characters; the sutures of the ventral segments are equally developed in both sexes, the segments in the male being only a little more contracted in the middle; but the hind femora have an obtuse tooth beneath near the apex, which is wanting in the female.

6. Deltochilum scabriusculum. (Tab. II. fig. 16, ♀.)

D. dentipes (Eschsch.) proxime affinis; multo minor; capite et thorace nitidis, cerebro equaliter punctatis; elytris punctulato-striatis, interstitiis passim subverniculato-rugosis punctataque intermixtis, lateribus utrinque bicornatis.

♀. Femora antica subitas unidentata; tibiae posticae medio subangulatae incurvatae.

Long. 23—25 millim. ♂ ♀.

Hab. Mexico, Tlacotalpam (Sallé), Jalapa, Cuernavaca, Misantla, Tapachula in Chiapas (Höge); Guatemala, Coban in Vera Paz (Champion).

Belongs to Burmeister's Section I., hitherto containing one species only. It differs from D. dentipes, besides its more oblong form and punctured head and thorax, in wanting the strongly-marked male peculiarities in the anterior and posterior tibiae and ventral segments exhibited by that species. Burmeister gives as a character of Section I., "Elytris in margine externo bicarinatis," but does not point out the singular homological relationship of the carina to those of the rest of the genus. In fact, the usual short humeral carina becomes here the margin of the elytra, and runs from the base nearly to the apex, the true marginal carina, i. e. the upper edge of the epipleura, being removed to the middle of what consequently becomes an epipleura, augmented by the addition of one of the normally dorsal interstices. In correlation with this the remaining dorsal interstices are expanded laterally. The second carina is nothing but the elongation of the outer carina on the apical callus. The humeral callus on the same (seventh) interstice is absent.

An example from Tlacotalpam is figured.
SISYPHUS.—EURYSTERNUS.

SISYPHUS.


A well-known Old-World genus, ranging from Southern Europe through the whole of Southern Asia (including Ceylon), and through Africa to the Cape of Good Hope. It appears not to be known in the Malay Archipelago, Australia, or in any Oceanic Island; but reappears in Mexico and Central America in a single species. The Mexican species, contrary to what might be expected, offers no marked peculiarity to distinguish it from the ordinary type of the Old-World members of the genus, and in fact is closely allied in form and sculpture to the Indian S. longipes (Oliv.). The conclusion is scarcely to be avoided that the species has followed man in his migrations.

1. Sisyphus mexicanus.


_Hab._ Mexico¹, Tuxtepec (Sallé), Tehuantepec (Sumichrast), Misanla, Jalapa (Höge); NICARAGUA, Chontales (Belt).

EURYSTERNUS.


Twenty-three species of this very distinct and peculiar genus are known, all Tropical American.

1. Eurysternus claudicans.


_Hab._ NICARAGUA, Chontales (Belt, Janson), Rio de San Juan (Janson); PANAMA, Volcan de Chiriqui (Champion).—SOUTH AMERICA, Colombia ¹², Amazons.

Kirsch describes one sex only; apparently from a single example, 15 millim. long. The species varies in size from 14 to 22 millim. The rufescent elytra described by him is the result probably of immaturity; most of our examples are above of a dull olive-black, and beneath dark glaucous-green. In the male the hind tibiae are angularly bent and laterally flexuous, in some examples to an extraordinary degree, and armed beneath with a large bicuspid tooth before, and two separate teeth behind, the middle, the large tooth sometimes much reduced or entirely wanting, the apex pointed and without spur. In the female the hind tibiae are simply arcuated, with a few small denticulations beneath, the apex with a long free spur.

2. Eurysternus velutinus. (Tab. II. fig. 17.)

_E. claudicanis similis; elongato-oblongus, supra fusco-niger, subserico-opacus, brevissime nigro-setosus, subitus
et pedes viridi-ænei vel cuprai; capite remote punctulato, clypeo vix depresso, integro; thorace versus apicem subdilato, creberrime sed discreto ocellato-punctato, aequaliter convexo, prope scutellum paullo depresso; elytris monilato-striatis, interstiliis nigro setulosis; corpore subitas fere lavi, abdomen apice femoribusque valde punctulato; mesosterno medio longitudinaliter depresso.

♂. Tibia antice subitas unidentata; tibia postica subsericeus; 8-tuberculate, spicis intus medio-criter productae, scalaearia; abdomine basi lato concavo.

♀. Tibia antice subitas inermes, postice simplices; abdomine convexo.

Long. 18–22 millim.

_Hab._ Panama, Volcan de Chiriqui (Champion).—South America, Cayenne, Amazons.

Of similar large size and elongate-oblong form to _E. claudicans_; but differing from that species by its opaque velvety upper surface, and rich coppery or brassy-green subsericeus under surface, with the legs wholly also metallic. The secondary sexual characters as above indicated are also entirely different. As in _E. claudicans_, the marginal carina of the elytra, formed by the upper edge of the epipleura, is not elevated as in the species allied to _E. planus_; and the humeral carina is very short and obtuse, and not continued beyond the point where the epipleural margin curves upward from the base.

3. _Eurysternus magnus._ (Tab. II. fig. 18.)


_Hab._ Mexico ¹, Cordova (Sallé, Höge), Jalapa (Höge), Juquila (Sallé); Guatemala, Cerro Zunil (Champion); Costa Rica (Van Patten), Volcan de Irazu, Cache, Rio Sucio (Rogers); Panama, Volcan de Chiriqui (Champion).

♂. Tibia antice intus multi-denticulata, subitas sicut in ♀ inermes; metasternum apice tuberculo conico; tibia postice velde arcuata, intus multi-tuberculata.

Most examples are uniform opaque, sooty black above, with brassy-black legs; but in others the elytra are more or less variegated with dull red. In both sexes the metasternum has a rounded fovea in the centre, and the hind femora a strong spine beneath towards the apex. The humeral carina of the elytra is prolonged to three-fourths of the elytral length, and overtops the lateral carina, i.e. the upper edge of the epipleura, except towards the apex.

We figure a specimen from Juquila.

4. _Eurysternus nebulosus._


_Hab._ Nicaragua, Chontales (Belt).—South America, Colombia ¹, Amazons.

Compared by Kirsch with _E. mexicanus_, but much more nearly allied to _E. planus_, Dalm., having, like that species, a very short humeral carina, and an acute strongly elevated epipleural carina. From _E. planus_ it differs in the male only having a spine underneath the hind femora (in _E. planus_ the spine exists in both sexes); and in the
Eurysternus.

metasternum being unarmed between the hind coxae, instead of having a compressed and acute tubercle. Dalman says "Sterno inter pedes anticos in spinam producto," but anticos is evidently here a slip for posticos.

5. **Eurysternus mexicanus.**


_Hab._ Mexico^1^, Cordova (Sallé, Höge), Playa Vicente, Cosamaloapan, Santecomapan (Sallé), Misantla, Jalapa, Tampico (Höge); Guatemala, Panzos, San Joaquin in Vera Paz (Champion); Nicaragua, Chontales (Belt, Janson); Panama, Bugaba, David, San Feliz (Champion).—South America, Colombia^2^.

In this species the lateral carina is formed by an extension of the humeral carina, which behind reaches the apical callus and conceals (viewed from above) the epipleural carina.

6. **Eurysternus plebejus.**


_Hab._ Nicaragua, Chontales (Janson); Panama, Bugaba, David (Champion).—South America, Colombia^1^, Ecuador, Amazons.

Agrees with _E. mexicanus_ in the nature of the lateral carinae of the elytra; but the epipleural carina is rather more strongly curved upwards, and approximated to the more obtuse inner carina—a peculiarity pointed out by Von Harold, though he does not compare the structure with that of _E. mexicanus_. The species is much smaller than _E. mexicanus_, and differs in the hind femora not showing the remarkable dilatation and compression of that species.

Von Harold describes the female only. The metasternum is similar in both sexes, having a round central fovea, with an obtuse carina thence to the apex; but the hind femora present a singular sexual peculiarity in having a strong spine beneath in the female, and being unarmed in the male. The hind tibiae (♂) are not greatly prolonged on the inner side at the apex as in other species, but are spurless.

7. **Eurysternus angustulus.** (Tab. II. fig. 19.)


_Hab._ Mexico (Sallé^1^).

One example only, a male labelled "typus" in Von Harold’s handwriting in the Sallé collection. The species is allied to _E. impressicollis_, Casteln., from Colombia; in both the thorax is very uneven, and the hind tibiae in the male prolonged at the apex into a long and sharp spine, simulating a spur. The spine is very much longer and more spur-like in the Colombian species.

_Biol. Centr.-Am., Coleopt.,_ Vol. II. Pt. 2, _May 1887._

GG
AGAMOPUS.


A genus allied to *Uroxyx* and *Aphengium*, but distinguished from both and from all other "Cheridiine" by the form of the posterior tibiae, which in their gradual dilatation are somewhat intermediate between those of *Cheridium* and *Canthon*, and in the remarkable form they assume in the hindmost pair of the male resemble those of no other genus. The hind femora of the male have on the under surface a straight, finely-serrated edge, ending before the apex in a short sharp tooth.

1. **Agamopus lampros.** (Tab. II. fig. 20, ♂.)

*Niger vel castaneo-fuscus, politissimus, pedibus castaneo-rufis; elytris bidentato et vix punctato, fronte et vertice politis; thorace brevi et lato, disco subtilissimis, lateribus fortius disperse, punctatis, margine laterali rotundato, basi immarginato; elytris subtiliter striatis, striis distantier crenato-punctulatis, interstitiis planis, levibus; mesosterno, metasterni lateribus abdominisque segmentorum marginibus grosse punctatis; pygidio brevi.

*Long. 4½ millim.*

*Hab. Panama, Bugaba, Volcan de Chiriqui, David (Champion).*

APHENGIUM.

*Aphengium*, Harold, Col. Hefte, iii. p. 54 (1868).

The only species of this genus hitherto described is from Monte Video.

1. **Aphengium semi-nudum.** (Tab. II. fig. 21.)

*Oblongum vix ovatum, parum convexum, nigro nitidum (interdum subneum), setulis brevissime obsitum, supra undique subaqueatæ et discrete punctulatae; elytris medio obtuse unidentato vel sub-bidentato; thorace aequaliter parum convexo, fovea laterali vix impresso, margine laterali subrecto, propo angulis anticiis citius curvato; elytris subtilissimae punctulato- striatis; corpore subito femoribusque, metasterni medio sparsiis et subtilius, abdomen pygidioque crebris, punctatis; tarsis posticis latís, compressis, dense rufo ciliatis, articulo 1° breviter triangulari; pygidio retractor, subhorizontali.

*Long. 6-7½ millim.*

*Hab. Nicaragua, Chontales (Belt); Panama, Volcan de Chiriqui (Champion).*

The marginal carinæ of the elytra is sharper than in *A. sordidum*, and is continuous from the rectangular (almost acute) shoulders to the sutural apex. The short and broad, compressed and subtriangular tarsal joints are a remarkable distinguishing feature. The anterior cavity of the prostrernum is exceedingly deep.

A specimen from the Volcan de Chiriqui is figured.
UROXYS.—SCATIMUS.

UROXYS.


Seventeen species of this curious little genus, confined to Tropical America, have been described.

1. *Uroxys micros.* (Tab. II. fig. 22.)

*U. pygmaeus* (Harold) affinis, paullo major, elytris perispecific crenato-striatis, etc. Oblongo-ovatus, nigro-aneus vel fuscocineus, politus;clypeo bidentato, juxta dentes leviter sinuato nec subdentato, vix pustulato, vertice levii; thorace levii, sulco submarginali profundo, basi immarginato, distanter punctato; elytris striatis, striis versus latera et apicem profundioribus, distanter crenato-punctatis; pygidio basi sulco semi-circulari profundissimo.

Long. 4-4½ millim.

_Hab._ Guatemala, La Gavia 2000 feet (Champion).

The singular curved sulcus on each side of the base of the pygidium exists in _U. pygmaeus_, but it is broader and deeper in the present species. The sides of the thorax exterior to the marginal furrow are also more convex in _U. micros_ than in _U. pygmaeus_. The eyes above are large and the mesosternal suture angulated, as in the rest of the genus.

2. *Uroxys aphodioides.*

*U. elongato* (Harold) affinis; minus convexus, niger, nitidus, vertice cuprascens; capite fere laevi, vertice valide bidentato, fronte tuberculo conico; thorace (elytris latioribus) subtillisime punctulato, sulco laterali flexuoso marginque medio angulato et antice arcuato, basi punctato-marginato; elytris crenato-striatis, interstitiis convexis; corpore subitus impunctato; mesosterno longissimo, sutura parum angulato; pygidio valde convexo, politissimo; tibiala 4 postica extus irregulariter dentata.

Long. 10 millim. ?

_Hab._ Nicaragua (coll. Batés).

One example, which, from the absence of curvature in the anterior tibiae, I judge to be a female. It was obtained, I think, from Dr. Seemann’s collections made at Javali. It resembles _U. elongatus_ in little except the uni-tuberculate forehead.

3. *Uroxys rodriguezi.*


_Hab._ Guatemala ².

SCATIMUS.

_Scatimus_, Erichson, Archiv für Naturg. 1847, i. p. 110.

A genus peculiar to Tropical America. Three species only have been described.
1. *Scatimus ovatus.* (Tab. II. fig. 23.)

_Hab._ Mexico 1, Cuernavaca, Cordova, Toxpan, Playa Vicente (Sallé), Juquila, Chilpancingo (Höge); Panamá, Bugaba, Volcan de Chiriqui, David, Tolé (Champion).

An example from the Volcan de Chiriqui is figured.

2. *Scatimus patruelis.*

_Hab._ Mexico 1.

**CHOERIDIUM.**


A genus, so far as at present known, peculiar to America. The great majority of its species belong to the tropical regions of the continent, and only a few inhabit the temperate zones north and south. Nearly forty species have been described.

1. *Choeridium illæsum.*


_Hab._ Mexico 1, Tuxtla (Sallé), Tonila in Colima, Jalapa (Höge).

Belongs to a group of closely-allied species, of which the well-known *C. capistratum* of North America may be taken as the type. It is larger than *C. capistratum* and more oblong. According to a specimen in the Sallé collection labelled *C. illæsum* in Von Harold’s handwriting, it is distinguished from that and most other nearly-related species by the nearly plane pygidium (“leviter convexum” according to Von Harold), the scarcely widened last ventral segment and the faintly punctured fore margins of the other ventral segments. The thorax is smooth, except in the middle of the base, which is narrowly margined. As to the obsoletely-punctured elytral striae adduced by Harold as a distinguishing character, this seems to be variable, the striae (especially towards the sides) being sometimes as strongly crenate-striate as in the allied forms.

2. *Choeridium chrysopyge.*

*C. illeæe* proxeine affine; mæus, sterrium, politum; pygidio plano, medio vix perspicie carinato, viridi-saurato splendidissimo, oblongum; thorace margine laterali prope angulos anticos verticaliter arcato, basi angustæ marginato et crenato-punctato, medio lines dorsali impresso; elytris crenato-striatis (apice striæ profundius exaratis), interstitiis fore planis; corpore subitus nigro, femoribus 4 posticis cuprascentibus, segmentis ventralibus planis, subtiliter annulato-punctatis; antennis fulvo-testaceis.

_Long._ 8–10 millim.

_Hab._ Guatemala, San Gerónimo (Champion).

A large number of examples, all alike except in size. The species differs from
C. illæsum in very little except size and colour; the central carina of the pygidium is very faint, and visible only in certain lights, or in some female examples quite obsolete. In well-developed individuals the pygidium, under a lens, appears finely and sparsely punctured.

3. Chæridium klugi.

Chæridium klugi, Harold, Col. Hefte, iv. p. 56.


Hab. Mexico, Cordova (Sallé).

Von Harold gives the size as 3½–4 lines, but a specimen I received from him named C. klugi measures barely 3 lines; the size given by Castelnau for C. nitidulum, viz. 2½ lines, is therefore no reason for excluding his species from the synonymy, though his description is too vague to be relied on. Specimens named C. nitidulum, Casteln., in the Sallé collection measure 2½ and 3 lines, and agree with Von Harold's named example and with his description. The form is oblong, as in C. illæsum, and the pygidium is only a very little more convex than in that species, with which the minutely punctured bases of the ventral segments also agree. The species is barely distinguishable by its rather more convex elytral interstices, deeper and more strongly crenated striae, and strongly impressed dorsal lines of the thorax, the base of which is very finely margined.

4. Chæridium guatemalense. (Tab. II. fig. 24. *)

C. klugi quam maxime aëné; differt pygidio valde convexo thoraceque toto haud profunde punctato. Oblongum, nigrum, nitidum, leviter metallicum; thorace toto, versus basin grossius, punctulato, linea dorsali postice impressa, medio basi depressa; elytris lateribus vix rotundatis, perspicue crenato-striatis, interstitiis leviter (perspicue versus latera) convexis; pygidio valde convexo, levissimo, sulco profundo marginato; segmentis ventralibus basi parum punctatis, apicali lato et lavi metallico.

Long. 5½–7½ millim.

Hab. Guatemala, El Tumbador, Volcan de Atitlan, Pantaleon (Champion).

The sexual characters are the same as in C. illæsum. The punctuation of the thorax is as well marked as in C. capistratum, and a little stronger in the female than in the male.

Taken by Mr. Champion in great abundance.

The elytral striae, as in all other species of the C. capistratum group, are deepened and broadened towards the apex, before which they terminate. The base of the thorax appears to be immarginate, but on close inspection a narrow line is in some examples seen at a little lower level than the apparent base.

5. Chæridium ampliatum. (Tab. II. fig. 25.)

Latius ovatum, sed elytris multo minus quam in C. capistrato ampliatum. Nigrum, nitidum, viridi-æneo vel

* By an oversight the name of the genus is given as Chæridium on the Plate.
LAMELLICORNIA.

cupreo tinctum; thorace (medio basi punctata excepta) laevi vel obsoletissime punctulato, linea impressa dorsali nulla, basi immarginato; elytris crenato-striatis, interstitionis ete planis; pygidio param convexo, levissimo, sulco marginali grosse et profundo; segmentis intermediis ventralibus basi (praeipue ad latera) longitudinaliter punctatis, apicali lato, levi.

Long. 7 millim.

*Hab.* Mexico, Presidio (Forrer), Panistlahuaca (Sallé), Juquila (Höge); NICARAGUA (Sallé).

Distinctly broader relatively to the length than *C. illaxum*, *C. klugi*, and *C. guatemalense*; broader even than *C. capistratum*, but with less dilated and rounded elytra than that species, and the base of the thorax wholly immarginate. The numerous examples from Juquila, and others from Panistlahuaca, are greenish-brassy-black, those from Nicaragua coppery, and all are glossy. The pygidium varies a little in convexity, but is never nearly plane as in *C. illaxum*, nor strongly convex as in *C. guatemalense*.

A specimen from Juquila is figured.

6. *Chceridium candezaei*.


7. *Chceridium prorpyge*.

*C. candezaei* proxieme affine; distert pygidio touto polito, convexo, medio forvea elongata impresso. Oblongo-ovatum, elytris sat rotundatis; capite thornaeque cupreas, nitidas; elytris piceo-nigris (basi excepta), opacis; elyreo margine solum punctato; thorace transversim quadrato, laevi; linea dorsali basali profunde impresso; elytris versus apicem planatis, acute sat profunde striatis, striis obsoletissimae crenatis prope apicum perparum profundiocibus; ventris segmentis intermediis margine anteriore crenatis, apicali dilatato et politissimo.

Long. 7½ millim.

*Hab.* NICARAGUA, Chontales (Belt).

Closely allied to *C. candezaei* and *C. simplex*, but differing from both in the whole surface of the pygidium being polished, and, further, in the centre being marked with an impressed line or elongated fovea, which in one of the two examples is constricted in the middle. The three species belong to a group which differs from the *C. capistratum* series only in the elytral striae not being distinctly broader and deeper near the apex. In both the apical border of the elytra forms a wheal or callus on which the striae terminate before the apex itself.

8. *Chceridium seneo-micans*.

*Chceridium seneo-micans*, Harold, Col. Hefte, iii. p. 82; iv. p. 66.

*Hab.* PANAMA, Bugaba, Volcan de Cirihi, Peña Blanca (Champion).—SOUTH AMERICA, AMAZONS.

Some of Mr. Champion's specimens are of the colour of the type-form, "viridi-
**CHÆRIDIUM.—CANTHIDIUM.**

sæneum, subauratum;" some are dark metallic-green, and others brilliant red-coppery.

**CANTHIDIUM.**

_Canthidium_, Erichson, Archiv für Naturg. 1847, i. p. 109; Harold, Col. Hefte, i. p. 10; ii. p. 60.

A genus of small Copridæ; like _Charidium_, peculiar to America and still more numerous in species. The range is somewhat different from that of the _Charidium_, inasmuch as it does not extend to temperate latitudes in North America, although many species occur in the southern temperate zone; and one, apparently a recent colonist, occurs in the Sandwich Islands. In general the species have nearly the same facies as the _Charidium_, and many are only to be distinguished on close examination of their structural characters. In cases of doubt the very short mesosternum is the best guide, this segment being long in _Charidium_ and separated from the metasternum by an arcuated suture. Nearly ninety species have been described.

1. **Canthidium haroldi.** (Tab. III. fig. 1.)


_C. lucido_ (Harold) affine, differt inter alia fronte bituberculata. Rotundato-ovatum, viridi vel cupreo-auratum, politum; capite punctulato,clypeo nigro et obtuse bidentato, fronte carina brevi obtusa bituberculata; thorace post medium rotundato-dilatato, subtiliter punctulato (disco levio), basi punctis elongatis marginato, linea dorsali leviter impressa; elytris striatis, stiis distanter crenato-punctulatis; subto pedibusque metallicos; pygidio subtiliter punctulato et alutaceo; antennis pallidis. 

♂. Differt tantum tibinis anticus longioribus et angustioribus. Prosternum subtus nullo modo carinatum. 

Long. 6-10 millia.

_Hab._ Nicaragua 1, Chontales (Belt, Janson); Panamá, Bugaba (Champion).

This insect is most nearly related to _C. steinheili_, Harold, and a bluish-black species from Colombia.

I retain the description written before receiving M. Preudhomme de Borre's paper, as it is drawn up from a large series of examples, M. de Borre having at his disposal only one rather small (7 millim.) specimen.

We figure an example from Bugaba.

2. **Canthidium puncticolle.** (Tab. III. fig. 2.)


_Hab._ Mexico 1, Pinos Altos in Chihuahua (Buchan-Hepburn), Cordova, Puebla, Tuxila (Sallé), Cerro de Plumas (Ilöge); Guatemala, San Joaquín in Vera Paz (Champion).—South America, Brazil 1.

In _C. puncticolle_ the inner apex of the anterior tibie is in the male produced and dentiform, in the female simple; but the spur is slender in both sexes.
3. **Canthidium aurifex.** (Tab. III. fig. 3, ♂ .)

*C. rutila* (Harold) proxime affinis; differt ♀ tibiae antecis apice hunt productis. Breviter oblongo-ovatum, splendide viridi-aneum vel cupreum aureo rufescens; capice punctulato, clypeo breviter bidentato, fronte trituberculata; thorace subtilissime densa punctulato, lateribus prope foveam tumidis; elytris punctato- striatis, intersticios subtilissima rugulosis; pygido fortius punctato; pedibus metallicis.

♂. Tibiae antecis apice intus acie productae; calcare dilatato, apice truncato vel bisito.

♀. Tibiae antecis apice intus recte nec productae; calcare gracili, acuto.

*Hab.* **Panama, Bugaba** (*Champion*).

The South-American *C. rutilum* is similar in size, colour, and sculpture to this insect, but differs in the inner apex of the anterior tibiae being produced into a triangular tooth in both sexes. It appears also to be rather shorter and more spherical in shape.

4. **Canthidium ardens.**

*C. rutila* et *C. aurifex* simile. Supra et subtus cupreo-auratum, politum; elytrum rugulosum, fronte trituberculata; thorace laevi, medio basi punctulato; elytris subtiliter striatis, striis impunctatis; pygido subtilissime punctato.

♂. Tibiae antecis apice intus dentiformiter productae et deflexae; calcare sicut in ♀ gracili acuminato.

♀. Tibiae antecis apice intus acute angulatae.

*Hab.* **Nicaragua, Chontales** (*Janson*); **Panama, Bugaba, Volcan de Chiriqui** (*Champion*).

Differs from the numerous closely-allied species of similar form and size and brilliant metallic colouring by its faintly impressed elytral striae, in which there is no trace of the accustomed transverse punctures, except in rare cases when a few are perceptible in the sutural stria. Mr. Champion collected a very large series of the species, more females than males, all of the same golden-coppery colour with green reflection in certain lights. The following local variety differs only in colour.

*Var. C. mutatum.* Saturate viridi-aneum, splendide; corpore subtus et pedibus concoloribus.

*Hab.* **Costa Rica** (*coll. Bates*).

One example.

5. **Canthidium rhodopus.**

Parvum, fere orbiculare, chalybeo- vel aeneo-nigrum, antennis et pedibus testaceo-rufis; supra (elytris subtilissimis) punctulatum; fronte tuberculata, elytrum bidentato et utrinque flexuoso; elytris subtilissime striatis, striis distantier punctulatis.

Tibiae antecis apice intus dentiformiter productae et deflexae; calcare (utroque sexu?) gracili.

*Hab.* **Guatemala, Zapote** (*Champion*).

In structure most nearly allied to *C. ardens*, but in colour and punctuation more
nearly resembling *C. puncticolle*. The elytral striae are very faintly impressed and marked at distant intervals with minute punctures; the interstices rather closely and very finely punctured, besides being minutely shagreened. The thorax is more strongly punctured, but less so than in the ordinary blue Mexican form of *C. puncticolle*. The clypeus is rather coarsely and subrugosely punctured (far more so than in *C. ardens*), the vertex behind less densely punctured.

6. **Canthidium laetum.**

*Canthidium laetum*, Harold, Col. Hefte, i. p. 53.

*Hab.* **MEXICO** 1; **GUATEMALA**, Senahu (*Champion*).

According to the description this species must be similar to *C. aurifex* in form and sculpture, having a trituberculate forehead, smooth thorax, and crenate-striate elytra, in which the sutural stria is more deeply impressed than the others; the colour differing in being bright green or slightly coppery-green. This description nearly suits a species of which Mr. Champion met with two examples in Guatemala; but I have seen no Mexican specimens to fit it. A specimen labelled *C. laetum*, in Von Harold's handwriting, in the Sallé collection does not at all agree with the description, the forehead being unarmed, the thorax as strongly punctured as in *C. puncticolle*, and the sutural stria not more deeply impressed than the others.

7. **Canthidium ——?**

*Hab.* **PANAMA**, Bugaba (*Champion*).

A single example 2½ millim. long, possibly a dwarfed individual of *C. ardens*, but with the forehead unarmed.

8. **Canthidium ——?**

*Hab.* **GUATEMALA**, Senahu (*Champion*).

Also a single example of difficult determination, only 3½ millim. long, the forehead unarmed; the sculpture of the elytra similar to that of *C. laetum*, but the colour brilliant red-coppery.

9. **Canthidium angusticeps.** (Tab. III. fig. 4.)

*C. lucido et C. haroldi* simile, sed differt capite angustiore; clypeo elongato, supra concavo, et margine utrinque sinuato. Supra et subis rubro-cupreum, nitidum, elytris viridi-relucentibus; capite discrete subtilissime punctulato, fronte breviter carinata et sub-bidentata; thorace medio basi triangulariter sublobato et depresso, linea dorsali parum impressa, basi rotundato-punctulata nec marginata; elytris crenato-striatis, intersticiis fere planis; pygidio punctato, basi subruguloso; metasterno basi dense punctulato.

♀? *Thas antice valido tridentate, apice obliquis; calcare elongato validissimo. Long. 5½–8 millim.*

LAMELLICORNIA.

Hab. Nicaragua, Chontales (Janson); Panama, Bugaba (Champion).

A species differing in the form of the head from the typical members of the genus. The punctures along the base of the thorax are not elongate as in Von Harold's Group I., but small and rounded, and not forming a distinct margin. In some points of structure the species approaches Scatonomus; but the hind tarsi are not so broad and compressed as in that genus, although the first and second joints are broader than usual in Canthidium.

ONTHERUS.


Nearly twenty species of this genus have been described; it has a range similar to that of the Canthidia, that is, restricted to the tropical and south temperate zones of the American continent.

1. Ontherus azteca.


Hab. Mexico, Cordova 1, Oaxaca (Sallé).

The type-specimen (♀) in the Sallé collection is the only one I have seen of this insect. The species is rather elongate and robust, distinguished by the deeply impressed and punctured dorsal line of the thorax. The clypeus is entire, and the forehead armed with a conical tubercle as in the female of O. sulcator (Fabr.). The front of the thorax is declivous, with indications of two obtuse tubercles on the edge of the declivity, and the sides present a reifirm elevation below the fovea similar to that of O. quadratus. The metasternum is convex, furrowed down the middle, and strongly punctured and reddish-hairy on the sides.

2. Ontherus mexicanus. (Tab. III. figg. 5, ♂; 5 a, side view of head and thorax.)

Ontherus mexicanus, Harold, Col. Hefte, iv. p. 80 (♀); Ann. Soc. Ent. Fr. 1869, p. 503 (♂) 1.

Hab. Mexico, Cordova (Sallé 1), Talacingo (Höge); Costa Rica (Sallé).

3. Ontherus didymus.


♂. Oblongus, niger, elytrum interdum subopalescentius; clypeo medio leviter emarginato, ruguloso, vertice cornu valido acuto; thorace subtiliter sat dense punctulato, antice declivi et 4-tuberculato (tuberculis intermediis approximatis), linea dorsali obsoleta, fovea laterali extus leviter tuberculata; elytris punctato-striatis striisque utrinque eronis; pygidio segmentoque ultimo ventrali crebro punctatis; metasterno convexo, lateribus sparsim punctatis; tibis anticus tridentatis.

Var. 1. Corus verticus elevato, lato, apice bisidio; thorace antico 4-tuberculato.

Var. 2. Corus verticas vix elevato, lato, binodoso; thorace antico hau declivi, obsolete biduberculato.

Hab. Mexico, Oaxaca (Sallé); Guatemala, Cubilguitz (Champion); Nicaragua,
ONHerUS.—PINOTUS.

Chontales (Belt); COSTA RICA, Volcan de Irazú, Rio Sucio (Rogers); PANAMA, Volcan de Chiriqui (Champion).—SOUTH AMERICA, Eastern Peru.

The varieties or lower developments of the male are not distinguishable from the female otherwise than by the tridentate anterior tibie.

Erichson’s description fits exactly the common form of the female of this widely-distributed species, in which the edge of the thoracic declivity has two obtuse tubercles. Well-developed and rarer individuals of the same sex have four, as in O. mexicanus,♀, from which they are distinguishable only by the shallower crenate-punctate strie of the elytra. The thorax has no dorsal impressed line and the lateral fovea is simple. The male differs widely from the corresponding sex of O. mexicanus.

4. ONtherus brevipennis. (Tab. III. fig. 6.)

ONtherus brevipennis, Harold, Col. Hefte, ii. p. 97.

Hab. PANAMA (M'Leannan).—SOUTH AMERICA, Colombia.

PINOTUS.


A genus peculiar to the American continent, and of wide distribution in temperate as well as in tropical latitudes. Sixty species have been described.

1. PINOTUS yucatanus. (Tab. III. fig. 9, ♀.)

INTER minores; PICCO-niger, nitidus; CLYPEO bidentato, rugulose, vertice punctato impresso, tuberculo conico obtuso; thorace fere lavi, basi sulculo sat acuto lavi usque ad marginem lateralem continuato nec dilatato et omnino impunctato, angulis posticis distinctis, margine laterali ante angulum sinuato; elyris sat proinde striatis, striis subtiliter crenato-punctulatis, interstitiis convexis; metasterno basi et lateribus sparse grosse setifero-punctato.

♀? Sat anguste oblongo-ovata.

♀? Late oblongo-ovata.

Long. 12–15 millim.

Hab. MEXICO, S.W. Yucatan (Dr. Horn, coll. Bates); NICARAGUA, Chontales (Belt).

Belongs to the group of small species, with undifferentiated sexual characters in the armature of the head and thorax, of which many have been insufficiently described. The present species seems to be very similar to P. inachus of Erichson, the vertex having a shallow depression behind the simple and short tubercle, as I infer from the description of that author, “capite ruguloso, tuberculo frontali postice impresso;” a description equally applicable if it refers to the tubercle, which in the male is concave behind. Erichson, however, does not mention the marginal groove of the thorax, the narrowness and perfect smoothness of which are very characteristic of P. yucatanus, the numerous allied species from the northern parts of South America which I have examined having the groove punctured or punctured and widened. A female specimen from Yucatan is figured.

HH 2
2. *Pinotus amplicollis.* (Tab. III. figg. 10, (ARG); 10 a, side view of head and thorax.)


*Hab.* MEXICO, Pinos Altos in Chihuahua, Alamos (Buchan-Hepburn), Presidio, Ventanas (Forrer), Oaxaca and Puebla (Boucard), Panistlahuaca (Sallé); GUATEMALA, Tamahu in Vera Paz (Champion).

A specimen from Chihuahua is figured.

3. *Pinotus centralis.*


*Eab.* BEITISH HONDURAS, E. SARSTOON (Blancaneaux); GUATEMALA, PARaiso, El Reposo (Champion); NICARAGUA, Granada (Sallé); COSTA RICA (Van Patten).

4. *Pinotus sagittarius.*


*Hab.* MEXICO, Toxpam near Cordova (Sallé), Oaxaca (Höge).

5. *Pinotus agenor.*


*Hab.* PANAMA, Taboga Island (Champion).—SOUTH AMERICA, COLOMBIA.

One female example only.


*Pinotus satanas,* Harold, Col. Hefte, ii. p. 98 (1867).

*Hab.* MEXICO, Cordova, Toxpam (Sallé), Jalapa (Höge); GUATEMALA, Cubilguitz (Champion); NICARAGUA, Chontales (Belt); COSTA RICA, Volcan de Irazú, Cache, Río Sucio (Rogers); PANAMA, Volcan de Chiriquí (Champion).—COLOMBIA.

7. *Pinotus carolinus.*

*Scarabeus carolinus,* Linn. Syst. Nat. ed. xii. i. 2, p. 541.

*Hab.* NORTH AMERICA, CAROLINA.—BRITISH HONDURAS, R. SARSTOON (Blancaneaux); GUATEMALA, COBAN (Sallé), near the city 5000 feet (Salvin, Champion), San Gerónimo, El Tumbador, Cerro Zunil, Zapote, Capetillo, Mirandilla, Escuintla (Champion); NICARAGUA, Chontales (Belt, Janson); COSTA RICA (Van Patten), Volcan de Irazú, Cache (Rogers); PANAMA (Macleannan), Volcan de Chiriquí (Champion).

Apparently an abundant species throughout the Central-American States, South of Mexico. In Mexico it is replaced by the closely allied *P. colonicus* (Say), which is readily distinguishable (but in the male sex only) by the head having two tubercles, one
before the other, *P. carolinus* having one only. The species varies greatly in size and general form; and in the shape of the cephalic tubercle, which in well-developed male examples is sometimes obtusely pointed and sometimes broad and emarginated at the tip. Extreme forms differ considerably from North-American specimens of *P. carolinus*; but many male examples, especially from Guatemala, offer no difference worthy of note from others of the middle Atlantic States of North America.

*P. eremita*, Harold, from Colombia is a closely allied form; but I do not venture to refer the Central-American series to it, as two male examples from Colombia, which I have been able to examine, offer a modification in the shape of the cephalic tubercle which does not occur in any of the Central-American specimens.

8. *Pinotus colonicus*. (Tab. III. figg. 7, δ; 8, Ψ.)


*Pinotus bituberculatus*, Harold, L'Abbeille, vi. p. 127 (δ) (1869); Ann. Soc. Ent. Fr. 1869, p. 500\(^2\).

*Hab.* Mexico\(^1\), Alamos (Buchan-Hepburn), Guajuco in Nuevo Leon (Dr. Palmer), Presidio (Forrer), Izucar, Mazatlan, Tuxtlia, Cordova\(^2\), Vera Cruz\(^2\) (Sallé), Jalapa, Aguas Calientes, Zapotlan in Colima, Tecomaveca, Tapachula in Chiapas (Höge).

The two tubercles of the head (δ), which constitute almost the sole differential character of this species, seem to be the result of inferior development, owing to unknown local causes. It is a prevailing rule in the horned Copridæ (as in other analogous groups) that the smaller and feeble males lose the strongly developed armature of the larger males and resemble the females. This is exemplified in the present case by the hinder tubercle of the male, which is the homologue of the same prominence in the female, and which disappears in the male of *P. carolinus*; whilst the anterior tubercle, which is extremely small in feeble males of *P. colonicus*, becomes larger and more elevated according to the degree of development of the larger males. In *P. carolinus* the hind tubercle (a female character) disappears in the males altogether.

**COPRIS.**

*Copris*, Geoffroy, Hist. des Ins. Envir. Paris, i. p. 87 (1762); Erichson, Naturgeschichte der Ins. Deutschl. i. 3, pp. 761, 786.

This well-known genus, distributed over all the tropical and warmer temperate regions of the Eastern Hemisphere, with the exception of Australasia and the Oceanic Islands, is well represented in our Fauna and in temperate North America. It is, however, absent from South America, with the exception of one species strayed from Central America and the West Indies. About eighty species have been described.
1. **Copris læviceps.** (Tab. III. figg. 11; 11 a, side view of head and thorax.)

   *Copris læviceps*, Harold, Ann. Soc. Ent. Fr. 1869, p. 496.

   **Hab.** MEXICO, San Andres Tuxtla in Vera Cruz (*Boucard* 1), Cordova, Puebla, Playa Vicento (*Sallé*), Jalapa (*Höge*); GUATEMALA, Pantaleon, Mirandilla, Cubilguitz, Panzos, Telemán (*Champion*).

   A specimen from Jalapa is figured.

2. **Copris sallœi.** (Tab. III. figg. 12, 12 a; 12 a, side view of head and thorax.)

   *Copris sallœi*, Harold, Ann. Soc. Ent. Fr. 1869, p. 496.

   **Hab.** MEXICO, Cordova (*Sallé* 1); GUATEMALA, San Isidro (*Champion*); PANAMA, Volcan de Chiriqui (*Champion*).

   A fully-developed male from Cordova is figured.

3. **Copris rebouchei.** (Tab. III. figg. 13, 13 a; 13 a, side view of head and thorax.)


   **Hab.** MEXICO, Ventanas (*Forrer*), Puebla (*Boucard* 1).

4. **Copris klugi.**


   **Hab.** MEXICO, Oaxaca (*Boucard* 1), Capulalpam, Peras, Duraznal (*Sallé*); GUATEMALA, San Gerónimo (*Champion*).

5. **Copris boucardi.**


   **Hab.** MEXICO, Juquila (*Boucard* 1).

6. **Copris armatus.** (Tab. III. figg. 14, 14 a; 14 a, side view of head and thorax.)


   **Hab.** MEXICO, Toluca (*Boucard* 1); BRITISH HONDURAS, R. Sarstoon (*Blancaneaux*); GUATEMALA (*Sallé*), San Joaquin in Vera Paz, Capetillo, Escuintla (*Champion*); COSTA RICA (*Van Patten*), Volcan de Irazú, Rio Sucio (*Rogers*).

   Appears to be chiefly a southern species in our Fauna. I have seen no Mexican examples except those labelled "Toluca," presumably from M. Boucard, in the *Sallé* collection.

   A fully-developed male from Costa Rica is figured.

7. **Copris procidius.**


   **Hab.** MEXICO 1, Cordova, Vera Cruz 2, Orizaba, Panistlahuaca, Tuxtla, Tehuantepec (*Sallé*), Jalapa (*Höge*), Mochitlan in Guerrero (*Baron*).
8. *Copris incertus.* (Tab. III. figg. 15,  σ ; 15 α, side view of head and thorax.)


_Hab._ Mexico 1, Campeche in Yucatan (Sallé, Pilate 2), Vera Cruz 2, Tuspan 2, Cordova 2, Panistlahuaca, Cosamaloapam, Tehuantepec (Sallé), Ciudad in Durango, Cholula, Chilpancingo, Yautepac, Cordova, Guanajuato, Jalapa, Tapachula in Chiapas (Höge); British Honduras, R. Sarsto, R. Hondo (Blancaneaux); Guatemala (Sallé), Cubilguitz, San Gerónimo, Aceituno, Tocoy, Teleman, Paraíso, El Reposo, Capetillo (Champion), Chinantla 4100 feet (Salvin); Nicaragua (Wagner 2), Chinandega (Sallé), Chontales (Belt, Janson); Costa Rica (Van Patten); Panamá, Bugaba, Volcan de Chiriquí, David, Tole (Champion), Colon (Janson).—South America, Ecuador.

Distinguishable from _C. prociduus_ only in the male sex by the small spine-like horn behind the base of the long frontal horn being erect (slightly curved in feebly developed individuals), the same being inclined nearly horizontally in _C. prociduus_. The other differential characters mentioned by Von Harold prove variable on the examination of a long series, and as there are intermediate examples in Mexican localities, the two species, or forms, would not merit separation if it were not for the difference in their geographical distribution.

A fully-developed male from Nicaragua is figured.

**PHANÆUS.**

*Phanaeus,* MacLeay, Horse Ent. i. p. 124 (1819); Lacordaire, Gen. Col. iii. p. 100.

About eighty species have been described of this fine genus of Copridae, one of the characteristic forms of the American Fauna. As usual, the tropical zone yields the greatest number and variety of species; but the genus is well represented in the warmer temperate regions both north and south, and shows no falling off there as compared with tropical congeners in richness of colouring. Central America contains a large proportion of species, mostly belonging to one group, and offering less variety of forms than tropical South America.

1. *Phanaeus corythus.* (Tab. III. figg. 16,  σ ; 16 α, side view of head and thorax; 17, 2.)


_Hab._ Mexico, Cordova 1, Oaxaca 1, Playa Vicente (Sallé), Jalapa, Misantla, Lagos (Höge); British Honduras (Blancaneaux); Guatemala (Sallé), El Reposo (Champion); Nicaragua, Chontales (Belt, Janson); Panamá, Volcan de Chiriqui (Champion).

Very closely allied to _P. telamon,_ Erichs., of Eastern Peru and the Upper Amazons; in both sexes the outline of the toothed clypeus and the sculpture of the elytra are
the same. Between the respective females I can discover no difference, but the males
are differentiated as follows:

_P. corythus_. Cornu capitis lamina basali supra angustata, apice utrinque dentato-produeta; thoracis tuberculis
antice porrectis.

_P. telamon_. Cornu capitis lamina basali quadrata, supra haud angustata, apice fere recto truncata; thoracis
tuberculis lateraliter porrectis.

Males of minor development appear to be rare in this species: I have seen only two.
As usual in the Copridae, this form is scarcely recognizable on account of the degra-
dation in the armature of its head and thorax:

_P. corythus_, s minor. Cornu capitis obsoletum, carinam supra tridenticulatas efficiens; thorax antice vix retusus,
tuberculis obtusis, transversa, prope apicem siti.

We figure a male from British Honduras and a female from the Volcan de Chiriqui.

2. _Phaenius pluto_. (Tab. III. figg. 18, s; 18 a, side view of head and thorax.)


_Hab._ **Mexico** _¹_, Puebla, Oaxaca (_Salle_).

A distinct species. The male has, instead of a frontal horn, a tri-tuberculate carina
like that of the female, and the thoracic prominence is broad and projecting and quadri-
tuberculate on its front edge. The armature of the thorax in the female is the same
as in _P. corythus_, from which it is distinguished by the sides of the clypeus being
rounded towards the median tooth.

3. _Phaenius bitias_. (Tab. III. figg. 19, s; 19 a, side view of head and thorax.)


_Hab._ **Mexico**, Tuxtepec (_Salle_).

The type-specimen in the Salle collection appears to me to belong to the South-
Brazilian species _P. dardanus_, MacLeay ( = _jasius_, Fabr., nec Olivier). I have seen no
other example from Mexico or Central America.

4. _Phaenius chryseicolli_. (Tab. IV. figg. 2, s; 2 a, side view of head and
thorax.)


_Hab._ **Mexico**, Cordova (_Salle_); **Nicaragua**, Chontales (_Belt, Janson_); **Panama**,
Caldera in Chiriqui (_Champion_).

A well-developed male from Chontales is figured.

5. _Phaenius noctis_. (Tab. III. figg. 20, s; 20 a, side view of head and thorax.)

_P. chryseicolli_ proxime affinis; differt supra teto fuliginoso-niger, opacus, thorax interdum marginibus prope
angulos angustissime cupreis; corpore subuts, pedes et pygidium nigro-caerulea; thorace opaco, spatulam
vix perspicue punctulato, medio basi bipunctato, angulis anticis breviter lobatis; elyris subtiliter striatis, interstitiis planis, levisibus; pygidio parce subtiliter punctulato.
PHANÆUS.

σ major. Cornu capitis elongato-curvedum, postice versus apicem serrulatum, apice acute; thorace disco medio late concavo, concavitatis margine antico bidentato, margine postico cornutus brevibus duobus approximatis, compresso-conicos, interpersio concavo.

ρ minor. Cornu capitis brevissimum. Thorax disco anteriori concavo, cornutus posticus brevissimis; paullo grossius punctatus.

σ effeminatus. In loco cornu capitis tuberculio transverso medio obtuse acuminato; thorax prope marginem anticum quinque-tuberculatus.

♀ incognita.

Long. 17-22 millim.

Hab. Panama, Bugaba, Volcan de Chiriqui (Champion).—South America, Colombia (Wallis, coll. Bates).

Mr. Champion obtained three examples, all males of low stage of development; two of them have a slight trace of metallic edging near the anterior and posterior angles of the thorax and at the base of the pygidium. The single well-developed male from Colombia (Cauca valley?) is more distinctly margined with green or fiery-copper in the same situations; it has also an almost impunctate thorax, the lower developments showing a coarser punctuation on the sides.

Compared with males of P. chryseicollis and P. auricollis, the male, major, shows an important difference in the posterior horns of the thorax, these being very much closer together than in either of those species.

We figure a male, minor, from Bugaba.

6. Phanæus velutinus. (Tab. III. figg. 21, σ; 21 a, side view of head and thorax.)


Hab. Costa Rica, Volcan de Irazú 6000 to 7000 feet (Rogers); Panama, Volcan de Chiriqui 4000 feet (Champion, Trötsch).—South America, neighbourhood of Quito, Ecuador 2.

Murray described this beautiful and interesting species from a single example, a male of small size and low development, in which the frontal horn was of moderate height, and the armature of the disc of the thorax reduced to two laterally compressed tubercles. The highly developed male has a very different appearance, the thoracic elevation being, as usual in such cases, removed to the hind part of the disc, and the tubercles in the middle of the front edge of the elevation developed into excessively long, cylindrical but pointed, spines reaching the tip of the clypeus. In a lower grade of males the thoracic spines reach only the front edge of the thorax, the grade described by Murray being still lower than this.

In the female the head has a tri-tuberculate carina, and the thorax near the middle of the anterior margin a very flexuous and fine carina, the middle of which advances forward in an acute angle ending in a tubercle. This carina forms the front edge of an eminence, bordered on each side by a deepish cavity and concave above.

**P. velutinus** is closely allied to *P. chryseicollis* and *P. noctis*. The whole upper surface is black, with a silky lustre, except the lateral margin of the thorax (from the eye to the basal side of the hind angle), which is of a brilliant fiery-coppery hue, with golden-green reflections. The pygidium and the four hind femora are of the same metallic hues.

We figure a fully-developed male from the Volcan de Chiriqui.

7. **Phaeneus endymion**.


_Hab._ Mexico, Vera Cruz, Cordova la, Istapan (*Sallé*), Jalapa, Oaxaca, Maltrato (*Höge*); Guatemala, San Isidro, Pantaleon, Cubilguitz (*Champion*).

Von Harold describes the male as “niger opacus,” and the female as “caeruleo-viridis nitida.” All the male examples I have seen are either rich dark blue, or dark brassy-green; in both cases with blackish elytra. The stripe of the elytra vary in being either smooth or crenate-punctulate. The numerous females are shining dark blue, with the thorax sometimes slightly greenish, with a black antero-discal spot.


♂ effeminatus. In loco cornu capitis carina parum elevata. Thorax disco anguste triangularis, angulis haud productis.

♀. Thorax antice carinae tri-tuberculatae arcuatae et pone carinam concavam.

8. **Phaeneus pyrois**. (Tab. III. figg. 22, ♀; 22α, side view of head and thorax; 23, ♀.)

*P. endymion* proxiime affinis et similis, sed differt coloribus et in ♀ thorace antice tri-tuberculato nec carinate, pone tubercolo haud concavum; clypeo bidentato; thorace disco late triangularis, deplanato, subtiliter granulato; elyris sat profunde striatis, striis semper levibus; corpore subitus pedibusque nigro-cyanea; pygidio plus minusve cupreo. Colore supra variat, ♀ ♀ (clypea semper nigra fere opaca): — 1, thorace nigro sub-opaco, lateribus anguste aurato-cupreis capitque nigro; 2, capite (marginem antice nigro excepto) rubro-cupreo, thorace rubro-cupreo, lateribus viridi-cyanis; 3, capite postice igneo-cupreo, thorace disci nigro subopaco, linea dorsali, margine posticis et lateribus anterioribus late igneo-cupreis; 4, capite (marginem clypeo nigro) et thorace splendiditer aurato-cupreis.

Lung. 14—20 millim. ♀ ♀.

_Hab._ Nicaragua, Chontales (*Belt, Janson*); Costa Rica (*Van Patten*); Panama, Bugaba, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).—South America, Colombia (coll. Bates).

The male shows fine gradations of development in the length of the horn and in the width of the plane and sloping triangular dorsal plate of the thorax, and the lowest or effeminate stage is precisely as described under *P. endymion*. In the female the singular difference in the prominence on the anterior disc of the thorax is constant, and no doubt specific, the three tubercles rising singly out of the convex slope of the surface, without trace of carina or depression behind them.
All the specimens from Costa Rica are of the less metallic var. 1; in the State of Panama the same variety occurs, mingled with vars. 2 & 4. The most richly-coloured examples are from Chontales, where var. 1 appears not to occur.

We figure a pair from Chontales.

9. **Phanæus melampus.** (Tab. IV. figg. 1, 3; 1 a, side view of head and thorax.)


*Hab.* MEXICO¹, Cordova, Tuxtla, Oaxaca (*Sallé*), Jalapa (*Höge*); GUATEMALA (*Sallé*).

♂ effeminatus. In loco cornu capitis carina triangulariter elevata. Thorax disco antice vix planato, medio utrinque tuberculo levi.

We figure a fully-developed male from Cordova.

10. **Phanæus guatemalensis.**


*Hab.* GUATEMALA¹ (*Sallé*), El Tumbador, Cerro Zunil, Volcan de Agua (*Champion*).


11. **Phanæus amethystinus.** (Tab. IV. figg. 3, 5; 3 a, side view of head and thorax.)


*Hab.* MEXICO, Orizaba (*Sallé*¹), Zacualtipan in Hidalgo, Misantla, Jalapa, Las Vigas (*Höge*); GUATEMALA, Panima and Purula in Vera Paz (*Champion*).


A fully-developed male from Orizaba is figured.

12. **Phanæus damocles.** (Tab. IV. figg. 4, 6; 4 a, side view of head and thorax.)


*Hab.* MEXICO¹, Oaxaca, Capulalpam (*Boucard*¹), Duraznal, Panistlahuaca (*Sallé*), Juquila, Oaxaca (*Höge*), Mochitlan in Guerrero (*Baron*).

The fully-developed male example figured is from Capulalpam.

13. **Phanæus quadridens.** (Tab. IV. figg. 5, 7; 5 a, side view of head and thorax; 6, 7, var.)


*Hab.* MEXICO¹², Santa Clara in Chihuahua, Villa Lerdo, Durango city, Pachuca in Hidalgo, Aguas Calientes, Las Vigas, Maltrato, Juquila, Jalapa (*Höge*), Hacienda de
San Miguelito (Dr. Palmer), Northern Sonora (Morrison), Milpas, Ciudad in Durango (Forrer), Puebla, Guanajuato, Izucar (Sallé), Mexico city (Flöhr).

We figure a fully-developed typical male, and also a female of a variety from Chihuahua, the latter being a local form peculiar to Northern Mexico.

14. Phaenæus scutifer. (Tab. IV. figg. 7, ♂; 7a, side view of head and thorax.)

♂ major. Lute viridi-aneus, politus; clypeo margine, cornu, pedibus anticis, tibias tarsisque posticis mediocie ventris, nigris; cornu capitis sicut in P. melanopa et affinis, maxime elongato et curvato sed basi perparum nee angulatim dilatato; thorace lateribus crebro minute granulatis, disco late triangulare deplanato, grosse hau denser vermiculato-granulato, medio basi levore sed ibi hau distinate planato, nee bipunctato, angulis posticis acute reflexis; elytras striis griseo-opeosis sat impressis, obsolete punctulatis, interstitiis parum convexis, hic illio transversim rugatis; pygidio punctulato.

♀ ignota.

Long. 23 millim.

Hab. Mexico, Misantla (Höge).

Comes nearest to P. amethystinus, from which it differs in the frontal horn being less dilated at the base, and in the base of the thorax having no distinctly limited polished plate.

There were two examples in Herr Höge's collection, one labelled "Misantla" and the other "Oaxaca." As a large part of his collection was labelled wrongly "Oaxaca," and the Misantla specimen bears a special numbered ticket, I think it safe to conclude that the latter is the correct locality of the species.

15. Phaenæus hermes. (Tab. IV. figg. 8, ♂; 8a, side view of head and thorax.)

Phaenæus hermes, Harold, Col. Hefte, iv. p. 82 (1868) ¹.

Phaenæus chalcomelas, (Perty) var., Harold, Berl. ent. Zeitschr. 1859, p. 198 ².

Hab. Panama, Bugaba, David, Toló (Champion), Panama city (J. J. Walker).—Colombia ¹, Bogota ². Found abundantly in dung, on open savannas (Champion).

The great majority of the specimens are, as described by Von Harold, "subopacus, olivaceo-cupreus;" but a few present a brassy-green, and others a somewhat shining golden-coppery thorax; and others, again, are wholly golden-coppery, slightly shining. The females have often a dull black thorax, with a dorsal line and margins coppery, or the thorax is coppery, irregularly clouded with black.

The male developments are finely graduated and easily recognizable except the lowest:—

♂ effeminatus. Parvus (13 millim.). In loco cornu capitis carina aronatim elevata. Thorax fere equaliter convexus, disco antico parum deplanato et interdum carina utrinque obtusissima marginato.

An example from David is figured.
16. **Phanaeus adonis.** (Tab. IV. figg. 9, $\sigma$; 9 a, side view of head and thorax.)


*Hab. Mexico*, Tuspan 1, Guanajuato (*Salle*), Huanchinango (*Truqui*).

A fully-developed male example from Huanchinango is figured.

17. **Phanaeus daphnis.** (Tab. IV. figg. 10, $\sigma$; 10 a, side view of head and thorax.)


Von Harold described the fully-developed male only.

$\sigma$ minor. Cornu capitis brevus. Thorax disco anteriore anguste concavo et sparsim sambroso utrinque medio tuberculó brevi oblique elongato.

$\sigma$ efforminatus. Cornu capitis brevissimum. Thorax prope marginem anteriorem concavus, parce granulatus, ante medium utrinque tuberculó subrotundato, plus quam dimidio posterior convexo levigato.

$\varphi$. Vertex carina recò tri-tuberculata. Thorax antice medio carina arcuata et postiæ carinam leviter concavus.


Var. *ovulifera*. Spina mediana thoracis basos apice truncata; elytris fore lavibus. (Harold, l.c. pp. 166-167.)

Var. *herbeus* (*Sturm*). Sicut in typo viridi-ceneus; differt solum elytron interstitionem convexis.

A fully-developed male from Izucar is figured.

18. **Phanaeus tridens.** (Tab. IV. figg. 11, $\sigma$; 11 a, side view of head and thorax.)


*Hab. Mexico*, Vera Cruz 2, Orizaba, Mazatlan (*Salle*), Ventanas, Plan del Río, Cuernavaca, Almolonga, Jalapa (*Höge*).

We figure an example from Almolonga.

19. **Phanaeus furiosus.** (Tab. IV. figg. 12, $\sigma$; 12 a, side view of head and thorax.)

*P. tridenti* proxime affinis, coloribus minus resplendentibus, viridi-æneus vel saturate æneus, raro aurato-cupreus cornuque ($\sigma$) thoracis basali latissimo, supra planato, apice late bidentato; differt autem ($\sigma$ $\varphi$) elytron striis crenato-punctatis.

Long. 14-20 millim.


I have adopted the name "*P. furiosus*, Dugès," given to the species in the *Salle* collection. We figure a fully-developed male from Ventanas.
20. Phanaeus nimrod. (Tab. IV. figg. 13, σ; 13 a, side view of head and thorax.)


Hab. Mexico, Oaxaca (Sallé, Höge), Jalapa, Lagos, Cerro de Plumas (Höge), Putla (Boucard).

Varies greatly in coloration—from very dark blue, through greenish-blue, brassy green, coppery-green to brilliant golden-coppery.

σ effeminatus. A P. dayphus differt semper thorace medio tri-tuberculato.

♀. A P. dayphus differt striis latioribus, interstiiis valde convexis thoraceque postice lavi, polito.

A fully-developed male from Oaxaca is figured.


Hab. Mexico, Toluca (Sallé), Jalapa (Höge), Mexico city (Flohr), State of Michoacan³.

This species varies less in colour than its allies. All the numerous examples examined are either rich coppery-red or dark blue. The coarse vermiculate sculpture of the thorax distinguishes the female and the lower grades of the male from the corresponding forms of the neighbouring species.

22. Phanaeus eximius. (Tab. IV. figg. 14, σ; 14 a, side view of head and thorax.)

P. palliato proxeim affinis. Viridi-auratus, viridi-aneus, vel saturate cœreleus, raro cupreo-auratus; elytris late striatis, interstiiis valde convexi utrinque transversim rugulosis vel crenatis.

σ major. Cornu capitis valde longusum curvatum basi vix dilatatum. Thorax sicut in P. palliato, disco triangulari, angulis posticis valde reflexis, acutis, medio concavo, subgrosse vermiculato-scabroso, dente valido acuto compresso ante medium basin spatiosque inter dentem et marginem posticum planato sublavi bipuncatum; differt a P. palliato margine antico sicut in P. quadridenti (Say) bispinoso.


Hab. British Honduras, R. Sarstoone (Blancaneaux); Guatemala (Sallé), Capetillo, Escuintla (Champion); Nicaragua, Chontales (Belt, Janson).

I have adopted the name given to this species by Dr. Candèze, under which it has been for some years known in many collections.

A fully-developed male from Guatemala is figured.
23. Phanæus sallæi. (Tab. IV. figg. 15, ♂; 15 ♀, side view of head and thorax.)


Hab. Mexico, Cordova 1, Tuxla (Sallé), Jalapa (Höge); British Honduras (Blanchaneaux); Guatemala, La Tinta (Champion).

The female is distinguishable from the same sex of the allied species by a shallow concavity, and two very faint punctiform marginal impressions, in the middle of the basal margin of the thorax.

We figure a fully-developed male from Cordova.

24. Phanæus beltianus. (Tab. IV. figg. 16, ♂; 16 ♀, side view of head and thorax.)

P. sallæi proxime affinis, thoracis sculptura eadem; differt colore virescenti-cupreo paullo fuscescente et minus nitido, capite thoraceque lateribus lsetius viridi-auratis; maxime differt elytrwm striis latis interstitiis conyexis angustioribus.

♂. Thorax medio niger, medio basi punctis duobus oblongis distinctis; antice carina curvata medio tuberculata et pone carinam excavata.

♀. Thorax medio niger, medio basi punctis duobus oblongis distinctis; antice carina curvata medio tuberculata et pone carinam excavata.

Long. 20–22 millim.

Hab. Nicaragua, Chontales (Bell, Janson); Panama, Volcan de Chiriqui (Champion).

The flattened and smooth basal plate of the thorax is separated from the anterior declivous and scabrous disc by a transverse carina, and the anterior margin of the slope has at each angle a conical tubercle; the reflected basal angles are rather less distant than in P. sallæi; the sides of the thorax are finely granulated.

The single example from Chiriqui differs from all those from Chontales in being coppery-red, similar to the prevailing colour of P. sallæi, but duller.

A well-developed male from Chontales is figured.

25. Phanæus wagneri. (Tab. IV. figg. 17, ♂; 17 ♀, side view of head and thorax.)


Hab. Mexico, Chiapas (Sallé); British Honduras, R. Sarstoon (Blanchaneaux); Guatemala (Sallé), Champerico, El Reposo, Paraíso, Escuintla, San Gerónimo, Purula (Champion); Nicaragua (Wagner 1, Sallé 1), Granada (Sallé); Costa Rica (Van Patten), Cache (Rogers).

The two small and round punctiform impressions of the base of the thorax, which Von Harold indicates as characteristic of this species in both sexes, are in rare examples wanting.

Dark bluish-green individuals occur only in the northern part of the range of the
species, with rare examples coppery. In our very large series from Costa Rica nearly all the examples are rich golden-coppery, rarely with a greenish tinge. A fully-developed male from Costa Rica is figured.

26. Phanæus mexicanus. (Tab. IV. figg. 18, s; 18a, side view of head and thorax.)


*Phanæus divisus*, Harold, loc. cit. p. 171.

*Hab.* Mexico, Sonora (coll. Bates), Pinos Altos in Chihuahua (Buchan-Hepburn), Presidio (Forrer), Puebla, Orizaba, Tuxtla, Vera Cruz, Izucar, Juquila, Oaxaca (Sallé), Villa Lerdo in Durango, Tacambaro, Jalapa, Misantla, Oaxaca (Höge).

Von Harold separated *P. divisus* on the ground of a slight difference of relative position in the tubercles on the sloping disc of the thorax; the tubercles exist in the complete number of three only in males of the greatest development, and the difference between *P. mexicanus* and *P. divisus* lies in the anterior tubercle being in the former more or less close to the two hinder ones, and in the latter distant from them. On comparing, however, a large number of well-developed males, it is at once seen that all grades in the relative distance of the tubercles are exhibited, and that the division into two species must be quite arbitrary. Besides, individuals thus compared show no difference in other respects when they differ in the position of the tubercles. In males of secondary development the anterior tubercle disappears; in others of still lower grade all three are wanting.

The species varies very greatly in its rich metallic colours. The brightest form, of resplendent golden-coppery hues, is chiefly found in Southern Mexico. A beautiful dark blue variety occurs at Izucar. The female also varies greatly in size, colours, and in the form and degree of prominence of the thoracic carina; it is, however, always distinguishable from the same sex of *P. sallæi* by the carina not being sharply tuberculuted in the middle, nor followed by a concavity. From the females of *P. wagneri* and *P. amithaon* it may be generally distinguished by the absence of punctiform impressions; but, as already observed, in some females (as well as males) of *P. wagneri* these small punctiform impressions are wanting. This indication being absent, I see no other means of separating the females of these three closely-allied species.

A fully-developed male from Puebla is figured.

27. Phanæus scintillans. (Tab. IV. figg. 19, s; 19a, side view of head and thorax.)

*P. mexicanus* affinis, sed thorace sicut in *P. amithaon*, disco antice declivi plano scabrose, medio prope marginem anteriores tuberculo acuto et ante tuberculum birtuberculato, angulis elevatis (peste proximo minus quam in *P. amithaon* approximatis), apice antice porrectis. Leastissime aurato-emperis, splendidissimus; thorace medio basi impunctato; elytris striis acute insculptis, interstititis parum convexis lavissimis.
28. Phanaeus pilatei. (Tab. IV. figg. 20,  s ; 20 a, side view of head and thorax.)


Hab. MEXICO, Yucatan (Pilate 1, coll. Salle).

A well-developed male is figured.

29. Phanaeus amithaon.


Hab. MEXICO, Presidio (Forrer), Guanajuato 1, Chiapas (Salle), Guadalajara, Villa Lerdo, Lagos in Aguas Calientes (Höge).

Von Harold described only the male of this species, which is distinguished from the same sex of P. mexicanus and P. wagneri by the elevated dentiform hind angles of the thoracic discoidal elevation being much more nearly approximated, and at their summit forming (instead of a simple tooth) a ridge extending towards the middle of the thorax. The female, according to an example so labelled in the Salle collection, is readily distinguishable by two large and deep punctiform impressions in the middle of the basal margin.

30. Phanaeus damon. (Tab. IV. figg. 21, s ; 21 a, side view of head and thorax.)


Phanaeus pegasus, Sturm, Cat. p. 331, t. 1. figg. 8, 9 (1843) 1.

Hab. MEXICO 1 2 3, Puebla, Izucar, Juquila, Tehuantepec (Salle), Colima city, Jalapa, Huetamo (Höge); NICARAGUA, San Lorenzo (Janson).

Var. Atro-caruleus vel chalybeus.

Hab. GUATEMALA, Tocooy (Champion); NICARAGUA, Chontales (Janson).

We figure a fully-developed typical male from Puebla.

31. Phanaeus mirabilis. (Tab. IV. figg. 22, s ; 22 a, side view of head and thorax.)

P. damon affinisimus et similis, sed conspicue differt; s thoracis cornubus retrorsum inclinatis acuminatis, apice convergentibus, antice usque ad apicem scabrosis. Laeto viridi-auratus, splendidissimus, cornu frontali et cornibus thoracis, extus, nigris.

Long. 20 millim.

BIOL. CENTR.-AMER., Coleopt., Vol. II. Pt. 2, June 1887. KK
Hab. Mexico, Mazatlan, Guanajuato (Sallé), Colima city (Höge).

A female in the Sallé collection from Guanajuato, labelled, like the male, "nov. sp.," differs in nothing from the female of P. damon. A fully-developed male from Mazatlan is figured.

ONTHOPHAGUS.


A genus remarkable for the almost endless diversity and eccentricity displayed in the armature of the males. Nearly six hundred species have been described, and in all, with very few exceptions, the horns, protuberances, and processes exhibit individual variations, the rule governing which is not easily traceable. America, North and South, seems to contain much fewer species than the Old World, the tropical regions of Africa and Asia furnishing the greater number, as well as the largest and most richly decorated forms.

1. Onthophagus curvicornis.


Hab. Mexico ², Cordova (Sallé), Mexico city, Zacualtipan, Tampico, Jalapa, Oaxaca (Höge); British Honduras, R. Sarstoon (Blancaneaux); Guatemala (Sallé), Cerro Zunil, Capetillo, Zapote, Balheu, San Gerónimo (Champion); Costa Rica, Volcan de Irazu (Rogers); Panama, Bugaba, Volcan de Chiriqui (Champion).—South America, Colombia ², Venezuela ², Ecuador ¹.

All the examples from the Volcan de Chiriqui and Bugaba are of an indigo or slaty-blue colour. Similarly coloured varieties occur also in Mexico, but the Chiriqui form further differs in being rather less shining than the others.

2. Onthophagus incensus.


Hab. Mexico ¹, Campeche in Yucatan, Cordova, Orizaba, Cuernavaca, Tuxtla, Playa Vicente, Vera Cruz, Chiapas (Sallé), Frontera and San Juan Bautista in Tabasco, Yautepec, Guadalajara, Jalapa, Oaxaca (Höge); Guatemala (Sallé), El Tumbador, El Reposo, Las Mercedes, Cerro Zunil, Pantaleon, Zapote, Capetillo, Cubilguitz, San Gerónimo (Champion); Honduras (Sallé); Nicaragua, Granada (Sallé), Chontales (Belt, Janson); Panama, Colon (Janson).

According to Von Harold ² the only difference between O. curvicornis and O. incensus lies in the form of the anterior protuberance of the thorax in the male, the protuberance
being porrect and conical in the former, and less advanced, rounded, and slightly indented in the latter. It appears to me, however, doubtful if the Central-American form referred to *O. curvicornis* can be really the same species, as, amongst the very numerous well-developed males I have examined from all parts of the region, not a single one is found with the conical protuberance of the South-American type-form described by Latreille; in all the thorax has the same form as in *O. incensus*. But there exists another character by which the males of both the Central and the South-American forms of *O. curvicornis* are distinguishable from *O. incensus*, viz. the absence of a carina connecting the bases of the cephalic horns. In *O. incensus* this carina is always visible, though it is less acute in some examples than in others; but in *O. curvicornis* there is no trace of a carina. *O. curvicornis* is nearly always black or bluish-black, with a brassy-green tinge only on the crown and near the anterior angles of the thorax. *O. incensus*, on the other hand, is nearly always wholly metallic above; generally dark brassy-green, but sometimes dark blue, coppery-brown, or brassy-brown, with a brilliant coppery thorax. In both species the inner apical angle of the male anterior tibia is prolonged and more or less reflexed; and the elytra are finely crenulate-striate, with the interstices rather thickly, irregularly, and finely punctured.

3. **Onthophagus nitidior.** (Tab. V. figg. 1, \( \sigma \); 1\( \sigma \), side view of head and thorax.)

*O. curvicornis et O. incensus* quam maxime affinis, sed differt colore late viridi. \( \sigma \) carina posteriori nulla vel obsoletissima clypeoque apice minus angustato et multo minus reflexo marginatoque; thorace sicut in *O. incensus* elytrisque subtiliter crenato-striatis, intersticiis sat conforrim punctulatis et absque setis.

**Long.** 04–10 millim.

**Hab.** Mexico, Juquila (Sallé, Höge), Yaupepec (Höge).

Specimens in the Sallé collection bear the name of *O. nitidus* (Sturm, MS.).

4. **Onthophagus marginicollis.** (Tab. V. figg. 2, \( \sigma \); 2\( \sigma \), side view of head and thorax.)


**Hab.** Guatemala (Sallé), San Gerónimo (Champion); Nicaragua, Chontales (Belt, Janson); Panama, Volcan de Chiriquí, David, Los Remedios, Tolé (Champion).—South America, Colombia 1, Upper Amazonas, Peru 1.

The head is similar in form to that of *O. curvicornis* and *O. incensus*, \( i.e. \) with bi-cornuted vertex; but the clypeus is obtusely rounded, and there is a deep notch at the suture separating it from the rounded genæ; the head in the male is distinctly bi-carinated. The thorax and elytra are usually testaceous-yellow, with the disc of the former and the alternate interstices of the latter dark brassy-green. The dark colour

KK 2
is, however, sometimes diffused over nearly the entire surface, and is often brown without brassy tinge.

We figure an example from Los Remedios.

5. **Onthophagus acuminatus.** (Tab. V. figg. 3, c; 3a, side view of head and thorax.)


**Hab. Panama, Bugaba, David, Colon** (Champion).—**South America, Colombia**.

Similar to *O. incensus*, from which the male is readily distinguished by the carinated forehead and pointed clypeus. It is also a much smaller insect. The female is with difficulty to be distinguished from small and feebly-developed female examples of *O. incensus*; there is, however, generally perceptible a slight difference in the outline of the clypeus—*O. incensus*, ♀, showing a trace of sinuation in the reflexed apical margin, which is quite absent in *O. acuminatus*, ♀.

An example from Bugaba is figured.

6. **Onthophagus nyctopus.**

*O. hamatopus* (Harold) affinis, ab *O. incenso et affinis differt thorace (♂) lobo mediano-angusto, parum producto, compresso; sericeo-opacus, glaber, niger, capite thoraceque asneo-tinetis, hoc crebre hand profunde punctato, linea dorsali late impressa; elytris planatis, crenato-striatis, interstitiis planis, punctulatis; pygidio crebre punctato; tarsis et antennis fulvo-piceis; clypeo rotundato, medio (♂) paullo reflexo, integro.


**Hab. Panama, Bugaba, Volcan de Chiriqui** (Champion).

The outline of the genae is continuous with that of the clypeus. In the lower development of the male the horns of the vertex are reduced to conical tubercles, and the anterior prominence of the thorax is similar to that of the female.

7. **Onthophagus crinitus.**


**Hab. Mexico, Toxpan near Cordova** (Sallé).

The following is doubtless a local variety of this species, the absence of hairs from great part of the surface in the single example being probably due to artificial causes; in other respects it differs from the Mexican type-specimen of the male only in colour:

**Var. panamensis.** (Tab. V. figg. 4, c; 4a, side view of head and thorax.)

Supra breviter setosa, nitidus, viridi-subcupreo-sericeus, elytris nigro-violaceis; thorace undique sat confertum punctato, linea dorsali impressa; elytris subtilissime crenulato-striatis, interstitiis separe punctulatis.
ONTHOPHAGUS. 69

♂. Caput subplanum, disperse punctulatum; clypeo elongato, apice late reflexo et sinuato; vertice cornubus dubus semicirculariter curtissus, cupreus, basi hauk carina connexis. Thorax dorso antice obtuse lobatus, lobo post apicem constricto. Tibiae antice valde elongate, curvatae; apice intus prolongato vix reflexo, penicillato.

Long. 8½ millim. ♂

Hab. PANAMA, San Feliz (Champion).

8. Onthophagus rhinolophus. (Tab. V. figg. 5, ♂; 5 a, side view of head and thorax.)


Hab. MEXICO, San Andres Tuxtla (Boucard, in coll. Sallé), Oaxaca (Höge); GUATEMALA, San Isidro (Champion); PANAMA, Volcan de Chiriqui (Champion).

The single Guatemalan example, a female, differs in its rather more deeply-impressed and more strongly-punctured striæ. In the very finely, scarcely visibly, punctured elytral interstices it agrees with the typical specimens. We figure a male example from Tuxtla.

9. Onthophagus belorhinus. (Tab. V. figg. 6, ♂; 6 a, side view of head and thorax; 7, ♀; 7 a, side view of head and thorax.)

O. rhinolopho proxime affinis, a quo differt colore fusco-secco nito, dorso grosse punctato, elytris grosse crenate-punctatis; thorace (♂) antice medio lobato, lobo longitudinaliter sulcato; clypeo (♂) sicut in O. rhinolophus, late truncato et medio cornu erecto armato; genis margine explanato-reflexo, recto, juxta clypeo autum valde angulato, vertice bicornato. ♀ clypeo triangulare sat elongato, apice bidentato, supra punctato-rugoso, antice transversim carinata, vertice breviter bicornato; thorace antice medio tuberculis dubus compresso-conicis.

♂ major. Cornu clypei basi gracili, apice valde et abrupte dilatato, cornus basique verticis thorace altioribus.

♂ minor. Cornu clypei basi latior apice obtuso nec dilatato; cornus basique sicut in ♀ major.

♂ effeminatus. Clypeo apice leviter producto, reflexo, apice emarginato; vertice bituberculato thoraceque antice medio haud lobato, bituberculato.

♀ minor. Vertex bituberculatus, thorace tuberculis obsoletis.

Long. 5-7½ millim.

Hab. GUATEMALA, El Reposo, Las Mercedes, San Isidro, Pantaleon, Zapote (Champion).

Var. ♀ minor. Viridi-aureus, elytris cupreis, pedibus rufis.

Hab. NICARAGUA, Chontales (Janson).

Many examples of the typical form, one only of the variety.

This and the preceding species belong to a small group* of the genus in which both

* This curious and beautiful little group appears to be peculiar to Tropical America. Other species belonging to it are O. clypeatus (Blanch.), Bolivia, O. rhinophyllus (Har.), Venezuela and Colombia, and the two following:

1. Onthophagus xanthomerus.

Niger, nitidus, elytris subviolaceis, sericeo-opacis, femoribus flavis; thorace punctulato; elytris subtiliter punctato-stratiis, interstitiis planis, alutaceis, punctulatis. ♂ minor (?) clypeo subtriangulari, medio cornu erecto,
sexes have two pointed horns on the vertex; and the front edge of the clypeus in the male bears an erect horn dilated at its apex, and is bidentate in the female. This strange armature attains a high degree of development in the stronger males, the clypeal horn being dilated at its apex in horizontal semilunar form, and the horns of the vertex elongated and curved; but all grades of degradation of this armature, as well as of the anterior tumid process of the thorax, occur in the large series of individuals collected by Mr. Champion, down to a form in which there is nothing except the absence of a frontal carina to distinguish the male from the female. In well-developed females the horns of the vertex are erect, parallel, and reach nearly to the level of the thorax, but in feebleer individuals they are reduced to small conical tubercles, as in the effeminate males; in neither sex are the horns connected at their base by a transverse carina. The thorax, in its highest male development, is nearly vertically declivous in front, with a very shallow depression on each side to receive the horn, and the central convexity laterally compressed and divided into two wheels by a longitudinal furrow, the wheels in males of lower development and in females being reduced to the form of tubercles similar to those of all forms of O. rhinolophus.

The color is dark castaneous or pitchy-brown, glossy above, and more or less metallic-coppery or senece; the legs generally dark pitchy-red, but sometimes lighter rufous. The elytra are much more strongly sculptured than in O. rhinolophus, and the interstices are more convex.

We figure a pair of the type-form from San Isidro. Mr. Champion met with this insect in rotten fruits, especially in cacao; all the Guatemalan localities are on the lower parts of the Pacific slope.

10. Onthophagus præcellens. (Tab. V. figg. 8, s; 8 a, side view of head and thorax; 9, q; 9 a, side view of head and thorax.)

O. rhinolopho similis, sed differ inter alia s cornubus verticis obsolatus; lute clypeus (interdum cupreo-æneus), nitidus, calvus, antennis pedibusque (interdum) piceo-rufus; thorace punctato; elytris conspicue crenulato-stratiatis, intersticiis subconvexis, dispare punctulatis.

s. Caput punctulatum, clypeo versus apicem angustato, lateribus flexuosis, apice cornu erecto apice valde dilatato semilunari, genia dilatato-reflexis, margine rectis, vertice tuberculis dubsus acutis, haud carinato.

basi lato, apice obtuso, genis dilatatis, extras rectis, antice angulatis, vertice longe bicornuto; thorace antice declivi utrinque rotundo, medio antice breviter compresso-lobato, supra sulcato. q clypeo dentato, fronte transversim carinato, vertice cornubus dubsus brevibus; thorace antice medio bituberculato.

Long. 7 millim.  
Hab. Amazons, Ega.

2. Onthophagus canelius.

q. Rufo-castaneus, calvus, nitidus, thoracis limbo exteriore, antennis femoribusque flavo-testaceis; clypeo triangulato bidentato, carina anteriore utrinque abbreviata, alba, cornubus dubsus verticis rectis; thorace unilique punctato, tuberculis antice conio-compressis; elytris convexis, crenato-stratiatis, intersticiis alutacis sat confertim punctulatis.

Long. 8 millim.  
Hab. South America, Canelos in Ecuadors.
ONTHOPHAGUS.

Thorax dorso antice tuberculis duobus porrectis elongatis compressis, fere bispinoso. Tibiae antice elongate, apice intus truncatae, penicillatae.

2. Caput punctato-rugosum; clypeo late triangulare bidentato; fronte carinata, vertice (sicut in 2 O. rhinolopho) cornubis duobus erectis, basi haud carinata. Thorax dorso antice tuberculis duobus minoribus compressis.

Long. 7|-9 millim.

Hab. Costa Rica (Van Patten); Panama, Bugaba (Champion).

A transition form between the groups O. rhinolophus and O. sharpi; but more nearly allied to the former, from the species of which it differs only in the horns of the vertex being reduced to very short conical tubercles; and the thoracic tubercles, in compensation, being greatly lengthened, so that they appear, viewed from above, like two spines projecting much beyond the hind margin of the head. It is just possible that a more developed form of the male exists, having posterior cephalic horns, but there is none such in the fine series collected by Van Patten.

We figure a pair from Costa Rica.

11. Onthophagus sharpi. (Tab. V. figg. 11, 3; 11 a, side view of head and thorax; 12, ♀.)


Hab. Nicaragua, Chontales (Belt); Panama (Boucard), Bugaba, Caldera in Chiriqui (Champion).

Belongs to a subgroup (including the four following species) in which the males have a clypeal horn similar to that of O. rhinolophus and its allies, but no trace of horn on the vertex. O. sharpi is deep glossy-black, with very scant punctuation. The male presents similar gradations in the development of the horn to those described under O. belorhinus.

In the Sallé collection is a female example (from Santecomapan, Mexico) very similar to O. sharpi in form and sculpture, but different in its rich metallic coloration, the elytra being violet-black, the head and thorax golden-coppery, and the sternum and femora brilliant aeneous. It would not be safe, in the absence of male examples, to describe this as a separate species.

We figure a pair from Bugaba. In rotten fruits and at sap (Champion).

12. Onthophagus rostratus.


Hab. Mexico, Cuernavaca (Boucard, in coll. Sallé).

13. Onthophagus tapirus. (Tab. V. figg. 10, 3; 10 a, side view of head and thorax.)


Hab. Nicaragua, Chontales (Belt).
14. *Onthophagus nasicornis*. (Tab. V. figg. 13, ♂; 13a, side view of head and thorax.)

*Onthophagus nasicornis* (Dej. Cat.), Harold, Ann. Soc. Ent. Fr. 1869, p. 511.¹

_Nigerinus_, politus; thorace sparsis punctulato; elytrorum striis punctato-crenatis, interstiiis param convexis, subulavis; pygidio crebre punctato.


_Hab._ **Mexico**, Cordova, Tuxtla (Sallé).

The head in the male is narrower than in the preceding species, the genæ not being greatly dilated, and their outline continuous with that of the clypeus up to the base of the horn.

15. *Onthophagus dicranius*. (Tab. V. figg. 14, ♂; 14a, side view of head and thorax.)

Parvus, fusco-niger, subtitidus, cupre-to-intus, pedibus rufo-pieceis; capite thoraceque grosse sat confertim punctatis; elytrorum striis valde crenato-punctatis, interstiiis rugulosis et sparsum punctatis.

♂ major. Clypeus apice cornu erecto laminato furace armatus, apice obtuso truncatus, margine leviter flexuoso.

Thorax dorso anteriore medio bituberculato, tuberculis altis, compresso-conicis.

♂ minor. Cornu clypei abbreviatum, apice obtusum.

♀. Clypeus bidentatus, capitum supra plano, carina frontal brevissima, obscura.

Long. 5–6 millim.

_Hab._ **Panama**, Bugaba (*Champion*).

The two conical tubercles of the thorax in fully developed males are greatly elevated and protruded, forming a bicuspid protuberance which overhangs the hind margin of the head. In the minor males they are scarcely more elevated than the thoracic tubercles of *O. rhinolophus*.

16. *Onthophagus mexicanus*. (Tab. V. figg. 15, ♂; 15a, side view of head and thorax.)

*O. latebroso* (Fabr.) affinis, sed differt corpore supra fere calvo etc. Subopacus, atro-carneus vel violaceus, interdum viridis, raro cupreus-aureus; thorace subtiliter disperse punctulato, medio basi lavo; elytris subtilissime punctulato-stratis, interstiiis planisimis, punctulatis, punctulis brevissime setiferis; antennis nigro-clavatis; clypeo (♂ ♀) medio apice obtuso truncato, sinuato, supra ♂ lavo, ♀ punctato-rugoso.

♂ major. Caput margine utrinque valde flexuoso bilobato, clypeo lato et valde reflexo; carinis transversis dubibus, anteriores subtilissime transversa, posteriores arcuata utrinque in cornu acuto producta. Thorax antice verticalis profunde bi-impessus; dorso medio antice valde prolongato, furato. Tibiis antecis elongatis, spicis intus acuto productis.


♀. Fere sicut in ♂ effeminato; differt thoracis lobo anteriore minus producto haud emarginato tibiisque antecis intus apice simplicibus.

Long. 7–10 millim.
ONTHOPHAGUS.

Hab. MEXICO, Alvarez Mountains (Dr. Palmer), Mexico city (Sallé, Flohr), Parada, Izucar, Guanajuato, Juquila (Sallé), Jalapa, Tonila in Colima, Lagos, Zapotlan, Zacualtipan, San Juan del Rio, Chilpancingo, Yautepec, Cerro de Plumas, Oaxaca (Höge).

Named O. mexicanus, Sturm, MS., in the Sallé collection; and long known as O. diabolicus (Deyr. MS.), a name which has been used by Von Harold for a species from Borneo. A male example from Cerro de Plumas is figured.

17. Onthophagus guatemalensis. (Tab. V. figg. 16, c; 16 a, side view of head and thorax.)


Long. 7–9 millim.

Hab. BRITISH HONDURAS, R. Sarstoon (Blancaneaux); GUATEMALA, Capetillo, San Joaquin (Champion).

A fully-developed male from Capetillo is figured.

18. Onthophagus lecontei. (Tab. V. figg. 17, c; 17 a, side view of head and thorax.)


Hab. MEXICO, North Mexico 1, Alvarez Mountains (Dr. Palmer), Toluca, Guanajuato, Puebla (Sallé), Mexico city (Flohr), Real del Monte, Zacualtipan, Huitzilac, Jalapa, Oaxaca, Cerro de Plumas (Höge).

A small dull black hairy species, distinguished in well-developed males from O. mexicanus and its allies by the absence of the posterior carina of the head, the anterior (frontal) carina being, in compensation, rather strongly raised. The thoracic lobe is never much elongated or furcate. An example from Jalapa is figured.


2. Parvus; capite thoraceque violaceis, subnittibus, elytris nigris et sericeo-opacis; capite bicornato, elypea bidentato, genis rotundato-sublobatis cum elypea grosse punctatis; thorace grosse discrete punctato, medio antico carina brevi obtusa; elytris conjuncto crenato-striatis, interstiiis sparsem punctulatam, planis.

Long. 4 millim.

Hab. MEXICO, Parada (Sallé), Cerro de Plumas (Höge).

Biol. Centr.-amer., Coleopt., Vol. II. Pt. 2, June 1887. LL
Not larger than the smallest individuals of *O. lecontei*, and the female very similar in form to the same sex of that species. It is different in colour; and in the absence of pubescence, except a few hairs on the head and the fore part of the thorax.

20. **Onthophagus championi.** (Tab. V. figg. 18, $\delta$; 18a, side view of head and thorax; 19, $\varphi$; 19a, side view of head and thorax.)

*O. guatemalensis* affinis. Nigerr, antice viridi-aenoe tinctus, subsatisbus, breviter setosus; thorace conspiciue (antice asperate) punctulato, medio basi depresso, sublave; elytris subtilissimae transversim punctulatias, interstitiis subconvexis; confusa asperato-punctulatias; corpore subsatis viridi-aenoe et metasterno antico compresso-conico.

$\delta$. Caput sublave, clypeo antico reflexo-acuminato, genus mediocrer rotundatis, carina anteriore subtili recta, carina verticis arcuata utrinque acuta producta. Thorax dorso antico late produto-lobato, lobo apice recto sat profunde triangulariter emarginato. Tibiae antice elongatas; apice intus produto subacuto, vix penicillato.

$\varphi$. Caput bicarinatum; clypeus semicircularis, marginibus parparum reflexis, supra rugosus. Thorax antice lobo quadrato (angulii distincti), parum producto.

Long. 6–8\$ millim.

**Hab. Guatemala.** Paraíso, El Reposo, Zapote (*Champion*).

A very distinct and apparently rare species of the *O. mexicanus* group. The female at first sight is liable to be taken for that of the common *O. curvicornis*; but the short erect pubescence and the sculpture of the elytra will serve to distinguish *O. championi* on closer examination. In *O. curvicornis* the striae are crenated; and the punctures of the interstices are simple and destitute of the hairs and accompanying granules distinctive of the present species.

A fully-developed male from El Reposo and a female from Paraíso are figured.

21. **Onthophagus eulopus.**

*O. mexicanus* affinis; robustior et corpore supra granulato. Nigerr, serico-nitens, sparsim brevissimae setosus, thorace elytrisque passim aequaliter granulatis; thorace angulis antici late rotundatis; elytris punctulato-striatis.

$\delta$. Caput latum et breve, clypeo margine antico late et obtuso reflexo, genus rotundato-dilatatis, carina anteriore subtili arcuata, carina verticis acuta utrinque acuta prolongata. Thorax dorso antico late et obtuso bilobato.

Long. 10 millim. $\delta$.

**Hab. Mexico** (*coll. Bates*).

In this species the furcated thoracic process in the fully-developed male is broad, and the fork shows no tendency to divergence. In a very remarkable species from Ecuador* this process, as well as the horn of the clypeus, reaches a degree of development far greater than in *O. latebrosus*.

* **Onthophagus mirabilis.**

Bubo-castaneus, fore calvus, femoribus flavo-testaceis; thorace contingim punctato; elytris contingissime punctato-rugulosis; pygidio reticulato-punctato. $\delta$. Clypeus brevior triangularis, antice cornu valde elongato, verticale apice fissus, armatus; thorax processus dorsali subhorizontali angusto, valde elongato, supra sulcato, apice divaricato-fuscato et intra furcans cornu clypealem recipiente.

Long. 11 millim. $\delta$.

**Hab. Ecuador, Rio Morona**.
22. **Onthophagus orphnoides.** (Tab. V. figg. 20; 20a, side view of head and thorax.)

Gen. *Orphnus* primo intuital similis. ♀♂ piceo-niger, subnitidus, subtilis pedibusque piceo-rufus, subtilis sat confortum subrugulosio-punctatus; clypeo bidentato, dentibus sejunctim a clypei margine elevatis; frons carinata, vertex bituberculato; thorace dorsi anteriore profunde concavo spinaque valida ad medium marginem anticum; elytris sat profunde striatis, striis confluentis crenatis.

*Hab.* **Panama,** Volcan de Chiriqui 2500 to 4000 feet (*Champion*).

Three examples, all of the same sex, and, judging from the broad anterior tibiae, the frontal carina, and sculpture of the clypeus, females. The teeth of the anterior tibiae are long and robust, the two nearest the apex much nearer to each other than to the others, the apex obliquely truncated. The head is rather short; and the outline of the genae and clypeus together forms a semicircle, except for the two triangular apical teeth which rise obliquely upwards separately and direct from the margin. The tubercles of the vertex are stout, elevated and transverse, each forming a very short and much elevated carina: these lie much nearer the anterior carina than the usual position of the hind carina of the females in the genus *Onthophagus*. The anterior cavity of the thorax extends from the fore margin to beyond the middle, and narrows posteriorly: it is smooth at the bottom and the ridge that bounds it on each side is compressed and sharp in the middle, showing that the structure is but an exaggerated modification of the antero-dorsal tubercles of both sexes in the *O. rhinolophus* group. We have here, however, an additional armature in a robust horn or spine, rising, slightly curved upwards and backwards, from the middle of the anterior margin of the thorax.

23. **Onthophagus landolti.** (Tab. V. figg. 21, a; 21a, side view of head and thorax.)

*Onthophagus landolti,* Harold, Stett. ent. Zeit. 1889, p. 34.

*Hab.* **Mexico,** Milpas (*Forrer*), Orizaba, Tuxla (*Sallé*), San Juan Bautista, Aguas Calientes, Yantepec, Villa Lerdo, Tonila, Oaxaca, Jalapa (*Höge*); **Guatemala,** near the city, Zapote, Mirandilla, Pantaleon, El Tumbador, San Joaquin, San Gerónimo (*Champion*); **Nicaragua** (*Sallé*); **Costa Rica,** Cache (*Rogers*); **Panama,** Volcan de Chiriqui (*Champion*).—**South America,** Colombia 1, Venezuela 1.

This species may be considered the type of a distinct group of the genus (including the six following) in which the head in the male is unarmed and smooth on the surface; the armature of the thorax restricted to one or more short lobular prominences near the fore margin; and the anterior tibiae of the male greatly elongated, with produced inner apex, within which is a long pencil of hairs. *O. landolti* varies much in colour: the elytra are most frequently dark brassy-brown, with pale reddish spots at the shoulders and apex; but the reddish colour is sometimes extended, and an extreme variety occurs near the city of Guatemala in which the elytra are wholly tawny-brown.

LL 2
This species is labelled in the Sallé collection *O. posticus* (Chevr.), under which MS. name it is probably known in other collections. Dull-coloured examples with unspotted elytra are distinguishable from *O. antiracinus* only by the stronger punctuation of the thorax and more uniform convexity. A male example from the Volcan de Chiriqui is figured.

24. *Onthophagus höpfneri.*


_Hab._ Mexico, Vera Cruz (*Sallé* 1), Tonila, Iguala, Acapulco, Tapachula in Chiapas (*Höge*); _Nicaragua* (*Sallé*).

Very closely allied to the preceding, from which it differs in its smaller size, and in the elytra being yellow, with dark markings on the disc of each.

25. *Onthophagus longimanus.* (Tab. V. figg. 22, σ; 22 a, side view of head and thorax.)

Obscure viridi-saneus vel cuprasceus, nitidus, calvus, tarsis rufo-piecis; thorace conspiciune punctato; elytris crenulato-striatis, internitis subtiliter disperse punctulatis.


♀. Caput obrebris punctatum; clypeo punctato-ruguloso, margine antico haud reflexo, leviter sinuato; genis rotundato-sublobatis.

**Long.** 6 millim.

_Hab._ Mexico, Cordova (*Sallé*).

In well-developed males the two middle tubercles of the thorax are produced as a binodular central lobe overhanging the hind part of the head. In lesser developments they are much reduced, and scarcely overhang the front edge of the thorax; the lateral tubercle on each side is distant from, and posterior to, the central pair, and is never distinctly prominent.

26. *Onthophagus chryses.* (Tab. V. figg. 23, σ; 23 a, side view of head and thorax; 24,♀.)

Lete viridi-saneus, glaber, politus, elytris fulvo-caeruleis, interdum aeneis; thorace disperse punctulato; elytris subtiliter crenato-striatis, internitis sparsim punctulatis; tarsis fulvo-piecis.

σ. Caput inerme, disperse punctulatum; clypeo margine antico late reflexo et truncato; genis angulatis. Thorax medio juxta margine tri-tuberculatus. Tibiae antice valde elongate, subfalcate.

♂ effeminatus. Caput grossius punctatum; clypeo vix reflexo, emarginato, verte breviter carinato. Thorax antice sicut in ♀, obsolete tri-tuberculatus.


**Long.** 6½ millim.

_Hab._ Mexico, Cordova (*Sallé*); Guatemala, Zapote (*Champion*); Panama, Volcan de Chiriqui, Bugaba (*Champion*).
ONTHOPHAGUS.

The single Mexican male example has a more coarsely punctured thorax and golden-green elytra, the latter more strongly sculptured. The single male example from Guatemala is intermediate in sculpture between the Mexican and the Chiriqui form; it has the elytra bluish-green, with tawny spots at the shoulders and at the middle of each side. We figure a typical pair from the Volcan de Chiriqui.

27. Onthophagus anthracinus.


Hab. Mexico, Orizaba, Puebla, Juquila, Parada, Guanajuato (Sallè), Jalapa, Oaxaca (Höge); Guatemala 1, Quezaltenango, Mirandilla, Zapote, Capetillo, Dueñas, Acéytuno, San Gerónimo (Champion); Costa Rica, Volcan de Irazu (Rogers); Panamá, Volcan de Chiriqui (Champion).

A small, dull black species, coppery in front, opaque, with a slight silky gloss; the thorax unequal on its surface, and its punctures scattered, and more or less distinctly ring-shaped and setiferous. The surface of the elytra is also beset with distinct punctures, from each of which rises a tawny bristle. The genæ are rotundate, sublobate, and together with the clypeus (in the male) sprinkled with large punctures, the clypeus in the female closely punctate-rugose. The head is unarmed in both sexes, and bicarinate in the female.

28. Onthophagus ignaclusis.

O. landolti affinis. Mullo minor, viridi-sænse, nitidus, corpore subitus pygidiisque nigris, tarsi rufescensibus; dense breviter setatu; thorace grosse discrete punctato, basi distinctius marginato; elytris punctulato-striatis, interstitiis biseriatis setiforous-punctatis; pygidio grosse punctato.

♂ major. Caput planum, sublaxe; genis sublobato-rotundatis, grosse punctatis; clypeo sat elongato angustato, cum apice elevato, emarginato et sub-bidentato. Thorax antice medio tuberculo conico acuto.


Long. 3–4 millin.

Hab. Mexico, Ignala and Chilpancingo in Guerrero (Höge).

Besides its small size and stronger punctuation, this differs from the allied species in the hind margin of the thorax, which, viewed from behind, appears to be distinctly margined. In all the numerous examples (except one from Ignala) there is no trace of pale markings.
29. **Onthophagus gazellinus.** (Tab. V. figg. 25, c; 25 a, side view of head and thorax.)

*O. gazella* (Fabr.) quoad formam et coloribus similis; sed differt capite 3 inermi etae. Subrotundatus, supra glaber, subtilius sparse setosus; fulvo-testaceus, capite thoracique disco aeneo-fuscius, elytris fusco-irroratis, subtilius metasterno medio aeneo; thorace teto equaliter punctulato; elytris crenato- striatis, interstiiis planis et sparse punctulatis; pygidio sat grossi setifero-punctato.

♂. Caput lanceo, inerme, margine reflexo; elypeo obtuso truncato; genis dilatatis, subrotundatis. Thorax antice verticalis et obtuse quadri-tuberculatus, tuberculis duobus medianis minus elevatis et obtusioribus. Tibiae antice valde elongata; apice intus recte et longe acuminato-producto, longe penicillato.

♀. Caput bicornatum, confection punctulatum, antice rugulosum; elypeo semiovato, margine reflexo; genis mediootere rotundatis. Thoraces sicut in ♂.

Long. 9–12 millim.

**Hab. Nicaragua, Chontales (Belt, Janson).**

An insect strikingly different in appearance from all other known American forms of the genus, and much resembling *O. gazella*, a common species in Tropical and Subtropical Africa and Asia. Its true affinities, however, are not with *O. gazella*, but with *O. landolti* and *O. chryses*.

30. **Onthophagus rufescens.** (Tab. VI. fig. 1, c.)

Oblongus, convexus, rufo-fuscescens, plus minusve cupreo-metallicus interdum aeneo-piceus, dense breviter setosus et undique confertim punctatus; capite (genis paululum rotundato-dilatis) crebre punctulato; thorace convexo, antice c inerme, 2 subverticaliter declivi, grosse punctato, punctis minoribus intermixtis; elytris crenato-striatis, interstiiis pleuroque bisetifero-punctatis et subconvexis.

♂. Clypeus antice paullo angustatus margineque reflexo subeiusuto; frons inermis. Thorax magnus, cuboidalis, media antice valde uni-tuberculata.

♀ minor. Vertex breviter carinata. Thoracis tuberculata obtuso.

♀. Clypeus obtusus rotundatus; vertex carinata, fronte carinae obsoletissimae. Thorax antice inermis.

Long. 5–6½ millim.

**Hab. Mexico, Guanajuato (Dugès, in coll. Sallé), Guadalajara, Tupataro, Matamoros Izucar (Höge).**

I have adopted the name given to this species by Dugès in the Sallé collection.

31. **Onthophagus corrosus.** (Tab. VI. figg. 2, c; 2 a, side view of head and thorax.)

Fuliginos-niger, antice cupraeasces, sericeo-opacus, erecte setosus; thorace punctulis annuliformibus confertim impresso quorum nonnullis setam rigidam emittentibus; elytris subtiliter punctulato-striatis, interstiiis planisimis, eleganter alutaceis pleuroque bisetifero-punctatis; pygidio annulato-punctato.

♂. Caput breve, margine sexies flexuoso; elypeo reflexo; carinae antice valde arcuatae, elevata. Thorax antice late quadrato-gibbosus, gibbere margine antico eere recto tuberculique conico prope angulos anticos. Tibiae antice attenuate; apice recto truncato, penicillato.

♀. Caput margine parum flexuoso; elypeo distinctius bidentato, supra ruguloso; carinae anteriore recta, carinae verticalis minus arcuata, antice ab carina frontali sat remota. Thorax antice parum convexus, prope marginem anticum carina obtusa leviter arcuata. Tibiae antice apice oblique truncato.

Long. 5–5½ millim.

**Hab. Mexico, Cordova, Orizaba (Sallé).**
ONTOPHAGUS.

In what appears to be the well-developed male of this singular species the posterior carina of the head is curved anteriorly in horseshoe-shape, and advances (becoming more sharply raised) beyond the usual situation of a frontal carina, traces of which are seen on the sides. The front edge of the clypeus is reflexed, and forms two rounded teeth; between these frontal teeth and the gene the clypeal margin is strongly flexuous, and the gene are rounded and sublobate. The large thoracic prominence is nearly straight and somewhat sharp on its front edge; the latter overhangs the anterior margin of the thorax, and is rectangular at either extremity. A male from Cordova is figured.

32. ONTOPHAGUS CYCLOGRAPHUS.

O. corroso quoad colorum et sculpturam similiumus, differt solio capitis thoracisque armatura, thorace utroque sexu antice bicurvativani carinato carinaque tri-tuberculato.

♂ minor vel effominatus? Caput bicarinatum, carina anteriore subtili, posteriore recta; clypeus grosse punctatus vix rugulosus.

♀. Caput carinis duabus rectis; clypeus punctato-rugosus.

Long. 5½ millim.

Hab. GUATEMALA, San Joaquin, Balheu (Champion).

The carina of the anterior part of the thorax is sharply defined, and describes two curves, the middle projecting forward further than the two extremities, and like them forming a thickened tubercular angle. In dung in pine-woods (Champion).

33. ONTOPHAGUS COSCIINEUS.

O. corroso affinis; multo minor, subovatus, fuliginoso-niger, pedibus piceo-rufis, opacas, crete setosus, capite (♂ ♀) et thorace crebre rotundato-punctulatis (nee annulatis); elytris nitide punctulato-striatis, interstitiis paulo convexis, sericeo-alutaceis plerumque uniseriato-marginatis.

♂. Caput planum; clypeus margine apicali abrupte reflexo et sub-bidentato; genis rotundatis; vertice tuberculosis duobus transversis. Thorax juxta marginem anticum medio tumidulus.


Long. 3½-5 millim.

Hab. PANAMA (coll. Bates), Volcan de Chiriqui (Champion).

The punctures of the thorax are not ring-shaped impressions as in the two preceding species, but simple punctures, and, like those of the head, they lie very near together. The apex of the clypeus in the male is reflexed in trapezoidal form, with the upper edge strongly sinuated; in the female the reflexed edge is much less elevated, and forms two broad and rather distant teeth.

34. ONTOPHAGUS CUBOIDALIS. (Tab. VI. figg. 3, ♀; 3 a, side view of head and thorax.)

♂. Crassus, cuboidalis, niger, politus, sparsim setosus; capite lato, subtiliter punctulato, clypeo conico, margine laterali fere rectangulo, anteriore rotundato, medio obtuso truncato, carina anteriore subtili, vertice carina alta erecte bicornuta; thorace magno, lato conspicuo punctato, punctis minoribus intermixtis, linea dorsalis levii, base depressa elevati, dorso anteriore triangulariter truncato, declivitae anteriore verticali; elytris valde
80

LAMELLICORNIA.

striatis, striis inconspicue punctulatis, interstititis dispersae punctatis; tibis anticus curvatis, dente 4° (superiorem) subobsoletos.
Long. 11 millim. ♂.

Hab. MEXICO, Oaxaca (Höge).

A single male. This species is allied to O. hippopotamus, but differs in the carina of the vertex being much elevated, and armed at each end with a longish upright horn; and also in the form of the thoracic anterior gibbosity, which forms in front an obtuse bicurved carina, with a sharp vertical declivity to the fore margin of the thorax.

35. Onthophagus hippopotamus.
Hab. MEXICO, San Antonio de Arriba (Sallé).

36. Onthophagus semiopacus.
Hab. MEXICO, Juquila (Sallé).

37. Onthophagus chevrolati. (Tab. VI. figg. 4, ♂; 4a, side view of head and thorax.)
Hab. MEXICO, San Andres Chalchicomula (Sallé), Las Vigas, San Juan del Río, Zacualtipan, Salazar, Jalapa, Amecameca (Höge).

A male from Chalchicomula is figured.

38. Onthophagus retusus.
Hab. MEXICO, Parada (Boucard), Toluca, Yolotepec, Capulapam (Sallé), Oaxaca (Höge).

This and the preceding species are acknowledged by Von Harold to be very closely allied. I find on comparing specimens of each bearing labels in the describer’s handwriting that the males exhibit the differences he specifies, which are, on O. retusus, the less opaque, metallic, and more coarsely punctured thorax, the posterior carina without distinct tubercle in the middle, the convex elytral interstices, &c.; but in a large series these characters are seen to be variable, and it is doubtful if the specific differentiation can be maintained.

39. Onthophagus totonicapamus. (Tab. VI. figg. 5, ♂; 5a, side view of head and thorax.)
O. chevrolati affinis et similis, differt thorace (♂) gibbere antico mediano angusto angulato. Fusco-niger,
ONTHOPHAGUS.

O. anecensis, sericeus, supra inaequalis breviter flavo-setosus; capite (♂ 2) crebre punctato-rugoso, carina posteriore subtili biarcuata; thorace punctis sat magnis umbilicatis et minoribus intermixtis, basi crenato-margi- nato; elytris nitide punctulato-striatis, intersticios planis, punctis et subtiliter punctulatis.

♂ Clypeus latus, margine laterali plus minuave angulato, antice late rotundato reflexo; carina anteriore nulla. Thorax dorso antice triangulariter gibbosus, medio angulato (haut obtuse producto).


♀ Clypeus elongatus, elypeo sat elongato et angustato. Thorax antice medio convexum utrinque tuberculo nitido.

Long. 5–8 millim.

Hab. Mexico, Chiasus (Sallé); Guatemala, Totonicapam 9000 to 10,500 feet (Champion).

A large series of examples. The Sallé collection contains a single female specimen from Chiapas with the thorax less strongly punctured.

40. Onthophagus aureo-fuscus.

O. totonicapamano affinis; breviter quadrato-ovatus, terrenoe-fuscus aureo-vel aneco-tinctorial, sericeo-opacus, supra inaequalis, breviter setosus; capite punctato-rugoso; thorace sat grosse irregulariter umbilicate-punctato punctis metallicis, basi punctulato-marginato; elytris striatis, striis grosse punctatis, intersticios granulatis; pygidio opaco, umbilicate-punctato.

♂ Clypeus latus subquadratus, concavus, antice late rotundatus, genus rotundatis; carina posteriore acuta areuta. Thorax sicut in O. totonicapamano ♂, dorso antice triangulariter gibbosus, medio angulato subcompresso.


♀ Clypeus elongatus, apice sinuato; carina anteriore subtili, posteriore (sicut in ♂ O. totonicapamano) biarcuata. Thorax medio antice convexo laticne utrinque tuberculo glabro.


Hab. Mexico, Para (Sallé).

Very nearly allied to O. totonicapamano, but differing in its light brown colour, with pervading metallic tint, inclining to golden, but scarcely shining. The shallow circular punctures of the thorax are larger, and irregularly scattered over the surface, the spaces between the punctures being very uneven; and the elytral interstices are granulated.

The well-developed males are further distinguished by the simply arcuated posterior carina of the head.

41. Onthophagus cyanellus. (Tab. VI. figg. 6, ♂; 6 α, side view of head and thorax.)

O. chevrolati affinis. Atro-celeruleus, brevissime setosus, subopacus; thorace constrictum punctulato, punctulis majoribus et minoribus internistis, medio basi marginato; elytris subtiliter punctulato-striatis, intersticios planissimus, subtilissime punctulato-setiferis.

♂ major. Clypeus latissimus et brevissimus, utrinque sese rectangulus, margine antice late areuta; carina posteriore areuta, medio intermagna, extus utrinque in spinam brevem producta. Thorax margine anto medio reflexo-angulato angulosque anterioris acutis; dorso anteriore valde gibbosae, gibbere medio late obtuso (fere sicut in ♂ O. retuso major).

♂ minor. Clypeus brevis, semicircularis; carina extus acuta sed haud producta. Thorax angulo marginali haud reflexo, gibbere dorsali minore et magis rotundato.

BIOL. CENTR.-AMER., Coleopt., Vol. II. Pt. 2, August 1887.
LAMELLICORNIA.


Long. 8-11 millim.

_Hab._ Mexico, Parada (Sallé), Jalapa (Höge); Guatemala, San Gerónimo, Cerro Zunil (Champion); Costa Rica, Rio Sucio, Volcan de Irazu (Rogers); Panama, Bugaba, Volcan de Chiriqui (Champion).

The colour is a very dark indigo-blue. This species is very distinct from the others of the _O. chevrolati_ group by the punctuation, and the peculiar lateral dentiform prolongation of the posterior carina of the head in the well-developed males. I have adopted the name given to the species by Chevrolat in the Sallé collection. A male from the Volcan de Chiriqui is figured.

42. _Onthophagus_ — ?

_Hab._ Mexico, Jalapa (Höge).

A single female example of a species apparently allied to _O. landolti_.

43. _Onthophagus_ — ?

_Hab._ Mexico, Ciudad in Durango (Forrer).

A single female example of a species apparently allied to, but distinct from, _O. nitidior_.

44. _Onthophagus_ — ?

_Hab._ Mexico, Ciudad in Durango (Forrer).

A single specimen very near _O. chevrolati_, but with somewhat different punctuation.

ONITICELLUS.


A genus distributed over the tropical and warm temperate zones of the eastern and western continents, but not found in Australia or in oceanic islands. Only two species have hitherto been detected in America, namely—one in the West-Indian Islands, and a second in California. Forty-four species have been described.

The remarkable new species described below, recently discovered by Herr Höge in Mexico, differs from all other known members of the genus in the armature of the thorax; but as very great diversity exists in the genus in this respect as well as in general form and sculpture, and as the Mexican species agrees very closely with _Oniticellus_ in all essential points of structure, there is no ground for treating it as a separate genus.
1. **Oniticellus monstruosus.** (Tab. VI. figg. 7, σ; 7 a, side view of head and thorax; 8, 2; 8 a, side view of head and thorax.)

Magnus, latus, depressus, supra passim dense et minute granulatus, brevissime setosus, fere opacus, nigro, capite et thorace chalybeo vel viridi-aveo tinctis; capite lato elypaceo late arcuato; thorace elytris laetiore, magnus quadrato, postice leviter angustato, dorso late depresso vel concavo, canaliculato; elytris subtiliter punctulato-striatis; tibias posticis apice valde dilatatis.

σ. Frons tuberculo; vertex cornu brevi acuto medio armatus. Thorax dorso late concavo et utrinque longitudinaliter elevato-carinato.

2. Frons valde transversim carinata; vertex breviter tricornutus. Thorax dorso antico breviter tricornutus.

Long. 18–22 millim.; 2 lat. thoracis 12 millim.

*Hab. Mexico, Guadalajara (Höge).*

Three examples.

**Fam. APHODIIDÆ.**

**APHODIUS.**

*Aphodius,* Illiger, Kugel. Verz. der Käfer Preuss. p. 15 (1798); Erichson, Ins. Deutschl. iii. 1, p. 792.

About 460 species of this well-known genus are known to science. By far the greater number belong to the Palæarctic and Nearctic provinces, very few being found in the Indian and Malayan regions, and still fewer in Australasia. In both Africa and America the genus is spread over the tropical and south temperate zones of the continents, but fewer and less varied species occur in South America than in corresponding latitudes in Africa.

1. **Scutellum large, elongate-triangular.**

1. **Aphodius dugesi.** (Tab. VI. fig. 9, σ.)

*A. hemorrhoidalis* similis, sed valde differt tibiarum posteriorum setis apicalibus inaequalibus capiteque inermi. *A. harnati* (Say) affinis: multo minor, convexus, niger, nitidus; capite lavi, convexo; elypaceo explanato, leviter emarginato, lateribus rotundatis, genis obtuse angulatis; thorace sparsim irregulariter grossissime punctato, basi immarginata; scutello levissimo, vix depresso; elytris relative brevibus, crenato-striatis, interstitialibus planis, levibus, apice versus vix convexioribus; pedibus rufo-piceis.

σ. Tibiae antice calcare curvato spathulato; tarsi postici articulo primo subitus furcato. Var. elytris apice vel totis rufo-piceis.

Long. 4½ millim.

*Hab. Mexico, Guanajuato (Dugès, coll. Sallé), Tupataro (Höge).*

Belongs to Dr. Horn's Group B (cf. Trans. Am. Ent. Soc. 1870, p. 111), which contains six other much larger species inhabiting the United States; all these species exhibit in the male the same singular dilatation of the fore tibial spur and the forked or hooked basal joint of the hind tarsi. The latter structure is apparently produced by a spine-like process arising from the thickened apex of the joint, and directed a little obliquely towards the base.

The species bears the MS. name *A. grossus*, Dugès, in the Sallé collection.

MM 2
II. Scutellum small.

A. Apical setae of the hind tibia equal in length.

a. Base of the thorax margined.

2. Aphodius sallaei. (Tab. VI. fig. 10.)


*Hab. Mexico*, Cordova, Puebla (*Sallé*), Villa Lerdo, Jalapa, Vera Cruz, Oaxaca, Tehuantepec (*Höge*); Guatemala, near the city, Acuitun, Dueñas, Capetillo, Zapote, Coatepeque, Río Maria Linda, San Joaquín, Balheu, Purula, San Gerónimo, Cubilguitz, Tamahu, La Tinta (*Champion*); Nicaragua, Greytown, Chontales (*Janson*); Costa Rica, Volcan de Irazu (*Rogers*).

We figure an example from Cordova.

3. Aphodius lansbergei.


*Hab. Mexico*, Cordova (*Sallé*).

This species and the preceding are allied to *A. granarius*, but have an emarginated clypeus, and the head and elytra castaneous, the latter being streaked with black. In *A. sallaei* the anterior tibiae are punctured on the upperside, and the elytral striae sulci-form; in *A. lansbergei* the tibiae are smooth, and the elytral striae fine; the interstices are flat in both species. *A. sallaei* appears to be an abundant species, whilst *A. lansbergei* is rare.

I have seen only the typical example in the Sallé collection.

4. Aphodius indutilis.


*Hab. Mexico* (*Sallé*), near the city (*Flohr, Höge*), Zacualtipan (*Höge*); Guatemala, Quetzaltenango, Quiche Mountains, Capetillo (*Champion*).

This species resembles in form and colour the allied North-American *A. ruricola*, Melsh., from which Von Harold distinguishes it chiefly by the coarsely rugose-punctate head and less prominent genæ.

5. Aphodius aztecus. (Tab. VI. fig. 11.)


*Hab. Mexico*, Jacale (*Sallé*).

6. Aphodius vittatus.

APHODIUS.

Hab. North America 1 2 3.—Mexico, Northern Sonora (Morrison), Guanajuato, Cordova (Sallé), Chihuahua city, Cuernavaca, Zacualtipan, Vera Cruz (Höge).

b. Base of the thorax not margined.

7. Aphodius oleosus.


_Hab._ Mexico 1.

Described by Von Harold from a specimen supplied by Dr. Haag of Frankfort. The species appears not to have been met with by M. Sallé or any of our travellers.

8. Aphodius innexus.


_Hab._ North America, California 2.—Mexico 1 2, Alvarez Mountains (Dr. Palmer), Guanajuato, Puebla, Oaxaca (Sallé), Mexico city (Flohr), Aguas Calientes, San Andres Chalchicomula, Tula (Höge).


_Hab._ Mexico, Cordova (Sallé, Höge), Vera Cruz (Höge); Guatemala, Zapote (Champion); Nicaragua, Greytown (Janson).—Antilles, Cuba 1 2, Santo Domingo 2.

10. Aphodius lividus.


_Hab._ North America, Southern States 2.—Mexico (Sallé), Northern Sonora (Morrison), San Pedro in Coahuila (Dr. Palmer), Tupataro, Aguas Calientes (Höge); Guatemala, Chiautla (Salvin); Nicaragua, Chontales (Janson).—South America, Brazil; Europe 1; Asia; Senegal; Australia 3.

11. Aphodius ——?

_Hab._ Mexico, Cordova (Sallé).

A single, immature, example of a very small species allied to _A. cuniculus_, but evidently distinct.
B. *Apical setae of the hind tibiae unequal in length.*

a. *Base of the thorax marginated.*

12. *Aphodius flohri.*

Elongato-oblongus, convexus, niger, politus, capitis marginem tarsisque (interdum pedibus totis) pico-rufis, antennis fulvis; capite semicirculari, clypeo antice emarginato et utrinque distincte angulato, genis haud rotundatis; fronte & grosse rugose, 2 subtiliter sparsim, punctata, media tumidula, cavinulaque utrinque anto oculum; thorace basi subtiliter marginata, angulis posticis valde obtusis, bore mediocrier dense punctato punctisque minutis intermixtis, linea dorsali levii; elytris relative elongatis, exarato- striatis, striis punctatis parum crenulatis, interstitiis planis subtiliter sparsim punctulatis; meso-sterno grosse oblongo-punctato, metasterno utrinque linea unica punctorum.

Long. 6–7 millim.

*Hab.* Mexico, near the city *(Flohr, Höge)*, Guanajuato, Oaxaca *(Sallè)*, Durango city, Refugio *(Höge)*.

This species seems to be closely allied to *A. coloradensis*, Horn.

13. *Aphodius —?*

*Hab.* Mexico, Northern Sonora *(Morrison)*.

A species sent by the late Mr. Morrison as the *A. ursinus*, Motsch., an insect known previously only from Alaska and Kamchatka, and, according to Von Harold and Dr. Horn, belonging to the section having equal apical setae to the hind tibiae. Morrison's species certainly agrees very well with the descriptions of both authors, with the exception that the apical setae are decidedly unequal; hence I hesitate to adopt the name. It is closely allied to *A. flohri*.

14. *Aphodius glyptus.*  *(Tab. VI. fig. 12.)*

*A. stipido* *(Horn)* proxime affinis. Niger, subopacus, supra setis brevissimis argenteo-griseis dense obsitus; capite tuto subdense subtiliter punctulato; clypeo sinuato et extus subangulatim rotundato, marginem anto genas perparum sinuato; fronte media convexa; thorace creberre hie illie confluente et subtiliter punctulato, basi utrinque late sinuata angulisque obliquis obsitus; elytris exarato-striatis, striis nitidis, fere laviibus, interstitiis usque ad apicem planis et subtiliter complicato- reticulatis; antennam clava fusco-nigra.

Long. 5 millim.

*Hab.* Mexico, Ciudad in Durango 8100 feet *(Forrer)*.

15. *Aphodius latecrenatus.*  *(Tab. VI. fig. 13.)*

*A. stipido* *(Horn)* affinis. Obscure castango-fusces, subopacus, supra setis brevissimis argenteo-griseis dense obsitus; capite tuto et subtiliter punctulato; clypeo medio convexo, antice subsinuatum truncate, lateribus usque ad genarum apicem leviter sinuatis subrectis; thorace confertissimae fere reticulatim punctato, punctulis minutis dorsi intermixtis, lateribus sicut corrosis, angulis posticis valde sinuatis; elytris latissime exarato-striatis striisque grosse et late confertissimae punctatis, interstitiis crebre punctatis, incumbente pubescentibus.

Long. 3½–5 millim.

*Hab.* Guatemala, Totonicapam 9000 to 10,500 feet *(Champion)*.
Belongs to the same group as the preceding (Dr. Horn's Group K and Erichson's Group N), from all the known species of which it differs by its deeper and coarser sculpture. It also differs in the lesser inequality of the apical setae of the hind tibiae. The setae are all short and at first sight appear equal, but on close examination of well-preserved specimens a slight but distinct difference of length is evident. The reddish spots on the reddish-brown elytra are ill-defined, but more distinct on some of the interstices at the base; in some examples the elytra appear vaguely tessellated with red.

16. **Aphodius euprosopus.** (Tab. VI. fig. 14.)

*A. inquinato* (Fahr.) similis. Niger, nitidus, elytris glabris, flavo-testaceis, maculis oblongis discoidalibus et plaga irregulari laterali nigris; capite obsoletè trituberculato, subtiliter sparsim punctulato, elypto leviter sinuto et utrinque rotundato, macula utrinque laterali rufo-testaceo; thorace sparsim aequaliter punctulato, linea dorsali levi, lateribus (precipue antice) flavo-testaceis; elytris crenulato-squamosis, interstisii planis, sparsim, lateribus et apice densius, punctulatis, humeris acute dentatis; pedibus subitus (tarsis apice pallide testaceis, femoris medio nigris, his conspiciens punctatis.

*Long.* 4–4 1/2 millim.

*Hab.* GUATEMALA, Totonicapam, Quiche Mountains (*Champion*).

Belongs to a group numerously represented in the temperate and boreal regions of the Old World and in North America, with which it disagrees only in the apical setae of the hind tibiae being short and nearly equal in length; the usual elongated setae are wanting, though some are a little longer than the others. The base of the thorax is finely margined. In the number and arrangement of the black elytral spots it agrees best with *A. inquinatus*, but the discoidal spots are all detached and oblong-quadrangular in shape: there are two on each of the second and fourth interstices and one (posterior) on the sixth, the lateral larger spot forming an irregular vitta anteriorly on the sixth to the eighth.

Our examples were captured at elevations of from 7000 to 10,500 feet.

b. **Base of the thorax not margined.**

*Genus not prominent, obtuse.*

17. **Aphodius duplex.** (Tab. VI. fig. 15.)

Quoad formam et colores *A. brasiensis* (Casteln.) similis, sed multo minor. Mediociter convexus, glaber, nitidus, luteo-testaceus, capite thoracicoque medio castaneis, elytris utrinque prope apicem vitulis duabus obliquis fuscis (vittam luteo-testaceam includente) suturisque fusis; capite inerme, aequaliter discretè punctulato, elypto antice subsinuatis truncato, genis parum prominibus; thorace toto punctulato, basi utrinque obliquata, angulis obtusis sed distinctis; elytris crenulato-squamosis, interstisii planis, punctulatis; tibiae antice extus ante dentes serrulatis et supra punctatis, posticis cum tarsis glabulis; corporis subitas castaneo-fusco, fere levi, pedibus antennisque luteo-testaceis. Elytrorum striæ 2a et 3a apice abbreviata ibique 3a et 4a valde distantes, 4a et 5a approximate.

*Long.* 4 millim.

*Hab.* MEXICO, Jacale, Quinua (Sallé), Cerro de Plumas, Mexico city, Zacualtipan, Jalapa, Huizilac, Chilpancingo (*Höge*); COSTA RICA, Volcan de Irazu (*Rogers*).
Costa Rican examples are a little darker in colour, and have more distinctly convex elytral interstices than those from Mexico. The species resembles _A. brasiliensis_ in form and colour, and especially in the characteristic marking near the apex of the elytra; but it belongs, according to the received classifications of the genus, to quite a different section: _A. brasiliensis_ having equal apical setae to the hind tibiae and a trituberculate head, the base of the thorax remaining, as in _A. duplex_, immarginate. It must be observed that the inequality of the apical setae is not the same in _A. duplex_ as in the _A. prodromus_ long bristles are near the outside of the fringe and not subalternately mingled with the short bristles.

An example from Costa Rica is figured.

18. **Aphodius panamensis.** (Tab. VI. fig. 16.)

_Aphodius panamensis_, Harold, Berl. ent. Zeitschr. 1859, p. 212^1_.

Anguste-oblongus, glaber, politus, piceo-fuscus, capite thoracico subquadratebus, thorace lateribus et macula media basali elytrorumque margine et interstitio 2° luteo-testaceis; capite fere lavi, polito, elyreo sinuato et utrinque rotundato, mediocriter convexo, genis angulatis sed parum prominentibus; thorace disco subtilissime, lateribus grossi et densi, insculptae punctulato, angulis posticis omnino rotundatis; elytris stratis, striis hand, persticis punctulatis, interstitiis fere planis; subtilissime alutaceis; pedibus gracilibus, sparsim longe setosis, tibiae posticis extus brevissime carinatis. Elytrorum striae 1°-3° solum apice libera, interstitiis convexa.

Long. 3½—4 millim.

_Hab. Panama^1_, Bugaba, David (Champion).

When this insect is viewed from above, the base of the thorax appears immarginate; but from behind obliquely the extreme edge is seen, with a lens, to be very finely margined. In profusion in horse-dung on open savannahs in the low country (Champion).

19. **Aphodius guatemalensis.** (Tab. VI. fig. 17.)

_Parus_, oblongus, mediociter convexus, glaber, nitidus, piceo-niger, capite utrinque macula, thorace angulis anticecis elytrisque vittis abbreviatis basalius, macula humeralis alerisque prope epiceum, fulvo-testaceis; pedibus rufo-piceis; capite inermi, medio parum tumido, toto regulariter subdense punctulato; elyreo antice subsinuatum truncato, lateribus leviter rotundatis, ante genas verticaliter arcuatis; thorace disco sparsim subtiliter, lateribus densius grossius, punctulato, basi versus angulo oblique, angulis distinctis parum obtusi ibique subtilissime margiinatoe; elytris subtiliter crenumulato-stratis, interstitiis alutaceis, vix perspicue sparsim punctulatis; antennis rufo-piceis, clava fusca; pedibus posticis gracilibus, tarsis articulo primo elongato. Elytrorum striae 2°-5° aequilite distantes, 2° paulo abbreviata, 3°-5° aequales; interstitiis usque ad epiceum plana.

Long. 3—3½ millim.

_Hab. Guatemala_, Quiche Mountains, Quezaltenango, Dueñas, San Gerónimo, San Joaquin, Balheu (Champion). Many examples.

Belongs to a group of very small, closely allied species, which tend to form geographical varieties distinguished by colour and markings. Its chief characters are:—

(1) the finely impressed elytral strixe, which are not squarely scored, but are simple lines
 Aphodius.  

finely crossed by small crenulating punctures; (2) the equidistance near the apex of striae 1-5; (3) the very fine punctuation of the disc of the thorax and of the elytral interstices.

The typical form here described is nearly black above, with a tawny spot on each side of the head and at the apical angles of the thorax, and with tawny vittae on the elytral interstices two, three, and four from the base, more or less abbreviated posteriorly, a spot of the same colour on the shoulders, and sometimes a spot on the fourth interstice towards the apex. The following are evidently colour races:—


Hab. Mexico, Cordova (Sallé), Jalapa, Sayula, Tacambaro, Juquila (Höge). Several examples.

Bears the MS. name (now preoccupied for a described species) of A. anthrax, Deyr., in the Sallé collection.


Hab. PANAMA, Volcan de Chiriquí (Champion). Several examples.

An example from Costa Rica (Rogers) is exactly intermediate between this form and A. guatemalensis, type.

We figure a typical example from the Quiche Mountains.

20. Aphodius charmionus. (Tab. VI. fig. 18.)

A. guatemalensi proxime affinis: differt elytris flavo-testaceis, suturam, lateribus plagaque apicali (macula flava apud interstitium 4° includente) nigris; capite thoraceque nigria, nitidis, crebrius equalitier punctatissim, illo macula laterali, hoc macula humerali, rufo-testaceis; elytris subtiliter crenato-striatis, interstitiis paullo convexioribus fortiusque punctulatis; pedibus testaceo-rufis. Elytorem stria 5° apice multo abbreviata. 

Long. 3½ millim.

Hab. Mexico, Jalapa (Höge). Many examples.


A. guatemalensi affinis. Glaber, nitidus, piceo-niger, capite thoraceque lateribus fulvo-testaceis, elytris castaneo-rufis basi pallidioribus; capite inermi, vix convexo, toto equalitier punctulato, clypeo apice obtuse sub-sinuato truncato; thorace equalitier et spatium punctulato; elytris subtiliter exarato-striatis, strilis minutissime vix crenato-punctatissim, interstitiis paullo convexissim, punctulatis; corpore subtiliter pedibusque piceo-testaceis. Elytorem stric sicut in A. guatemalensi, sed interstitiis paullo convexioribus striciisque 4°, 5° et 5a, 6a ante apicem conjunctis.

Long. 2½-3½ millim.

Hab. GUATEMALA, El Tumbador, Dueñas, San Gerónimo, Chiacam (Champion).

22. Aphodius erythrinus.

A. diminuto affinis et similissimus, sed certe differt thorace inaequaliter punctato, punctis majoribus et minoribus conplicate intermixitis. Differt autem elytris relative brevioribus, quam usque cum thorace paullo

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LAMELLICORNIA.

longioribus. Rufescenti-fulvus, capite medio thoracisque disco castaneo-fuscis; capite striisque elytrorum sicut in A. diminuto.

Hab. PANAMA, Volcan de Chiriqui (Champion).

23. Aphodius xanthus. (Tab. VI. fig. 19.)

Parvus, convexus, glaber, nitidus, fulvo-testaceus, elytris flavo-testaceis, sutura paullo obscuroire; capite inermi, medio leviter convexo, subtiliter sparsi punctulato, clypeo obtuse sinuato-truncate; thorace sicut in A. guatemalen, angulis posterioribus distinctis sed obtusis basique prope angulum obliquo, recto, supra medio livi, lateribus subtilissime punctulatis, punctis sparsis grossis intermixtis; elytris subtiliter crenulato-striatis, interstitionibus ad apicem planis levibus, striis 1st-5th prope apicem aequidistantibus nec abbreviatis; tarsi posticis gracilibus; oculis supra magnis.

Hab. PANAMA, Volcan de Chiriqui, Bugaba (Champion).

Many examples. Belongs to the A. rubeolus group, of North America.

24. Aphodius bifrons. (Tab. VI. fig. 20.)

Oblongus, minus convexus, nitidus, glaber (setis nonnullis prope elytrorum apicem exceptis), margine sparsi longe setosis, flavo-testaceus, vertex thoracisque disco leviter infuscatus; capite plano, parce punctulato, clypeo antice medio concavo, profunde sinuato et valde bidentato, dentibus latis et recurvis, genis nullo modo prominentibus; thorace spurio et regulariter punctato, angulis posterioribus obtusis; elytris subtiliter crenulato-striatulis, interstitionibus parce punctulatis, striis prope apicem minus impressis; tarsi posticis gracilibus; antennae flavo-testaceae; oculis supra magnis.

Hab. MEXICO, San Pedro in Coahuila (Dr. Palmer), Villa Lerdo in Durango (Höge).

A highly peculiar species, but fitting best this group than any other yet indicated in the genus. The base of the thorax is very finely margined on the extreme edge, but the inner edge of the exceedingly fine groove turns off in a curving plica before reaching the hind angle.

b. Genae acutely pointed.

(Group including the European species A. rufipes, A. depressus, A. luridus, and others.)

25. Aphodius fuliginosus. (Tab. VI. fig. 21.)

Aphodius fuliginosus, Harold, Berl. ent. Zeitschr. 1863, p. 327*.

Hab. MEXICO 1, Guanajuato, Puebla (Sallé), Oaxaca (Sallé, Höge), Refugio in Durango (Höge).

Many examples, including the types of Von Harold. A specimen from Oaxaca is figured.


A. fuliginoso affinis; paullo minor, set anguste oblongus, niger, nitidus, elytris livido-castaneis, subnitidis; capite fore livi, genis plus minusvaga producta, acutis, thorace medio basi lobato subtiliter sparsi (lateribus antice
APHODIUS.

et postice grossius) punctulato; elytris crenulato-striatis, interstifciis planis, alutaceis, subtilissime punctulatis; femoribus 4 posterioribus flavo-testaceis.


Hab. Mexico, Las Vegas, Mexico city, Huitzilac, Pachuca (Höge).

A large number of examples.

Var. A. durangoensis. Paullo major. 7 millim.

Hab. Mexico, Refugio in Durango (Höge).

Closely allied to A. fuliginosus, but less opaque, the head and thorax being always shining and black, and the elytra having an oily gloss, which, however, is shown in less degree in some examples of A. fuliginosus. But a more definite character exists in the structure of the tarsi of the middle pair of legs in the male: in A. fuliginosus the tarsi are much shortened, with nodose joints 2–4, and thickened claws toothed at the base; in A. högei they are slender, nearly as in the hind pair, the claws remaining toothed within at the base. Durango specimens are glossy and considerably larger in size; in the numerous examples examined I find no other difference.

27. Aphodius mexicanus.


Hab. Mexico, Parada, Oaxaca, Puebla, Etla, Juquila (Sallé), Mexico city (Flohr), Oaxaca (Höge); Guatemala, Totonicapam (Champion).

There are many examples in the Sallé collection, including a type specimen bearing a label in Von Harold’s handwriting. According to these the species varies considerably: in size from 4 1/2 to 6 millim.; in colour from black to livid-castaneous; in the depth and strength of the punctured striae, which are sometimes deeply gouged with bilineated bottoms, and in rare cases quite superficially impressed; in the hind angles of the thorax—sometimes rounded and sometimes nearly rectangular; and in the truncation of the clypeus being, especially in small examples, scarcely perceptible.

28. Aphodius gravidus.


Hab. Mexico (ex coll. Deyrolle).

This species is not contained in our collections.


Hab. Mexico, Chalchicomula (Sallé).

The type specimen in the Sallé collection is the only one I have seen.
30. *Aphodius villosipes.*


_Hab._ Mexico, Oaxaca (Sallé).

31. _Aphodius luridiventris._


_Hab._ Mexico, Cinco Señores, Yolos (Sallé), Mexico city (Höge).

The Sallé collection contains no examples of this or the preceding species labelled by the describer; but there is a series of each named by M. Sallé, all of which seem to me to belong to one and the same species. As none of the differential characters mentioned by Von Harold hold good, I am inclined to think they are not distinct. All the specimens have convex elytral interstices, and a more or less distinct tooth at the inner base of the tarsal claws in all the legs. The punctuation of the upper surface varies indefinitely, and the silky surface is more or less perceptible in all.*

**SAPROSITES.**

*Saprosites,* Redtenbacher, Fauna Austriaca, Käfer, 2nd ed. p. 436 (1858).

This genus was founded by its author on a minute Aphodiide found in orchid-houses at Schönbrunn, and supposed to have been imported from America; Von Harold gives the locality as Colombia. Redtenbacher omits to mention the characters distinguishing the genus from *Euparia,* and from the species belonging to the subsequently proposed genus *Ataxinus:* these, according to Von Harold (incidentally stated in his diagnoses of various species), are the traces of transverse carinae on the outer side of the four hind tibiae and the dentiform projections on their apical margin; but there is little doubt that the numerous species referred to *Saprosites* by Von Harold are really congeneric with Redtenbacher's type. I would, however, exclude such species as *Saprosites sulcatus,* Harold, which have a simple fringe of bristles to the apical margin of the four hinder tibiae.

Upwards of twenty species of *Saprosites* have been recorded. The genus has a wide range, including, according to Von Harold, besides Tropical America and Tropical Asia, Japan, New Zealand, and some of the tropical islands of the Pacific. The flattened species which I observed in the Amazons region were found under the close-fitting bark of trees, in company with similarly flattened Cossonidae and Cucujidae †.

* The name *Aphodius duplex* given above (p. 87) has been previously applied by Leconte to a North-American species of this genus; I now propose to change the specific name to *opisthius.*

† In further elucidation of the group of *Saprosites,* comprising the bark-living species, I append diagnoses of the following curious forms:—

**Saprosites cancellatus.**

Sublinearis, depressus, castaneo-rufus, glaber; capite minus convexo, crebre punctulato, clypeo antice transversim...
1. Saprosites parallelus.

*Saprosites parallelus*, Harold, Col. Hefte, i. p. 81.

*Hab.* PANAMA, Volcan de Chiriqui (*Champion*).—SOUTH AMERICA, Colombia.

A large species with finely punctured head, coarsely crenate-striate elytra, and minute accessory tooth between the middle and upper teeth of the anterior tibiae.

2. Saprosites cossonoides. (Tab. VI. fig. 22.)

*Oblongo-linearis, depressus, niger, nitidus, capite antice pedibusque rufo-piceis; capite minus convexo, fere toto granulato et inter granula punctulato; thorace subquadrato, lateribus leviter rotundatis, sat dense et perspicue punctulato, punctis majoribus et minoribus intermissis, basi immarginata; elytris exarato-striatis; striis punctulatis, interstitiis latis, usque ad apicem planis, prope apicem solum subtiliter punctulato tibiis 4 posterioribus extus breviter carinulatis, apice longe spinosis; anticus dentibus tribus aequaliter distantibus.*

Long. 2-3½ millim.

*Hab.* MEXICO, Cordova (*Sallé*); GUATEMALA, San Juan in Vera Paz, Tamahu, San Gerónimo, Zapote (*Champion*); PANAMA, Volcan de Chiriqui (*Champion*).

The apical ventral segments, as in the allied *S. aspericeps*, Har., are soldered together and their sutures obliterated, with the suture of the apical segment laterally marked with a deep fovea.

**Euparia.**


A genus peculiar, so far as at present known, to America, and found in the temperate zones North and South, as well as between the tropics. The expansion of the sides of the thorax seems the chief, if not the only, character which distinguishes it from *Atænius*. Eleven species have been described.

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*Saprosites corticalis."

*Sublinearis, depressus, castaneo-rufus, glaber; clypeo antice crebre granulato, fronte et vertice toto subcrebre punctulato; thorace latiore, quadrato, dorso planato, lateribus parallelo, sat crebre subequaliter punctato; elytris exarato-striatis, striis punctulatis, interstitiis planis, quam strias duplo latoribus, apice paullo convexioribus; tibiis sicut in *S. cancellato*.*

Long. 3 millim.

*Hab.* AMAZONS, Ega; under bark.
1. **Euparia tuberculata.** (Tab. VI. fig. 23.)

Brevis et lata, piceo-nigra, subnita; capite grosse et dense punctato, clypeo medio leviter sinuato; thorace valde transverso, angulis omnibus subrectis, basi immarginatis, prope angulos sat profunde sinuato, dorso antice punctulato postice grossius punctato, lateribus concavis explanatis, grossissime reticulato-punctato; elytris ovatis, humeris valde dentatis, lateribus rotundatis, punctato-irregulariter, interstitialibus convexis, 5°-4° versus apicem, 5°-9° tota, grosse seriatis punctulatis; tibiis tarsisque 4 posterioribus dense pubescentibus, tibiis longitudinale fere carinatis, apice extus hand spinosis; corpore subitus femoribusque tuto sparsim punctatis; mesosterno carinato.

Long. 5½ millim.

_Hab._ **Panama, Bugaba (Champion).** One example only.

**ATÆNIUS.**

_Euparia_ (Serv.), pars, Burmeister, Stett. ent. Zeit. 1877, p. 408.

About eighty species of this genus have been described, all of uniform black or rufo-piceous colour, and, as Dr. Horn justly observes, in many cases difficult to discriminate. Although characteristic of the American fauna, tropical and temperate, the genus is not wholly restricted to the New World, several species being recorded from widely distant regions, such as Abyssinia, the Malay Archipelago, and Australasia. Most of the species obtained by Mr. Champion were found in sandy places, especially about the banks of streams.

1. Clypeus with the sides of the emargination broadly rounded.

1. **Atænius strigatus.**

_Atænius stercorator_ (Fabr.), var., Horn, Trans. Am. Ent. Soc. 1871, p. 286².  

_Hab._ **North America, United States**¹ ²._—Mexico,** Guajuco in Nuevo Leon (Dr. Palmer),** Ventanas in Durango, Mexico city, Tlacotalpan, Mazatlan, Iguala, Villa Lerdo, San Juan Bautista in Tabasco (Höge).

2. **Atænius logaster.**

_A. strigata_ (Say) proxime affinis et similium. Minor, oblongus, convexus, nitidus; capite mediocriter convexo, clypeo leviter sinuato, transversim paullo stigmato, vertice plurumque sparsim subtiliter punctato; thorace sparsim irregulariter punctato, punctis minoribus interdum intermixtis, spatio laterali levii polito, basi marginata; abdomen levii, impunctato, interdum punctis nonnullis lateribus; elytris crenato-irregulariter, interstitialibus paullo convexis, politissimis; mesosterno opaco, argenteo-pubescente, medio breviter carinato.  
³. Thorax lateri paullo crebris punctatis, angulis posticis valde obtusis, sed distinctis.  
². Thorax angustior, lateribus leviter arcuatis, angulis posticis omnine rotundatis.

Long. 4-5 millim.

_Hab._ **Mexico, Puebla, Vera Cruz (Sallé), Jalapa, Acapulco, Mazatlan, Villa Lerdo, Chilpancingo, Tapachula (Höge); Guatemala, San Gerónimo, Champerico,**
Nicaragua, Thoracis thorace but Panama, Var. Paraiso, Long. (Champion).

The size, Texas also being a large city. The Chontales described Chiacam, and examples cJ. Hob. ? . Uogastri Edb. Notwithstanding the variety elyfcris antice stilus grossе punctulatis. Atsenius A. elytra thorax, general a character, also having deeper eleytral striae and more convex interstices, and smoother ventral segments. The sculpture of the head and thorax varies considerably, but preserves the same general character, the punctuation on the thorax being always sparser than in A. cribri-thorax, larger and smaller punctures being intermingled, and spaces on the sides and sometimes near the base being quite smooth. The humeral callus and sides of the elytra are also quite free from punctures.

3. Atænius cribri-thorax.

A. liogaster simillimus, sed differt ventro crebrepunctato; ab A. strigatus differt statura minore, thorace crebris, lateribus (precipue apud ?) confuneter, punctato elytrisque callo humerali interstitiisque versus latera et apicem punctulatis.

? Thoraеis angulis posticis distinctis basique juxta angulum utrinque leviter sinuato. 

Long. 3½-4½ millim.

Hab. Mexico, Cordova (Sallé, Höge), Jalapa (Höge); Guatemala (Sallé), near the city (Salvin, Champion), El Reposo, Coatepeque, Zapote, Capetillo, Dueñas, Balheu, Chicanam, Cubilguitz, Tamahu, Sinanja, San Gerónimo (Champion); Nicaragua, Chontales (Janson); Panama, Volcan de Chiriqui, San Lorenzo, Los Remedios (Champion).

In the punctured interstices at the sides and apex of the elytra, this species agrees with Von Harold's description of A. stercorator (Fabr.); but I have not seen any examples from Brazil, which country he includes in the range of his A. stercorator, and there can be little doubt that his description refers to a rather larger species, described further on as A. strigicauda. Among the very numerous examples I have
examined of *A. cribrithorax* there are some which nearly bridge over the difference between it and *A. strigatus* and *A. liogaster*.

I have adopted the name given to the species in the Sallé collection.

4. *Atænius strigicauda.* (Tab. VI. fig. 24.)


*Hab*. Mexico, Cordova, Tuxtla (Sallé), Jalapa (*Höge*); Guatemala, Paso Antonio (Champion); Nicaragua, Chontales (*Belt, Janson*); Panama (*McLeannan*).—South Brazil; Amazonas (Bates); Antilles, St. Thomas.

The examples from the above-named localities, which I have examined and found closely to agree, appear to be referable to Von Harold’s *A. stercorator*, which unfortunately is totally different from the Fabrician species, as proved by the type still in fair preservation in the Banksian collection at the British Museum. The present species was carefully and well described by Von Harold, with the exception, if I am not mistaken, that he overlooked the fine striae on the sides of the elytral interstices near the apex; these striae exist in all the specimens I have examined, and present a feature of some interest, as they are further developed in a series of allied species, and thus display in an incipient form an important group character. In all its other characters the species scarcely differs, except in its greater size, from the male of our *A. cribrithorax*.

*A. strigicauda* (Fabr.) belongs to the same wider group as *A. strigicauda* (thorax margined at the base and clypeus rounded on each side of the anterior sinuation); it is a species of about the same size (6 millim.) and shape, but it is of a dull sooty-black colour, with the thorax closely and evenly punctured throughout, and the elytra not crenate-striate but sharply sulcated with an elegant catenulate-punctuation in the bottom of the furrows and the interstices convex, almost culminated. A remarkable distinguishing character of the species is a series of tubercles or denticulations at regular intervals on the inner side of the four hind tibiae. Besides the Fabrician type captured by Sir Joseph Banks at Rio Janeiro on Cook’s first voyage, the British Museum possesses a second example taken by Darwin in the same locality, during the voyage of the ‘Beagle.’ I have seen other examples from Rio Janeiro in Mr. A. Fry’s rich collection.

We figure an example of *A. strigicauda* from Cordova.

5. *Atænius scutellaris.*


*Hab*. Mexico, Ventanas, Chilpancingo, Acapulco, Tapachula (*Höge*); British Honduras (*Blancaneaux*); Guatemala, San Gerónimo (Champion); Nicaragua, Chontales (Janson).—South America, Colombia, Venezuela2; West Indies2.

Similar in general form and size to *A. strigicauda*; the thorax rather more closely and
evenly punctured; the elytral interstices convex, and behind gradually more carinated with conspicuous punctures on each side; the scutellum concave, with a smooth carina down the middle; and the outer apex of the four hinder tibiae produced into a long acute spine. The species is possibly the *Euparia atramentaria*, Erichs., of Peru, but the absence of mention of the sculpture of the scutellum leaves the matter in uncertainty.


*A. sectulati affinis et similis, sed scutello plano, medio basi foroedato; capite rufescente, teto equaliter subdense punctulato; thorace punctis majoribus et minoribus subdense intermixtis, lateribus grossius confluenter punctatis, basi subtilior marginata utrinque versus angulum sinuato-truncata, interibus antice late depressis et puncto magno; elytris eleganter exarato-striatis et in striae punctatis, intersitis (versus humeros punctulatis exceptis) lavibus, 1°-4° dimidio basali planis, ceteris convexis, versus apicem acute carinatis; tibis 4 posteris apice longe spinosis.

Long. 5½ millim.

*Hab.* **Mexico**, Las Vigan (Höge).

Evidently very near *Euparia catarulata*, Erichs., of Peru, from which it differs in the plane interstices of the elytra.

7. *Ataenius perforatus.*

*Ataenius perforatus*, Harold, Col. Hefte, i. p. 83.

*Hab.* **Mexico**, Cordova (Sallé); **Guatemala**, near the city, Aceituno, San Gerónimo, Balheu, Cubilguitz (Champion); **Panama**, Bugaba, Volcan de Chiriqui, Caldera (Champion).—**South America**, Colombia.

A little larger and more convex than *A. striigicuda*, and with much more strongly punctured thorax; the elytral interstices smooth, towards the apex carinated, and scored with a fine stria on each side. The scutellum has at the base two oblong foveæ.

8. *Ataenius complicatus.*


*Hab.* **Mexico**, Chilpancingo (Höge); **Guatemala**, Zapote (Champion).—**South America**, Brazil.

Closely allied to *A. perforatus* and *A. euglyptus*, but the elytral interstices throughout acutely cariniform, and the surface beset with erect bristles. In consequence of the narrowed interstices the lateral scored line on the side of each, seen in a rudimentary form in most of the allied species, has here become a broad furrow separated from the stria proper by a lesser carina. The scutellum has in the middle of the base a large triangular opaque fovea. The base of the thorax is not margined, but in some examples a fine impressed line is seen on the deflected edge in the middle.

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9. **Atænius hirsutus**.


Hab. **NORTH AMERICA**, Arizona ¹.—**MEXICO**, Pinos Altos in Chihuahua (*Buchan-Hepburn*), Presidio (*Forrer*).

Taken in abundance by Forrer. His specimens agree perfectly with Horn’s description, and vary very little.

10. **Atænius setiger**.

Oblongus, niger, nitidus, thoracis elytorumque lateribus rufo-castaneis pedibusque piceo-rufis, elytris griseo-scutatae; capite mediorum convexo, subtiliter transversim granulato-rugoso, clypeo est anguste sinuato, angulis subacutis; thorace disco anteriore excepto grossae sparsim punctato et subtilissime punctulato, angulis posticis retundatis; scutello levi; elytris profunde crenato-striatis, striis versus apicem magis exaratis et fundo transversim punctatis, interstiiis subplanis, levibus; ventro levi, lateribus haud profunde sparsim punctatis.

Long. 3½–4⅞ millim.

Hab. **MEXICO**, Chilpancingo, Cuernavaca, Acapulco (*Höge*).

I can detect very little difference of form which can be supposed to be sexual. The hind angles of the thorax are in all examples rounded. The erect grey bristles of the elytra are numerous only over the apical half. The species comes nearest to *A. hirsutus*, Horn, the emargination of the clypeus and the distinct angle on each side being very similar in both; but the head and thorax are much more sparsely and finely sculptured.

11. **Atænius limbatus**.

*A. strigato* brevior et convexior precernque elytris max a basi convexis; nigro-piceus, nitidus, calvus, thoracis elytorumque lateribus indefinite castaneo-rufis; capite levi vel subtilissime punctulato, clypeo medio anguste et sat profunde sinuato, extus valde rotundato; thorace grossae irregularior punctato, angulis posticis valde obtusis; elytris fortiori striatis, striis in fundo punctulatis, interstiiis convexis, levibus, versus apicem angustis hisque 1°–4° elongatis, 5°–6° abbreviatis; corpore subtus glabro, abdomenale totum punctato, mesosterno opaco.

Long. 4½ millim.

Hab. **MEXICO**, Presidio (*Forrer*).

Agrees with the preceding in the castaneous borders of the thorax and elytra; but perfectly glabrous, and the clypeus differing in the sides of the emargination being very obtusely rounded, not angulated.

12. **Atænius capitosus**.

*Atænius capitosus*, Harold, Col. Hefte, i. p. 83 ¹.

The largest species of the genus, 7–8 millim. long. The thorax is not margined at the base, except near the lateral angles.

13. *Ataenius imbricatus.*


Hdb. North America, Pennsylvania¹.—Mexico²³, Guanajuato (*Sallé*), Jalapa, Mazatlan (*Höge*); Honduras² (*Sallé*).—South America, Amazons², Brazil²; Antilles, Cuba².


Hdb. North America¹².—Mexico, Northern Sonora (*Morrison*), Presidio (*Forrer*), Cordova (*Sallé*), Vera Cruz (*Sallé, Höge*), San Juan Bautista in Tabasco (*Höge*); Guatemala, near the city, Capetillo, Cubilguitz, Paso Antonio (*Champion*); Nicaragua, Chontales (*Janson*).—South America²; West Indies²³.

In its narrow sublinear form this insect approaches the species of Section II. The outline of the clypeus is different from that of *A. strigatus* and its allies, for although the sides of the emargination are not pointed, they are slightly angulated and not broadly rounded. *A. gracilis* may be distinguished from other small and narrow species by the more or less distinct dorsal furrow of the thorax.

II. Clypeus acuminated or dentate on each side of the emargination.

15. *Ataenius figurator.*

*Ateniis figurator,* Harold, Col. Hefte, xii. p. 24¹.

Hdb. North America, Louisiana¹.—Mexico, Presidio (*Forrer*), Cordova (*Sallé*), Frontera in Tabasco, Zacualtipan, Durango city (*Höge*).

A sublinear species with polished, impunctate, and flat elytral interstices. Harold did not include it in the group with bidentate clypeus; but the numerous examples which I have examined, and which otherwise agree with his description, show the points on each side of the emargination very conspicuously.

16. *Ataenius polygyptus.*

Oblongus, mediocriter convexus, niger, obscurus, parum nitidus; capite postice crebre punctulato, medio con-
vexo sublævi, lateribus confluenter punctato quasi coroso, clypeo ruguloso, rufescente, minute bidentato; thorace dense regulariter punctato, basi marginata, angulis posticis rotundatis; scutello rugoso-opaco, margine levi; elytris subtiliter crenulato-punctato-striatis, interstitiis paullo convexis, latis, intus grosse crenato-punctatis, extus seriatiunct punctulatiss et leviter carinatis, medio levibus (lateralibus toti punctatis), prope apicem angustis et punctatis; abdomen, metasterno femoribusque sat dense punctatis, mesosterno opaco griso-pubescente, inter coxas carinato.

Long. 3–3½ millim.

_Hab._ Guatemala, near the city, Capetillo, Dueñas, Zapote _Champion_. A large number of examples.

Similar at first sight to _A. gracilis_, but a trifle broader and more convex, and the thorax wanting the impressed dorsal line characteristic of that species. Allied to _A. sculptilis_ and _A. steinheili_, Harold, but smaller and different in the sculpture of the elytra.

**Var. A. intermedius.** Elytra et thorax sicut in _A. polyglypto_ typo, sed capite sicut in _A. scalptifrons_ creber-rimne subconfluenter punctulato, medio longitudinaliter subrigoso.

_Hab._ Panama, Volcan de Chiriqui _Champion_. Two examples.

**Var. A. jalapensis.** Thorace dorso minus dense punctato (lateribus crebre confluento-punctatos) elytrorumque interstitiis extus uniseriatiun conspicue punctatis, convexis, nec carinatis.

_Hab._ Mexico, Jalapa _Höge_.

**Var. A. hieronymi.** Nitidior, semper piceo-rufus vel castaneus; thorace disco subdisparo, lateribus crebrius punctatis; elytris subtilius sculpturatis, interstitiis extus leviter convexis (conspicue uniseriatiun punctatis); ventro punctato, metasterno femoribusque subtiliter et sparsim punctulatis.

_Hab._ Guatemala, San Gerónimo _Champion_. Numerous examples.

17. _Atænius scalptifrons_. (Tab. VI. fig. 25.)

Oblongus, medioeriter convexus, fuliginosus, opaque, capite creberrime confluenter punctulato, medio longitudinaliter subrigoso, clypeo paullo leviore granulato-rugoso; thorace creberrime subconfluenter punctulato, lineis dorsali leviter impressa; elytris subtilius crenulato-punctato-striatis, interstitiis intus planis crenatis, extus angustae carinalibus et seriato-punctulatis; humeris spina magna armatis; corpore subtus femoribusque sat crebre punctulatis.

Long. 3½ millim.

_Hab._ Mexico, Córdova _Sallé_; Guatemala, near the city _Champion_.

Evidently allied to _A. steinheili_, Harold, from Colombia, but differing in the peculiar sculpture of the head, the close punctures of the vertex running into fine longitudinal rugæ on the forehead and leaving only the margin of the clypeus a little smoother, with a few transverse granular wrinkles. The sculpture of the elytra would agree pretty well with the description of _A. steinheili_ if we take the "tief und ziemlich breit gestreift" of Von Harold as meaning the superficial appearance only; for the striae proper are narrow, and it is only the elevation of the outer side of the interstices into
narrow carinae which produces the effect of broad striae, part of each interstice being depressed together with the striae.

We figure a typical example from Cordova.

18. *Atænius carinator.*


*Hab.* Panama, Bugaba, David (*Champion*).—*South America*, Venezuela 1.

Differs from *A. scalptifrons*, to which it is very closely allied, by the humeral spine of the elytra being, as usual in the group, very short. The carinae of the interstices are, besides, much higher and narrower and granulated, the remainder of each interstice, with its feebly carinated stria, forming thereby broad furrows.

Mr. Champion's specimens are rather smaller (2½ millim.) than the size (3½ millim.) given by Von Harold.

19. *Atænius abditus.*


*Hab* North America, United States12.—*Mexico*3, Northern Sonora (*Morrison*), Nuevo Laredo (*Höge*), Presidio (*Forrer*).

Of more elongate form (the elytra especially relatively longer) than *A. polyglyptus* and its allies, in this respect approaching *A. figurator*. The sculpture above and beneath is very similar to that of *A. polyglyptus*, var. *hieronymi*, but the line of fine punctures along the outer side of the interstices is less conspicuous and often confused. The following appears to be a var.; it was received, together with more typical examples, from Belfrage, and communicated to me by Von Harold.


*Hab.* North America, Texas (*Belfrage*).

20. *Atænius inops.*


*Hab.* North America, Arizona1 (*Morrison*).—*Mexico*, Northern Sonora (*Morrison*).

Numerous examples sent by Morrison. This insect differs from *A. abditus* in the rather sparser puncturing of the sides of the thorax and the somewhat flatter elytral interstices, and, what is more important, in the shortness of the basal joint of the four posterior tarsi. The colour is always reddish-testaceous, shining. Length 4 millim.
21. *Atænius mariarum.*

Brevius, oblongo-ovatus, valde convexus, postice pennis amplius, niger, nitidus, femoribus rufo; capite levi, clypeo profunde triangulariter emarginato, utrinque angulato et breviter dentato, sparsim transverse ruguloso; thorace transverso quadrato, angulis posticis rotundatis, levi (punctis nonnullis versus angulos anticos exceptis), basi late sulcato-marginata; elytris profunde catenulato-striatis, interstitiis passim vix convexis, impunctatis, inut parumper crenatis, 4° apice abbreviato; tibias 4 posticis apice valde dilatatis et extus robuste spinosis, intermedii dimidio basali extus serratis; tarsis articulo basali mellicriter elongato; ventro levi, segmentis duobus apicalibus margine anteriore grosse crenato-punctatis.

Long. 5½ millim.

*Hab. Mexico, Tres Marias Islands (Forrer), Manzanillo (Höge).*

By its somewhat shortened hind tarsi this species approaches the genus *Psammodius*; the hind tibie, however, are prolonged into a spine at their outer apex, and the spurs long and tapering as in *Atænius.*

**RHYSEMUS.**


About five-and-twenty species of this genus have been described. They are spread over the warmer temperate and tropical zones of the Old World, including Australia, Madagascar, and the Malay Archipelago; but in the New World seem confined to the temperate portions of North America. The following, from Northern Mexico and Guatemala, is, however, an exception.

1. *Rhyssemus cristatellus.*

Subelongatus, fere cylindricus, niger, opacus, elytris cinereo-fuscis, pedibus rufo-piceis; capite grosse granulato, vertice medio oblique bicarinato, clypeo angulariter emarginato et utrinque angulato; thorace setis clavatis paliidiis marginato, supra rugis quatuor, opacis, granulatis, elevatis transversis, medio subinterruptis, et extus per paria approximatis, partibus depressis subtiliter, marginie antico grossias, granulatis; elytris subtiliter punctato-striatis, interstitiis extus angusto carinatis carinique uniseriatim eleganter pallenod-septosis, carinis (una cum serie setorum) 2, 4 et 6 longa ante apicem abbreviatis; pedibus posticis calcari-busque gracilibus, tarsis articulo 1° elongato, tenui.

Long. 2½–3 millim.

*Hab. Mexico, Presidio (Forrer), San Juan Bautista in Tabasco (Höge); Guatemala, Paso Antonio (Champion).*

One example only from Paso Antonio, much smaller than the numerous specimens from Presidio.

**PSAMMODOIUS.**


This genus has a somewhat wider range than *Rhyssemus*. Equally with that genus spread over the eastern hemisphere, it occurs, though in species of diminished size, throughout Tropical America. Upwards of thirty species have been described.

1. **Psammodius quinque-plicatus.**

*Psammodius 5-plicatus*, Horn, Trans. Am. Ent. Soc. 1871, p. 292.¹

*Hab.* NORTH AMERICA, Arizona ¹.—MEXICO, Northern Sonora (*Morrison*).

2. **Psammodius culminatus.**

*P. quinque-plicato* similis, sed differt thoracis rugis elevatis granulatis. Anguste oblongo-ovatus, nitidus; capite verrucoso, vertice levii; elyope sat anguste emarginato, extus rotundato; thorace toto granulato, sed nitide, utrinque sulcis quinque (nece medium nec latera attingentibus), 1° juxta marginem anticanum, 4° magis obliquo et curvato, linea dorsali late impressa; elyris sat acute punctulato-striatis, interstitiis medio culminato-convexus et (precipue versus latera et apicem) subtiliter granulatis; tarsi postici artiulo 1° brevi; sat late triangulares.

Long. 3 ½ millim.

*Hab.* MEXICO, Presidio (*Forrer*), Jalapa, Mexico city (*Höge*).

Two examples from Jalapa and Mexico city are pitchy-black; the others are reddish-testaceous like *P. quinque-plicatus*.

3. **Psammodius versærucis.**

*P. celato* (*Lec.*) proxime affinis, sed elyris multo minus ventricosis; valde convexus, rufo-testaceus, glaber; capite minus grosse verrucoso, occupite levi, elyope triangulariter emarginato, extus angulato; thorace utrinque lineis transversis quinque grossissime punctatis quorum duobus solum latum et profundum, dorso anteriore levii, posterio grossissime confuse punctato; elyris acute exarato-striatis, striis fundo punctatis, interstitiis supra planis.

Long. 2 1½—2 ¾ millim.

*Hab.* MEXICO, Vera Cruz, Tapachula in Chiapas (*Höge*).

Allied to the Californian *P. celatus*, *Lec.*, but the elytra, though very convex, not ventricose as in that species. The very coarse sculpture of the thorax is similar, but there are tolerably distinct rows of punctures between the transverse sulci, the elevated parts being quite smooth in both species. The sculpture of the elytra differs from that of *P. celatus* only in the strie being much deeper.

Resembles also the *P. quinque-plicatus*, Horn, but the elytra are more ovate and the thorax has not the five equally impressed sulci of that species.

Herr Höge obtained a very large series of examples at Vera Cruz, which offer scarcely any individual variation. Two examples also were captured at Tapachula on the Pacific slope.

4. **Psammodius micros.**

Brevis, sat anguste oblongus, nigro-piceus, politus; capite verrucoso, vertice levissimo, elyope sat profunde angulatim emarginato; thorace pauciter grosse punctato, sulco utrinque profunde punctato, prope marginem
LAMELLICORNIA.

anticum alteraque breviore posteriore, basi marginato lagesque abbreviata dorsali; elytris catenulato-
striatis, interstititis planis, subsituliter rugulosis, intus vix crenatis.
Long. 2 millim.

Hab. GUATEMALA, Capetillo, Dueñas (Champion).

Closely allied to the South-European P. sabulosus, Muls. It has the same general form and colour, and structure of legs, and also a similar sculpture of the head and thorax; but it is very much smaller; the vertex for a wide space is perfectly smooth and polished; the punctures of the thorax are smaller and more widely spaced; and the punctures of the elytra are confined to the bottom of the neatly-ploughed striae, scarcely creating the sides of the interstices.

5. Psammodius parvulus.

Hab. MEXICO, Presidio (Förer); GUATEMALA, Dueñas, Paraiso (Champion).—SOUTH AMERICA, AMAZONS; ANTILES, Cuba.

Very closely allied to P. micros. Smaller (1½ millim.); colour reddish-testaceous, the head and thorax castaneous with paler margins, and the latter having one lateral transverse groove only. In the identification there is a difficulty in the phrase used by Chevrolat, “elytris striato-punctatis,” as this does not accurately express the sharply catenulate-punctate striae.

6. Psammodius integer.
Oblongus, convexus, glaber, nitidus, castaneus; capite lato, verrucoso, occipite laceissimo; elytris late et minus profunde triangulariter emarginato, utrinque angulado, acute; thorace set magno, interibus arcuatis, postice magis quam antice angustato, angulis posticis nullis, supra medio et inferior punctato, punctis minutis-similis intermixtis, sulcis transversis nullis foexaque sola prope angulos anticos, lateribus medio sublevibus, convexis; elytris fortiter crenato-striatis; carina mesosterni elongata.
Long. 2½ millim.

Hab. MEXICO, Vera Cruz (Höge).

This species connects Atanius with Psammodius. It differs entirely from the former by its robust broad hind tibiae (sub serrate and setose along their outer edge and not prolonged into a spine at the outer apex), by their robust spurs (which, however, are obtusely pointed at their apices rather than spatulated), and by the short tarsi, in which the basal joint is very much broader than the others. On the other hand, the head and thorax are constructed as in the second section of Atanius, the latter showing no trace of the transverse furrows of Psammodius except a well-marked and large fovea near the anterior angles.
Fam. ORPHNIDÆ.

ÆGIDIUM.


An exclusively Tropical-American genus. Five species have been described.

1. Ægidium colombianum.


Hab. Colombia; Venezuela.¹

Var. cribratum. (Tab. VII. figg. 1, 2; 1 a, side view of head and thorax; 2, 2.)

A typo differt toto corpore fortius et densius (capite cerebririme) punctato; elytris (2) interdum confluentior confertim punctatis.

Long. 10–14 millim. 2.

Hab. Panama, Volcan de Chiriqui (Champion).

Var. squamatum.

Crebre punctatum, punctis omnibus squama incumbent e conspicua fulva munitis.

Long. 12–14 millim. 2.

Hab. Nicaragua, Chontales (Janson).

The two varieties described agree in all structural points with Æ. colombianum, but differ from it greatly in their denser and coarser punctuation, especially of the upper surface. Westwood describes the head and thorax as smooth and shining: in a Venezuelan example I find them sprinkled with minute points, denser, however, on the anterior part of the head. Flat scales in the punctures are visible, at least on the elytra, in the typical species; but they are very conspicuous, and give a tawny-brown tint to the whole body, in the var. squamatum.

OCHODÆUS.


A genus of very wide distribution, but the species are nowhere abundant in individuals. The majority inhabit the temperate zone of both the Eastern and Western hemispheres; the remainder being sparingly scattered over South America, and tropical Asia and Africa. Twenty-five species have been described; but, as is evident on reading Dr. Horn's excellent analysis of the North-American forms, it is impossible to discriminate them without close attention to the sexual differences and various peculiarities of

structure, especially in the males—the form, colour, and sculpture offering little diversity and apparently varying in many cases.

1. **Ochodes luridus.**


_Hab._ **Mexico**¹ (Sallé).

I refer an example in the Sallé collection to this species, as it agrees with Westwood's description in size (9 millim.) and sculpture; but if it represents the same species it must be the opposite sex, as it shows no traces of the two tubercles between the eyes. The forehead is concave, and the arcuated and thickened rim of the clypeus is terminated on each side by a large tubercle; the epistoma below in front is flattened, and also has a thickened rim on its front margin.

2. **Ochodes præsidii.**

_Paululum oblongus_, testaceo-sulphureus, nitidus, crepitu hirsutus; capite crebre asperato-punctato, fronte transversim depressa, clypeo marginis antico duplici carinis equilibus perparam incrassatis arquatis parallelis, superiore utrinque leviter tuberculato; thorace dense asperato-punctato, linea dorsali postice profunda; elytris punctato-stratiatis, interstitialis convexi, sat sparsim sotiforo-punctatis, apice suturali recto; propygidio medio canaliculato; tibis antici spicis intus acutis neo productis, extus denticulo 3º remoto, posterius max a basi intus usque ad apicem dilatatatis, intus inermibus; femoribus posterius lamina inferiore sat lata, apice hamato-dentato; tarsis posterius articulo basali gracili elongato.

_Long. 0½ millim. δ?_

_Hab._ **Mexico**, Presidio (*Forrer*). One example.

Differs from all other species here enumerated in the apparently double clypeus, which results from the true clypeal margin being not at all thickened, or vertically declivous in front; the epistome is consequently nearly on the same level, and having an equally distinct and similarly arcuated anterior margin it looks like a duplication of the clypeus proper. A similar structure seems to be exhibited by the North-American species _O. ulkei, O. simplex_, and _O. musculus_, the last mentioned having, however, a thickened margin.

3. **Ochodes setulosus.** (*Tab. VII. fig. 3._)

_Brevitl oblongo-ovatus, vix nitidus, castaneo-rufus vel fulvus, supra densissime equaliter sat breviter setosus; capite rugulosio-punctato, fronte transversim depressa, clypeo arcato utrinque tuberculato, marginis incrassato et subverticali, epistomate infra quadrato, planato; thorace crerobrime asperato- vel granulato-punctato, linea media dorsali lavi postice hand impressa; elytris punctato-stratiatis, interstitialis param convexi, irregulariter bi- et triseriatim punctatulis, apice rotundatis, sutura recta; tibis antici spicis intus paullo productis acutis, extus denticulo tertiio lato versus basin; tibis posterius normalibus, femoribus infra lamellam solum prope apicem triangulares._

_Long. 5½–7 millim._

_Hab._ **Mexico**, Cordova (*Sallé*), Vera Cruz (*Höge*).

Four examples, presumably of the same sex, as they offer no difference in the head
or hind tibiae, and very little in the size and form of the plate at the apex beneath of the hind femora. One specimen differs in the punctuation of the elytral interstices being less dense and the surface consequently more shining. The much thickened clypeal margin is strongly arcuated, scarcely hexagonal; its front face is rather high and subvertical, and at its foot is flattened out into what I term the epistome, to the very slightly thickened anterior margin of which the labrum is articulated.

4. *Ochodæus* —?

*Hab.* Guatemala, San Isidro (*Champion*).

A single example, possibly the other sex of the preceding; but differing in the longer and softer pubescence of the elytra, as well as in the absence of tubercles from each end of the arcuated rim of the clypeus.

5. *Ochodæus* —?

*Hab.* Mexico, Villa Lerdo in Durango (*Höge*).

A single example, apparently allied to the North-American *O. musculus*.

6. *Ochodæus pollicaris*. (Tab. VII. fig. 4.)

Piceo-castaneus vel fulvus, nitidus, erecte hirsutus, antennis fusco-piceis; capite thoraceque sat grosse discrete punctatis nec asperatis, clypeo valde arcuato et margine incassato utrinque late tuberculato, antice verticali, epistomate plano, polito; elytris striato-punctatis, interstitionibus parum convexis et sparsim punctulatis, apice naturali rectangulo; tibiis anticiis intus processu elongato et lato dentato armatis, extus denticulo 3° esteris minus remoto; femoribus posticis apice infra lamella sat magna triangulari, tibiis simplicibus; ventris segmento apicali dense punctulato.

Long. 7½–8½ millim. 

*Hab.* Panama, Volcan de Chiriqui (*Champion*). Two examples.

Apparently closely allied to the Colombian *O. rugatus*, Westw., having, like that species, a coarsely and subremotely punctured thorax; the form of the clypeus, however, differs both from the description and the figure. The remarkable thumb-like process at the inner apex of the anterior tibiae appears not to exist in Westwood’s species, judging from the figure and description.

**Fam. HYBOSORIDÆ.**

**CÆLODES.**


*Cœlodes*, Lacordaire, Gen. Col. iii. p. 185 (1856).

Eight species of this genus have been described, all American except one—Australian
LAMELLICORNIA.

—referred to it by W. Macleay. Coelodes has not yet been detected in temperate North America, but occurs in temperate South America (in Chili).

1. Coelodes castaneus. (Tab. VII. fig. 5, σ.)


Hab. NICARAGUA, Chontales (Janson); COSTA RICA, Volcan de Irazu (Rogers).—SOUTH AMERICA, Colombia.

A male example from Irazu is figured.

2. Coelodes (?) —?

Hab. GUATEMALA, Zapote (Champion).

A single very small example; undeterminable.

Fam. GEOTRIPIDÆ.

ATHYREUS.


About forty species of this distinct and very remarkable genus have been described. It is distributed over the tropical zones of the three great continents, but is much more numerously represented in America than in Asia or Africa, and extends there into the south temperate zone as far as Buenos Ayres. The North-American species referred to it by various authors belong to a different genus, Bradycinetus, Horn.

These insects are found flying close to the ground amongst low herbage just before dark, and are often attracted to light (Champion).

1. Athyreus championi. (Tab. VII. figg. 6, σ; 6 a, side view of head and thorax.)

\( A. \ bifurcato \) (Macleay) similis, sed corpore subitus et pedibus (coxis anticus fulvis exceptis) nigris thoracisque cornu aliter formatum. Subeyano-niger, unique (apud elytra brevius) erecto pilosus; capite thoracique medio punctatis, hoc lateribus totis granulatis; elytris costulis levibus septem, interreticulis triseriatim granulato-punctatis; corpore subitus fusco-pilosus; antennis nigris, clava piceo-rufa.

σ. Clypeus medio cornu verticale elongato acuto armatus; thorax medio dorsi convexo et cornu robusto altum erecto, apice tridentato, dente posteriori multo altiore armatus.

Long. 17 millim.

Hab. PANAMA, Volcan de Chiriqui 3000 feet (Champion). One male example only.

In the armature of the head and thorax resembling Klug’s figure of \( A. \ tridens \), but totally different in colour. The single example seems to be a more highly developed male than the one known to Klug, both the clypeal and thoracic horns being
considerably larger. The three species *A. bifurcatus*, Macleay, *A. tridens*, Klug, and *A. championi* are, however, very closely allied.

2. *Athyreus fiscicornis*. (Tab. VII. figg. 7, ♂; 7 a, side view of head and thorax.)


Castaneo-fulvus dorso castaneo-fuscus, vel toto fulvo-testaceus, capite thorace crebre (in locis concavis sparsius) granulatis; elytris dense granulato-punctatis, sed sat nitidis, striis punctis versus basis obsolletis; epistomate prope marginem anticum transverse carinato; elypto breviter tridentato, fronte profunde concava; thorace fere sicut in *A. pholas*, Westw. (Trans. Linn. Soc. xx. t. 22. f. 8), dorso profunde concavo carinaque utrinque flexuosa medium late dentata et postice intus inflecta, marginem antico medio valide dentato.

♂ major. Thoracis dente anteriore alto valido, spicis bicuspidiato; carinis postice intus curvatis nec versus marginem posticum parallelis.

♂ minor et ♀. Thoracis dente anteriore minore, spicis acuminato; carinis postice intus ramulum brevem emitente deinde versus marginem posticum continuatis parallelis.

Long. 10-11 millim.

*Hab.* Mexico 1, Cordova (Sallé), Jalapa (Höge); Guatemala (Sallé).

The armature of the thorax can be best understood on referring to Westwood's figure of *A. pholas*, an allied Colombian species. The carinae which limit the deep dorsal concavity are flexuous both vertically and laterally; about the middle they rise highest and there form a large triangular tooth, each slightly curving towards its vis-à-vis, and behind they curve sharply inwards. In *A. pholas* the opposite carinae behind meet at the dorsal line, but in *A. fiscicornis* they stop far short of it. The strong tooth or spine rises vertically from the middle of the anterior margin as represented in Westwood's figure, but in well-developed males it is higher, reaching nearly to the level of the thorax, and broad and cleft at the apex; in males of lesser development (or females?) the spine is shorter and pointed as in *A. pholas* and *A. trituberculatus* (Klug), and a little removed from the margin. The carinae in the same individuals differ in continuing, behind, parallel to each other, and emit a small branch inwardly towards the dorsal line, exactly as represented in Westwood's figure of *A. reichei*; this latter is doubtless the female of a species allied to *A. fiscicornis*, in which the sides of the elytrum are obtuse. The anterior tibiae have six teeth.

A male specimen from Mexico is figured.

3. *Athyreus tridenticeps*. (Tab. VII. figg. 8, ♂; 8 a, side view of head and thorax)

*A. tridens* (Klug) similis et affinis, quod colores haud differt, rufofusco-fulvus, supra (thoracis lateribus fulvis exceptis) saturo castaneo-fuscus, dense pubescentibus pilis rariobus elongatis intermixtis; capite acuto granulato, fronte plana declivis, elypto reflexo, valido tridentato fere spinoso, dente mediano majore robusto antice ab epistomate basi surgende; thorace dense granulato, margine juxta foveolam indentato et antice medio tuberculo parvo, dorso excavato, fundo irregulari, longitudinaliter sulcato et juxta marginem anticum profunde foveato, ibique et postice sublevi, carinis duabus verticaliter valde flexuosis,
LAMELLICORNIA.

 medio late dentalis, postice intus leviter curvatis deinde versus marginem posticum rectis; elytris dense granulatis, utrinque striis obsoletis quatuor; tibias anticae extus 5-dentatis.

? Clypei dentibus minoribus, mediante antice usque ad epistomatis basin declivi nec verticali; thorace medio minus profunde excavato, fovea magna anteriore obsoleta fundo omnino granulato.

Long. 15-14 millim.

Hab. PANAMA, Volcan de Chiriqui (Champion). Many examples.

Resembles much, though undoubtedly specifically distinct from, the Brazilian *A. tridentatus*; it differs in many points—notably in the sharp elevated triangular tooth in the middle of the thoracic carinae, and the parallel prolongation of the latter towards the hind margin; and also in the different elytral sculpture, which consists of definite granules without punctures or rugosity *.

4. *Athyreus excavatus*.


*Forma typica.* Tibias anticae 4-dentatae.

Hab. MEXICO, Tehuantepec (*Sumichrast, in coll. Sallé*), Cordova, Vera Cruz (*Höge*); COSTA RICA, Cache (*Rogers*); PANAMA (*M‘Leannan*).—SOUTH AMERICA, Cayenne ¹, British Guiana ², Orinoco ³.

*Var. Tibias anticae 5-dentatae.*—*A. mericanus*, Klug, Abhandl. Akad. Berlin, 1843, p. 29, t. 2. ff. 4, 4 a‘.

Hab. MEXICO, Cordova, Juquilla (*Sallé*); GUATEMALA, Coatepeque (*Champion*); NICARAGUA, Chontales (*Janson*); PANAMA, Volcan de Chiriqui (*Champion*).—SOUTH AMERICA, Pernambuco (*Forbes*), Bahia (*Lacerda*).


Hab. MEXICO, Jalapa (*Höge*), Petas (*Sallé*); GUATEMALA, El Reposo (*Champion*); NICARAGUA, Chontales (*Janson*); COSTA RICA, Cache (*Rogers*); PANAMA, Volcan de Chiriqui (*Champion*).—SOUTH AMERICA, Venezuela ¹, British Guiana, Cayenne, Amazons, Bahia ¹.

This appears to be a tolerably common and widely spread species in the northern parts of Tropical America. The characters on which Klug relied in separating it into

* Another Brazilian species exists in collections which is liable to be mistaken for *A. tridenticeps*. The following brief description will perhaps suffice to distinguish it:—

*Athyreus catharina*, n. sp.

Quoad colores *A. tridentato* simillimum, elytris adhuc minus granulatis, sed crebre subrugulose punctatis; differt clypeo spina mediana robusta elongata thoracisque carinis medio valde approximatis ibique uncinito-dentatis, concavitate postice dilatata levi.

Long. 13 millim.

Hab. BRAZIL, Santa Catharina. Two examples, both males.
three, viz. the number of teeth on the anterior tibiae and the larger or smaller impunctate space on the hind slope of the large and broad thoracic excavation, prove, on the examination of more abundant material than he possessed, to be of no specific importance. As the localities above recorded show, all three forms occur in the same places from Mexico to Bahia; and the close examination of about forty examples from the various localities reveals no difference whatever of colour, form, or sculpture between examples which otherwise differ in the number of the tibial teeth. Specimens, further, occur in which the uppermost tooth is shown in a transitional state, i.e. instead of a distinct saw-like toothlet it is more or less rounded. The granulation of the hinder slope of the suboval concavity of the thorax varies in the male according to its degree of development; and in the female, which is very much rarer than the male, the whole of the concavity is uniformly granulated, besides being much shallower than in the male.

The size varies from 8 to 13 millim.

BOLBOCERAS.


Upwards of a hundred species of this well-known genus have been described. It has a wider range than Athyreus, being numerous represented in warm temperate latitudes. An interesting feature is the great number and variety of its species in Australia, which seems, in fact, to be its metropolis. Tropical America yields a comparatively small number.

1. Bolboceras sallaei. (Tab. VII. figg. 9, c; 9 a, side view of head and thorax.)

B. (Bradygyneta) serratula (Lee.) similissimus, sed coxis intermediis siunt in Bolboceras typicii approximatis. Rotundato-quadratus, fulvo-ferrugineus, nitidus, capite rugoso-punctulato, fronte transversim depressa, clypeo valde elevato-carinato, supra late quadrato, angulis obtusis dentatis; thorace antice retusae sparsim punctata et supra obtusa quadridentata, lateribus et frons oblique carinato, postice punctata, lineis dorso subtili, margine mediocri; scutello levi; elytris subtiliter striatis, striis punctulatis.

Long. 17 millim. $\delta$?

Hab. Mexico, Valle Real (Sallé), Lagos in Aguas Calientes (Höge).

2. Bolboceras arcuatus. (Tab. VII, figg. 10, c; 10 a, side view of head and thorax.)

Breviter ovatus vel rotundatus, fulvo-ferrugineus, nitidus; capite antice erubescens punctulato, vertice spatii levi; clypeo semicirculari, plano; thorace hic illic punctis magnis paucior consperso, lineas dorso nulla; elytris grosse punctato-striatis (inter humerum et suturam striis 7).

$\delta$. Vertex corua valido conico acute acuto armatus. Thorax antice verticalis brevis et supra obtuse 4-dentatus, dentibus duobus medianis a laterali utrinque spatii depressi separatis.
LAMELLICORNIA.

♀. Vertex transversim carinulatus, carina breviter trituberculata; thorax medio antice carina acuta leviter biarcuata. 
Long. 7-9 millim. ♂ ♀.

_Hab._ MEXICO, Cordova, Toxpan, Playa Vicente (Sallé), Colima city (Höge); NICARAGUA, Chontales (Belt, Janson).

Possibly not distinct from the Colombian _B. modestus_, Casteln.; but the describer makes no mention of the arcuated or semicircular clypeus, the fine anterior margin of which is conterminous or nearly so with the edge of the epistome. His description is taken from the female, and the sculpture of the fore part of the head and elytra applies fairly well to the female of the present species, with the exception of the "corselet criblé de gros points" and the impressed dorsal line. 

We figure a male example from Chontales.

GEOTRUPES.


More than a hundred species are known of this familiar genus, so eminently characteristic of the Insect Faunas of the north temperate zone of both hemispheres. It passes into the northern tropical zone both in America and in Eastern Asia; but it is doubtful if it is found so far south as Celebes, as recorded in the distribution of certain Japanese species. The locality "Peru" found by M. Jekel to be attached to specimens in Mr. Saunders's collection appears to have been erroneous, the insects being Mexican; and a species (_G. lateridens_) recorded as from Chili proves to be European (_C. subarmatus_).

1. _Geotrupes fronticornis_. (Tab. VII. figg. 11, ♀; 11 a, side view of head and thorax.)


_Hab._ MEXICO 1, 2, Toluca, Juquila (Sallé), near the city (Flohr).

2. _Geotrupes sturmi_. (Tab. VII. figg. 12, ♀; 12 a, side view of head and thorax.)


_Hab._ MEXICO 1, Juquila (Sallé).

The typical specimen in the Sallé collection, a male of minor development, differs much in the form of the thorax from corresponding individuals of _G. fronticornis_: this part is very much broader, chiefly owing to the explanated lateral margins; from the subangular dilatation in the middle it is greatly narrowed nearly in a straight line to the anterior angles, and less, but still considerably, narrowed to the hind angles.
The other characters mentioned by Jekel—the blue colour, the interrupted basal margin of the thorax, and the deeper and broader elytral striae—are found in indubitable examples of *G. fronticornis*.

3. Geotrupes mniszechii. (Tab. VII. figg. 13, ♂; 13 a, side view of head and thorax.)


*Hab.* Mexico1 (Sallé). One example.

From the description given by Jekel of the general form1 (taken from a single example, a ♂ minor from the Mniszech collection), the shape of the thoracic protuberance, and the outline of the thorax, I think there is good reason to conclude that the specimen above described belongs to the same species, which is thoroughly distinct from *G. fronticornis*.

4. Geotrupes sallaei. (Tab. VII. fig. 14, ♂.)


*Geotrupes* (Cnemotrupes) sallaei, var. falsus, Jekel, loc. cit. p. 598.

*Hab.* Mexico, Oaxaca1, Duraznal (Sallé).

On examining the type of *G. falsus*, kindly lent by Dr. Sharp (the possessor of the Saundersian collection of Lamellicornia), I find it to differ from the few examples we have of *G. sallaei* exactly as stated by M. Jekel; but the differences are evidently only individual, and the specimen is doubtless from Mexico, and not from Peru, as labelled.

5. Geotrupes viridi-obscurus.


*Geotrupes* (Cnemotrupes) saundersii, Jekel, loc. cit. p. 5982.

*Hab.* Mexico, Orizaba, Parada, Duraznal (Sallé), Oaxaca (Sallé, Höge), Salazar (Höge), Mochitlan (Baron).

M. Jekel was right in doubting2 that the specimen on which he founded his *G. saundersii* came from Peru. It is a female differing in nothing but trifling individual peculiarities from Mexican specimens of *G. viridi-obscurus* of the same sex. The chief difference adduced by the describer, viz. the fuliginous antennal club, is due simply to a coating of dirt on that organ. Dr. Sharp informs me that there are other instances of specimens inadvertently labelled Peru instead of Mexico in the Saundersian collection.

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QQ


_Hab._ Mexico (Chevrolat).  

No *Geotrupes* in the Salle or Høge collections answers to Jekel’s description of the above species, especially as regards the shallow elytral striae and their mode of punctuation.

7. *Geotrupes sobrinus*.


_Hab._ Mexico, Jacale (Salle).

I have only seen three examples (including the pair described by Jekel from the Salle collection) of this species.

8. *Geotrupes herbeus*. (Tab. VII. fig. 15, c.)


_Hab._ Mexico (Salle, ex coll. Sturm), Las Vegas, Jalapa, Salazar (Høge).

I class under this species numerous examples of a form smaller and relatively shorter than *G. viridi-obscuro*, and distinguished further by the black antennal club. The male does not differ from that of *G. viridi-obscuros* in the teeth of the under surface of the fore tibiae.

9. *Geotrupes guatemalensis*. (Tab. VII. figg. 16, c; 16 a, side view of head and thorax.)

Oblongo-ovatus, mediocris elongatus, viridi-cyaneus, nitidus, subitus fusco-nigro hirsutus; clypeo set elongato subcuminato, dense ruguloso-punctato, tuberculo quam in *G. viridi-obscuro* altiore; antennis piceo-rufis, clava fulva; thorace lavi, lineae dorsali obsolae, lateribus tantum punctatis, basi medio late immarginata, sinuque sinuata, marginae lateralis angustae; scutello lavi, medio longitudinaliter vage impresso; elytris profunde striatis, striis leviter crenato-punctatis, intersticios convexus.

_d._ Tibiae antecé extus 6-dentatæ, dente spicale siunct in 2 simpliæ, ceteris gradatim minoribus; subitus antecé dente magno postico dentibus minoribus 1-3; coxæ dente grasse armatæ. Femora postica subitus dente lato brevi; tibiae extus 4-carinatae.

_Hab._ Mexico, Chiapas (Salle); Guatemala, Totonicapam 8000 to 10,500 feet (Champion).

A large number of examples were captured by Mr. Champion, offering little or no difference except in size. From Chiapas there is only a single example, apparently a much-worn female, though presenting a distinct anterior tooth on the underside of the anterior tibia.

*G. guatemalensis* belongs to Jekel’s subgenus *Phelotrupes*, which, in his Monograph, contains only Indian and Japanese species.
10. Geotrupes onitidipes. (Tab. VII. fig. 17, ♂.)

Geotrupes onitidipes (Candèze, MS.).

Brevior ovatus, nigro-aneus, nitidus, subtus cum pedibus cyanens; clypeo triangulari apice obtuso, dense confuenter punctato tuberculato obtusisseme parum elevato, vertice levì; antennis piceo-nigris; thorace a basi usque ad apicem paullo arcuatim angustato, lateribus solum punctato, linea dorsali obsoleta, basi subtilissime marginata; scutello lato, levii; elyris brevibus, profunde striatis, striis dorsaliibus fere levibus, lateraliibus (minus exaratis) punctatis, interstitiis dorsaliibus valde convexis.

♂. Tibiae antice valde elongatae, graciles, extus dentibus 5-6 distantibus, apicali bido ramo interiore longissimo; subtus denticulis 3-4 parvis.

♀. Tibiae antice normales.

Long. 13-16 millim.

Hab. Guatamala (Rodriguez, in colls. Sallé and Bates), Capetillo (Champion).

I cannot find that Dr. Candèze ever described this singular species, which he distributed to his correspondents many years ago under the name I have adopted. Mr. Champion met with one example only, a small male. As the middle leaflet of the antennal club is entire round its edge, and the apical tooth of the male anterior tibie is broad and bifid, though to an exaggerated degree, the species, I presume, would belong to Jekel’s subgenus Cnemotrupes.

11. Geotrupes cavicollos. (Tab. VII. figg. 18, ♂; 18 a, side view of head and thorax.)

Elongato-oblongus, niger, nitidus, subtus nigro hirsutus; antennis rufo-piceis, clava fulva; clypeo late triangulari, apice acuminato-reflexo, tuberculo magno conico antice carinato armato, genis angulatis et prope suturam clypealem acute dentatis; thorace transverse, lateribus tantum sparse punctato, linea dorsali postice impressa et punctata, basi marginata et utrinque arcuatim emarginata, medio prope marginem anticum forca transversa sat profunda antice carina marginali delimitata; elyris hand profunde punctulato-suturalii, interstitiis parum convexiis.


♀. Tibiae antice extus 6-7-dentatae, subtus inermes.

Long. 20 millim. ♂.

Hab. Mexico, Ciudad in Durango S100 feet (Forrer, Högé).

The middle leaflet of the antennal club has part of its edge emarginated; the species therefore belongs to Jekel’s Division II. It is apparently allied to the European G. (Canthotrupes) douei, Gory, the margin of the gene, or “canthus ocularis,” being bidentate in the same places as in that species, though the prominences are not nearly so large. The mandibles also do not present the extraordinary form they have in G. douei. I assume that the two examples examined are males.

12. Geotrupes ——?

Hab. Mexico, Refugio in Durango (Högé).

A single damaged specimen of an apparently distinct species of the section Cnemotrupes.
Fam. TROGIDÆ.

TROX.

Trox, Fabricius, Syst. Ent. p. 31 (1775); Harold, Monogr. in Col. Hefte, ix. p. 1 (1872).

M. Preudhomme de Borre enumerates 119 species of this almost universally distributed genus in his monograph ‘Catalogue des Trogides,’ recently published. The genus is only moderately well represented in Central America.

1. Trox scutellaris.


Hab. North America, Missouri¹ to Texas², Kansas²³, New Mexico²³.—Mexico (Sallé), Monclova in Coahuila (Dr. Palmer), Durango city, Chihuahua city, Villa Lerdo (Höge), Cuernavaca².

2. Trox monachus.


Hab. North America¹, Southern States.—Mexico (Sallé).

3. Trox punctatus.


Trox tessellatus, Harold, loc. cit. p. 124³.

Hab. North America, Southern States¹, Mexican boundary².—Mexico, Sonora¹, Nuevo Laredo, Chihuahua city, Villa Lerdo, Guanajuato city, Monterey (Höge).

All the numerous Mexican examples belong to the form T. tessellatus, (Lec.), which Von Harold considers³ to be a variety of T. punctatus, though the rows of polished tubercles on all the elytral interstices give it a distinct character. The sculpture of the thorax and elytra is almost exactly as in T. scutellaris, from which its oblong form and large humeral callus distinguish it.

4. Trox asper.


Hab. North America, Southern States¹².—Mexico², Northern Sonora (Morrison), Presidio (Förrer).
TROX.—ANAIDES.

5. **Trox suberosus.**

*Trox suberosus*, Fabr. Syst. Ent. p. 31 (1775); Harold, Col. Hefte, ix. p. 119.

Hab. NORTH AMERICA 1 2 3 4.—MEXICO 1 2, Northern Sonora (Morrison), San Pedro in Coahuila, Guajuca in Nuevo Leon, San Luis Potosi (Dr. Palmer), Tres Marias Islands (Forrer), Cordova, Guanajuato, Tuxtle (Sallé), Matamoros Izcar, Chilpancingo, Agus Calientes, Chihuahua city, Ventanas, Villa Lerdo, Acapulco, Durango city, Jalapa, San Juan Bautista, Vera Cruz, Tapachula (Höge), Acapulco (J. J. Walker); NICARAGUA, Chontales (Belt.).—SOUTH AMERICA 2 to Patagonia 1; ANTILLES 2; AFRICA; CAPE VERDE ISLANDS 5.

I have copied the chief synonymy of this widely spread and common insect from Von Harold's Monograph, in which the species and its varieties are fully described. Morrison's examples from Northern Sonora are all of large size, the "var. a" of Von Harold.

6. **Trox acanthinus.** (Tab. VII. fig. 19.)


Hab. MEXICO 1, San Andres Chalchicomula (Sallé).

7. **Trox lecontei.**


Hab. NORTH AMERICA, Southern States 1.—MEXICO 1, Puebla (Sallé), Jalapa (Höge).

8. **Trox sonora.**

*Trox alternans*, Lee. loc. cit. p. 211 (nom. præocc.).

Hab. NORTH AMERICA, Kansas and New Mexico 2.—MEXICO, Sonora 1.

It is on Dr. Horn's authority that *T. alternans* is referred, above, to *T. sonora* as a synonym. According to Von Harold 3 it is only a large and strongly-sculptured form of *T. lecontei*.

ANAIDES.


A genus confined to Tropical America. Two species only have been previously described.
1. Anaides laticollis.


_Hab._ Mexico, Cordova, Toxpam (Sallé), Jalapa (Höge); Guatemala, Capetillo, San Gerónimo, Coban, San Joaquin in Vera Paz (Champion).

This species is found at the sap of various trees, according to Mr. Champion.

2. _Anaides simplicicollis._ (Tab. VII. fig. 20.)

_A. fossulato et A. laticollis similius_, sed differt thorace hano carinato. Niger, nitidus, supra fere nudus, capitice et thoracis elytronum (basis) marginibus solum ciliatis; capite fere ovato, discrete punctato, obtuse carinato; thorace sat dense punctato, basi striatoque valde sinuata, dorso paulo convexo et postice vage late sulcato; elyris elongatis, dorso planatis, lateribus verticalibus et supra declivitatem carinalis (carina longe ante apicem in cellum desinente) acute striatis, striis crenato-punctatis, intersititiis planis sparsim punctulatis et subtiliter unistrati; tibiis 4 posticis gradatim sat fortiter dilatatis triquetro-compressis ciliatis extus hano serratis; tibialis antieis extus dentibus acenis 3 et supra serrulatis.

_Long._ 10 millim.

_Hab._ Costa Rica, Volcan de Irazu 6000 to 7000 feet, Río Sucio (Rogers).

Taken abundantly by Mr. Rogers. The mentum differs from that of _A. fossulatus_, as figured by Westwood, in being rather deeply sinuated at the apex.

**CLEOTUS.**

_Cloeotus_, Germar, Zeitschr. für Entom. iv. p. 129 (1843) (partim); Harold, Col. Hefte, xii. p. 42;

Preudhomme de Borre, Catal. des Trogides, p. 12 (1886).

_Acanthocerus_, Germar, loc. cit. p. 131 (nee Macleay).

M. Preudhomme de Borre enumerates, in his 'Catalogue des Trogides,' twenty-six species as belonging to this genus. With one exception (a species from Penang) they are all from America, where they are spread over the temperate and tropical zones from the United States to Chili.

Von Harold in his Col. Hefte, xii. p. 28, enters fully into the reasons which induced him to change the name given to this genus by Germar in his monograph of the group. The characters given by Macleay of his genus _Acanthocerus_, although containing some errors, leave no reasonable doubt that he had in view the same generic form as that on which Germar constituted his _Sphaeromorphus_. The inconvenience attending this displacement of names is perhaps lessened by Von Harold having retained the name _Cloeotus_ for both Germar's genera _Cloeotus_ and _Acanthocerus_ (nee Macleay), which appear to offer no essential difference.

The spherical _Trogidae_ are generally found by beating bushes containing dead twigs, from which they readily drop in the coiled-up state, sometimes in considerable numbers, into the inverted umbrella. It was in this way that Mr. Champion obtained his extensive series of the group. They feed on dead fungoid matter and galls. I
have seen *Cloeotus plicatus* and another species feeding on old woody boleti, and a
species of the same genus on gall-like excrescences on the midrib of a *Paullinia* leaf.

1. *Cloeotus globosus*.


*Hab. North America*¹—*Mexico*², Cordova (Sallé), Jalapa (Höge).


Elytrorum carina submarginali valde crenata subinterrupta; thorax acervatin punctatus.

*Hab. Guatemala*, Cerro Zunil, El Tumbador, Zapote, San Juan in Vera Paz, Tamabu (Champion); *Panama*, Bugaba, Volcan de Chiriqui (Champion). — *South America*, Colombia ⁴, Brazil ⁵⁻⁶.


Thorax parceus et subtillus punctatus.


On examination of a large series from various localities this species proves to vary in all those points of colour, bloom of surface, and sculpture on which Germar and Erichson relied in separating it into five, for I see nothing in the description of Erichson’s *A. puncticollis* from South Brazil to merit its specific separation from the rest. The character derived from the carinated interstices of the elytra towards the apex seems to be a little more constant than the sculpture of the head and thorax, which is variable among examples from one and the same locality. In nearly all the northern specimens the longer exterior carina is sharp and clear of indentations. This is the chief distinguishing feature in Germar’s description of *C. globosus*. I find it more pronounced in the Jalapa examples captured by Höge than in specimens of the typical *C. globosus* from Louisiana. The Cordova specimens in the Sallé collection are somewhat different, and show a tendency towards *C. sticticus* and *C. macleayi* in the laterally crenated and wavy line of the same carina. Guatemala examples all show a more or less wavy carina, and in those from Chiriqui this feature is generally a little more pronounced; but I find that it varies even in South-Brazilian examples of *C. macleayi*. Thus it must be held doubtful if the five species of Germar’s Monograph can be maintained even as constant local varieties. Further material from South-American localities is required to decide the question.

2. *Cloeotus aphodioides*.


LAMELLICORNIA.


_Hab._ NORTH AMERICA, United States¹²⁴.—_MEXICO³⁵.

Var. _C. prionomus_. A typo dīffert solum elytrorum margine prope humeros serrulato.

_Hab._ GUATEMALA, Zapote (Champion).

The variety, of which three examples only were taken by Mr. Champion in Guatemala, agrees precisely with North-American specimens of _C. aphodioides_ in its oblong form and in the sculpture of its surface; the sides of the thorax have three similar polished elevations, and the apex of the elytra six carinae, viz. three parallel to the suture, and three to the lateral margin, the broad sulci between the latter being marked with fine chain striæ in elegant pattern. In the variety the elytra have subrectangular shoulders, and a very narrowly dilated margin, which for a short space near the shoulder is conspicuously, though finely, serrated. The colour of the elytra is brilliant brassy, almost golden, and the underside of the body with the femora is reddish.

3. _Cloeotus reticularis._

_C. aphodioides_ affinis; dīffert thorace lateribus abaque callis politis, scutello lavi, elyris subtilius striato-punctatis, etc.

_Hab._ MEXICO, Cordova (Salître).

Of the same oblong form as _C. aphodioides_; brassy-black, with greenish-bronze and aeneous reflections, the surface polished and with a changing milky-opaline lustre. Head (vertex excepted) closely punctured; clypeus broadly rounded, the edges reflexed; genae triangular, sublobate. Thorax transverse, quadrate, slightly narrowed anteriorly, the sides nearly straight, the hind angles rectangular, submarginal impressed line entire, near the anterior angles broader, its inner edges raised and thickened; surface finely and not very closely punctured, becoming nearly smooth behind, the lateral border having a large oblong depression, thickly and finely flexuous-strigose, and without polished elevations. Scutellum smooth, at the base a very few punctures, and within the apex a shallow punctured fovea. Elytra with rows of short linear punctures not impressed in striae, the lateral margin near the shoulder with 3 or 4 serrated denticulations, the apex as in _A. aphodioides_ with six carinae, the interstice 2 (from the suture) being carinated to the apex, the interstices 3 and 4 having very short carinae, and 6, 9, and 11 having carinae successively increasing in length, the broad sulci between the three having fine wavy striae forming a chain-like pattern. Possibly only an extreme variety of _C. aphodioides._

* Measurements of this genus and _Acanthocerus_ are of the insects in their rolled-up condition.
4. *Cloeotus plicatus*.


*Hab.* Guatemala, Zapote, Panzos (Champion).—South America, Pará, Amazons (coll. Bates).

The short, erect, subclavate bristles which clothe the surface of this species are sometimes wanting, probably from abrasion.

5. *Cloeotus infantulus*.

Parvus, fere globularis, lensus, politus, interdum fulvo translucens; capite sat dense punctato, clypeo late rotundato, margine prope genas leviter sinuato, genis hand lobatis; thorace angulias posticas valde obtusas, integriter marginato, lineis curvis hand profundis sat dense impressis, callis quattuor politissimis; scutello lavi, basi tantum sparsim punctulato; elytris rotundatis, margine versus humeros serrato, subtiliter striato-punctatis, punctis elongatis, stria suturali versus apicem sulciferi, ibique interstitii tribus alternis obtusis carinatis, carinae exteriore fere usque ad humeros extensa; tibiis posticis extus longitudinaliter dense striatis, apice extus productis.

Long. 2–2½ millim.

*Hab.* Guatemala, Zapote (Champion). A large series of examples.

*Var.* Saturate olivaceo-roseus sculpturaque paullo grossior.

*Hab.* Guatemala, Cerro Zunil, Las Mercedes, Zapote, Capetillo (Champion).

Distinguished by the apical area of the elytra being marked by three long carinae. The humeral callus is very prominent, and there is an elongated polished callus along the dilated lateral margin.

6. *Cloeotus sinuat us*. (Tab. VII. figg. 21 ; 21 a, profile of unextended specimen.)

Rotundatus, politus, nigro-roseus, saturate roseus, roseo-cupreus vel luteo-rufo-cupreus; clypeo obtuse rotundato, apice depressione et plus minusve emarginato; thorace angulias posticas distinctis, sed apice plus minusve rotundata; scutello basi (rarissime postice) punctato; elytris usque ad basin striato-punctatis, punctis parum elongatis, margine prope humeros subtilissimis serratis, apice depressiss multitudinatis ibique interstitio 2° biv. vel tri-tuberculato (tuberculis rarissimum), carina submarginalis elongata acuta apice hamata (in var. C. sejuncto simplici), carina brevi apud interstitium 10°; tibiae posticis extus longitudinaliter striosis, apice plerumque levibus vel dimidio apicali lavi punctato.

Long. 4 millim.

*Hab.* Mexico, Cordova (Sallé), Jalapa (Höge); British Honduras, Belize (Blan-baneaux); Guatemala, Las Mercedes, Cerro Zunil, Capetillo, Calderas, Dueñas, Senahu, San Juan in Vera Paz (Champion).

This apparently common Central-American species varies much in colour and sculpture both of surface and of the flattened outer side of the posterior tibiae, and rather less so in the tuberculation of the apical area of the elytra. In all its varieties it is distinguished by the broad, but very shallow, sinuatio of the clypeus. As to colour-variation, the brilliant red-coppery examples seem to be almost confined to

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Mexico, where dark-bronzed hues are the exception, whilst the reverse is the case in Guatemala, where at Capetillo, judging from the very numerous specimens taken, bronze-black is the general colour; Capetillo examples are, moreover, distinguished from the Mexican form, with very few exceptions, by the striae of the outer side of the posterior tibiae being much abbreviated, leaving a large apical space smooth or sparingly punctured; but there are all gradations in the extent of the smooth space. At Cerro Zunil the prevailing colour is again different, the elytra being very dark greenish-bronze, nearly black, and the head and thorax dark coppery; this form, which I propose to call C. sejunctus, is also distinguished, but not quite in all the examples, by a slight peculiarity of sculpture at the elytral apex, the acute submarginal carina not being hooked behind, and also by the finer punctuation of the whole surface. As to the general punctuation, it varies greatly both in strength and density, as in most of the species of the genus, but the variation in this respect does not correspond with other differential characters.

The sculpture and tuberculation of the apical area of the elytra consists (1) in an oblique row of about five oblong tubercles preceding an apical depression, the outermost of which is a short, but sharp, carina on the tenth interstice, (2) in a long submarginal carina (on the twelfth interstice) sharply hooked at its apex, (3) in a series of two or three tubercles, sometimes oblong, sometimes conical, and sometimes connected as a wavy carina, on the apical part of the second interstice (i.e. the one following the sulciform sutural stria), and (4) in a variable number of small rounded warts on the intermediate space. This apical space is otherwise scored with sharp striae, the interstices of which are flat and smooth.

7. Cloetus strigilatoris.

Parvus, C. infantulus similis, sed differt elytris apice multituberculatis. Nigro-renus vel late renus, politus; capite punctato, vertice laevi, fronte medius tuberculato, elypto leviter sinuato; thorace subtiliter (infra latera grossius) punctulato; sentellello basi punctulato; elytris subtilissime striato-punctatis, callo humerali vix prominente calloque elongato apud marginem dilatatum, carina submarginali valle elongato alta et verticeflexuo, carina apud interstitium 10° acuta, area apicali 4° vel 5° tuberculata, interstitio 2° interrupto, lateribus inter interstitium et marginem multistratis; tibiis posticis triangulariter dilatatis, apice extus valde productis, compressis, extus irregulariter grosse insculptis.

Long. 3 millim.

Hab. Mexico, Cordova (Sallé).

The numerous strongly elevated carinae and tubercles of the apical area of the elytra distinguish this species from C. infantulus and C. euxinus, the latter having the usual carinae very faintly elevated, and the former three continuous carinae, and being further distinguished by the entire rounded edge of the clypeus. In one of the two examples the apex of the hindmost tibiae is very widely and strongly emarginated, and the inner angle (which carries one of the spurs) is very much shorter than the outer; in the other specimen the two spurs are nearly on the same level. The apical cross section
of the tibiae is narrow-oblong, and subacuminated at the upper (outer) end. The hind tibiae are much more triangular and broader at the apex than in *C. infantulus*.

8. *Cloeotus excisus*.

Parvus, rotundus, nigro-vel picceo-aneus, politus; capite thoraceque levibus, hoc lateribus tantum subtiliar punctatis, angulis posticis rotundatis; elyceo apice emarginato et leviter bidentato; scutello levii (interdum basi punctulato); elyris lineatis subtiliar punctulatis, apice haud tuberculatis, stria sutorali apice subcylindracea, interstitiis 1° et 2° valde convexis, levibus; tibiis posticis longitudinaliter striatis, nitidis, apice mediocriter prolongatis, truncatura anguste ovata.

Long. vix 3 millim.

*Hab.* Guatemala, Senahu (*Champion*). About a score examples.

*Var.* Capite thoracis disco scutelloque basi punctulatis.

*Hab.* Mexico, Cordova (*Salle*).

Similar in form and closely allied to *C. sinuatus*, var. *sejunctus*; but much smaller, and distinguished by its perfectly smooth and polished head, disc of thorax, and scutellum, as well as by the absence of distinct tubercles from the apex of the elytra. The apex of the clypeus is distinctly emarginated, and a small broad tooth is perceptible on each side of the emargination. The thorax is finely margined throughout, the hind angles imperceptible, and the flattened sides marked pretty uniformly with fine curved scratches. The elytra have the long submarginal carina and the short inner carina on the tenth interstice fine and very little elevated; there is no tubercle or carina in the apical area, the sutural stria is deep and broad, and the interstices on each side are equally elevated, straight, and smooth; the margin near the base is finely serrated. The hindmost tibiae are moderately prolonged at the apex, and their outer surface is marked with a few longitudinal striæ; the apical truncation is rather narrow.

The var. from Mexico agrees precisely with the numerous Senahu examples, except in the fine punctuation of the head, thorax, and base of the scutellum.

9. *Cloeotus bidens* (Tab. VII. fig. 22.)

Rotundatus, aneus, politissimus; capite subsparsissim punctato, elyceo late triangulari apice paullo producto, anguste emarginate et leviter bidentato, cetero margine flexuosus; thorac sparsissime, intra latera grossius et areatim, punctulato, integriter marginato, stria a margine antico passim distante, angulis posticis rotundatis; scutello levii; elyris a humeri gradatim sed late ampliatis, margine ampliato convexo, strito-punctatis, stria sutorali versus apicem sutoraliformi ibique interstitiis utrique convexis et rectis, area apicali alternatim carinata, carina submarginali antico abbreviata; tibiis posticis extus suboblique striosis, apice productis et compressis.

Long. 3–4½ millim.

*Hab.* Panama, Bugaba (*Champion*).—South America, Amazons.

Distinguished from the numerous allied species of similar form and colour by the shape of the clypeus, its flexuous margin, and slightly bidentate apex. The sculpture of the apex of the elytra resembles that of the much smaller *C. excisus* in the straight
and smooth convex interstices on each side of the sutural sulcus; in *C. bidens*, however, it differs from that species in having two carinated interstices (one of which is the usually short carina of the tenth interstice, which is here prolonged to the apex) between the convex interstices and the long submarginal carina. The apex of the hindmost tibia is more compressed than in the allied species, and the apical truncate forms a narrow oblong, thus approaching the *Acanthoceri*.

Mr. Champion obtained a large number of specimens at Bugaba. Three examples from Pará in my own collection offer no difference.

10. *Cloeotus nasutus.*

*C. bidensii* affinis annus; differt colore suturate viridi-aeneus vel nigro-aeneus; capite crebro punctulato, vertice et tuberculato obtuso frontali labiis; clypeo medio producto, breviset bidentato, margine leviter flexuoso, genis anguste sublobatis; thorace fere lavi, lateribus solum parce punctato, omnino marginato; scutello sparsim grosse punctato; elytris subtillisimae striato-punctatis, apice abaque tuberculis, breviter impresso-striatis, stria suturali profunda integra, carinula ordinaria obtusa, carina extere antice abbreviata; tibiis posticis extus parce longitudinaliter striatis, apice laevibus.

Long. 24 millim.

*Hab.* MEXICO, Atlisco and Matamoros in Puebla, Iguala in Guerrero (Höger).

Sufficiently distinct from the southern *C. bidens* by the smooth apex of the posterior tibiae, as well as by its dark brassy-green colour.

11. *Cloeotus metallicus.*

*Cloeotus metallicus*, Harold, Col. Hefte, xii. p. 45.¹

*Hab.* COSTA RICA, Volcan de Irazu (Rogers); PANAMA, Bugaba (Champion).—SOUTH AMERICA, Colombia¹, Upper Amazons¹.

One example only was obtained by Mr. Champion at Bugaba, differing in its smaller size and feebler sculpture from the typical form from the Amazons. The example from Irazu is more characteristic. The species differs from *C. bidens* in the simply angulated and smooth clypeus, the more distinct hind angles of the thorax, and the smooth external face of the hind tibiae. The sculpture of the apex of the elytra is nearly the same.

12. *Cloeotus viridipennis.*

*C. metallicus et C. nitent* (Guér.) proxime affinis, tibiis posticis extus laevibus. Cupreo-nitidus rufo translucidus, elytris viridi-aeneis; capite (clypei margine excepto) arcuato-punctato, media fronte tuberculato rotundato lavi; clypeo obtusissimae triangulare, marginibus, apice excepto, reflexis; thorace arcuato-punctato, spatiae laevibus, angulis posticis apice rotundatis; scutello lavi; elytris fere usque ad basin striato-punctatiae, stria suturali versus apicem sulciformi, interstitia 2° convexo, medio interrupto, carinis apud interstitia 10° et 12° (submarginali) elongatis acutis, medio apice tuberculis 3 vel 4 elongatis; tibiis posticis extus laevibus, truncatura latissima.

Long. 5 millim.

*Hab.* PANAMA, Bugaba, Volcan de Chiriqui (Champion).

Mr. Champion obtained a large number of specimens, all conformable to the above
description. This species differs from the South-American C. nitens (Guér. & Germ.) chiefly in the stronger sculpture. The frontal tubercle is always round and perfectly isolated.


_Hab._ MEXICO, Cordova (Sallé), Jalapa (Höge); GUATEMALA, Cerro Zunil, San Isidro (Champion); NICARAGUA, Chontales (Belt); PANAMA, Bugaba (Champion).—SOUTH AMERICA, Brazil 1.

Central-American specimens vary a little in the punctuation of the head, and in the form of the apical angle of the clypeus, the angle being sometimes entire, and sometimes slightly notched; but these differences do not correspond with the variations that exist in the strength of the punctures of the elytra, which, according to Germar, also varies much in Brazilian examples. Examples with triangular clypeus and punctured head with round polished frontal tubercle agree in these respects exactly with _C. viridipennis_, from which _C. nitens_ in all its varieties differs in the sculpture of the apical part of the elytra. In the latter the elytra have their apical portion entirely free from tubercles and sharp carinæ; and the interstices are mostly broad and slightly convex, and separated by single, sharp strie, which become longer from the sutural region towards the lateral margin. _C. nitens_ is also a larger insect than _C. viridipennis_.

14. Clœotus — ?

_Hab._ COSTA RICA, Volcan de Irazu 6000 to 7000 feet (Rogers).

A single example of a species allied to _C. nitens_ and _C. viridipennis_ is in too damaged a condition to be determined.

15. Clœotus viridulus.

Parus, globosus, politus, late viridi-annus, subitus rufo-piceus; capite plagiatim punctato; clypeo subtrian-gulari, a fronte lineæ obtusissimæ elevata separato, margine reflexo, rufo; thorace sat grosse plagiatim punctato, angulis posticis obtusissimis; sterno poste-riorum punctato, elytrœ striato-punctatis (punctis oblongis), prope apicem striæ suturalis subflorid, intersticiis interstitiis 2° lateri brevis, sex interstitiis planis, carinula brevi obtusa apud 10° altera acutiora elongata submarginali; tibis posticis extus longitudinaliter striato, apicis truncatae late rotundata.

_Long._ 3½ millim.

_Hab._ MEXICO, Misantla (Höge). Two examples.

Similar in size and sculpture of the apical area of the elytra to _C. excisus_, but readily distinguishable by the broad apical truncature of the hind tibie. The thorax and scutellum have a peculiar strong, but sparse, punctuation; and the clypeus, though obtusely angular or subproduced at the apex, shows no signs of emargination, the margin being reflexed and entire.
16. *Cloëtus viridis*.

*Cloëtus viridis*, Lansberge, Notes from the Leyden Mus. ix. p. 203 (April 1887).

*Hab.* **Mexico**.

According to the description this species is very similar in form, colour, and sculpture to *C. viridulus*; but the size (2½ millim.) is much less, and the phrase "bords latéraux (of the thorax) légèrement sinués," does not at all agree, neither can I reconcile the description of the apical sculpture of the elytra with *C. viridulus*.

**ACANTHOCERUS.**

*Acanthocerus*, Macleay, Horne Entomol. i. p. 136 (1819); Harold, Col. Hefte, xii. p. 28; Preudhomme de Borre, Cat. des Trogides, pp. 11, 26.


Preudhomme de Borre enumerates twenty-eight species as belonging to this genus. Four are from Borneo and the neighbouring islands, the rest from America.

1. **Acanthocerus eulampros**. (Tab. VII. fig. 23.)

*A. polito* (Erichs.) affinis; splendidissime aeneus, corpore subitus rufescente; clypeo basi, vertice scutelloque lateribus sparsim punctulatis; thorace stria antico-marginali medio anguste interrupta et versus angula margini approximata; elytra disco subtiliter striato-punctatis, apice laevi, stria marginali et suturali prope apicem impressis; tibias posticis dichotome oblique striatis.

*Long.* 7 millim.

*Hab.* **Nicaragua**, Chontales (*Belt*); **Panama**, Volcan de Chiriqui 2500 to 4000 feet (**Champion**).

Distinguished from *A. politus* by the finely punctured base of the clypeus, and the four or five abbreviated rows of small punctures on the disc of each elytron. The sutural row of punctures (which graduate into a deep stria towards the apex) does not reach the base of the elytra. The base of the thorax is rounded, and there is not the slightest trace of posterior angles, but the margin is slightly depressed on each side near the scutellum, and the inner side of the depression is slightly tumid. The lateral margin of the elytra in the place where the knees of the middle legs fit (in the rolled-up state) is arched and sinuated. A specimen from Chiriqui is figured.

2. **Acanthocerus humeralis**.


*Hab.* **Panama**, Bugaba (**Champion**).—**South America**, Para.

Two examples, differing from the type form in the more prominent tubercle on the outer side of the basal depression on each side of the thorax and the corresponding more prominent shoulders of the elytra, a difference probably sexual. Von Harold in
his remarks on the South-Brazilian *A. sesquistriatus* (Col. Hefte, xii. p. 35) says that Erichson’s type specimen of *A. humeralis* has a short submarginal elytral stria like *A. sesquistriatus,* i. e. a sharply incised stria. If this is really the case, the reference of the present species to *A. humeralis* is wrong. But I suspect Von Harold’s is a mistaken observation. No mention is made of the short stria in Erichson’s description, which otherwise (with the exception of the punctured apex of the scutellum) agrees with specimens taken by myself in the country from which his examples were derived.

3. Acanthocerus relucens. (Tab. VII. fig. 24.)

*A. seriato* (Erichs.) affinisimus; differt vertice et scutello levibus elytrorumque interstitiis apicalibus alternis haud alte carinatis; saturate dense, politissimus; clypeo antice subtiliter postice in fasciam sat grosse punctato; thorace lavi, marginie basali utrinque prope scutellum depresso; scutello lavi; elytris disco striato-punctatis, striis antice et postice abbreviatis punctisque ovalibus parum impressis, apice striis profundis, surturali marginalique et sex brevibus intermediis quorum interstitiis alternis mediocriter elevatis; tibis posticis extus punctis arcuatris separatis insculptis.

Long. 5½ millim.

*Hab.* **Guatemala,** Las Mercedes, Cerro Zunil, San Gerónimo (*Champion*); **Nicaragua,** Chontales (*Belt*); **Panama,** Volcan de Chiriqui (*Champion*).


*Hab.* **Mexico,** Jalapa (*Höge*); **British Honduras,** Belize (*Blancaneaux*).

Sufficiently distinct from *A. seriatus* (Erichs.), a species of the Amazons valley, by the characters above mentioned. The depression of the hind margin of the thorax on each side of the scutellum is common to both species, and in some examples (2?) has a distinct tubercle on the inner side; but the apical marginal stria is finer and nearer to the margin, though variable in this respect. The scutellum has a few punctures at the base on each side. The rows of shallow, oval punctures on the elytra are variable in strength and number; the sutural stria, which as usual is deeply impressed at the apex, becomes a similar row before the middle, and continues as such to the base; the six short sulci of the apex increase in length from the suture outwards, but the longest does not reach the middle, and the smooth interstices are alternately moderately elevated, not sharply and greatly raised as in *A. seriatus.* The hindmost tibiae externally are marked with arcuated scratches, mostly isolated, and the scratches do not form a close reticulation as in *A. seriatus.* A Chiriqui specimen is figured.

4. Acanthocerus vicarius.

*A. semipunctato* (Germ.) proxime affinis et forsae ejus varietas geographicus. Globularis, politus, saturate dense, cupreo-piceus vel cupreae; thorace stria marginali anteriore valida et integra, thorace et scutello punctatis; elytris sat regulariter et usque ad apicem striato-punctatis, striae submarginalibus punctis prope apicem interdum conjunctis; tibis posticis striigulis arcuatris insculptis.

Long. 3½–4 millim.
LAMELLICORNIA.

Hab. Mexico, Cordova (Sallé), Jalapa (Höge); British Honduras, Belize (Blancaneaux); Guatemala, Cubilguitz, Senahu, Cerro Zanil, Las Mercedes (Champion).

A large number of examples. Belongs to a group of smaller species, widely distributed in Tropical America, in which the stria accompanying the fore margin of the thorax is deep and continuous, and the upper surface more or less thickly punctured. The present species agrees with the South-Brazilian A. semipunctatus in the puncture-rows of the elytra scarcely reaching the base, and not being impressed at the apex or forming there two or more sharp stria; but it seems to differ in the greater regularity of the rows, the punctures of which in A. semipunctatus are in many places out of line, and the rows consequently confused; in A. vicarius the rows are nearly straight, except the second, third, fifth, and sixth towards the apex. The head (except the vertex) is thickly covered with large, separated punctures, which are sometimes equally strong throughout, and sometimes finer on the forehead than on the clypeus. The thorax differs in form from that of the more typical Acanthoceri in having distinct, though rounded, hind angles; it is punctured almost as strongly on the disc as on the sides, but there is a space in the middle of the lateral margins, a vague dorsal line, and a round spot on each side of the disc smooth and polished; the punctuation, however, varies in strength in different individuals, the same as it does on the scutellum.

5. Acanthocerus micros.
A. semipunctato affinis; multo minor et differt fronte lavi tibiasque posticis extus striis subtilibus longitudinalibus hie ilic conuenientibus insculptis. E minoribus; elypto (praecepue basi) punctato, fronte verticeque levibus; thorace scutelloque punctulatis, spatios levibus; elytris striato-punctatis, stria 2a et 3a nox a basin fractis et irregularibus, striis exterioribus versus apicem fere continuis. 
Long. 24-3 millim.

Hab. Mexico, Jalapa, Misantla (Höge).

The chief distinction between this species and A. semipunctatus is furnished by the widely different sculpture of the hindmost tibiae. Germar describes this sculpture (in A. semipunctatus) as “Runzeln welche durch zusammenfließende punkte entstehen,” which Von Harold (Col. Hefte, xii. p. 35) further explains as “bilden die Runzeln . . . . eine dichte aus kurze halbkreisen bestehende punktirung.” This perfectly well suits our A. vicarius as well as A. semipunctatus; but A. micros shows in the tibial sculpture no trace of small semicircles, the sculpture consisting of fine longitudinal partly dichotomous and partly confluent lines. The approximation of the punctures almost (but not quite) to the formation of linear stria, in many of the rows at the apex of the elytra, also distinguishes the present species.

6. Acanthocerus rotundicollis. (Tab. VII. fig. 25.)
Minutus, rcco-rufus, politissimus; capite omnino concavo nec margine explanato, antico subtiliter discrete punctulato, elypo apice strigato; thorace a basi oblique usque ultra medium ampliato deinde ad apicem citius angustato, toto sparsim punctulato, stria marginali anteriore integra; scutello medio punctulato;
ACANTHOCERUS.—APOROLAUS.

elytris utrinque striis undecim acutae incisae, subtilissime punctulatis, aequaliter a basi usque ad apicem impressis et inter se distantibus, interstiiis planissimis et minutissime punctulatis.

Long. 2 millim.

Hab. Panama, Volcan de Chiriqui (Champion). One example only.

Differs from all other Acanthoceri known to me by the convexity of the head being continued to its edges; and also by the form of the thorax, the sides of which are cut in nearly a straight line, and obliquely from opposite the outer angle of the scutellum to near the anterior angles, at which point the thorax is at its greatest width. On each side of the basal margin of the thorax, near the angle of the scutellum, is a small but conspicuous concavity. In the way the single example is mounted I cannot examine the sculpture of the exterior face of the hind tibiae.

Fam. ACLOPIDÆ.

APOROLAUS.

Corpus elongato-ovatum, glabrum, lateribus et subitas cum pedibus longe pilosis. Clypeus brevissimus, antice arcuatus; labrum planum, clypeo fiee acuie oriente medio acuminatum. Mandibulae labrum amplectentes, intus ciliata; apice anguste prolongata, libera, acute bidentatae. Maxillae inermes, lobo dense penicillato. Mentum transverse quadratum planum, apice medio incisum. Ligula lobis angustis elongatis, divergentibus. Canthus oculorum brevissimus. Antenne 9-articulatae; clava compacta, art. 7Æ cupuliformi ceteris inclusidentibus. Elytra postice conjunctim rotundata, pygidium tegentia, margine apicali incrassato. Pedes sat graciles; coxae antice conice, exsertae; tibias antice extus dentibus rote extantibus tribus; coxae intermedio oblique, contigue; tibie postice, $\gamma$, graciles, rectae, $\Omega$ extus ante apicem sinuatae, apice bicalcaratae. Tarsi medioventrie elongati; ungues elongati, graciles, simplices, paronychio bistosos minuto. Metasterni episterna elongata triangularia; epimeris apicolibus parvis transversalibus. Segmenta ventralia sex libera.

An interesting generic form, connecting three families placed wide apart in Lacordaire’s system, viz. Hybosoridae, Aclopidae, and Glaphyridae; and demonstrating that the mouth-structure (especially the free bilobed ligula) is more to be relied upon than the position of the abdominal spiracles as indications of natural affinity in this portion of the Lamellicorn series. The legs (with the exception of the male developments) are those of the typical Glaphyridæ, the absence of transverse tibial carinae distinguishing this genus from Aclopus, and approximating it to Glaphyrus, as also does the cupuliform club of the antennæ. The form of the metathoracic episterna and epimera is that of Colodes in the Hybosoridae; and the shape and relative position of the clypeus, labrum, and mandibles are the same as in Aclopus, Hybosorus, and not essentially different from the Glaphyridæ.

The abdominal spiracles are microscopically small; with a powerful lens three are visible on the connecting membrane, and a posterior one is just perceptible on the edge of a ventral segment.

Biol. Centr.-amer., Coleopt., Vol. II. Pt. 2, November 1887. SS
1. **Aporolaus fimbriatus.** (Tab. VIII. fig. 1, 3.)

Elongato-ovatus, glaber, pilis longis exstantibus rufis marginatus, corpore subtus pedibusque similariter pilosis; supra rufo-testaceus, capite nigro, interdum thoracis disco autem nigro, vel elytris dimidio posteriori et capite nigris thorace elytrorumque basi rufo-testaceis; subitas niger, thorace coxisque antiquis (et interdum ventris) testaceis; capite thoraceque sparse punctatis; elytris baud profunde puuetato-striatis; subitas laevi.

*Hab.* Panama, Bugaba 1000 feet (*Champion*).

A large number of examples, the great majority males. Mr. Champion met with this species only in one little opening in the forest, where it was noticed in profusion for a few days; the examples were mostly found upon the wing or resting on leaves.

**Fam. CHASMATOPTERIDÆ.**

**CHNAUNANTHUS.**

*Chnaunanthus*, Burmeister, Handb. der Ent. iv. 1, p. 31 (1844).

This genus contains a single species apparently peculiar to Mexico.

1. **Chnaunanthus discolor.** (Tab. VIII. fig. 2.)

*Chnaunanthus discolor*, Burm. Handb. der Ent. iv. 1, p. 32.

*Hab.* Mexico, Guanajuato, Parada (*Sallé*), Mexico city, Tacambaro in Michoacan, Matamoros Izucar, Cholula (*Höge*), Hacienda de San Miguelito (*Dr. Palmer*).

This species is sometimes entirely black, but most frequently the head and thorax only are black, the elytra being light testaceous-brown with the sides and suture dusky or wholly testaceous. An example from Tacambaro is figured.

Subtribe II. *Ligula consolidated with the mentum.*

**Fam. MELOLONTHIDÆ.**

Subfam. **HOPLIINÆ.**

**HOPLIA.**


About ninety species of this well-known genus have been described. It is widely distributed over both hemispheres, but much more numerously represented in temperate than in tropical countries, and appears to be unknown in Australia.
HOPLIA.

Group I. *Hind tibia linear.*

1. *Hoplia festiva.* (Tab. VIII. fig. 3.)


*Hab. Mexico* 1, Cordova, Orizaba, Tomatlan (*Sallé*), Coscomatepec (*Höge*).

Burmeister’s description, drawn up apparently from a single example, fails to convey a correct idea of the colours and markings of this elegant species. The pattern of the elytra in most examples consists in two or three black longitudinal lines with two large black spots in each interspace, the ground-colour varying from light greenish-ashy to orange-fulvous. The numerous varieties diverge from this typical pattern in opposite directions:—1, towards melanism, the black spots and stripes being fused together, at first leaving pale spots on a dark ground, and in the extreme form the elytra becoming wholly velvety-black; 2, towards lack of black pigment, the black lines and spots becoming attenuated, and more or less vague; 3, until at length the elytra are uniformly ashy or fulvous. The thorax is generally, as Burmeister describes it, ashy with a broad discoidal black patch, but varies in the black central spot being dissolved into two vittae, or (in the unicolorous pale form) disappearing altogether.

I can detect no sexual difference among the numerous examples either in the abdomen, legs, or antennal club. The anterior tibiae are in all tridentate. We figure a specimen from Tomatlan.

2. *Hoplia mexicana.*


*Hoplia irrorata*, Burm. Handb. der Ent. iv. 2, p. 484 (nom. preocc.)

*Hab. Mexico* 1.

A species placed by Burmeister next to *H. festiva*; it is not contained in our collection.

3. *Hoplia asperula.* (Tab. VIII. fig. 4.)

Parva, oblonga, supra squamulis elevatis granuliformibus densissime vestita, atro- vel fulvo-fusca, thorace vitta dorsali lateribusque argenteis, elytris pone medium maculis 6 oblongis obscurius fuscis fasciatis ordinatis et guttis cinereis marginatis; corpore subtilis argenteo-margaritaceo squamosis, pygidio plus minusve fulvescente; femoribus squamis anguis fasciatis sparsim vestitis, tibias tarsisque (his rufescensibus) cinereo-setosis; elyceo breviter trapezoideo, margine antice truncato et reflexo; thorace post medium sinuatum angustato; tibias antice 3 dentatis, posticeis rectis, margine superiore antice prompte leviter sinuato; antennis 9-articulatis, clava nigra.

Ungues pedum 4 anteriorum omnes fissi, intermedium minore set elongato.

*Hab. Mexico*, Jalapa (*Höge*).

The densely packed scales of the upper surface are not flat and adpressed as in
H. festiva and in other species, but seem to be implanted obliquely, so that viewed sideways the surface of the body appears to be minutely and closely granulated. The whole surface is free from erect hairs, except a few on the head and sides of the thorax. The transverse row of oblong dark spots on the elytra and the accompanying ashy-white specks are often ill-defined, but in other examples the white spots are large and conspicuous and the black spots scarcely apparent. The silvery dorsal line of the thorax and similarly coloured sides are often obsolete; on the other hand, there is sometimes a pale supplementary vitta on each side of the dorsal one.

Found in numbers by Herr Höge.

4. Hoplia disparilis. (Tab. VIII. fig. 5, ♀.)

Parva, oblongo-ovata, clypeo breviter trapezoidali, antice truncato et acuto reflexo; capite nigro, clypeo interdum rufo; thorace medio perparum dilatatato, angulis posticis subrectis, reflexis; tibis antecis valide tridentatis, posticis rectis; corpore subitus squamis rotundis adpressis argenteis densissime vestito, pygidio fulvo; antennis nigro clavatis; pedibus pallidis.

c. Caput et thorax longe et dense hirsuta, integumento nitido; elytra dense breviter incumbenti-hirsuta, fulvo-cinerea, macula oblonga posteriore prope suturam vittasque indistinctas fuscas.

2. Caput hirsutum; thorax squamis angustis densissimae vestitus, antice solum hirsutus; elytra squamulis parvis adpressis dense vestita; fulvo-ochracea, thoraces vittis duabus rufo-rufo elytrisque vittis indistinctis pallidis.

Long. 4½ millim.

Hab. Guatemala, Chiacam (Champion).

Like some of the much larger North-American Hoplias the male of this species is clothed with hairs, and the female with flat scales. The male has long fine hairs on the thorax, which is otherwise glabrous, except for a small patch of pale flattened hairs on each side; and closely-set, short, incumbent hairs or scaly hairs on the elytra. In the female the thorax is thickly clothed with narrow scales, the elytra with more smoothly-laid and flattened scales. The pure silvery-white, large, round, flattened scales of the under surface distinguish H. disparilis in both sexes.

5. Hoplia cretacea. (Tab. VIII. fig. 6.)

Oblongs, rufescens, squamis parvis adpressis rotundis dense vestita, thorace et elytris (his seriatim) griseo-sessilis, subitus cretaceo-albo leviter metallicis; clypeo obtuso rotundato, margine subtiliter reflexo; thorace medio subangulatim dilatatato, lateribus posticis laevibus, angulis posterioribus obtusis; pedibus cinereo-pilo-squis; tibis antecis tridentatis, posticis fere rectis; antennis 10-articulatis.

Thorax cinereus vittis quatuor fusco-rufis, fere indistinctis vel obliteratis; elytra cinerea, macula utrinque post medium magna transversa angulata fusca fasciisque lobata anteriore rufo-fusce, ruppe indistinctis interdum obliteratis, elytrisque toto griseis.

Long. 5½ millim.

Hab. Mexico, Jalapa (Salle, Höge), Oaxaca (Salle).

Distinguished from allied species by the obtusely rounded and slightly upturned margin of the clypeus; the closely-packed, small, round scales of the upper surface;
and the larger and flatter scales, equally round, and of a slightly silvery or pearly chalk-white hue, of the under surface. Judging from the distinctly longer antennal club of some of the specimens, there are both sexes in the series from Jalapa.

The antennae are as a rule wholly testaceous-red, but in some examples the club is black. A specimen from Jalapa is figured.

6. **Hoplia teapensis.**

Precedenti affinis, differt clypeo altius reflexo, thorace posticeius angustato, angulis subrectis. Oblonga, rufescens vel fuscus, squamis angustis dense vestita; subustus squamis latis adpressis margaritaceis; thorace et elytris (his seriatim) griseo-setosis.

Long. 5½–5½ millim.

*Var. vel* ♀. Supra et subustus breviter incumbeante pilosa.

*Hab.* MEXICO, Teapa in Tabasco (*Sallé, Höge*). Numerous examples.

7. **Hoplia inops.**

Oblongo-ovata, rufescenti-fusca, supra squamis angustis dense vestita, medie thorace (♀?) subglabra; thorace vitta lata mediana altera urinque abbreviata; elytris plaga magna oblonga antemediana (a sutura pullida divisa) vittisque lateralisibus et apicalibus indistinctis, obscurius fuscis; clypeo sicut in *H. teapensi* late rotundato, margin reflexo; thorace et elytris (his seriatim) griseo-setosis; corpore subustus squamis parvis angustissimis sordide griseis vestito, medio fere pilosio; tibiis anticus tridentatis, dente superiore minuto; tibiis posticis subrectis.

*Variat*: masculis vittisque indistinctis; vel elytris fere toto atro-fuscis.

Long. 42 millim.

*Hab.* MEXICO, Teapa in Tabasco (*Höge*); GUATEMALA, Chiacam (*Champion*).

Many examples from Chiacam, one only from Teapa.

8. **Hoplia argyritis.** (*Tab. VIII. fig. 7.)*

Oblonga, supra squamis parvis rotundis dense vestita, clypeo late rotundato margineque elevato solum glabro; colore ochraceo, thorace vittis dorsalisbus dubius (interdum conjunctis) elytris ochraceo-fuscis, basi fasciisque post medium undulata ochraceis; interdum fuscis; thorace et elytris (his seriatim) griseo-setosis; corpore subustus, pygidio, femoribus extus, tibiis intus et extus tarsisque splendidissime argentoe-squamosis; tibiis anticus extus tridentatis, dente superiore interdum subobsoleto; tibiis posticis subrectis; thorace angulis posticis rectis; antennis 10-articulatis.

Long. 5½–7 millim.

*Hab.* NICARAGUA, Chontales (*Belt*); COSTA RICA (*Van Patten*), Volcan de Irazu (*Rogers*).

Belongs to the same subgroup as *H. cretacea, H. teapensis*, and *H. inops*, distinguished by the rows of short and rigid pale bristles on the elytra, and a general similarity of colours and markings; most nearly allied to *H. cretacea*, but distinguished by the brilliant silvery under surface and legs. The sexes are not distinguishable by any secondary sexual characters. We figure an example from Chontales.
9. *Hoplia — ?*  
*Hab.* Mexico, Chiapas (Sallé).  
A single, abraded, specimen of a species allied to *H. argyritis*, but quite distinct.

10. *Hoplia — ?*  
*Hab.* Mexico, Cordova (Sallé).  
A single example of a species allied to *H. inops*, but apparently distinct.

11. *Hoplia subcostata.*  
*H. squamifera* (Burm.) similis.  
Longius oblonga, elytris utrinque obtuse bicostatis calloque apicali transverso valido; obscure fusca, squamis parvis angustissimis fulvo-fuscis supra vestita, maculis indistinctis cinereis et atro-fuscis, setis suberectis elytrorum vix perspicuis; clypeo late rotundato, marginem reflexo subtruncato; thorace angusto, medio angulatim dilatato; subtus pilis griseis subsparsim vestita; tibiis antecentis tridentatis, posteris subrectis; unguibus intermediis fere sequalibus; antennis 10-articulatis, rufis, clava nigra; scutello nigrum.  
Long. 6-8 millim.  
*Hab.* Guatemala, Cerro Zunil (Champion).  
In two examples ( ?) the thorax has a dorsal groove, in the third it is convex.

12. *Hoplia rotunda.*  
Parva, breviter ovata, prope subnitida; supra nigra, brevissime dense nigro-setoso-squamosa, subalbo-rufa; subtus squamis rotundis convexis late margritacaeis vestita; antennae nigrae; pedibus antecentis rufescentibus, posticis nigrae; femoribus tibiisque 4 posteriores margaritaceo-squamosi; clypeo brevi subsemicirculari; thorace quam elytra multo angustiore, medio late subangulatim rotundato, angulis posticis obtusis.  
Long. 5½ millim.  
*Hab.* Guatemala, near the city alt. 5000 feet (Salvin).

**Group II. Hind tibia swollen in the middle.**

13. *Hoplia squamifera.* (Tab. VIII. fig. 8.)  
*Hoplia squamifera*, Burm. Handb. der Ent. iv. 4, p. 198¹.  
*Hab.* Mexico¹, Cordova, Orizaba, Huatusco, Juquila (Sallé), Mexico city, Jalapa (Höge); Guatemala (Sallé); Panama, Volcan de Chiriqui (Champion).  
In the more typical examples (not the most numerous of the large series examined) the thorax has two (sometimes united) dorsal vittae and the elytra a broad postmedian fascia (margined with cinereous spots) dark brown; but the dark pigment sometimes expands into a large central patch common to both elytra, or diminishes to two bands of dusky spots; or the dark spots are absent and their companion cinereous spots only present. The majority of the specimens are, however, uniform greyish-ochreous. The elytra have a few very short stiff bristles arranged in rows; the under surface is covered with small oval greyish scales implanted at short distances from each other.
The single example from Chiriqui is unusually small (5.4 millim.), but offers no other difference. The species bears in some collections the MS. name of *H. nebulosa*, Deyr. A specimen from Jalapa is figured.

14. **Hoplia guatemalensis.**

*H. squamifera* affinis et similis; differt corpore subitus pilis parvis incumbentibus subsparsis vestito, clypeo semiovato (margine reflexo), elytris sat dense setiatim setosis setis gracilibus. Supra squamis parvis densissime vestita ochraceo-fusca, thorace vittis quatuor elytrisque fascis lata undulata paullo anto apicem obscurius fuscis; raro pallide fusca unicolor; antennis rufis.

*Long.* 7 millim.

*Hab.* Guatemala (Salle), Capetillo (Champion).

15. **Hoplia albisparsa.** (Tab. VIII. fig. 9.)

*H. squamifera* affinis; differt colore nigro-fusca, supra et subitus squamis cinereis conspersis; corpore terto squamoso; clypeo sat elongato et angustato, margine alte reflexo; elytris setis gracilibus fuscis obsitis.

*Long.* 6–7 millim.

*Hab.* Mexico, Totosinapan (Salle).

Three examples.

16. **Hoplia** —?

*Hab.* Costa Rica, Volcan de Irazu (Rogers).

A single example of what appears to be a species distinct from *H. squamifera*.

17. **Hoplia surata.** (Tab. VIII. fig. 10.)

Oblongo-ovata, supra squamis rotundis adpressis dense vestita, fulva, vittis quatuor elytrorum (1° prope suturam multo latiore) interdum indistinctis cinereis, subitus alba squamis nonnullis opalescentibus; clypeo semi-ovato, margine reflexo; femoribus tibiisque rufis politis, tibiis posticis apice tarsiisque omnibus nigris, posticis argenteo-squamosis; antennis 10-articulatis (articulo 7° minuto, 6° magno), nigris, articulis 2 basibus rufo-nitidis.

*Long.* 6.1 millim.

*Hab.* Costa Rica, Volcan de Irazu (Rogers).

Three examples. The shining red legs and much swollen hind tibiae are conspicuous characters of this species.

Subfam. **SERICINÆ.**

**ASTÆNA.**


As revised by Burmeister this genus embraces a considerable diversity of specific forms allied to the genus *Serica*, all inhabiting South America, chiefly the intertropical
LAMELLICORNIA.

They differ from the Sericae of the Old World and temperate North America by the somewhat narrower hind coxae and the diminished number of antennal joints, viz. 8 or 9.

1. Astæna macilenta.

_A. cognata_ (Burm.) affinis et similis; differt corpore multo angustiore; cylindrica sat elongata, mesescenti-rufa, pruinosa, sericeo-opaca; capitte nitido, sparsim punctulato, clypeo transversim quadrato, angulis rotundatis, margine alte elevato; thorace lateribus medio angulato, antice et postice mediocrer angustato, angulis posticis acutis; elytris punctulato-striatis, interstitiis convexis; pygidio laevi.

Antennae 8-articulatae; tibiae anticae 3-dentatae. Coxae posticae ventris segmentum primum haud tegentes.

Long. 10 millim. 

_Hab._ COSTA RICA (coll. Bates).

One example.

2. Astæna opalicanda.

_Serica holosericea_ (Scop.) subsimilis, sed magis elongata thoraceque medio angulatim dilatato; fusco-rufa, opaca pruinosa, elytris certo situi late opalescentibus; clypeo subquadraot, angulis rotundatis, fere laevi, margine late et alte elevato; fronte nigra, punctata; thorace et elytris passim discrete punctulatis, his punctato-striatis, interstitiis paullo convexis; pectore et ventre (♂) medio dense fulvo-pilosis.

Antennae 8-articulatae; tibiae antice 3-dentatae; coxae postice exuto latiores, medium segmentum secundum tegentes.

Long. 9 millim. 

_Hab._ NICARAGUA, Chontales (Janson, coll. Bates).

One example.

Subfam. MACRODACTYLINÆ.

FAULA.

_Faula_, Blanchard, Cat. Coll. Ent. i. p. 124 (1850).
_Ceraspis_ pars, Burmeister, Handb. der Ent. iv. 2, p. 100 (1855).

Distinguished from _Ceraspis_, according to both the authors above cited, by the unclen tarsal claws. Blanchard erroneously placed _F. cornuta_ (_Ceraspis rufipes_, Burm.), which has bifid claws, at the head of the genus, guided doubtless by the similarity of general form (the numerous spines of _Faula_ being greatly elongated) and the subglabrous surface. _F. cornuta_ and its allies being excluded, the genus is not well demarcated by facies from _Ceraspis_, and is by some authors considered only as one of the groups of that genus. So far as at present known, _Faula_ is restricted to the northern part of Tropical America.

1. _Faula pilatei_. (Tab. VIII. fig. 11.)


_Hab._ MEXICO, Teapa¹, Juquila (Sallé).
2. **Faula mexicana.**


*Hab.* MEXICO, Playa Vicente (*Houcarr 1, Sallé*); GUATEMALA, Panima in Vera Paz (*Champion*).

3. **Faula centralis.** (Tab. VIII. fig. 12.)


*Hab.* NICARAGUA (*Sallé*), Chontales (*Belt 1, Janson*); PANAMA, Bugaba (*Champion*), Chiriqui (*Trötsch*).

A Bugaba specimen is figured.

4. **Faula bruneipennis.** (Tab. VIII. fig. 13.)

Anguste oblonga, setulis griseis (apud calum elytrorum apicalem solum dense) obsita, scutello longius villoso; angustati-nigra, polita, antennis, pedibus elytrisque fulvo-testaceis; elytris brevis, obtusae vel sinuatim late truncato, antice angustato, brevior transverso; thorace sparse et grosse sed nullo modo profunde punctato, spatios magno levibus; elytris medioeriter ruguloso-punctulatis.

Long. 10 millim.

*Hab.* COSTA RICA (*Sallé, Van Patten*), Volcan de Irazu (*Rogers*).

In most examples of the numerous series examined there is a trace of the median linear dorsal callus of the thorax characteristic of the typical *Faula*; but the elytra have no trace of costa.

5. **Faula hispida.** (Tab. VIII. fig. 14.)

_F. bruneipennis_ quoad formam simillima, supra et subtus rufo-testacea aneо-tincta (elytris obscurioribus, callo apicale pallido), nita, setulis sparsis griseis, apud elytra setis longissimis erectis intermixtis, vestita; thorace fore equaliter sparsim punctato; elytris ruguloso-punctulatis.

Long. 10 millim.

*Hab.* PANAMA, Volcan de Chiriqui 4000 to 6000 feet (*Champion*).

Two examples only.

6. **Faula velutina.** (Tab. VIII. fig. 15.)

Castanea, subtus dense inebumente griseo-pubescenta, supra capite et thorace pilis sericeis erectulis fulvis densissime vestita sicut velutina; elytris nitiis, utrique 4-costatis, interstitiis punctatis, breviter et sparsim griseo-pilosis; elyco (*♀*) breviter trapezoidalii, marginibus reflexis.

Long. 13 millim.

_Hab.* MEXICO, Mochitlan in Guerrero (*Baron*), Acapulco (*Höge*).

Two examples only, both females. The example from Mochitlan is figured; this was kindly presented to us by Mr. Harford.
MACRODACTYLUS.

Macrodactylus, Latreille, Fam. nat. du Règne anim. p. 371 (1825); Burmeister, Handb. der Ent. iv. 2, p. 56 (1855); Lacordaire, Gen. Col. iii. p. 244 (1856).

A characteristic American genus, spread over the temperate and tropical regions of the continent, though rare or absent in the plains near the equator. Between thirty and forty species have already been described. In studying the very numerous species from our Fauna I have carefully attended to the secondary sexual characters of the male (discovered by Horn and Kirsch); but have found that, like all other characters in the genus, they are subject to variation, and must be used with caution. The development of the postcoxal spine, for example, though its normal form seems to be specific, is subject to abrupt change in the same species; and the number of ventral setæ on each side the middle line of the abdomen varies, though, making allowances for some variation, they form a very good specific character. The singular and abrupt modification in the pubescence of the thorax in the females of some of the species, described below in their places, and the many variations in colour and amount of the pile, both above and beneath, show how useless descriptions of species in this genus must be unless founded on a good series of examples.

1. Macrodactylus uniformis.


Hab. North America, Arizona.—Mexico, Northern Sonora (Morrison).

2. Macrodactylus variipes. (Tab. VIII. fig. 16.)

A M. uniformi differit antennarum clava nigra, tarsiis posticis nigris, articulis basi cinereo-pilosis, corpore densissime adpresso cinereo-piloso, elytris sutura et margine plerumque infuscatis.

Long. 10-12 millim.

Hab. Mexico, Saltillo, Monclova, and Parras in Coahuila (Dr. Palmer), Durango city (Höge), Guanajuato, Oaxaca (Sallé).

Scarcely more than a local variety of M. uniformis. Like that species and the following (M. mexicanus), the male, with very rare exceptions, has a long postcoxal spine, broad and emarginated, or even bifid, at the tip; and a numerous group (3-5) of long and very strong (almost spinous) tawny bristles on each side of the second to the fifth ventral segments, besides similar irregular spines at the apex of the fifth and on the sixth, and also on the middle of the metathorax. The pile of the upper surface is more compact than in any other known species, and light ashy (not tawny) in colour. As in M. uniformis, the integument beneath is black.

An example from Parras is figured.
3. *Macroductylus mexicanus.* (Tab. VIII. fig. 17.)

*Macroductylus mexicanus,* Burm. Handb. der Ent. iv. 2, p. 58 (pars). ¹


_Hab._ Mexico ¹ ², Duraznal, Etla, Puebla, Oaxaca (Sallé), Jalapa (Höge), Toluca (Sallé, Höge), Mexico city (Dr. Palmer, Flohr, Höge), Álvarez Mountains (Dr. Palmer).

Var. vel aberratio ². Thoraces pilis medio densisimis, erectis, infusatis.

_Hab._ Mexico, Guanajuato (Sallé), Mexico city (Höge).

Burmeister seems to have regarded this and the preceding _M. variipes_ as one species; at least his description applies to both. Castelnau's brief description of _M. angustatus_ applies well to _M. mexicanus_; and _M. cinereus_, Blanch., might be taken to be the same species, were it not for the locality, Peru.

There is nothing in general form or structure to distinguish _M. mexicanus_ from _M. variipes_ and _M. uniformis_. It differs, however, in never being of a uniform pale ashy colour above, in the integument (especially of the thorax) being steely-blue, and in the laid pubescence being finer and sparser. A general bluish-grey tint prevails over the surface, varied by a tawny area at the base and shoulders of the elytra. The striae of the latter are generally left bare of pubescence; but they are sometimes covered; the suture and the outer margin are nearly always blackish. The thorax has a distinct dorsal furrow. The anterior tarsi and the antennal club are black; the four posterior tarsi are rather darker than in _M. uniformis_—black, with the bases of the joints reddish, and ringed with cinereous hairs.


_M. mexicanus_ valde affinitis, sed differt elytris fulvescenti-fusis, pilis recumbentibus subtilioribus hovioribusque equaliter vestitis, striis nullo modo denudatis proternaque spina postcoxali apice late obtusa. Clypeo parum elongato et angustato, apice leviter sinuato; thoraces viridescente, pilis densis cinereis vestito, dorso canaliculato; tarsi antecis nigris; tarsi 4 postecis (cum apicibus tibiis) nigris, basi plus minusve rufis, cinereo-pilosis.

Long. 10–11 millim.

_Hab._ Mexico, Parada, Etla, Juquila, Oaxaca (Sallé), Mexico city (Flohr).

Var. _M. vicinus_ (Deyrolle, MS.). Elytrorum striis 2 et 3, 4 et 5, 6 et 7 plus minusve apparatim interstitiisque ³° et ⁵° convexis.

_Hab._ Mexico, Cuernavaca, Capulalpam, Parada, Juquila (Sallé).

I have adopted the name given to one of the above-described forms by Sturm, according to the Sallé collection. The elytra tend to become dusky towards the apex and margins. The metasternum and the ventral segments in the male are armed with spiny
bristles, not notably different in strength and number from those of *M. uniformis* and *M. mexicanus* ♂.

Some examples occur intermediate, in one or other feature, between this species, its variety, and *M. mexicanus*.

5. **Macrodactylus nigripes.**

*M. subspinoso* quoad formam simillimus; antennarum basi rufa excepta, totus niger, (in immaturo elytris basi fulvis), tarsi 4 posticis plus minuere cinereo-annulatis; pubes sat tenui recumbente cinereo vestitis; elytris sutura et marginibus denudatis nigris; clypeo parum elongato, versus apicem leviter rotundato-angustato.

♂. Prosternum spina postcoxali elongata, græcili, apice obtuse rotundato; metasterno medio longe setoso; ventre biseriatim fulvo-multipinoso.

*Var. vel aberratio♂*. Thorace medio pilis densissimis suberectis vestito.

Long. 9–12 millim.

*Hab. Mexico, Puebla, San Antonio de Arriba, Oaxaca (Sallé), Jalapa, Amecameca (Höge).*

6. **Macrodactylus silaonu**s. (Tab. VIII. fig. 18.)

*M. mexieanu* affinis, sed differt pubescentia ceralescenti-grisea, clypeo magis angustato, pedibus rufis, tarsi anticas totis, 4 posticis articulis apice nigris basi griseo-setosis; antennis rufis, clava nigra; integumento dilute elytris basi fulvis.

♂. Prosternum spina postcoxali apice late truncata; metasterno et ventre sicut in *M. mexieanu* fulvo-spinosis.

Long. 10–12 millim.

*Hab. Mexico, Silao, Duraznal (Sallé), San Juan del Rio (Höge).*

Seven examples, the single one from Duraznal being less typical than the others from Silao and San Juan del Rio.

A specimen from San Juan del Rio is figured.

7. **Macrodactylus lineatocollis.** (Tab. VIII. fig. 19.)

*M. infuscato similis et affinis, sed differt elytrorum basi prope suturam thoraceque antice erecte nigro-setosis; thorace vitis nudis duabus. Minor, pilis parum incrassatis, recumbentibus, sulphureo-cinereis vestitis; integumento thorace et scutelli nigro-eneo elytrorumque fulvo; clypeo grossissime punctato-scabrosi; tibiis apice tarsisque omnibus nigris, tarsi 4 posterioribus articulis cinereo-annulatis; antennis rufis, clava nigra.*

♀. Abdomen subbas medio a basi fere usque ad apicem dense fasciculatim flavo-setosum.

Long. 10 millim. ♀.

*Hab. Mexico, Orizaba (Sallé).*

Two examples, both females.

8. **Macrodactylus fulvescens.** (Tab.VIII. fig. 20.)


Procedentibus minor et græcior, fulvus, capite, thorace scutelloque chalybeis vel umaeus, pilis sat brevibus, tenuibus et oris, fulvo-cinereis, vestitis; antennis pedibusque rufis; tarsi articulis apice, vel fere toto, nigris nec cinereo-annulatis; clypeo sat elongato et angustato, scabroso-punctato.
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♂. Spina postcoxal paulo brevior, apice obtuso; ventre biserialim spino-setoso metasternoque setis non-nullis similibus.
Var. M. nigristernalis, Reiche, MS. Corpus densius vestitum, tibiae 4 posticis apice tarsisque totis nigris.
Long. 82-10 millim.

Hab. Mexico, Cordova, Puebla, Toxpm, Oaxaca (Salle), Cerro de Plumas (Höge).

Much resembles the smaller individuals of the North-American M. subspinosus, from which it differs in the narrower and longer clypeus.
An example from Toxpm is figured.

9. Macrodactylus ocreatus. (Tab. VIII. fig. 21.)
Nigro-annulatus, elytris fulvis; supra pilis inclementibus rufescens-fulvis densissime vestitis, elytris sutura et margine late subdenudatis, antennis totis, tibias et tarsis 4 posticis tarsisque anticus (basi excepta) nigris nec griseo-annulatis; clypeo quam in M. mexicano longiore, recte angustato, apice obtuso truncate.
♂. Prosterni spina postcoxali elongata, apice obtusa, nigra; ventre fere nudo, nigro-aneo, utrineque pauciter (1 vel 2) nigro-setoso; metasternoque abseque setis.
♂ var. Prosterni spina postcoxali brevi; ventre sicut pictorum recumbenti-piloso, utrineque pauciter (1 vel 2) fulvo-setoso; metasterno pauciter setoso.
Long. 10-12 millim.

Hab. Mexico, Cerro de Plumas (Höge).

Distinguished from M. uniformis and its allies at first sight by the darker reddish-ochreous colour, and the black tibiae and tarsi, the latter unicolorous. The clypeus is narrower and rather longer than in those species, and the converging sides are straight; the fore margin is truncated, with blunted angles. The pile on the thorax is longer and adpressed, each hair in some examples being many-branched; that on the elytra consists of very short, slanting, separate and simple hair-scales, but sometimes of longer and much denser hairs, the side margins having a broad band nearly denuded, and of the reddish-tawny hue of the elytral integument, and the base a few longer erect bristles.

The variation in the length of the postcoxal spine, and in the colour of the ventral bristles in the male, is noteworthy.

10. Macrodactylus rhomboderus. (Tab. VIII. fig. 22, ♂.)
M. infuscata primo intuito simillis, sed valde differt clypeo sicut in M. ocreato longiore, recte angustato, apice angusto, truncato, antennis teto rufis, etc. Schistaceo-metallicos, elytris fulvis, pube recumbente cinereae usque ad margines dense vestitis; thorace (♂ ♀) relative lato, rhomboideae, medio minus angulatim dilatato et post angulum minus sinunato et angustato; pedibus rufis, tarsis anticus nigris basi rufis, tibias 4 posticis apice tarsisque nigris his articulis basi rufis.
♂. Prosterni spina postcoxali elongata, apice obtuso; ventre biserialiam pauciter (utrinque 2 vel 3) fulvo-setoso; metasthoroce setis minoribus.
Long. 10 millim.

Hab. Mexico, Mazatlan (Höge).

Five examples.
11. *Macrodactylus zunilensis.* (Tab. VIII. fig. 23.)

Gracilis, fulvus, pilis recumbentibus fulvo-cinereis dense, elytrum lateribus late spacing, vestitus; antennis rufa, clava nigra; pedibus rufis, tibiis apice tarsisque rufo-vel nigro-piceis; clypeo quam in M. *submarginatus* angustiore, trapezoideo, apice truncato, angulis rotundatis; thorace angusto, medio minus dilatato et lateribus post angulum bæd sinuatis; corpore subitus viridi-metallico, longe adpresso piloso.

♂. Prosterni spina postcoxali elongata, apice obtusa truncato, fulva; ventre biseriátil ancier (utrinque 2) fulvo-aceto, versus apicem longitudinalel canaliculato.

Long. 9–10 millim.

*Hab. Guatemala, Cerro Zunil 4000 to 5000 feet (Champion).*

About 200 examples, presenting no noteworthy variation. The integument of the thorax, as well as of the elytra, is testaceous-red and not metallic slaty-green, as in the allied *M. fulvescens*.

In profusion on flowers of arborescent Compositeæ in the dry season (Champion).


Subgracilis, schistaceo-viridis, elytris rufo-fulvis pilis brevibus recumbentibus flavo-cinereis vestitis; elytris utrinque fere dimidio laterali suturaque denudatis, sericeo-viridis; antennis pelibusque rufis, tarsis 4 postcis (et raro tibiis apice) rufo-vel nigro-piceis; clypeo alveolato-punctato, anguste trapezoideo, recte angustato, apice truncato, angulis rotundatis; thorace sicut in *M. mexicano* et affinis.

♂. Prosterni spina postcoxali elongata, apice obtuso; ventre utrinque seriátim uni- (hic illic bi-) spinoso; metatérmino breviter aceto.

Long. 10–11 millim.

*Hab. Mexico, Juquila (Sallé).*

The pile is fine and scanty, leaving the colour of the integument, especially of that of the lateral half of the elytra, and the metallic underside plainly visible.

I have adopted the MS. name given to the species in the Sallé collection.

13. *Macrodactylus sericeicollis.* (Tab. VIII. fig. 24.)

*M. submarginato* proxime affinis. Obscure viridi-annes (medio thoracis aurato), pilis recumbentibus dense vestitus, apud frontem et thorax disum late fulvis, thorace lateribus corporque subitus flavo-cinereis, elytris denudatis, rufo-fulvis, sericeis (interdum metallescentibus), vitta lata suturali flavo-cinerea solum vestitis; antennis rufis, clava apice nigra; pedibus rufis, femoribus (tibiisque anticus bati) rufis; clypeo sicut in *M. submarginato*, sed versus apicem paullo rotundatim angustato apiceque subsinuato, minus distincte alveolato.

♂. Prosterni spina postcoxali rufa, apice obtuso; ventre utrinque punctato (1 vel 2) fulvo-spinoso.

Long. 10–11 millim.

*Hab. Guatemala (Sallé), San Gerónimo, Purula, Coban, and Cubilguitz in Vera Paz (Champion).*

A very large number of examples. The metallic colour of parts of the integument is generally darker than in *M. submarginatus*, but is sometimes brighter golden-green.

A specimen from Purula is figured. A common insect in various parts of Vera Paz in the dry season (Champion).
14. **Macrodactylus lineatus.** (Tab. VIII. fig. 25.)


_Hab._ Mexico, Vera Cruz, Cordova, Toxpan (Sallé), Jalapa, Tapachula in Chiapas (Höge).

In general form, narrow trapezoidal elyceus, and integumental colours, _M. lineatus_ does not differ materially from _M. submarginatus_ and _M. sericeicollis_. The denuded parts of the elytra are, however, in some examples not unicolorous tawny-red, but tend to become black towards the sides and apex. In the paucity of the ventral setæ of the male it also agrees with these species; the number of setæ on each side is two, on some segments only one. It differs in the elytra having a broad lateral border, the suture, and three slightly raised costæ on each (the 3rd, 5th, and 7th interstices) denuded; the remaining, and broader, interstices, the thorax, and the hinder part of the head are clothed with moderately short adpressed yellowish-ashy hairs. The antennæ are wholly red; the legs red, with all the tarsi and the apex of the posterior tibiae black. An example from Cordova is figured.

15. **Macrodactylus impressus.**

*Macrodactylus lineatus* sub similis; pallidior, antennæ (clava nigra) pedibusque rufo-testaceis, tarsis articulis basi griseo-setosis, elytris pallide-castaneis, interstiiis 3°, 5°, et 7° pilis brevibus incumbentibus flavis vestitis, 3° et 5° ante apicem coarctatis, elateris denudatis vel sparsissime pilosis; capite, thorace corporeque subjacentis tawny-red, breviter flavo-pilosis; elytris trapezoideo, recte angustato, apice truncato, angulis rotundatis; thorace dorso vage multi-impresso.

_σ_ Prosternal spina postcoxali cylindrica, apice marginata; ventre biserialim fulvo-setosa, setis utrinque 3 vel 4; metasterno multi-setoso.

_Long._ 10–11 millim.

_Hab._ Mexico, Ciudad and Refugio in Durango (Höge), San Andres (Sallé).

Bears the MS. names of _M. plumbeicollis_, Chevr., and _M. impressicollis_, Reiche, in the Sallé collection.

16. **Macrodactylus costulatus.**

*Macrodactylus lineatus* affinis; gracilior, schistaceus, viridi-schistaceus vel chalybeus, parce adpressæ cinereo-pilosæ; elytris fulvo-rufis (interdum postice nigricantibus), utrinque bicostulatis, interstiiis 2° et 4° latioribus cinereo-pilosis, 1° (suturali), 3°, 5° et totis exterioribus denudatis; pedibus rufis, tarsis 4 posticis apice tawny-red, his articulis basi interdum rufis (rarissime tibiis posticis toto nigris); antennae rufis, clava interdum apice infuscata; elytræ anguste trapezoideo, apice truncato, angulis rotundatis; thorace passim punctulato, _σ_ angusto medio angulato-dilatato et post angulum simmato-angustato, _σ_ paula laterae et obtusiore; sutello viridi vix pabescoente.

_σ_ Prosternal spina postcoxali valida, apice obtuso vel truncato; ventre utrinque biserialim fulvo-setoso, setis utrinque 1–3.

_Long._ 9–11 millim.

_Var._ _M. rufipennis_. Elytra glabra, paucissime pilosa, testaceo-rufa, costis vix elevatis.

_Hab._ British Honduras, R. Sarstoon (Blancaneaux); Guatemala, near the city.
5000 feet (Salvin), Duena’s, Coban (Champion); NICARAGUA, Chontales (Belt); COSTA RICA (Sallé, Van Patten), Volcan de Irazu 6000 to 7000 feet (Rogers).

17. **Macroductylus suavis.** (Tab. IX. fig. 1.)

*M. costulato affinis*, adhuc gracilior (*♂* angustus, elongatus); thorax subovato, medio rotundato-dilatato parum angulato; scutellum cinereo-pubescente. Viridi-aneus, elytris dimidio basali fulvis raro toto viridi-scente, thorace lateribus et vitta interrupta dorsali cinereo-pilosae; elytris utrinque bicoestulatis, sutura, costa exterior et lateribus (late) latus, interdum costa prima autem nuda, raro costis totis pube fulvo-cinerea teetis; antennis (clava interdum infuscata) pedibusque rufis, tibias 4 posticis apice tarsisque nigris; pygidio aeneo (interdum rufus vel flavus), polito, parce punctato-pilosae; elyceo angusto, trapezoidico, lateribus versus apicem rotundatis, apice obtusae sinuatus truncato.

*♂*. Prosterni spina postcoxali valida, setosa, apice obtuso; ventre biseriatim fulvo-setoso, setis utrinque 1 vel 2. Long. 9–10 millim.

*Hab.* COSTA RICA (Van Patten), Volcan de Irazu 6000 to 7000 feet, Cache (Rogers); PANAMA, Bugaba, near the city (Champion).

*Var.* Paullo major (11 millim.), tibias 4 posticis nigris.

*Hab.* NICARAGUA, Chontales (Belt).

Examples with yellow or obscure reddish pygidium are from Bugaba only, mingled with others of the normal colour.

A specimen from Bugaba is figured.

18. **Macroductylus sericinus.** (Tab. IX. fig. 2.)

*M. suavi* proxime affinis; differt corpore robustiore; elytris glabris, sericis, castaneo-rufis, dimidio posteriori nigris, interstitialibus equalibus, paullo convexis; capite thoraceque fusco-aneis vel cupreis, hoc alutaceo et punctulato, pilis nonnullis cinereis apud marginem et lineam dorsalem; antennis pedibusque rufis, tarsis omnibus tibias 4 posticis nigris; pygidio nigro-aneo, medio cinereo-pilosae.

*♂*. Prosterni spina postcoxali apice angustiori; ventre biseriatim punctato (utrinque 1 vel 2) setoso. Long. 10 millim.

*Hab.* NICARAGUA (Sallé), Chontales (Belt, Janson).

The thorax in this species has a similar subovate outline to that of *M. suavis*.

19. **Macroductylus sylphus.** (Tab. IX. fig. 3.)

*M. sericino* affinis; magis elongatus, angustus; elytris glabris, fulvis, late sericino-nitentibus, plerumque versus basina et suturam setis validis nigris obsitis; thorace medio rotundato-angulato, (cum capite) viridi, lateribus vittaque dorsali (et scutello) cinereo-pilosae; antennis pedibusque rufis, tarsis tibiasque posticis apice nigris; corpore subulato viridi-aneo, cinereo-pilosae; pygidio testaceo-rufo anerescente.

*♂*. Prosterni spina postcoxali nulla; venter setis parvis, parvis et subullibus; pedibus posticis maxime elongatis.


*Hab.* NICARAGUA, Chontales (Belt, Janson); PANAMA, Bugaba (Champion).

The form or variety with dark brassy pygidium appears confined to Chontales, that with yellow pygidium to Bugaba; one of the latter is figured.
20. **Macrodactylus rufescens.** (Tab. IX. fig. 4.)

Angustus, viridi-chestaceous, subtilus pygidioque nigro-aneus, elytris fulvo-rufis, glabris vel vix perspicuus brevissime pilosis, antennis pedibusque rufis, illis clava nigra, tarsiis nigris, articulis basi cinereo-setosis interdum dimido basali rufis; clypeo sat brevi, angustato, apice sinuato-truncate; thorace angustato, ante medium angulatum dilatato, lateribus post angulum valde sinuatum; elytris interstititis convexis, alternis interdum altiloribus.


♀. Thorax densissime et brevissime erecto-cinereo-pilosus; metasternum et venter medio dense suberecte longe pilosis.

*Hab.* **MEXICO**, Ciudad in Durango 8100 feet (Forrer), Yolotepec (Sallé), Las Vigas (Höge); **GUATEMALA** (Sallé), Quiche Mountains (Champion).

*Var.* ♀. Corpus supra et subitus pedesque dense erecto piloso setis longioribus intermixture.

*Hab.* **MEXICO**, Yolotepec (Sallé).


*Hab.* **GUATEMALA**, Quiche Mountains (Champion).

Similar in colour to *M. costulatus* var. *rupipes*; but distinguished from it by the much more numerous and longer spiny bristles on each side of the ventral segments, and by the cinereous rings of the hind tarsi. In the numerous male ventral spines, the ashy-ringed hinder tarsi, and the rather short trapezoidal clypeus, the species betrays an affinity to *M. variipes* and its allies.

The small examples are from North Mexico (Durango). In Guatemalan male examples the elytra are nearlyfuscous at the apex. We figure a specimen from Las Vigas.

21. **Macrodactylus longicollis.**


♂. Prosterni spina postcoxali brevi, valde curvata, apice obtuso; ventre setis utrinque 4 nigris, rigidis, elongatis; metasterno longo setoso.

♀. Venter recumbente cinereo-pilosus, ano longe setoso.

Long. 13 millim.

*Hab.* **MEXICO**, Acapulco 1, Sacatepec, Oaxaca (Sallé).

In this insect the sides of the thorax are clothed with recumbent ashy pile; the dark blue elytra in the males being glabrous or nearly so, but they are sometimes clothed like the sides of the thorax. The ashy-ringed hind tarsi and the numerous spiny ventral sete point to an affinity with *M. variipes* and its allies.

According to the Sallé collection, this species is the *M. nigrocyaneus*, Deyr. M.S., of Gemm. & Har. Cat. iv. p. 1148.


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22. *Macroductylus championi.* (Tab. IX. fig. 5.)

*M. longicolli* affinis; differt colore obscurae viridi-aeneo, glabro, pedibus rufis, tarsis articulis apice nigris basi cinereo-pilosis; elypsi breviter trapezoideo; thorace angusto, medio utrinque valde angulato; antennis rufis, clava nigra; elytris alutaceis et rugosis.

♂. Femora antice subit dente magno, acuto. Caput et thorax dense confluentur punctulata. Spina postcoxalis brevissimae; ventris setae elongatae, fulva, numero, utrinque 5 vel 6; metasternum longe setosum.

♀. Thorax grossissime punctatus et erecte fulvo-pilosus (medio interdum lavi); venter et metasternum medium erecte pilosi.

Long. 10–12 millim.

*Hab.* **Guatemala,** Totonicapam 8500 to 10,000 feet, Calderas 7000 feet (**Champion**).

23. *Macroductylus dimidiatus.*


♂. Tibia antice intus angulata dilatata, femora antice subit dente lato et obtuso. Prosterni spina postcoxali brevi, acuta, interdum nulla; ventris setis obscurae piceae, tenuibus, utrinque 1 vel 2, spicis cum pygidio flavo.

Long. 11–13 millim.

*Hab.* **Mexico** 1, **Toxpam,** Cordova (**Salle**), Misantla, Mexico city, Jalapa (**Höge**); **British Honduras,** R. Sarstoon (**Blancaneaux**); **Guatemala,** Senahu, Sinanja (**Champion**).

A large number of examples including Guérin's type specimen, which is a female.

24. *Macroductylus ovaticollis.* (Tab. IX. fig. 6.)

Gracilis, thorace ovali, lateribus nullo modo angulatis; fulvus (elytris sutura et margine angustae denudatam, nigris, costulis utrinque 2 fulvo-densulatam) pubescence longa sed subtili fulvo-cinereae vestitum; antennis rufis, clava (♂) elongata, spicis infuscata; pedibus rufis, tibias apice tarsisque nigris; elypsi anguste trapezoideo, antice valde angustato, spicis truncato; femoribus antecis subitibus proprie basin spina unifor mil tenue armatia; spina postcoxali medioceri, obtusa, fulva; venter setis fulvis paucissimae utrinque 1 vel 2. ♀.

Long. 10 millim.

*Hab.* **Panama** (**Salle**). One example only.

The well-marked structural characters of this species will perhaps render it recognizable by the above description, although made from a single example, which, as a rule, is to be avoided in so variable a genus as the present.

*M. ovaticollis* approaches closely in colour and pubescence *M. felix,* Kirsch, of Colombia; but nothing is said in the author's description regarding the peculiar rounded form of the thorax.

25. *Macroductylus thoracicus.* (Tab. IX. fig. 7.)


*Hab.* **Panama,** Volcan de Chiriqui (**Champion**).—**South America,** Ecuador.

A single male example from Chiriqui, agreeing with Kirsch’s description and with an
example captured by Buckley in Ecuador, except that the femora and tibiae and tarsal joints are tipped with black.

26. **Macrodactylus** — ?

*Hab.* **Panama**, Volcan de Chiriqui (*Champion*).

Also a single example (♂), evidently immature.

27. **Macrodactylus virens**. (Tab. IX. fig. 8.)

*Angustus*, *saturate viridis vel cyanus*, *fere glaber*, *serico-subopacus*; *antennis piceo-rufis*, *clava et pedibus nigris*; *clypeo valde elongato*, *antice angustato*, *apice recurvo-rotundato*; *corpore toto pilis secundis et integerrimo*; *tibie longit impressive*, *femoribus et pedibus nigris*.  

*♀*. *Prosterni spina postcoxali longit impressione*, *pedibus nigro-rubris*, *clypeo similiter angustato et apice reflexo*; *sed differt colore plumbico-viridi*, *toto dense cinereo adpresso-pilosus*.

*Long.* 9 millim.

*Hab.* **Mexico** (*Sallé*, ex coll. **Sturm**), Zapotlan in Colima (*Höge*).

I have adopted from the *Sallé* collection **Sturm's** name for this species.

28. **Macrodactylus murinus**. (Tab. IX. fig. 9.)

*M. virens* proxime affinis; *clypeo similiter angustato et apice reflexo*; *sed differt colore plumbeo-viridi*, *toto dense cinereo adpresso-pilosus*.

*Long.* 9 millim.

*Forma typica:* **M. murinus** (*Dugès, MS*).  

*Pedes nigri*.

*Var. M. subvirens* (*Dugès, MS*).  

*Pedes nigri, femoribus tibiisque basi rufis*.

*Hab.* **Mexico**, Tupataro, Silao (*Sallé*), Tonila in Colima (*Höge*).

Intermediate states in the colour of the legs are shown in the *Sallé* collection, and both forms occur at Tonila.

**ISONYCHUS.**


An exclusively American genus, like *Macrodactylus*, but apparently restricted to the tropical zone of the continent. Upwards of sixty species have been described, but as little attention has been paid to the extraordinary variation in the colours and markings which the species present, it is probable that many of them are not valid.

Burmeister says expressly that the legs offer no sexual differences, and other authors have failed to notice any. The differences, however, so far as regards the tibial spurs are similar to those of *Macrodactylus*, though not quite the same. The anterior tibiae have a single spur in both sexes, and the females two on the four hinder legs, but in the males the hindmost tibiae are destitute of spurs in most of the species, and armed with a single, long spur in others, and the middle tibiae have two. Sexual differences exist also on the fifth and sixth ventral segments.
1. *Isonychus ocellatus.* (Tab. IX. figg. 10, 11, 12, 13.)


♂. Ventris segmentum 5° medio late deplanatum, subexonavat, subtiliter corrugatum, nudum; segmenti 6° apice cum pygidii spicis elevato interdum verticali.

♀. Ventris segmentum 6° (et 5° apex) simplex, nudum, rufum.

Long. 10–13 millim.

_Hab._ **México**, Puebla, Capulalpam, Toxpan, Juquila, Oaxaca (Sallé), Jalapa, Coatepec (Höge); _Guatemala_, Volcan de Fuego 6500 feet (Champion).

The head is generally dark, tending to brassy-black, and punctured; the rest of the integument castaneous or brown. Clothed with ashy or dingy-ashy pile, and presenting a very variable dark brown design on the elytra. Burmeister describes only one state, which may be fairly taken as typical, the elytra having twelve large brown rounded spots, the two central ones of which are ring-shaped, or have a pale centre. The chief variations from this typical pattern are the following:—

1. The fuscous spots all ocellated; pile longer and coarser.—_Puebla_, Jalapa. (Tab. IX. fig. 11.)

2. The same reduced to thread-like rings.—_Coatepec._

3. Spots coalescing to form two broad oblique belts.—_Jalapa_, Toxpan. (Tab. IX. fig. 12.)

4. Pile finer, leaving the striae (partly geminated) visible; the brown spots paler and more rufous in colour, generally coalescing in two belts.—_Capulalpam_, _Juquila._

5. Var. _I. piperitus._ Spots much reduced in number and size, or entirely absent; elytra sprinkled throughout with minute blackish spots.—_Juquila_, _Oaxaca_, _Toxpan_, _Jalapa_, _Coatepec._ (Tab. IX. fig. 13.)

6. Clothed with longer, light ashy pile; elytra with faint traces of two oblique dusky belts.—_Guatemala._

Var. 5 is more numerously represented and more definite than the others, thus meriting a distinctive name.

2. *Isonychus pictus.* (Tab. IX. fig. 14, ♀.)


_Hab._ **Nicaragua**, Chontales (Belt 1); _Costa Rica_ (Van Patten).

A Nicaraguan specimen is figured.

3. *Isonychus hirsutus.*

Oblongo-ovatus, nigro-aneus; antennis (clava nigra excepta), pygidio anque obscurae rufae, undique pilis elongatis erectis fulvis pubesque recumbente flavescente, vestitis; elytris utrinque fuscis obquis lata ante medium, macula transversa communi post medium plagisque vagis apicalibus, nigris recumbenti-pilosis.

Long. 13–14 millim.

♂. Ventris segmentum 5° medio late depresso-planatum et crebre rugoso-punctatum, 6° (basi profunde transversis sulato) pygidioque apice elevato; tubae posticae ecalcaratae; intermediae bicalcaratae.

♀. Ventris segmenta 5° apice et 6° lavisima, rufescentia, 5° valde elongatum.

_Hab._ **Panama**, Volcan de Chiriqui 4000 to 6000 feet (Champion).

Allied to _I. pictus_ and _I. crinitus_, and apparently still more closely to _I. principalis_,...
ISONYCHUS.

Burm., with which it agrees in the body being clothed with long hairs; but it differs from these species in the colours of the adpressed pile and in the markings of the elytra. The false subapical suture of the fifth ventral segment in the female is sharply marked, and the more deceptively resembles a true suture, as the greenish-ochreous coloured pile abruptly ceases there, leaving the apex and the large sixth segment glabrous.

Three examples—two males, one female.

4. **Isonychus vittatus.**


*Hab.* **MEXICO**.

This species is not contained in our collections.

5. **Isonychus tomentosus.**


*Hab.* **MEXICO**.

I have not seen specimens of any species answering the above-cited description.

6. **Isonychus chiriquinus.**

Oblongus, minus convexus, obscurae fuscæ, subÆnesæs, pilis recumbentibus (nec adpressis) pallidiæ fuscâ undique vestitus, solum elytrorum interstitio 4° interdum cinereo-maculato; clypeo antice valde angustato, antice subtruncato, angulis obtusis, supra alveolato-punctato; elytris interstitialibus alternis latioribus convexioribusque; antennis toto fulvo-rufis; pygidio sat dense umbilicato-punctulato.

♂. Ventris segmentum 5° medio angustius triangulariter planatum et declive nec denudatum. Long. 8-10 millim.

*Hab.* **PANAMA**, Volcan de Chiriqui 2500 to 4000 feet *(Champion)*.—**COLOMBIA**, Sierra Nevada de Santa Marta *(ex coll. Simons)*.

Five examples from Chiriqui, all males. The single example from Santa Marta is larger (10 millim.), and has more even elytral interstices.

7. **Isonychus aurantiacus.**


*Hab.* **MEXICO**.

Not contained in our collections.

8. **Isonychus limbatus.**


*Hab.* **MEXICO**.

Also unknown to us. Burmeister described both the foregoing and his other Mexican species from Dupont’s collection.
9. *Isonychus paradoxus.* (Tab. IX. fig. 15, ♀.)

Oblongus, minus convexus, annesceni-fuscus, pilis brevibus adpressis fulvis passim interruptis vestitis, setulis brevibus subrectis intermixedis; antennis, femoribus tarsisque rufescentibus; clypeo sicut in *L. ocellato,* angulis rotundatis; thorace subtuliter crebro punctulato; elytris intersitis alternis convexis, intersitis planis 2°-4° et 8° maculis nonnullis fuscis nigris, velutinis, callo apicis validis; corpore subitus fere glabro, ventris segmentis basi nigricantibus, cinereo-maculatis; pygidio brevi, piloso, vitta mediana glaberrima.

Tibiae 4 posteriores, sicut in *Hoplis* plurimus, serratis sed graciliisibus.

♂. Ventris segmentum 5° medio transversim depressum, umbilicato-punctulatum; tibie postice apice unicalcareae.

Long. 11 millim.

*Hab.* PANAMA, Volcan de Chiriqui 4000 to 6000 feet (Champion).

Two males only. The tarsal claws in this anomalous species are stronger and more curved, and the parts of the mouth more robust and prominent than in the other known members of the genus.

BARYBAS.

*Barybas,* Blanchard, Cat. Coll. Ent. i. p. 94 (1850); Lacordaire, Gen. Col. iii. p. 260 (1856).


Burmeister (l. c. p. 536) shows that the first of Blanchard's two species, *B. variegatus,* Germ., is wrongly named, being an *Isonychus,* and thinks that his second, *B. nanus,* does not belong to the genus, but is synonymous with his *Hercitis pygmaea.* There is room to doubt the latter identification; and Blanchard's phrase, "ungue—posticorum—externo majore simplici interno fisso," may be regarded as sufficient to fix the genus, in spite of the incompleteness of the whole diagnosis. Lacordaire's definition fills up the lacunes in Blanchard's, but is some months posterior in date to the still better description of Burmeister.

The genus is peculiar to Tropical America, and numerous in species, though barely half a dozen are yet described. It is interesting as showing a relationship to the Hoplineæ.

1. *Barybas auritus.* (Tab. IX. fig. 16.)

Oblongus, fuscus sive castaneus, squamulis anguste lanceolatis fulvo-cinereis fore in vittis subcongestis vestitis; clypeo brevi, antico latissimo truncato rectangulato, utrinque pone angulum sinuum genisque lobato-productis; thorace equiliter convexo, lateribus simpliciter rotundatis, angulis posticis rotundatis, umbilicato-punctato; elytris umbone juxta-scutellari callisque aciculis medio-caribus, his squamis fasciculatis subtuliter discrete striatulo-punctulatis; pygidio eleganter umbilicato-punctulato; antennis pedibusque rufescantibus.

Tibis antice ♀ bi- et ♀ tridentatae.

Long. 6-7½ millim.

♂. Tarsi anteriores articulo basali apice intus spina recurva armato; pygidio equiliter convexo.

♀. Tarsi anteriores incrassae; pygidio immoquales, utrinque tuberoso.

*Hab.* PANAMA, David, Caldera in Chiriqui (Champion).
Distinguished from other described species by the peculiar shape of the clypeus in both sexes*.

2. Barybas idiota.

Oblongus, crassus, fusces, aspero subrugose (thorace grossius, elytris subtilius) punctatus, squamis angustae lanceolatās cinereis vel fulvo-ochraceis vestitus, squamis adpressis interdum (precipue apud pygidium) elevatis; clypeo brevissimo, cum genia rotundato; thorace valde et aequaliter convexo, lateribus late rotundatis (marginis serrato), angulis posticis subrectis; elytris umbone callisque mediocribus; pygidio annulato-punctato.

♂. Tibiæ antice bidentatae; tarsi articulo basali apice intus spina brevi; pygidio lateribus posticis sulcatis.

♀. Tibiæ antice subtridentatae (dente superiore late parvo); tarsi inermes; pygidio latiore brevioreque, simplice.

Long. 8–9 millim.

_Hab._ NICARAGUA, Chontales (Bell, Janson).—SOUTH AMERICA, Upper AMAZONS.

The clypeus, together with the genæ, is broadly rounded; it is reflexed and separated from the forehead by a distinct suture, forming a border to the head of equal width throughout.

Two examples only, both males, from Chontales. I have supplemented the description from females taken on the Amazons. In some examples, especially in those from the Upper Amazons, the scales are elevated, nearly vertically so on the thorax and pygidium, and congested in small spots on the elytra; but in others from the same localities they lie perfectly flat.


Oblongus, convexus, fusces, aspero punctulatus, squamis lanceolatās rectam in bispes fulvius vestitus, elytris spatiais glabris; clypeo rotundato, genis acutis; thorace aequaliter convexo, lateribus rotundatis (marginis integro), angulis posticis obtusis sed distinctis; antennæ rufis; pedibus rufescentibus; tibis anticis ♂ ♂ tridentatis.

♂. Tarsi antici articulo basali apice intus breviter spinoso.

♀. Tarsi antici articulo basali apice intus simplice.

Long. 6 millim.

_Hab._ PANAMA, Bugaba (Champion). Two examples only.

The clypeus is reflexed, and forms an anterior border to the head, which is much wider in the middle than at the sides. The genæ project in an acute angle close to the eyes.

* The following species has the same feature, but somewhat less developed:—

_Barybas sublobatus._

Oblongus, castaneo-fuscus, squamulis (sive pilis) brevibus cincereis interruptae vestitus; clypeo brevi, antice late truncato obtusangularo, utrinque pone angulum leviter sinuato genisque late sublobatis; thorace aequaliter convexo, lateribus rotundatis, angulis posticis fere rectis, umbilicate-punctato; elytris umbone mediocris, callis apicallibus squamis fasciulatis, crebris subtiliter punctato-strigulosis; pygidio crasserrimo umbilicate-punctulato; antennis pedibusque rufescentibus; tibis anticiis ♂ ♂ tridentatis.

♂. Tarsi antiores articulo basali apice intus recte spinoso; pygidio aequaliter convexo.

♀. Tarsi antiores inermes; pygidio planato, proprie apice medico tuberculisse conicos approximatis duobus.

Long. 6–9 millim.

_Hab._ AMAZONS, Ega (coll. Bates).
LAMELLICORNIA.

**PSEUDOSERICA.**

*Pseudoserica*, Guérin, Voy. de la Coquille, Ent. p. 86 (1830).

*Plectris*, Serv. (partim), Blanchard, Cat. Coll. Ent. i. p. 125 (1850); Lacordaire, Gen. Col. iii. p. 260 (1856).

*Philochlania* (partim), Burmeister, Handb. der Ent. iv. 2, p. 28 (1855) (nee *Philochlania*, Blanch. 1850).

Among the numerous cases of involved and almost inextricable synonymy created by the independent publication of Burmeister's monograph of the Melolonthidae, that resulting from the opposite view taken by him and Blanchard of the genus *Philochlania* is perhaps the worst. Burmeister had been many years working at his monograph of this family, and Blanchard’s descriptive catalogue having in the meantime appeared, he found the task of reconciling his work with that of his predecessor hopeless, and brought it out with a few synonymical notes only in the Appendix. Lacordaire's 'Lamellicornes' volume appeared too soon after Burmeister's publication for the revision which that patient and keen-sighted entomologist would otherwise, no doubt, have undertaken. *Philochlania*, up to Blanchard's time, was a catalogue-name only, and although it then included more than one distinct generic type urgently in need of defining, this author unfortunately chose, as its first or typical section, species which make it virtually a synonym of the much older genus *Plectris*. A generic name which it would have been useful to retain thus falls through, unless the extreme inequality and separate movability of the tarsal claws of the first section should hereafter render it desirable to retain *Philochlania* as a genus distinct from *Plectris*. Burmeister's genus *Philochlania*, on the other hand, consists chiefly of species wrongly included in *Plectris* by Blanchard. The majority of these seem to me to form a natural genus allied to *Plectris* in facies and in the relative length of the basal joint of the hind tarsi; but differing in the claws being all equal and more or less divaricated, and in the elytra having a distinct membranous border, the border being at most a fine hair-fringe in *Plectris*. They all have a sinuated clypeus, and the labrum so deeply sinuated as to be bilobed—characters which all Burmeister's *Philochlania* do not possess, for his *P. chalcea* (= *Alvarinus submetallicus*, Blanch.), and possibly most of his Section I., have a rounded clypeus and small arcuate-emarginate labrum. The posterior tibiae have two apical spurs in both sexes. This group is con-generic with the *Pseudoserica marmorea* of Guérin, and it will be in accordance with the rules of priority, therefore, to resuscitate Guérin's name in re-establishing the genus on a broader basis.

I have seen about a score species belonging to *Pseudoserica*, very few of which answer the description of the twenty or thirty described by Blanchard and Burmeister. They are peculiar to Tropical America.
1. Pseudoserica micans. (Tab. IX, fig. 17.)


Hab. PANAMA, Volcan de Chiriqui 2500 to 4000 feet, David (Champion).—SOUTH AMERICA, Ecuador.

Five examples, agreeing with Kirsch's excellent description; but two of them only are of the colour he particularizes, viz.:
4. Pseudoserica integrata. (Tab. IX. fig. 18.)

Oblongo-ovata; Ḷ purpureo-fusca, opaca, Ḷ castaneo-fusca, interdum atrocinerea, nitida; setulis inclinatis separatis vestitis, elytris setulis longitudinalibus sparse fasciculato apud calum apicale; capitae grosse confluenter punctato, elypeo parum mixato, labro medio usu ad elypei marginem excavato; thorace et elytris Ḷ discreto punctulatis, Ḷ grossius usque subconfluenter punctatis, apud thoracen Ḷ punctis e punctulis minoribus compositis; corpore subtus pygidoque umbilicato-punctatis, metasterno medio breviore, polito; tarsis posteriores articulato basali medio et posteriori elongato, quam 2° et 3° conjunctis paullo longiore; pedibus rufo-vestitis. Antennae rufo-testaceae, 9-articulatae, clava Ḷ valde elongata. Tibiae anticae Ḷ bidentatae.

Long. 8 millim.

Hab. Panama, Bugaba (Champion). Numerous examples.

Subfam. DIPLITAXINÆ.

This group is distinguished from the "Macrodactylinae" (with which it agrees in the free labrum and abdominal segments and in the conical, obliquely exerted, anterior coxae) by the nearly equal lengths of the ventral segments 2–5. Species in which the fifth ventral segment is a little the largest are found in Liogenys only, which is thus shown to be a connecting-link with the "Macrodactylinae." The obliteration of the suture between the fifth ventral and the penultimate dorsal segment, adduced as a distinguishing character by Leconte, holds good with American genera, although there is a trace of a suture in some examples (not in others) of Liogenys palpalis *. In all, the thorax in front has a membranous margin, and the elytra a very narrow similar margin.

punctulatis vix costulatis; corpore subtus pygidoque annulato-punctatis; tarsis subtus dense pilosis, posticis articulo basali tribus sequentibus conjunctis fere aequali; tibiae anticae 3-dentatis; antennae (10-articulatis) pedibusque rufo-testaceis.

Long. 8–11 millim.

Hab. Amazon, ubique.

The additional antennal joint, the fifth, is very small. The species differs from the equally 10-jointed *P. flavohirta*, Blanch., which is apparently still more widely distributed in Equatorial South America, by its smaller size (*P. flavohirta* being 12 to 14 millim.) and the finer and much less dense sculpture; both differ from *P. setisponsa* in the numerous long erect hairs (scattered partly in lines on the elytra and forming a rather dense brush on the thorax), which rise far above the short reddish-tawny subpubescent pile. In *P. amazonica* and *P. flavohirta* the first joint of the hindmost tarsi is equal in length to joints 2–4, and about double the length of the second; in the following species it is still longer absolutely and relatively:—

Pseudoserica longitarsis.

Inter *P. flavohirta* et *P. amazonicam*; ambobus differt thorace densissime (hans confluenter) punctato, elytrum setis et pilis magis cinereis tarsisque posticis articulo basali longissimo, cuteris 4 conjunctis fere aequali; capitae thoracique viridi-verde opace; cutera sicuta in *P. amazonicam*.

Long. 12–13 millim.

Hab. Upper Amazon.

* The obliteration of the suture is not peculiar to the Diplotaxine; it is seen in some Macrodactylinae, e.g. Ancistrogena.
Liogenys is so closely linked to Diplotaxis by finely graduated forms and the structure is so nearly identical, that there is no reason for the sharp separation of the two genera as hitherto made in classifications of the Melolonthidae.

Liogenys.

Liogenys, Guérin, Voy. de la Coquille, Zool. ii., Col. p. 84 (1838); Burmeister, Handb. der Ent. iv. 2, p. 12 (1858); Lacordaire, Gen. Col. iii. p. 268 (1856).

An exclusively American genus, extending from Mexico to Chili, but apparently not continued into temperate North America. About twenty species have been described.

1. Liogenys quadridens.

_Citation and description._


? Liogenys quadridentatus, Blanch. Cat. Coll. Ent. i. p. 168.2

_Hab._ Panama, Volcan de Chiriqui 2500 to 4000 feet (Champion)._South America, Colombia and Guiana 1, Amazons, Monte Video 2.

2. Liogenys morio.


_Hab._ Central America 1.

I have seen no species answering Burmeister's description.

3. Liogenys macropelma. (Tab. IX. fig. 19.)

_Oblongus_ (♀ magis ovata), minus convexus, niger vel castaneus, supra et subutus nudes nitidus, subitus et pedibus rufo-piceis, antennis testaceo-fulvis; sat grosse disperse punctatus; capite mox ab oculis angustato, clypeo late obtuse bidentato, cum fronte concavo; elytris geminato-punctato-striatis; pygidio magno, subplano, apice late subtruncatim rotundato, grosse sed haud dense punctato; ventris segmentis 2°-5° longis, fore aequalibus, 6° mediocris pilosis.

♂ Pedes elongati, graciles; tarsi postici graciles, subitus dense hirsuti, articulo 1° sequente plus quam dimidio breviore; tarsi quatuor anteriores articulis 2°, 3° et 4° basi paullo dilatatis, 1°-4° subitus palmatis, densissime pilosis.

♀ Pedes et tarsi mediocris elongati, horum articulis subitus minus dense pilosis, haud dilatatis.

Long. 10-11 millim.

_Hab._ Panama, Volcan de Chiriqui 2500 to 4000 feet (Champion). Numerous examples.

4. Liogenys pubisternis. (Tab. IX. fig. 20.)

_L. palpali_ similis et affinis, convexus, testaceo-rufus, supra glaber nitidus, sternis femoribusque longissime fulvo-hirtis; capite ab oculis rotundato-angustato; clypeo producto, late bidentato, supra concavo sparsum punctato; thorace disperse punctato; elytris sat crebre punctulatis utrinque costulis angusiis parum elevatis quatuor. Tarsi postici articulo 1° sequente paullo breviore.
LAMELLICORNIA.

♂. Tarsi gracillimi, subitus pilosi; antecia articulæ 2°-4° mediocrier dilatatis, subitus palmatis densissime pilosis; intermedii perparum dilatatis. Long. 14 millim. ♂.

Hab. Mexico (Sallé, ex coll. Sturm). Two male examples only.

So closely resembling the Chilian L. palpalis (Eschsch.) that if it were not for the much narrower dilatation of the male tarsal joints I should have little hesitation in referring it to that species. The form, colour, pubescence, punctuation, and shape of the head are exactly as in ordinary examples of L. palpalis; but the hind tarsi are longer, much thinner, and less hairy beneath; and the dilated second to the fourth and the base of the first joints of the two anterior pairs are much narrower than long, the fourth of the anterior and the second to the fourth of the intermediate pair further differing in being only a little broader than undilated joints.

5. Liogenys pubereus. (Tab. IX. fig. 21, 2.)

Sat elongato-oblongus, undique pilis brevibus discretis inclinatis fulvis; nigro-aneus vel (immaturus?) castaneus, aneo-fuscus, anterioris et tarsiis rufo-piceis, illis clava fulva; capite lato, crebre grosse punctato; clypeo parum angustato, antice late subaequato truncato, angulis acutis; thorace transverso, dense punctato, angulis postoris apice acutis; elytris sat dense regulariter punctatis, geminato-atriatis sed costis humeralibus, seriatim punctatis; pygidio parvo, grosse punctato; sternis abdomenque punctatis, medio lacinioribus; tibias antecis bidentatis. ♂. Tarsi 4 antecia articulæ 1°-4° latioribus, oblongis, subitus palmatis densissime pilosis; ceteris subitus minus dense pilosis. Pedes toti pilosi. Ventris segmentum 6° interdum latens. Long. 12-13 millim.

Hab. Mexico, Cordova, Etla, Peras, Oaxaca (Sallé), Vera Cruz (Höge).

Var. 2. Cuprascens; sparsae punctatae, fere nudae (? detritae).

Hab. Mexico, Panislahuaca (Sallé).

Numerous examples in the Sallé collection are named Liogenys cribraticollis, Reiche (MS.), a name which I do not adopt, as it might lead to confusion with Diploptaxis cribraticollis, Blanch., L. pubereus being an aberrant Liogenys with characters showing an affinity with Diploptaxis.

A specimen from Etla is figured.

6. Liogenys (?) — — ?

Hab. Mexico, Yolos (Sallé).

A single female example without pubescence above (? abraded), and very coarse and sparse sculpture.

7. Liogenys (?) — — ?

Hab. Mexico, Cordova (Sallé).
Of this there is also only a single female example. It is of a bright metallic colour and certainly distinct from *L. puberuous*, but its genus cannot be determined without a knowledge of the other sex.

**DIPLOTAXIS.**


A genus apparently confined to North America, represented by numerous species in the United States and Mexico, but not extending further south than Costa Rica, though one species occurs in the West Indies. About forty species have been described.

1. *Clypeus (præcipue in ♂) quadratus, antice late sinuatus; corpore recumbenti-cinereo-setoso.*

1. *Diplotaxis pilifera.* (Tab. IX. fig. 22,♂.)


*Hab.* México¹, Iguala in Guerrero (Höge).

The tarsi are remarkably short in both sexes, fringed beneath with hairs, the joints 1–3 of the two anterior pairs densely hairy. The sixth ventral segment is conspicuous in both sexes.

2. *Diplotaxis clypeata.* (Tab. IX. fig. 23.)

*Angustior, viridi-chestacea vel cuprea, elytris interdum (immatura?) castaneis, breviter albidisetosis, setis in elytris (sicut in *D. pilifera*) lineisim ordinatis, antennis nigris, tibiae tarsisque plerumque testaceo-rubris; creberrime punctata, subopaca; thorace sat parvo, antice angustato, angulis posticis rotundatis; elytris costis parum elevatis, punctatis; ventris segmento 6° parvo; tibias antice tridentatis; tarsis omnibus sat gracilibus, unguibus dente apicali inferiori nec latiore nec magis curvato.


♀. *Clypeus trapezoideus. Tarsi paulllo breviiores, subitus sparsissime setosi. Long. 0–7 millim.*

*Hab.* México, Yolos (Sallé).

Named *Philochlania clypeata* (Deyr., MS.) in the Sallé collection; but the broadly arenated labrum and the non-elongated fifth ventral segment show that it does not belong to the same subfamily even as *Philochlania*. The short bristly clothing and (in the male) rather elongate and quadrate clypeus of this and the preceding species, though opposed to the typical forms of *Diplotaxis*, cannot suffice to distinguish them generically from that genus.

The totally different clothing of the soles of the male tarsi and the length of the joints in species so very closely allied in other respects as *D. clypeata* and *D. pilifera* show what abrupt variations have been at work in the group.
II. Clypeus (pracipue in ♂) trapezoidalis; corpore supra glabo, interdum hirto.


*Hab.* Mexico, Vera Cruz 12, Capulalpam, Cordova, Silao, Cuernavaca (Sallé), San Juan del Rio, Esperanza, Pachuca in Hidalgo (Höge), Guanajuato (Sallé, Höge).

Usually dark brassy-green or bluish in both sexes, with the antennae (except the club) reddish; but varieties occur (at Silao and Guanajuato) in which the elytra and legs are more or less rufous, and the female in some cases wholly dull reddish-brown. The brown variety of the female was cited by Burmeister as synonymous with *D. simplex* (Blanch. l. c. p. 172), but this appears doubtful.

The clypeus is large, as in Section I.; but is trapezoidal and not quadrate in the male, although the anterior angles are more acute owing to the sinuation of the front edge and a slighter sinuation of the lateral margin near the angle. The sixth ventral segment is exposed in both sexes, and the male tarsi (especially the four anterior), though not at all dilated, are fringed with hairs beneath, as correctly described by Burmeister. The thorax is always finely and densely punctured; and the elytra a little more coarsely and subruguosly punctured, but with the punctures distinct.


*Hab.* Mexico 1, Tepansacualco, Yolos, Guanajuato (Sallé).

According to the Sallé collection, this is the largest of a small group of Mexican and Guatemalan species, of uniform reddish-testaceous (sometimes a little darker) colour, in which the males have a broad trapezoidal clypeus with prominent angles and sinuated front edge; the sides of the clypeus a little irregular and the surface concave and more coarsely punctured than the forehead; the thorax strongly rounded behind the middle and narrowed thence to the head, with rounded hind angles; and the tarsi in the male fringed beneath with fine hair.

The Sallé specimens are 10–11 millim. long (Blanchard gives 10 millim.); the flat interstices between the geminated striae are not “lævibus” as Blanchard states, but have a row of punctures; and the anterior tibiae are not “bidentatis,” but show a distinct though small third upper tooth. If they really belong to Blanchard’s species, that author’s description of the thorax as “dense subtiliterque punctato” is not very fitting, as the punctures, though finer than those of the elytra, are tolerably widely scattered over the surface.
5. *Diplotaxis trapezifera.* (Tab. IX. fig. 24, d.)

*D. cribraticollis* quam maximo affinis; differt celype longiore et magis angustato, anguste trapeziformi, latere-ribus subrectis, apice sat angusto, sinuato. Toto rufo-testacea, supra nuda; celype concavo, grossissime punctato, fronte subtilliis punctata; thorace angulis posticis rotundatis, antice angustato; elytris discreto punctatis, geminato-punctato-striatis, costis haud elevatis, subtiliter et sparse seriato-punctatis; pygidio propygiiidique grosse et profunde discrete, ventre sternoque medio subtilliis disperso, punctatis.

Tarsi c subts fibrato-pilos:i; Vix pilosi clypeoque angulis obtusis. Ventris segmentum 6° breve, interdum (retractum) margine tantum perspicio.

Long. 7–8½ millim.

*Hab.* *MEXICO*, Ventanas, Presidio, Tres Marias Islands (Forrer), Cordova, Tepanistlahuaca, Juquila, Puebla, Yucatan (Sallé), Villa L redo, Tejeria, Guanajuato, Amecameca, Cuernavaca, Jalapa, Chilpancingo in Guererro (Höge); *BRITISH HONDURAS*, R. Sarstoon (Blancaneux); *GUATEMALA* (Sallé), near the city (Champion); *COSTA RICA*, Volcan de Irazu (Rogers).

In all the numerous examples of the male the sides of the head form a straight, sometimes slightly incurved, line from the ocular canthus to the apical angle of the rather narrow trapeziform clypeus. Gradations occur between this simple outline and a form in which the sides are angularly flexuous; of these the following two varieties are distinguishable:—


*Hab.* *MEXICO*, Orizaba, Guanajuato, Puebla, Etla (Sallé), Mexico city (Flohr), Chihuahua city, Durango city, Jalapa (Höge); *NICARAGUA*, Chontales (Janson).


*Hab.* *MEXICO*, Salazar, Toluca, Durango city (Höge), Mexico city (Flohr, Höge).

This variety resembles much *Liogenys quadridens* (Fabr.); the clypeus, however, is much longer and the lateral dentiform dilatation does not form a long sharp tooth.

A further variety, differing in colour only from the typical *D. trapezifera*, but sometimes showing a slight lateral sinuation near the apical angle of the clypeus, is:—

Var. 3. *D. bicolor.* Supra castaneo-fusca (thorace, scutello elytrorumque limbo interdum rufa), subtus rufo-testacea.

*Hab.* *MEXICO*, Yolos, Peras, Oaxaca (Sallé).

The species varies also in a rather important structural character, viz. the form of the lower apical tooth of the claws: in the vast majority of specimens this is, as in most other species, broader (especially at the apex) and more curved than the upper, but in others it is gradually tapering, like the upper tooth. Examples of this variation
are from Presidio and Tejeria, and offer no other character to distinguish them from the ordinary form of the species.

A typical male specimen from Jalapa is figured.

6. Diplotaxis nigriventris.

*D. trapezifera* exemplis minoribus similis, sed differt colore castaneo-fusco, subitus fusco-nigro, pedibus castaneo-rufis; clypeo minore, apice sat profunde sinuato; corpore subitus pygidoque undique grosse et profunde sed discrete punctatis.

Long. 6| millim.

*Hab. Mexico, Presidio (Forrer).*

Evidently more distinct from the typical *D. trapezifera* than any of the varieties described above. The clypeus is not quite so long, and is rather angularly sinuated on its front edge. There is little or no difference in the form of the thorax or in the sculpture of the upperside; but the underside is thickly strewn with large circular punctures.

7. Diplotaxis nitidicollis.


*Hab. Mexico* 1; *Guatemala* (Sallé), *Capetillo* (Champion); *Costa Rica*, Volcan de Irazu (Rogers).

Three examples in the Sallé collection labelled *D. nitidicollis*, Blanch., agree fairly well with the description. The clypeus is short and broad, trapezoidal, with the front edge sinuated and the angles slightly prominent but rounded and each side towards the genu broadly and angularly sinuated. In the male the pygidium is flat, and the sixth ventral segment exposed; in the female it is convex, and the sixth segment concealed.

8. Diplotaxis poropyge.

Oblonga, convexa, creste fulvo-pilosa, castanea interdum cuprascenca, subinita; capite alveolato-punctato; clypeo brevi, trapezoidali, angulis latis obtasis sed prominulis, lateribus paullo sinnatis; thorace grosse punctato, angulis posticis fere rotundatis; elytris sat duse et profunde sed discrete punctatis, intersticios saturalibus et costalibus equaliter seriatis, costis haud elevatis; propygido et pygido grossissimae alveolatis, corpore subitus grosse discrete punctato, pygido utroque sexu parvo subrotundato; ungulibus normalibus.

Long. 9-10 millim.

*Hab. Mexico, Cordova, Chiapas (Sallé); Guatemala, San Gerónimo, Paso Antonio, Mirandilla (Champion).*

The punctuation of the eleytra is peculiar, the row of punctures along the sutural interstice and on the usual costæ being as strong and close as the punctured striae limiting the costæ, the latter being only faintly indicated.

*D. porphygi* proxime affinis, minor, castango-fulva, nitida, pilis erectis fulvis undique et densius quam in *D. porphygi* vestita; clypeo antice lateribusque fortius sinuatis; thorace valde differt densius et subtilius punctato, angulis posticis fere rectis medioque angulatim dilatato; pygidio et propygidio grosse confluenteri punctatis.

*Hab.* Guatemala, near the city (Champion).

Two examples only.

10. *Diplotaxis corrosa.*

*D. aenea* similis, sed minus angusta, postice dilatata, rugoso-punctata etc. Obscure viridi-enea, parum nitida, grosse confluenteri vel rugulosse-punctata, postice interdum brevissime griseo-setosa; elytris lateribus setis longis rigidos griseis fin briatis; clypeo trapezoidali, angulis anticiis (in acutis) angulatis, genis paullulum rotundatis; thorace post medium rotundato-dilatato, angulis posticis valde obtusis, spatio discediali levii; elytris costulis duabus sat convexis; pygidio grossissime et densissime punctato; ventre minus grosse et dispersis punctato, griseo-setoso; tarsi rufo-piceis; antennae palpique nigris.

*Hab.* Mexico, Alvarez Mountains (Dr. Palmer).

*Var. D. paucuna.* Elytra plerumque vista latu utrinque rufa. (Tab. IX. fig. 25.)

*Hab.* Mexico, Pachuca in Hidalgo (Höge). A large number of examples.

Apparent&, allied in some respects to *D. rugospennis*, Blanch., which has, however, the antennae, palpi, legs, and pygidium red. The males have not finely fimbriated anterior tarsi as in *D. aenea*. The colour is uniform. We figure an example of the variety from Pachuca.

11. *Diplotaxis coriacea.*

Angusta, aeneo-vel cupreo-fusca, dense et sat longe griseo-pileosa; capite parvo, clypeo trapezoidali supra concavo, antice valde sinuato, diserte (fronte dense) punctato; thorace longe post medium rotundato-dilatato (angulis rotundatis) deinde antice valde angustato, dense equiliter punctato; elytris dense subrugulose punctatis, costulis inap erapiciis; pygidio densissime, ventre paullo sparsius, grosse punctatis; palpis antennisque rufa; pedibus piceo-rufa; tibibis anticiis acute 3-dentatis.

*Hab.* Mexico, Presidio and Ventanas (Forrer), Cordova (Sallé).

The pubescence in well-preserved examples is tolerably long, slanting, dense, and regular over the whole surface from the forehead to the pygidium inclusive; on the underside it is abundant, but more irregular in length. The single example from Cordova in the Sallé collection (bearing the MS. name *Diplotaxis coriacea*, Klug) is more brassy and has the pubescence shorter (partly abraded) than Forrer’s specimens from more northern localities.

The head is not very different in shape (comparing examples of the same sex together) from that of *D. aenea*; but the clypeus appears to be a little narrower, and more narrowed in front, with sharper apical angles.
12. Diploptaxis ——.

_Hab. North America, Arizona.—Mexico, Northern Sonora (Morrison)._  

Sent by Morrison as _D. puberula_, Lec., which appears to be an erroneous determination. _D. puberula_ is a Texan species, differing in form and sculpture from Morrison’s insect.


_Diploptaxis parvula_, Burn. Handb. der Ent. iv. 2, p. 264

_Hab. Mexico_, Juquila (Sallé).

A glabrous and shining pitchy-black species, with short and broad trapezoidal, unsinuate, very coarsely punctured clypeus, the forehead depressed in the middle, and sparingly punctured thorax, pygidium, and abdomen. The sutural interstice of the clypeus is minutely and rather thickly punctured.


_D. parvula_ proxime affinis, differt colore aeneo-nigro, abdomen crebrius et grossius pygidiique grossissime alveolatim punctatis. _Oblongo-ovata_, aeneo-nigra, nitida, palpis et antennis pallide rufis, pedibus rufocastanis; supra glabra, subitus cum pygidio parum dense fulvo-pilosae; clypeo brevi et lato trapezoidal, apice truncato, vel (2?) rotundato, grosse punctato, sutura frontali argute impressa medio angulata ibique fronte leviter impressa; thorace lato, max. pone medium mediocrerotundato-dilatato, angulis posticis obtusi sed distinctis, supra discrete punctato; elytris subconfluenter sed hand dense punctatis, costis distinctis parum elevatis; pygidio parvo, grossissime alveolato, longo erecto piloso; propygidiio ventreque lateribus dense et grosse punctatis, medio ventre levior; tibias antice valide tridentatis; ventris segmento 6° exserto.

_Long. 6½—8 millim._

_Hab. Mexico, Jalapa, Vera Cruz (Höge), Playa Vicente (Sallé)._ The sutural interstice of the elytra has only a single row of minute punctures. Many examples from Jalapa and Vera Cruz, and a single one from the Sallé collection; the last named is castaneous in colour, probably from immaturity. I received this species many years ago from Paris under the MS. name _D. sinuaticeps_, Reiche. The name cannot refer to the outline of the clypeus, but to the frontal suture.

15. Diploptaxis juquilensis.

_Oblongo-oblunga_, rufo-castanea, supra cupreo-fusca, nitida, glabra; clypeo brevi et lato trapezoidal, angulis rotundatis, antice vix sinuatis, genis paulo rotundato-dilatatis, supra grosse, fronte subtilius, punctatatis; thorace brevi et lato, antice utrinque (principis in 5) marginato, prope medium dilatato, lateribus antice sinuatis, angulis antecis acutis, posticis distinctis sed obtusis, supra sat grosse et discrete hic illie subconfluentur punctato; elytris elongatis, postice hand dilatatis, sat crebro et grosse subconfluentur punctatis, punctis pleurumque transversis, costis angustis parum punctatis; pygidio grossissime, ventre sparsius, confluentur punctatis; tibias antice 2 bidentatis, 2 dente 3° parvo; tarsis subitus dense pilosis; ungulibus posticis profunde fissis, dente inferiori vix breviore aut latiore.

_Long. 7—8 millim._

_Hab. Mexico, Juquila (Sallé)._ Three examples.

In the male the apex of the elytra projects beyond the pygidium. The outline of the clypeus is very similar to that of the female of _D. nitidicollis_.

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16. **Diplotaxis atramentaria**.

Oblonga, convexa, pieço-nigra; subitus pieço- vel castaneo-rufa, glabra, subtilissime alutacea, sericeo-opaca; antennis pulpaque testaceo-rufis; capite dense nec grosse subalveolato-punctato, sutura frontali valde flexuosa; clypeo brevi, lateribus valde convergentibus, subrotundatis (♀?), apice truncato (♂?), cum angulis breviter dentatis; thorace prope medium sat fortiter dilatato, antice recte postice rotundatim angustato, anguli antici acutis, postici obtusis sed distinctis, supra minute distanter punctato; elytris disperso subtilius punctatis, costis latis vix elevatis, interstitio suturali pluripunctulato; pygidio profunde discrete, ventre dispersius, rotundato-punctatis; tibis antici subtilius tridentatis; unguibus normalibus (fissis dentibus subsequalibus).

Long. 9-10 millim.  

_Hab._ Mexico, Peras (Sallé), Villa Lerdo in Durango, Cuernavaca (Höge).

Named _D. atramentaria_ (Deyr. MS.) and _D. ruficornis_ (Sturm, MS.) in the Sallé collection. Many examples.

The supposed female differs from the male, apart from the much shorter clypeus, in the large punctures on the sides and apex of the ventral surface being much fewer in number, and in the lower tooth of the claws being a little broader and more curved.

17. **Diplotaxis arctifrons**.

Oblonga, nigra, subnitida, supra glabra; clypeo mediocriter elongato, antice valde flexuoso-angustato, apice reflexo, breviter sinuato-truncato, ♂ acutis, ♀ obtusis bidentato, tota capite dense punctato, pulpis antennisque testaceo-rufis; thorace (clytris hau distantiore) transverse, medio late dilatato, discrete haud grosse punctato, angulis antici rectis, postici obtusis sed distinctis; clytris grossius subdisperso punctatis, costis vix punctulatis; pygidio et ventre grosse sparsim punctatis; unguibus fissis, dente inferiore paullo breviore.

Long. 6-7½ millim.  

_Hab._ Mexico, Durango city (Höge). A good series of examples.

18. **Diplotaxis — — ?**

_Hab._ Mexico (Sallé, _ex coll._ Sturm).

An example of this apparently very distinct species, allied to the preceding, but of metallic colours, is contained in the Sallé collection; it is labelled _D. euneipennis_, Sturm, MS.

19. **Diplotaxis — — ?**

_Hab._ Mexico, Playa Vicente (Sallé).

One specimen of a species also apparently distinct.

20. **Diplotaxis (?) — — ?**

_Hab._ Panama, Volcan de Chiriqui 4000 to 6000 feet (Champion).

A single example, apparently female, of a species perhaps belonging to this genus, but possibly a _Liogenys_.

YY 2

Oblongo-ovata, glabra, nigro-anea, subnitida; antennis, palpis et tarsiis rufo-testaceis; capitio crubre rotundato-punctato, sutura frontali levii; elyCEO brevius trapezoidals, angulis rotundatis, margine antico leviter sinuato; thorace discrete sed sat dense profunde punctato, post medium dilatato, angulis posticis obtusis-simis; elytris sat dense profunde punctatis, costis haud elevatis valde serie-punctatis, interstitio suturali multipunctulato; pygidio convexo, setoso, grossissime alveolato-punctato, abdomen grosse sat dense (mediO levio) punctato; ungubus normalibus.

Long. 8—9 millim.

*Hab.* Mexico, Tepanistlahuaca (*Salle*).

Three examples.

22. *Diplotaxis* — *?*

*Hab.* Mexico, Parada (*Salle*).

A single example of a species apparently allied to the preceding.

23. *Diplotaxis popino*.


*Hab.* NORTH AMERICA, Arizona 1.—Mexico, Northern Sonora (*Morrison*).

III. *Clypeus brevis, rotundatus*.

24. *Diplotaxis simplex*.


Oblongo-ovata, supra glabra, nitida, pioso-nigra vix metallescens, vel plus minusve rufo-testacea; elyCEO brevi, late rotundato, apice perparum sinuato, supra transversim convexo, cruberrime punctato, sutura frontali valde impressa, medio angulata etique fronte (sparsius et subtilius punctata) concava; thorace disperse hand grosse punctato, medio subangulatim dilatato, angulis posticis obtusis sed distinctis; elytris sat disperse punctatis, costis haud elevatis sparse minute seriato-punctatis; pygidio grossissime subalveolatim punctato, rigidio piloso; subitus lateribus grosse punctato; ungubus profunde fissis, dente inferiore latiore valde curvato; tibiiis anticiis 3-dentatis.

Long. 7—8 millim.

*Hab.* Mexico 1, Puebla, Orizaba (*Salle*), Jalapa, Vera Cruz (*Höge*).

This insect bears the name of *D. simplex*, Blanch., in the Salle collection, and is probably that species, though the description is too vague to determine the point satisfactorily. As some help towards identifying the insect, which is probably common in collections, I have redescribed it.

25. *Diplotaxis hebes*.

*D. simplex* similimina, sed differt ungubus dente inferiore submediano et brevi apice subtruncato. Oblongs, convexa; elyCEO hand transverse convexo, plano, brevi, rotundato, apice fortius sinuato; capitio toto fora equaliter discrete sat fortiter punctato; thorace brevi, prope angulos posticis distinctos subrectos impresso, paulo grossius quam in *D. simplex* punctato; elytris profundius punctatis, costis parum distincte punctulatis; pygidio grosse alveolato-punctato, ventre medio fore levii.

Long. 7½ millim.
Hab. Mexico, Ciudad in Durango (Forrer), Toluca (Sallé).

Three examples. The one from the Sallé collection is labelled D. simplex, Blanch., but is certainly different specifically from other three examples in the same collection bearing that name, and agreeing less with Blanchard’s description, such as it is.

26. Diplotaxis ——?
Hab. Mexico, Jalapa (Höge).

A single example of a species indeterminable.

27. Diplotaxis magna.
Oblonga, robusta, nigra, glabra, subnitida, palpis antennisque rufo-testaceis; capite lato obtuso, dense subgrosse partim confluentor rotundato-punctato, clypeo foce rotundato, marginie antico leviter sinuato et refle xo, fronte medio depressa; thorace valde transverso, densissime confuentor punctato, medio dilatato, postice sinuato angulique posticis estantiibus acutis, antice subrecto, angulis antici acutis; clytris costis valde distinctis haud elevatis, param punctulisatis, interstitiis latis confuse multipunctatis; pygidio grossissime setifer-punctato; corpore subus sparsi subtilius punctato; unguibus longe infra apicem robuste dentatis. Labrum arcuatum late excavatum.


Hab. Mexico, Ciudad in Durango 8100 feet (Forrer, Höge). Four examples.

Magna, oblonga, nigra, nitida, glabra, tarsiis, antennis palpisque rufo-testaceis; capite magno, rotundato, sparsim punctato; clypeo brevi subrotundato, spice obtusissime truncato, marginie parum refle xo; thorace valde transverso, medio haud dilatato, lateribus leviter rotundatis, antice et postice recte paullo angustato, angulis omnibus subrectis, supra subtillier dispersa punctato; clytris costis valde distinctis haud elevatis, param punctulatis, interstitiis latis confuse multipunctatis; pygidio grossissime setifer-punctato; corpore subus sparsi subtilius pilifer-punctato; unguibus longe infra apicem robuste dentatis. Labrum arcuatum late excavatum.

Long. 14 millim.

Hab. Mexico, Pinos Altos in Chihuahua (Buchan-Hepburn), Ciudad in Durango (Höge).

Two examples. Evidently closely allied to D. magna, notwithstanding the very different outline and sculpture of the thorax.

29. Diplotaxis ——?
Hab. Mexico, Northern Sonora (Morrison).

A testaceous-red species, with remarkably explanated hind angles of the thorax, the angles subacute at the apex. It is found also in Arizona, and has probably been described by American entomologists.

IV. Clypeus brevis, obtusus, margine antico valde sinuato.

30. Diplotaxis flavisetis. (Tab. IX. fig. 26.)
Oblonga, postice dilatat, fulvo-castanea, undique setis recumbentibus flavis obsita; clypeo late et brevi, lateribus
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marginque antico reflexo valde sinuatis; fronte fere plana declivi, dense rugoso-punctata; thorace post medium rotundato-dilatato, angulis antecis acutis, postecis rotundatis, supra dense punctato; scutello toto punctato; elytris dense punctatis, costis et interstitionibus aequalibus et aequaliter convexis; pygidio densissime punctato et longe erecte piloso; uigibus fissis dentibusque subaequalibus; pedibus precipue tarsis sat dense flavo-pilosis.

Long. 8 millim.

Hab. Mexico, Tapachula in Chiapas (Hoże).

Two examples; judging from the rather dense hairy clothing of the anterior tarsi, both males.

31. Diplotaxis contracta.

Subovata, glabra, testaceo-fulva, antennis palpisque pallidioribus; elytris brevi et lato, antice sinuato, angulis rotundatis, supra transversim convexo, sutura frontali lata depressa, fronte biarcuatim elevata, sebrosopunctata; thorace antice valde subrecie angustato, angulis antecis porrectis, lateribus prope basin breviter profunde sinuatis, angulis postecis acutis, supra inaequali grossissime punctato; elytris subconfluenter punctatis, costis elevatis subtilissime seriepunctatis; pygidio grossissime alveolato-punctato, setoso; ventris segmentis 2–4 convexit, inaequalibus, plus minusve rugoso-punctatis, 6° parvo; uigibus normalibus.

Long. 8 millim.

Hab. Mexico, Ciudad in Durango (Forrer).

An insect of singular aspect, owing to the anteriorly narrowed thorax. In other respects the species is normal, except that the labrum is more deeply emarginated; the emargination (as in other Diplotaxes) is broadly arcuated and obliquely upwards and backwards, but instead of leaving as usual a broad upper rim entire, nearly the whole of the centre of the organ is cut away.

Two examples.

32. Diplotaxis (?) — — ?

Hab. Guatemala, Cerro Zunil (Champion).

A single example of a peculiar species, apparently belonging to this genus.

33. Diplotaxis rugosipennis.


Hab. Mexico 1.

I have seen no specimen answering to Blanchard’s description of this species.

Subfam. RHIZOTROGINÆ.

CHLÉNOBIA.

Chlamobia, Blanchard, Cat. Coll. Ent. i. p. 116 (1850); Lacordaire, Gen. Col. iii. p. 265 (1856).

Lacordaire placed this genus in the “Subtribu Macroductylides”; but it differs from that group in all the characters which distinguish the “Macroductylides” from the
“Rhizotrogides.” It has, namely, long and sessile anterior coxae, much longer than the breadth of the free lateral space of the prothorax; and equal ventral segments 2–5, with their sutures in the middle soldered. The general form and minor characters of the species also are those of Lachnosterna and Phytalus, and not of the “Macrodactylina.” The males are distinguishable from the same sex of Phytalus only by the tarsi being thickened, and densely hairy beneath. The mandibles are exserted, curving over the edge of the ligular part of the mentum; the tarsal claws are dentate at the base and subequally and strongly bifid at the apex; the spurs of the hind tibiae in the males are both freely articulated.

The only species hitherto described is Brazilian.

1. Chlænobia ægrotæ. (Tab. X. fig. 1.)

Elongata, angusta (♀ postice paullo erassiore), flavo-testacea (capite thoracique interdum rufis), supra glabra, discrete punctulata; elytris intersetitio suturali (prope basin et apicem excepto) convexo, costulae duas angustis parum convexis (interdum obsoletis), brevibus; dypeo lato et brevi, concavo, utrique late rotundato, antice medio sinuato; thoracis angulis posticis obtusis. Antennea 9-articulata.


Long. 13–16 millim.

_Hab._ Mexico, Cordova, Tomatlan (Sallé), Jalapa (Höge).

An example from Jalapa is figured.

2. Chlænobia scabripýga.


♂. Pygidium magnum, convexum, margine apicali minus ante reflexo. Ventris segmenta medio transverse convexa, rigidius setosa.

♀. Pygidium apice fossa magna rotunda et profunda lavi.

Long. 14–17 millim.

_Hab._ Mexico, Juquila (Sallé).

3. Chlænobia latipes.

Prescendentibus similis, sed differt utroque sexu tarsis omnibus late dilatatis, plantis densissime pilosis; elytris paullo ampliori et profundius concavæ, antice medio sinuato; thorace elytrisque paullo grossius et densius punctatis, illo angulis basaliis rectis. Antennea 10-articulata.

♂. Pygidium sat dense punctatum, mediocriter convexum, medio sulcatum, apice reflexo et pilose. Ventris segmenta medio plana, 2°–4° breviter, 5° et 6° longe pilosi. Tibie postice calcari interiore lato, apice laterali exciso.

♀. Pygidium medio tuberculis magnis obliquis duobus; medio late sulcatum, apice subtruncatum, margine reflexo.

Long. 15 millim.

_Hab._ Mexico, Teapa (Sallé).
This species is labelled *Liogenys angustata*, Chevr. (MS.), in the Sallé collection; the specific name I cannot adopt, as it would be very inappropriate in the genus to which the insect really belongs. The tarsi are shorter and the joints much broader than in *C. agrota*, joints 2–4 being more than half as broad as long. There is no rudiment of a third (upper) tooth on the anterior tibiae in the male, which is perceptible in the other species, and only a slight indication of it in the female.

4. *Chlaenobia tumulosa.*

*C. agrota* similis et affinis: differt thorace angulis posticis exstantibus acutis; pygidio utroque sexa mediocrier discrete punctato, apice solum piloso. *Antenne* 10-articulata.

♀. Tarsi lineares, sed articulis quam in *C. agrota* paullo latiores. Venter medio planatus subconceus, segmentis 2°–4° dense brevior pilosis, 5° et 6° scopiferis.

♂. Pygidium post medium oblique valide bituberosum, apice profundissime concavo, margine apicali medio sinuato; lamina ventralis segmentum ventrale 7° simulante. 

*Long.* 14–17 millim.

*Hab.* British Honduras, R. Sarstoon (Blancaneaux); Guatemala (Sallé), near the city, Dueñas, Capetillo (Champion).

The anterior tibiae in the male have a slight indication of a third tooth, and in the female are more distinctly tridentate.

A single example (female) from Guatemala city has simply an irregular cavity on the pygidium. It is apparently deformed.

5. *Chlaenobia bicallosa.*

*C. tumulosa* proxime affinis: differt thorace fortius punctato, magis rotundato et postico magis angustato, angulis posticis acutis sed minus exstantibus.

♀. Pygidium medio fere usque ad basin sulcatum, apice haud excavatum, tuberibus medianis conicos minus obliquis, margine apicali rotundato, reflexo; lamina ventralis nulla. *Antenne* 10-articulata.

*Long.* 15 millim.

*Hab.* Mexico, Tomatlan, Tuxtla (Sallé).

Three female examples only. The very different structure of the pygidium, which has no ventral horny plate simulating a seventh ventral segment, supported as this character is by the somewhat smaller, more rounded, and more coarsely punctured thorax, justifies the separation of this insect from *C. tumulosa*.

The striking modifications in the secondary sexual characters, in closely-allied forms of this genus, forms which other circumstances indicate to be only local varieties, are of great physiological significance.


Precedentibus simillima, paullo minor; clypeo minus ampliato, lateribus rotundato-convergentibus; thorace disperse punctato, angulis posticis acutis.

♂. Pygidium convexum, sparse punctatum, margine apicale rotundato-reflexo; ventris segmenta 5° et 6° medio longe fasciculatum, 2°–5° breviss, pilosa; tarsi crasse filiformes, parum dilatati, subitus dense pilosi; tibiarum...
posticae calcaribus dissimilibus, interiore recto acuto, exterioere curvato latiore, apice oblique truncato. Antennae 10-articulatae; clava elongata.

2. Pygidium nec tuberculatum nec excavaturn, apice sublobatum, marginibus sinuatis ibiue supra impunctatum. Antenarum clava elongata, gracilis, articulis 3°-7° conjunctis longiore.

Long. 12-14 millim.

Hab. NICARAGUA, Chontales (Janson); COSTA RICA (Van Patten), Volcan de Irazú (Rogers).

Four examples.

CHIRODINES.


The simple claws of the four anterior tarsi distinguish this genus from both Chlœnobia et Phytalus; the absence of dense pubescence from the soles of the tarsi (in the male) further distinguishes it from Chlœnobia, to which it is most nearly allied by the form of the head and thorax and the long and stout filiform tarsi. The spurs of the hind tibiae are both freely articulated, both long and slender, but the lower shorter than the upper.

1. Chirodines zunilensis. (Tab. X. fig. 2, ♂.)

Elongatus, subcylindricus, glaber, sordide flavo-testaceus, supra sat dense aequaliter punctulatus; elypeo late rotundato, margine anteriore reflexo, medio sinuato.

♂. Pygidium, praecipue apice, convexum, sparsissime punctatum, apice sulcato-marginatum. Venter glaber, lateribus punctulatus; segmentum 5° medio transverse sulcatum; 6° magnum, levem, medio depressum et longitudinalliter sulcatum. Tarsi antiores valde elongati, articulis leviter incassatis. Long. 15 millim.

Hab. GUATEMALA, Cerro Zunil 4000 to 5000 feet (Champion).

Two male examples.

LISTROCHELUS.


A genus characteristic of the insect fauna of the South-western States of America and the northern part of Mexico. Fourteen species have been described, nearly all of which are from the United States.

1. Listrochelus laportaei.

Listrochelus laportaei, Blanch. Cat. Coll. Ent. i. p. 141.

Hab. MEXICO, Jalapa, Las Vegas (Höge).
Two male examples from Jalapa agree with Blanchard's description, especially in the margin of the clypeus being remarkably narrow and slightly reflexed, "clypeo angustissime reflexo;" the outline of the clypeus is nearly semicircular. In colour they are reddish or brownish-castaneous, the elytra dull, the thorax shining. The forehead is convex and roughly sculptured, not plane as in L. clavatus, L. senticeps, and allied species, and the vertex has a very obtuse elevation from eye to eye, probably the "capite...vix carinato" of Blanchard; the outer hind angles of the posterior coxae are very much produced, almost falcate. The sides of the body are fringed with remarkably long outstanding tawny hairs, and the claws are all uniformly pectinated. Two females from Las Vegas are darker in colour. The sexual characters are as follows:

1. Pygidium, precipe postice, valde convexum, politum, disperse punctatum, apice subtruncato-rotundatum, fortiter marginatum. Venter lateraliter pruinosus, medio politus, depressus; segmenta 5°-6° subtiliter canaliculata, 2°-6° medio breviter setosa. Antennarum clava articulis 1°-7° equalis. Ungues omnes denticulati.

2. Pygidium elongatum, platum, apice sulcato-marginatum, breviter truncatum, parce punctulatum. Venter medio sparsim setosum; segmento 6° sat magne, plano, punctato, apice truncato. Ungues dente mediano, deinde usque ad apicem denticulati.

2. Listrochelus cavatus.

L. laportei affinis; sed minor clypeoque latiore supra cavato, marginibus alte reflexis. Brevius ovatus, rufo-castaneus vel testaceus, supra (♂ ♀) nitidus, glaber, passim mediocris punctatus, lateribus simbritatis; thorace medio dilatato, anguila postica valde obtusa; elytris costulis parum elevatis. Antenneae 10-articulatae.


♀. Pygidium ferre planum, politum, sparsissime punctulatum, margine explanato apicali bidentatum. Pectus parce hirsutum. Venter segmento 6° apice transverse exarato-sulcato; 6° magno, convexo, grosse punctato, apice fovea lata depressa et margine apicali profunde sinuato. Ungues omnes prope apicem dentati, deinde usque ad basin pectinatit.

Long. 11-12 millim.

Hab. MEXICO, San Antonio de Arriba (Sallé), Mexico city (Flohr).

A single male specimen is in the Sallé collection, and we have received a pair from Mr. Flohr.

Var. L. durangoensis. Differt colore castaneo-fuscis, clypeo antice paullo angustato lateribusque subrectis nec late rotundatis. (Tab. X. fig. 3, ♂.)

Hab. MEXICO, Ciudad and Ventanas in Durango, Real del Monte in Hidalgo (Höge).

An example of the variety from Ventanas is figured.

3. Listrochelus micros. (Tab. X. fig. 4, ♂.)

L. cavato affinis: multo minor, sordide testaceo-fusco, clypeo antice paullo angustato lateribusque subrectis nec late rotundatis; elytris transverso, obtuse rotundato, margine integerrimo valde elevato, cum fronte discrete punctata, fronte plana, declivi; thorace medio valde dilatato, margine confertim crenulato, supra disperse punctulato; elytris punctulato-rufigulosis. Antennae 9-articulatae; articulis 3° et 4° elongatis, spurulis.
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Θ. Pygidium fere planum, politum, glabrum, dispersissime punctatum. Venter convexus, levius; segmento 6° apice medio profunde inciso. Ungues medio breviter dentati, deinde usque ad basin pauli dilatati et minute denticulati.

Θ. Variat ungubis pedum 4 anteriorium medio dentatis, 2 posteriorum edentatis et haud conspicue denticulatibus; vel omnibus edentatis.

Long. 8-10 millim.

Hab. Mexico, Toluca (Höge).

Numerous examples.

4. Listrochelus prasidii. (Tab. X. fig. 5, δ.)

Elongatus, fore cylindricus, castaneus, thorace latius rufo-castaneo, polito, clypeis fulvo-testaceis, palpis, antennis pedibusque fulvo-rufo, nitidis; clypeo transverso, antice obtusissime rotundato, parum sinuato, mediocriter reflexo, dense discrete punctato, sutura frontali acute impressa flexuosa, fronte sparsim punctata, vertice obtuso; thorace medio valde dilatato, antice et postice angustato, angulis anticae oblique truncatis, posticis obtusis, supra dissece punctato; clypeis parum dense punctulatis, interstitio suturali vix elevato, subpunctulato.


Θ. Pygidium basi planum, prope medium subito convexum ibique profundissime sulcatum. Venter medio glaber; segmentum 5° apice integrum, 6° convexum, punctatum. Ungues supra medium valde dentati, deinde usque ad basin serrulati.

Long. 18 millim.

Hab. Mexico, Presidio (Forrer).

Two male and two female examples. Apparently closely allied to L. disparilis, Horn, from Arizona and New Mexico; but differing sufficiently in the sculpture and clothing of the pygidium, form of the ventral segments, and general colour. The convexity of the lower part of the pygidium in the female may be described, in other words, as two elongate polished callosities separated at the median line by a deep and straight furrow.

5. Listrochelus scuticeps.

Anguste oblongo-ovatus, fulvo-testaceus, thorace femoribusque rufo-testaceis, nitidis, clyeiris leviter pruinosis, subopaciis; fronte et clypeo (plano declivi) dense subalvoculato-punctatis, occipite transversim sulcato, levii, clypeo longissulco semiorvato, antice obtuso, margine reflexo, antice paulo sinuato; thorace paullo post medium valde dilatato, angulis obtusis, sat dense sed discrete punctato, lineis dorsaliis levii; clyeiris ruguloso-coriaceis inclusa distinta punctulatis.

δ. Pygidium prope apicem gibbosum, nitidum, sat distanter piloso-punctatum. Venter medio concavus, politus, fore lavi; segmento 5° apice canaliculato, 6° subconveco, grosse punctato, medio acutum canaliculato. Ungues elongati, apice excepto pectinati. Antennam alva elongata, gracilis, articulos 2°-7° conjunctis parum brevior.

Θ. Pygidium fere planum, apice rotundatum, disperso piloso-punctatum. Venter medio fere lavi; segmento 6°...
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plane, margine apicale integro. Ungues ante medium dentati, deinde usque ad basin denticulati. Variat elytris valde pruinosis pygidiisque glabro.
Long. 12–13 millim.

Hab. MEXICO, Villa Lerdo in Durango (Höge).

Var. major 2. 17 millim. Capite thorneaeque castaneo-fusis.

Hab. MEXICO, Tapachula in Chiapas (Höge). One example.


L. eucricipti proxime affinis: supra castaneus (thorace obscuriore et nitidissimo), elytris griseo-pruinosis, sub-opacis, antennis pedibusque testaceo-rufis, pectore aureo-fulvo villose; fronte sicut in L. eucricipti plana declivi, occipitique transversim exarato-sulasto, lavo; sed elytrum ampliore semicirculari, margine alte reflexo, integro; thorace subtiliter discrete punctulato (interdum in δ densius), vitta mediana lavo; elytris punctulatis et erecte hirsutis.

♂. Pygidium mediocreret et precipue prope basin convexum, dispare punctulatum, glabrum, margine apicali subsinuatim et late truncatum. Venter medio segmentis 4° et 5° valde depressis, 2° et 3° medio pilifero-punctatis, 5° et 6° glabris, cancellatibus. Ungues subtilissimae dentulati, paullo post medium brevissimae dentati, spicie subhamati. Antennarum clava articulis 2°–7° conjunctis longior.

♀. Pygidium sicut in δ. Venter convexus; segmento 5° dimidio apicali subito depresso, fere lavo; segmento 6°convexo, setifero, punctato, spicie integro. Antennarum clava sat elongata, articulis 3°–7° conjunctis fere aquilis. Ungues post medium dentati, deinde ad basin denticulati.

Long. 13–14 millim.

Hab. MEXICO, Refugio and Ciudad in Durango (Höge).

The similarity between the two sexes in nearly all the usual differentiating characters distinguishes this species in a singular manner from its congeners.

7. Listrochelus culminatus.

Oblongus, subovatus, castaneo-rufus, glaber; elytrum semicirculari, margine alte reflexo, antice medio depresso vix sinusato; fronte brevi, subverticati, postice culmine alto dense tuberculato delimitato, costis tatarali et discoidali (oblque) sat elovatis.

♂. Pygidium elongatum, recte angustatum, spicie truncatum, plauum vel medio paullo depressum, basi parissimae apice dense pilifero-punctato. Venter medio semiglaber, segmento 6° setifero-punctato, spicie integro. Ungues dente valido hau procul ab spicie, deinde usque ad basin dilatato et denticulati.

Long. 16 millim.

Hab. MEXICO, Matamoros Izucar in Puebla, Jalapa (Höge).

Only two examples, both females, and exactly similar.

8. Listrochelus maximus. (Tab. X. fig. 6, 9.)

Magnus, robustus, fulvo-testaceus (pedibus rufo-rubris), supra sat dense punctulatus et recumbente breviter griseo piloseus, apud frontem, thorace adlytrosumque basim, pilis longioribus erectis intermixtis; capite grosse confluentere punctato, elytris brevi, obtuse rotundato, margine alte reflexo, integro; thorace paullo post medium dilatato, angulis antice acutis, margine cruento.

♂. Pygidium planum, margine apicali alto acuto reflexum, dense punctulatum, pilosum, opacum. Venter medio longitudinaliter conveys, punctulato-pubescentis, opacos; segmento 5° medio densissime punctulato, subitato, margine apicali valde flexuoso medio producto, 6° medio transversim uno. Venter medio

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medio elevato et late triangulariter dilatato. Calcaria postica libera, inferior spathulato superiore multo longiore et gracilior. Antennarum clava valde elongata, cæteris articulis conjunctis multo longior; articulis 4°–7° intus paullo productis, acutis.

Long. 21 millim.

_Hab._ MEXICO, Juquila (Sallé).

Two males only, exactly similar.

9. **Listrochelus scoparius.**


_Hab._ NORTH AMERICA, Arizona — MEXICO, Sonora.

10. **Listrochelus mucoreus.**


_Hab._ NORTH AMERICA, California, Texas, Arizona &c.— MEXICO, Northern Sonora (Morrison).

One female example from the late Mr. Morrison, bearing the name of this species, which agrees moderately well with Dr. Horn's description.

11. **Listrochelus — ?**

_Hab._ MEXICO, Cholula in Puebla (Höge).

A single female example, apparently of a species different from any of the foregoing.

12. **Listrochelus oblongulus.** (Tab. X. fig. 7, ♂)

Parvus, elongato-oblongus, nitidus, nigerr vel (immaturas?) castaneus, subitus cum femoribus testaceo-rufus; elyceo elongato semiovato vel obtuso quadrato concavo, marginibus alte elevatis, integris, fronte planato-decliivi, occipite hauz elevato, polito; teto capite dense punctato, gibbro; thorace sat elongato, medio dilatato, margine laterali crenato, angulis anticiis rectis, posticis obtusis, supra discrete punctato, spatio dorsali laevi; elytris sat disperse punctulatis, subrugulosis, costa levibus. Pygidium sat elongatum, parum convexum, disperse grosse punctatum, parce setosum. Coxarum posticarum angulum exterior hauz productum. Antenne 9-articulata.

♂. Venter fere levis, segmento 6° medio transverse planato. Ungues omnes denti minute denticulati.

♀. Venter fere levis, segmento 6° convexo. Ungues omnes dente parvo acuto ante medium, post dentem laiores et subtiliter denticulati.

Long. 8–10 millim.

_Hab._ MEXICO, Iguala in Guerrero, Chilpancingo (Höge). A good series of examples.

This small and narrow insect has not at all the appearance of a 'Rhizotrogide' In general form it resembles much more the species of _Hadrocerus_ ('sensu' Burmeister) of the _Clavipalpus_ group. The labrum is narrowly and deeply excavated, the apical joint of the maxillary palpi slender, and the mandibles concealed.
PHYTALUS.


A genus distinguished from the following (Lachnosterna) only by the mode of denticulation of the tarsal claws, the usual inner tooth, which in Lachnosterna varies in position from near the base to near the apex, being here apical, so that the claws are properly termed fissile or cleft. The examination of a large series of species has proved the correctness of Lacordaire’s opinion that this character would eventually prove untenable, for I find that every gradation exists between a typical Phytalus with cleft claws, and the section of Lachnosterna in which the tooth is placed near the base. I retain the genus, however, as a convenient group, in the belief that a division of the great genus Lachnosterna into numerous genera will soon become indispensable, and that Phytalus will probably then be retained under some restricted definition.

I have not here restricted the genus to those species in which the inner or lower tooth of the claw is equal in length and subparallel to the apical portion, but have found it necessary to include in it a numerous group in which this tooth is more or less short but nearly parallel, and others (P. pubicollis, Blanch.) in which it is considerably deflexed and divergent though always nearer the apex than in Lachnosterna. Even thus modified, the fissile character of the claws applies strictly to the males only; the females in some species (e.g. P. obsoletus) having the lower tooth rather widely divergent, thus approaching the form presented in Section IV. of Lachnosterna. In facies and in nearly all points of structure on which genera are founded in the ‘Rhizotroginae’ there is no agreement among the species. For example, the number of antennal joints varies from 10 to 8, the intermediate joints varying in relative length, and the leaflets of the club vary in number in the males from 3 to 5; the lower spur of the hind tibia, generally articulated, is in some species connate; the mandibles are visible or not in repose; and the clypeus is of the most diverse formation. But it must be added that no better result follows in this instable series of forms when any other leading character is taken as a basis for grouping.

A score of species of Phytalus have been described. Like Lachnosterna it is found in America and in South-eastern Asia; but unlike that genus it appears to be scarcely represented in temperate North America, where Lachnosterna abounds in species. The genus is not mentioned by Leconte in his important work on the Melolonthidae of the United States published in 1856; but I have seen specimens of a species, apparently undescribed, from Arizona.
I. Antennal joints 3–7 short.

a. Lower tooth of the claws not much shorter than the upper, at most a little deflexed in the male (sometimes much more so in the female); both spurs of the hind tibia free.

1. Phytalus obsoletus.

Var. minor. Phytalus levigatus, Blanch. l. c. p. 131.

Hab. Mexico 1,12, Orizaba, Guanajuato, Puebla, Juquila, Chiapas (Salle), Jalapa, Oaxaca, Las Vigas (Höge); Guatemala (Salle), Cerro Zunil, Las Mercedes, Volcan de Atitlan, Duenas, Capetillo, Guatemala city, Purula, Panzos (Champion); Nicaragua, Chontales (Belt, Janson).

There are many examples in the Sallé collection of both of Blanchard’s species, apparently correctly named, and after a long study of a numerous series of similar individuals from various localities I fail to discover any constant character whereby they may be distinguished. The males of both agree in the highly peculiar form and clothing of the ventral segments, the description of which by Burmeister may be supplemented, as follows:—

♂. Venter medio longitudinaliter concavus, densissime fulvo-pilosus; segmento 5° postice sublobato-producto, 6° medio contracto. Pygidium convexum, sparse punctatum; margine apicis reflexo, fimbriato.

In the female the pygidium is very slightly convex and unituberculated near the apex; the tubercle varies in size and a little in its distance from the apical margin, the largest individuals (labelled P. obsoletus in the Sallé collection) having it furthest removed from the margin and more erect.

In both sexes the spurs of the hind tibiae are freely articulated, long, and pointed. The tarsal claws differ considerably according to sex. In both male and female the base of each claw is very little and very gradually dilated, not dentate; in the male the apex is cleft, with the lower tooth broader than the upper; in the female the claw cannot be said to be cleft, but is furcate, the lower and broader tooth being removed nearer to the middle of the claw. In length the species varies from 14 to 21 millim.

P. obsoletus bears a very close resemblance to Lachnosterna testaceipennis.

2. Phytalus punctuliceps.

P. obsoletus similis; flavo-testaceus, thorace vix rufose verticeque nigriscanti, glaber, nitidus; differt capite, thorace et scutello regulariter sat dense et elegantiss punctulatis; clypeo semirecidentis, perparum reflexo, antice medio sinuato, sutura acuta flexuosa; thorace transversim quadrato, postice haud angustato nec medio dilatato, ante medium rotundato-angularato, angulis posticis reeis subsalutis, margine postico bisinuato; clytris paululorum grossii subrugulose punctulatis, pedice mediocrer fluvo-hirsuto. Ungues omnes ♂ ♂ basi rotundato-dilatati, apice profundo fissi, dente inferiori paullo grossiore et breviore; calcearia postica ♂ ♂ elongata, gracili, libera.

♂. Pygidium convexum, glabrum, disperse punctatum, margine apicis incassato et subitus horizontaliter pro-
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longato segmentum ventralen 7th simulante. Venter medio depressus, glaber, segmentis 2°-6° aequalibus, setis elongatis puercis.

♀. Pygidium sicut in ♂, sed lamina ventrali interdum occulta. Venter politus, segmento 5° apice transverse exarato-depresso.

Long. 16-18 millim.

Hab. GUATEMALA, Capetillo (Champion).

Three examples, two of them females, in one of which the pygidium is not closed on the last ventral segment, leaving a narrow ventral plate visible at its apex.

3. Phytalus nubipennis.

Minor, oblongo-ovatus, castaneo-rufus (vel fulvus thorace rufo), nitidus, elytris ventrisque lateribus leviter pruinosis, brevisimae rectangulato-setosis (vel nudis), subopacis; capite lato, dense subtuberculato conicus; punctato, fronte convexa, sutura frontali valide impressa; elytris transverso, lateribus haud ampliatis, antice rotundatis, margine apicali anguste reflexo medioque breviter sinuato; thorace medio subangulatim dilatato, supra sat distantie punctulato; elytris disperse et parum profunde punctulatissimum, costa mediana elevata. Variet elytris costula parum elevata submarginali.

♂. Pygidium fere planum, glabrum, disperse punctatum. Venter medio politus, fere glaber; segmento 5° forca magna granulata, 6° transversim leviter depressus rugulosus. Antennarum clava medioeis ovata. Ungues basi vic dilatati, apice fissi, dente inferiori paullo fortiore vix breviore.

Long. 15-16 millim.

Hab. MEXICO, Yolos, Oaxaca (Sallé).

Four examples, all males.

4. Phytalus ambigenus.

P. nubipennis similissimus, coloribus formaque corporis haud differt, sed aliis characteribus valde discrepat. Caput haud magnum, normale, grossius reticulato-punctatissimum; elytris parvo, fere semicirculari, margine albo reflexo, integro; sutura frontali parum impressa, levvi; fronte thoraceque longe erecte hirsutissimi; elytris fortius punctatis. Variet, sicut P. nubipennis, elytris costula parum elevata submarginali.

♂. Pygidium basi paullo convexum, plate planum, disperse setifer-punctatum. Venter longitudinaliter concavus et canaliculatus, sparsim breviter setosus; segmenti 5° plaga posteriore mediae convexa dense granulata, margineque postice arcuatim emarginato, 6° magno, medio depressus et longe et dense setoso. Ungues robustiores, basi magis dilatati, dente inferiori multo latiore pallo deflexo. Antennarum clava valde elongata, ceteris articulis conjunctis multo longior.

♀. Pygidium sicut in ♂, sed longior et juxta apicem subtuberculatissimum. Venter segmento 6° valde convexo. Ungues furcati, dente inferiori angustiore et acutior sed magis deflexo.

Long. 18 millim.

Hab. MEXICO, Yolos (Sallé), Oaxaca (coll. Bates).

Two males and one female. In this species the tarsal claws are almost too divergent in their apical teeth to warrant its retention in the genus Phytalus.

5. Phytalus (?) pubicollis.


Hab. MEXICO (Ghiensbrecht, Sallé ex coll. Sturm).

The single example in the Sallé collection bearing the above name agrees fairly well
with Blanchard's description and is a male. This specimen has the clypeus rather small and nearly semicircular, without the usual sinuation of the front margin. The secondary sexual characters are as follows:—


The tarsal claws are, as Blanchard states, short and curved. The lower tooth is very broad and curved, and the basal stem of the claw is short and broad without the usual tooth-like dilatation. I leave the species in the present genus with reserve.

It differs little in the form of the claws from Lachnosterna testaceipennis.

6. **Phytalus (?)** — ?

*Hab. Mexico*, Ventanas in Durango (Höge).

A female example of a species certainly allied to *P. pubicollis*, but with the lower tooth of the claws much curved and deflexed, and consequently not strictly belonging to the genus.

7. **Phytalus cometes**. (Tab. X. fig. 8, ♂.)

Elongato-ovatus, robustus, rufescenti-fusus, pilis incubentibus fulvis densissime vestitus, elytris prope marginem et suturam setifero-porosis; clypeus transverso, antice late rotundato medio sinuato, margine reflexo, supra dense punctato, fronte confluentur punctata, sutura haud perplicata; thorae elytrisque dense regulariter punctulatis, illo angulis posticis fere rectis; pectore, femoribus et coxis fulvo-hirsutis.

♂. Pygidium convexum, alutaceum, apice interdum nitidum, umbilicato-punctulatum, margine apicali acuto, reflexo. Venter longitudinaliter depressus, breviter pilosus, segmento 5° apice medio late sinuato, 6° medio transversim concavo. Tibiarum posticarum calcaria elongata, gracilis, libera. Ungues omnes basi triangulariter dentati, apice profunde sed anguste fissi, dente inferiore latiore sed haud breviore, paullo deflexo. Antennarum clava elongata, articulis 2°-7° conjunctis longior, 7° intus valde producto acuto. Long. 21-24 millim.


Four examples, all males.

This species is the analogue (in *Phytalus*) of the *L. crenulata* group of *Lachnosterna* (Leconte's Group XII); the totally different form of clypeus and other characters, besides the generic difference in the claws, forbid the supposition of a real affinity.

A Chontales specimen is figured.

b. **Lower tooth of the claws not much shorter than the upper; lower spur of the hind tibia connate.**

8. **Phytalus pruinosus**.


*Hab. Mexico* 12, Cordova (*Sallé*), Jalapa (Höge).

I have seen very few examples of this insect, which is liable to be confounded with *Biol. Centr.-Amer.*, Coleopt., Vol. II. Pt. 2, *February* 1888. 2 AA
similarly dark-coloured and smooth, pruinose species of *Lachnosterna*. The following secondary sexual characters will facilitate its determination:—


Cylindricus, elytris praeclue praeclue valde elongatis, supra glaber, nitidus, castaneo-fusus vel castaneo-rufus, elytris pleureaque fulvo-testaceis; clypeo brevi, transverso, medio profunde sinuato, lateribus rotundatis, sat sparserm punctato; thorae transverso, post medium haud augnastato, angulis posticis rectis, sat dense punctulato; elytris undique punctatatis, costis vix elevatis, interstitio suturali parce punctulato; pectore fulvo-kirsato.


Long. 20–26 millim.

*Hab.* *Nicaragua*, Chontales (Belt, Janson).

Five examples, of which one only is of the female sex.

The shape of the head is similar to that which prevails in the *L. rorulenta* and *L. fusca* groups of *Lachnosterna*, which also exhibit the peculiar feature of a soldered lower spur to the hind tibiae of the male.

10. *Phyalus trichodes*.

*P. pubicolli* similariter pubescens, sed major, clypeo medio sat acuto sinuato, etc. Oblongus, fulvo-ochraceus, subnitidus, undique sat breviter dense fulvo-pilosus et dense punctatus; capite umbilicato-punctato; antennis rufis, nitidis, clava palpidiore, opaca; pectore dense fulvo-villosa.

Long. 17–20 millim.

*Hab.* *Mexico*, Las Vagas (Höge).

Numerous examples were captured by Herr Höge. *P. trichodes* is an oblong-ovate species of tawny or reddish-ochreous colour, and densely clothed throughout with rather short erect tawny hairs. The tarsal claws are dilated at the base, and, as in *P. obsoletus*, differ as regards the apical fissure according to sex; the following are the secondary sexual characters:—


This species is the analogue of the *L. ilicis* and *L. hirticula* group of *Lachnosterna* (Leconte’s Group IX.); but it is only an analogy, or the recurrence of similar external features, as clearly demonstrated by the numerous important points of structural difference.

c. Lower tooth of the claws much shorter than the upper, sometimes parallel to it, sometimes a little deflexed.

11. **Phytaulus macrocerus.** (Tab. X. fig. 9, c.)

Breviter ovatus, fulvo-testaceus, ventro flavo, fronte thoracique longe hirsutis. Clypeus transversus, concavus, margine antice valde elevato fere integro, supra parum punctato; thorace discrete punctulato, medio rotundato sed postice angustato; elytris grossius discrete punctatis, costulis angustis elevatis, punctis singulis setum incumbentem griseam emitentibus; pectore fulvo-villoso. Antennae 10-articulatae.

1. Pygidium fere planum, disperse punctatum, setis nonnullis. Venter late concavus, fere levis, segmento 5° apice medio dense granulato ibique margine sinuato, 6° medio lato, canaliculato, fasciculato, longe setoso. Calcaria postica elongata, libera. Ungues basi vir dilatati, apice flavi, dente inferiore multo breviore, paullo latiore, obtuso. Antennarum clava longissima, flava, ceteris articulis conjunctis multo longior.

2. Pygidium fere planum, apice conicus, sicut in 1 disperse setifero-punctatum. Ungues dente inferiore quam in 1 longiore et acutior.

Long. 11-13 millim.

*Hab. Mexico, Oaxaca, Cordova (Höge).*

A large series of examples.

12. **Phytaulus platyrhinus.** (Tab. X. fig. 10, c.)

Oblongus, subcylindricus, castaneo-fuscus, nudus, subnitidus, corpore subtilis, antennis et pedibus fulvo-testaceis; clypeo brevi latissime quadrato, angulis rotundatis, antice leviter et late sinuato param reflexo, sat dense, fronte spursum, punctato; oculis magnis; thorace ante medium dilatato, postice haud angustato, angulis posticis rectis subacutis, subtiliter disperse punctulato; elytris ruguloso-punctatis vel coriaceis, costis perspicuis sed rugulosis; acutello rufo-castaneo; pectore fulvo-villoso. Antennae 10-articulatae.


Long. 17 millim.

*Hab. Mexico, Orizaba (Sallé), Salazar, Jalapa (Höge).*

Six examples, of which one only (from Orizaba) is a female. The hind tarsi in this latter are wanting, and the remarkable sexual difference in the position of the lower tooth is described from the anterior and middle pairs. The mandibles are short and broad, and when closed are invisible. A specimen from Jalapa is figured.
13. Phytalus batillifer. (Tab. X. fig. 11, ♂)
Subcilindricus, robustus, dilato-testaceus, glaber, elytris pruinosis; clypeo elongato, valde concavo, rotundato-quadrato, margine antico medio breviter recurvato-dentato, supra superficiliter (fronte grossius) alveolato; thorace medio perparum dilatato, postice vix angustato, margine serrato, robustissime setoso, supra profunde irregulariter punctato; elytris punctulatis, ecostatis; pectore tenuiter fulvo-birto.
Long. 17-20 millim.

Hab. Mexico (Sallé, ex coll. Sturm), Cuernavaca (Höge).

A species remarkable for its long shovel-shaped clypeus, the anterior recurved margin of which projects far beyond the labrum. The mandibles are not visible and the tarsi are robust-filiform, characters which show that the insect is closely allied to Rhizotrogus. It bears the unexpressive name Ancylonycha pallida, Sturm (MS.), in the Sallé collection.

14. Phytalus högei. (Tab. X. fig. 12, ♂)
Oblongus, glaber, nitidus, castaneus, subusti fulvo-testaceus; capite discreto haud grosse punctato, clypeo lateribus parae rotundatis, margine reflexo, antice simulo; thorace ante medium dilatus, deinde usque ad basin recto (lateribus parallelis), discreto punctulato; elytris mediocriter ruguloso-punctulatis, costis paullo distinctis; pectore flavo-villoso.
♂. Pygidium fere planum, disperse sat grosse punctatum, glabrum. Venter medio vix depressus, politus, segmento 5° simplici, 6° medio transversim haud profunde impresso vel sulcato fere levii. Calcaria postica gracilii. Ungues dente inferiori cum apicali parallelo haud latiore, acuto, multo breviori. Antennarum clava valde elongata, ceteris articulis conjunctis multo longiori; articulis 4°-7°a intus paullulum productis, 6° et 7° brevioribus et latioribus.
2. Pygidium basi convexum, bicallosum, apice planum, glabrum, parum punctulatum.
Long. 15 millim.

Hab. Mexico, Toluca (Höge).

Nearly a score of examples. This species, like others of this section, has the facies of a Rhizotrogus.

Antennal club with 5 leaflets.

15. Phytalus pentaphyllus. (Tab. X. fig. 13, ♂)
Elongato-oblongus, piceo-niger, glaber, nitidus, supra passim discreto haud profunde punctulatus, subustis cum antennis pedibusque piceo-rufis; clypeo parvo, lateribus antico convolutis, margine antico anguste reflexo, medio profunde emarginato; thorace medio mediocrer dilatato, antice et postice equaliter angustato, angulis posticis acutis; scutellum sat dense punctulato, lines longitudinali lati.
♂. Pygidium basi convexum, deinde verticale disperse punctatum. Venter medio longitudinaliter depressus, larvis, segmento 5° apice depressed, 6° basi convexo, medio levii, apice transversim sulcato-punctato. Calcaria postica gracilii, acuta. Ungues basi obtuse dentati, apice anguste fissi, dente inferiori vix latiore multo breviori. Antennarum clava valde elongata, pentaphyllus, articulis 7° lamina paullo, 6° multo, abbreviata, articulo 5° intus sat longe, 4° brevius acuto productis.
Long. 18 millim.
Phytalus.

Hab. Mexico, Ciudad in Durango (Höge).

There is a single male example only of this remarkable insect, which, notwithstanding the eccentric structure of its antennæ, seems to be perfectly congeneric with the other species of the Group II. The parts of the mouth offer no perceptible difference; and the legs, though longer and more slender than usual, are similar in form and proportions to those of certain species of Lachnosterna.

II. Antennal joints 3–5 (in 8-jointed species 3 and 4) elongate and subcylindrical.

1. Antennæ 10-jointed.

16. Phytalus senicuslus.

Subcylindricus, pallide testaceus, fronte et thorace longe erecte flavo-pilosus; clypeo mediocriter transverso, antice sinuato discrete punctato, fronte grosse confluenter sebroso-punctata; thorace medio dilatato, postice subimmutatim angastato, angulis anticis et posticis subrectis nullomodo productis, supra sat dense mediocriter grosse punctato; elytris subtilissimae punctulatissimae, fere levibus, ecostatis; pectore flavo-villosum.


Long. 13–15 millim.

Hab. Mexico, Chiapas, Tepansacualco (Sallé).

Two male examples only.

17. Phytalus xanthocomus. (Tab. X. fig. 14, ♂.)

Oblongus, flavo-testaceus, glaber, fronte thoraceque dense erecte hirsutis; clypeo sat parvo, lateribus antice paullo convergentibus, spicis rotundatis, margine reflexo medio inciso-emarginato, dense punctato, fronte alveolato-punctata; thorace medio valde dilatato, angulis posticis rectis, anticus obtusis, supra sat grosse et subdense punctato; elytris punctulato-rugulosis; pectore flavo-villosum.

♂. Pygidium convexum, glabrum, dispersum punctatum. Venter depressus, levius, segmentis 5° medio setosus, 6° medio foveato. Calcaria postica libera. Ungues denti apicali sat lato acuto curvato, inferiore breviore, paullo distanti, lato; basi rotundato-dilatata. Antennarum clava elongata, articulis 2°–7° conjunctis equalis, articulis 3°–5° paullo elongatis, cylindricis, 6° breviori, 7° brevissimo.

Long. 13 millim.

Hab. Mexico, Chiapas (Sallé); Guatemala, Totonacapam (Champion).

Two examples, both males.

The claws are broadly dilated at the base and very gradually narrowed, but still broad to the base of the tooth. This species and the following approach very closely the Group I. of Lachnosterna. The Guatemalan example is figured.

18. Phytalus —?

Hab. Guatemala, Cerro Zunil (Champion).

One example, male, immature.
19. Phytalus bolacoides.

P. bucephalo affinis, major, postice (♀) valde dilatatus, fronte et thorace longe et dense erecte fulvo-hirsutis; capite cum occulis magno; elyopeo semicirculari, antice profunde sinuate, castanco-rufo, fronte nigra; thorace brevi, nigro-fusco, lateribus medio rufis, valde producto-dilatato, dense sat grosse subconfluentes punctato; elytris testaceo-flavis, plaga magna juxta-scuto-lari castanco-rufa, nudis basi sparsem setosa excepta, subtiliter sparsem punctulatis, fere levibus; subius cum pedibus antemissisque flavo-testaceis. Antennae 10-articulato, articulis 3°-5° elongatis, tenuibus, equalibus, haud perspicue articulatis, 6° et 7° brevibus.

♀. Pygidium basi convexus, rugosum, post medium transverse valde depressum, apice iterum convexo, callusom, laeve. Venter convexus, suturis haud deletis, segmento 6° convexo, punctato. Ungues apice fissi, dente inferiori paullo latiore et breviore, magis curvato; basi parum dilatati.

Long. 14 millin.

Hab. Mexico, near Acapulco (Baron, ex coll. Harford).

Resembles much species of the genera Bolax or Leucothyreus.

2. Antenna 9-jointed, the sixth joint very short.

20. Phytalus bucephalus. (Tab. X. fig. 15, ♀.)

Parvus, breviter cylindricus, fulvo-testaceus, nodus, nitidus, capite, thorace (lateribus exceptis), sculetto vitiisque elytrorum densus (una vaga suturali, alia postero-marginali) castanoc-fuscia (elytris interdum toto fulvo-testaceis); capite magno, sparse irregulatir grosse punctato, elyopeo brevissimo, lateribus oblique rotundatis, margine anteriore medio verticaliter arcuato-reflexo (haud emarginato); thorace post medium rotundato-dilatato, postico cito quam antiquo angustato, margine grosse crenato; elytris subrugulose punctulatis; pectoro funtimibusque fulvo-hirsutis. Antennae articulis 3°-5° elongatis, equalibus, tenuibus, 6° brevissimo.


♀. Pygidium a ♂ haud different. Venter convexus, suturis medio obliteratis, segmento 5° siuit in ♂. Calcaria postica elongata, apice obtusa. Ungues apice latius fissi, dente inferiori deorsum magis curvato.

Long. 10-11 millin.

Hab. Mexico, Parada (Sallé). Two examples.


Anguste oblongus, flavo-testaceus, fronte cum verticique nigra, thorace medio castano; capite cum occulis magno distanter asperato-punctato, elypeo brevi, transversim quadrato, margine albo reflexa, integro, supra valde conceavo, sparse punctato; thorace medio mediocrer rotundato-dilatato, discreto punctato, margine anticu (cum fronte) erecte hirsuto, cetera superficie glabro; elytris sat dense punctulatis, costulis distinctis; pectoro cinereo-flavo villoslo.

♂. Pygidium convexum, crebre vel subrose punctatum, glabrum, basi transversim sulcatum, apice sulco-marginatum. Venter medio parum depressus, parce setosus, segmento 5° medio denius setosis, 6° transversarum parvarum depressus. Calcaria postica elongata acuta, libera. Ungues dente inferiori multo breviore, paullo latiore et deflexo, apice obtuso; basi breviter obtuso dentati. Antennarum clava elongatissima, ceteris articulis conjunctis dimidio longior; articulo 5° valde elongato, 6° brevissimo.

Long. 13 millin.

Hab. Mexico, Tepansacualco (Sallé).

Var. elypeo lateribus paullo convergentibus, margine minus albo reflexo.

Hab. Mexico, Parada (Sallé).
Two examples of the type, both males. The antennae are elongated both in stem and club, but the club is half as long again as the stem. The var. is to some extent intermediate between this species and Phytalus bucephalus; it is barely 11 millim. long.

22. Phytalus lineatus. (Tab. X. fig. 16, 2.)
Anguste oblongus, flavo-testaceus, vertice nigricante, thorace pleuremque vitta dorsali (usque ultra scutellum extensa) infusca, supra glaber, nitidus; clypeo brevi, late et obtusissime rotundato, cum fronte grosse subconfusenter punctato; thorace elytris latiore, antice angustato, lateribus a basi usque ad apicem arcuatis, angulis posticis subrotundatis, supra discreto punctulato; pectore flavo-hirsuto.

\[ \text{Pygidium sat elongatum, subconvexus, sparse punctatum, spicis reflexum. Venter medio late concavus, segmento } 5^\circ \text{ dense et longe flavo-barbato medio canaliculato, } 6^\circ \text{ postice valde elevato, apice medio producto, asperato. Thiarum posticarum calcaria libera, inferiori multo breviore. Ungues basi sat acutis dentati, apice fissi, dente inferiori multo breviore, paullo latiore, apice obtuso. Antennarum clava ceteris articulis conjunctis longior.} \]

\[ \text{Hab. Mexico, Parada, Capulalpam, Peras, Yolos, Juquila (Sallé), Cordova, Oaxaca (Höge).} \]

This species bears the name (which I have adopted) Phytalus lineatus, Reiche (MS.), in the Sallé collection.

We figure a female example from Cordova.

23. Phytalus stramineus. (Tab. X. fig. 17, 2.)
Minor, pallide flavo-(fere albo-) testaceus, capite et thorace paullo ruforibus, glaber, passim discrete punctulatus; clypeo rotundato, margine reflexo, medio leviter sinuato; antennam articula 3° et 4° elongatis, 5° dimidio breviore; thorace medio subangulatim leviter dilatato, antice et postice fore equaliter angustato; pectore mediocriter flavo-hirsuto. Ungues \( \frac{\text{2}}{\text{2}} \) profunde fissi, dente inferiori paullo latiore et breviore.

\[ \text{Pygidium convexum, pilifero-punctulatum, margine apicali reflexo et subtus planato. Venter medio late depressus parce erecto pilosus, nitidus, segmento } 5^\circ \text{ spine arcuatum emarginato, } 6^\circ \text{ levri, medio canaliculato. Calcaria postice compressa, libera. Antennarum clava elongata, ceteris articulis conjunctis equalis.} \]

\[ \text{Pygidium medio depressum vel concavum, sicut in } \frac{\text{1}}{\text{2}} \text{ piliferum, spine magis reflexo. Venter medio levis, segmento } 6^\circ \text{ convexo, parum punctato.} \]

\[ \text{Hab. Mexico, Iguala in Guerrero (Höge).} \]

Three examples.

This and the following differ from the other species of Section II. in the fifth antennal joint being, although subelongate, only half as long as the fourth, instead of being equal or longer.

24. Phytalus ciudadensis.
Anguste oblongus, nitidus, flavo-testaceus, capite thoraceque rufo; capite mediocri, oculis magnis, clypeo brevi, lateribus rotundatis nec antice convergentibus, margine antico alto reflexo, medio leviter sinuato, supra dense, fronte sparsim, punctatis; thorace lateribus rotundatis, supra disperse punctulato; elytris discrete punctulatis, paullo rugulosis, ecostatis.

\[ \text{Pygidium sicut in Phytalus egregio cerebro rugoso-punctatum, glabrum, basi transversim sulcatum. Venter medio parum depressum, sparsim, segmento } 5^\circ \text{ longius, setosum, } 6^\circ \text{ medio transversim paululum depressum.} \]
LAMELLICORNIA.

Calcaria postica gracilia, libera. Ungues dente inferiore multo breviore, vix grossior nec deflexo. Antennae clava valde elongata, ceteris articulis conjunctis longior; articulo 5° quam praeceps longiore. Long. 10–11 millim.

_Hab._ Mexico, Ciudad in Durango (*Höge*). Two male examples.

Very closely allied to _P. agrotus_, but sufficiently distinct by the clypeus being much shorter, broader, and less quadrate, and sinuated on its front margin. The lower tooth of the tarsal claws is also rather longer and narrower. The thorax is clear testaceoused and not castaneous on the disc as in _P. agrotus_ and its var., which latter partly bridges over the difference between the two species.

25. **Phytalus fissilabris**.

_P. bucephalo_ similis, quoad clypei formam _Lachnosternae longitarsi_ (Say) simillimus; differt inter alia thorace grosso punctato. Parvus, angustus, castaneo-fuscus, pedibus fulvo-testaceis, nudus, fronte thoraceque pilis nonnullis elongatis; clypeo parvo, antice profunde sinuato, lateribus rotundatis, supra grosse punctatis, fronte grosse scabrosa-punctata; labrum exposito profundissime sinuato; ocellis maximis; thorace grossissime disperso punctato; elytris ruguloso-punctatis; pygidio convexo, disperso punctato, apice reflexo; ventris suturis haud delitis subtilibus; antenne 9-articulatæ; mandibula lata, robusta, apice rotundata.


_Hab._ Mexico, Orizaba (*Sallé*), Las Vigas (*Höge*).

Two examples only. The male, which is imperfect, has more voluminous eyes, and a more deeply sinuated and more reflexed clypeus, than the female, and the forehead and thorax clothed, but not thickly, with long, fine, erect hairs. The short clypeus with its large median sinuation causes the labrum to be prominent and exposed.

3. **Antennæ 8-jointed, the fifth joint very short.**

26. **Phytalus poculifer**.

Parvus, breviter ovatus, livido-fuscus, nitidus; antennæ pedibusque fulvo-testaceis, glaber, fronte thoraceque longissime hirtis; clypeo sat elongato-quadrate, profunde concavo, parce punctato, margine alte reflexo, integro, fronte convexa et grosse punctata; thorace ante medium valde dilatato, angulis obtusis, supra sparse mediocriter grosse punctato; elytris aequaliter discrete punctulatis, costatis. Mandibula inter labrum et mentum haud exserta.


_Hab._ Mexico (coll. Bates).

A single male example, somewhat immature. The concealed mandibles and 8-jointed antennæ would bring the species within the definition of Erichson’s genus _Anonetus_;
but the dentition of the claws is widely different, *Anometus* being defined as having a quadrangular tooth at the base of the claw. It will be seen further on that a section of *Lachnosterna* has also 8-jointed antennae, and, in some examples but not in others, concealed mandibles, so that the genus is evidently untenable.

27. Phytaurus

*Hab. Mexico (Sallé, ex coll. Sturm)._*

Two mutilated specimens of a species with 9-jointed antennae, named by Sturm *Schizonycha puncticollis*.

**LACHNOSTERNA.**


The species with more or less narrowly-cleft tarsal claws being excluded to form the unsatisfactory genus *Phytaurus*, a polymorphic host of nearly 200 described species remain, which it is extremely difficult to arrange in natural groups. After trying various courses, I have preferred to take the armature of the claws as a basis of grouping, finding that the result does less violence to the apparent natural affinities of the species than is shown when any other varying character, such as the structure of the antennae, the parts of the mouth, or the secondary sexual characters, is adopted. I do not wish it to be inferred that the groups are perfectly natural and applicable to the species of other regions; in fact they apply very imperfectly to the *Lachnosterna* of temperate North America, and not at all to Asiatic species. But neither does the system adopted in Leconte’s synopsis of the North-American species suit the forms of the Tropical-American fauna.

The genus is very numerousely represented in our region, particularly in Mexico, and judging from the many single specimens of apparently distinct species met with by our travellers, and that continue to arrive, it is highly probable that we are not acquainted with one half the species that exist in the country. The genus seems to diminish in the number of its representatives further south, but many are described from Colombia, Venezuela, and the West Indies; in the plains of the Amazons it is practically unknown, a single damaged example found after a storm being all that I met with during eleven
years’ collecting. It reappears, however, in numerous species in South Brazil. In the Old World it is spread over Eastern and South-eastern Asia, and a few species have been described from islands in the Indian Ocean and also from West Africa.

I. Claws broadly cleft, or with the lower tooth situated above the middle of the claw; base broadly dilated or toothed; the three dentiform processes more or less closely approximated.

In the species included in this section the margin of the clypeus is generally a little reflexed and notched in the middle, and the thorax coarsely punctured and broadly dilated.

1. Lachnosterna castaniella. (Tab. X. fig. 18, Ơ.)

*L. parvomaculata* similis; minor, castana, utida (capite thoracique interdum obscurioribus); subts sum antennis pedibusque fulvo-rufa; clypeo subsemicirculari, margine parum reflexo medio anguste sinuato; capite tene grosse et dense subconfluentem punctato; thorace valde dilatato-subproducto, disperso medio-criter grosse punctato; sentello parce subtiliter punctato; elytris postice paullo ampliatis, sat dense punctulatis, prope suturam rugulosis; pediculus fulvo-villosus.

\( \ell \). Pygidium apice obtusum truncatum, medio plus minusve late sulcatum, utrinque convexum, glabrum, politum, spare punctulatum. Venter medio paullo depressus, fere levius, segmento 5° apice medio plaga parva granulata, margine postice valde arcuatim emarginato, 6° magno, medio depresso, granulato et erecto piloso. Calcaria postica libera. Ungues basi haud dentati sed dimidio basali aequaliter dilatato, dentibus dubius apiiculis subparallelis, inferiore obtuso et multo breviore latioreque. Antennarum clava valde elongata, enteris articulis conjunctis longior.

\( \mathfrak{q} \). Pygidium sicut in \( \ell \), sed longior, basi convexum. Venter convexus, medio lavis, segmento 6° magno, convexo, 5° et 6° setifero-punctulato. Ungues a \( \ell \) haud diversi, dente inferiori excepto ab apicali magis distantii.

Long. 11–12 millim.

*Hab.* Mexico, Atenquique in Jalisco (*Höge*). Ten examples.

2. Lachnosterna heteronycha. (Tab. X. fig. 19, Ơ.)

Parva, oblonga, postice latior, fulvo-castanea, undique sat longe, apud thoracem elytrorumque basin longissime, fulvo-hirsuta, dense (thoraces paullo grossis) punctulata; clypeo mediocris subquadrato, lateribus angulisque rotundatis, margine antico paullo reflexo et sinuato, fronte declivi, plana, grosse scarosa, supra transversim obtusae carinata, occipite lavi polito; thorace post medium angulatim dilatato, antice sinuatis angustato, angulis anticiis acutis, posticis subrecis; elytris eccatois; pediculus superbus longe hirsutis. Antennae 10-articulatae, articulae 3°–5° paullo elongatis, 6° et 7° brevissimis. Ungues apice late fissi, dente inferiori multo latiore, paullo breviori et deflexo; basi 2 posticorum gradatim modico, 4 anteriorium grossissime angulatim, dilatati.

\( \ell \). Pygidium convexum, sat dense punctulatum et longe erecte hirsutum, apice explanatum margineque acuto reflexo. Venter medio depressus, sat sparsim punctato-sutulosus, segmento 5° fovea lata densius punctulata, 6° brevi, grosse punctato, canalicularius. Calcaria postica libera. Antennarum clava enteris articulis conjunctis longior.

\( \mathfrak{q} \). Pygidium sicut in \( \ell \). Venter segmentis 2°–5° sat dense erecte hirsutis.

Long. 12–13 millim.

*Hab.* Mexico, Yolos (*Sallé*), Mexico city, Jalapa (*Höge*).

A specimen from Mexico city is figured.
3. Lachnosterna tridens.

Oblonga (♀), postice dilatata, castanea, breviter, apud frontem et thoracem altius, hirsuta, thorace sat dense et grosse, elytris subtilissime et dense, punctatis; clypeo medio et transverso quadrato, angulis rotundatis, margine altius reflexo medio depresso et sinuato, fronte paullo convexa, confluentre grosse punctata, occipite levii; thorace medio valde dilatato, angulis omnibus obtusis sat distinctis, margine cremato. Antennae 10-articulatae, articulis 3°-5° paullo elongatis gradatim degresscentibus, 6° et 7° brevibus.


Long. 17-18 millim.

Hab. Mexico, Capulalpam, Peras (Sallé).

Two examples, both females. This is the only species known to me in which the claws of all the feet have equidistant and similarly-formed acute teeth, differing only in their gradually increased length; the basal tooth is a prolongation of the apical angle of the long and broad basal dilatation.

The species is evidently closely allied to L. heteronycha.

4. Lachnosterna piceola. (Tab. X. fig. 20, ♀.)

Elongato-ovata, piceo-nigra, elytris paullo rufioribus, supra glabra, nitida, fronte thoracisque margine antico parce longe fulvo-setosis; capite grosse, fronte (decliva) confluenti, punctato, occipite transversim obtuso elevato; clypeo parvo, transverso, utrinque rotundato, margine antico angulatim sinusato et parum reflexo; thorace relative parvo, medio valde dilatato, angulis remote creatum, supra dispersae sat grosse punctato, angulis posticis acutis, anticis obtusis; elytris sat dense punctulatis, costa intero obliqua, parum perspiciens; pedicere fulvo-villosa. Antennae 10-articulatae, articulis 3°-7° subequalibus.

♂. Pygidium convexum, glabrum, equaliter punctatum, margine apicali reflexo et subtilis horizontaliter continuato. Venter medio convexus, politus, lavis, vix medio canaliculatus, segmento 5° apice depresso, punctulato, 6° medio concavo ibique punctulato. Calcaria postica elongata, libera. Ungues apice sat anguste fissi, dente inferiore crassiore breviore curvato deflexo acuto; basi paullo rotundato-dilatata. Antennae apicae mediae, articulis 3°-7° conjunctis fere equalibus.


Hab. Guatemala, near the city, altitude 5000 feet (Salvin). Two examples only.

5. Lachnosterna scabrifrons. (Tab. X. fig. 21, ♀.)

Elongato-ovata, nigra, nitida, glabra (elytris, pedibus antennisque interdum piceo-rufa), ventre piceo-rufo; clypeo transverso, lateribus late rotundatis, margine vix reflexo antice medio angulatim sinusato, grossissime fronteque adhue grossius subconfluenter punctatiss; thorace brevi, medio valde dilatato, distanter creatato, angulis posticis acutis, anticis obtusis, supra sparsissime subgrosse punctato, margine anteriore incrassato; scutello lavi; elytris (♀) postice dilatatis, ruguloso-punctulatis; antennis articulis 3°-6° sublongato-ovatis.

♀. Pygidium basi convexum, apice depressum, margine apicali incrassato-reflexo; glabrum, disperso punctatum. Antennarum clava parva. Ungues dilatati; basi dentati, dente inferiore elongato acuto deflexo ab apice sat distantes.

Long. 16 millim.

2 BB 2
Hab. British Honduras, R. Sarstoon (Blancaneaux); Guatemala, Cerro Zunil (Champion).

Two examples, both females. Closely allied to L. piceola, but differing too much in the outline of the clypeus and in the punctuation of the thorax to admit of the supposition that it is the female of that species. The Guatemalan example is figured.

6. Lachnosterna leonina. (Tab. X. fig. 22, s.)

L. cricriocelli et L. rugicollis proxime affinis; differt corpore toto fusco-nigro, antennis pedibusque ruforibus, utrorque sexu thorace elettrundique basi et prope suturam pilis valde elongatis erectis obutiis elettrisque lateribus quoque breviter griseo-pilosis; clypeo parvo, extus sat late rotundato (♂), antice medio late sinuato; thorace medio valde dilatato, antice leviter sinuatum angustato, avgulis antciis acutis, grossissime et dense sed parum confundeuct punctato; elettria paullo grossius quam in L. cricriocelli, multo grossius quam in L. rugicollis, punctatiss, costis sat perspicue; pectore pallide fulvo-villoso abdomineque lateribus incumbente sat dense pubescentibus. Antennae 10-articulato.


Long. 13-16 millim.

Hab. Mexico, Toluca, Peras (Sallé).

Two males from Toluca; two females from Peras: the difference in the outline of the clypeus may, therefore, indicate a local variety. In all other points the specimens agree perfectly. They are named L. foveicollis, Sturm, in the Sallé collection, but are certainly a different species from the one described under that name by Sturm.

A male specimen from Toluca is figured.

7. Lachnosterna publicanda.


♂. Pygidium margine apicale valde reflexo. Venter segmento 5° apice arcuatum emarginato, glabro, 6° magno, medio haud depresso, grosso setoso-punctato, longitudinaliter sulato.

♀. Pygidium apicre mediecrer reflexo. Venter segmento 5° parum arcuato-emarginato, 6° breviore, convexo, grosse punctato.

Long. 14-16 millim.

Hab. Mexico, Parada, Oaxaca (Sallé).

Three examples. The great difference in the punctuation and pubescence of the pygidium, in both sexes, indicates a species distinct from L. leonina, though the form and sculpture of the head, thorax, and elytra are almost exactly similar. The sixth ventral segment in the male shows no trace of the depressed median area, or wide
shallow fovea, which is so definite a character in the two males examined of *L. leonina*. The fine and close punctuation of the pygidium extends very near to the apex, and the pubescence is long and flatly adpressed like that of the propygidium and the sides of the abdomen, but the pubescence is easily abraded. In *L. leonina* the base of the pygidium is clothed with very long, erect hairs, and the apical third is glabrous.

8. *Lachnosterna dulcis*.

*L. cricicollis* affinis, quoad thorasis foveas grossas simillima; differt corpore ovato, castaneo-fusco fere nigro, antennis pedibusque testaceo-rufis; capite sicut in *L. cricicollis* grossissime confluentur punctato; clypeo subsemicirculari, margine antico angulatim sinuato, fronte longe, thorace longissime, erecto-pilosus; thorace grosse irregulariter parce forato, spatiis levibus; scutello impunctato; elytris ovatis, subtiliter punctatulis, juxta suturam solum rugulosis, disco et lateribus sublevibus, pilis longis paucis juxta scutellum exceptis glabris; pectore fulvo-villoso, pedibusque pilis longis fimbriatis.


Long. 15 millm.

*Hab.* Mexico, Toluca (*Höge*). Three males.

The three teeth of the claws are, as in *L. cricicollis*, separated only by narrow clefts, the apical one being much the largest, the basal quadrate. In colour and in the very long, erect hairs of the anterior part of the body *L. dulcis* resembles *L. leonina*; but it is a broader and much smoother insect, and the elytra are destitute of the short hairs distinguishing *L. leonina*.


*L. cricicollis* affinis; multo minor et minus elongata, ovata, fulvo-testacea, subnigta, capite et thorace rufioribus longe pilosis, elytris (margine fimbriata excepta) glabris, sat dense punctulatis, ecostatis; capite grosse confluentur punctato; clypeo utrinque sat late rotundato, margine antico elevato, medio sinuato-depresso; thorace sicut in *L. cricicollis* et *L. dulci* grosse forato sed foveis plerumque discretis, spatio ample utrinque prope basin levissimo.

d*.* Pygidium convexum, sat dense punctulatum et breviter erecto pilosum. Venter medio paullo depressus, politus, sparissime punctulatus, interdum canaliculatus, segmento 5° apice declivi, dense punctulato, apice aureatum emarginato, 6° transversim depresso granulato. Calcaria postica libera. Ungues sicut in *L. dulci*.

Antennarum clava elongata, articulis 2°-7° subequalis.

Long. 12 millm.

*Hab.* Mexico, Durango city, Pachuca in Hidalgo, Chihuahua city (*Höge*).

Four examples, all males.

10. *Lachnosterna cricicollis*. (Tab. X. fig. 23, *d*.)


*Hab.* Mexico¹, Guanajuato, San Luis Potosi (*Sallè*), Mexico city (*Flohr*).

Among the pale reddish-testaceous species this is distinguished by its relatively small and extremely coarsely and irregularly punctured thorax. The tarsal claws, with the
exception that those of the intermediate pair are not distorted, are nearly as in *L. ravida* and *L. testaceipennis*, that is, they have a broad basal tooth, a less broad and longer median tooth, and a long sharp and curved apical tooth, the intervals between all of which are nearly of the same width. In the female, as usual in the group, the median tooth is less broad and more gradually pointed than in the male, and the distances between the three teeth are considerably wider. The other sexual differences are:

♀. Pygidium param convexum, sparsim ruguloso-punctatum et setiferum, margine apicale valde reflexo. Venter medio politus, lavis, convexus, medio vago canaliculatus, interdum depressus et profundius canaliculatus; segmento 5° et 6° plaga mediana dense et aspera pilifero-punctatis, 6° magno, plano, margine apicali medio inciso. Antennarum clava parva, ovata.


Besides a specimen named *L. cribricollis*, Blanch., there are others in the Sallé collection labelled *Lachnosternum testacea*, Sturm (MS.).

The *Ancylonycha cribricollis*, Redt., in Hügel's 'Kaschmir' (1844) is anterior in date to Blanchard’s name (1850), but is wrongly placed in the genus, being a *Schizonycha*.

11. *Lachnosterna rugicollis*. (Tab. X. fig. 24, ♀.)

_Ancylonycha rugicollis_, Sturm, Cat. p. 123. 1.

*L. cribricollis* (Blanch.) affinis, sed differt capite thoraceque piceo-nigris, hoc multo densius grossissime confuenter punctato, etc. Elongato-oblonga, postice latior, subtaxa cum pedibus antennisque testaceo-rufa, capite thoraceque piceo-nigris, elytris fulvo-testaceis, his multo subtilius et sparsius quam in *L. cribricollis* punctatis, ecostatis; clypeo fere sicut in *L. cribricollis*, brevi rotundato, medio sinuato, sed sutura frontali vix impressa; thorace medio valde angulatim dilatato, margine grosse crenato, supra erecte piloso.


_Hab._ Mexico 1 (Sallé, ex coll. Sturm).

Three examples, two of which bear the name in Sturm’s handwriting; one of them is possibly a male, but the apex of the abdomen is wanting.

The species is certainly distinct from the wholly rufo-testaceous *L. cribricollis*, Blanch., under which it is placed as a synonym in the Munich Catalogue.


*L. leonina* valde affinis. Magis ovata, nigro-picea, elytris glabris, sublevibus, sparsissime et subtiliter punctulatis, clypeo paullo magis elongato; thorace hand differt.


_Hab._ Mexico (Sturm, in coll. Sallé).

I find in our collections no other example of this species than the single specimen labelled as above by Sturm in the Sallé collection.
13. Lachnosterna punctulicollis. (Tab. X. fig. 25, ♂.)

Oblonga, postice paullo dilatata, elytris glabris, castaneis, thorace nigro subopaco, minute et dense punctulato, antice, medio et postice punctis grossis nonnullis setiferis transversim positis; capite rufo-castaneo, grosse seabricoso, elytris brevi, rotundato, antice medio late sat profunde sinuato, supra medio (ante suturam frontalem) transverse carinato, vertice transversim obtuse carinato; thorace medio vallato et postice valde angustato; elytris ecostatis, sat dense punctulatis; pectore fulvo-villoso. Ungues omnes (♂ ♀) basi grosse quadrato-dentata (dente parum elevato), dente mediano lato, apice acuto, dente apicis longiore, acutio.


♀. Pygidium planum, paullo concavum, sed apice sensim elevato. Venter sicut in ♂, sed segmento 6° convexo, polito, parce grosse punctato.

Long. 15–16 millim.

Hab. Mexico, Yolos (Sallé). Three examples.

Allied to L. cribricollis, though differing in so many important points. The carinated clypeus, though the carina is not very sharply defined, betrays an affinity towards the Old-World Schizonychae.

14. Lachnosterna parumpunctata.

L. puncticollis affinis, sed differt thorace polito, sparsissime punctato, etc. Oblonga, postice dilatata, nuda, capite castano-rufus, thorace nigro, lateribus castano-rufis, elytris castano-fusis, sat dense punctulatis, ecostatis, antennis, corpore subitus pedibusque fulvo-castanensi; elytris brevi rotundato, margine antico elevato, medio profunde sinuato, grosse confunerter punctato, linea elevata transversa obsoleta, fronte grosse seabricosa, vertice elevato lascissimo; thorace medio valde dilatato subproducto; pectore fulvo-castano. Antennae 10-articulato.


Long. 14 millim.

Hab. Mexico, near Acapulco (Baron, ex coll. Harford).

II. Dentition of claws as in 1.; but those of the middle feet of the male deformed, the exterior claw being abruptly bent, and its lower tooth enlarged and projecting laterally.

15. Lachnosterna ravida. (Tab. XI. fig. 1, ♂.)


Hab. Mexico 1, Orizaba, Juquila, Cordova, Tepeฤดูนุกัลโค, Pera, Parada, Yolos (Sallé), Oaxaca (Sallé, Hoge), Jalapa, Las Vigas (Hoge); British Honduras, R. Sarstoon (Blancaneaux); Guatemala (Sallé).

The unmeaning phrases which Blanchard thought sufficient to distinguish this species from the similarly-coloured L. testaceipennis apply equally well to the females of both species. According to the examples named L. ravida (to all appearance...
correctly) in the Sallé collection, the species offers well-marked distinctive characters in both sexes.

♂. Pygidium medio-criter convexum, disperse punctatum. Venter medio depressus segmentisque 2°-5° densisimae erecte pilosis, 5° margine postico medio recte truncato. Calcaria postica sat gracilia, libera. Ungues basi bidentati, dente inferiore recta ad deutem magna basalem approximato; ungues intermedii disparae, exteriores majorae, abruptius curvato et extus lobato.


The claws are remarkable for the large and more or less quadrangular dilatation of their base, in both sexes. In the male they are further distinguished by the ordinary tooth lying nearer the base and being separated from the dilatation only by a narrow cleft, the tooth also being shorter and straighter than usual. In the female the ordinary tooth lies nearer to the middle of the claw, and is separated from the dilatation by a wide interval. The distorted curvature of the left claw in the middle tarsi is a further curious structure.

*L. ravida* resembles almost exactly *Phytalus obsoletus* in colour and in sexual characters, with the exception of those of the tarsi and claws.

We figure a male example from Oaxaca.

16. **Lachnosterna dentex.**

*L. ravida* affinis, unguibus similibus; sed differt corpore erecto piloso, etc. Minor, oblongo-ovata, rufo-testacea, nitida, erecte pilosa; antennarum clava pallidior; elytre concavo, margine antice elevato nec simnato; thorace disperse punctato; elytri punctulatus, ecostatis; pectore fulvo-villoso.


Long. 16 millim.

*Hab.* Mexico, Milpas in Durango (*Forrer*), Guanajuato (*Sallé*).

Two examples, both males.

The claws are toothed similarly to those of *L. ravida*, but the apex of the claw is not so elongated and distant from the lower tooth, so that the dilated basal and the lower and the upper teeth are nearly equidistant. The bent exterior claw of the middle tarsi has on the outer side a longish projection, which is no other than the median tooth diverted laterally out of its true position; this tooth is here of moderate length, but longer and sharper than in *L. ravida*.

A single example of a *Lachnosterna* found by Herr Höne at Ciudad in Durango is possibly the female of this species.

17. **Lachnosterna anomaloides.** (*Tab. XI. fig. 2, ♂.*)

*L. ravida* affinis, unguibus similibus; sed differt elytris incumbenti-griseo-pilosis. Elongato-ovata, fulvotestacea, capite thoraceque ruifo; elytre concavo, margine antice elevato integro; thorace disperse pune-
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tato, erecte fulvo-pilosæ; elytris punctulatis ecostatis, breviter griseo-pilosis, pilis nonnullis longioribus erectis prope basin et suturam; pectore fulvo-villoso.


Long. 14-16 millim.

Hab. Mexico, Ciudad in Durango (Forrer, Höge), Toluca (Höge).

The displaced median tooth of the male middle claws is in this species greatly elongated, and looks like a third claw.

A male example from Ciudad is figured.

18. Lachnosterna macrophylla. (Tab. XII. fig. 3, d.)

L. anomaloides proxime affinis. Breviter oblongo-ovata, castaneo-fusca, elytris breviter incumbenti-griseo-pilosis, fronte, thorace elytrorumque basi longissime hirsutis; clypeo transversim quadrato, profunde canale avo (marginibus integriss alveo reflexis), punctato punctato; thorace postico hau distato, angulus posticus acutus, nitido, forte punctato; clypeo punctulatis; pectore fulvo-villoso.

d. Pygidium convexum, longe erecte hirsutum. Venter medio depressus vel concavus, sparsum setosus, segmento 6° apice medio et 6° (medio canaliculato) paullo densius asperato-punctatus et setosus. Calcaria postica elongata, libera. Ungues tridentati, apice (dente apicali) multo longiore et acuto, dente inferiore latiore et breviore, basali magno triangulari; intermedii difformes, sinistro abrupte curvato et apice prolongato. Antennarum clava pallide fusca, longissima, catenis articulis longior, articulis 5°-7° brevibus, intus acute productis.

Long. 12-14 millim.

Hab. Mexico, near the city (Flohr). Many examples, all males.

Agrees closely in most of its characters with L. anomaloides, and, in the clothing of the ventral surface, especially with the variety of that species; but the general form is totally different, being much shorter and relatively broader—this, together with the long hairs of the anterior part of the body, being constant in numerous examples, there can be little doubt that the species is distinct.

19. Lachnosterna dasypoda. (Tab. XII. fig. 4, d.)

Sat auguste elongato-oblonga, nitida, tenuiter subparzim erecte longipilosa et dispersæ grossius punctata; castaneo-rufa, elytris fulvo-testacea, capite nigro; capite grossissime confluent punctato, oculis maximis, clypeo semicirculari, margine antico reflexo, integro (in d interpurn) leviter sinuato; thorace minus transversum, medio creto medio rotundato–dilatato margineque crenulato, sat abundanter sed distantie subgrosse punctato; pectore fulvo-villoso. Pedes elongati, valdi longipilosi, tarsis subitus densius et brevius pilosi.

d. Pygidium valde convexum, politum, longissimae erecte fulvo-pilosum, punctis minutis. Venter medio concavus et canaliculatus, sat dense setosus, suturis late deletis, segmento 6° lato, medio transversum concavo, margine anteriore increasato medio late interrupto. Calcaria postica elongata, libera. Ungues dimidio basali intus dilatato denteque mediao (a dilatatione hand separatu) parvo acuto; intermedii difformes, magis curvati exterioreque basi valde irregulariter dilatato, interiore normali. Antennarum clava valde

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elongata castoris articulis conjunctis longior, articulis 5°-7° brevissimis, intus acute productis. Clypeus transversus, margine antico eto reflexo medio leviter sinuato.

♀. Pygidium medio prope apicum tuberculo valido comprisco-conico. Venter medio glaber, segmento 5° postice (sicut interibus) punctulato. Ungues omnes dente mediano elongato, curvato, a dilatatione basali distantii.

Long. 20-24 millim.

Hab. MEXICO, Puebla, Tuxtla, Chiapas (Sallé), Las Vigas (Höge); GUATEMALA, Torola (Champion); COSTA RICA (Van Patten).

Belongs to the L. ravida group, of which it is the largest known member. L. dasypoda approaches nearest to L. macrophylla in pubescence; but in the rather ample subsemicircular clypeus it differs from all its allies.

In the male the median tooth of the claws at its base forms part of the wide dilatation of the basal half of the claw, and is small, triangular, and acute; the basal tooth is not angular but gradually rounded, so that it appears separated by a considerable interval from the median tooth; the apex remains for a long distance free. In the female the median tooth has the same position as in the male, but is much longer and not greatly different in form from the apical tooth, from which it is separated by a much shorter interval. In the other species of the group the form and position of the claw-teeth are different, the basal tooth, especially in the male, being angular and separated from the median tooth by a narrow cleft.

A male from Tuxtla is figured.

20. Lachnosterna polyphylla. (Tab. XI. fig. 5, d.)

L. ravida similis, sed valde differt antennarum clava valde elongata et quinque-laminata, oblonga, fulvo-testacea, thorace rufo, nitido, fronte thoracisque margine antico longe cretce setosis; clypeo parvo, antice angustato, apice obtuse truncato angulis rotundatis, margine medio cretce reflexo vix sinuato, toto capite confluentere punctulato; thorace medio medie dilatato, haud dense punctulato; elytris rugulo-punctulatis.


Long. 16 millim.

Hab. MEXICO (Sallé). One example, male.

21. Lachnosterna heterophylla.

L. polyphylla proxime affinis, antennarum clava pentaphylla sed articulo 7° multo abbreviato. Fulvo-testacea, nitida, thorace rufo; clypeo paullo longiore, antice angustato, margine altius reflexo medio sat profunde sinuato, supra concavo, punctulo, medio lavi; fronte thoracisque margine antico longe cretce setosis; thorace medio perparum dilatato, sparse punctulato; elytris rugulo-punctulatis.

♂. Pygidium regulariter convexum, glabrum, parum punctatum. Venter medio concavo depressus, crece pilosus, segmento 6° medio valde canaliculato. Calcaria postica libera. Ungues siuit in L. polyphylla,
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sed basi oblique triangulariter grosse dentato nec quadrato. Antennarum clava pentaphylla, articulo 6° sat abbreviato, 7° parvo et tenui, 8°–10° aequalibus.

Long. 14 millim.

Hab. Mexico (coll. Bates). One male example only.

The first joint of the 5-jointed antennal club is one third shorter than joints 8–10, and the second is only one sixth the length of those joints. The similarity between this species and the preceding is so great that I should have been inclined to consider the change in the proportionate lengths of the leaflets of the antennal club as due to variation or aberration, had it not been for the different form and clothing of the pygidium and the shape of the clypeus.

III. Claws broadly cleft; base moderately dilated; lower tooth very broad and strongly curved, and denticulated on its lower edge.

22. Lachnosterna testaceipennis. (Tab. XI. fig. 6, ♂.)

Ancylyonchta testaceipennis, Blanch. Cat. Coll. Ent. i. p. 134.¹

Hab. Mexico¹, Puebla, Cordova, Toxpan, Tlatingo, Orizaba, Juquila (Sallé), Las Vignas, Jalapa, Tula (Höge), Oaxaca (Sallé, Höge); Guatemala (Sallé), Coban (Champion); Costa Rica (Rogers).

Many examples in the Sallé collection under the above name agree with Blanchard’s description of this insect. It can be best distinguished from the other numerous pale or reddish-testaceous species of medium size (15–18 millim.) by the structural peculiarities of the sexes, which are as follows:—

♂. Pygidium convexum, nudum, grosse sed haud profunde rugoso-punctatum. Venter medio anguste depressus, nudus, politus, segmento 4° apice medio et 5° toto medio dense aspere rugulosis, 6° late transversim depresse, grossius rugoso-punctato, interdum medio canaliculato. Calcaria postica libera, sed minus elongata laminato-compressa. Ungues dente inferiori multo breviore et latiore, apice truncato subhamato margineque inferiori plus minusve denticulato; basi usque ad dentem aequaliter dilatata. Antennarum clava elongata.


In most examples of the very numerous series examined the surface is dull, and, the thornx especially, pruinose; but in others from the same localities the surface is glossy without trace of pruinosity.

2 CC 2
IV. Lower tooth of the claws long, acute, and distant from the apex; basal tooth small.

1. Lower spur of the hind tibia connate.

23. Lachnosterna rorulenta. (Tab. XI. fig. 7, c.)
Phytole pruinosa similis, sed major et robustior. Oblonga, fulvo-castanea, pruinosa, pectore fulvo-hirsuto; elypeo sat parvo, subsemicirculari, medio antico sinuato, cum fronte subconfluentemente punctato; thorace valde disperse rotundato-punctato, angulis posterioribus rectis; elytris punctulatis, costis vagi simi nisus hund elevatis, levioribus, stria punctata sutoralii (postice excepto) parum impressa.


Long. 20–22 millim.

Hab. Mexico, Las Vigas (Höge); Guatemala, Torola (Champion); Costa Rica (Van Patten).—South America, Venezuela 1.

Ten examples, besides one male from Merida, Venezuela, whence Burmeister's specimens were derived. The Costa Rican specimen is figured.

24. Lachnosterna chiriquina.

L. rorulenta affinisima, forsan eis varietas localis. Fulvo-testacea minus pruinosa, thorace polito, nudo, paullo densius punctato. Quoad capitis formam similiima; sed 2 pygidio valde differt.


Ω. Pygidium subtriangularis, apice bimammillatus. Venter omnino punctulatus, segmento 6° convexo, basi laevi, apice punctato. Ungues sicut in δ.

Long. 20–22 millim.

Hab. Panama, Volcan de Chiriqui (Champion, Trütsch). Seven examples.

25. Lachnosterna parvisetis.

L. rorulenta proximae affinis. Obscurius rufo-fusca, pruinosa, supra punctis omnibus seta minuta instructis; elypeo minore, ditius rotundato plerumque densius punctato.

δ. Pygidium parum convexum, nudum, medio postice canaliculatum. Venter calcaria postica et unguis sicut in L. rorulenta.

Ω. Pygidium forse sicut in L. rorulenta 2, apice late depressum, subconcaevum, nitidum, utrinque callosum.

Elytra sparse longe erecte pilosa.

Long. 20–25 millim.

Hab. Mexico, Teapa, Cordova (Sallé).
Three examples, besides one in my own collection received from Paris under the name *L. rorida*, Burm., from which it is evidently distinct, and which is, moreover, a South-Brazilian insect. I have seen only one male (from Teapa); it differs slightly from the three females, and is much smaller (20 millim., the females being 25 millim.), and seems intermediate between this species and *L. rorulenta*, but the punctures have each a small grey seta.

26. *Lachnosterna cinnamomea*. (Tab. XI. fig. 8.)

*Ancylonycha cinnamomea*, Blanch. Cat. Coll. Ent. i. p. 154.¹

_Hab._ Mexico ¹, Cordova (Sallé).

Extremely near *L. parvisetis*, but glabrous, without pruinose bloom, and the punctures naked. Colour castaneous, shining. In the male the pygidium is polished and flattened towards the apex; the lower hind spur is rather longer than in *L. rorulenta*, but soldered to the tibia; the ventral segments are sculptured precisely as in that species. In the female the pygidium differs in the apical area being more depressed and margined laterally by much higher ridges.

2. Lower spur of the hind tibia freely articulated.

27. *Lachnosterna sturmi*. (Tab. XI. fig. 9, 2.)

*Phytalus pruinosis similis*. Anguste oblonga, subeylindricala, fuliginose-nigra, elytris plerumque rufoscentibus, supra toto pruinoso; pedibus castaneis, politis; clypeo antice medio profunde subasulato, capite toto dense punctato; thorace elytrisque dissepare umbilicato-punctatae, punctis (prope elytrorum apicem breviter setosis exceptis) nudis; pectore minus dense inennentis-fulvo-pilosae; antennis castaneis, clava fulvescente.


_Hab._ Mexico, Cordova, Orizaba, Tuxtla, Playa Vicente (Sallé).

Closely resembling in form and sculpture *Phytalus pruinosis*, but widely differing in the spurs of the hind tibiae of the male, the form of the tarsal claws, and other important points of structure. It appears to have been hitherto confounded with *P. pruinosis* (Burm.); it being so named in the Sallé collection (by Sturm) and in my own from specimens received years ago from Paris. I have examined nine examples.

The clypeus is a little more deeply notched in the middle of the front margin than in *P. pruinosis*, and the sides are less convergent.

Our figure is taken from a female specimen from Tuxtla.
28. Lachnosterna gigantea. (Tab. XI. fig. 10, σ., var.)

L. libani (Blanch.) affinis; maxima, oblonga, rufó-fusca vel nigra, cepité, thorace, scutello, elytris et pygidio subtilissimé densissimé punctulatis et breviter incumbente pubescensibus; capité grossis subhastato-apicato, epyco mediocri, obtuse rotundato, margine elevato medio breviter sinuato vel integro.

♂. Pygidium convexum, margine apicali acute reflexo fimbriato. Venter subtilissime punctulatus et pubescesens, medio canaliculatus, suturis medio angulatis; segmento 5° medio contracto, margine apicali utrinque sinuato, spatio triangulari medio granulato-ruguloso, lateribus utrinque transversim uniplicatis; segmento 6° brevi, transversim anguste concavo (medio carinato), marginibus elevatis, incrassatis, postieriore medio fuso. Calcaria postica elongata, libera. Ungues fere sicut in L. setifera, dente mediano elongato (denti apicali aequali); basi mediocriter dentato-dilatati. Antennarum clava valde elongata extorsia articulis multo longior, articulis 5°-7° intus acute productis.

♀. Pygidium sicut in ♀, sed apice paulo longiorum. Venter subtilissime punctulatus et pubescesens, segmento 5° exterioris longiore, postice transversim canaliculato subplicato, 6° plano crebre punctato. Long. 22-23 millim.

Hab. NICARAGUA, Chontales (Belt, Janson); PANAMA, Chiriqui (Trütsch), Bugaba, Volcan de Chiriqui 4000 to 6000 feet (Champion).

Seven examples, of which three from Chiriqui are black or brownish-black, including the legs and antennae; the others are castaneous (including the antennae and legs); one (from Chontales) differs from the rest in having but a slight trace of sinuation in the anterior margin of the clypeus. In all other respects the specimens perfectly agree.

A Chontales example is figured.

29. Lachnosterna setifera. (Tab. XI. fig. 11, σ.)


Hab. MEXICO, Presidio (Forrer), Orizaba, Juquilla (Sallé), Jalapa (Höge); BRITISH HONDURAS, R. Sarstoon (Blancaneaux); GUATEMALA, Volcan de Atitlan, Pantaleon, Zapote, Dueñas (Champion); PANAMA, Chiriqui (Ribbe).

Distinguished from L. crinalis by the sixth ventral segment in the male having its anterior margin raised and dilated above, so as to impend slightly over the concave centre of the segment, and cleft in the middle. This structure is no doubt that meant by Burmeister by the phrase "die analgrube mit höher, in der mitte gespaltener Querfalte am Vorderrande." A similar "fold" is observed in L. longipilosa σ., but there is a difference between the two species, the fold being biarcuated in L. setifera, and produced in the middle, the margin of the preceding (fifth) segment being correspondingly produced; in L. longipilosa the margins of both segments are straight. In L. crinalis the fore margin of the sixth segment is somewhat thickened but not raised.

L. setifera is further distinguished by the opaque and very faintly punctured pygidium, which is rather densely clothed with erect greyish hairs, the tip in some examples being smooth and shining. The claws have their well-developed lower tooth (a little longer and broader in the female than in the male) very nearly in the middle, its lower edge being finely denticulated; they have only a slight angular dilatation at the base, and there is a considerable interval between the dilatation and the tooth.
The clothing of the upper surface consists of obliquely-planted grey hairs with a few longer erect hairs, and in some examples extremely long hairs, especially towards the base of the elytra.

The length varies from 17 to 25 millim., but the great majority of the examples measured are about 20 millim. The following are varieties:

Var. 1 (L. menstricsi, Blanch., Burm. ?). Brevius et latius ovata, fusco-nigra, dense et regulariter brevior griseo-pilosa, pedibus abdomenque interdum nigris.

Hab. GUATEMALA, Volcan de Atitlan, Pantaleon (Champion); NICARAGUA, Chontales (Janson); COSTA RICA (Van Patten); PANAMA, Bugaba (Champion), Chiriqui (Trötsch).

Var. 2. Minor (15 millim.); fusco-nigra, brevissime sat dense subrecte griseo-pilosa, elytris margine alte elevato pygidioque subnudito, perspicue punctulato; unguibus basi latis.

Hab. PANAMA, near the city (Champion). One male only, with the characteristic form of the apical ventral segments very conspicuously developed.

Var. 3. L. trötschi. Postice dilatata, fusco-rufa, capite thoraceque exceptis fusco-nigris; elypee marginis antico medio depresso subinunato, pubescentia tota fulva nec grisea. Long. 20 millim.

Hab. PANAMA, Chiriqui (Ribbe). Three examples only.

We figure a typical male from Jalapa.

30. Lachnosterna crinalis.

Ovata, supra longe et dense, sed breviter, pilosa, pilis longioribus erectis intermixtis, thorace apice elytrisque basi plis nonnullis longissimis, castaneo vel nigro-fusca, elytris subopacis; elypee transverse, antice obtusius rotundato, supra concavo, nitido, sparsim haud profunde punctato, fronte dense rugoso-punctata; thorace subtiliter disrecte punctato, linea medio-dorsali lavi, medio mediocter dilatato margineque crenulato; elytris punctulatis, ecostatis, subpruinosis; pectore fulvo-hirto.

Pygidium mediocter convexum, sat dense asculiter punctato-pilosum. Venter medio canaliculatus, opacus, breviter sat dense punctulato-setosus, suturis 2o et 3o medio antice angulatis, segmento 5o medio granulato, apice transverso, depresso et margine medio longitudinaliter canaliculatus, 6o medio concavo granulato. Calcaria postica elongata, libera. Ungues dente mediano sat valido paulllo curvato acute, inter dentem et basis latiores. Antennarum clava articulis 2o-7o conjunctis haud longior.

Long. 10.17 millim.

Hab. MEXICO, Puebla, Tlatingo (Sallé). Two examples, both males.

Approaches the L. integra group, but differs in the elypeus being transverse and obtusely rounded, not semicircular, and in the stronger median tooth of the claws, this tooth not lower than the middle. The hairs of the upper surface are also longer, finer, and a little more erect.

31. Lachnosterna —— ?

Hab. NICARAGUA, Chontales (Belt).

A single example (♀) of a distinct species.
32. Lachnosterna —— ?

_Hab._ Guatemala, Chacoj in Vera Paz (Champion).

Also a single female example of an apparently distinct species allied to _L. setifera._

33. Lachnosterna —— ?

_Hab._ Mexico (coll. Bates).

A single example (♀) received from Paris many years ago under the name of _L. lanuginosa_, Dej. (Cat.). It is very distinct in being clothed with very long shaggy pile, but apparently belongs to the _L. setifera_ group; without a knowledge of the other sex it would be useless to name and describe it.

34. Lachnosterna setidorsis.

Anguste oblonga, subovata, fulvo-castanea vel obscure fusca, pube brevi subincumbente et pilis elongatis erectis sat dense vestita, apud elytra pilis elongatis supra totum discum sublineatim seriatis; thorace, scutello, elytris et pygido subtiliter et dense punctatatis; clypeo obtuso subrotundato, sparsim longe profunde punctato, margine integro valde elevato, fronte grosse confluentior punctata et erete longe setosa.

♀. Pygidium valde convexum, erete pilosum, pilis longioribus intermixtis. Venter medio longitudinaliter concavus, pilifero-punctatius, segmento 5° apice recto, medio transversim uniplicato, 6° brevi transversim concavo, margine anteriore incrassato et medio late interrupto. Calcaria postica libera. Ungues fere sicut in _L. setifera_, dente mediano valido (apicali subequali), basi obtuso dentata.

♂. Pygidium magis elongatum et triangulare, fore planum, ceteris sicut in ♀. Venter sat dense pilifero-
punctatius, segmento 6° convexo, polito.

_Long._ 21 millim.

_Hab._ Costa Rica (Van Patten). Two examples only.

A distinct species, intermediate, as regards the fineness of the sculpture, between _L. setifera_ and _L. gigantea._

35. Lachnosterna trichia.

Sat anguste oblonga, fusco-rufa, dense erete flavo-pilosa, fronte, thorace elytrorumque basi longissime pilosis, dense subconfusam punctatula, parum nitida; clypeo mediocris rotundato, margine antico paullo elevato et valde simulato, supra discrete punctato; thorace medio medioriter dilatato, margine crenulato et longe setoso; scutello grosse irregulariter punctato.

♂. Pygidium convexum, breviter subincumbenti-pilosum et sat dense erete longipilosum. Venter medio depressus, subapare punctatula, segmento 5° medio densius punctatulat, 6° medio concavo marginibus vix elevatis. Calcaria postica elongata, libera. Ungues basi paullo dilatati, dente mediano (basi paullulum approximate) sat valido curvato. Antennarum clava elongata, ceteris articularibus conjunctis equalis, 4°-7° intus acuminatis.

♀. Pygidium triangulare, fore planum, breviter pilosum absque pilis longioribus, apice laxe politum et ante apicem medio depressum. Ungues fere sicut in ♀, ad basin magis dilatati.

_Long._ 16-17 millim.

_Hab._ Guatemala, Las Mercedes (Champion).

Three examples only, two males and one female.

Not very closely allied to any other Central-American species, but seems to approach nearest _L. testaceipennis_, in which, however, the median (or lower) tooth of the claws
is a little more approximate to the apical one in both sexes. The tawny-brown colour, dense erect yellowish-tawny pile, and dense, moderately strong punctuation, distinguish the species.

V. **Lower tooth of the claws as in IV., but situated below the middle, and inclined towards the large basal dilatation.**

36. **Lachnosterna rugipennis.** (Tab. XI. fig. 12, c.)


*Hab. Mexico,* Toxpan, Cordova (Salle), Jalapa, Misantla (Höge); **Guatemala,** Purula (*Champion*); **Panama,** Chiriqui (*Trötsch*), Volcan de Chiriqui (*Champion*).

A pruinose nearly glabrous species resembling *L. rorulenta,* but distinguished readily by the tarsal claws being greatly dilated from the base to the lower tooth, which is straight and at its base forms part of the dilatation. The male further differs from the same sex of *L. rorulenta* and its allies by the long and freely articulated spurs of the hind tibiae; and by the abdomen being concave in the middle, with a deeply canaliculated sixth segment, and a closely granulated patch on the hind part of the fifth segment. The pygidium is closely punctured and hairy in both sexes. In some specimens of the female, especially those from Chiriqui, the elytra near the suture are beset with very long erect tawny hairs. Most Mexican examples of the female show no trace of these long hairs, but sometimes a few shorter similar hairs are seen near the base and apex of the elytra. A male from Jalapa is figured.

37. **Lachnosterna lissopyge.**

*L. rugipennis* præximæ afﬁnis, forsan ejus varietas; differt pygidio castaneo polito, brevissime sparse et vix peripliciæ setoso; supra nigra, pruinosa, elytræ discrete punctulatis.


*Hab. Nicaragua,* Chontales (*Belt*); **Panama,** Volcan de Chiriqui (*Champion*).

Two males only.

38. **Lachnosterna hemiliss.** (Tab. XI. fig. 13, q.)

*L. rugipennis* afﬁnis, sed facies valde diversa. Elongato-oblonga, nigra, capite thoracique politi, elytræ solum pruinosis, margine piceo-rufa; subitus cum pedibus piceo-rufis; clypeo fere semicirculari, margine antico medio sinuato-reflexo, capite toto grosse punctato; thorace multo densius quam in L. rugipennis punctato; elytræ subrugulosæ et sat dense umbilicato-punctulatis, costis paulo elevatis, punctis prope apicem griseo-setulosis; pygidio erecto longipiloso; tibiis intus et tarsis subitus longe pilosis; pectore flavo-villoso.

Ungues basi dilatati, dente inferiore recto postice spectantes, juxta dilatationem sito.


*θ.* Pygidium triangulare vel conicum, juxta apicem planum et utrique bituberculatum, margine apicali verticaliter arcuato. Venter segmento 6° magno, convexo, paucipunctato.


*Hab. Panama,* Chiriqui (*Trötsch*). Two examples only.


2 DD
39. Lachnosterna schizorhina. (Tab. XI. fig. 14, d.)
Latius oblonga, minus convexa, nigra vel castanea, polita, supra nuda, pedice fulvo-villosa; clypeo sat parvo, biaescato, anticus medius profunde inciso, margine reflexo, teto capitato discreto punctato; thoraces medii subangulatim dilatato, utrinque prope angulum acutum late depresso, supra sat dense rotundato-punctato, lineis dorsali brevi; elytris punctatis, costis elevatis.

\[ d \] Pygidium param convexum, punctatum, nudum. Venter valde convexus, medio vago canaliculatus, param punctulatus, segmento 5\(^\circ\) postice medio declive et dense granulato, 6\(^\circ\) medio transversum concavo. Calcaria postica elongata, libera. Ungues dimidio basali dilatato, dente inferiore recto parvoque juxta dilatationem suo.

Long. 22–24 millim.

*Hab.* NICARAGUA, Chontales (Bell); PANAMA, Chiriqui (Trütsch).

There are three examples only of this fine species, all males. In all three the elytra cover the base of the pygidium, but this may be accidental. A Nicaraguan specimen is figured.

40. Lachnosterna tennipilis.

*L. gigantea* subsimili, sed valde differt inter alia unguibus basi late dilatatis. Oblonga, castaneo-rufa, rufus-fusca vel nigra, opaca, subtilissima et densissime punctulata et breviter subrecumbente griseo-pilosus, sericeo-nitens; capitato grosse subcuneiunter punctato, fronte breviter selosa, clypeo transverso, extus late rotundato, margine antico reflexo et leviter sinuato; elytris costis obtuse elevatis; pediceto dense fulvo-hirto.

\[ d \] Pygidium parum convexum, breviter erecte pilosum, ante apicum marginemque longe satosum. Venter medio late canalicularius, dense punctulato-pilosus, segmento 5\(^\circ\) simplici, 6\(^\circ\) plano grosso punctato. Calcaria postica late, compressa, libera. Ungues basi late dilatati, dente brevi acuto proximo, versus basin inclinato, dente apicali curvato longe libero. Antennarum clava elongata, articulis 2\(^{\circ}\)–7\(^{\circ}\) conjunctis aqualis.

\[ g \] Pygidium siet in \[ d \]. Venter convexus, densissime punctulato-pilosus, segmento 6\(^\circ\) majore, convexo, grosse punctato. Ungues dente mediano quam in \[ d \] longiori sed dilatatione basali approximato.

Long. 20–23 millim.

*Hab.* MEXICO, Orizaba, Teapa, Playa Vicente, Juquila (Sallié); GUATEMALA, Aceituno (Champion); NICARAGUA, Chontales (Bell). Eight examples.

In the minute dense punctuation and fine short laid pubescence this *Lachnosterna* is similar to *L. gigantea*, black examples being scarcely distinguishable from small individuals of that species of the same colour. But the male sexual characters are totally different and the claws show a much closer approximation to the basal dilatation of the middle tooth, which in the male is short, inclined towards the base, and separated from the large broad basal tooth only by a narrow cleft.

41. Lachnosterna scissa.

Elongato-oblongo-ovata, nigra, elytris partim obscure rufescensibus, glaberrima sed leviter lactee-opalescens, subitus piceo-rufa; capitato lato, oculus maximus, clypeo valde transverso utrinque late rotundato, margine antico pauro reflexo, medio simulo, dense punctato; fronte sparsissime grosso punctato; labro crasso, sicut in *Schizonychis* nonnullis medio prope scissos; thoraces brevi, medio dilatato, angulis obtusis, margine hunc peregrino cram, dorso discrete punctulato, interstitiis livides; scutello parum punctato; elytris minus dense ruguloso-punctulatis. Antennae 10-articulatae, clava \[ d \] \& brevi, articulis 8 vel 7 praecondimentibus multo latioribus hanc productae. Venter \[ d ] \& convexus, glaber, segmento \[ 6 \] utrinque fulvo-barbato excepto.
LACHNOSTERNA.  

\[\text{\delta . Pygidium convexum, passim minus grosse punctatum, nitidum. Venter convexus, suturis haud deleitis, sparem punctulatus ; segmento 5° apice depresso, transversam sulculatum ; 6° transversim concavo, ruguloso, marginibus elevatis. Calcium postica elongata, libera. Ungues valde curvati, basi dentato-dilatati et juxta dilatationem dente angusto brevi retrorsum inclinato.}\]

\[\text{\rho . Pygidium basi convexum, post medium depressum, punctatum, glabrum. Venter fere sicut in \(\delta\), sed segmento 5° medio apice haud depresso, 6° convexo, grosse punctato.}\]

Long. 18 millim.

\textit{Hab.} Mexico, Cordova (Sallé).

42. Lachnosterna — ?

\textit{Hab.} Mexico, Panistlahuaca (Sallé).

A single female example of a species closely resembling \textit{L. scissa}, but differing in the form of the pygidium and claws.

43. Lachnosterna angulicollis.

\textit{L. cribricolli} multo major, quoad thoracem subsimilis sed differt unguibus graecioribus apice longe liberis densitque parvo infra medium, dente minori basali panillo remoto. Elongato-oblongo-ovata, haud dilatata, testaceo-rufa, nitida, nuda; elygo utrique late rotundato, apice medio breviter inciso, capite tota grosse dense sebrosa-punctato, fronte barbata; thorace medio subangulatim dilatato, margine crenato antice recte postice rotundatim angustato angulis obtusis, dense discrete mediocriter punctato; elytris rugulosos-punctatis, costis vix perspicuis; pectore dense aurico-fulvo villosa.

\[\text{\delta . Pygidium mediocritor convexum, discrete punctulatum, nudum. Venter convexus, medio lavi, segmento 5° medio planato sat dense punctulatum, 6° medio transverse concavo, margine apicali late reflexo et medio inciso, punctulato. Calcium postica elongata, libera. Ungues basi breviter dilatati, dente inferiori infra medium brevi acuto, dente apicali elongato. Antennarum clava elongata, costeris articulis conjunctis fere equalis.}\]

\[\text{\rho . Pygidium basi subconvexum, prope apicem transverse depressum, margine apicali reflexo, punctulatum, nudum. Venter convexus, laviis, sparse punctulatus; segmento 6° margine postico depresso, 6° convexo, punctato.}\]

Long. 18–21 millim.

\textit{Hab.} Mexico, Jacale, Parada (Sallé).

\textit{Var.} Caput et thorax nigra, antennarum clava brevior.

\textit{Hab.} Mexico, Jalapa, Las Vigas (Höge).

Two examples of the unicolorous typical form and four of the variety.

I adopt the name the species bears in the Sallé collection.

44. Lachnosterna rugulosa. (Tab. XI. fig. 15, \(\delta\).)


\textit{Hab.} Mexico, Tuxtla, Orizaba (Sallé), Jalapa (Höge); Guatemala, Purula (Champion).

A metallic species, varying from brassy-black or brown to dark brassy-green and rich coppery-brown. It is almost glabrous above, having only a scanty clothing of short suberect grey hairs, mostly arranged in rows on the elytra. The sculpture is
coarse; the punctures moderately close, and lying in very irregular rugae on the thorax, the elytra entirely rugose-punctate; the scutellum is punctured, with a broad smooth space in the middle. The labrum is thick and deeply and sharply cleft as in L. scissa. The clypeus is transverse quadrate, with a deep notch in the middle of the front margin, and each side from the notch to the base forming a nearly semicircular curve. Both the fore and hind angles of the thorax are acute. The ventral segments 1-4 have on each lateral suture a pencil of long golden-yellow hairs. The following are the sexual differences:

\[\gamma.\] Pygidium vix convexum, valde inquale, grossissime rugoso-punctatum, glabrum, margine apicale breviter setoso. Venter convexus, medio levissimus, lateribus parce setifero-punctulatis; segmento 5° apice transversim depresso, 6° transversim concavo, laevi. Calcaria postica elongata, libera. Ungues basi obtusae dentatae, dente inferiori medio mediciro acute, a dente basali paulo distanti. Antennarum clava parva.

\[\varphi.\] Pygidium basi bi-apice uni-tuberosum, medio transverse depressum. Venter convexus, segmento 5° apice simplici, 6° convexo, apice transverse sulcato. Ungues sicut in \(\gamma.\)

Notwithstanding its very different facies, numerous similarities of structure show that this species is closely allied to L. scissa.

A male from Tuxtla is figured.

45. Lachnosterna submetallica.

L. rugulosa proxime affinis; differt supra densius et subtillius punctata et brevissime squamulosa. \(\alpha\)euro-vel cuprascenti-fusa, femoribus nitidius anaeis; supra densissime punctulata, in punctis squamula angusta incumbente griseo-ochracea; clypeus sicut in L. rugulosa; thoracis disco anteriore maculis duabus politissimis; scutello dense ruguloso-punctato; ventris segmentis 2°-4° (\(\varphi\) \&) medio callis duobus validis. Antennas in utroque sexu clava parva, articulis 6° et 7° latis, 3°-5° paululum elongatis.

\[\gamma.\] Pygidium fere planum, scabrosum, grosso incumbente ochraceo-squamuloso, medio callo angusto laevi. Venter medio laevus, politus; segmento 5° fere toto ochraceo-squamuloso, apice medio depresso, 6° medio transverse depresso, marginibus parum elevatis. Calcaria postica elongata, libera. Ungues basi lati, dente parvo acuto basali, dente inferiori apud medium sat elongato acuto.

\[\varphi.\] Pygidium sicut in \(\gamma.\) sed squamis tenuioribus. Venter sicut in \(\gamma.\), segmentis 5° et 6° convexis exceptis. Ungues dente inferiori longitudine denti apicis squali.

Long. 16-20 millim.

Hab. Guatemala, Senahu and Panima in Vera Paz (Champion).

46. Lachnosterna —— ??

Hab. Mexico, Orizaba (Sallé).

A single example of doubtful sex. It appears to represent a distinct species allied to the two preceding.

VI. Lower tooth of the claws smaller and straight or little inclined, situated near to or below the middle. Base of claw generally without dilatation.

1. Antenna 10-jointed.

47. Lachnosterna euryasphas.

L. scissa similis, sed valde differt quoad clypeum, unges etc. Sat anguste oblonga, subnitida, glabra, supra
castaneo-fusca, subitus cum pedibus antennisque fulvo-castaneo, sat
disperse punctulata; clypeus minuto transverso nec late rotundatus, transverse
clypeus antico leviter sinuato-reflexo, supra confluentor
antero pedibus. Venter convexus, glaber,
parvis segmentis 5° lateribus punctulato-pilosus segmentoque 6° convexo punctato
meio. Ungues
2. Pygidium dimidio basali convexo, apicali depresso parce punctato, rugulosum. Venter convexus, glaber,
impunctatus, segmento 5° lateribus punctulato-pilosus segmento 5° convexo punctato
excipiens. Ungues
baui dentato-dilatati, dente inferior infra medium (prope dilata
tionem) brevi, robusto, curvato.

Long. 18 millim.

_Hab._ Mexico, San Antonio de Arriba (Sallé), Las Vigas (Höge).

Although I have seen one sex and two examples only of this species, its curious
relationship to _L. scissa_, and the facility with which it may be recognized, justify it
being described.

48. *Lachnosterna molopia._ (Tab. XI, fig. 16, _♂_)
Elongato-oblongo-ovata, glabra, nitida, castaneo-nigra, subitus cum pedibus
antennisque fulvo-castaneo, sat
disperse punctulata; clypeus minus transverso nec late rotundatus, trapaceo
dalis, angulus rotundatus, margine
antero leviter sinuato et reflexo, confluentor punctulato, fronte minus dense, discrete punctulata; thorace
ante medio dilatato, posteri lateribus parallelis sublaclato, angulus posticus subacutus, supra discrete
punctato, intersticio plavis politis foveaque rotunda utrinque versus angulos posticos; scutello punctulato,
spatio mediano lavi. Labrum late acutum emarginatum. Antenna utroque sexu clava parva, _♂_ paullo
longiore, articulis 6° et 7° intus dilatatis. Venter segmentis 2°-5° medio utrinque transverse calloso, callis
plus minusve elevatis. Ungues elongati, basi brevisime dentato-dilatati, dente inferior parvo, acute,
recte exstante, infra vel juxta medium sito.

_♂_. Pygidium convexum, glabrum, subconfluentor punctatum, fovea rotunda utrinque prope
basin, margine
apicali brevior imbricato. Venter medio glaber, levibus, segmento 5° dimidio apicali depresso, 6°
transverso
convexo, lavi, apice lato transversim sulcato, punctato, margine apicali medio sinuato. Calcaria postica
elongata, libera.

_♂_ var. Segmentum ventrale 6° transverso depressum, margine postico paullo elevato.

_♀_. Pygidium juxta basin solum convexum, postice concavo-depressum, apice paullo redi
dexum, punctato-rugu-
losum, glabrum, basi sicut in _♂_ bifoveatum. Venter sicut _♂_, differt solum segmento 6° magno, gibboso,
apice haut sulcato margineque apicali integro, basi lavi, apice grosse punctato.

Long. 17-18 millim.

_Hab._ Mexico, Ciudad in Durango 8100 feet (Forrer, Höge).

Very similar in form and colours and in important structural characters to
_L. euryaspis_; the curious wheals on the ventral segment indicate an affinity also with
_L. submetallica_. The totally different form of clypeus in these three species seems to
show that this is a very variable feature. It resembles in form, colour, and other
characters the North-American _L. fusca_ and its allies; but differs from all the species
of the _L. fusca_ group by the lower spur (_♂_) being articulated, not connate. The male
variety (which is apparently much less common than what I take to be the typical form)
is so different that we seem here to have a case of dimorphism in this sex; but when a
large series is examined intermediate states are seen to exist. In one male example
the apical ventral segment is nearly as gibbous as in the female, and it is only the
transverse depression at its apex and the longer antennal club which enable one to
decide that it is a male.
49. Lachnosterna segregans.

*L. molopia* affinisima, dedit solum statura minora, clypeo transverso utrinque late rotundato, margine antico sat late reflexo, medio distincte sinuato, et antennis longissime clavatis.

Long. 14–17 millim.

*Hab.* Mexico, Ciudad in Durango (*Hoge*). Three examples, all males.

Resembles the smaller examples of *L. molopia*, chestnut-coloured and glabrous above, fulvo-testaceous beneath; the elytra more strongly punctate-ruglose. The form of the clypeus is different, being short, rounded on each side, and rather strongly sinuate anteriorly, instead of being rather long and obtusely trapezoidal as in *L. molopia*. The callosities on the middle ventral segments are feeble or obsolete; the sixth segment (male) is formed precisely as in the male variety of *L. molopia*. The pygidium is coarsely rugose-punctate as in *L. molopia*; but the thorax differs in wanting the two large postero-discoidal foveae. The lower tooth of the tarsal claws is very small, outstanding, and situated about the middle of the claw. The antennal club is greatly elongated, and longer than the rest of the joints taken together.

50. Lachnosterna divertens.

*L. molopia* quam proxime affinis; dedit solum statura angustiore (anguste oblonga sive cylindrica), clypeo adhuc magis elongato, semiortato, perparum vel nullumodo sinuato et antennis longissime clavatis.

Long. 17 millim.

*Hab.* Mexico, Ciudad and Refugio in Durango (*Hoge*).

Three examples, males. The chief character which necessitates the separation of this form from *L. molopia* is (as in *L. segregans*) the great length of the antennal club in the male. It differs from both these species in its narrow, cylindrical form, and in the shape of the clypeus—narrowed anteriorly as in *L. molopia*, but having no trace of angles, and gradually rounded to the front and feebly or not at all notched on its anterior edge, which is scarcely reflexed; both clypeus and forehead are more minutely and densely punctured than in *L. molopia*. The ventral callosities are feeble or entirely obsolete. The pygidium offers no difference, and the sixth ventral segment is formed as in the male variety of *L. molopia*. The tooth of the claw is short as in *L. molopia*, but situated a little higher (*i.e.* towards the apex) than the middle of the claw; it varies a little in position, as it does in *L. molopia*.

The antennal club varies in length, but in the examples in which it is shortest it equals in length all the remaining joints together. Judging from this and other evidences of variability or plasticity in this interesting group, I think that we have here a case of an incipient species in process of segregation.

51. Lachnosterna setipennis.

*L. molopia* quoque affinis, sed dedit statura angustiore, cylindrica, clytrisque teto griseo-setosis, setis erectis parum densis. Nigra vel castaneo-fusca, minus nitida; clypeo semicirculari margineque leviter reflexo
LACHNOSTERTA.

Integro, toto capite subaequaliter dense subconfluenter punctatato; thorace sicut in L. molopia ante medium dilatato et postice Interibus parallelis, angulis posticis subacutis, marginibus nullomodo crenatis, supra sat dense punctulato, forvce duabus mediocribus; elytris punctulatis et rugosis, ostios elevatis. Ungues dente inferiore paullo infra medium, parvo sed curvato.

3. Pygidium convexum, grosse confluenter punctatum, glabrum. Venter leviter callosus, medio glaber, param punctulatus; segmento 5° apice medio transversim depresso, 6° transversim depresso rugoso. Calcaria postica elongata, articulis 2nd-7th conjunctis paullo longior.

2. Pygidium convexum, apice leviter depressum, grosse confluenter punctatum, glabrum. Venter medio glaber, sparse punctatus, segmentis 5° apice et 6° (plano) toto densius punctatis.

Long. 18–19 millim.

Hab. Mexico, Ciudad in Durango (Höge, Forrer).

Three examples only. Evidently also an incipient species, but somewhat further segregated than L. segregans and L. divertens from L. molopia.

52. Lachnosterna —— ?

Hab. Mexico, near the city (Flohr).

A single example (female) of a small species distinct from all the foregoing.

53. Lachnosterna —— ?

Hab. Mexico, Oaxaca (Höge).

A single female example, similar to, but specifically distinct from, the preceding.

54. Lachnosterna —— ?

Hab. Mexico, near the city (Flohr).

Also a single female only, whose affinities are not determinable.

55. Lachnosterna —— ?

Hab. Mexico, Matamoros Izucar, Puebla (Höge).

A single female example, apparently of a distinct species, allied to L. molopia.

56. Lachnosterna nigerrima. (Tab. XI. fig. 17, c.)

Breviter ovata, omnino nigerrima, glabra, nitida, pectore fulvo-villoso; capite lato, toto dense subconfluenter punctatato, clypeo subsemicirculari, antice late obtuso et sinuato, paullo reflexo; thorace medio sat late rotundato-illatato, angulis anticus obtusis, posticis rectis, margine crenato, supra discrete punctulato, plaga oblonga dorsali levii; elytris (praeipue c.) paullo ampliatis, coriosaeis, discrete punctulatis. Venter breviter sparsissime griseo-setosus.


3 var. Segmentum ventrale 6° transverse depressum.
LAMELLICORNIA.

♀. Pygidium planum, sparse punctulatum. Venter convexus, segmentis 5° et 6° (plano vel paullo convexo) paullo densius punctulatus. Ungues sicut in ♂.

Long. 18–20 millim.

Hab. Mexico, La Piedad in Michoacan (Sallé), Tupataro in Guanajuato (Höge).

Named “Eugastra, sp.,” in the Sallé collection. It approaches Eugastra and the section to which L. farcta belongs (Group II. of Leconte) in the metasternum being somewhat abbreviated, but differs in being winged in both sexes. It is a Lachnosterna allied to L. molopia, with which it has in common the two forms of male. The ligular part of the mentum has a deep notch, and the mandibles and maxillæ are very robust. In all the numerous examples the colour of the body, antennæ, palpi, and legs is deep black.

An example from Tupataro is figured.

57. Lachnosterna integra.


Hab. Mexico 1 2, near the city (Flohr), Jalapa (Höge).

Distinguished from numerous allied species, having a similar entire semicircular clypeus &c, by its clearer reddish-tawny colour, with very rarely a trace of pruinosity and that on the elytra only; by the extremely short antennal joints 3–7, with greatly elongated club in the male (the club being longer than all the rest of the antennæ); and by the concave sixth ventral segment in the male having a narrow anterior rim. The forehead, thorax, and base of the elytra are clothed with very long hairs, and the elytra have, besides, a short incumbent grey bristle in each puncture. The fifth ventral segment in the male has a median, densely granulated, and brown oval patch. The general form is rather short oblong-ovate. This species varies in size from 14 to 17 millim.

58. Lachnosterna anodentata.


Long. 14–17 millim.

Hab. Mexico, Esla, Parada, Peras (Sallé), Mexico city, Jalapa (Höge).

The colour is reddish-tawny, as in L. integra, with only a slight trace of pruinosity, in some examples, on the elytra. The semicircular concave clypeus and pubescence also offer no difference; but the general form is rather more oblong and narrower. The antennæ of the males have a similarly long pale club, but the joints 3–7 are scarcely so short as in L. integra. Two female examples, labelled L. stipitalis,
59. Lachnosterna rubella.

*L. integra* (Say) valde affinis et forsan ejus varietas geographicae; differt multo minore, supra densius punctulata, præcipue elytris densissime ruguloso-punctatis. Breviter ovata, fulvo-rufa (raro castanea), breviter setosa, fronte, thorace, elytrorum basi et pygidio longissime hirtis; capite hauud semicirculari, magis transverso, utrique latius rotundato, supra concavo, margine reflexo integro. Ungues dente parvo acuto post medium, basi hauud dilatati.

\( \delta \). Venter sicut in *L. anodentata*, segmento \( 6^\circ \) margine antico medio dilatato bidentato, destibus plerumque rix elevatis vel sub margine segmenti \( 3^\circ \) occultis. Antennarum clava osteris articulis conjunctis multo longior.

Long. 11–15 millim.

*Hab.* Mexico, Toluca, Amecameca in Morelos, Pachuca in Hidalgo (*Höge*).

Among the very numerous examples examined of this insect there are a few males in which the sixth ventral segment scarcely differs from that of *L. integra*; in all, however, of both sexes, the shape of the clypeus is different, and this (in addition to the smaller size and much closer rugulose punctuation of the elytra, on which there is no trace of pruinosity) renders it necessary to distinguish the form by a separate name and description. The four examples of *L. anodentata* are larger and more elongate-oblong in form.

60. Lachnosterna misteca. (Tab. XI. fig. 18, \( \delta \) var.)

*L. integra* (Say) valde affinis, differt præcipue antennarum clava in \( \delta \) multo minore osteris articulis conjunctis breviore; capite majore (clypeo semicirculari margine integro), colore supra obscurore subcastaneo, pruinoso, punctis thoracis sparsioribus.

\( \delta \). Pygidium parum convexum, punctulato-setiferum, ante apicem et ad marginem apicalem setis nonnullis multo longioribus.

Long. 16–20 millim.

*Hab.* Mexico, Etla, Juquila, Oaxaca (*Sallé*), Jalapa, Las Vigas, Mexico city (*Höge*).

Var. \( \delta \). Venter sicut in *L. integra* \( \delta \), medio convexus, laevis, plus minusve canaliculatus, segmento \( 5^\circ \) medio plaga obscuriori dense granulata, apice depresso, \( 6^\circ \) margine anteriore depresso nec producto.

*Hab.* Mexico, Puebla (*Sallé*), Las Vigas (*Höge*).

I adopt the name *L. misteca*, Chevr. (MS.), given to the species in the *Sallé* collection. An example from Puebla of the male variety is figured.

61. Lachnosterna longipilosa.

*L. integra et L. misteca* affinis, sed *Phytalo pruinose* similior; differt \( \delta \) ventris segmento \( 5^\circ \) margine anteriore elevato, dilatato, medio inciso etc. Nigra, pieco-nigra vel fusco-castanea, pruinosa, elytris setis griseis brevissimis, fronte, thorace antice elytrisque basi et juxta suturem longissime pilosis; clypeo sicut in *L. integra*, sed margine antico minus elevato et distincte sinuato, fronte grosse scabrosa; thorace medio sat angulatim dilatato, antice recte angustato, angulis antecis acutis, margine grosse crenato, disperso punctato, punctis breviter grisoe-setiferis, punctis majoribus pilis valde elongatis emittentibus; pectore fulvo-cinereo villose; abdomen lateribus serico-pruinosis, antennis pedibusque testaceo-rufis. Ungues versus basin breviter (\( \delta \) longius robustiusque) recte acute dentati, basi parum dilatati.
LAMELLICORNIA.

5. Pygidium versus apicem alitius convexum, punctulato-setulosum, prope apicem et ad marginem apicalem setis multo longioribus obsitum. Venter medio levius, politus, canaliculatus; segmento 5° medio area depressa, opaca, dense granulata; 6° transversim concavo, margine anteriore elevato-dilatato, medio inciso. Calcaria postica elongata, libera. Antennarum elva brevis, articulis 2°-6° conjunctis undulatis longior.

6. Pygidium triangulare, setis et punctis sic in 5. Venter convexus, medio politus, sparsim setifero-punctatus; segmento 5° precedente dimidio longiore.

Long. 17-19 millim.

Hab. Mexico, Tepansacualco, Perus, Guanajuato (Sallé), Mexico city (Flohr), Jalapa, (Höge).

Named L. longipilosa, Reiche (MS.), in the Sallé collection. The species resembles Phytalus pruinosus and L. rorulentus, but the form of the claws and the spurs of the posterior tibiae are quite different.

62. Lachnosterna brevidens.

L. integrus (Say) affinis, sed differt unguibus dente inferior prope parvo prope basin sito. Anguste oblonga, gracillima, fulvo-testacea, subtilitā, brevisima griseo-setosa, fronte, thorace antice elytrisque basi pilis longioribus erectis oblitius; elyo semicricrulli valde concavo, sparsim punctato, fronte grosse sobrosa; thorace medio parum dilatato, margine subcrenulato, aequalior punctulato; elytris discrete punctulatis.

6. Pygidium mediocriter convexum, nitidum, punctatum, parce breviter setosum. Venter medio parum depressus, aut dense aspere punctulatus et setosus, suturis decretis; segmento 5° toto medio densissime granulato et fusco, 6° vix concavo medio granulato et setoso. Calcaria postica elongata, libera. Ungues graciles, prope basin denticulo parvo, basi ipso leviter dilatato. Antennarum elva valde elongata, articulis 1°-7° conjunctis longior, articulis 4°-7° intus acute productis.


Hab. Mexico (Sallé, ex coll. Sturm). Two examples, males.

Bears in the Sallé collection the name L. obesa, Sturm (MS.), which I cannot adopt, as it has been used for a described species by Dr. Leconte.

63. Lachnosterna — ?

Hab. Mexico, Zimapán in Hidalgo (Höge).

A single example, sex uncertain, of a very small and distinct species of the L. incerta group.

64. Lachnosterna — ?

Hab. Mexico, Guajuco in Nuevo Leon (Dr. Palmer).

A single example of a species allied to the preceding.

65. Lachnosterna glabricula.


Hab. North America, Kansas¹, Texas.—Mexico, Santa Clara in Chihuahua (Höge).

One example (female) agreeing well with Leconte's description and with examples from Texas, with which I have compared it. It is distinguishable from similar unicolorous testaceous species from Mexico by the submarginal costa of the elytra.
66. Lachnosterna microdon.
Oblonga, versus apicem dilatata, piceo-nigra; corpora subtas, femoribus et antennis piceo- vel testaceo-rufa; fronte thoracique longe hirsutis, elytris brevissimae griseo-setosis; clypeo transverso, quadrato, angulis rotundatis, margine antico late reflexo, medio leviter sinuato, toto capite dense punctato; thorace post medium mediocriter dilatato, supra et elytris discrete punctulatis. Antennae 10-articulatae, articulis 3°-5° subovalibus, 6° et 7° hand subito breviore.


Long. 14 millim.

Hab. Mexico, Peras (Sallé). Two examples only.


67. Lachnosterna porodera.
Oblongó-ovata, testaceo- vel castaneo-rufa, fronte thoracique antice erecte hirsutis, elytris leviter pruinosis; clypeo sat parvo, rotundato, margine elevato, medio breviter sinuato, dense punctato, fronte brevi convexa, grosse scabrosa, postice transversim obuste carinato, occipite nitido punctulato; thorace sat angusto, ante medium valde dilatato margine crenato, angulis anticos productis, acutis, posticis subrectis, antice anguste marginato, disco anteriore grosse rotundato-punctato, postice et laticibus sparse rotundato-punctulato spatii levibus; scutello subtiliter sparse annulato-punctulato; elytris punctulatis; pectore cinereo-fulvo villoso. Antenne 10-articulatae, articulis 2°-6° conjunctis quam sequus vix longioribus.


♀. Pygidium sicut in ♂. Venter segmentis 5° (basi excepta) et 6° sat dense setifero-punctulatis.

Long. 15-16 millim.

Hab. Mexico, Guanajuato, Peras (Sallé).

Five examples.

68. Lachnosterna multipora. (Tab. XI. fig. 19, ♀.)
L. porodera proxime affinis; differt thorace medio pruinose, asque ad basin poros et longe hirsuto, elytris dense punctulatis pygidoque densius annulato-punctulato.

♂. Venter segmentis 2°-4° medio dense, 5° densissime fulvo-hirsutis, 6° transversim concavo. Ungues et antennae sicut in L. porodera.

♀. Venter segmento 5° cereberrime subconfluenter punctato, dense hirsuto.

Long. 14-16 millim.

Hab. Guatemala, Capetillo (Champion).

Eight examples.

69. Lachnosterna —— ?

A single example of a much smaller species, allied to L. porodera.
3. Antennae 8-jointed.


70. \textit{Lachnosterna mexicana}? \textit{(Tab. XI. fig. 20, \delta.)} \textit{Ancylonycha mexicana}, Blanch. Cat. Coll. Ent. i. p. 138?  
\textit{Hab.} Mexico, Vera Cruz\(^{1}\), Jalapa, Oaxaca (Höge).

Five examples from Herr Höge’s collection agree fairly well with Blanchard’s description, with the exception of the number of antennal joints. Blanchard placed his species in the 9-jointed division of the genus, but possibly in mistake (other inaccuracies of the same character by this author having been since corrected by Lacordaire). We cannot, however, be certain of this, and the identification of this interesting little species must remain in doubt. I will add to Blanchard’s description that the tarsal claws are slender, slightly and gradually broadened to the base, without basal dilatation, and furnished with a short, sharpened tooth near or a little below the middle. This character seems to forbid the association of \textit{L. mexicana} with Erichson’s genus \textit{Anonetus} (a genus without described species), in which the claws, as I have already stated under \textit{Phylalus poculifer}, have a quadrate tooth or dilatation at the base. The mandibles are invisible in repose in some examples, but quite visible along their external edge, and at the tips, in others. The species has a structural peculiarity in the width of the hind coxae, especially at their junction, where they cover the usually visible first ventral segment, and in some examples also the second.

All the examples appear to be of one sex, apparently male, the sixth ventral segment being plane or slightly concave, and with the fifth punctulate and clothed with stiff hairs.

The following species are represented by single specimens only, in some cases imperfect, and cannot with any advantage be named or located in the above classification of the genus.

71. \textit{Lachnosterna} —— ?  
\textit{Hab.} Mexico, Parada (Sallé).

72. \textit{Lachnosterna} —— ?  
\textit{Hab.} Mexico, Peras (Sallé).

73. \textit{Lachnosterna} —— ?  
\textit{Hab.} British Honduras, R. Sarstoon (Blancaneaux).

74. \textit{Lachnosterna} —— ?  
\textit{Hab.} Mexico, Toluca (Höge).
75. **Lachnosterna** — ?
*Hab.* Mexico, Zimapan (Höge).

76. **Lachnosterna** — ?
*Hab.* Mexico, Lagos in Aguas Calientes (Höge).

77. **Lachnosterna** — ?
*Hab.* Mexico, Las Vigas (Höge).

78. **Lachnosterna** — ?
*Hab.* Guatemala, Cubulco in Vera Paz (Champion).

79. **Lachnosterna** — ?
*Hab.* Panama, Chiriqui (Ribbe).

80. **Lachnosterna** — ?
*Hab.* Guatemala, Calderas (Champion).

81. **Lachnosterna** — ?
*Hab.* Mexico, Jalapa (coll. Bates).

82. **Lachnosterna** — ?
*Hab.* Mexico (coll. Bates).

83. **Lachnosterna** — ?
*Hab.* Mexico (coll. Bates).

84. **Lachnosterna** — ?
*Hab.* Mexico, Guerrero (Harford, in coll. Bates).

85. **Lachnosterna** — ?

The following species I have not succeeded in determining from the descriptions:—

86. **Lachnosterna laticeps.**

*Hab.* Mexico.
LAMELLICORNIA.

87. Lachnosterna cylindrica.

*Hab.* Mexico or West Indies.

EUGASTRA.


Leconte founded this genus chiefly on the deep emargination of the ligula, a character which Dr. Horn has since proved, by the dissection of many species of *Lachnosterna*, to have no generic value. But Leconte added the characters:—both sexes apterous, the body above and beneath glabrous. These features, combined with the extremely short metasternum and the subterranean or epigeous habits of the species, seem to mark out a definite modification of the *Lachnosterna* type worthy of generic distinction.

The genus *Tostegoptera*, Blanchard, founded on *L. lanceolata*, Say, is allied to *Eugastra*, but differs in the female only being apterous and having a short metasternum destitute of villosity, the male being in these respects a typical *Lachnosterna*. It forms a transition to the *Lachnosternae* through *L. nigerrima* (Bates), in which the male has a villose metasternum of the normal length, and the female a shortened and scantily pilose metasternum, but in which both sexes are winged. *Tostegoptera* is not admitted as distinct from *Lachnosterna* by Leconte; in which view he appears to me to have more justification than he has in including *L. aequalis* and *L. farcta* in the latter genus—they are both much more nearly related to *Eugastra*; *L. farcta* (the only one I have been able to examine) at least having a very short and glabrous metasternum, though winged in both sexes.

Leconte admits two Texan species only as belonging to the genus, which cannot satisfactorily be distinguished from the Old-World *Geotrogus*.

1. *Eugastra cribrosa*. (Tab. XI. fig. 21.)


*Hab.* North America, Texas.—*Mexico*, Monterey in Nuevo Leon (*Höge*). One example.

Subfam. MELOLONTHINÆ.

POLYPHYLLA.


Eighteen species of this fine and well-known genus have been described. It is
peculiar to the warmer temperate regions of the northern hemisphere, in the New World reaching as far south as Guatemala, and in Asia, North-western India.

Four species inhabit our region, and another (*P. cavifrons*, Lec.) is recorded from the vicinity of our northern boundary in Arizona.

1. **Polyphylla decem-lineata.** (Tab. XI. fig. 22, ♂.)


_Hab._ North America, Missouri, westward from Colorado to California.—Mexico, Guanajuato (*Sallé*), Mexico city, Durango city (*Höge*), San Luis Potosi (*Dr. Palmer*).

Mexican examples do not differ from the Californian form, except in their generally larger size. A male example from Guanajuato is figured.

2. **Polyphylla petiti.** (Tab. XI. fig. 23, ♂.)


_Hab._ Mexico, Orizaba (*Sallé*), Jalapa, Guadalajara, Mexico city, Durango city (*Höge*); Guatemala, Purula (*Champion*).

We figure a male specimen from Guadalajara.

3. **Polyphylla hammondi.** (Tab. XI. fig. 24, ♂.)


_Polyphylla subvittata_, Lec. l. c.; Horn, l. c. (*hammondi*, var.).

_Hab._ North America, Kansas and Northern Texas.—Mexico, Villa Lerdo in Durango (*Höge*).

Distinguished readily by the tridentate anterior tibiae of the male.

A male individual from Villa Lerdo is figured.

4. **Polyphylla conspersa.**


_Hab._ Mexico.

A small and, judging from the description, very distinct species, which I have not seen.
LAMELLICORNIA.

Fam. RUTELIDÆ.

Subfam. ANOMALINÆ.

The chief distinguishing character of this subfamily lies in the deflected labrum, the anterior middle part of which curves downwards so that the front edge is turned underneath towards the roof of the mouth. Hence, without dissection, the basal part of the organ, more or less sinuated in front, is alone visible. It is incorrect to term this peculiar conformation “labrum emarginatum” as Erichson and after him all the chief writers on the Lamellicornia have done, the middle of the true front edge of the labrum being obtusely rounded and sometimes even produced, not emarginated. This difference is important inasmuch as it lessens the divergence between the subfamilies Anomalinae and the Geniatae, with their allies the Anoplognathinae and the neighbouring groups, two great series of forms which have hitherto been widely separated in the current classifications.

PHYLLOPERtha.


Although this genus is generally adopted it has never been satisfactorily defined as distinct from Anomala, and many species have, in consequence, been referred to it which have little in common with the typical P. horticola. The two Mexican species included in Phyllopertha by Blanchard appear to me decidedly not to belong to it, one being an Anomala, and the other an Epectinaaspis. The following species is a Phyllopertha in its general form and the slenderness of its hind legs in all their parts, and in the loose villosity of the under surface of the body; but it differs greatly from Phyllopertha in the mouth-structure, the mandibles being reduced to very narrow flat tapering blades, lying closely to the roof of the mouth, and the maxillae having two teeth only. Abrupt degradations of mouth-structure occur, as I shall have to show, also in a group of Anomala widely different from Phyllopertha, and they cannot well be treated as generic.

1. Phyllopertha tolucana. (Tab. XII. fig. 1, c.)

Brevius ovata, capite thoraceque nitide aneis vel cupreas, elytris pallide fulvo-testaceis, striis et interstitiis albis (plus minusque) fuscis; subbasum pedibus conerecenti-nigra, griseo-villosa;clypeo parvo, subsemicirculari (juxta basem dilatato), concavo, grosse punctato; fronte et vertice umbilicato-punctatis punctisque minoribus intermixtis; antennis et palpis nigris; thorace elytris multo angustiore, paullo ante medium angulato-dilatato, angulis anticae et posticia subvectis, quasi simulque sat distantiter umbilicato-punctulato, marginis basali integro; scutello late seneiformi, aneis polito, parce punctato; elytris punctato-strictis, interstitionibus 3°, 5° et 7° convescis, levibus, ceteris punctato-rugosis. Pygidium seneum vel nigro-seneum, politissimum, parce punctatum, longe hirsutum. Mesosternum tuberculiforme. Mandibula tenuiter laminiformis, acuminata, inermis; maxille ample bidentata.
PHYLLOPERTHA.—ANOMALA.

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♂. Antennarum clava valde elongata, articulis 5° et 6° intus acute et longe productis. Tarsi anteriores ungue majore deflecto, medio angulatim dilatato, supra tenuissime dentato.

Long. 8 millim. ♂ ♀.

Hab. MEXICO, Toluca (Höge).

A large series of examples, nearly all males. The labrum in this species is small and depressed in the middle, with the front margin strongly deflected and in the middle slightly produced. The mentum is very much less flattened in the middle than is usual in the subfamily.

ANOMALA.

Anomala, Samouelle, Entom. Compendium, i. p. 191 (1819); Erichson, Naturgesch. der Ins. Deutsch. iii. p. 616 (1848); Burmeister, Handb. der Ent. iv. 1, p. 230 (1844).

Upwards of 300 species of this well-known genus have been described. It is abundantly represented in the tropical and north temperate zones of both continents, but does not appear to extend to the south temperate zone or to Australia and the Oceanic Islands.

I. Tarsi quatuor anteriores ungibus fissis, dente superiore in ♀ haud multo breviore.

1. Mesosternum angustum nec apice prominens.

1. Anomala undulata.


Melolontha varianus (Fabr. partim), Burm. Handb. der Ent. iv. 1, p. 248 (nom. praecoc.).

Hab. NORTH AMERICA 1 2 3.—MEXICO 4, Orizaba, Toxpan, Cordova, Tepansacualco, Cinco Señores (Sallé), Jalapa (Höge); BRITISH HONDURAS, R. Hondo (Blancaneaux); GUATEMALA, San Juan in Vera Paz (Champion).

A numerous series, similar in the wide range of variation in the number of the dark elytral spots (in the darkest specimens forming undulating belts) to the North-American form. The clypeus is semicircular (widening behind); and the anterior claw-joint is without conspicuous tooth beneath, with the upper part of the cleft apex as long as the lower. The brassy-brown central area of the thorax generally reaches the base, where it is indented by a broad bilobed spot of the testaceous ground-colour.

2. Anomala discoidalis. (Tab. XII. fig. 2.)

A. undulatae quum proxime affinis, sed differt thoracis macula nigro-aeeno trapezoidali distincto delimitata, limbis testacis laterali et basali latis; elytris fulvo-testaceis, macula parva medio juxta suturam nigra, rare disco et callis humeralibus apicalibusque maculatis; thorace paulo subtilius disperse punctato, margine basali medio late interrupto.

Long. 8 millim. ♂ ♀.

BIOL. CENTR.-AMER., Coleopt., Vol. II. Pt. 2, June 1888. 2 FF
Hab. Mexico, Cordova, Teapa (Sallé); Panamá, Bugaba, Volcan de Chiriqui 2500 to 4000 feet (Champion).

A dozen examples showing very little variation. The clypeus and anterior claws in both sexes are formed precisely the same as in *A. undulata*, and I treat *A. discoidalis* as a distinct species simply on account of its constancy in the Panamá region, whence nearly all the specimens come. The few Mexican individuals are rather less typical, the thorax in these having a more or less stronger punctuation, an entire basal margin, and less sharply defined spot, characters which connect them so far with *A. undulata*.

I received a specimen some years ago from Paris under the name of *A. maculicollis*, Dej. An example from Chiriquí is figured.

3. **Anomala guatemalena.** (Tab. XII. fig. 3, var.)

*A. undulata* affinisima, sed differt clypei lateribus fore parallelis etc. Minor, suboblonge ovata, fulvo-testacea, nitida, viridi vel seneo-fusco multiliriam variegata; clypeo transverse, lateribus fore parallelis, sua fronte creberrime punctulatis; thorace sicut in *A. undulata*, sed fortoliter disperse punctato, aequaliter convexo, lineas dorsali obsoleta, margine basali integro; elytris punctato- striatis, interspissis subulliliter disperse punctulatis (nee transversum rugosis), interstitio latu subeutrali basi solum confusum (fore biocristatim) punctato, post medium unipunctato-striato. Pygidium sicut in *A. undulata* et *A. discoidalis* confuerunt rugulosum, interspissis sat amplis subverrucosis.

Long. 6–7 millim. 

Color supra variat:—

1. Tota rufo-testacea (elytris fulvioribus).
2. Thorax viridi-seneus, limbo laterali clytrisque fulvo-testaceis.
4. Thorax seneus margine clytrisque fulvo-testaceis, his macula mediana transversa suturali alterisque minutis discoidalis et marginalibus fuscis.
6. Eadem, sed clytris fasciis laitis duabus undulatis seneo-nigris.
7. Eadem, sed capite thoracique rufis.

Hab. Guatemala, near the city (Salvin), Cerro Zunil 4000 to 5000 feet, Tocoy, El Jicaro, San Gerónimo, Chacoj, San Juan in Vera Paz (Champion); COSTA RICA, Cache (Rogers).

Nearly forty examples, two or three of which show a gradation towards *A. undulata* in the more semicircuclar clypeus and one or other points of difference. The form, however, is evidently in a state of almost complete segregation from the northern species and merits a separate name and description. A specimen from Chacoj in the Polochic valley is figured.

4. **Anomala chiriquina.**

Brevis ovata (*d 2*), fulvo-testacea, nitida, capite cuprascenti-rufa, thorace plaga magna nigro-senea pleurumque lineola postero-dorsali abbreviata fulva; elytris sutura fascia angusta undulata mediana, plaga suturali ante apicem (interdum asque ad latera extensa), vitta lata marginali versus humeros et interdum maculis
ANOMALA.

basalibus nigro-fuscis; capite creberrime punctato, elypei lateribus fore parallelis; thorace equaliter convexo et grosse disperse et irregulariter punctato, marginie basali integro; elytris irregulariter punctato-striatis (striis parum impressis), interstitii lavisbus, interstitio lato prope suturam parce confusa punctato. Pygidium ♂ ♀ subtiliter confusae rugulosum, subopaeum.

Long. 7-7½ millim.

Hab. PANAMA, Volcan de Chiriqui 2500 to 4000 feet (Champion).

Var. Rufo-testacea, capite thorace ameno-tinctis, hoc subtiliter sparsim punctulato.

Hab. COSTA RICA (Van Patten).

Five examples. In form A. chiriquina comes very close to var. 6 of A. guatemalena, differing only in its much smoother elytra and more minutely rugulose pygidium. It is intermediate between that species and the following. The broad subsutural interstice has but few punctures, these forming only two irregular rows.

5. Anomala eulissa. (Tab. XII. fig. 4.)

Brevius ovata, fulvo-testacea, polita, capite et thorace fundo nigris vel rufis viridi-ameno metallicis (hoc rarissime lateribus fulvis), elytrisque sutura, fascia angusta mediana, plaga suturali subapicali et vitta irregulari marginali, nigris vel castaneis; capite antice subtiliter crebre punctulato, elypeo postico dilatato; thorace subtilissime et sparsissime punctulato; elytris punctato-striatis, stria 2ª integra, interstitii lavisbus. Pygidium sat acute et grosse confluenter striatus, utrinque ♀ retuso-compressum, ♀ fortius retuso-compressum medioque basi sulcatum. Subsutus cum pedibus fulvo-testacea aut piceo-rufa aut nigra.

Long. 7 millim.

Hab. PANAMA, Bugaba, Volcan de Chiriqui 2000 to 4000 feet (Champion).

The entire second elytral stria distinguishes, besides other characters, this species from others of the A. undulata group. Yet, widely distinct though it be, it is linked with A. undulata step by step by the species or subspecies above described, and the individual varieties, apparently very rare, intermediate between them. The markings of the elytra in the thirty specimens examined offer little variation; in what may be considered typical examples there are, besides the narrow median fascia and the large rhomboidal subapical sutural spot, an oblong dark spot in the middle of the base and another similar one towards the apex in the fulvous area between the rhomboidal spot and the broad lateral border. These accessory spots are often absent, or the dark fasciae more or less diffused.

6. Anomala compressicollis. (Tab. XII. fig. 5.)

A. undulata affinis; magis ovata, flavo-testacea, thorace plaga antero-discoidae viridi vel cupreo-amena, elytrisque macula retunda prope suturam mediana (interdum maculis utrinque 3 in fasciam dispositis plagaque suturali posteriori et callo humerali) fuscis; elypeo brevi et lato, postice paullo dilatato, dense ruguloso-punctato; thorace utrinque disco valde retuso velutum compresso sulcoque lato dorsali, marginie basali integro, disco sat grosse et minus disperse punctato; elytris regulariter punctato-striatis, interstitii brevibus, interstitio lato prope suturam confusa (fere biseriatum) punctato prope apicem unistratii. Pygidium subtiliter confusae rugulosum, opaucum.

Variat fulva immaculata.

Long. 7-7½ millim.

Hab. GUATEMALA, Zapote (Champion).
About a score examples, all presenting the strange apparent deformity of the thorax above described. The species is otherwise closely allied to *A. guatemalena*; but presents little variation in the elytral markings, which consist always (except when absent altogether) of a few small dark spots in the same situations as the leading spots in the other species of the group. The pygidium has an even surface, without foveae or compression, and is minutely confluent, strigulose, and opaque.

7. *Anomala calligrapha*. (Tab. XII. fig. 6.)

Oblonga, thorace relative parvo et basi elytris angustiore; subbas nigra vel picca ventreque pallido; supra capite thoraceque nigro-seneis, politis, elytris fulvo-testaceis, plaga subhumeralis fasciisque dubus undulatis (jam interruptis jam valide dilatatis vel diffusius nigro-fuscis; elytræ transverso, postice dilatato, punctulato-ruguloso; thorace medio angulatim dilatato deinque usque ad basil lateribus parallelis, dorso undique paullo inaequalis, disperse punctato, margine basali integro; elytris oblongis rugulosis, punctato-striatis, interstitiis subsubturali valde confuso punctato striisque 2° et 3° irregularibus. Pygidium nitidum, grossissime hau profundae punctatum, puncta longitudinaliter confluentibus. ♂. Tarsi antici ungue majore basi dilatato, dente tenui superiore elongato.

Long. 7—9 millim. ♂♀.

*Hab.* PANAMA, Volcan de Chiriqui 4000 to 6000 feet (*Champion*).

Upwards of twenty examples.

8. *Anomala retusicollis*.

*A. calligraphæ* et *A. compressicollis* affinis; oblonga, thorace postice lateribus parallelis, elytris hau relative elongatis; capite thoraceque medio nigro-seneis, hoc margine late lineolaque abbreviata dorsali fulvis, elytris fulvis, medio masculis 1°—3° parvis transversis postia fuscis; thorace antice utrinque post oculum et subo antero-dorsali impressæ, castæ superficiei subaqueali disperse punctato; elytris regulariter punctato-striatis, interstitiis laevibus, subsubturali late biseriatim confuso punctato. Pygidium minute confusent rugulosum, subopacum.

Long. 6 millim.

*Hab.* PANAMA, Bugaba, Volcan de Chiriqui 4000 to 6000 feet (*Champion*).

Three examples, intermediate in form between *A. calligrapha* and *A. compressicollis*, and also allied to *A. chiriquina*. The lateral depression of the thorax is confined to a moderate space near the fore margin on each side instead of occupying the greater portion of the half disc as in *A. compressicollis*.

9. *Anomala barbicollis*.

Procedenti affinis; oblonga, thorace lateribus postice subparallelis, antice utrinque prope angulum depressæ, disco utrinque plaga magna setiferæ-punctata, castæ superficiei convexæ, subulater parce punctulata; elytris punctato-striatis, interstitiis paulo convexæ, laevibus, subsubturali late, confuso multipunctato, postice umistriato, strīcis 1°, 3°, 4° et 5° 10°que prope apicem profundiis; pygidio subtilissime transversim striato-omato, equilator convexæ; capite et thorace politis, viridi-seneis rufo-translucentibus, hoc lateribus fulvis; elytris fulvis, fasciisque danus undulatis (interdum latis et diffusis) nigro-fuscis vel castaneis.

Long. 9 millim.

*Hab.* GUATEMALA, Sinanja in Vera Paz (*Champion*).

Two female examples only.
10. *Anomala cribriceps*. (Tab. XII. fig. 7.)

♂ ovata, ♀ oblongior postice dilatata, glabra, nitida, subitus fusca, pedibus fusco-seneis (interdum rufo-testaceis), capite thoracique subfusco-seneis vel cupreis vel capite cupreo, thorace fusco-seneo (raro seneo-rufa), elytris testaceo-fulvis maculis puncis fuscis; capite plano usque ad verticem crebre (postice discrete) punctato, elytrorum semiovato paulo redoxa; thorace equaliter convexo et distincte punctato, lateribus regulariter arcatis, margine basali integro; elytris minus regulariter punctato-striatis, hic illae transverse plicatis, interstitio subsuturali lato valde irregulariter usque ad apicem punctato. Pygidium equaliter convexum, minute rugulosum, punctis intermixtis.

Elytrorum maculis typice quinque in fasciam obliquam ab humero (haud callum tegente) usque ad medium prope suturam dispositis; variat maculis intermediis vel omnibus obsoleteis; interdum plaga marginali posteriore vel tota superficie (maculis basalis discoidalibusque exceptis) nigro-fusca.

Long. 7-10 millim. ♀ ?.

*Hab.* MEXICO, Colima city, Tonila in Colima, Chilpancingo, Guadalajara (Höge), Yolos (Sallé).

A large number of examples. Although the form, especially of the female, is different, this species belongs to the group of which *A. undulata* and *A. variegata* (Latr.) are the types. The slender upper part of the cleft anterior claws is as long as, or longer than, the lower, which is diluted towards the base in the male. *A. cribriceps* is remarkable for the close and comparatively uniform punctuation of the head, which is opaque, except the slightly shining posterior part of the vertex. An example from Tonila is figured.

11. *Anomala punctatipennis*.


*Hab.* MEXICO, Cordova, Vera Cruz¹ (Sallé); GUATEMALA (Sallé).

Four examples in the Sallé collection bearing this name. The species is not so "breviter ovata" as most others of the same group; the elytra are a little dilated behind, and the thorax does not broaden towards the base and is nearly parallel-sided behind the dilatation. The "profunde striato-punctatis" of Blanchard's diagnosis is a distinctive character, the punctures of the striae being large, deep, and circular or umbilicated, each seated in a larger impression. Size 6-7 millim.

12. *Anomala zapotensis*. (Tab. XII. fig. 8.)

Late ovata, glabra, flavo-testacea, capite thoracique seneo-tintinis hoc signaturis duabus vagis fuscis, elytris castaneo-fuscis fascis duabus dentatis flavo-testaceis, altera a sentelli apice usque ad medium basin curvata, altera magis transversa mediana; elytrorum subsemicirculari, crebre rugoso-punctato, fronte sparsim punctata; thorace brevi et lato, ante medium perparam dilatato quasi a basi usque ad apicem angustato, disperse punctato, margine basali integro; elytris regulariter et profunde punctato-striatis, interstitio lato subsuturali nullo. Pygidium dense transverse conformer strigosum. Mesosternum antice declive anguste obtuse carinatum.

Long. 9 millim.

*Hab.* GUATEMALA, Zapote (Champion).

Two female examples only. A distinct and handsome species. The relatively
great width of the body is not accompanied by a corresponding convexity, so that the surface appears flatter than in other species of the group.

13. **Anomala histrionella.** (Tab. XII. fig. 9.)

Ovata, glabra, fulvo-testacea interdum subitus cum pedibus nigro-aenea, capite thoraceque viridi-aeneo-tinctis, illo vertice, hoc plagia magna discoïdale multilobata (medio interdum lineis 2 flavis fere divisa), saturatus viridi-aeneis, elytris striis omnibus macula utrinque antero-discoïdale fasciisque duabus undulatis, castaneo-rufis, fascis interdum dilatatis vel late diffusi hinc elytris toto castaneo-rufis macula discrete elongatis flavis; capite toto subconfuentor punctato, clypeo semicirculari; thorace lateribus arcuatis, antice plus quam postice angustato, macula utrinque laterali nigro, margine basali integro; elytris utrinque striis punctatis 12 profundiis interstitionibus punctulatis; pygidium dense subtiliter confunctor punctulato. Mesosternum inter coxas depressum. ♀. Tarsi antici ungue majore haustrum dilatato.

**Hab.** Mexico, Acapulco, Ventanas, Iguala (Höhle); *Nicaragua,* Chontales (Belt).

A large series of examples collected by Herr Höhle, one of which is figured. A single specimen from Chontales agrees with the prevailing Mexican form in markings.

14. **Anomala** ——.

**Hab.** *Nicaragua,* Granada (Saller).

A single example of a species apparently distinct.

15. **Anomala** ——?

**Hab.** Mexico, Cuernavaca (Saller).

A single example of a species almost exactly agreeing in sculpture with *A. micans,* but from its narrow simple mesosternum and straight unthickened lateral margins of the elytra belonging to a different group.

16. **Anomala** ——?

**Hab.** Mexico (*Saller, ex coll. Sturm*).

A single example of a species allied to the preceding, but having a rather wider mesosternum slightly thickened at the apex.

17. **Anomala championi.** (Tab. XII. fig. 10.)

Elongato-ovata, fulvo-testacea, nitida, vertice macula utrinque thorace signatura magna sexlobata elytrisque macula basali humeralique, fascia mediana lata valde dentata et dilacerata, guttis maculisque apicilibus, nigro-aeneis; corpore subitus nigro-enceo, pedibus flavis nigro-maculatis; capite densissime punctato, clypeo postice haustrum amplius marginaque parum elevato; thorace brevi et lato, lateribus subregulariter arcuatis, angulis posticis obtusis, dessovald inequali utrinque transversim bicollato, rugoso et sparsim grosse punctato; elytris grosse punctato-striatis, utrinque costulis tribus subelevatis, lateribus confusae rugulosos-punctatis, interstitio 2º confuso sub-biseriatum grosse punctato. Pygidium elytris dimidio obexcum, dense confuso rugulosum, longo setosum. Mesosternum angustum, inter coxas haustrum tumidum. Tibiae anterior bidentatae, sed dente tertio rudimentario, postice suratae. Tarsi 4 anticae ungue externo profunde fissae.

**Long.** 10 millim. ♀.
ANOMALA.

Hab. GUATEMALA, Zapote (Champion).

Of this prettily marked and very distinct species there is only a single example.

18. **Anomala tolesis**.

Ovata, nitida, subitus cum pedibus anea vel rufo-anea, capite thoraceque cupreis vel nigro-aneis, elytris fulvo-testaceis, sutura (versus scutellum dilatata) margine sub humero et striis indistinctis intermedii nigro-fusci vel castanter; capite brebrie punctato, vertice levii, clypeo subsemicirculari, reflexo; thorace medio paullo dilatato antice magis quam postice angustato, sat aequaliter convexo, subgrosse disperse punctato, margine basali integro; elytris lateribus sub callo humerali valde impressis, striis utrinque circiter 13 punctatis medioiter impressis 2° hie illie duplicata vel 2° et 3° confusi. Pygidium sat magnum, medioiter convexum, minunte et dense confluenter striulosem, opaque. Mesosternum inter coxas impressim paululum convexum deinde planum declive. Tarsi antec undique majore lato sed hau subangulatim dilatato. Long. 10–11 millim. 2.

Hab. PANAMA, Tolé (Champion).

Five examples. In this species the mesosternum is somewhat variable in width, and in those specimens in which it is broader the apex is slightly tumid and shining.

19. **Anomala ochrogastra**. (Tab. XII. fig. 11.)

Elongato-ovata, nitida, viridi-vel cupro-anea, elytris abdominiseque fulvo-testaceis, illis sutura marginaque, hoc segmentis postico, anguste fusco-marginatis; capite brebrie confluenter (occipite parum) punctulato, clypeo subsemicirculari margine reflexo; thorace medio dilatato, antice plus quam postice angustato, aequaliter convexo, disperse punctato, margine basali (anello profundato) integro; elytris utrinque striis punctatis guminatis tribus, interspatis confuse (2° versus basis unisoriatis) punctatis, subsuturali latissimo et multipunctato, punctis et striis medioiter impressis. Pygidium amplum, aequaliter convexum, nitidum, arcuatim striatum, discretum punctatum. Mesosternum inter coxas depressum. Unguis anterior major subangulatim dilatatus, dente superiore baud breviore.


Hab. PANAMA, Bugaba, Volcan de Chiriqui 4000 to 6000 feet (Champion).

In this species the mesosternum, although always decidedly narrow, varies in being thickened or not at the apex. A large number of examples.

20. **Anomala flavizona**. (Tab. XII. fig. 12, 2.)

Elongato-ovata, fulvo-castanea anesca, brebre punctulata, thorace lateribus elytrisque post medium fascia angusta pallide testaceis; thorace (marginibus exceptis) densissime erecto piloso; subitus anea-piceae, pedibus pallide testaceis fusco-nigro maculatis; capite grosse confluenter punctato, vertice levii, clypeo sat brevi subsemicirculari, antice (epistoma) alte verticali politissimo; thorace relative parvo et brevi, medio pallio dilatato, angulis posticis obtusis, margine acuto basali integro, grosse confluenter punctato; elytris undique sat dense punctulatis, stria sunturali et striis costalibus, precipue postice, paullo impresso et distinctis; pygidio arcusatim striato et pilifero-punctulato, obscure anea opaco; tibiae antice bidentate. Mesosternum subangustatum, apice lavo paululum tumidum. Tarsi antec undique levis majore lato subito dilatato, dente superiore tenue baud breviore, 2 gradii profunde fuso.

Long. 12–13 millim. 2.

Hab. GUATEMALA, Zapote, Senahu, Purula, Sinanja (Champion).

Six examples. We figure a male specimen from Purula.

Oblonga, subovata, fulvo-testacea, thorace suturae viridi-æneo vitta marginali medio intus sinuata fulva; capite rufo, elytris sutura angusta lineaque marginali subhumero (interdum margine lata irregulari) nigro-fuscis. Capite crebre punctato, vertice lavi, clypeo subsemicirculari, paullo reflexo; thorace lateribus sat regulariter arcuati, angulis posticis subtus integris, sat fortiter subdisperse punctato; elytris utrinque costis tribus vix elevatis stris punctatis rectis delimitatis, interstitiis inter costas 1° et 2° stria paullo irregulari unica, inter costas 2° et 3° parce confusa punctata, interstitium subsuturali lato multipunctato, stria suturali valde impressa forma recta, stris 2°, 3° et 7° sique prope callum epicalem, profunde exaratis. Pygidium ♂ confuentes haud profunde arcuato-rugulosum, parum nitidum, ♀ discretum punctatum, nitidum. Tarsi antiores articulo unguculari subito dentato. Tibiae antice bidentate. Tarsi anteriores unque maior ♂ haud subangulatim dilatato, dente superiore breviore, ♀ fere aequaliter fissi.

Long. 11-12 millim. ♂ ♀.

_Hab._ MEXICO, Vera Cruz (Sallé); GUATEMALA, San Isidro (Champion).

This and the following species much resemble the smaller examples with yellow elytra of _A. cincta_, and still more _A. costaricae_, but the narrower simple mesosternum and bidentate anterior tibie amply distinguish them.

22. Anomala sejuncta.

A procedente differt thorace angulis posterioris more rectis, margine ante angulum leviter sinuato margineque fulvo antice dilatato posticoque attenuato; elytris levioribus striisque prope callum epicalem minus profunosis.

Long. 12 millim.

_Hab._ GUATEMALA (Sallé), Euenas and near the city (Champion); COSTA RICA (Van Patten).

Four examples. The colour of the head is coppery red and of the thorax coppery-æneous or brassy-black, the elytra having no dusky marking except a narrow sutural border. The pygidium is much more densely and deeply sculptured. Costa Rican examples have the hind angles of the thorax less rectangular than those from Guatemala.

23. Anomala —— ?

_Hab._ GUATEMALA (Sallé).

A single example of a doubtful species.

24. Anomala höpfneri. (Tab. XII. fig. 13, ♀.)


Oblongo-ovata, postice dilatata, flavo-testacea, capite castaneo-rufo, thorace plaga magna basi attingente sænecenti-castanea elytrisque vitta suturali (medio dilatata) vitta postero-marginali et sepe callo humerali, nigris; clypeo postice parum dilatato, marginibus reflexis; thorace relative parvo, ante medium subangulatim dilatato, angulis posticis subrectis, dispersae punctatae, margine basali integro; elytris stris vix impressae, punctulatis valde irregularibus vel confusi; juxta costae planissimae solum paullo rectioribus,
interstitio suturali lato. Pygidium convexum, punctatum. Pectus et coxae flavo-villosa; tarsorum anterorum articuli unguiculari subitus vix perspicue dentato.

♀. Tibia antica bidentatae, tarsi antici ungue majori elongato acuto basi subitus sinuato, dente superiore tenui et sat brevi.

♂. Tibia antica tridentata vel bidentata, dente superiore brevissimo interdum obsolete. Tarsi antici ungue majori ferè equaliter fissi.

Long. 12-15 millim. ♀ ♂.

Hab. Mexico ¹, Puebla, Tepansacualco, Peras, Oaxaca (Sallé).

Burmeister mentioned the differences of sculpture which distinguish *A. höpfneri* (as a variety) from the more southerly forms of *A. inconstans*, but did not notice the peculiarity of dentition of the anterior tarsal claws in the male, which I find quite constant. The markings of *A. höpfneri* are also different from those of *A. inconstans*. The sutural vitta of the elytra is nearly always dilated in the middle, and the apical margin has a broad velvety-black border seldom entirely absent. The broad trapezoidal spot of the thorax reaches the base, but there is generally a pale transverse streak in the middle of the basal part. An example from Peras is figured.

25. **Anomala inconstans**. (Tab. XII. fig. 14.)

*Anomala inconstans* (partim), Burm. Handb. der Ent. iv. 1, p. 252¹.

*Anomala lurida* (Fabr.), Burm. loc. cit. p. 562.

Hab. Mexico ¹, Peras, Yolos, Oaxaca (Sallé); Guatemala (Sallé), Guatemala city (Champion); Nicaragua, Chontales (Janson); Costa Rica (Rogers); Panama, Volcan de Chiriqui (Champion).—South America, Colombia, Brazil ¹.

In the male the larger claw of the anterior tarsi is long, subtriangularly dilated near the base only, and the upper tooth is nearly as long as the lower; in the female the upper tooth is longer than the lower. The larger size (16-17 millim.), more distinctly tricostate elytra, with thickly punctured intervals, flatter pygidium, much more obtuse thoracic hind angles, and different elytral markings (broad and dark discoidal streaks being the prevailing pattern) further distinguish the species from *A. höpfneri*. The subtridentate anterior tibiae in the female is a more constant character in this species than in *A. höpfneri*.

The examples from Chiriqui (two in number) differ from all the Mexican and Guatemalan individuals by the elytra being yellow with the suture (narrowly) and the humeral callus only black, and by the narrower and less punctured intervals between the costae.

Burmeister, in his appendix, stated his belief that his species was probably the *A. lurida* of Fabricius—a suggestion of change of name promptly adopted, as usual in such cases, by subsequent writers. The description of Fabricius, however, as given in the Syst. Entom., does not in the least apply to *A. inconstans* in any of its varieties. The "caput nigrum" and "elytra punctis duobus ad suturam et unico versus apicem" must refer to some species of a different group of *Anomala*. The country of Fabricius' species was unknown. We figure a Guatemalan specimen of *A. inconstans.*

Biol. Centr.-Amer., Coleopt., Vol. II. Pt. 2, June 1888. 2 GG
26. Anomala gemella. (Tab. XII. fig. 15.)


Hab. Mexico 1, Tepasacualco (Sallé), Mexico city (Flohr).

Closely allied to the two preceding; rather smaller and more oblong, the elytra sprinkled throughout with short blackish streaks, the streaks in some examples condensing into dusky patches. A good distinguishing character is the perfectly rectangular hind angles of the thorax. The three examples before me appear to be females.

27. Anomala chevrolati. (Tab. XII. fig. 16.)

Sat elongata, angusta, flavo-testacea, capite maculaque thoracica mediocris antero-dorsali castaneo-rufa, elytris vitia suturalis per scutellum latera usque ad basin ducta nigra, margine posteriori interdum angustus nigro; capite brevem punctatum, clypeo postico vix dilatato; thorace angulis posticis obtusis sed distinctis, margine basali integro, disperse punctatum; elytris punctulato-striatis, utrinque minus distincte tricostatis, costis versus apicem convexis striisque interstitioibus paullo confusis, interstitio suturali lato punctulato, subcostaliter multipunctato. Tarsi antiici articulo unguei subtus hau dentato.

Hab. Mexico, Yolos (Sallé), Ventanas in Durango (Höge).

Seven examples. Bears the MS. names A. suturalis and A. suturella in the Sallé collection; the former name has been used by Lansberge for a described African species.

28. Anomala centralis.


Hab. North America, Peninsular of California 2, Cape San Lucas 1, Arizona 2. Mexico, Sonora 2, Tres Marias Islands (Forrer).

Three examples agreeing fairly well with Dr. Horn’s description and with a specimen from Arizona received from the late Mr. Morrison.


Oblongo-ovata, fulvo-testacea, capite maequaque magna thoracis subfuscus-cupreis, elytris sutura marginisque partim nigro-fusis; capite brevem confluenter punctatum vertice laviiore, clypeo postice parum ampliato; thorace lateribus regulariter acanthis, antice angustato, angulis posticis subrectis, margini basali integro, disperse sat fortiter punctato; elytris punctulato-striatis, interstitio 2 (subsuturali) multipunctato, 7° sub-basaliter confluse punctato; pygidium subnatum profunde discrete punctatum, 2 crebris rugulosum. Tibiae antice 2 bidentata. Tarsi antici articulo unguei subtus (intus) acute dentato, ungue majore elongato sat angusto, dente superiori tenui abbreviato. Long. 10 millim.

Hab. Honduras, Ruatan Island (Gams).

Two examples. A Mexican Anomala in my collection, received from A. Deyrolle.
many years ago, without name, belongs to this species; it is probably from some locality in Southern Mexico. This specimen is rather smaller (8½ millim.), and has the black sutural vitta much broader, and the lateral and apical borders of the elytra and a large part of the scutellum also black; but the form and sculpture are similar.

30. Anomala flavilla. (Tab. XII. fig. 18.)

Oblongo, flavo-testacea, capite rufo (vertex interdum fusco), thorace maculae duabus (transversam positis, interdum obsoletis) elytronque sutura angusta (interdum dilatata) et toto limbo exteriore fusco-nigris; elypeo sat parvo, semicircularis; thorace lateribus arenatis, angulis posticis rotundatis, margine basali integro, equaliter convexo, disperse punctulato; elytris regulariter punctato-striatis, interstitio lato subsuturali confuso (hand numeroso) punctato; pygidio discrete punctato, nitido, convexo. Tibiae antice subtridentatae. Tarsi antice unguat majore, σ medio leviter dilatato, dente superiore tenui paullo breviore, Ψ gracilllore longioreque apice fisso. Long. 8-9 millim.

Hab. Mexico, Tres Marias Islands, Ventanas in Durango (Forrer).

Four examples. A specimen from Ventanas is figured.

31. Anomala decolor.

A. flavipennis (Burm.) affinis et similis, sed differt tibiis antecis tridentatis etc. Oblongo-ovata, rufo-testacea, nitida (thorace interdum plagiis duabus rufoscentibus), vertice callo humerali suturaque anguste fusce; elytris sutura in A. flavipennis concaavo sed minus quadrato, subsemicirculari, fortiiter sed discrete punctato; thorace lateribus arenatis, angulis posticis fere rotundatis, margine basali integro, disperse punctato; elytris magis regulariter punctato-striatis, interstitio subsuturali (lato) et humerali confuso (sub-bisectisti) punctato, striaque tertia (ab interstitio subsuturali) paullo irreguliari; pygidio discrete punctato; tibia antica dente superiore (3°) prominentis. Mesosternum inter coxas angustissimum, Unguis major anterior (Ψ) sicut in A. flavipennis fissus. Antenne cum clava sat elongata. Long. 11-12 millim. Ψ.

Hab. Mexico (Flohr, in coll. Bates).

Females only. Although the four examples are not so ticketed I believe they came from the neighbourhood of the city of Mexico.

32. Anomala megalops. (Tab. XII. fig. 19.)

A. flavipennis (Burm.) affinis, sed valde differt oualia maximis globosis. Oblongo-ovata, rufo-testacea, nitida, fronte et vertice sutura calloque humerali nigris, thorace interdum plagiis duabus vagis fusce; elytris postice parum dilatato, margine sat alte elevato parce subtiliter ruguloso, oualia magnis globosis; thoraces brevi et lato, lateribus arenatis, angulis posticis valde obtusis, margine basali integro, disperse punctato; elytris sicut in A. decolori punctato-striatis, interstitio subsuturali et humerali parce confuso punctato; pygidio convexo, discrete punctato; tibiis antice tridentatis. Metasternum inter coxas angustissimum. Ψ? Antennae elongatae, clava valde elongata graciles. Tarsi anteci unguat majore elongato nullomodo dilatato, dente superiore breviore, articulo ungueculari subtus valde dentato. Long. 11 millim. Ψ?

Hab. Mexico, Cordova (Saille), Jalapa (Höge).

Two examples only, both apparently males. The antennal joints 3-5 are rather longer than usual in the Anomalaæ, and the club is very long and slender. The same
feature is presented by *A. flavipennis*, though in rather less degree, and more strongly pronounced in the male than in the female. As we have seen, the antennal club is also elongate in *A. decolor*.

33. **Anomala hispidula.** (Tab. XII. fig. 20, ♀.)
Oblonga, supra breviter (thorace densius) erecte griseo-pilosa, subitus fere glabra; cupreo-fusca, thorace lateribus elytrisque maculis valde irregularibus plus minusve confluentibus testaceo-fulvis, femoribus tibiasque testaceo-varis; interdum fere toto cupreo-fusca; capite crebre confluenter punctato, plano, clypeo semicirculari margine parum elevato; thorace lateribus arcuatis, angulis posterioribus subrotundatis, margine basali acuto delimitato, integro, tota superficie densissimae subconfluenti punctato; elytris dense rugulosis, punctulis intermixtis, punctato-striatis, costulis tribus parum distinctis, interstitio subcuticulari lato confuso multipunctato. Pygidium densissime rugulosum, opacum, longe pilosum. Tibiae antice bidentate. Mesosternum inter coxae mediocrer angustum. ♀. Tarsi antici ungue majore brevi curvato lato, dente superiore tenui breviore.

*Hab.* Guatemala, San Gerónimo (Champion).

Four examples.

34. **Anomala — ?**
*Hab.* Mexico, Vera Cruz (Salle).

A single female example, distinct from any of the foregoing.

35. **Anomala — ?**
*Hab.* Nicaragua, Chontales (Belt).

A single imperfect example of a species of this group, also distinct from all the foregoing.

36. **Anomala — ?**
*Hab.* Panama, Volcan de Chiriqui (Champion).

A single example of a species of the prevailing coloration of the present group, and without marked peculiarity.

37. **Anomala denticollis.** (Tab. XII. fig. 17.)
Anguste oblonga, fulvo-testacea, capite fulvo-rufa, thorace fusco-aneo lateribus angustae testaceae et deflexis, elytris sutura (prope scutellum laetiore et ante medium in maculum ovatum dilatata) callisque humerali apicali nigris, abdomine fusco; capite creberrime (vertice sparse) punctato, media fronte conceva clypeoque brevi vel valde transversum subquadrate, margine sat alta elevato; thorace relative brevi, medio sat abrupte dilatato, angulis posterioribus longe productis acutis, undique punctulato et subinsequali, margine basali integro; elytris sat regulariter punctato-striatis, interstitio subcuticulari sub-biseriatim confuso punctato striaque prope callum humeralum irregulari. ♀. Pygidium convexum, sat dense punctatum, nitidum. Tibiae antice valde bidentate; tarsi antici ungue majore subequaliter breviter fissus.

*Long.* 12 millim.
ANOMALA.

Hab. GUATEMALA, Cerro Zunil (Champion).

Although only a single specimen is to hand, the strongly-marked characters of this species justify its being described.

38. Anomala polygona.
Elongato-ovata, cupreo-anea, polita, thorace lateribus (anguste) elytrisque fulvo-testaceis, bis plaga circum-scutellari, callis humerali apicalique fascia mediana valde undulata et signaturis vagis posterioribus nigro-aneis, pedibus cupreo-rufis; capite minus crebre punctato spatis levibus, clypeo trapezoidali, margine minime elevato; thorace antice valde angustato, medio sat abrupte angulatum dilatato, angulis anticiis porrectis et posticis valde productis subpiniformibus, sparse punctulato, basi (juxta angulus excepta) immarginato; elytris valde irregulariter seriati punctatis, nec striatis, hic illic punctis in foveolas aggregantur. Pygidium grossissime rugoso-punctatum, nitidum, cupreasceni-rufum fusco-maculatum. Tilde antice acute tridentate. Tarsi antici articulo unguiculari subsutus acute dentato, ungue majore (q) profunde fisso; tibia postice valde suratua. Mesosternum inter coxas decline medioriter angustum, planum. Pectus fulvo-villosus.

Long. 12 millim. q.

Hab. COSTA RICA (Dr. Horn, in coll. Bates).

One example only.

39. Anomala trapezifera.
A. polygona evidenter affinis, sed thorace forma valde diversa. Anguste oblonga, fusco-nigra, subnita, thorace lateribus (irregulariter) elytrisque undique maculis et signaturis fulvis, pedibus abdome subnigro-plagialis; capite parciissime haud profunde punctato, clypeo late trapezoidali; thorace a basi usque ad apicem angustato, lateribus leviter arcuatis, angulis anticiis acutis posticis rectis (apice obtusis), disperse punctulato, margine basali integro; elytris striato-punctatis, striis rugulis transversis multifariam interruptis, interstitio subuturali lato confuso multipunctato; pygidio nigro fulvo-maculato, disperse punctulato, nitido. Antennae fulvae. Tarsi antici articulo unguiculare subsutus acute dentato; ungue majore (q) gracili apice fisso; tibiae postice decline mesodentata. Mesosternum inter coxas decline medioriter angustum. Pectus fulvo-villosus.

Long. 14 millim. q.

Hab. COSTA RICA (Dr. Horn, in coll. Bates).

One example only.

40. Anomala binotata.


Hab. NORTH AMERICA12—MEXICO, Northern Sonora (Morrison), Pinos Altos in Chihuahua (Buchan-Hepburn).

41. Anomala foraminosa. (Tab. XII. fig. 21.)
A. binotata affinis. Magis ovata, cupreo-vel viridi-aneo-fusca, nitida, capite cupreo-rufo, elytris fulvis, subseriatim punctatis et nigro-foveolatibus, seribus foveolarum utrinque suturali et tribus geminatiis, interstitio lato subuturali confuso multipunctato; pygidio densissime striatulo, opaco, griseo-pilosu; clypeo semi-
LAMELLICORNIA.

circulari, confluentar punctato; thorace ante medium subangulatim paullo dilatato, margine basali medio subinterrupto, superficie paullo inaequali, irregulariter sat grosse punctato; pectore griseo-villoso. Tibiae antieae bidentato. Mesosternum inter coxas lato, apioe (juxta metasternum) interdum transverse substumidum.

♂ Tarsi antecie uinge majore brevi dilatato, dente superiorie haued breviore. Long. 11-12 millim. ♀ ?.

_Hab._ MEXICO, Puebla, Teapa (Sallé), Jalapa, Yautepec, Oaxaca (Höge); BRITISH HONDURAS, R. Hondo (Blancaneaux); GUATEMALA, Zapote, Volcan de Atitlan, Pantaleon (Champion); PANAMA, Bugaba (Champion).

Distinguished from _A. irrorata_, Blanch., with which it agrees in the densely strigulose opaque pygidium, by the three twin rows of foveoles on the elytra sharply distinguished from the other smaller punctures.

Thirty examples, varying a little in the number of black spots on the elytra.

The foveae of the elytra are mostly a little elongated, and in them are aggregated from two to five of the ordinary punctures, leaving spaces between the foveae free of punctures.

I have adopted (with a slight alteration of termination) the MS. name given to the species by Chevrolat. An example from Atitlan is figured.

42. _Anomala irrorata._ (Tab. XII. fig. 22.)
_Anomala irrorata_, Blanch. Cat. Coll. Ent. i. p. 187₁.

_Hab._ MEXICO₁, Cuernavaca, Puebla, Tuxtlal, Catemaco, Oaxaca (Sallé), Colima city, Yautepec, Oaxaca (Höge).

There are many examples in the Sallé collection labelled _A. irrorata_, Blanch., and they agree with Blanchard's description as regards the sculpture of the elytra, which differs from that of _A. foraminosa_ in being more irregular and stronger, and wanting the gminated rows of foveoles. Blanchard's phrase runs "Eltyris pallide testaceis, profunde seriato-punctatis, punctis omnibus maculaque media versus suturam picceis." A specimen from Oaxaca is figured.

43. _Anomala sticticoptera._
_Anomala sticticoptera_, Blanch. Cat. Coll. Ent. i. p. 187₁.

_Hab._ MEXICO₁, Cordova (Sallé); BRITISH HONDURAS, R. Sarstoon (Blancaneaux); GUATEMALA (Sallé), Volcan de Atitlan, Zapote, San Gerónimo, Purula, Sabo (Champion); COSTA RICA (Van Patten), Irazú (Rogers).

Distinguished from the three preceding species by the very finely and less densely strigose and glabrous pygidium. The colour and sculpture of the elytra are similar, but have a wider range of variation; some Guatemalan examples have the elytra clear testaceous with castaneous suture; in others the black spots coalesce and the elytra become blackish-castaneous with a few tawny patches. In most examples the
44. **Anomala atomogramma.** (Tab. XII. fig. 23.)

*A. binotata* (Gyll.) affinis et similis, sed duplo major pygidioque minus dense striguloso, nudo, subnitido etc. Oblongo-ovata, obscure viridi- vel cupreo-anea, nitida, elytris testaceo-fulvis, sutura, plaga subhamerali elytrorumque punctis fusco-nigris; elytops subsemicirculari, margine leviter reflexo, cum fronte confluentere punctulato; antennis nigro-fusceis; thorace ante medium mediocriter dilatato, postice paullo dilatato, angulis posticis subrectis apice obtusis, margine basali integro, subtiliter punctato; elytris punctato- striatis, striis parum impressis et punctis hie illic in lineas condensatis, intersitis subhamerali latissimo confusae multipunctato, intersitis humerali sub-biseriatim confuse punctato; pectore fulvo-rilloso. *Pygidium* nitidum, nudum, rugulis posticis brevibus transversis. Tibiae anterioris bidentate; tarsi antici articulo unguiaculi subbas dento. *Mesosternum* inter coxas sat angustum, declive. ♀. Tarsi antici ungue majore lato versus basin dilatato, dentes superiores vix breviores.

*Long.* 17 millim. ♀ ♀.

*Hab.* MEXICO, Presidio (*Forrer*), Tuxtla (*Salle*); GUATEMALA, Aceytuno, Purula (*Champion*).

In some Mexican specimens the elytral punctures are but very slightly infuscated. Nine examples. We figure an individual from Presidio.

45. **Anomala** —?

*Hab.* MEXICO, Playa Vicente (*Salle*).

A single example, very imperfect (wanting the tarsi), of a species apparently distinct.

46. **Anomala** —?

*Hab.* PANAMA, Chiriqui (*coll. Bates)*.

A single female example of a species allied to *A. sticticoptera*, but apparently quite distinct.

47. **Anomala millepora.**

Ovata, obscure cupreo- vel viridi-anea, elytris castaneo-rufis, sutura et vitta vaga marginali fusco-nigris, interdum disco nigrescente; elypeo lateribus rectis, margine elevato, tota capite densissime sed subdiscrere punctulato; thorace ante medium subangulatum postice haud dilatato, angulis posticis obtusis sed distinctis, margine basali medio breve interrupto, undique sat dense punctulato; elytris subdense punctulatis, disco et lateribus punctulis subseriatis dispositis. *Pygidium* metallicum, subopacum, densissime et subtiliter confluentere rugulosum quasi alatum, glabrum; corpore subbas et pedibus metallicis, his paululum piccicentibus, pectore fulvo-rilloso; tibii antici bidentatis. *Mesosternum* sat angustum declive. ♀. Tarsi 4 antiores ungue exteriore profunde fissae. ♀. Tarsi antici ungue majore lato haud subito dilatato, dente superiore vix breviores.


*Hab.* GUATEMALA, Volcan de Atitlan (*Champion*).
Three examples. The fine, dense, and regular punctuation, especially of the elytra, in which on close examination it is found to be arranged in rather uneven lines placed very near together on the disc and sides, distinguishes this species.

48. Anomala —— ?

_Hab._ Mexico, Cuernavaca (Höge).

A single example of a doubtful species.

49. Anomala ochroptera.

Oblongo-ovata, polita, aneo-fusca, elytris ochreis, sutura (anguste) marginoque laterali prope humeros nigro-fuscis; subitus cum pedibus antennisque testaceo-rufa, polita; capite dense confusenter, vertice discrete, punctatis, clypeo postico vix ampliato, marginre reflexo; thoracoe postico basi latiore, lateribus arcuatis, marginre basali integro sulculo profundo, supra disperse punctulato; elytris basi profunde punctato-striatis, interstitio subsuturali et humerali confuse multipunctatis; pygidio dispersissime transverso-punctato, polito. Tibias antice bidentate denteque tertho brevissimo, parum distincto. Mesosternum sat latum, sed apice nec productum nec tumidum. ♀. Tarsi 4 antiores ungue majore profunde fissae, dente superiori non breviore.

_Long._ 12–14 millim. ♀.

_Hab._ British Honduras, R. Sarstoon (Blancaneaus); Nicaragua, Chontales (Belt).

Two examples, females. The species, though more oblong, resembles the pale varieties of _A. cinca_; it comes, however, nearer to _A. veracruzis_ and _A. segueta_, with which it has in common the sharply incised and entire basal sulcus of the thorax.

2. Mesosternum latior, apice plus minusve incrassatum.

50. Anomala amphicoma. (Tab. XII. fig. 24, ♀.)

Ovata, aneo-fusca, undique densissime crecre pilosa pectoreque villosa; capite toto discrete punctato et inter puncta subtiliter rugulosa, clypeo postico parum latiore; thorace ante medium mediocrier dilatato, postico haud latiore, angulus posticus obtusus sed distinctis, margine angusto et acuto, basali integro, toto densissime pilifero-punctulato; elytris undique confusenter rugulosis, stris (suturali excepto) grossae punctatis parum distinctis; pygidio densissime striguloso fulvo-hirto, opaco. Tarsi antiqui articulo unguiculare subitus dente valido acuto; tibiae antice bidentato, 4 postice grossissime elongato-punctulato; mesosternum inter coxas medieere, declive, apice paulo incrassatum sed haud elevatum. ♀. Tarsi antiqui ungue majore brevi versus basi dilatato, dente superiori distincte breviore; intermedii ungue exteriorque grasili, fissae.

_Long._ 12 millim. ♀.

_Hab._ Panama, Volcan de Chiriqui 4000 to 6000 feet (Champion).

Four examples.

51. Anomala eucoma.

Ovata, cupreor-vel aneo-fusca, undique densissime crecre fulvo-pilosa, elytris fasciis latis indistinctis; capite obscure rufo dense subconfusenter punctato, clypeo postico parum latiore; thoracoe ante medium perparum dilatato, postico (a supra vie) vix ampliato, angulis posticis obtusus sed distinctis, margine basali angusto integro, toto densissime pilifero-punctulato; elytris distincte sat regulariter haud profunde punctato-striatis, sed tota superficie transversim subtiliter rugulosa et punctulata, interstitio subsuturali
ANOMALA.


Long. 12–14 millim. ♂ ♂.

Hab. GUATEMALA, Las Mercedes 3000 feet, San Isidro, Pantaleon (Champion); COSTA RICA (Sallé, Van Patten).

52. Anomala semitonsa. (Tab. XII. fig. 25, var.)

A. eucoma proxime affinis, sed elytris sparsius pilosis et distincte punctato-striatis. Ornata, cupre-vel aeneo-fusceseae, capitale thoracique dense, elytris corporeque subitas sparsius, breviter erecte pilosis, elytris fulvo-testacea, nitides, humeris et fascis duabus undulato (1ª media, 2ª ante apicem interdum cum limbo nigro postero-laterali et apiculo conjuncta) fusco-nigris; capite discrete punctato, interspatis punctulatis, clypeo postice vix ampliato; thorace ante medium paullo dilatato, angulis posticis obtusis, margine basali angusto integro, teto dense sed discrete pilfero-punctato; elytris sat fortiter punctato-striatis, striae parum impressis interstitialisque angustis levibus transversim rugulosis, interstitiali lato substitiali confuse multipunctata; pygidio densissime striatuloso, lobo piloso, opaco. Tibiae anticae bidentatae, 4 posticae grosse elongato-punctatae; tarsi articulo unguiculati subitas acute dentato. Mesosternum sat latum, tumidum. ♂. Tarsi antici ungue majori medio dilatato, dente superiore haud breviore.

Long. 11–12 millim. ♂ ♂.

Hab. PANAMA, Bugaba, David (Champion), Chiriqui (Ribbe).

The numerous examples from David are most typical; three labelled "Chiriqui" from Ribbe, and one from Bugaba, have less distinct striae and punctulated and more hairy interstices. These have a tendency to connect A. semitonsa with A. eucoma. A Bugaba specimen is figured.

53. Anomala sylphis. (Tab. XIII. fig. 1.)

Graellis, elongato-ovata, rufo-vel fulvo-testacea, nitida, capitale, thorace, scutello corporeque subitas plus minusve viridi-aneae; interdum viridi-aneae, elytris nigerrimae; capite dense, clypeo confluenter, punctulatis, hoc piano, margine paullo elevato, semicirculari; antennam clava nigra; thorace ante medium leviter dilatato, postico haud ampliato, margines basalis subulus acuto exnato, supra dense subconfluenter punctulato (linea dorsali sublabei) et dense erete pilosi, teto vel placo tantum trapezoidali, viridi-aneae; elytris glabris, punctulato-striatis, striae dieci alternis haud impressae et incomplectae, interstitiali lato sub seminali et numerali confuse punctatae; pygidio et propygidio dense ventreque sparsius incubamite cinereo-pilosis; pedibus graellisibus, tibiae postice apice vix constrictis, sublabei. Mesosternum latum, supra tumidum, sat prominens. ♂. Tarsi antici ungue majori brevi et lato, dente superiore valde haud breviore.

Long. 12 millim. ♂ ♂.

Hab. MEXICO, Cordova, Orizaba (Sallé).

54. Anomala lassicallis. (Tab. XIII. fig. 2, 2.)

Elongato-ovata, politissima, viridi-aneae, clypeo antice thoracique limbo laterali fulvo-testacea, elytris aneo-castaneae; subitas cum pedibus saturatius aeneae, abdomen interdum fulvoescente, femoribus et tibiae fulvo-variegratibus; clypeo semicirculari, confluenter punctato, vertice et fronte sparse punctulatis; thorace a basi ad apicem angustat, lateribus arcuatis, margine basali anguste subinterrupto, dorse subtilissime et parce punctulato utrinque callis duobus obliquis (interdum subcostatis), interspatis depressis; elytris punctulato-striatis, interstitiali 2ª latissimo, confuse subdules multipunctatae. Pygidium paullo compressum, nitidum, confluenter striatuloso. Mesosternum sat latum et inter coxas tumidum. Tibiae anticae bidentatae, 2 HH.
postice valde suratae. ♂ Tarsi antice uque major prope medium dilatato, dente superiore haud breviore.
Long. 11 millim. ♂ 2.

_Hab._ GUATEMALA, Cerro Zunil, Las Mercedes (Champion).

55. _Anomala_ — ?

_Hab._ GUATEMALA, Sinanja (Champion).

A single very imperfect example of a species deceptively similar to the above, but with a perfectly even thoracic surface, and remarkable for the extreme narrowness of the mesosternum combined with a somewhat prominent triangular apex (not tuberculiform), advancing beyond the suture of the metasternum.

56. _Anomala doryphorina._ (Tab. XIII. fig. 3.)

_Gen._ _Doryphorina_ (Fam. Chrysomelidae) similis. _Ovata_, valde convexa, castaneo-rufa, polita, elytris utrinque lirata; ovata magna a humero (calvum humerali cingente) per basin curvata usque ad suturam et recte usque prope apicem continua iubque angulatas flexa et usque prope marginem lateriali est extensa, flavo; corpore subitus cum pedibus nigro-polito; clypeo postice parum ampliato, cum fronte dense confluentem punctato, marginem sat elevato; vertice levissimo, thorace a basi ad apicem angustato, lateribus leviter arcuatis, angulis posticus subrectis, marginem basali medio interrupto; elytris seriato-punctulatis, seriulus alternis subobsolcis intersitis subtilissime punctualis, 2° lato, parce confuse punctulato; pygido aspere densissime striguloso, opaco; pectore tenuiter griseo-hirro. Thibis antice bidentatse, quatuor posteriores valde surate; tarsi antice articulo angulariari subitus prope basin dente obtuso elongato. Mesosternum mediocris lates, spicie paullulum prominent, polito.

Long. 12 millim.

_Hab._ GUATEMALA, Panima in Vera Paz 1800 feet (Champion).

Two examples of the same sex, and, judging by the breadth of the larger claw of the anterior tarsi, probably males; the joint is, however, not abruptly dilated. The upper slender part of the cleft claws in the four anterior tarsi is decidedly shorter than the lower.

57. _Anomala chrysomelina._ (Tab. XIII. fig. 4.)

_Precedenti_ subisimilis, ut minor, antice angustata etc. _Ovata_, convexa, polita, flavo-testacea, seno-tincta, elytris flavo-testaceis, maculis utrinque duabus rotundis basalis (altera prope scutellum altera humerali), fascia angulata mediana maculine utrinque duabus apicalibus (altera marginali rotunda altera communis suturali antice cum fascia anguste conjuncta) fulvo-rufis; capite subtiliter corinco, parum punctulato, clypeo postice dilatato, antice subtruncato, marginem parum elevato; thorace a basi ad apicem angustato, lateribus leviter arcuatis, basi immarginato, supra disperse punctulato; elytris punctato-striatis, stria 2° versus basin confuse duplicata, 5° et 8° valde abbreviata et incompleta. Pygidio subtiliter subispemin undulato-anguloso, nitidum. Thibis antice unidentate (apicali), dente 2° superiore obsoluto; 4 postice minime surate. Pectus et coxae postice grosse punctata, fere glabra. Mesosternum angustum, sed apice sat porrecto et antice compresso.

Long. 9 millim.

_Hab._ PANAMA, Volcan de Chiriqui (Champion).

One example, probably a female, as the external claw of the anterior tarsi is long and
slender; the claw is cleft, and the upper tooth is long and moderately robust, though shorter than the lower. The corresponding claw of the middle tarsi is widely cleft.

In the colour and markings of the elytra the species somewhat resembles *Plagiodera oeneiventris* (Biol. Centr.-Am., Coleopt. vi. 1, t. 10. f. 1).

58. **Anomala sulcans.** (Tab. XIII. fig. 5.)

Magna, elongato-ovata, nigra, nitida; antennis castaneo-rufis; elypeo subsemicirculari postice parum ampliato, margine reflexo, dense confunctori punctato, fronte et verte disperse punctatissima; thorace lateribus leviter arcuatis, margine basalis medio interrupto, supra disperse punctulato; elytris sulcatis, sulcis in fundo punctulatis, 2° versus basim minus impresso et confuse punctato, interstitionis convexissima; pygidio nitido, rugulis punctulatis parvis transversis, compressa. Tibiae antice bidentatae, 2 postica suratis ad apicem minus constrictis. Mesosternum apice convexo-compressum, nitidum. ♂ Tarsi antiores ungue externo profunde et late fisso sive furcato, dente superiore longiore.

Long. 20 millim. ♂

*Hab.* NICARAGUA, Chontales (Janson).

59. **Anomala** — ?

*Hab.* NICARAGUA, Chontales (Janson).

One example, agreeing with the preceding in almost every point except its smooth very finely striate-punctate elytra. The anterior tarsi are wanting. It is possibly the other sex of *A. sulcans*.

60. **Anomala rhodope.** (Tab. XIII. fig. 6.)

Breviter ovata, saturate viridi-aenea (subtus fere nigra), nitida, elytris rufis sutura aneo-tinctoria; capite dense confunctori punctato, vertice leviero, elypeo subsemicirculari, margine sat alta reflexo; thorace postice sat dilatato, disperse punctulato, marginc basali integro; elytris utrinque sutura et costis tribus mediocriter convexissima levibus, striae dense transversim punctatis delimitatis, interstitii planioribus striato-punctatis, subexternali confuse puncto confunctori punctato. Pygidium sparsim breviter striatulatum vel punctatum, nitidum. Tarsi antiores articulo anguiulari subtus crasse dentato. Mesosternum inter coxas sat latum apice (juxta metasternum) tuberculiforme. ♂ Tarsi antiores ungue majore brevi latato, dente superiore breviore.

Long. 12 millim. ♂ 2.

*Hab.* MEXICO, Silao (Sallé), Mexico city (Flohr, Höge), Oaxaca (Höge).

Much resembles the European *Phyllopertha horticola*, but it is of more compact ovate form. An example from Mexico city is figured.

61. **Anomala costaricæ.**

*A. cineta* (Say) proxime affinis; minor et elytris semper lucide flavo-testaceis etc. Suboblongo-ovata, viridi-vel cupreo-aenea, nitida, capite antice cupreascundi-rufo, elytris (sutura marginisque angustissime flisco exceptis) lucide flavo-testaceis; subtus cum pedibus rufo-testaceis metallicis vel nigro-aenea; elytris postice vix dilatato margine elevato, cum fronte donissime punctato, vertice fere levii; thorace ante medium subangulatum dilatato, postice paulo dilatato, angulis posticis subrectis (paullo obtusiis), margine basali medio interrupto vel subinterrupto, minus disperse punctato; elytris punctulato-striatissma, stria humerali fere integra, interstitii subexternali lato, parce confuse punctato; pygidio arcuatis striuloso nitido;

Long. 12-14 millim. δ ♀.

Hab. NICARAGUA, Chontales (Janson, Belt); COSTA RICA (Van Patten), Volcan de Irazú 6000 to 7000 feet (Rogers).

Two examples only from Chontales, the rest of the numerous series being from Costa Rica.

62. ANOMALA CINCTA.

; Complete Writings, ii. p. 654; 

Anomala latreillei, Blanch. Cat. Coll. Ent. i. p. 188 (sec. coll. Sallé) (excl. var.)

? Anomala fulgidicollis, Blanch. loc. cit. p. 187

Hab. MEXICO 123, Cordova, Teapa (Sallé), Cuernavaca, Jalapa, Plan del Rio, Yautpec (Höge); GUATEMALA, Coban (Champion).

Say described, with his usual aptitude, what must be considered the typical form of this species, in which the elytra are pale tawny-testaceous with the suture (narrowly) and the outer margin (especially near the shoulders) blackish-brown. The dark brown colour in many examples is broadly suffused, and in extreme cases spreads over the whole surface of the elytra; it tends always to form vague vittae, never fasciae, hence I very much doubt if the variety described by Blanchard belongs to the same species as his A. latreillei, to which he refers it.

In some of the localities there occurs what seems to be a variety or varieties in which the elytra are deep black or bluish-black, metallic bluish-green or coppery, without trace of pale brown hues. This comes extremely near to A. viridicollis, Burm., from Colombia, if it be indeed specifically separable from it. All the examples have a small third tooth on the outer edge of the anterior tibie, in both sexes, a broad very sloping mesonterum thickened and broadly subtubercular at its apex, unicolorous metallic (very seldom rufous-translucent) thorax and under surface, and the hind margin of the thorax interrupted (i.e. the marginal stria) in the middle. In A. cincta, type, the elytra have punctured striae, sometimes faintly, sometimes rather deeply, impressed with a broad second interstice having a moderate (but very variable) number of confused punctures, and little or no tendency to the formation of geminated striae. The pygidium is glabrous and shining, and not densely sculptured, with short transverse stria intermixed with punctures. The variety is as follows:—


Long. 13-17 millim.
Hab. Mexico, Cordova, Jacale (Sallé), Cuernavaca (Sallé, Höge), Matamoros Ixucar and Atlisco in Puebla, Jalapa, Oaxaca (Höge); British Honduras, R. Hondo (Blancaneaux); Guatemala, Purula (Champion).

Some examples of the variety diverge much from the type in colour and sculpture, and have the appearance of distinct species. Those with brassy-black elytra bear the name of var. nigripennis, Deyrolle (MS.), in the Sallé collection.

63. *Anomala forreri.* (Tab. XIII. fig. 7.)


Long. 15–16 millim. ♀ ?

Hab. Mexico, Presidio (Forrer).

Three examples.

64. *Anomala semicincta.*

Oblongo-ovata, aranea vel viridi-aranea, elytris obscurioribus, thorace lateribus elytrisque dimido posticoe rufolimbatis; subitus rufo-testacea araneae vel aureo-nitens, tibiis tarsisque viridi-anei rufo-maculatis; capite densissime scabroso-punctato, elyceo subsemicirculari; thorace longo ante medium dilatato decinde usque ad basin recto, angulis posticis subrectis, margine basali integro, supra minus disperso punctato; elytris punctato-strictis (punctis in foveolis transversis immersis) unidique punctulatis, interstitiis subtilissimis lato confuso rugoso-punctato; pygidio dense confluentere punctato-rugoso, araneae, interdum medio flavo. Tibiae antice bidentatae, posticoe valuio sutatis. Mesosternum sat latum, apice paullulum porrectum, politum. ♀. Tarsi 4 antici ungue exteriorre profunde fissae.

Long. 15 millim. ♀ ?

Hab. Mexico, Jalapa, Cordova (Höge).

Two female examples only.

65. *Anomala — ?*

Hab. Mexico, Cuernavaca (Höge).

One example of an apparently distinct species, defective in the four anterior tarsi.

66. *Anomala variolata.*

Ovata, postice interdum dilatata, nigra, polita, elytris plerunque vage fulvo-maculatis vel fulvo-bifasciatis vel tota fulvis, punctis semper nigris; capite densissime scabrissimo-punctato, vertice levii, elyceo brevi et lato, vel valde transversim quadrato angulis rotundatis, margine acuto elevato; antennis palpisque picco-rufis; thorace (a supra vico) a basi ad apicem angustato, medio paullulum dilatato, angulis antice acutis, posticis

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defere rectis, sulculo marginali baseos excavato sed medio interrupto, supra disperse punctulato; elytris sat
grosse punctatia et rugulosis, striis disci et suturali interdum paullo regularibus; pygidio polito, sat
disperse punctato rugalis nonnullis longitudinalibus. Mesosternum mediocriter latum, apice paullo anguste
promines et tumidum. Tibiae antice bidentatae. Tarsi antici ungue majore elongato profunde fasso
angulatim dilatato, dente superiore valido haud breviore.

Hab. GUATEMALA, Cerro Zunil 4000 to 5000 feet (Champion).

Many examples.

67. Anomala — ?

Hab. Mexico, Peras (Salle).

A single example, female, of a species similar to the above but evidently distinct. Another allied
species, of which I have seen also only one example, occurs in Venezuela.

68. Anomala cnetopyga.

A. variolata similis, sed diversa, pygidio densissime sculpturato, opaco etc. Orata, anea, nitida, elytris nigro-
vel fusco-aneis plus minusve fulvo-marmoratis; clypeo minus transverso, obtuse et late trapezoidal vel
subsemicirculari, margine minimo reflexo, cum fronte densissime sebrosico-punctato, vertice dispersis
punctato; thorace postice ampliato paullo ante medium leviter dilatato, sat fertiter punctato, margine
basali late interrupto; elytris passim sat grosse rugulosis et punctatis, costis plus minusve distinctis;
pygidio minute intricato-granulato-strigoso, opaco. Mesosternum mediocere, inter coxas paullo tumidum,
nitidum. Tibiae antice bidentatae. Tarsi antici ungue majore robusto medio dilatato, dente superiore
vix breviore.

Hab. GUATEMALA, Dueñas, San Gerónimo (Champion).

Four examples.

69. Anomala cupricollis.

Anomala cupricollis, Chevr. Col. Mex. Cent. i. fasc. 4, no. 75 1; Burm. Handb. der Ent. iv. 1,
p. 263 2.

Hab. MEXICO 1 2, Cordova, Catemaco, Juquila, Oaxaca (Salle), Jalapa (Höge); BRITISH
HONDURAS (Blancaneaux); GUATEMALA, Cerro Zunil 4000 to 5000 feet, Las Mercedes,
Coban, Panzos, Panima, Chacao, Senahu (Champion); ? COSTA RICA (Van Patten).

Var. 1. Elytrorum puncta paullo maiiores et punctores marginibusque (sunt sutura) anguste infuscatis.

Hab. NICARAGUA, Chontales (Janson); PANAMA, Volcan de Chiriqui 3000 to 4000 feet
(Champion).

Var. 2, A. coagulata. Elytra unique maculis confluentibus fuscis. (Tab. XIII fig. 8.)

Hab. NICARAGUA, Chontales (Belt).

This large and tolerably well-known species is distinguished from the nearly allied
forms by its large, especially broad, head. Our numerous series of examples show scarcely any difference in colours or markings from Mexico to Panama. The fore tibiae are bidentate; the mesosternum is prominent and slightly porrect between the coxae.

Var. 1 is of precisely the same form as the Mexican type, but Var. 2 is more robust, convex, and dilated behind, and may prove to be a distinct species.

It varies in size from 17 to 24 millim. The smallest are from Jalapa, the largest from Guatemala.

70. *Anomala valida.*

Anomala valida, Burm. Handb. der Ent. iv. 1, p. 264.


Hab. Mexico, Playa Vicente (Sallé), Jalapa (Höge); Nicaragua, Chontales (Belt, Janson); Costa Rica, Volcan de Irazú (Rogers); Panama (MacLeannan). — South America, Colombia, Venezuela (coll. Bates).

In this species the punctures of the sutural stria (which is only impressed towards the apex) collect in oblong blue-black foveae, similar to the geminated lines of foveae on the disc of the elytra. In many examples there is a dusky spot exactly in the middle of each elytron.

71. *Anomala pupillata.*

Anomala pupillata, Burm. Handb. der Ent. iv. 1, p. 263.

Hab. Mexico, Cosamaloapam (Sallé); Guatemala, Panzos, Volcan de Atitlan, Paraiso (Champion).

I am not sure of the identification of this species, as none of our examples are so small as 6 lines (about 14 millim.), the size given by Burmeister. Our Guatemala specimens measure from 19 to 24 millim. In all other respects they agree with Burmeister's description. In the Sallé collection *A. pupillata* is identified with a spotted var. of *A. sticticoptera*, Blanch. In colour and markings the resemblance is complete, but the form of the mesosternum, "ein wenig vorgezogen," is quite different from that of *A. sticticoptera*. I doubt, however, whether *A. pupillata* is specifically different from *A. valida*.

72. *Anomala* — ?

Hab. Nicaragua, Chontales (Belt).

A single example of a doubtful species allied to *A. cupricollis*.

73. *Anomala megalia.* (Tab. XIII. fig. 9.)

Magna, elongato-ovata, toto fulvo-testacea, antice æneo-tincta, subtus fusco-ænea, nitida; clypeo lato sub-
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quadrato, angulis rotundatis, margine oblique reflexo, tota capite dense punctato; thorace postice dilatato lateribus arcuatis, dense partim confluenter punctulato, margine basali viridi-aeneo; elytris toto dense punctulatis, stria suturelai versus apicem impressa punctulisque disci plus minusve seriatis; pygidio dense undulato- striguloso, opaco. Mesosternum latum, inter coxas tumidum vix porrectum. Tibiae antice bidentate, 4 postice breves vix suratae.

♀. Tarsi 4 anteriores ungue exteriore profunde fisso.

Long. 22-24 millim. Φ.

Hab. HONDURAS, Ruatan Island (Gaumer); NICARAGUA, Greytown (Belt).

Four examples. A Ruatan specimen is figured.

74. Anomala praeceillens. (Tab. XIII. fig. 10.)

Oblongo-ovata, valde convexa, lavis, resplendens, viridi-aenea, elytris melgeo-flavis anguste aeneo-marginatis, subbas nigro-aenea; capite lato, subtiliter dispersius punctulato, clypeo dense ruguloso transversim quadrato, angulis rotundatis, margine elevato; thorace lateribus sat late arcuatis, antice angustato, basi flexuoso, sulculo basali late interrupto, supra subtilissime dispersius punctulato; elytris subtiliter striato-punctulatis, nec stria suturelai impressa, intersitudis subsuturelai (lato) et humerali confuse multipunctulatis, margine laterali max pone medium obsolete; pygidium politum, subtiliter undulato-strigulosum. Mesosternum apice (inter coxas) breviter porrectum. Tibiae antice bidentate, postice sat graciliter suratae. ♀. Tarsi 4 anteriores ungue exteriore profunde fisso.

Long. 20 millim. Φ.

Hab. NICARAGUA, Santo Domingo in Chontales (Belt).

Two examples.

75. Anomala —— ?

Hab. MEXICO, Guyaco (Sturm, in coll. Salté).

One example of a doubtful species.

76. Anomala plurisulcata. (Tab. XIII. fig. 11.)

A. microcephala et A. sulcipesi affinis. Subelongata-ovata, toto nigro-cyanea, viridi-aeneo-nigra, cuprea vel thorace viridi-aeneo, elytris cupreae, polita, coffeeo-villoso, antennis rufis; capite confluenter, vertice sparsim, punctato, clypeo subsemicirculari margine elevato; thorace medio subangulatim dilatato, sat fortiter subdispersius punctato, margine basali medio late interrupto; elytris subcis octo in fundo dense transversim punctatis, sulco 2° prope basis abbreviato ibique confuse punctato, lateribus striae punctulatis tribus; pygidio dense confluenter striatuloso et punctato, glabro, subtilise. Mesosternum latum, apice tumilde haucl conico. Tibiae antice bidentate (interdum dente tertio rudimentario), 4 postice suratae. ♀. Tarsi antice ungue majore haucl medio dilatato.

Long. 13-15 millim. Φ.

Hab. GUATEMALA, Zapote, Las Mercedes, Volcan de Atillan, Cerro Zunil 4000 to 5000 feet (Champion).

Numerous examples. A Zapote specimen is figured.
3. Mesosternum latum, apice conicum, porrectum. Elytra marginate laterali in \( \phi \) hand dilatato-incrassato. (Spilota, partim, Burm.)

77. Anomala granulipyga. (Tab. XIII. fig. 12.)

Ovala, aeneo- vel auro-fusca (elytris sheer fundo castaneis), splendens, subtus auro-testaceae, aenea vel cuprea, breviter griseo-pilosa, thorace limbo angusto laterali flavo; elytris postice vix angustato, confluentuer punctato, marginie anteriore elevato, fronte verticique discrete punctatis; thorace postice paullo ampliato, lateribus arcuatius, sat forterd distantier punctato, basi immarginato; elytris punctulato-striatis, striis suturali et dusibus utrinque prope callum apicalem exaratis, interstitio subaxialis late valde confusa sub-confuentuer multipunctato, interstitio inter hoc et callum humeralis bis tribus (interstitio confusa punctato interjecto), limbo apicale confluentuer punctato; pygidio dense acute recumbente granulato et cum propygidio griseo-setoso. Mesosternum inter coxas conice productum et tumidum. Tibie antice bidentate, 4 postice mediocriter suratis, sat brevibus. \( \sigma \) Tarsi antici ungue majore dilatato, dente superiore paullo longiore.

Long. 14–17 millim.

Hab. GUATEMALA, El Reposo (Champion); PANAMA, Bugaba, Volcan de Chiriqui (Champion).


Hab. NICARAGUA (Sallé), Chontales (Belt, Janson).

Closely allied to the North-American A. marginata (Fabr.), but differs in the sculpture of the elytra. This, although variable, in A. granulipyga always shows six interstices between the broad second interstice and the humeral callus, separated into two groups of three each by a confused line of punctures. Sometimes this division is not clearly perceptible, except behind towards the apical callus, and the broad second interstice also varies in its definition. A typical example from El Reposo is figured.

78. Anomala vanpatteni.

A. marginata (Fabr.) proxime affinis, paullo major et differt interstitio secooktio lato, confusa multipunctato.

Ovala, viridi-aenea, elytris supe fulvo-castaneo translucentibus, thorace vitta laterali flavo; subtus aeneo-testaceae; thorace sat dense, versus latera subconfuentuer, punctato, angulis postice fere rectis, basi versus angulis marginato; elytris profundo punctato-striatis, interstitio 2° lato (postice angustiore) confluentuer multipunctato, costier interstitii convexis; pygidio dense subaspere punctato-ruguloso, griseo-setoso. Mesosternum inter coxas breviter prominulum, conicum.

Long. 14–17 millim. \( \sigma \).

Hab. COSTA RICA (Van Patten), Volcan de Irazu 6000 to 7000 feet (Rogers).

A large number of examples.

79. Anomala marginicollis. (A. valdecostata, Tab. XIII. fig. 13.)

Oblongo-ovata, viridi-aenea, capite antice limboque laterali thoracis fulvis, elytris castaneis aeneo-tinctis, femoris et tibia partim flavo-testaceae; capite dense punctato, elytris subsemicirculari margine sat alte refoexo; thorace post medium vix ampliato, lateribus arcuatius, angulis postice vix obtusius, sat dense punctulato, basi immarginato; elytris densissime subrugulose punctulato, utrinque costis duxibus (inter-dum tribus) subconvexis, levibus, striis crebro transversum punctatis delimitatis, interstitio subaxialis lattissimo, aquiliter punctulato, interstitiis inter costas medio costulis angustis rudimentariis notatis; pygidio dense transversum punctato-strioso, griseo-setoso. Mesosternum inter coxas paululum productum.

BIOL. CENTR.-AMER., Coleopt., Vol. II. Pt. 2, June 1888.
Tibiae anticee bidentatae, postice valde suratae. ♂. Tarsi antici angue majore lato, dente superiore valido nec breviore.

Long. 10–17 millim. ♂ ?.

_Hab._ MEXICO, Cordova, Santecomapan (Sallé), Misantla (Höge).

Five examples. I have adopted Chevrolat’s MS. name of the species from the Sallé collection.

Var. valdecostata. Cupreo-aenea (elytris interdum obscuro viridi-aeneis), subitus cum femoribus flavo-testaceis, ventro interdum infuscato; elytrorum costis quatuor convexioribus, striis profundioribus delimitatis, interspatis omnibus aequaliter dense confluentur punctulatis.

Long. 18–20 millim. ♂ ?.

_Hab._ PANAMA, Bugaba, Volcan de Chiriqui (Champion).

80. _Anomala nitescens_. (Tab. XIII. fig. 14.)

Sat late ovata, capite et thorace splendide viridi-aeneis, hoc limbo laterali flavo clypeoque cupreo-fulvo, elytris rufo-fuscis manucentibus, corpore subitus pedibusque flavo-testaceis; capite confluentem, vertice sparsum, punctatum, oculis vix convexis, clypeo lato, postice haud ampliato marginemque parum reflexo; thorace (a supra vias) et basi ad apicem angustato, lateribus arcatis, basi immarginato sed juxta scutellum paullo reflexo, dispersissime punctato; elytris profunde punctato-striatis (punctis confertis transversis), interstiiis angustis apud discum transversim rugulosis, stria 2° duplicata postice solum impressa, striis lateribus plus minusve confusi; pygidio viridi-aeneo, subnitido, undulato-ruguloso, griseo-setoso. Mesosternum inter coxas crasse conicum, porrectum. Tibiae anticee bidentatae, postice haud suratae.

♂. Tarsi antici angue majore versus basin angulatim dilatato, dente superiore haud breviore.

Long. 12–14 millim. ♂ ?.

_Hab._ MEXICO (Sallé).

I have adopted the MS. name given to this species by Deyrolle in the Sallé collection. The lateral margin of the elytra (in the female) is just perceptibly dilated and thickened in the middle.

81. _Anomala_ — ?

_Hab._ GUATEMALA, Zapote (Champion).

A single example of a species much smaller than _A. nitescens_, similar in colour and sculpture, but widely different in some points of structure. Its position in the genus is uncertain.

82. _Anomala calonota_. (Tab. XIII. fig. 15.)

Elongato-ovata, viridi-pomacea, subenea, subitus splendide viridi-aenea rufo-translucens, thorace limbo laterali rufo; clypeo subsemicirculari, margine parum reflexo, dense scabroso-punctato, fronte discrete punctata; thorace a basi ad apicem gradatim angustato medio perparum dilatato, basi immarginato sed juxta scutellum paullo reflexo, toto disperso punctato; elytris punctato-striatis, striis 1° et 3° quae versus apicem sulcatis, interstiiis subequalibus, 2° latiore biserialis subconfusa punctato excepto; pygidio discrete transverse punctato-ruguloso, piloso, nitido. Mesosternum sat elongatam, porrectum, acute conicum. Tibiae anticee juxta apicem bidentatae, postice parum suratae.

Long. 16–17 millim. ♀.

_Hab._ PANAMA, Bugaba (Champion).
Three examples. The lateral margin of the elytra is not dilated though gradually and slightly thickened towards the base, where the marginal stria is broader and more deeply impressed.

The species has somewhat the form, colour, and aspect of the green *Pyronota* of New Zealand.


83. *Anomala chlorotoides*.

Elongato-ovata, levissima, capite punctato, thorace et elytris subtilissime vix perspicue punctulatis, his punctulis seriatis striaque suture nullis postice rugulis transversis nonnullis notata; castanea, argenteo-nitens, thorace saturatus viridi-argenteo limbo lato laterali flavo, lateribus arcuatis, basi binuato immarginato; elytris abbreviatis, margine laterali post dimidium obsolete, striae marginali versus humerum profunda ibique margin increased; pygidio fere plano, polito, sparse transverse striuloso. Mesosternum longe porrectum, apice sub recurvato. Tibiae antice apice extus prolongate, dente 2° parvo obtuso; postice vix sururate, laeves.

Long. 16 millim. 2.


One example. Bears some resemblance to a small *Chlorota* or *Antichira*.

84. *Anomala specularis*. (Tab. XIII. fig. 16.)

Elongato-ovata, resplendent-viridi-anea rufo-translucenta, vertice thoraceque saturatus argenteo-viridibus, hoc limbo lato laterali flavo, elytris fulvis argento-viridibus; elytrum lato, postice paullumham ampliato, antice parum arcuato, margine reflexo confluentor, fronte et vertice disperso, punctatis; thorace postice ampliato lateribus arcuatis, basi immarginato binuato, margine juxta scutellum paullo reflexo, supra dispersissime punctulato; elytris abbreviatis, margine laterali, usque prope apicem integro, versus humeros gradatim mediocris increasato ibique stria marginali latiore et profunde, regulariter punctato-striatis, striae 1°-4° et 9° 10°que versus apicem profundioribus, striae 2° versus basis haudd impressa bisertiati punctulata; pygidio parum convexo, sparse transversim undulato-striato, griseo-setoso. Mesosternum longe porrectum, robustum. Tibias antice apice extus recto prolongate, dente 2° parvo propinquo; postice parum sururate, laeves. 5. Taræ antici ungue majore usque prope apicem lato, apice late furseato.

Long. 18 millim. 5.

*Hab.* **Costa Rica** (Van Patten).

One example.

85. *Anomala chrysanthae*. (Tab. XIII. fig. 17.)

Magna, ovata, viridi-anea resplendens, thorace limbo laterali pedibusque fulvo-rufó translucentibus; capite sat magno, ocellis parvis, scabroso-punctato, vertice transluente, elytrum lato postice latiore, antice parum arcuato marginque reflexo; thorace paullo post medium leviter angulatim dilatato, angulis antici acutissimis, basi binuato, immarginato, supra sat fortior et minus disperso punctulato; elytris post medium latioribus, utrinque 4-costatis (2 exterioribus nullomodo convexis, minus distinctis), striae juxta costas versus apicem profunde impressis, interstitiis 2° latissimo confuse, post medium (cum limbo apicali) grossius, scabroso-punctulato, interstitiis inter costas 1°, 2° et 3° minus latis confuse punctatis, margine laterali usque prope apicem extenso, versus humerum gradatim increasato ibique striae marginali lata et profunde; pygidio parum

2 II 2
convexo, aspere transversim undulato-strigoso, griseo-setoso. Mesosternum longe porrectum et attenuatum nec verticaliter crassum. Tibiae antice normaliter bidentate, postice haud surate.

Long. 22 millim.

Hab. COSTA RICA (Sallé); PANAMA, Volcan de Chiriqui (Champion).

Three examples. A Chiriqui specimen is figured.

86. Anomala lepida.

Anomala (Spilota) lepida, Burm. Handb. der Ent. iv. 1, p. 273

Hab. GUATEMALA.

According to the description this species resembles in form our A. calonota, but it differs much in other respects.

87. Anomala xiphostetha.

Ovata, testaceo-fulva viridi-aneo refulens, capite, thorace (limbo lato laterali fulvo) et pectore saturatius viridizensis; capite scabroso- punctato vertice levior, clypeo antice vix arcuato postice dilatato, margine reflexo; thorace a basi ad apicem angustato, lateribus arcuatis sat fortiter et equiliter (lateribus cerebris confusi) punctato, basi immarginato, bisiniato, juxta scutellum margine leviter reflexo; elytris striato-punctatis, disco rugulosis, costa unica distincta paullo convexa striis duabus impressis delimitata, intestiti 2° lato confuso punctato, marginum laterali (♂) haud dilatato sed versus basin gradatim incrassato striisque marginali profunda; pygidio parum convexo, aspere punctato (vix striguloso), longe griseo-setoso. Mesosternum longe porrectum et attenuatum nec verticaliter crassum. Tibiae antice bidentatae, postice haud surate. ♂. Tarsi antici ungue majore fere usque ad apicem equaliter lato, dente superiore paullo breviore.

Long. 13 millim. ♂.

Hab. COSTA RICA (Van Patten).

Two examples, both males.

88. Anomala phosphora. (Tab. XIII. fig. 18, ♀.)

A. xiphostetha simillima, differt tantum thorace lateribus rufo-tranalucentem nec distincte viitatis clytrisque aliter sculpturtatis, haud rugulosis, punctato-stratis, intervittis plurimis convexis, 2° haud lato, sed stria 2° bisiriastim punctata postice sat profunde impressa limboque laterali streis punctatis quatuor profunde impressis; clare viridi-aneo fulvo-refulens, splendida. ♂ ♀. Elytra paullo ante medium leviter rotundato-dilatata, ibique margine (♂ minus ♀ magis) incrassato.

Long. 11-12 millim.

Hab. PANAMA, Volcan de Chiriqui (Champion, Trötsch).

This and the preceding are apparently closely allied to A. lewyi, Blanch., from Colombia.

Seven examples.

89. Anomala micans. (Tab. XIII. fig. 20.)
Anomala micans, Burm. Handb. der Ent. iv. 1, p. 269.

Hab. MÉXICO ¹, Cordova, Toxpan, Yolotepec, Chiapas (SALLÉ), Jalapa, Chilpancingo, Cholula in Puebla (HÖGE), Oaxaca (SALLÉ, HÖGE).

The lateral margin of the elytra is dilated before the middle and wavy thence to the base like the other species of the section; but the dilated part is not so much thickened, even in the female. The mesosternal process is rather short, thick, and obtusely conical. The base of the thorax is immarginate, and the outer claw of the anterior tarsi broad and not gradually tapering to the apex.

In colour it varies from the green crown and thorax and green-tinged castaneous elytra, as described by Burmeister, to coppery or golden head and thorax and rich gold-tinged red or even violet-coloured elytra; and the pygidium, generally brassy-green, is sometimes clear yellow. The coppery examples are from Yolotepec and Oaxaca. The middle of the base of the thorax is often yellow as well as the sides; very rarely the thorax is entirely brassy-green.

90. Anomala xantholea.
A. micanti affinis; angustius ovalis, testaceo-fulva argenteo-viridi-tincta, vertice maculique duabus thoracis discoildibus viridi-ancis, elytris sepe anguste nigro-marginatis; elytris semicirculari, cum fronte confluenter, vertice discrete, punctato; thorace postice latiore, ante medium leviter dilatato, basi bisinato, immarginato, sed interdum in sinibus tenuiter marginato, supra sat dense hic illic subconfluenter punctato; elytris sicut in A. micanti, striis 14 profundis crenatis interstitiis angustis, stria humerali supra callum humeralum dilatata, multipunctata, interstitiisque 3° (a margine) antice et postico abbreviato; ab A. micanti differt striis 2° et 3° (a sutura) semper integris. Pygidium sat grossae transverse rugatulam sed politum, apice excepto glabrum; ant tarsi viridi-rufum, aut testaceum viridi-binaeulatum. Mesosternum sicut in A. micanti sed obtusius, vix conicum. Elytra margine laterali undulato, mediocriter dilatato et incrassato.

Long. 10–11 millim. ♂ ♀.

Hab. MÉXICO, Cordova (SALLÉ, HÖGE), Toxpan (SALLÉ).

Var. 1. Elytrarum striis minus acute impressis, elytris semper concoloribus.

Hab. NICARAGUA, Chontales (BELT); PANAMA, Bugaba, Volcan de Chiriqui (CHAMPION).

Var. 2. Latius subquadrato-ovata (♀).

Hab. NICARAGUA, Chontales (BELT).

Fifteen examples.
91. Anomala villosella. (Tab. XIII, fig. 19.)


Hab. Mexico 1, Izucar (Sallé), Matamoros Izucar in Puebla, Iguala in Guerrero (Höye).

Evidently closely allied to *A. micans* and *A. xantholea*, notwithstanding the hairy clothing of the whole body, which is very dense and erect on the crown and thorax, and long, ashy-coloured and recumbent on the pygidium, denser still on the propygidium. The elytra have fourteen similarly punctured stria with narrow interstices, but they are in some examples somewhat confused by transverse rute; the median dilatation, especially in the female, is well marked and explanated, but not much thickened. The chief difference from *A. micans* and others of the group lies in the thorax having a fine basal margin; this, however, is sometimes widely interrupted in the middle, and it does not then differ essentially from *A. xantholea*, in which the margin is often very distinct along the sinus on each side. The greater claw of the anterior tarsi of the male is especially wide nearly to the apex, where it has almost the appearance of being obliquely truncated, the upper tooth being very slender and somewhat shorter.

The general form is compact and ovate, and the legs and tarsi are robust; the species cannot therefore be referred to *Phyllopertha*.

92. Anomala nitidula.


Hab. Guatemala (Morelet, Sallé), Dueñas (Salvin), Escuintla, San Gerónimo, Quezaltenango 7800 feet (Champion); Honduras (Sallé); Costa Rica (Van Patten).

Blanchard says “thorace toto viridi;” but not one amongst the many examples I have examined is without at least a narrow, if somewhat ill-defined, yellowish lateral vitta. The base of the thorax is emarginate, except in some individuals, on the sides near the angle; the elytra have only thirteen punctured stria, one of which (the eighth) is much abbreviated, and the lateral margin is dilated and thickened before the middle. The pygidium is convex, sometimes gibbous, posteriorly glossy metallic with a few long hairs. The mesosternum is prominent, briefly conical and laterally compressed. The colour above is apple-green with a metallic lustre, but sometimes (often the elytra only) testaceous with pale green lustre, and the thorax with two broad dark brassy-green vittae. The locality given by Blanchard 1 is “Amer. Merid.”

93. Anomala nutans. (Tab. XIII, fig. 21.)

Laev ovata, fere sicut *A. vidua* supra glabra, toto nigra vel supra fulvo-castanea vertice thoraceque medio nigra, pedibus rufo-testaceis, raro supra toto pedibusque flavo-testaceis, interdum toto nigra, callis humerali et apicali rufa; capite toto confortum punctato, elyceo transversim quadrato, angulis rotundatis, margine sat alto refcrea; thorace a basi ad apicem angustatum, paullo ante medium leviter obtuse dilatato, basi bisinuato immarginato, supra sat dense et grosse transversim subconfluentur punctato; elytris 11-sulcastis, sulcis
ANOMALA.


Long. 7–11 millim.

Hab. MEXICO, Juquila (Sallé, Hőge), Jalapa (Hőge).

I have adopted the MS. name given to this distinct species in the Sallé collection.

94. Anomala vidua. (Tab. XIV. figg. 1, 2.)

Popillia vidua, Newman, Trans. Ent. Soc. Lond. iii. p. 48 (1841).\(^1\)
Pachystethus viduus, Blanch. Cat. Coll. Ent. i. p. 201.\(^2\)

Anomala minuta, Burm. Handb. der Ent. iv. 1, p. 270 (neem Fabr.?).

Popillia sticticollis, Newm. l. c. p. 48.\(^3\)

Popillia semirufa, Newm. l. c. p. 49.\(^4\)

Hab. MEXICO\(^{1\,3\,4}\), Orizaba, Oaxaca (Sallé), Coatepec, Jalapa (Hőge), Vera Cruz\(^2\).

All the three colour-varieties, described as species by Newman, with apparently rare intermediate gradations, are found at Orizaba. In each variety, certainly in two of them, there are males and females, the colours are therefore not sexual as Burmeister described them.

We have received a large number of examples from Orizaba and also from Coatepec; two from the latter locality are figured.

II. Tarsi antiores unguibus hau d apice fissis, dente superiore dorsali setiformi; intermedii unguibus dente parvo vel simplicibus. Tibiae posticae breves, sub-triangulares.

95. Anomala rhizotrogoides. (Tab. XIII. fig. 22.)

Anomala rhizotrogoides, Blanch. Cat. Coll. Ent. i. p. 186.\(^5\)

Hab. MEXICO\(^1\), Vera Cruz (Sallé, Hőge).

This species differs from the typical *Anomala* in many points of structure; the ligula is narrowed and entire at its upper edge; the labrum is straight, and without the usual concavity in the middle, besides being extremely short, with the deflexed apex short and obtuse; the vertical edge of the semiovate concave clypeus is thickened and projects in front considerably beyond the mouth; and, lastly, the hind tibiae are short, about two thirds the length of the tarsi, and dilated from base to apex. The antennal club (especially in the male) is very long, slender, and curved, the mesosternum rather narrow and declivous, the anterior tibiae bidentate, and the mandibles and maxillae short, robust, and dentate. The differences in labrum and tibiae might justify the generic separation of *A. rhizotrogoides* if they were found to hold good in the few species
nearest allied to it; but one or other of them prove, as in other small groups of the genus, to be quickly modified.

Among the Old World Anomala the species seems nearest allied to the African A. (Hoplopus) atriplex and A. vetula.

Found in abundance by Herr Höge.

96. Anomala ——?

_Hab._ MEXICO, San Blas (Forrer).

One defective example only. The hind tibie are three fourths the length of the tarsi; the clypeus and labrum are formed nearly the same as in _A. rhizotrogoides._

97. Anomala ——?

_Hab._ MEXICO, Guanajuato (Sallé).

One defective example of a very distinct species much smaller than the preceding.

98. Anomala attenuata. (Tab. XIII. fig. 25.)

_Antennæ foliis, thoracis disco paullo obscurioribus elytrisque vittæ lata communi (sat vaga) suturali fusco;_

capite grossè sparsim punctato, Clypeo angusto semiovato, grossè confluentem punctato, margine alta elevato;

thorace parvo, usque ante medium paullo dilatato deinque usque ad basin paullo angustato, disco utrinque oblique impresso, punctis magnis sed parum impressis consperso, margine basali integro; elytris angustis,
punctato-strisatis, costa unica utrinque distincta convexa, interstitiones transversim rugosis, 2° paullo lato, vage
subconvergentem punctato. Pygidium punctatum, longo erecte pilosum. Mesosternum angustissimum, coxa

_Tibiae posterioris sicut in A. rhizotrogoides breves triangulares._

*Long. 5-6½ millim.*

_Hab._ MEXICO, Vera Cruz (Sallé, Höge).

Three examples. On dissection the mouth-organs are found to be much less robust than in _A. rhizotrogoides_, the labrum is essentially similar, but smaller, and the mandibles are reduced to very thin, flat blades, closely applied to the roof of the mouth-cavity.

99. Anomala castaniceps. (Tab. XIII. fig. 23.)

Oblonga, convexa, castaneo-nigra, capite, pedibus et interdum thorace castaneo-rufa, polito, elytris parum

nitidis; clypeo subsemicirculari interdum antice angustato, margine sat alta reflexo, confluentem punctato,

fronto crebre, vertice sparsim, punctatis, punctis minutis intermixture; thorace medio dilatato, postice paullo

ampliato, margine basali integro, supra disperso punctato; elytris subtilissimo alutaceis sericeo-subopacis,

striato-punctulatis, striis geminatis juxta costas solum paullo impressis, circa calum apicalis profundius,

stria suturalis a sutura distantis, interdum 2° lato antice confusa punctato. Pygidium paullo profunde

punctatum, glabrum. Mesosternum valde angustatum. Tibiae antice bidentatae, postice gracilibus

elongatis paullo surasis.

*Long. 11-14 millim. ♀.*

_Hab._ MEXICO, Jacale (Sallé), Las Vegas (Höge), Ciudad in Durango (Höge, Forrer).
The short setiform rudimentary tooth on the convex side of the external fore tarsal claw is sometimes absent. The hind tibia in this species are equal in length to the tarsi.

Named *A. erythrocephala*, Chevr., in the Sallé collection, a name which cannot be adopted, as it was used by Fabricius for a species of the genus.

A specimen from Jacale is figured.

100. *Anomala —?*

*Hab. Mexico* (*Sallé, ex coll. Sturm)*.

Closely allied to *A. castaniceps*, and perhaps only a well-marked local form of it, differing chiefly in colour. A single example.

### III. Ungues omnes simplices.

101. *Anomala carinifrons.* (Tab. XIII. fig. 24.)

Oblong-ovata, toto flavo-testacea, nitida; capite densissime punctato-scabroso, vertice laeviore; clypeo delexe, sat anguste quadrato, angulis anticus obtusis, margine alto reflexo, sutura frontali cariniformi; thorace brevi, paullo ante medium latiore, lateribus late arcuatis, margine basali integro, supra sat dense et fortiter punctato; elytris striis punctatis decern, quarum l 1-7 a profundis et 3 lateralibus vix impressis; costis tribus paullo convexis, interstitio 2 a parum latiore, dimidio basali confuse sub-biseriatim punctato. Pygidium convexum, nitidum, parce punctatum. Mesosternum sat angustum, declive, planum. Tarsi antici ungue majore sat gracile, haud dilatato; antennarum clava valde elongata, articulis 2-6 a brevibus, 2-4 a subglobosis.

*Hab. Mexico, Chihuahua city (Höge).*

Evidently a close ally of *A. cavifrons*, Lec., of Texas and New Mexico, differing only in its larger size and strongly sculptured elytra. It is probably also found within the United-States boundary, as I have an example from Arizona sent by Morrison.

102. *Anomala —?*

*Hab. Mexico, San Andres Chalchicomula in Vera Cruz (Höge).*

One mutilated example of a distinct species closely allied to the foregoing.

Species incerta sedis.

103. *Anomala tessellatipennis.*


*Hab. Mexico*.

104. *Anomala —?*

*Hab. Mexico, Playa Vicente (Sallé).*

*Biol. Centr.-Amér., Coleopt., Vol. II. Pt. 2, August 1888.* 2 KK
105. **Anomala** — ?

*Hab. Guatemala* (Sallé).

A single imperfect example.

106. **Anomala** — ?

*Hab. Guatemala, Purula* (Champion).

A single mutilated example, with the anterior tarsi broken off.

**Epectinaspis.**


*Strigoderma* (pars), Burmeister, Handb. der Ent. iv. 2, p. 515 (1844).

This genus, founded by Blanchard on a single Mexican species, is sufficiently distinguished from *Anomala* by its oblong form, convex thorax, and long quadrate clypeus, which, added to the deep and close striation of the elytra, give the species a distinct facies. There are, as usual in the subfamily, no very definite structural characters to distinguish the genus from *Anomala, Strigoderma*, or *Phyllopertha*. One of the principal is the long and robust, cheliform claw-joint of the anterior tarsi of the males. Of the characters derived from the parts of the mouth on which Blanchard in part founded the genus, that furnished by the labrum is the only one of importance. This he terms "obtectum," which is scarcely accurate, as the upper basal part is plainly visible, though forming only a narrow transverse piece; and it is distinguished from the same part in *Anomala* in being without trace of a central depression or emargination.

1. **Epectinaspis mexicana.** (Tab. XIV. fig. 3.)


*Hab. Mexico* 1, Cordova, Orizaba (Sallé), Jalapa, Juquila (Höge).

Varies in size from 7 to 12 millim. The black variety mentioned by Burmeister appears to be rare, at least there are very few of it among the very large number of examples we have received. The lateral margin of the elytra, although slightly expanded before the middle, is scarcely at all thickened, even in the female.

A Cordova specimen is figured.

2. **Epectinaspis pictipennis.** (Tab. XIV. fig. 4.)

Quam *E. mexicana* paullo magis ovata, nigra, nitida, thorace elytrisque testaceo-fulvis, illo plaga dorsali ramosa variabili, his vitis utrinque obliquis plagisque postecutellari (interdum per suturam continuata) nigris; fronte confluentem punctata, clypeo quadrato-subcorrecto (anteo paululum dilatato-rotundato), margine alte redondo; thorace medio subangulatin dilatato, antice valde angustato, postice lateribus parallelos, angulis antecis valde acutis, postecis rectis, margine basali angusto integro, disco prope marginem declivis, passim
EPECTINASPIIS.


Long. 11-12 millim.

_Hab._ MEXICO, Juquila (Höge). Four examples, all males.

_Var._ 1. Testaceo-rufa cupro-tincta, capite obscuroire.

_Hab._ GUATEMALA (Sallé). One example, male.

_Var._ 2, minor (8¼ millim.). Caput et thorax cupruscenti-rufa, hoc confluenter vel rugoso-punctato, elytris nigris.

_Hab._ GUATEMALA (Sallé). One example.

3. Epectinaspis opaccollis. (Tab. XIV. fig. 5.)

Sat elongato-ovata, pallide flavo-testacea, capite viridi-aneo corporeque subitus nigro, thorace interdum masculo anterioe triangulari fusca; vertice, thorace et scutello dense erecto flavo-pilosio, elytris nitidis, scutello viridi-aneo, denissimse scabriulo; capite densissime scabrosa-punctato, clypeo quadrato, recto-ante, antice paulluln dilatato-rotundante, margine refoxe; thorace ante medium paullo obtuso dilatato, angulis antici acutis, posticos rectis, supra densissime alutaceo-punctulato; elytris sat valde punctato-striatis, striis 2° et 8º solum prope apicem integris, antico lato dilatatis baud impressis, grosse confuse punctatas. Pygidium valde convexum, sat grosse alutaceum, griseo-hirsutum. Elytrorum margo (?') haud perspice dilatatus paullo incrassatus. Ungues antici sicut in _E. pictipesii._

Long. 9-11 millim. (?)

_Hab._ MEXICO, Cuernavaca (Sallé, Höge).

Four examples, all males.

4. Epectinaspis chelifera. (Tab. XIV. fig. 6.)

Ovata, flavo-testacea, nitida, capite postico thoraceque antice medio (interdum disco toto) nigro-fuscis; capite confertissime punctato, clypeo semicirculari, plano, margine angustrissimo refoxe; thorace breviter setoso, lateribus late arvatis antice angustato, angulis posticos obtusis, minus dense punctato, punctis minutis internexitis, margine basali angusto integro; elytris minus profunde punctato-striatis, sub callo humerali profunde oblique impressis, margine laterali antec basin valde flexuoso parum incrassato. Pygidium sat sparsum punctatum, longe pilosum, nitidum. Mesosternum valde depressum. Tibiae antice bidentatae, postice robustae, nullo medio suratae, punctatae. (?) Tarsi autici robusti, articulo unguiculi valido cheliforium, ungu majore elongato, prope basin angustato deinque obtuso dentato et lateraliter inflecto, dente superiore parum breviore. (?) Toto nigra, thorace et pygidio glabris.

Long. 8-11 millim.

_Hab._ PANAMA, Bugaba (Champion), Chiriqui (Trötsch).

Six examples.

5. Epectinaspis moreletiana. (Tab. XIV. fig. 7.)

_Phyllopertha moreletiana_, Blanch. Cat. Coll. Ent. i. p. 179.¹

_Hab._ MEXICO, Tabasco (Morelet ¹); GUATEMALA, Dueñas, Zapote, Volcan de Atitlan (Champion), Chimaltla 4100 feet (Salvin).

2 KK 2
The head and thorax are black, opaque, the latter clothed with a very dense, erect, and soft light-coloured pile. The elytra are pale reddish-brown, subopaque; in one example only (captured by Mr. Salvin at Chimautla) are they variegated with black—a broad fascia behind the middle, and a second spot on each side near the tip of the scutellum. The scutellum is like the thorax opaque, black, and coarsely shagreened. The head, especially in the male, has the long, quadrate form and upturned edges of the typical species; and *E. moreletiana* is undoubtedly congeneric with *E. mexicana*.

As in many species of *Anomala*, of the *A. micans* group, the sharp ascendent edge of the mesosternal epimera rises in front of the shoulders of the elytra so as to be visible from above. This feature shows the close relationship of those forms with *Epectinaspis* and *Strigoderma*. An example from Dueñas is figured.


*Phyllopertilus horticolus* similis, sed thorac angustiore et antice gradatim attenuato; elypee (♀) sae angusto et elongato-subquadrate, antice cum angulis rotundato marginique redux. Nigre, capite thoracique opale, hoc dense erecte piloso, elytris castaneo-rufis; capite tato densissime confusus punctato; thoracis medio fortiter breviter dilatato, antice gradatim angustato, postice lateribus parallelis, dorso sicc sit in *E. mexicana* convexo et juxta basin subito declivi, margine basali integro, supra punctato-alutaceo; elytris grosse et subconfuse punctato-striatis, sub callo humerali profunde impressis, margini laterali (♀) vix ampliato nec incrassato; abdomine nigro-antho, pygidio nitido, areolam striguloso, sparse piloso. Mesosternum sublatum et depressum, sed apice (juxta metasternum) paullo tumidum. Tibiae antice bidentatae, postice paullo surata, grossissime elongato-punctata. Mesosterni epimera paullo ascendentet et tumida nec acuta marginata.

♀. Ungues extreiores 4 profunde fissi.
Long. 10 millim. ♀.

*Hab.* BRITISH HONDURAS, R. Sarstoon (*Blancaneaux*). Two female examples.

The obtuse subascendent mesosternal epimera are unlike anything to be seen in other species of *Epectinaspis*, where, if visible at all, they appear in a sharp carinated edge as in many *Anomalae*. The convexity of the hind part of the thorax and the form of the clypeus (which is no doubt more pronounced in the unknown male) show that the species belongs to *Epectinaspis*.

**STRIGODERMA.**


A genus, so far as at present known, peculiar to America, and ranging far into the northern temperate zone, as well as throughout the intertropical region as far south as Tucuman. It is well represented in Mexico and Central America; and the numerous species we have to add to the genus show a far wider range of sculpture, as well as form, than was anticipated when the generic name was given. But, however diverse, they resemble each other much more than they do any of the varied forms of *Anomala*, and the tumid ascendent mesosternal epimera afford a good distinguishing character
in cases of doubt. In all the species the males may be distinguished from the opposite sex by the more attenuated abdomen, concave on its ventral surface, a difference which is very rarely observable in the *Anomala*.

I. *Striis elytrorum quinque inter suturam et callum humeralem.*

1. **Strigoderma marginata.**

*Melolontha marginata*, Olivier, Entom. i. no. 5, p. 70, t. 3. ff. 23 a, b (1789)¹.

*Melolontha cincta*, Fabr. Ent. Syst. i. 2, p. 175 (1792)².


Var. *Strigoderma pygmea* (Fabr.) (partim), Burm. Handb. der Ent. iv. 1, p. 311.

*Hab. Panama*, Chiriqui (Trötsch), San Feliz, San Lorenzo (Champion).—*South America*³⁴, *Amazons*; *West Indies*, Guadalupe¹².

A very few examples only were captured in the State of Panama—some of the typical colour as described by Olivier, and agreeing with specimens from the R. Amazons; one black with yellow elytral spots (the var. *glabrata*); and others all black. The species differs from its immediate allies of Central America in the thorax being sparingly and distantly punctured, and having only one or two rather small rounded foveae on each side.

2. **Strigoderma intermedia.** (Tab. XIV. fig. 8.)

*S. marginata* differs solum thoraces valde inequali, foveis duabus utrinque sepe confluentibus subchaise vagis disi tribus, in impressionibus alutaciais partibusque elevatis discrete punctatysis.

Long. 5–7 millim. d ².

*Hab. Mexico*, Frontera in Tabasco (Höge); *British Honduras*, R. Sarstoon (Blanca-neux); *Guatemala* (Sallé), Cubulco, San Gerónimo, El Jicaro (Champion).

A large number of examples, nearly all coloured as in the typical *S. marginata*; a few examples only having in addition to the black elytral border a transverse median fascia of the same colour. The legs and sides of the thorax are sometimes testaceous-red. The thorax is glabrous.

A well-marked specimen from Frontera is figured.

3. **Strigoderma mexicana.**


*Hab. Mexico*¹, Orizaba, Playa Vicente (Sallé), Jalapa, Cordova, Tapachula in Chiapas (Höge).

Distinguished from *S. intermedia* chiefly by the pubescent thorax, the surface being sparsely clothed with erect hairs. In this it agrees with the following, *S. protea*, but differs in the very uneven surface of the thorax (resembling that of *S. intermedia*), the elevations of which are shining and coarsely punctured, not alutaceous-opaque. A
short, highly polished, elevated dorsal line or space near the base between the basal ends of the two broad oblique discal sulci, which never fails in the large series examined, also distinguishes the species. Blanchard’s phrase “prothorace . . . . ruguloso . . . . lineola laevi notato,” and the numerous examples labelled S. mexicana, Blanch., in the Sallé collection show that this is the species Blanchard had in view, and not S. protea.

4. Strigoderma protea.

Strigoderma pygmaea (Fabr.), var. protea, Burm. Handb. der Ent. iv. 1, p. 312¹.

Strigoderma nigrita, Blanch. Cat. Coll. Ent. i. p. 202¹.

Hab. Mexico¹, Vera Cruz², Puebla, Izucar (Sallé), Guadalajara, Colima city, Matamoros Izucar in Puebla (Höge).

The thorax is almost evenly convex, without foveœ or very distinct impressions, and is wholly alutaceous, opaque, and pubescent. In comparing the large series of this and the two preceding species the present appears to be generally of larger size and more diverse in the colours of the elytra, the state of the typical S. marginata being exceedingly uncommon. Rare examples occur which are partly intermediate, not only between this and S. mexicana but also between S. intermedia and S. marginata, and prove that they are all forms of one stock, barely segregated into species.

II. Striis elytrorum sex inter suturam et callum humeralum.

5. Strigoderma vestita.

Strigoderma vestita, Burm. Handb. der Ent. iv. 1, p. 314¹.

Hab. Mexico¹, Orizaba, Oaxaca (Sallé), Plan del Rio, Jalapa (Höge); Guatemala, near the city (Salvin), Sinanja (Champion); Costa Rica (Sallé, Van Patten).

Distinguished by the dense and strong subrugose punctuation of the thorax; the latter is without foveœ or depressions, narrow, and subangularly dilated in the middle, with porrect acute front and hind angles in the male, broader and less acutely angular in the female, its colour being variable—sometimes wholly dark greenish metallic, but more often tawny-red, like the elytra, with or without a green patch on its anterior part, the curiously declivous lateral margins being sometimes yellow, but not the basal margin. The under surface and pygidium and the apical margin of the propygidium are densely clothed with long recumbent tawny-ashy hairs. The mesosternum is subvertical, slightly tumid at the apex. The lateral margin of the elytra, in the female only, has an abruptly formed, much thickened and vertically arcuated, wheal.

In Guatemala examples occur with the elytra lineated with fuscous.
6. Strigoderma sailaei. (Tab. XIV. fig. 9.)

*S. vestita* affinisima, differt solam thorace semper aeneo vel capreo concolor et sicut pygidio et corpore subitus dense incumbenter cinereo-pilosae.

Long. 7-8 millim. & 2.

*Hab. Mexico*, Cuernavaca (*Sallé, Höge*), Parada, Tepansacualco, Juquila, Capulalpam, Yolotepec (*Sallé*).

When the pubescence of the thorax is abraded it is difficult to distinguish this species from *S. vestita*. The sexual characters and sculpture are similar. The thorax in *S. sailaei*, however, is less elongated in both sexes, and the closely packed punctures are less confluent and confused; its colour also is always dark brassy-green or dull cupreous—there is no example in the tolerably large series examined tawny-red in front, which seems to be the most prevalent colour in *S. vestita*. A specimen from Juquila is figured.

7. Strigoderma longicollis. (Tab. XIV. fig. 10.)

Depressa, thorace angusto et elongato, supra glabra, fulvo-castanea, nitida, vertice, thorace vitta vaga mediana, scutello suturaque (interdum elytris totis) fusco-nigris; capite dense ruguloso-punctato; thorace ante medium subito dilatato, antice longe et gradatim angustato, postice valde sinuato, basi lato angulique posticis euntibus acutis, doro utrinque inequali soleis vagis et latis obliquis impresso biique grosse sebrose-punctato, medio dorso convexo, discrete punctato, basi valde flexuoso medio sublobato, carinaque obtusa laterali prope marginem a basi usque ad dilatationem ducta; elytris latit deplanatis utrincque post scutellum concavis calloque humerali valde elevato, sicut in *S. vestita* punctato-sulcatis, soleis sex inter suturam et callum humeralum. Subitas et propygidii apex dense incumcente cinereo-pilosae, pygidio subglabro, aspera punctato, nitida. *Metaosternum latum, subverticalis, apice nullo modo porrectum.*

*Metasternum* & medio densissime creste hirsutum.

Long. 9 millim.

*Hab. Mexico*, Orizaba (*Sallé*).

Three examples.

8. Strigoderma contracta. (Tab. XIV. fig. 11.)

*S. longicollis* affinis; multo minor. Brevior ovata antice angustata, parum convexa, nigro-aenea, elytris nigris, vel cuprascenti-castaneo-rufa, nitida; capite hau die profunde confluenter punctato, clypeo transversim quadrato, angulis rotundatis, marginis sat alto reflexo; thorace angusto, ante medium dilatato, antice longe et gradatim angustato, postice valde sinuato, angulis acutis, posticis euntibus, supra tuto basi tumore flexuoso margine basali fere parallello et per latera continuato, margine antico utrincque incassato discoque oblique impresso, toto disco dispersae hau die profunde punctate; elytris utrincque post scutellum concavis, profunde punctato-striatis, interstitiis 1-8° convexis, 9° angusto depressa. Pygidium profunde hau die dense striulose cum propygidio corporeque subitas cinereo-pubescentis. *Metaosternum* subverticali apice tumidum sed hau die porrectum. 2. *Elytrorum margo ante medium perparum arcuratus et incassatus.*

Long. 6-6½ millim.

*Hab. Mexico*, Tepansacualco (*Sallé*); *Guatemala*, Zapote (*Champion*).

Five examples. The single Guatemalan representative is a female, and differs from the others in the flexuous wheel across the base of the thorax and other inequalities
being a little less elevated, and in the pygidium and under surface of the body being more densely clothed with laid ashy hairs. We figure the individual from Zapote.

9. Strigoderma physopleura. (Tab. XIV. fig. 12.)
Parva, ovata, viridi-aenea, nitida, thorace anguste flavo-cinete, elytris rufo-testaceis, limbo toto (vel dimidio posteriori) interdum nigro; capite minus profunde confuso alveolato-punctato, clypeo quadrate marginie alte elevato; thorace quadrato, angulis posticis minus exstantibus, ante medium medio-criter dilatato, cinctura elevata flavo intramarginali integra, dorso grosse subdense rugoso-punctato abque foveis; elytris punctato-sublemisis; corpore subitus dense cinereo-hirto, pygidio fere nudo, polito, parce strigaloso. Mesosternum latum, declive, apice hauad prominente. ♀. Tarsi antici ungue majore valde elongato, medio-criter lato, deute superiore tenui, breviore. Elytrorum margo lateralis basin versus paullo incrassatus et verticaliter arcuatus. ♀. Elytrorum margo lateralis basin versus valde abrupte arcuatus et crassissimus.

*Long. $0\frac{1}{4}$ millim. *♀*.

_Hab._ Mexico, Juquila (Sallé).

Five examples.

10. Strigoderma castor. (Tab. XIV. fig. 13, ♀.)
_Popillia pollux_, Newman, loc. cit. p. 50*.

_Hab._ Mexico, Tuxtla, Playa Vicente, Painstlahuaca (Sallé), Cordova, Tapachula in Chiapas (Höge); Nicaragua, Chontales (Belt).

The type specimens of Newman's two species differ in sex, _S. castor_ being a female and _S. pollux_ a male, the latter consequently with a narrower thorax; they differ also considerably in the thoracic punctuation—in _S. castor_ it is coarse and subconfluent with numerous irregular depressions on each side of the disc, besides the broad groove along great part of the inner side of the yellow submarginal wheal. The thoracic punctuation is, however, very variable in this species in both sexes: in the numerous series before me there are all gradations, and extremes go beyond the states of Newman's species; but the finest punctuation does not reach the nearly smooth thoracic surface of Burmeister's _S. orbicularis_. Rare examples occur, however, which partly connect these two apparently distinct species and even _S. castor_ with _S. festiva_.

Independently of the thoracic punctuation, _S. castor_ differs from the nearest allied species or subspecies in the shape of the clypeus, it being semi-oval or much narrowed and curved from the base to the rounded apex, with the margin very slightly raised. The yellow raised border is never absent from the thorax, the disc of which is generally brassy-green, but sometimes rufo-testaceous, and the oblique depressions on each side are seldom strongly marked. The thorax is dilated considerably before the middle, and the sides behind the angle are deeply sinuated to the hind angles, which are acute in the male and rectangular in the female. Viewed from above the thorax is elongate and narrowed in front in the male, but transverse-quadrate in the female. The elytra have the suture nearly always dusky, and sometimes also the humeral callus, apical
border, and disc; the depression on the anterior disc is slight and sometimes scarcely perceptible. The lateral margin is simple in both sexes.

In size S. castor varies from 6½–8 millim.

A female specimen from Panistlahuaca is figured.

The species is named S. angulata, Sturm, in the Sallé collection. I received it from Paris many years ago as S. marginicollis, Chevr., MS.

11. Strigoderma festiva.

S. castor proxime affinis; differt solum thorace transversim subquadrate vel subtrapezoidal marginati alto reflexo thoraceque grosse punctato, tumore flexuo submarginali basali altius elevato foreaque obliqua utrinque discoiдали magis distincta. Color cadem sed variat toto chalybeo-nigro, pedibus rufis, thorace haud flavo-marginato.

Long. 8–7 millim. ♂ ♀.

Hab. Mexico, Juquila (Sallé), Jalapa? (Höge).

The locality “Jalapa” with which Herr Höge’s specimens are labelled must be received with some reserve. I have adopted the name given to the species by Deyrolle in the Sallé collection.

12. Strigoderma orbicularis. (Tab. XIV. fig. 14.)


Hab. Mexico, Cordova (Sallé, Höge), Playa Vicente (Sallé).

Closely resembling S. castor in form and colours and differing only in the shorter and more semicircular clypeus, the evenly-convex smooth thorax, punctured conspicuously only near the sides, and in the sulci that limit the yellow submarginal wheal, the latter not raised in the middle of the fore and hind margins. The pygidium differs also in being less densely clothed with cinereous pile and contrasting with the rest of the uncovered portion of the abdomen by its brassy-black colour. The anterior disc of the elytra is much more strongly depressed.

13. Strigoderma nigripennis. (Tab. XIV. fig. 15.)

S. orbicularis differt solum colore viridi-aeneo splendente, elytris nigris, pedibus rufis, capite et thorace corpore subus interdum rufis aeneo-tinotis, thorace nunquam flavo-marginato.

Long. 6½–7 millim. ♂ ♀.

Hab. Mexico, Tepansacualco (Sallé), Cordova (Höge); Guatemala, Panzos in Vera Paz (Champion).

The description of S. orbicularis applies to this on every point except colour. The large number of examples of both, and the absence of all trace of connecting varieties, lead me to treat it as a distinct form.

A specimen from Panzos is figured.

BIOL. CENTR.-AMER., Coleopt., Vol. II. Pt. 2, August 1888.
14. Strigoderma rutelina. (Tab. XIV. fig. 16.)
Oval, antice angustata, parum convexa, supra glabra, subitus parum dense pilosa, capit thoracique viridi-seneis vel anscesti-prasini, hoc vitta laterali flav, elytis fulvo-testaceis, Q concoloribus, & plaga quadrata circumscutellari, callo humerali vittaque irregulari marginali nigris; variat:—thorace margine vittaque mediano rufo-testaceis, vel tota corpore fulvo-testaceo thorace ansco-tincto; capit densissim'e punctato; elyphi transversim quadrato, angulis valde rotundatis marginisque antice paulo reflexo; thorace elongato a basi ad apicem angustato, longe ante medium tantum leviter dilatato, angulis anticus acutis, posticus rectis, margine basali medio interrupto, supra (fovea rotunda laterali excepta) equaliter convexo, punctis sat grossis et profundis (hic illic transversis) undique impresso; elyphi profunde punctato-striatis, interstitiis equaliter convexis. Pygidium aspero strigulosum, sparsim pilosum. Mesosternum breviter porrectum, conicum, erassum.

♀. Elytra margine versus basin paullo incrassato, haud dilatato.

Hab. NICARAGUA, Chontales (Bel); COSTA RICA (Van Patten); PANAMA, Bugaba, Volcan de Chiriqui (Champion).

A large number of examples. The black elytral markings of the male are strongly developed only in Costa Rican specimens—in some the apical half is black, as well as the scutellum and lateral patches; none of the males from Panama have more than the suture, continued along the sides of the scutellum, and a lateral vitta, dusky.

The species is allied to S. colombica, Burm. The elytral striae are more deeply impressed than in S. colombica, but less so than in S. castor and its allies; and there is a further peculiarity in the occurrence of a rudimentary fourth stria between the suture and the humeral callus, which is distinct for some distance from the base between the fourth and fifth striae and in some females extends nearly to the apex.

A Costa Rican specimen is shown on our Plate.

III. Stris elytrorum septem inter suturam et callum humeralen.

15. Strigoderma teapensis. (Tab. XIV. fig. 17.)
Oval, testaceo-rufa, subitus viridi-senea, fronte thoracique viridi-seneis vel rufis ansco-tinctis, hoc vitta laterali flav a inus fusco-marginata, elytis flavo-testaceis vitta laterali interdum nigra; capit cereberrine (vertice sparsae) confusenter punctato, elyphi brevi lato, margine medio-crenato reflexo; thorace ante medium rotundato-dilatato, angulis posticis valde obtusis, lateribus nullo modo sinuatis, dorso equaliter convexo, fortiere (versus latera subconfusenter) punctato, linea dorsali levii, basi integerrime marginato; scutello tore levii; elytis profunde equaliter punctato-striatis, interstitiis parum convexis humerali latoare et confuse punctato, margine in 2 recto simplex. Pygidium aspero arcuato-strigulosum, nitidum, parce hirsutum. Mesosternum subverticalim, apice paullo tuberculiformi. Tibiae postice breves, robustae.

Long. 74—8 millim.

Hab. MEXICO, Teapa (Höge).

Three examples only of this very distinct species.

16. Strigoderma tomentosa. (Tab. XIV. fig. 18.)
Oblonga, supra subtiliter granulato-altitacum, fere opaca, fronte et thorace dense erecte pilosis; fulvo-testaceae, ansco-nitens, fronte et macula triangulares apud thoracies marginem anticum obscure viridi-ansciis, elytis interdum vel corpore toto ansco-schistaceis; capit toto confusuere confusenter punctato, elyphi
transverso subquadrato; thorace paullo ante medium dilatato, antice recte angustato, postice lateribus subparallelos, angulis posticis valde obtusiis, margine basali subtili integro; elytris oblongis sulcatis, interittis angustis, potius usquepin carinatis, carinis politis, sulcis opacis, margine laterali tenui, acuto, sub callo humerali (♂♀) tumidulo. Pygidium pilfero-punctulatum, politum. Mesosternum angustum, valde declive, subcarinatum. Tibiae anteces graciles bidentatae, postice elongate, sub carinatae. ♀. Tarsi anteces ungue majore profunde fisso, dente superiore haud brevire, inferiore medioeceptor dilatato.

Long. 7-10 millim. ♀♀.

Hab. MEXICO, Juquila (Salle).

Eight examples. A very distinct species, the somewhat tumid ascendent mesosternal epimera of which alone justify its being included in Strigoderma. The striae, except on the sides where they are sunk in two broad furrows, are regular, and the humeral callus is feebly developed, as in S. sulcipennis.

17. Strigoderma lampra. (Tab. XIV. figg. 19, 20.)

Angusta, politissima, viridi-ului, supro-aurea vel aenescenti-rafa, elytris chalybeo-nigris vel aenescenti-testacea nigro-viridi marginatis; capitulum punctulato-sicbroso, vertice lavo, clypeo brevi et lato subquadrato, margine medioeceptor reflexo; thorace angusto ante medium medioeceptor dilatato, angulis anteces productis, acutis, posticis valde rotundatis, basi sulculo marginali profundo integro, supra lavoissimio utrinque fiveis dubus rotundis profundis lavoibus; elytris elis punctatis, suturali excepta parum impressia, inter callum humeralum et marginem lateralem tantum dubus. Pygidium convexum, leve. Mesosternum subverticale, apicis tumidum paululum porrectum. Tibiae postice leviter surtato. ♂. Tarsi anteces ungue majore elongato, parum inerassato, dente superiore tenui, brevire.

Long. 7-8 millim. ♂♀.

Hab. MEXICO, Tapachula in Chiapas (Höge).

About a score examples.

IV. Stris elytrorum octo inter suturam et callum humeralum.

18. Strigoderma sulcipennis.

Strigoderma sulcipennis, Burm. Handb. der Ent. iv. 1, p. 316 1.

Hab. MEXICO, 1, Ventanas (Forrer), Cordova, Puebla, Guanajuato (Salle), Vera Cruz, Oaxaca (Salle, Höge), Jalapa, Durango city, Guadalajara, Atiisco, Iguala, Misantla, Mexico city, Guernavaca, Matamoros Izcar, Tapachula in Chiapas (Höge), Mochitlan in Guerrero (Baron); GUATEMALA (Salle), near the city, Dueñas, Chacoj, Panzos, San Gerónimo, El Jicaro (Champion); NICARAGUA, Chontales (Belt, Janson).

Varies greatly in size (from 7-15 millim.) and in colour, the elytra being sometimes blackish and sometimes tawny-brown, and the thorax black or coppery-black, and unicolorous or the sides broadly bright red or yellow or rich golden, in rare examples (two from Guatemala) the whole surface gilded yellow. The punctuation and hairiness of the thorax also varies. None of these colour-variations appear to be local; most of them occur together in all localities whence we have received the species in numbers. A widely distributed and abundant insect in Mexico and Guatemala, but becoming rarer southwards.
V. Elytra acute costulata.

19. Strigoderma costulipennis. (Tab. XIV. fig. 21.)

Oblonga, subovata, supra deplanata, glabra, subopaca, anescenti-nigra, elytris fulvo-testaceis plerumque sutura et lateribus nigro-vittatis; pedibus nigro-aneis vel rufis; capite creberrime confluenter punctato, clypeo parvo antice paulo angustato, margine leviter reflexo antice subsinuato; thorace ante medium rotundato-dilatato, postice gradatim angustato, basi valde flexuoso, subtiliter margi nato, supra dense subtillissime punctulato; scutello dense punctulato, margine postico lavi; elytris interstitiis alternis (et suturali) anguste dilatato, nitida, spatilia depressis opacia, seriepunctulatis, 1° et 2° versus basin breviter costulatis, costulis duabus lateribus ante apicem conjunctis exteriore crassiore et flexuoso. Pygidium nitidum, discrete punctulatum. Mesosternum latissimum, convexum, declive, apice nullo modo prominens.

Long. 6-7 millim.

Hab. Mexico, Etla (Sallé), Chilpancingo in Guerrero, Juquila (Höge).

VI. Elytra laevia.

20. Strigoderma auriventris. (Tab. XIV. fig. 22.)

Elongata, oblonga, fere tota glabra, polita, capite, thorace et scutello coerules, elytris nigrias, subitus viridi-aurea splendissimis, pedibus cyanis, femoris violaceis vel rufo-aureis; capite confluentior punctulato, vertice lavi, clypeo brevi trapezoidali, angulis sat distinctis, margine reflexo antice medio minus reflexo subsinuato; thorace paulo ante medium dilatato, postico vix platiato, angulis posticis subrectis, sulculo marginali basi medio late interrumpito, supra lavi polito, vix perspicue sparse punctulato utrinque forveis tribus labivis partim confluentibus; elytris striis omnibus (marginali recta max a callo humerali incipienti excepta) obsolentis, politissimis. Pygidium viridi-aureum, nitidissimum, punctulatum. Mesosternum latissimum, apice tumidum nec porrectum. Tibiae postice elongate, basi angustatis, suratis.

Long. 14 millim. ♀.

Hab. Nicaragua, Chontales (Janson).

Two examples, females. This beautiful species differs but little in details of structure from Strigoderma, although the peculiar sculpture, or lack of sculpture, and the Rutela-like coloration seem to indicate a different generic type. The membranous border of the elytra is well-developed, and the antennae are 9-jointed, though the fifth joint is much longer than any of the rest, and the mesosternal epimerae are tumid at the sides and strongly ascendent. The most important differences are in the labrum, the visible basal part of which is longer than in the Anomala generally, and has no trace of median depression, but is straight and sharp-edged, and dips vertically in front with its lower (or anterior) edge not visible; and in the mentum, which is in the same plane as the ligula and longitudinally concave.

CALLIRHINUS.

Callirhinus, Blanchard, Cat. Coll. Ent. i. p. 176 (1844).

Anisoplia (partim), Burmeister, Handb. der Ent. iv. 2, p. 494 (1855).

This distinct genus consists only of one very variable species, apparently confined to Mexico.
1. Callirhinus metallescens. (Tab. XIV. figg. 23, 24.)

*Callirhinus metallescens*, Blanch. Cat. Coll. Ent. i. p. 177.


Var. 2. Elytris toto flavo-testaceis.
Var. 3. Thorace metallico, vitta laterali flavo-testacea.
Var. 4. Thorace lateribus et ramo discoidalibus obliquo flavo-testaceis.
Var. 5. Supra toto rufo-testaceens, thorace anseo-tincto.

_Hab._ Mexico (123) (*Sallé, ex coll. Sturm*), Morelia in Michoacan, Tonila in Colima (*Höge*).

The numerous examples captured by Herr Höge vary from 9–10 millim. in length, the size given by Blanchard. Two of Sturm’s measure 12 millim. The series examined exhibit nearly all gradations between the colour-varieties above described.

**DILOPHOCHLA.**


_Elytra_ margine postice membraneo. _Tibiae_ antice bidentatae.

The species constituting this genus much resembles, except in its narrow oblong form, the genus _Bolea_ from which the porrect, deeply divided labrum amply distinguishes it. The clypeus is large and subquadrate, with much rounded anterior angles, and separated from the forehead by a straight suture which is somewhat inconspicuous owing to the dense sculpture.

1. Dilophochila bolacoides. (Tab. XIV. fig. 25.)

_Testaceo-rufa_, fronte cum vertice thoraceque viridi-vel cupreo-aeneis pilis longis obsitis, hoc margine toto lineaeque dorsali rufo-testaceis, elytris fulvo-testaceis pallide lineatis; pectore fusco-aeneo; capite toto creberrime confunctor punctato; thorace paulo ante medium angulato-dilatato, postice sinuato-angustato, angulis posticis subrectis, margine acuto basali integro, supra dense inequaliter hic illic confunctor punctato; elytris punctato-striatis, striis partim confusi interstitiisque transversim rugosis, 2 vel 3 discoidalibus plus minusue costiformibus. _♂_ Ungues valde elongati. _♀_ Elytra margine laterali medio incurvato et verticaliter longe arcuato.

_Long. 8–11 millim. _♂ ♀._

_Hab._ Mexico, Parada (*Sallé*), Las Vigas (*Höge*).

Six examples.

Subfam. _RUTELINÆ._

This subfamily corresponds to the “Sous-Tribu Rutélides vraies” of Lacordaire, with the exception of the genera _Macropoides_ and _Heterosternus_, and the greater part of his Groupe “Arédides.” It excludes, therefore, those genera in which the head is furnished with a frontal suture. The front edge of the labrum is deflexed in the middle and in most cases closely folded under.
LAMELLICORNIA.

Group ANTICHIRINA.

PLATYRUTELA.


Tibiae antice acute bidentatae; unguæ graciles paullo inequales, omnes simplices (?). Mesosternum valde productum, subrectum.

The insect on which this genus is founded has the appearance of a broad Anomala or Euchlora, and the labrum is that of an Anomala; but the total absence of membranous margin to the elytra, the frontal suture, and the 10-jointed antennæ, remove it from the subfamily to which Anomala belongs. Its place is evidently near Telangis, though the form of body and sculpture of the elytra give it an appearance totally unlike that genus.

The base of the thorax has a similar widely-interrupted margin, and the anterior vertical face of the clypeus slopes backward and forms a fold (highest in the middle) in front of the head. But the fold is not so horizontal as in Telangis, and is separated from the surface proper of the clypeus by a deep and broad groove which surrounds the three sides of the clypeus.

1. Platyrrutela cribrata. (Tab. XV. fig. 1.)

Obscura olivaceo-viridis, elytræ fuscocecentibus, subitus cum femoribus viridi-seneis, ventris segmentis postice cupreo-sauratis, tibiis et tarsis piceis vel rubis, pectore et ventre utrinque longe griseo-pilosis; capite et thorace dense punctulatis, punctis majoribus et minoribus intermixtis, hoc latioribus arcuatis, angulis posticis rotundatis; scutello lavri; elytræ grosse et profunde striato-punctatæ, punctis dorsaliibus in seriis undecim ordinatis, sed 2ª, 7ª, 8ª et 9ª plus minusve confusis. Pygidium granuloso-rugulosum, viridis-seneum, nitidum.

Long. 22 millim. 29

Hab. Costa Rica (Rogers).

Two examples only, judging from the simple claws most probably females.

LAGOCHILE.


Chasmotisa, MacLeay, Horæ Ent. i. p. 155 (1819); Burmeister, Handb. der Ent. iv. 1, p. 377.


The sole character on which the genus Ometis is founded lies in the ascendent mesothoracic epimera. This is nearly as well marked in the typical species of Lagochile (L. trigona) as in the type of Ometis; the name, therefore, if the genus is to be considered valid, becomes a synonym of Lagochile, and the majority of the species hitherto
ranged under the latter would in that case require a new generic name. The ascendent mesothoracic epimera, however, are evidently not of generic significance, as they exist in many *Antichira*, and the character is not corroborated by any other peculiar feature.

*Lagochile* is peculiar to Tropical America. Up to the present time eleven species have been described.

1. *Lagochile circumdata.* (Tab. XV. fig. 2.)

Quoad colorum *L. trigona* (Fabr.) similis, sed differt corporo longiore oblongo elytrisque deplanatis. Supra nigra, polita, thorace (antice medio excepto), scutello elytrique basi rufo-fulvo marginatis; subitus corpore toto, partibus oris pedibusque rufo-fulvis, partim interdum leviter infuscatis; capite sparse et subtilissimae punctulato, elypei lobis acutis et late foveatis; thorace brevi et lato, laevi, longe post medium dilatato, deinde antice valde angustato, postice cum angulis rotundatis, sulculo marginali apud dilatationem abbreviato, basi juxta scutellum fere recto et extus utrinque sat profunde sinuato-depresso; elytris labiibus, pectore fulvo-hirto. Pygidiun medio planatum, fero lave. Processus sternalis antice paullulum deflexus, sed apice acuto parum curvato. Mesoserni epimerae haut ascendentia. 3. Tarsi 2 antici ungue majore fuso, 4 posteriores simplices. 2. Ungues omnes simplices.

Long. 18-21 millim. 3 3.

*Hab.* PANAMA, Chiriquí (*Trötsch*), Bugaba, Volcan de Chiriquí (*Champion*).

Ten examples, all conformable to the above description.

The reddish-tawny basal margin of the elytra always extends beyond the shoulder, and a little way down the lateral edge of the elytra; the latter are nearly destitute of sculpture throughout.

2. *Lagochile collaris.*


*Hab.* MÉXICO 1, Cordova, Santecomapan (*Sallé*), Misantla (*Höge*); NICARAGUA, Chontales (*Belt, Janson*); COSTA RICA, Cache (*Rogers*).

In form and sculpture agrees exactly with *L. circumdata*, from which it differs constantly in colour and markings, the elytra and underside being wholly tawny-red, and the head and thorax black, with the entire margin of the latter (sometimes interrupted near the head), a dorsal line extending from the labrum to the middle of the thorax, and the scutellum (or its borders only) tawny-red. The mesosternal process is formed as described under *L. circumdata*, but the elytra are perceptibly more convex.

3. *Lagochile chiriquina.* (Tab. XV. fig. 3.)

*L. collaris* proxime affinis, paullino minor, et differt labro corporeque subitus nigro-fusco, capite et thorace absque linea fulva dorsali elytrique versus humeres vage infuscatis; pectore fulvo-piloso; ceteris sient in *L. collaris* et *L. circumdata*.

Long. 21 millim. 3 2.

*Hab.* PANAMA (*coll. Bates*), Chiriquí (*Trötsch*), Volcan de Chiriquí 4000 to 6000 feet (*Champion*).

Seven examples.
4. Lagochile brunnipes.

_Cotonia brunnipes_, Olivier, Ent. i. no. 6, p. 77, t. 6. fig. 50.


_Ometis brunipennis_, Lacordaire, Gen. Col. iii. p. 344, nota.

_Hab. Nicaragua, Chontales (Bell).—South America, Surinam, Cayenne 1, 2, Amazons (coll. Bates).

Burmeister gives a description of this species, which is very good, except as to the emphasized convexity. In the numerous examples I have examined the elytra, though varying considerably, show at most but little convexity of surface. Among the peculiarities of this species is the continuity of the marginal groove of the thorax, which extends at least to the hind angle, and sometimes passes it and runs for a short distance along the basal margin.

**CALOMACRASPIS.**

_Macraspis_, § 1, Burmeister, Handb. der Ent. iv. 1, p. 345 (1844).

_Antichira_, Div. 1, Blanchard, Cat. Coll. Ent. i. p. 204.

The first division of _Antichira_ seems to me to offer sufficiently well-marked and numerous structural characters to merit generic distinction. It differs from _Antichira_ proper in the following points:—mandibles with the exterior edge rounded, unarmed; clypeus small, and, in the species where it is not concealed by the close sculpture, separated from the forehead by a fine, though broadly interrupted, suture; labrum porrect, horizontal; thorax with a large acute-angular basal lobe (the angles sharply indenting the base of the elytra), and the basal margin on each side very deeply sinuated to the acute and produced hind angle; and tarsal claws in both sexes simple.

Four species are known, from Tropical America, perfectly concordant in the above characters.*

1. **Macraspis splendens.** (Tab. XV. figg. 4; 5, var.)

_Hab._ Mexico 1, Cordova, Orizaba, Parada, Vera Cruz, Chiapas (Sallé), Jalapa, Matamoros Izucar (Höge), Alamos (Buchan-Hepburn).

* One of them is as yet undescribed.—

**Calomacraspis nigripennis.**

_C. Haroldi_ (Candéze) affinis. Late pomaceo-viridis, subitus metaltica, tarsiis cupreo-aureatis, elytris purpurascenti-nigris; clypeo brevissimo arcuato confertim punctato, margine cupreo, sutura frontali medio interrumpit fortiter impressa, fronte crebre punctata; thorace disperse, postice subtilius et sparsius, punctato, lobo basali apice valde arcuato; scutello latissime triangulari, lavi; elytris striato-punctatis, interstitions alternis latissimis punctulatis; pygidio punctulato, subruguloso; processu mesoterni paullo descendenti et curvato, verticaliter exassato, apice haud incassato.

_Long. 18 millim. 2._

_Hab._ Upper Amazons, Ega.
CALOMACRASPIS.—ANTICHIRA.

Apparently an abundant insect in the Province of Vera Cruz. The great majority of the examples are, as Burmeister describes the species, bright metallic green, but individuals occur of a rich reddish-golden hue, with the elytra, as usual, less glittering and golden-green, and others are intermediate between these and the typical state.

2. Calomacraspis concinna. (Tab. XV. fig. 6.)

_Hab._ Mexico¹, Cuernavaca (*Sallé*), Chilpancingo and Iguala in Guerrero, Colima city (*Höge*).

In addition to the colour-variations mentioned by Blanchard, the following may be noticed: vermilion with a golden tinge, and head and thorax dark olive-green with elytra vermilion and golden-red round the edges. A specimen from Cuernavaca is figured.

3. Calomacraspis haroldi. (Tab. XV. fig. 7.)

_Hab._ Guatemala, Sinanja (*Champion*); Nicaragua¹, Chontales (*Belt, Janson*); Panama, Bugaba, Volcan de Chiriqui (*Champion*).

We figure an example from Nicaragua.

ANTICHIRA.


Macraspis, MacLeay, Horse Entom. i. p. 156 (1819); Burmeister, Handb. der Ent. iv. 1, p. 343 (1844).

About 80 species of this beautiful and highly characteristic Tropical American genus have been described. Its limits have been left in much uncertainty by authors who have dealt with it; the grouping of its forms and those belonging to allied genera leading to different results according as the general facies, the size of the scutellum, or the dentition of the tarsal claws are taken as the chief points of distinction; and the graduation from form to form greatly increases the difficulty. I propose here to limit the genus to those species which have exteriorly bidentate mandibles, a more or less large triangular scutellum, the thorax with truncated or sinuated medio-basal lobe, and the mesosternal process well-developed. The mode of dentition of the tarsal claws is treated as a specific or at most a minor group character.

1. Antichira lucida.

_Cetonia lucida_, Oliv. Ent. i. no. 6, p. 75, t. 7. f. 64¹.

_Macraspis lucida_, Burm. Handb. der Ent. iv. 1, p. 349².

_Hab._ Mexico, Cordova, Tuxtla, Santecomapan, Chiapas (*Sallé*), Plan del Rio, Jala. BOL. CENTR.-AMER., Coleopt., Vol. II. Pt. 2, August 1888. 2 MM
(Höge); British Honduras, R. Hondo, R. Sarstoon (Blancaneaux); Guatemala, San Juan in Vera Paz (Champion); Nicaragua, Chontales (Belt); Costa Rica (Van Patten, Rogers); Panama, Chiriqui (Ribbe, Trötsch), Volcan de Chiriqui, Tolé (Champion).—South America, Colombia 1; Venezuela; West Indies, Guadaloupe 1.

2. **Antichira aterrima.**


Hab. Mexico 1 (Sallé, ex coll. Sturm), Ventanas in Durango (Höge); Guatemala, Zapote, San Isidro (Champion).

The majority of our examples are distinguished from the *A. tetradactyla* (Linn.), from Jamaica, by their narrower form, the thorax also being narrowed slightly from the base forward, and the scutellum decidedly narrower. But rare individuals occur which are scarcely distinguishable from Jamaica specimens in these respects. All, however, have the pygidium finely strigose and punctulate throughout, whilst in *A. tetradactyla* this segment is smooth on the basal half. Most Mexican examples have a fine submarginal stria along the hind margin of the thorax on each side, of which there is no trace in those from Guatemala. The whole insect is deep polished black. The closely allied *A. tristis* (Casteln.) from Guadaloupe and St. Martin is distinguished by the numerous smooth sulci of the elytra.

Sometimes found in numbers flying in the hot sun about the anona and other fruit trees (Champion).

3. **Antichira hirtiventris.** (Tab. XV. fig. 10.)

*A. lucida* quoad formam similis, sed differt mesosterni procoena paullo dependenti vix clavato, colore minus late viridi-aneo corporeque subitus toto (ventro sparsius) griso-piloso. Sat anguste oblonga, supra polita fere toto lavis; clypeo quan in *A. lucida* breviore et latius rotundato (fere truncato), margine reflexo; thorace a medio usque ad apicem recte angustato, basi multo minus quam in *A. lucida* flexuoso, juxta scutellum utrique basd anguste sinutato, sed lobo mediano arcuatum emarginato; pygidio lavissimo, marginebus punctulato-strigosis, pilosis. Long. 22-25 millim. ♀ ♂ 2.

Hab. Panamá, Chiriqui (Trötsch), Volcan de Chiriqui 2500 to 6000 feet (Champion).

A large number of examples were captured by Mr. Champion. The brighter green individuals approach *A. lucida* in colour, but the majority are very dark, almost brassy-black. In addition to the points of distinction mentioned above, it may be noted that the conical apex of the pygidium in the male is much less elongated than in *A. lucida*. In the hairy underside the species approaches the Venezuelan *A. pubiventris* (Blanch.); but the latter is very densely clothed beneath and on the legs and pygidium with long tawny hairs, and the upper surface is rather thickly punctulated.

4. **Antichira rufonitida.** (Tab. XV. fig. 9.)

Hab. Mexico, Orizaba, Cuernavaca, Tepansacualco, Juquila (Sallé), Jalapa, Ventanas in Durango (Höge); Guatemala, San Gerónimo, Sabo in Vera Paz (Champion).

The reddish-brown translucent examples which have given the name to the species are apparently not the common, the prevailing colours being rich brassy-green, blue-green, and dark blue. The under surface is more or less hairy, but the strongly inclined and clavate mesosternal process distinguishes the species from A. hirtiventris.

It varies in size from 18–22 millim.

A specimen from San Gerónimo is figured.

5. Antichira catomelæna. (Tab. XV. fig. 8.)

Antichira catomelæna, Dohrn, Stett. ent. Zeit. 1885, p. 79.

Hab. Panam, Chiriqui (Trötsch).

Glossy black, the elytra each with two vitre, and the lateral third of the thorax (enclosing an elongate black spot) orange-yellow. The mesosternal process is horizontal, upturned at the apex. The medio-basal lobe of the thorax is almost imperceptibly produced and very wide and slightly arcuate-sinuate.

6. Antichira chlorophana.

Macraspis (§ Dorystethus) chlorophana, Burm. Handb. der Ent. iv. 1, p. 358.

Hab. Nicaragua, Chontales (Belt); Panama, Chiriqui (Trötsch).—South America, Brazil.

Three examples, agreeing very closely with others from Brazil.

7. Antichira iodiella. (Tab. XV. fig. 11.)

A. calcarata (Spinola) quoad formam et scutellum similis; multo minor, modice convexa, caeruleo- vel violacea-nigra (capite thoraceque interdum obscuro viridi-æneis), polita, supra (clypeo excepto) levissima; clypeo medio crebro semicirculari; thorace a basi usque ad apicem arcuatum (imprimis late deinde citius) angustato, angulis posticis obtusis, lobo medio basali vix perspicue sinuato fere recto, margine basali utrinque late sinuato et depresso, sulco laterali profundo usque ultra angulum posticum continuato; elytris absque sculptura, pone humeros oblique retusis, margine laterali versus humeros incrassato deinde usque ad apicem serrulato. Pygidium cæpi usque ad apicem fere planum, medio levē, limbo strigoso. Femora postica cæpi inermia; mesosterni processus plus minuere inclinatus, apice recurvo acuto. Long. 16–18 millim. cæ penis varii.

Hab. Panama (Trötsch), Volcan de Chiriqui 4000 to 6000 feet (Champion).

Five examples.

PTENOMELA.


2 MM 2
This genus is founded to include a considerable number of species, homogeneous in facies as well as in structural characters, which differ constantly from Antichira in the form of the mandibles, from Thyridium in the size and shape of the scutellum (which is one fourth the length of the elytra and triangular with flexuous sides), and from Chlorota (sensu Lacordaire) in the well-developed mesosternal process. In the truncated basal lobe of the thorax, also, it differs from the two latter genera, which are well characterized by the same part being somewhat strongly rounded over the base of the scutellum.

1. Ptenomela gratiosa. (Tab. XV. fig. 12.)


*Hab. NICARAGUA*, Chontales (Belt 1, Janson); PANAMA, Chiriqui (Trötsch), Bugaba (Champion).

Chiriqui specimens are wholly apple-green, and lack the reddish or coppery colour of the elytral epipleurse which Sharp describes, and which all the Nicaraguan examples possess. One of the latter is figured.

**THYRIDIUM.**


Fourteen species of this genus have been described, all restricted to Tropical America. Its distinguishing characters are:—mandibles rounded (or very slightly sinuated) and unarmed on their outer edge, thorax with rounded medio-basal lobe, and the scutellum small and heart-shaped, or with curvilinear sides.

1. *Thyridium semicinctum*. (Tab. XV. fig. 13.)

_Elongato-ovatum, pomaceo-viride, elytris basi et marginis exteriore dimidio aurantiasco-marginatis, supra toto subtilliter strigulosum et punctulatum, pygidio grossius et transversius strigulosum; clypeo $\delta$ breviter subquadrate, margine antico vix arcuato paullo reflexo et incrassato, $\Omega$ antico medio gradatim subacute producto oblique reflexo nec incrassato; thorace post dimidium rotundato-dilatato, postice perparum antice recte angustate, angulis posticis distinctis paullo obtusis, lobo basali perparum prodotto rotundato, margine utrinque usque ad angulum leviter sinuato et depresso; elytris margine laterali dimidio basali leviter incrassato, intus stria tenui delimitato, dimidio apicali levii. Mesosterni processus crassus, subcylindricus, inclinatus. $\delta$. Tarsi antici ungue majori fuso, 4 posterioriae angulibus simplicibus; pygidio apice breviter conico. $\Omega$. Tarsi omnes ungue majori fuso; pygidio plano, apice parum declivi.

*Hab. PANAMA*, Chiriqui (Trötsch), Volcan de Chiriqui 4000 to 6000 feet (Champion).

**CHLOROTA.**

*Chlorota* (partim), Burmeister, Handb. der Ent. iv. 1, p. 359 (1844); Lacordaire, Gen. Col. iii. p. 317.

Seventeen species of this genus have been described, peculiar, like the preceding
genera of the subfamily, to Tropical America. I follow Lacordaire in limiting it to one only (II. b.) of Burmeister's four sections, in which the mesosternal process is very short and the scutellum small and cordate, but eventually the genus will have to be further subdivided.

Chlorota terminata, Burm. Handb. der Ent. iv. 1, p. 364.

_Hab._ Nicaragua, Chontales (Belt); Panama, Chiriqui (Trötsch).—Guiana, Cayenne.1 2; Amazonas.

An example from Chontales is shown on our Plate.

2. Chlorota cincticollis. (Tab. XV. fig. 16, ♂.)

♀. Chlorota limbaticollis, Blanch. loc. cit. 3.

_Hab._ Mexico, Cordova (Sallé); British Honduras, R. Sarstoon (Blancaneaux), Bonacca Island, Bay of Honduras (Gaumer); Nicaragua (Sallé), Chontales (Belt, Janson).

In the male the thorax is broadly margined with yellow, and the elytra are quite smooth; in the female the sides of the thorax only (sometimes narrowly) are yellow, and the elytra are punctate-striate, with the sides and apex thickly punctured. These differences are found in individuals from all the above localities.

We figure a specimen from Nicaragua.

3. Chlorota flavicollis. (Tab. XV. fig. 15.)

Olongo-ovata, subitus cum pedibus et pygido fusco-cuprea, capite splendide cupreo-aurato, thorace flave aureo-nitente maculisque vagis fuscis, scutello viridi-aurato, elytris fulvo-castaneis levibus; clypeo semi-ovato, subtiliter striguloso, margine reflexo, vertice lavi; thorace subtilissime sparsim punctulato, post medium rotundato-dilatato, postice parum angustato, margine basali utrinque prope scutellum leviter sinuata, lobo mediano levissime rotundato. Pygidium sat acute et dense confluentem strigosum, apice laterali subtus compressum. Mesosterni processus brevi acuminatus; pectore rufo-birto. ♂. Tarsi antici ungue majore crasso soso, 4 posteriores ungibus simplicibus.

Long. 23 millim. ♂♀.

_Hab._ Panama, Bugaba (Champion).

Three examples, all males.

The mandibles are unarmed on the outer edge, except for the dentiform recurved outer angle, in which they differ from those of the strongly dentated _C. haemorrhoidalis_, the type of the genus (sensu Lacordaire). The labrum is short and horizontal, with a well-defined bisinuated front edge; in _C. haemorrhoidalis_ it is deeply and broadly sinuated, nearly bilobed.


**Hab.** Guatemala.

Diffs somewhat in colour ("fulvo-testacea, scutello flavo, . . . . metathorace obscuro") and widely in sculpture ("prothorace inequaliter sat fortiter punctato . . . . elytris seriisim punctulatis") from *C. flavicollis*. The sculptured elytra may be a sexual character, as in *C. limbaticollis*, but the sex is not mentioned in the diagnosis. The species is not contained in our collections.

5. Chlorota (?) belti. (Tab. XV. fig. 17.)

Late et regulariter ovata, alae convexae, castanea, pilosa capite thoraceque emeso-reducentibus, subtus cum pedibus pallidior rufo-maculata, tarsis nigris; clypeo (?) semiovato; granulato-ruguloso; thorace sparsissime punctulato, longe post medium subangulatim dilatato, angulis anticus acutis, lobo medio basali recte truncato, exstus margine fortiter sinuato; scutello lato triangulare, lateribus leviter arcuatis; elytris stris punctatis 10, interstitio paullo convexa levibus, 2<sup>°</sup> lato medius confusae punctatae, margine laterali medio callo lato elongato levii; pygidio plano transversim striato, punctulato rufo-pilosae; corpore subtus rufo-pilosae, medio levii. Tarsi anteci ungue majore basi spinis brevi armato, 4 posteriores unguiis fuscatis. Femora postica latissima. Mesosterni processus fossa horizontalis planus, apice acuto curvato.

**Hab.** Nicaragua, Chontales (Belt). One example only.

Belongs to Burmeister's Section II. a of *Chlorota*, and allied to *Chlorota associata*, Waterh. The mandibles and labrum differ but little from those of *C. flavicollis*. The species with its allies, judging from the scanty material before me, seem to belong to a different generic type from *Chlorota*.

Group RUTELINA.

RUTELISCA.


An interesting form, intermediate between the true Rutelis and the Cyclocephali, and having a marked affinity with the Indian and Malayan genus *Parastasia*. The insect on which it is founded is no doubt that mentioned by Lacordaire in a note on the genus Chalcenitis (Genera Col. iii. p. 353).

1. Rutelisca flohri. (Tab. XV. figg. 18 ♂, 19 ♀.)

Oblongo-ovata, convexa, nigra, subeunea, ♀ unicolor, ♂ verticis macula thoracee vitta laterali (macula nigra includenti) signaturiae discoidalibus, elytris macula rotunda utrinque basali margineque posteriori,

...
femoribus et tibis anteriores intus, flavis. Thorax lateribus sat regulariter arenavus et anguste marginalis, sparsim punctulato; elytris striato-punctatis vix impressis; pectore nigro-fusco, villoso. 

Long. 15–17 millim. \( \sigma \) ?.

**Hab.** MEXICO, near the city \( \dagger \) (Flohr), Duraznal (Sallé).

I received the first example (a male) seen of this species from Mr. Julius Flohr, sent from the city of Mexico.

**Rutela.**


Nine species of the genus *Rutela*, as restricted by Burmeister and Lacordaire, have been described, all from Tropical America. It is remarkable that no fewer than five of the number are restricted (or nearly so) to the islands of the West Indies.

1. **Rutela striata.**

*Cetonia striata*, Oliv. Ent. i. no. 6, p. 79, t. 11. fig. 102 1.


**Hab.** MEXICO, Tehuantepec (*Sumichrast, in coll. Sallé*).—WEST INDIES, Guadaloupe 12.

Apparently common in the island of Guadaloupe. In the Mexican collection of Sallé there is only one example, which is perfectly similar to the ordinary black form from Guadaloupe, and must be considered a doubtful native of the mainland.

2. **Rutela specularis.** (Tab. XV. fig. 20.)

Elongato-ovata, supra levissima, sanguinea, vertice lateribus, thorace vittis dorsalisibus duabus antice abbreviatis, acetello elytrisque fascis duabus subflexuosis (prima obliquus ante medium latera baud attingenti, secunda laiore apicali), nigris; subitus nigro-parsilia, pedibus nigris partim castaneo-rufis: capite sparsim punctulato, clypeo ante bidentato; thorace angusto et elongato, post medium subangulatum dilatato, angulis posterioribus obtusis sed distinctis vel subrectis, margine basali medio late rotundo leviter producto utrinque versus angulum sinuato; elytris anguste marginatis (striola marginali prope medium duplicata); pygidio levi, basi tanti sparse striguloso, sanguineo apico nigro; metasterno polito, inter coaxis intermediis late producto, apice obtuso. Pygidium, \( \sigma \), ante apicem valde rotundato-convexum, \( \varphi \) apice verticaliter declive et concavo.

**Variat:** toto nigra.

**Long.** 15–17 millim. \( \sigma \) ?.

**Hab.** MEXICO, Playa Vicente (Sallé).

Three examples only of this very distinct species have been received.

3. **Rutela sanguinolenta.**


The single example from Costa Rica is of the typical colours of the species as described
by Waterhouse, i. e. elytra bright red with a central black fascia. Some examples from Colombia and Panama have the elytra entirely red, or black with a basal fascia only red.

4. Rutela viridiaurata.

Oblongo-ovata, viridi-aurata, resplendens; capite fere laevi, clypeo breviter et obtuse bidentato, reflexo; thorace laevi, medio sat late rotundato, sulco marginali lato transversim strigoso, angulis posticis subrectis, margine basali medio late recto, versus angulum utrinque valde sinuato iambique basi elytrorum sublobato penetranti; elytris disco striato-punctulatis, lateribus late impunctatis, interstitiisque lato subsuturali confuso punctulato. Pygidium (♀?) valde convexum, sparse ramoso-strigulosum, margine apicale arcuatus sinuato. Processus sternalis conicus, crassus.

Long. 14 millim.


**CNEMIDA.**


Peculiar to Tropical America. Two species only have been described, but several others are known in collections.

1. _Cnemida aterrima._ (Tab. XV. fig. 21.)

_C. retusa_ affinis, differt colore ebenino-nigro politissimo, elytris interdum litura parva mediana transversa fulva; thorace aequaliter convexo, absque foveis et strigis; elytris levibus, foveola ramosa profunda basali (fundo lineatim punctata) altera parva laterali; pygidio medio laevi lateribus et apice strigoso, ♂ apice magis, ♀ minus, convexo.

Long. 12-13 millim. ♀ ♀.

_Hab._ Mexico (Sallé, in coll. Sturm), Santecomapan (Sallé), Misantla (Höge); Guatemala, Chacoj (Champion); Nicaragua, Chontales (Belt, Janson).

Many examples. I have adopted the MS. name which this species bears in the Sallé collection.

A Chontales specimen is figured.

2. _Cnemida intermedia._

_Ebenino-nigra_, sola, elytris medio fascia angusta flexuosa fulva, thorace medio convexo laevi (subtiliter sparsum punctulato) dorso anteriore utrinque fovea magna ramosa, altera parva versus angulum posticum, et totalim laterali acute flexuoso-strigosis; elytris levibus, in foveolis et versus apicem lineolis impressis punctatis. Pygidium ♀ ♀ inaequaliter convexum, lateribus multi-retusum, strigosis, medio tantum levissimum.

Long. 10-11 millim. ♀ ♀.

_Hab._ Nicaragua, Chontales (Belt); Panama, Tolé, David (Champion).

Three examples.

In sculpture this species or subspecies more nearly resembles the South-Brazilian _C. lacerata_ (Germ.) than the _C. retusa_ of Guiana and the Amazons valley. It differs
from both *C. lacerata* and *C. retusa* only in the black colour of body and limbs, and in the more triangular emargination of the basal lobe of the thorax.

**PELIDNOTA.**


Sixty species of this fine genus have been described. It is, like the preceding genera, American, but has a wider range, being spread over the temperate zone of North America, and in the South extending to the latitude of Buenos Ayres.

1. **Pelidnota belti.** (Tab. XV. fig. 22.)


*Hab.* NICARAGUA, Chontales (*Belt* 1, *Janson*); PANAMA, Chiriqui (*Trötsch*), Volcan de Chiriqui 4000 to 6000 feet (*Champion*).

Many examples, including type specimens named by Sharp. It is the only species in our fauna belonging to Burmeister's first section with bidentate clypeus.

A specimen from Chiriqui is shown on our Plate.

2. **Pelidnota notata.** (Tab. XV. fig. 23.)


*Hab.* MEXICO 1, Tlacotalpam (*Sallé*); GUATEMALA, Cerro Zunil, El Tumbador (*Champion*); NICARAGUA, Chontales (*Belt, Janson*); COSTA RICA (*Rogers*); PANAMA, Chiriqui (*Ribbe, Trötsch*), Bugaba, Tole (*Champion*).

An elongate-oblong reddish-testaceous species, having three black spots on each elytron in the same position as those of the common North-American *P. punctata*, but the spots are much smaller and sometimes absent. The elytra are somewhat flattened and dull silky-shining owing to the extremely fine punctate-granulate sculpture, and the sutural apex is produced into a distinct spine. The upper surface (including the crown) is unicolorous, except for the slight metallic tinge of the head, thoracic margins, and scutellum. The under surface is dark brassy, punctate-shagreened, and clothed with grey hairs, the legs being testaceous-red, rarely metallic.

We figure an example from Tlacotalpam.

3. **Pelidnota prolixa.** (Tab. XV. fig. 24.)


*Hab.* NICARAGUA, Chontales (*Belt* 1).

Very closely allied to *P. notata*; still more elongate and depressed, the elytra much
more finely but similarly granulated, and the hind angles of the thorax subrectangular (rounded in *P. notata*), and the underside and pygidium rufous.

### 4. *Pelidnota costaricensis*. (Tab. XVI. fig. 1, ♀.)

*P. punctata* affinis; supra testacea, polita, viridi-aeneo tincta, fronte et vertice, scutello elytrorumque sutura lastius viridi-aneis, elytris utriusque punctis 3 nigris; corpore subtus et pygidio saturatius viridi-aneis politis; pedibus anticus rufis, femoribus 4 posterioribus et tibias extus dimidio viridi-aneis; capite grosse, clypeo confluenter punctatis; thorace lateribus latius quam in *P. punctata* rotundatis, angula posticae obtusis vel rotundatis, sat grosse discrete punctato; elytris disperse subtiliter punctatis (et interdum striato-punctatis) nec subtilissime granulato-punctulatis, sutura apice brevissime acuto. Clypeus ♂ subsinuatim forte angustatus, apice haud late reflexo leviter sinuato, ♀ valde sinuatum angustatus, apice subrostrato reflexo truncato. Pygidium ♂ valde convexum, disperse punctatum, medio laxe, ♀ parum convexum, lateraliter compressum.

Long. 24–28 millim. ♂ ♂.

*Hab.* COSTA RICA *(Van Patten)*, Cache *(Rogers)*. Nine examples.

Var. *P. guatemalenesis*. Differt tanta, elytris immaculatis, crebris punctulatis, pygidioque (♂) dense punctulato-striguloso.

*Hab.* GUATEMALA *(Sallé)*, Capetillo *(Champion)*; BRITISH HONDURAS, R. Sarstoon *(Blancaneaux)*.

In colour of body and legs this variety much resembles *P. virescens*, especially the Guatemalan form, the latter, however, is more elongate and more brilliantly réluent, besides wanting the brassy-green bilobed spot on the vertex. The head, moreover, is smaller in the present species, and the clypeus in the male very different, being triangular, and not rounded.

### 5. *Pelidnota virescens*. (Tab. XVI. fig. 2, ♀.)


*Hab.* MEXICO 12, Ventanas in Durango, Jalapa, Tacombaro *(Höge)*, Ciudad in Durango, Presidio, San Blas *(Forrer)*, Cuernavaca, El Camaron, Vera Cruz *(Sallé)*.

This species is distinguished by its testaceous-yellow colour (clypeus concolorous) and its brilliant glassy silvery-green lustre. But it varies much in outline and convexity and sculpture, the elytra especially, which in the typical state are punctulate-striate with convex interstices, being sometimes smooth with very fine striae and flat interstices. In the typical form the underside of the body and pygidium are brassy-green, and the legs testaceous, more or less inclining to brassy-green on the femora and tibiae. In some localities varieties occur which, although not very constant, depart so much from the type as to merit separate mention:—

Var. 1. Elytra striis minutis impressis interstitiisque pliniissimis.

*Hab.* MEXICO, Acapulco *(Höge)*, Vera Cruz *(Sallé)*.

Var. 2. *P. aurecens*. Supra aurecenti-relucens; clypeus in ♀ antice plerumque angustato, apice reflexo subsinuato. (Tab. XVI. fig. 5.)
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_Hab._ Guatemala, El Tumbador, Cerro Zunil, Volcan de Atitlan, San Isidro, Las Mercedes, Pantaleon (Champion).

Var. 3. _P. jalapensis._ Minus elongata, elytris pallo grossius punctato-striatis, sutura apice minime spinosa, pygidioque semper apice lato pallide testaceo; elytris in _♂_ antice angustato, apice reflexo subsinuato. (Tab. XVI. fig. 4.)

_Hab._ Mexico, Jalapa (Höge).

A large number of examples, nearly all males; the few females have the pygidium vaguely pallid at the apex, and transitions occur between them and _P. virescens_, type form.

Var. 4. _P. chalcopeus._ Supra toto saturate cupreo-viridis resplendens, elytris fulvo-castaneo-translucentibus; pedibus viridi-cheneis, femoribus paullo rufo-translucentibus. (Tab. XVI. fig. 3.)

_Hab._ British Honduras, Cayo (Blancaneaux); Guatemala, San Isidro, Las Mercedes (Champion).

Two examples (male and female, the female duller in colour) from Cayo have smoother elytra than others of the same colour from Guatemala, but not smoother than individuals from Acapulco, and less smooth than one from Vera Cruz. Gradations exist between them and the var. _aurascens._

6. _Pelidnota cupritarsis._

_P. lucida_ quam proxime affinis. Elongata, flavo-testacea vix cheneo-tineta, corpore subtus pedibusque viridi-cheneis his rufo-translucentibus, tarsiis lactissime igneo-aureis.

Long. 26-27 millim. _♀_.

_Hab._ Panama (coll. Bates).—Colombia, Sierra Nevada de Santa Marta.

Very closely allied to the common _P. lucida_ of Venezuela, with which it has in common the immarginate base of the thorax, a character which would remove it not only from _Pelidnota_, but from the group to which _Pelidnota_ belongs, if it were necessary to adhere to a single feature, in violation of all other signs of true affinity. It differs from _P. lucida_ in the absence of _œœneous_ gloss, except on the sides of the head and thorax, and in the rich coppery-red tarsi. The under surface of the body, legs, and pygidium are rich metallic green, and, except in the middle of the body, strigulose-punctulate. The elytris is subtriangular (_♀_), with the sides sinuated and the apex reflexed and truncate or obtuse. The thickened margin of the elytra extends to within a short distance of the sutural apex, which latter is simple, rectangular, or obtuse.

The species answers in some respects to the imperfect description given by Latreille of his _P. polita_, from Cuenca in Peru.

7. _Pelidnota_ —— ?

_Hab._ Panama, Chiriqui (Trötsch).

A single, very imperfect, specimen of a distinct species.
8. Pelidnota strigosa.  (Tab. XVI. fig. 6.)


_Hab._ Mexico ¹ Cordova, Tuxtla, Vera Cruz (*Sallé*), Jalapa, Misantla, Tapachula in Chiapas (*Höge*); Guatemala (*Sallé*), Zapote, San Isidro, Esquintla, El Reposo (*Champion*); Nicaragua, Chontales (*Belt, Janson*), San Lorenzo (*Janson*); Costa Rica (*Van Patten, Rogers*); Panama, Volcan de Chiriqui (*Champion*).

Distinguished by its very elongate-ovate form; the elytra gradually flattened behind, with long and sharp sutural spine, and the thickened reflexed lateral margins continued nearly to the apex. In Mexico and Guatemala the colour is almost always testaceous-yellow, with strong brassy or golden reflections, but some Guatemalan examples are rich dark coppery with brassy-green reflections. The legs are coppery or reddish, with brassy femora. An example from Cordova is figured. In the southern parts of our region, according to the few examples received, the species is represented by a tolerably well-marked local variety:—

Var. _P. alataea._ Caput et thorax densius punctata hoc punctis minutis intermixtis, versus latera punctulato-obtusae, subopaco; corpora subtilis cum pedibus subratis viridi-anee, pedibus nigris vel pilosis.

_Hab._ Costa Rica (*Van Patten*); Panama, near the city (J. J. Walker), Volcan de Chiriqui (*Champion*), Chiriqui (*Ribbe*).

9. Pelidnota punctulata.  (Tab. XVI. fig. 7.)


_Hab._ Mexico, Vera Cruz, Cordova, Campeachy (*Sallé*), Jalapa (*Höge*), Temax in North Yucatan (*Ganwan*); British Honduras, R. Hondo, Cayo (*Blancaneaux*); Guatemala, Zapote (*Champion*); Nicaragua, Chontales (*Belt*).

Varies greatly in the amount and strength of the punctuation of the elytra. We figure an individual from Cordova.

Group PLUSIOTINA.

PLUSIOTIS.


Twenty-two species of this superb genus have been described. It is highly charac-
teristic of the Central-American region, including the southern borderlands of the United States. I have seen two species only (one of which belongs to the burnished-metallic group of the genus *) from South America. *P. latifrons*, Sturm (=*P. psittacina*), the type specimen of which is in the Sallé collection, is a Mexican species recorded erroneously from Chili.

1. **Plusiotis victorina.** (Tab. XVI. fig. 13, ζ.)


*Plusiotis victorina*, Burm. Handb. der Ent. iv. 1, p. 418².

*Hab.* **México**¹, Tepansacualco (Sallé), Oaxaca (*Höge*; Fenochio, in coll. Bates), Villa Alta in Oaxaca².

Burmeister places this remarkable species at the head of the genus.

An example from Tepansacualco is shown on our Plate.

2. **Plusiotis boucardi.**


*Hab.* **Costa Rica** (*Van Patten*), mountains of Candelaria 5000 feet (*Boucard¹*).

Most examples are smaller than *P. victorina* (27–32 millim.), to which it approaches in the dark brick-red colour with coppery tinge of the underside, and in the sculpture of the elytra. The whole upper surface is apple-green, with yellowish reflections. The pygidium in the male is strongly convex near the apex, in the female convex in the middle with retuse compression on the sides. The mesosternal process is subelongate and acutely conical as in *P. victorina*.

3. **Plusiotis aura.**


*Hab.* **Panama**, Veraguas¹.

I know this species only from the description and figure given by Boucard; the following is a variety, or possibly the typical form of it:—

Var. **Plusiotis chrysopedila.** (Tab. XVI. fig. 12.) Elongato-oblunga, pomaceo-viridis rufescenti-relucens,

*Plusiotis argenteola.*

*P. repleinensi* affinis, splendidissime argentea subaestata, sed quasi formam valide differt, magis elongata elytrisque ad tridentem aequalem latioribus. Clypeus (♂?) antice sinuato-augustatus, margine apicale reflexo et sinuato; capite et thorace distincte disperse punctulatis et crebre subtilissime vix impresso punctulatis; elytris striato-punctulatis, interstitionibus punctulatis, margine laterali tenui usque propo apicem continuato, versus basin verticaliter dilatato, intus stria punctata delimitata; subust splendide aurata, tibiis rosaceis, tarsis nigris. Mesosterni processus acuto conicus, validus. Pygidium versus apicem valde convexum, punctulatum, glabrum.

Long. 32 millim. 3.

*Hab.* **Colombia**, inter Pasto et maris Padidel littorae.
marginibus elytrorumque sutura flavescentibus, subitus submetallico-viridis plus minusve rufo-micans, tarsi igneo-aureis; capite Panama, capite Panama, pygidio 278 Long. 28-33 from guishable Plusiotis sexes. characters punctulatis, inculminate de in P. protuberance marginata. One Eighteen Hab. in P. Twenty-five Chiriqui marginata. of the feet P. resplendens. This bears a label in M. Boucard’s handwriting “Plusiotis aurora, var., Boucard.” This species, therefore, is that which he describes (Proc. Zool. Soc. 1875, p. 119) as a doubtful green variety of his P. aurora. The specimen figured is from the Volcan de Chiriqui.

4. Plusiotis marginata. (Tab. XVI. fig. 11.)


Hab. Panamá, Chiriqui (Trötsch), Volcan de Chiriqui 2500 to 6000 feet (Champion).

The pygidium is strongly convex near the apex in both sexes. The males are distinguishable by the larger claw of the anterior tarsi being much longer and broader than in the females.

5. Plusiotis resplendens.


Hab. Costa Rica (Van Patten, Rogers), near San José (Boucard1); Panamá, Volcan de Chiriqui 4000 to 6000 feet (Champion).

Twenty-five examples. In this pale golden, very highly polished, almost silvery species the clypeus is a little narrowed near the apex in both sexes, and the apical margin reflexed and often distinctly sinuated. It is remarkable for the form of the mandibles, which show a tendency to reversion to the Pelidnota type, for their outer edge is not broadly rounded, but more or less sinuated, and in some examples very obtusely bidentate. The pygidium is clothed with long, stiff, tawny hairs on its posterior half; it is slightly more convex in the male than in the female, but has not the convex protuberance near the tip, which is so pronounced in P. aurora, var. chrysopedilia, and P. marginata. The larger anterior claw of the male is much longer and broader than in the female. The size ranges from 22 to 27 millim.
This and other species of Plusiotis (as well as Thrydium and various Antichira) were met with flying in the hot sun about the tops of trees on the margin of a lagoon in the dense forest; numerous living and dead specimens of these (as well as vast numbers of Dynastidae and other Lamellicornia) were also found submerged in the water or cast up on the banks (Champion).

6. Plusiotis optima. (Tab. XVI. fig. 10.)

Elongato-ovata, prope elytrorum basin valde convexa fere gibosa, politissime aureoscenti- vel igneo-cuprea, elytris certo situ leviter fulvo-translucentibus, subitus cum antennis, epipleuris, pygidio et pedibus rufoscentiluteois, tarsis cuprascentibus; capite sat sparsim punctato, clypeo semiovato margine leviter reflexo; thorace brevi et lato, ante medium valde angulatim dilatato, lateribus antice et postice sinuatatis, angulis antecis prolongatis acutis, postecis acutis, sulculo marginali lato et profundo, margine postico sulculo medio late interrupto; elytris levibus vix perspicue obsolete striatis, margine laterali usque ultra medium paullo incrassato-reflexo, callo apicali valido subconico; pygidio sparse punctulato, convexo, margine apicali supra anum alte elevato medio acutus reflexo; pedibus fere impunctatis; mesosterni processus valde elongato, spiniformi.

Long. 26 millim. ♂.

_Hab. Costa Rica_ (Van Patten).

One example only, from its short, squarely emarginated, apical ventral segment undoubtedly a female. The species differs in many respects from all its congeners, and from the nearly immarginate base of the thorax might be considered to approach Thrydium or Ptenomela more nearly than any genus of the Pelidnota group, but the marginal sulcus near the posterior edge of the thorax is scarcely impressed in other species of Plusiotis. The rich red-golden hue of the upper surface and mirror-like polish make it one of the most conspicuous species of a genus remarkably for metallic splendour.

7. Plusiotis batesi.


_Hab. Costa Rica_ (Van Patten), Volcan de Irazu.

Twelve examples, both sexes. The clypeus in the male is obtusely rounded in front, and in the female a little more elongate and produced, with the slightly reflexed apical margin more or less sinuated. The mesosternal process is rather short, but acute, and not conical or thick vertically. It is a large (32 millim.) and somewhat narrowly oblong species, with relatively narrow thorax widened before the middle. The colour in the fresher examples is more silvery than in _P. resplendens_, but less purely white than in _P. chrysargyreus_.

8. Plusiotis chrysargyreus. (Tab. XVI. fig. 9.)


_Hab. Costa Rica_ (Van Patten, in coll. Sallé); _Panama_, Volcan de Chiriqui 4000 to 6000 feet (Champion).
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LAMELLICORNIA.


Hab. Costa Rica, Candelaria Mountains.

Six examples; all of a silvery hue, like a ball of mercury, to which Sallé aptly compares it; the sides of the breast beneath and legs being of the usually smooth subOpaque pinkish-clayey hue characteristic of the undersides of all the allied species, but with the centre of the sternum (including the hind trochanters) and abdomen greenish-silvery polished and the tarsi rich violet. The variety described by Boucard is not contained in our collections.

The specimen figured is from the Volcan de Chiriquí.


Hab. Mexico, Orizaba (Sallé).

A small, rather oblong species, with a roughly granulate-rugose pygidium, a burnished silvery apical callus, and a long and slender sternal process. The elytra are somewhat regularly punctate-sulcate, with the alternate interstices (four on each elytron) irregularly punctured, as in P. auripes. The sides of the thorax are broadly rosy-red.

10. Plusiotis lacordairei.


Hab. Mexico, Juquila and Las Peras in Oaxaca (Sallé).

Very closely allied to P. badeni, but the silvery apical callus is larger and still more brilliant and the sides of elytra and body have a silvery lustre; the sternal process is only about one half the length, though very acute; and the pygidium is much less roughly punctate-rugulose. The thorax is destitute of red lateral vitta. Three examples, including both sexes.

11. Plusiotis sallaei.


Hab. Mexico, Orizaba (Sallé), Jalapa (Höge).

Nearly allied to the two preceding, but larger and (in the female) broadly ovate, with remarkably long tapering clypeus; the pygidium thickly punctured, without rugae. The sternal process is nearly as long as in P. badeni and the sides of the thorax are rosy-red as in that species. The apical callus of the elytra is scarcely shining. Three examples, all females.

12. Plusiotis auripes.

Chrysina auripes, Gray in Griffith's Anim. Kingd., Ins. i. p. 517 (1832).
The general form of this species is not described by Gray nor Burmeister, but they note the convex, alternately punctured and smooth, interstices of the elytra, and golden-green tarsi. Boucard, who states that he possesses Gray’s type-specimen, describes its form as “oblongo-ovata,” and decides, after careful examination of authentic examples of both species with the aid of Mr. C. O. Waterhouse, that it is specifically distinct from the following, with which it was united by Burmeister.

13. **Plusiotis psittacina.**

*Pelidnota psittacina*, Sturm, Cat. edit. 4. p. 340, t. 3. f. 6, c. 1.

*Plusiotis auripes* (Gray), Burm. Handb. der Ent. iv. 1, p. 410.


*Plusiotis amalia*, Burm. Handb. der Ent. iv. 1, p. 422.

*Hab. Mexico* 1 (Sallé, ex coll. Sturm).

There are two examples of this species in the Sallé collection, named by Sturm with the synonym on the label in his handwriting “*P. auripes*, Gray.” Sturm therefore considered his species to be the same as the earlier described *P. auripes*. The insect is 33 millim. long, of elongate oblong shape, even in the female, and wholly clear apple-green, slightly metallic on the underside, epipleurae, and legs, the tarsi more brilliant metallic green. The elytra are irregularly punctured on the alternate interstices (second, fourth, sixth, and eighth) and minutely punctulated throughout; the head and thorax are somewhat closely punctured, with the interstices minutely punctulated; and the pygidium punctulate-strigulose. The sternal process is very short, slightly projecting and conical.

The type-specimen of *P. lata* (Sturm) is contained in the Sallé collection; it is evidently a small and somewhat deformed example of *P. psittacina*. According to the label, Sturm regarded it as synonymous with *P. amalia*, Burm., and as such it has been classed by subsequent authors. Sturm gave the locality as “Brazil,” Burmeister as “Valparaiso”; but the insect is most certainly Mexican. It is to be remarked that Burmeister placed his *P. amalia* in a different section (sternal process very short) of the genus from *P. auripes* (sternal process projecting as a strong cone beyond the middle coxae). In both of Sturm’s species, *P. psittacina* and *P. lata*, the sternal process is of the same length, very short, and only slightly projecting.

14. **Plusiotis costata.** (Tab. XVI. fig. 14, ε; 15, θ var.)


*Hab. Mexico* 1, Orizaba, Mirador (Sallé), Jalapa, Misantla (Höge).

More than fifty examples, offering scarcely any differences of form or punctuation. It is a broadly-ovate species, the outline being due to the flattened expansion of the sides (including the marginal rim) of the elytra; the convex interstices are smooth, except the second, and towards the base the sixth, both which are irregularly punctured. The pygidium is minutely punctured, and not closely strigulose as in _P. psittacina_; and the sternal process is more than twice as long as in that species and conical. Blanchard described _P. costata_ from a singular colour-variety, clayey reddish-tawny, which proves to be a rare exception; the great majority of our specimens being apple-green, with the apical callus concolorous, and the thickened margins of the elytra and the tarsi sometimes golden. Intermediate examples occur in which the upper surface has strong yellow reflections. The pygidium in the female is flattened to the apex, in the male it is evenly convex. The size varies from 25 to 35 millim.

15. **Plusiotis chlores**. (Tab. XVI. fig. 16, ♂.)

_P. costata_ proxime affinis, sed minor, oblonga, thorace postice angustiore angulisque anterioribus valde puncateis, acutis; elytris profundius punculato-sulcatis lateribusque proprie medium multo minus explanatis cum margine minus incrassato; teto late pomaceo-viridis, tarsis viridi-metallicis; ♂ clypeus sicut in _P. costata_ ♂, apices anguste sinuato; pygidium differt ante apicem protubernanti-convexo. Processus sternalis paullo longior, acute conicus. ♀? Elytra versus apicem paullo dilatatae margineque usque prope apicem incrassato.

Long. 25 millim. ♂ ♀?

_Hab._ México, Volcan de San Martin (Sallé).

The second and sixth elytral interstices are, nearly as in _P. costata_, irregularly punctured towards the base. This mode of sculpture and the much longer sternal process distinguish the species from _P. psittacina_, which it resembles in the oblong form of the body. The female example, very imperfect, is from Orizaba (Sallé).

16. **Plusiotis prasina**.


_Hab._ México †, Orizaba, Yolos (Sallé).

Three examples, including, according to Boucard, a type-specimen. Length 30 millim. ♂ ♀.

Closely allied to _P. laniventris_, the sides of the abdomen and the pygidium in the male thinly clothed with long hairs. _P. prasina_ differs, however, from that species in the outer side of all the tibiae being smooth and not scabrous, and in the entire upper surface, but especially the elytra, being much more finely and smoothly punctured, though in both the species the punctuation extends over the whole elytra. The punctured striae are scarcely impressed. The female in both species has the same broadly-ovate outline, with the sides broadly expanded and the outer margin flexuous or arcuated. The legs are of a pinkish-clayey hue, the femora greenish, the tarsi
golden-green, but the claws generally piceous. The sternal process is very short and conical.

17. **Plusiotis laniventris.**

♀. *Pelidnota laniventris*, Sturm, Cat. 1843, p. 339, t. 3. fig. 5.

*Plusiotis laniventris*, Burm. Handb. der Ent. iv. 1, p. 420.

*Hab. Mexico* 1 2 3 (*Salle, ex coll. Sturm, ♂ ♀*), Jalapa (*Flohr, Höge*).

The male only has the abdomen and pygidium clothed with long soft blonde hairs; the pubescence of the sternum is also longer and denser than in the allied species. The elytra are coarsely and rugosely punctured throughout and furrowed with deep punctured striae. All the tibiae are very coarsely scabrose-punctate on their outer sides.

18. **Plusiotis adelaide.** (Tab. XVI. fig. 17.)

*Pelidnota ornatisima*, Sturm, Cat. 1843, p. 341, t. 3. fig. 7.

*Hab. Mexico* 1 2 4, La Parada near Oaxaca 3 (*Salle*), Jalapa, Oaxaca (*Höge*); **Guatemala**, San Gerónimo (*Champion*).

Fourteen examples, including all colour-gradations from the green type-form with silvery elytral vittae to a dark coppery-red with silvery-green vittae, and the type-specimen of Sturm’s *P. ornatisima*, which is intermediate in colours. The sternal process is very short and obtusely triangular. An example from La Parada is figured.

19. **Plusiotis rodriguezi.**


*Hab. Guatemala*, near the city (*Rodriguez* 1), Totonicapam, Quiche Mountains 7000 to 9000 feet (*Champion*).

An oblong apple-green species with silvery tinge, not unlike *P. lacordairei*; the humeral and apical calli of the elytra and margins are polished silvery-green, and the underside, femora, and tarsi metallic light green, with the sternum and legs and sides of abdomen clothed (in the male) with blonde pubescence as long and dense as in *P. laniventris*. The outer sides of the tibiae are reddish. The sternal process is extremely short, tuberculiform, and polished.

20. **Plusiotis lecontei.** (Tab. XVI. fig. 19.)

*Plusiotis lecontei*, Horn, Trans. Am. Ent. Soc. x. p. 120.

*Hab. North America*, Arizona 1, New Mexico 1—**Mexico**, Pinos Altos in Chihuahua (*Buchan-Hepburn*), Ciudad in Durango (*Forrer*), Suapan, Volcan de Orizaba (*Salle*).
An oblong species of dark-green colour with strong metallic gloss, especially on the margins, scutellum, abdomen, and pygidium; the elytra punctulate-sulcate; and the head (especially the clypeus) smaller than in the allied species. The sternal process is very short, tuberculiform, and hidden in the long fulvous villosity of the pectus.

The Orizaba example in the Sallé collection is much larger than those from northern localities (30 millim., σ).

A specimen from Ciudad is figured.


_Hab._ NORTH AMERICA, Rio Grande¹, Texas.—MEXICO, Pinos Altos in Chihuahua (Buchan-Hepburn).

We have only one much damaged example of this distinct species, which is regularly and rather distantly punctured (without impressed strim) over the elytral surface. The colour is a beautiful light green, metallic on the under surface. The sternal process is very short, tuberculiform.

22. Plusiotis chalcothea. (Tab. XVI. fig. 8.)

_Elongato-oblonga, convexa, saturatus fusco-aenea, nitidissima, viridi-ameo-relucens_; capite parvo, dense punctato, vertice laviore; clypeo antice triangulari, apice anguste producto et reflexo, σ breviore, Φ longiore; thorace convexo a basi ad apicem curvatum angustato, angulis anticas obtusis, posticis subrectis, margine basali medio subinterrupto, supra disco minutissime sparsim punctulato vel lavi, lateribus et sulculo marginali grossius et erembris punctatis; elytris punctulato-striatis, stria suturali versus apicem profunde impressa, margine laterali (σ Φ) tenui. Pygidium (σ Φ) medio crister convexum, sparsim longe pilosum, minute punctulatum vel strigulatum vel fere lave, splendide viridi-ameo. Subtus cum pedibus viridi-aeneis, nitida, his plus minusve piceo-rufe-translucentibus, pectore et abdomen lateribus longe fulvo-villoso. Sterni processus minutus, tuberculiformis.

Long. 25-31 millim. σ Φ.

_Hab._ COSTA RICA (Van Patten).

This species approaches the Colombian _P. anomala_ (Burm.) in some of its characters, but it is a more typical _Plusiotis_; the postcoxal process of the pro sternum is well developed, but bends at an obtuse angle, and the apical part between the coxae is unusually broad.

Eight examples.

23. Plusiotis mnizechii.


_Hab._ MEXICO¹.

This species is not contained in our collection.
CHrysina.

CHysina.


Like Plusiotis, a characteristic Central-American genus, containing species of large size and beautiful colours; but differing as regards distribution in being confined to Mexico. The characters which distinguish it from Plusiotis are almost solely derived from the males, this sex having enormously developed hind legs, the females being Plusiotes in everything except the convexity or protuberance of the hind part of the postpectus and the inner end of the posterior coxae—a peculiarity developed in far greater degree in the male, but transmitted in part to the female.

1. Chrysina macropus.

♂. Scarabæus macropus, Francillon, Descri. of a new and rare insect from Potosi, 1795, tab. 3; Shaw, Nat. Miscell. tab. 384.


Chrysina mexicana, G. R. Gray, Griffith’s Anim. Kingd., Ins. i. p. 517, t. 46. fig. 1.


Hab. Mexico, San Luis Potosí, 1, Orizaba (Sallé), Misantla, Jalapa (Höge).

The males vary much in size, and correspondingly in the convexity or protuberance of the hind part of the postpectus and the inner condyle of the coxae to which the monstrous hind femora are articulated. The condyle, the trochanters (at least their outer sides), and the anterior edge of the coxae are blackish or dark green in both sexes; and in the female the epipleural fold of the elytra terminates abruptly, forming a short lobe for the grasp of the vigorous males in copulation.

I cannot but consider the following to be varieties of C. macropus, but they are varieties of singular interest as resting chiefly on modifications of the sexual characters, and at the same time local.

Var. C. mexicahi, Boucard MSS. in coll. Sallé. Trochanter, condylus coxarumque margo anterior cupreus ex parte nigrescentes. ♀ minus late oblongus; ♀ elytrorum plica epipleuralis postice minus abrupta (nee verticaliter) terminata.

Hab. Mexico, Tepansacualco (Sallé), Jalapa (Höge).


Hab. Mexico, Oaxaca (Fenochio, in coll. Bates), Juquila (Sallé). Our series includes Chevrolat’s types.

Var. C. modesta, Sturm, Cat. 1843, p. 338, t. 3. fig. 3. ♀. Trochanter, condylus coxarumque margo anterior omnino enco-virides, elytrorumque plica sicut in C. adolphi. Thorax et elytra subtilissime punctulata fere livia; tarsi chalybei.

Hab. Mexico (Sallé, ex coll. Sturm). Specimen typicum.
2. Chrysina amena.
3. Pelidnota amena, Sturm, Cat. 1843, p. 387, t. 3. fig. 21.
4. Pelidnota aruginosa, Sturm, loc. cit. t. 3. fig. 11.

Chrysina amena, Burm. Handb. der Ent. 1, i. p. 4173.

Hab. MEXICO123 (Sallé, ex coll. Sturm; exempl. typica), Ciudad in Durango (Höge), Jalapa (Sallé), Mineral el Chico (Flohr, in coll. Bates).

The upper surface in this distinct species is thickly punctured and less shining, the elytra very closely punctured, with finer punctures intermixed, and scarcely any trace of striæ. The underside varies in colour, but is much more brilliant than in C. macropus, wholly rich red-coppery, or the abdomen silvery and sometimes dark near the base. In the single female from Ciudad the head, femora, tibiae, and pygidium are tawny-vermilion with a metallic tinge. The underside and pygidium are clothed with long hairs, which are denser in the female. The epipleuræ in the female taper gradually nearly as in C. macropus, var. adolphii, but without expanded upper margin, and they reach only a little beyond the middle of the elytra instead of nearly to the outer apex.

Subfam. HETEROSTERNINÆ.

MACROPOIDES.


This genus, with Heterosternus and its allies, forms a distinct subfamily (indicated by Horn in defining the genus Macropus), distinguished from the Rutelinae by the flexuous and fine frontal suture, and from the Areodinae by the form of the clypeus (strongly narrowed from the base and obtusely trapezoidal) and of the mandibles (the outer apical angle bent upwards and prolonged into a tapering and ascendent tooth projecting beyond the margin of the clypeus); in repose the ascendent apices of the two mandibles lie parallel and close to each other. The form resembles that of the mandibles in Rutelisca, and is an exaggeration of that usual in Parastasia. The base of the thorax is generally immarginate; but in this respect Heterosternus is peculiar, the marginal sulcus being deeply impressed except in the middle, where it is faint or interrupted. The males in some of the species have the same enormous development of the hind legs, with a corresponding protuberant postpectus and inner end of the coxae, as in Chrysina. The major tarsal claw in all the tarsi of both sexes is forked, and the postcoxal process of the prosternum short and triangular, not bent and continued horizontally between the coxae as in Pelidnota and its allies.

Three species of Macropoides are known, all peculiar to the Mexican and Central-American fauna.
MACROPOIDES.—HETEKOSTERNUS.

1. **Macropoides nietoi.** (Tab. XVI. fig. 20, ♀.)

*Macropoides nietoi*, Guérin, Rev. Zool. 1844, p. 259; Lac. Gen. Col., Atlas, t. 34. fig. 2, ♂

*Hab.* Mexico¹, Cordova (Sallé); Nicaragua, Chontales (Janson).

A female specimen from Cordova is figured.

2. **Macropoides mniszechi.**


*Hab.* Mexico, Toxpm near Cordova¹ (Salle, exempl. typica).

The clypeus is rather longer and more narrowed than in *M. nietoi*, and rather deeply notched at the apex. The species is perfectly congeneric with *M. nietoi*.

3. **Macropoides crassipes.**


*Hab.* Honduras¹.

The incomplete and inaccurate description of *Macropoides* given by Guérin and Lacordaire, the latter by placing it near the *Pelidnotae* and leaving it to be inferred that it has the same characters as that group, led Dr. Horn to institute the genus *Macropnus* on a large species from Honduras, which he informs me he now believes to be congeneric with *M. nietoi*. The species is not represented in our collection.

4. **Macropoides (?) ——?**

*Hab.* Nicaragua, Chontales (Belt).

A single example of a species probably belonging to this genus, but being a female it is not possible to refer it with certainty.

HETEKOSTERNUS.


Two species only are known of this genus, remarkable for its elongate form and the great length of the hind legs in the male with greatly elongated tibiae. The postpectus and condyles of the hind coxae are still more strongly developed and protuberant than in *Chrysina macropus*; but the coxal plate is much widened towards the supports of the femora, which latter are extremely elongated and of uniform width. The clypeus and mandibles are shaped almost exactly as in *Macropoides nietoi*. In the female the epipleure terminate at the level of the hind coxae, where the elytra are angularly dilated.
1. Heterosternus buprestoides.


_Hab._ Mexico.

This species is not contained in our collections.

2. *Heterosternus rodriguezi._ (Tab. XVI fig. 18, s.)


_Hab._ Guatemala, Los Diamantes (Champion); Panama, Chiriqui (coll. Bates).

Ochreous-tawny above, with the margins of the head and thorax and frontal suture edged with black, the underside dark chestnut-brown. The male differs from that of _H. buprestoides_ in the elytra not being narrowed and prolonged at the apex, and in the hind tibiae being strongly curved and densely fringed inside with fulvous hairs.

Mr. Champion obtained one example only, a male, on the Guatemalan Pacific slope. A female specimen from Chiriqui, resembling an ordinary _Pelidnota_ in form and many years in my collection without a name, almost exactly resembles the Guatemalan male in colour and sculpture; it differs only in the suture and outer margin of the elytra, as well as the head and thorax, being narrowly edged with black. The male example from Los Diamantes is figured.

**PARIsolea.**


Two new species from Mexico are referable to this genus.

1. _Parisolea alba._

_Supra_ albo-, subitus fulvo-, testacea, nitida; capite thoracique tota sparse punctatis, hoc prope medium rotundato-dilatato, postice parum antice fortius angustato, angulis antecis subrectis, posticis obtusi subrotundatis, margine laterali tenui usque ultra angulum posticum continuato; elytris punctato-strictis, striis 3. 4. 6 et 5. 6 que geminatis, interstitiis planis levibus, 2° (inter striam sutural et 2°) lato postice punctato, lateribus striis quatuor paulllo irregularibus. Pygidium _♂_ paululum convexum, _♀_ planum, transverse strigulosum. Proctus albo-villosus.

Long. 10-21 millim. _♂_ 2.

_Hab._ Mexico, near the city (?) (Flohr).

2. _Parisolea fulva._ (Tab. XVII fig. 1.)

_P. alba_ differt solum colore fulvo- vel rufo-testaceae. _♂_ 2.

Long. 18-20 millim.

_Hab._ Mexico, Jalapa (Höge). Six examples.
COTALPA.—PARACHrysINA.

Subfam. AREODINÆ.

COTALPA.


A genus hitherto recorded only from temperate North America; six species are known, chiefly from the southern and western States. The two following have a longer and more acutely rounded clypeus than in the typical species of the genus, but not much more so than in C. ursina, and they differ further in the major claw of all the tarsi, in the male, being cleft (unequally and narrowly) at the apex.

1. Cotalpa nigro-cenea. (Tab. XVI fig. 22, c.)

Anguste ovata, capite, thorace pygidioque viridi-aneoa, politis, elytris corpore subutus cum pedibus nigris viridi-aneo tinctis, subutus cum femoribus, pronoti marginibus et pygidio longe (pectore toto densisse) rufo-villoso. Caput grosse sed discrete punctatum, punctis minutis intermixtis; clypeo semiavato, antice subacuto rotundato, margine referro, sutura frontali paullo flexnosa; thorace minus transverse (paullo elongato), paullo post medium angulatim dilatato, antice rectilineatim angustato, angulis anticus acutis, posticis obtusis sed distinctis, margine basali medio interrupto; scutello sparsim punctulato; elytris ante medium perparam ampliatis (nee angulatis), epipleuris apud coxas posticis terminatis, sparsim (apud strias lineatim) punctulatis, limbo posteriori rugoso-punctato et fulvo-setoso. Mesosternum inter coxas anguste carinatum, nullo modo porrectum. Pygidium (c) leviter convexum, subconfluenter punctulatum, punctis piliferis majoribus intermixtis. c. Ungues majores prae epicem fissi, parte superiori tenui setiformi, breviore.

Long. 21 millim. c.

Hab. GuatemaLa, Cerro Zunil 4000 to 5000 feet (Champion).

Five examples, all males.

2. Cotalpa aurescens. (Tab. XVI fig. 21, c.)


Long. 23 millim. c.

Hab. Mexico, Chiapas (Sallée).

One example only. The long and dense pale tawny villosity of the under surface, pygidium, &c. is exceedingly fine and silky, differing much from the shorter and stiffer rusty-red, but still very dense, hairs of C. nigro-anea.

PARACHrysINA.


The small species, C. baruquis, which Thomson doubtfully referred to the genus BIOL. CENTR.-AMER., Coleopt., Vol. II. Pt. 2, August 1888. 2 PP
LAMELLICORNIA.

Chrysina, differs from the group to which Chrysina belongs by the distinct frontal suture. This suture is flexuouis; the clypeus is semiovate (in the female more quadrate), with the margins much reflexed; the mandibles with entire (rounded) outer edge; and the thorax, margins, and the under surface of the body villose. In short it has all the characters of the Areodinæ, with the important peculiarity that it has 9-jointed antennæ, in which it differs from all other Rutelinæ. The males have greatly enlarged hind legs, with broad, interiorly-flattened femora and tibiae, the inner apex of the latter prolonged and acute, and the trochanters with a long, free, hook-shaped apex. The forehead in the male is flattened, forming a semi-ovate sloping disc. The mesosternum in the male is prominent between the middle coxae, and conical but scarcely projecting; in the female depressed. In the female the forehead is simple, and the hind legs normal, except that the apex of the trochanters is free for a short space and the inner apex of the tibiae is slightly produced. In both sexes the tarsal claws are very long and acute, and all are simple; they are very unequal in length, and the tarsal joints are short and compact as in all true Rutelidæ, so that there is no ground for referring the genus to the Melolonthidæ as has been suggested. In the Sallé collection the species bears the name of Plectris truquii.

1. Parachrysina truquii. (Tab. XVI. figg. 23, e; 24, f.)

Chrysina (?) truquii, Thomson, Archiv. Ent. i. p. 148, t. 10. fig. 41.

Hab. Mexico (Truqui1), Morelia (Sallé), Yautapex (Höge).

The male is more ovate than the female, and differs from it in colour and punctuation, the thorax and elytra being fulvous, the former finely punctured and with an aneous and smooth dorsal vitta; in the female the thorax is strongly punctured and brassy-green, with the side-margins broadly fulvous. The size varies from 11 to 15 millim.

BYRSOPOLIS.

Byrsopolis, Burmeister, Handb. der Ent. iv. 1, p. 425 (1844).

A genus hitherto known only from tropical South America, whence four species
have been described. They seem to be perfectly congeneric with Burmeister's
typical species (known to me only by the description), with which they agree in the form
of the maxillæ, and especially in the slender tarsi and tarsal claws; the peculiar
form of the labrum is not mentioned by Burmeister—in our species its upper surface
is entirely concealed under the clypeus. They approach the Cyclocephalinae, especially
the genus Democrates, from which the shorter and closer-jointed hind tarsi chiefly
distinguish them and justify their retention in the Rutelidæ. This at least applies
to the first species, in our two examples of the second the tarsi are wanting. The pro-
sternum has a broad, scarcely ascendent, postcoxal process; the mesosternum is simple.
1. **Byrsopolis laniger.** (Tab. XVII. fig. 2.)

Castano-nitid, supra glabra, subtilis cum pygidio et femoribus dense fulvo-hirta vel villosa; capite dense aspero confluentar punctato; clypeo sinuatum angustato, apice quadratim sublobato, reflexo, truncato; thorace quam elytra multo angustiorae, lateribus regulariter arcuatae, angulis posticis rotundatis, antecis nullo modo productis, anguste marginato, margine basali medio subinterrupto, supra regulariter convexo, confluentor disco sparsius punctato, interstitialis punctulatis linea irregulari dorsali lavi; scutello breviter cordato; elytris subtilibus punctulatis, nitidis, costulis (vel striis geminatis) utrinque quattuor parum distinctis; pygidio parum convexo, dense piloso-punctulato.

*Hab. Mexico (Sallé, ex coll. Sturm).*

A single perfect example, bearing Sturm's label "Scarabaeus laniger, mihi."

2. **Byrsopolis chihuahuae.**

Minus convexa, rufo-castanea, subtilis sicut in *S. laniger* fulvo-villosa, sed pygidio plus minusve ameno-ventila; capite crebro aspero confluentar punctato; clypeo triangulari, lateribus leviter sinuatis, apice medio acuminato-reflexo; thorace multo minus convexo, margine paulo crassiore et magis reflexo omnino integro, paullo post medium subangulatim dilatato, angulis posticis subrectis, antecis subacutis, supra sicut in *S. laniger* punctato; scutello subaeo vel cuneo; elytris grossius punctulatis, utrinque costulis 3 vel 4 distinctioribus cum striis punctatis geminatis impressis. (Tarsi omnes desunt.)

*Hab. Mexico, Pinos Altos in Chihuahua (Buchan-Hepburn).*

Two imperfect examples.

**Subfam. ANOPLOGNATHINÆ.**

**PHALANGOGONIA.**

*Phalangogonia,* Burmeister, Handb. der Ent. iv. 1, p. 451 (1844).

A genus, so far as at present known, peculiar to Mexico and Central America. Three species have been described.

1. **Phalangogonia obesa.**

*Phalangogonia obesa,* Burm. Handb. der Ent. iv. 1, p. 452¹.

*Hab. Mexico*¹, Chinantla (*Sallé*).

Burmeister mistook the example of this species on which he founded his genus for a male, and hence gave erroneous characters to *Phalangogonia* and to the subfamily to which it belongs. It was evidently a female, as the male has robust tarsi and claws, and the anterior angles of the clypeus produced and dentiform, as in many of the Australian Anoplognathinæ. The three examples of the species in the Sallé collection vary much in colour, and one is a male. Besides the acutely-dentated angles, the arcuated fore border of the clypeus is strongly reflexed; and the robust major claw in all the tarsi is not forked as in the male, nor properly speaking cleft, the upper part of the divided
tip being very spiniform and much shorter than the lower part. The hindmost tarsi only have a brush of stiff fulvous hairs beneath the first two joints.

The thorax is rather strongly punctured, quite strongly and closely so towards the sides; the lateral margin, from the dilatation to the anterior angles, is greatly decreased in thickness, and the anterior angles are acute. The elytra are finely and sparsely punctulated, but vary somewhat in this respect; the costa are indicated by punctured lines, and the posterior limb is closely and irregularly punctured; the sutural apex is not produced. The legs, including the tarsi, are red. The pygidium is subopaque, finely alutaceous or vermiculate-strigulose, without mixture of piliferous punctures.

2. Phalangogonia sperata.


Phalangogonia stipes, Sharp, loc. cit. 3

Hab. CENTRAL AMERICA 1; NICARAGUA 2 (Sallé); Chontales (Janson); PANAMA, Volcan de Chiriqui 4000 to 6000 feet (Champion).

A large number of examples.

Differs from P. obesa (both sexes) in the much finer and sparser punctuation of the thorax and in the lateral margins of the same being continued of equal thickness to the anterior angles, which latter are obtuse, sometimes rounded; also in the sutural apex of the elytra having a distinct spiniform tooth, and in the pygidium being very minutely strigulose and sprinkled with larger piliferous punctures. The male differs from the same sex of P. obesa in the three basal joints of the hindmost tarsi and two of the middle tarsi being clothed with a brush of fulvous hairs; it has similarly robust and very unequally cleft major tarsal claws, and the clypeus is acutely produced at the anterior angles, but the front margin is much straighter and scarcely arcuated.

The colour varies little on the upper surface, but on the under all gradations exist from uniform fulvo-castaneous to black, the metasternum sometimes and the abdomen at others only being black; the last-mentioned (described as the colour of P. stipes by Dr. Sharp) is most prevalent in Chiriqui.

Examples occur at Chontales with black tarsi (the abdomen and sternum variable), but I can detect no structural difference between them and the others.

3. Phalangogonia lacordairei. (Tab. XVII. fig. 3.)

Phalangogonia obesa, Lacordaire, Gen. Col. iii. p. 371 (nee Burm.).

Lutea ovata, fulvo-testacea, polita, marginibus capitis, thoracis, scutellii elytronisque anguste nigris; subitus nigrar, nitida, femoris et tibias fulvo-castaneis; pygidii nigri politissimo, punctis nonnullis longe piliferis versus apicem exceptis, impunctato. Clypeus dense confluentur punctatus (♂), antice leviter arcuatus, angulis valde rotundatis; thorax post medium angulatum dilatatus, margine antice gradatim attenuato.
PHALANGOGONIA.—PLATYCELLA.

prope angulos acutos anticos tenissimio, supra eualiter subsparsum punctulato; elytra medio valde rotundato-dilatata, sicut in P. obesa punctulata. Processus sternalis validior oblique descendens.

Long. 27–28 millim. ♀.

Hab. Mexico ¹, Cordova (Sallé).

Two examples, both females. This species bears the name P. lacordairei in the Sallé collection.

4. Phalangogonia parilis. (Tab. XVII. fig. 4.)

Minor, puello angustius ovata, fulvo-testacea; nitida, subust cum pedibus piceo-nigra; elytris angustius quadrato, confluent ur punctato, marginie antico arcuato, angulis distinctis sed valde obtusis, fronte sparse punctato punctis minus simissimis intermixtis; thoraco medio angulatim dilatato, sparse punctato et subtiliter punctulato prope latera scabrosa-punctato, marginie laterali usque ad angulos increasato; elytris conspiciue juxta costas lineatis punctatis; pygidio crebre striatuloso-punctato, subopaco. Processus sternalis medioceiter elongatus, horizontalis. Tibias antieem bidentata.

Long. 20–22 millim.

Hab. GUATEMALA, Cerro Zunil 4000 to 5000 feet (Champion).

Among the numerous examples examined no sexual differences can be detected. In all, the major claw is forked at the apex in all the tarsi. Some examples, which may be males, have a rather shorter and more quadrangular clypeus than the others.

5. Phalangogonia championi. (Tab. XVII. fig. 5.)

Oblonga, sat robusta, nigra, nitida, vertice et basi suturae clytrorum prope scutellum fulvis (raro tota nigra), subust (pectore densius) griseo-hirita; elytris medioceiter transverso, omnino confluenter punctato, marginie antico arcuato, fronte sat dense vertice sparsius punctato punctis minutis intermixtis; thoraco medio valde subangulatim dilatato, marginie laterali passim crasso, conspiciue punctato, dorso sparsim versus latera densius confluenter striata-punctato; elytris sparse sed conspiciue, apud costas lineatis, punctatis; pygidio densissime undulato-striatuloso, breviter apice longissimum setosum; pedes et abdominis laterali minute dense punctulata. Processus sternalis conicus, minus elongatus. Tibias antico tri dentata, dente superiore interdum obsolet.

Long. 20–25 millim.

Hab. GUATEMALA, Cerro Zunil 4000 to 5000 feet (Champion).

Seven examples, apparently all females. The tarsal claws are rather small and slender, and the major claw is not longer or thicker than the other, but is forked at the apex.

PLATYCELLA.

Platycelia, Burmeister, Handb. der Ent. iv. 1, p. 452 (1844).

A genus characteristic of the elevated regions of tropical South America, whence twelve species have been described and many more exist unnamed in collections.

1. Platycelia humeralis. (Tab. XVII. fig. 8.)

Oblongo-ovata, equaliter et valde convexa, dilute pomaceo-viridis (ventro sternoque interdum nigris), thoraces margine angusto, sentello elytrisque margine laterali, flavis, his interstitiis alternis flavo-viridibus; tarsi,
antennis et palpis fulvis; elypeo densissime ruguleo-punctulato, fronte et thorace subtillissime punctulatis, punctis majoribus intermixtis; thorace brevi, lateribus cum angulis posticis valde rotundatis, basi medio lobo rotundato, et utrinque late et profunde sinuato; elytris striato-punctatis, punctis versus latera solum impressis, interdum nigricantibus, humeris prominulis crasse marginatis, basi intra humerum breviter sinuato; pygidio lavi, punctis magnis nonnullis piliferis; pectore, coxis femoribusque parce griseo-birtis. Processus sternalis valde elongatus. ♂. Tarsi antici ungue majore elongato, gracili apice fuso, ceteris tarsiis furcatis. ♂. Ungues majores toti furcati.

**Hab.** MÉXICO, Coatepec (Flohr); COSTA RICA (Van Patten), Volcan de Irazu 6000 to 7000 feet (Rogers); PANAMA, Volcan de Chiriqui 4000 to 6000 feet (Champion).

In colour and sculpture this species answers to the description of *P. nervosa*, Kirsch; but it evidently belongs to a different section of the genus, being of oblong form with the convexity of the elytra continuing to the apex, Kirsch’s species being widened and flattened behind. The prominence of the shoulders is variable; in some few examples they are rectangular—this is the case with the single Mexican specimen sent to me by Mr. Flohr. I have examined about fifty examples.

Mr. Champion found a large number of this species about the banks of a lagoon in the dense forest; these had no doubt been blown into the water by the wind, many being submerged or dead. A specimen from the Volcan de Chiriqui is figured.

**SPODOCHLAMYS.**

*Spodochlamys*, Burmeister, Handb. der Ent. iv. 2, p. 529 (1855).

Two species of this peculiar genus have been described, both from tropical South America.

1. **Spodochlamys cupreola.** (Tab. XVII. fig. 10.)

*S. cupreola* affinis; angustius oblongus, elongatus, supra fusco-cuprea subopaque; capite thoraceque aequaliter densissime punctatis, elypeo semiovato, margine parum reflexo; thorace brevissimo, margine laterali grosse irregulariter crenato, angulis antiquis prolongatis, acutis; elytris undique sub lente minutissime punctulatis punctis rarius majoribus intermixtis, apice suturali dentiformi; subitus aneo-cuprea, nitida, pectore fulvo-birto; tibiae grosse punctatis; labro elypeoque subitus luteus cupreus. Tibiae antice tridentate. Tarsi unguibus majoribus apice furcatis.

**Hab.** PANAMA, Chiriqui (Trötsch).

One example only.

**Subfam. GENIATINÆ.**

**BOLAX.**

*Bolax*, Fischer de Waldheim, Bull. Moscou, i. p. 45 (1829); Lacordaire, Gen. Col. iii. p 382; Burmeister, Handb. der Ent. iv. 1, p. 485.


Twenty species of this genus have been described, all from tropical South America.
BOLAX.—LEUCOTHYREUS. 295

The two following, the first recorded from north of the Isthmus of Panama, are among the largest and finest species of the genus.

1. **Bolax magnus.** (Tab. XVII. fig. 6.)

*B. andicolce* (Burm.) affinis, tibias posticus gracile suratis. Major, elongatus, postice dilatatus, niger, nitidus, abdomen elytrisque fulvo-testaceis, his utrinque plus minusve distincte fusco-trivittatis; capite cum thorace sparse umbilicato-punctato; elypto brevi et lato, obtusissime rotundato; thorace ante medium angulatum dilatato, postice sinuatim mediocriter angustato, angulis posticis rectis, anticis acutis, dorso medio aequaliter convexo, lateribus antice et postice transversim depressis; elytris punctato-striatis, interstitiis alternatim sparsius et densius punctatis, punctis nonnullis transversim confluentibus; pygidio grosse sed haud profunde transverso-punctato.

Long. 15–21 millim. ♂♀

_Hab._ PANAMA, Bugaba 1000 feet, Volcan de Chiriqui 2000 feet *(Champion).*

Found in abundance by Mr. Champion in the forest-region of Chiriqui.

2. **Bolax flavolus.** (Tab. XVII. fig. 7.)

*B. magnus* proxime affinis; *B. andicolce* quoad colores similior, sed differt metasterno flavo elytrisque nullo modo sulcatis. Ochraceo-testaceus, capitis thoracisque marginibus nigro-fuscis, capite infra oris, pedibus totis, mesosterno et metasterni episternis nigris nitidis; capite, elypo et thorace sicut in *B. magnus* elytrisque sat crebre transversim punctato-rugulosus; pygidio grosse sed haud profunde sparsim transverso-punctato.

Long. 15–20 millim. ♂♀

_Hab._ NICARAGUA, Chontales *(Belt, Janson).*

Eight examples.

LEUCOTHYREUS.


Similar in distribution to *Bolax*, but extending further southwards to the banks of the Plata. One species has been recorded from Tahiti. The described species amount to upwards of fifty.

1. **Leucothyreus femoratus.** (Tab. XVII. fig. 9.)


_Hab._ MEXICO, Jalapa *(Höge)*; COSTA RICA *(Adams)*; PANAMA, Volcan de Chiriqui, Caldera, Tolé *(Champion)._SOUTH AMERICA, VENEZUELA.

The hind femora of the male are described by Burmeister as having at the base a high projecting keel. In the numerous examples I have examined this is a broad triangular tooth, slightly reflexed and margined. The size is 10 to 11 millim.

A Chiriqui specimen is figured.
GENIATES.


This genus is nearly confined to Southern Brazil, twenty-nine out of the thirty-two species described being from that region. Of the other three one is from Monte Video, one from Colombia, and the third from New South Wales. The locality of this last rests on the same authority as that of Tahiti for a species of Leucothyreus, viz., Boheman, in the "Voyage of the Eugenia." The species are nearly all of large size except the following, which is an inconspicuous form connecting the genus with Leucothyreus, and smaller than the average of the Leucothyrei.

1. Geniater spinolae.


Hab. Panama (coll. Bates).—South America, Colombia 1.

Fam. DYNASTIDÆ.

Subfam. CYCLOCEPHALINÆ.

ASPIDOLEA.


The species on which this genus is founded differs but little in facies from Cyclocephala of similar slender form and uniform coloration, but its many structural peculiarities necessitate its removal from that group. The unarmed maxillae are unarmed in a widely different manner from those of Ancognatha scarabaeoides and its immediate allies, where they remain elongate and robust, though destitute of teeth; it more nearly approaches the form existing in C. fuliginea, in which, however, the upper inner angle of the shortened lobe is armed with two strong teeth. It is possible, judging from the description, that C. pelioptera and C. clypeata (Burm.) belong to Aspidolea.

1. Aspidolea singularis. (Tab. XVII. fig. 11, ♂.)

Gracillia, oblongo-ovata, fulvo-testacea, vertice nigro, subitus castaneo-fusca vel nigra, abdomen spicis et pygidio rufis, pedibus castaneo-fuscis vel rufis; clypeo confluenter punctulato; thorace punctato, angulis posticis rotundatis; elytris sublittleri punctulato-alutaceis, sericeo-nitentibus, striisque geminatis et interspatiis punctatis; pygidio sparsim punctato, nitido, ♂ postice valde convexo, ♀ medio declive; pectore nudò, nitido. ♂. Tarsi antici ungue majore profunde fisso, dente superiore sit robusto. Long. 15–17 millim. ♂ ♀.
**ASPIDOLEA. — ANCOGNATHA.**

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**Hab. Guatemala,** Volcan de Atitlan (Champion); **Nicaragua,** Chontales (Belt, Janson); **Panama,** Volcan de Chiriqui 2500 to 4000 feet (Champion).

A Guatemalan specimen is figured.

**ANCOGNATHA.**


This genus has been too hastily rejected by authors subsequent to Erichson. Its structural differences from *Cyclocephala* are of much significance. The labrum is detached and inclined from the roof of the mouth, instead of being hidden as in *Cyclocephala* with at most a very short margin exposed under the clypeus, and its apex in the typical species is toothed; and the ligula is divided into two narrow lobes with a narrow depression at its base extending far down the mentum.

These characters, though the form of the mentum was incomprehensibly misstated, apply to Erichson's type, *A. scarabaeoides,* and to *C. ustulata* and *C. humeralis* of Burmeister, but not to *C. ocellata* and *C. maculata,* which the latter author includes in the same section. They apply also in all probability to *A. lutna* of Erichson, and to *A. jamesoni* and *A. crassinana* of Murray, and without doubt also to *C. manica* of Leconte. The acuminated clypeus and the narrow pointed mandibles bent upwards from the edge of the clypeus are characters less distinctive of the genus, being shared by species of the first section of *Cyclocephala*; the clypeus is inconstant in shape, that of the female of *A. quadripunctata* being obtusely semiovate.

1. **Ancognatha aquata.** (Tab. XVII. fig. 12,♂.)

*A. scarabaeoides* proxime affinis; supra complanata, picco-nigra, nitida, corpore subitus, pygidio et femoribus fulvo-testaceis, ventre segmentis 1<sup>st</sup>-5<sup>th</sup> medio infuscatis, pectore rufe-hirto; capite sparsim thorace multo subtilius et sparsius punctulatis, clypeo apice minus acuto et parum reflexo; elytris fere toto lavibus, medio versus basin tantum striato-punctulatis, stria suturali nulla. Pygidium setifero-punctatum. ♂. Tarsi antici articulo unguiculari parum incrassato, ungueque majore elongato sat gracili.

Long. 18 millim. ♂.

**Hab. Mexico,** Ciudad in Durango (Forrer).

Two male examples.

2. **Ancognatha lavigata.**

*A. scarabaeoides* similima, paullo convexior, corpore toto cum pedibus nigris, antennis palpisque rufis; elytris parum conspicuo striato-punctulatis; pygidio polito, lave laviti, punctulae paucis setiferis.

Long. 17-19 millim.

**Hab. Mexico** (Sallé, ex coll. Sturm), Tenancingo (Flohr).

Two examples. The clypeus curves on each side gradually to a point, but the point, BIOL. CENTR.-AMER., Coleopt., Vol. II. Pt. 2, *October* 1888. 2 QQ
as in *A. aequata*, is much less produced and reflexed than in *A. scarabaeoides*. I have adopted the MS. name given to the species by Sturm.

3. Ancognatha humeralis. (Tab. XVII. figg. 13, \( \delta \); 14, \( \varphi \), var.)

*Cyclocephala humeralis*, Burm. Handb. der Ent. v. p. 40\(^1\).

_Hab._ Costa Rica (*Van Patten*); Panama, Volcan de Chiriqui 4000 to 6000 feet (*Champion, Trötsch*).—South America, Colombia\(^1\), Venezuela, Ecuador, Peru.

In specimens from southern localities the black spots of the elytra appear to be two only in number, and small; in those from Chiriqui the spots are often greatly developed and increased in number, forming black streaks near the suture and sides and on the disc; in some examples the whole disc of the elytron is black. The hair-fringe beneath joints 1–4 of the hinder tarsi is dense but not very long. The apical tooth of the labrum is well-developed.

In the female the marginal callus of the elytra is extremely prominent, and forms a projecting lobe.

We figure a male example from Costa Rica, and a female from the Volcan de Chiriqui.

4. Ancognatha manca.


_Hab._ North America, Arizona\(^1\).—Mexico, Pinos Altos in Chihuahua (*Buchon-Hepburn*).

A single male example, without tarsi.

5. Ancognatha quadripunctata. (Tab. XVII. fig. 15, \( \delta \).)

*A. humerali* similima, sed differt thorace \( \delta \) latissimo, convexo, et elytris \( \varphi \) sine callo laterali. Flavo-testacea, nitida, elytris callo humerali maculique urinque prope scutellum, femoris tibiasque apicibus, nigris; capite et thorace sparissime et subtiliter punctulatis, clypeo \( \varphi \) antice obtuse rotundato, fronte subbitubercolata; elytris parum distincto striato-punctulatis. Pygidium \( \varphi \) pilifero-punctatum, \( \varphi \) fore love. Tarsi 4 posteriores \( \varphi \) articula 1°–4° subitus longe et dense dilatati.

_Long._ 20–26 millim.

_Hab._ Mexico (*Sallé, ex coll. Sturm*), Peras, Capulalpam (*Sallé*), Mexico city (*Höge*).

Five examples.

In the absence of a lateral callus to the elytra in the female the species resembles *A. ustulata*; but in the latter the margin on the site of the callus is a little expanded, which is not the case in *A. quadripunctata*. I have adopted the name given to the species by Sturm in the Sallé collection and in his published catalogue.
CYCLOCEPHALA.

CYCLOCEPHALA.


A genus peculiar to America *, and spread over the temperate and tropical zones from north to south, including the islands of the West Indies, where it is numerously represented. About one hundred species have been described.

Many species of this genus are constantly to be found in the spathes of Arums; and they are often to be met with in numbers deeply imbedded in the viscous pollen at the bottom of the spathe, in company with elongate forms of Nitidulidae (Champion).

I. Clypeus elongatus, interdum latus vel apice sinuatus; ligula late divaricato-lobata mentoque late emarginato.

1. Cyclocephala signata.

Melolontha signata, Drury, Ill. Ins. i. p. 82, t. 36. fig. 6; ii. Append. Ind. (1773) 1.
Cyclocephala signata, Burm. Handb. der Ent. v. p. 43 3.

Hab. British Honduras, Cayo (Blancaneaux); Nicaragua, Chontales (Janson); Panama, Bugaba, Volcan de Chiriqui 2500 to 4000 feet, David (Champion).—South America, Colombia, Venezuela, Peru; West Indies 1 2.

The excellent description of Burmeister renders it easy to identify this species as regards the male. The female may be distinguished from the same sex of the allied species of similar shape and colour by the form and position of the elytral callus, it being situated much behind the middle, and the margin near it is strongly sinuated and depressed, the depression terminating behind with the projecting angular end of the lower edge of the epipleural fold.

Found in enormous profusion by Mr. Champion, on the savannas near David, in sappy rotten Agaves.

2. Cyclocephala collaris (?).

Cyclocephala collaris, Burm. Handb. der Ent. v. p. 47 1 (?).

Hab. British Honduras, Cayo (Blancaneaux); Guatemala, Panzos (Champion).—South America 1, Ecuador (Whymer, in coll. Bates).

I refer this species doubtfully to C. collaris, Burm., as he does not fully describe the callus and elytral dilatation of the female, which, so far as this sex is concerned, is the

* A species has been described by Montrouzier from Woodlark Island in the Western Pacific, but this author is so notoriously inaccurate in his generic determinations that we may fairly assume an error has been made in this instance.
only definite character which separates the species from *C. signata*. The three examples before me are females, which renders more difficult the determination of the species; the one from Ecuador, however, exactly agrees in colour with Burmeister’s description. The elytral callus is on the dilated margin, and near to the outer apex; close to it the surface is depressed, and anterior to it the margin is thickened.

3. *Cyclocephala detecta.* (Tab. XVII. fig. 16, s.)

*C. stictica* similis, sed differt clypeo (lato subquadrato) antice cum angulis rotundato, supra creberrime subtilior punctulato margine antice reflexo, fronte et vertice paullo sparsius punctulatis, illo utrinque punctis setiferis majoribus. Elongata (thorace ample rotundato), flavo-testacea, polita; vertice, thorace vittis duabus elytrisque utrinque maculis duabus vel tribus (2 vel 1 antice, 1 postice, macula anteriori interiori valde obliqua), abdomine cum pygidio nigro-fuscis; thorace disco sparsissime punctulato, lateribus (principio versus angulis antice) grosse sed sparsim setifero-punctatis; elytris subtilior punctulatis punctis majoribus sparsis setiferis, striisque gominate juxta costas. Pygidium convexum, longe fulvo-setosum.

Leng. 16 millim. \( \delta \).

*Hab.* Mexico, Orizaba, Chiapas (*Sallé*); Nicaragua (*ex coll. Cutter*).

Two Mexican specimens in the *Sallé* collection are labelled *C. stictica*, Burm., from the other male examples of which in the same collection they differ in the broader, obtusely-square form of the clypeus, and in the absence of apical sinuation, and the fine and close sculpture, which renders the surface of the clypeus opaque. In these respects the species comes nearer to the South-Brazilian *C. variabilis*, Burm., from which in fact *C. detecta* differs only in the more broadly rounded thorax, the broader clypeus, and the more distinctly black-edged elytral suture. From *C. signata* it differs in the more ample clypeus and fine scattered punctuation of the disc of the thorax, besides being a larger insect. The male is further distinguished from the corresponding sex of both *C. variabilis* and *C. signata* by the third and fourth joints of the anterior tarsi being smooth, and not finely strigose.

We figure an individual from Chiapas.

4. *Cyclocephala stictica.* (Tab. XVII. fig. 17, s.)

*Cyclocephala stictica*, Burm. Handb. der Ent. v. p. 66.

*Hab.* Mexico \(^1\), Orizaba, San Andres Tuxtl (Sallé), Cordova, Misantla (*Höge*).

A good series of examples. Burmeister placed this species in a section far apart from that to which he referred *C. signata* and its allies, on account of its sinuated clypeus. This single character, which in some examples is only very slightly developed, ought not, I think, to outweigh the other numerous signs of close affinity. The lateral callus of the female is large and wholly superficial, leaving the elytral margin continuous and normal. The major claw in the male fore tarsi is entire.

A Misantla specimen is figured.
5. Cyclocephala microspila. (Tab. XVII. fig. 18, \(\sigma\).)

*C. sticticus* valde affinis; minor, flavo-testacea, vertice elytris utrinque maculis duabus (interdum tribus) parvis nigris, thorace inmaculato vel maculis 2 aut 4 vagis; elyprae subtiliter undulato-striigulosae et punctulato, apice latius et distinctius sinuatu, fronte disperso aequaliter punctata; thorace rotundato-quadrate, lateribus minus areatatis, subtiliter disperse, versus latera parum grossius, punctata; elyprae subtiliter punctulatatis, breviter sparsim setosis. Pygidium \(\sigma\) valde convexum, punctatum et breviter setosum; \(\varphi\) longitudinaliter subcarinatum, convexum, fere levum. Tarsi ungue major integro. \(\varphi\). Elytra max pone medium alte callosae et margine verticaliter areato, post callum depressa.

Long. 14–18 millim.

Hab. PANAMA, Bugaba, David (Champion).

The hind tarsi, as in the foregoing species, are very long, and in both sexes finely ciliated beneath. When there are only two elytral spots present (the most frequent case) it is the inner of the anterior pair that is deficient; sometimes the spots are very minute.

6. Cyclocephala fasciolata. (Tab. XVII. fig. 19, \(\sigma\).)

Oblongae, subconvexae, nigrae, nitidae, elyprae (interdum partim opaci) macula irregulari transversa discoidea rufa vel tota nigris; capite disperso umbilicato-punctulato, elyprae sat elongato subquadrato antice rotundato; thorace sicut in *C. fuliginosa*, sat elongato lateribus rotundatis (angulis posticis valde obtusis, antice pro-longatis acutis), sed differt basi integrer marginato et dorso distincte disperso punctato; elyprae vaga striato-punctulata, stria satulata haud impressa interstitiisque satulata usque ad apicem lato levique. Subtus cum pedibus rufo-birtum. Mandibulae apice truncatae, extus breviter dentatae et intus bifidae. Prosternum ante coxis valde convexum, rufo-birtum.

\(\sigma\). Tibiae antice bidentatae; pygidium rufo-birtum. Tarsi posticis quae tibiae multo longiores, articulis 1–4 subtilius rufo-ciliatis.

\(\varphi\). Tibiae antice tridentatae. Pygidium fere glabrum, politum. Elytra marginae laterali forterior callosa.

Long. 20–23 millim.

Hab. MEXICO, Toxpam, Cordova (Sallé), Jalapa (Höge); PANAMA, Volcan de Chiriqui 4000 to 6000 feet (Champion, Trötsch).

An example from Toxpam is figured.

7. Cyclocephala fuliginea. (Tab. XVII. fig. 20, \(\sigma\).)

*Cyclocephala fuliginea*, Burm. Handb. der Ent. v. p. 42.

Hab. MEXICO (Sallé); GUATEMALA, Capetillo (Champion).—SOUTH AMERICA, Venezuela, Brazil.

Differs from the other species of the section in the maxillary lobe being short and subquadrate in form, and armed on its inner apex with two teeth, and in the narrower and more divergent lobes of the ligula.

A Mexican specimen is figured.

II. Clypeus elongatus, semiovatus; ligula medio anguste incisa mentoque apice integro.

8. Cyclocephala complanata. (Tab. XVII. fig. 21, \(\sigma\).)

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Hab. Mexico 1, San Andres Tuxtla (Sallé), Jalapa (Höge); British Honduras, R. Sarstoon (Blancaneux); Guatemala, Capetillo, Zapote (Champion); Nicaragua, Chontales (Belt).

Mexican specimens have the elytra pale testaceous, with the suture and a very long, oblique, dorsal vitta on each elytron castaneous, or they are spotless; in those from Guatemala the dark castaneous pigment prevails, and the broadened oblique vitta sometimes coalesces with an equally widened sutural border, the outer margin also being castaneous. In the darker examples the thorax is red. The hind margin of the thorax has a continuous, deeply impressed groove. The marginal callosity of the elytra in the female is obsolete, or exists only as a slightly raised spot, distant from the margin, which latter is thickened (but straight) for a short distance.

An example from Jalapa is figured.

9. Cyclocephala sanguinicollis.

Cyclocephala sanguinicollis, Burm. Handb. der Ent. v. p. 49 1.

Hab. Mexico 1, Toxpan, Sanzecomapan (Sallé).

In form, colour, and sculpture, this species closely resembles C. gravis, which belongs to the section with sinuated clypeus. The female elytral dilatation differs, however, much from that of C. gravis, being much behind the middle, and accompanied by a small, narrow callosity.

10. Cyclocephala mutata.


Hab. Mexico, Cordova (Höge), Playa Vicente, Campeche (Sallé), North Yucatan (Gaumer), Yucatan 1; Costa Rica (Sallé, Van Patten), Volcan de Irazu 6000 to 7000 feet (Rogers); Panama, Volcan de Chiriqui 4000 to 6000 feet (Champion).

Among the numerous unicolorous testaceous species with black crown, this is distinguished by its semi-ovate clypeus, variable in size, but smaller and relatively narrower than in C. signata, with the front edge sometimes almost obtusely truncated, but reflexed and without trace of emargination. The thorax is relatively much smaller than in C. signata, but the sides and hind angles are similarly rounded. The underside is light yellowish, the underside generally more rufous. The male has long hind tarsi with long claws; the female is distinguished from the same sex of the allied species by the lateral margin of the elytra a little behind the middle being dilated, forming a lobular projection, near which the surface has a slight callosity. This is probably what Burmeister means by his phrase "Das weibchen zeigt de schmale randschwiele recht deutlich."
The specific name adopted by Burmeister was preoccupied by Chevrolat for an evidently very distinct Cuban species, the sole example of which, as Chevrolat records, was destroyed.

11. Cyclocephala sororia. (Tab. XVII. fig. 22, ♂.)

*Cyclocephala cerea*, Burm. Handb. der Ent. v. p. 51?

*C. mutata* proxime affinis, differt tantum corpore magis ovato, tarsis posticis ♂ cum unguibus paullo brevioribus, et præcipue ♀ elytris nec callosis nec margine dilatatis.

Long, 17-20 millim. ♂ ♀.

*Hab.* Mexico, Yolos (Sallé); British Honduras, R. Sarstoon (Blancaneaux); Guatemala, Zapote, Capetillo (Champion); Costa Rica (Sallé, Van Patten).

The females of this species are readily distinguishable from those of the preceding by the lateral margin of the elytra being simple, like that of the male, except for the rather more thickened edge; there is no trace of the slight lobular projection or surface-callus. The males show no constant difference: all that can be said is that their general form is more ovate, and the hind tarsi, with their claws, when very attentively compared appear to be a little shorter. The colour is the same, but a good proportion of examples, especially from Guatemala, are very dull castaneous on the underside. The punctuation of the whole upper surface varies in both species, but it is nearly always very fine, and the sides of the forehead and thorax show no trace of the larger punctures which are so conspicuous in *C. signata* and its immediate allies. The pygidium in both species is glabrous and nearly smooth; but in *C. sororia* it is generally more highly polished and freer from punctuation than in *C. mutata*.

The species must be closely allied to the Jamaican *C. cerea*, Burm., but the description of the latter equally well applies to *C. epistomalis*.

A Costa Rican specimen is figured.

12. Cyclocephala epistomalis.

*C. mutata* et *C. sororia* simillima, sed differt clypei margine antico elevato et inerassato epistomateque declive vel fere horizontali. Elongato-ovata, convexe, fulvo-testacea, subtus cum pygidio sicc-o-nigra, nitida, capite nigro, femoribus rufo-testaceis; thorace sparsim subtiliter punctulato, angulis posticis mediocríter rotundatis; elytris sat densè punctulatis, striis gemiínatis flexuosis punctulatis utrinque duabus; pectore fulvo-pilo-so; pygidio polito, subtiliter piliferó-punctulato, ♀ leviter longitudinaliter convexo; prosterni processu postcoxales alto.

Long, 20 millim. ♀.

*Hab.* Guatemala (Sallé), Capetillo (Champion).

Two examples only, both females. In one the raised anterior margin of the clypeus is slightly sinuated, in the other it is rounded; the outline of the clypeus is semiovate only by including the anterior margin of the epistome. The affinities of *C. epistomalis* are with *C. mutata* of the present group, and not with *C. mafaffa* of the sinuated-clypeus group. The peculiarity in the form of the clypeus lies in the broad and very oblique posi-
tion of the front edge, which in all other species is vertical. The mandibles are normal, i. e. forming moderately narrow blades, with truncated apex and sinuated outer edge.

III. Clypeus parcus; mentum apice rotundatum vel rectum, integrum.

A. Antennae clava in ♂ valde elongata.

13. Cyclocephala immaculata.

Melolontha immaculata, Oliv. Ent. i. 5, p. 29, t. 8. fig. 95.*

Hab. *NORTH AMERICA 2 3 4.—MEXICO 5, Northern Sonora (Morrison), Villa Lerdo in Durango (Höge), Cordova (Sallé).—WEST INDIES, Guadaloupe 1.*

14. Cyclocephala coahuilæ. (Tab. XVII. fig. 23, ♂.)

C. immaculata affinis et simillima; differt elytris ♂ medio margine laterali rotundato-dilatato et incrassato. Flavo-testacea, vertice nigro, supra glabra; clypeo sicut in C. immaculata parvo, obtuse triangulari, ruguloso-punctato palpique maxillaris articulo ultimo cylindrico vix perspicue foveato; thorace sparsissime punctato, spatio dorsali lari; elytris striato-punctatis; pygidio ♂ longo erecto piloso. Prosternum ante coxas obtuso carinatum, processu postcoxali alto spicu lato obtuso. ♂. Antennae clava e ceteris articulis longiores. ♀. Antennæ clava elongata, ceteris articulis paullo breviore.

Long. 12-16 millim. ♂ ♀.

Hab. MEXICO, Saltillo and Parras in Coahuila (Dr. Palmer).

Almost the only difference between this species and *C. immaculata* rests, as in *C. sororia* and *C. frontalis*, on a secondary sexual character, which must be of systematic as it is of physiological importance. In the numerous female examples of *C. immaculata* examined from various localities the lateral margin of the elytra near the middle shows no trace of dilatation or thickening.

Five examples (three males, two females).

15. Cyclocephala castaniella. (Tab. XVII. fig. 24, ♂.)

C. immaculata affinis; oblonga, supra glabra, castaneo-fusca, clypeo, partibus oris, antennis et pedibus fulvo-castaneis; clypeo parvo, semi-ovato, ruguloso-punctato; thorace sparse, versus angulis posticis crebris et grossis, punctato, antice gradatim angustato, angulis posticis rotundatis; elytris utrinque striis tribis grosse punctatis geminatis flexuosis, interstiliis punctatis, limbo posteriori minute punctulato; prosterno antice sat anguste carinato, processu postcoxali alto. ♂. Pygidium glabrum, margine fimbriato-punctulato; antennarum clava ceteris articulis conjunctis longiori; tarsi antiquo uncio majore spicis fuso. ♀. Elytra pone medium gradatim dilatato-explanata ibique margine incassato; pygidium glabrum, politum; antennarum clava sat elongata.

Long. 12-15 millim. ♂ ♀.

Hab. COSTA RICA, Volcan de Irazu 6000 to 7000 feet (Rogers).

A large number of examples; without colour variation, except that the elytra in the females are sometimes dark brown with the sides, or vaguely-defined spots, reddish-castaneous.
16. **Cyclocephala curta.** (Tab. XVII. fig. 25, ♂.)

Breviter oblongo-ovata, flavo-testacea, glabra, vertice vix infuscate, elytris utrinque masculis vagis (haud vitiis) castaneis (2 anterioribus, 1 posteriore, interdum minutis vel deficientibus); clypeo siue in C. immaculata; thorace transverso, lateribus regulariter rotundatis, grosse sparsim punctato; elytris utrinque costulis 3 sat elevatis et striis punctatis delimitatis, interstitionibus grosse ruguloso-punctatis. Pygidium glabrum et impunctatum. Ungues conspicuus elongati. ♂. Tarsi antici uige majeure acuminato integro; antennarum clava elongata, ceteris articulis conjunctis fere aequali. ♀. Elytra apud medium leviter gradatim explanato-dilatata ibique margine medio-crater angustato.

Long. 11 millim. ♂ ♀.

*Hab. Mexico, Tuxtla, Catemaco, Tehuantepec (Sallé).* Four examples.

Bears the name *C. curta*, De Brolle, MS., in the Sallé collection. A Catemaco specimen is figured.

**B. Antenna clava in utroque sexu parva.**

a. Clypeus breviter semiovatus.

17. **Cyclocephala lunulata.**

*Cyclocephala lunulata*, Burm. Handb. der Ent. v. p. 62.¹

*Hab. Mexico, Presidio, Ventanas (Forrer), Monclova in Coahuila (Dr. Palmer), Orizaba, Cordova, Tuxtla, Playa Vicente, Chiapas, Campeche (Sallé), Jalapa, Misin a (Höge), North Yucatan (Gaumer); British Honduras, Cayo (Blancaneaux); Guatemala, Chacoj, Capetillo (Champion); Nicaragua, Chontales (Belt, Janson); Costa Rica, Volcan de Itazu 6000 to 7000 feet, Cache (Rogers); Panama, Bugaba (Champion).—South America to South Brazil.¹

Female examples agree exactly with others of the same sex, with which I have compared them, from the Amazons and South Brazil. The lateral margin of the elytra in the female is situated below the middle, followed by a dilatation, which gradually subsides behind, and there is an elongate narrow callus, sometimes only slightly indicated, near the margin. The characteristic postero-discoidal circumflex mark of the elytra is sometimes absent, and the elytra wholly testaceous.

18. **Cyclocephala fulgurata.**

*Cyclocephala fulgurata*, Burm. Handb. der Ent. v. p. 63.¹

*Hab. Mexico, Playa Vicente (Sallé)—South America, Colombia.¹ Amazons.

Closely allied to the preceding, but distinguished generally by the zigzag posterior fascia of the elytra. The very different position of the lateral dilatation of the elytra in the female is a still more definite specific character; this is situated far behind, towards the apical curve, and is short and angular, with a smooth callus on the surface,

19. **Cyclocephala comata.** (Tab. XVIII. fig. 1, ♂.)

*C. lunulata* proxiime affinis et similis, sed paullo oblongior, longe fulvo-pilosa et capite toto flava. Oblongo-biol. Centr.-Amer., Coleopt., Vol. II. Pt. 2, October 1888. 2 RR
ovata, corpora pedibusque longe fulvo-pilosis, flavo-testaceas, thorace vitæ abbreviata dorsali signaturaque X-formi utrinque discoidali, elytrisque sicut in C. lunulata utrinque litera angulata versus basin alteraque postica V-formi, interdum conjunctis vel fere obliteratis, castaneis; clypeo parvo, semi-ovato, margini antico valde reflexo ruguloso-punctato; thorace discrete punctato, angulis posticis rotundatis; elytris subtilius punctatis, strīis semiovatis parum perspicuus; pygidium convexum, crebre punctulatum et longissime erecte pilosum. Corpus subitus cum pedibus pilosum. 


Long. 17 millim. ♂.

*Hab.* Mexico (*Sallé, ex coll. Sturm*), Peras (*Sallé*).

Three examples only, all males. Bears the MS. name *C. ochreata*, Sturm.

20. *Cyclocephala* —?

*Hab.* Mexico, Playa Vicente (*Sallé*).

A single example apparently distinct, but imperfect and discoloured.

b. *Clypeus apice recte truncatus, reflexus, angulis distinctis.*


*Cyclocephala* melanoccephala, var. (?) *dimidiata*, Burm. Handb. der Ent. v. p. 57. 
*Cyclocephala* elegans, Horn, Trans. Am. Ent. Soc. 1871, p. 337; t. 3, fig. 34. 
*Cyclocephala* dimidiata, Horn, loc. cit. 1875, p. 148.

*Hab.* North America, Lower California ².—Mexico ¹, Toxpan, Cordova, Chiapas (*Sallé*), Villa Lerdo in Durango, Coatepec, Acapulco, Jalapa (*Högen*); Guatemala, Acayuno 5100 feet (*Salvin*), Capetillo, Pantaleon (*Champion*); Nicaragua, Chontales (*Belt, Janson*); Costa Rica (*Van Patten*), Volcan de Irazu (*Rogers*); Panama, Chiriqui (*Ribbé*), Bugaba, San Miguel in the Pearl Islands (*Champion*).

22. *Cyclocephala* guttata. (Tab. XVIII. fig. 2, ♂.)

Elongato-ovata, subcyllindrica, subitus rufo-testacea vel partim nigro-castanea, supra flavo-testacea, vertice nigro, thoraceque guttis rotundis 4 transversim seriatis, scutello castaneo; clypeo parvo, subtrapezoidal vel semiovato, antice truncato, margini antico reflexo, antice lavi postico cum fronte punctato; thorace sat grosse discrete punctato, angulis posticis rotundatis; elytris sat grosse striato-punctatis, interspatiis subruguloso-punctatis; pygidium glabrum, ruguloso-punctatum, paullo convexum. Elytra ♂ margine laterali simplici.

Long. 9-11 millim. ♂.

*Hab.* Mexico, Playa Vicente (*Sallé*); Guatemala, Yzabal (*Sallé*).

Three examples only, all females.

23. *Cyclocephala* ovulum. (Tab. XVIII. fig. 3, ♀.)

*C. minuta* (Burm.) similis, brevis sat regulariter ovata, flavo-testacea (subitus rufo-testacea), vertice nigro, pygidio (♀ ♀) dense punctulato-ruguloso sive alutaceo opaco; clypeo parvo, trapezoidal, margini antico reflexo;
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thorace sparsim punctato, anguis postica mediocriter rotundatis; elytris grosse hand dense striato-punctatis, margine laterali (♂ Z) ante medium sinuato et post hoc paullo dilatato, limbo laterali impunctato; tibiis anticae dentibus tribus validis, nigris; pygidio (♂ Z) parum convexo. ♀ Tarsi antici ungue majore valde elongato, apice anguste fisso. ♀ Elytra prope dilatationem callosa marginque paullo incrassato.

Long. 9-11 millim. ♂ Z.

Hab. GuatemaLa, San Gerónimo (Champion); NicaraGuA, Chontales (Janson); Panama, David (Champion).—South America, R. Amazons.

A large number of examples. In colour, and especially in the sculpture of the pygidium, agrees with Burmeister's description of C. testacea; but Burmeister places C. testacea in his subsection "body elongate cylindrical," whereas our species is quite remarkably short and rotundate-ovate. His description of the claw-joint of the anterior male tarsi, "mässige verdickt," is also inapplicable, as our species has the claw-joint very unusually large and thickened, with the larger claw of extraordinary length and stoutness. The closely allied C. minuta (found also on the Amazons) is a smaller insect, 7 millim., and has a coarsely punctured shining pygidium. A Chontales specimen is figured.

IV. Clypeus latus, antice sinuatus; mentum ante palpos angustum, subrotundatum, antice medio plerumque anguste incisum.

24. Cyclocephala lucida. (Tab. XVIII. fig. 4, ♂ .)

Cyclocephala lucida, Burm. Handb. der Ent. v. p. 671.

Hab. Mexico 1, Orizaba, Santecomapan (Salle), Cordova, Jalapa (Höge); Guatemala, Zapote (Champion); NicaraGuA (Salle), Chontales (Belt, Janson); Panama, David (Champion).

Distinguished by the elytra having together eight black spots arranged in a circle, of which the two nearest the scutellum are the largest. The black spots on the thorax are more variable in form and number, and in many examples disappear without corresponding diminution of the elytral spots. The largest examples and those with the largest black spots occur in Mexico. In specimens from Guatemala and further south the spots are generally smaller and the general form of the insect more slender and paler in colour, but large-spotted examples, though rarer, occur in Guatemala, as small-spotted ones do in Mexico. The female is distinguished by the lateral margin being abruptly produced into a small lobe a little behind the middle, the surface of the elytron between the lobe and the slightly elevated callus being depressed. Found commonly by Mr. Champion in the spathes of large Arums at Zapote. A specimen from Orizaba is figured.

25. Cyclocephala amblyopsis. (Tab. XVIII. fig. 5, ♂ .)

C. lucida proxime affinis, sed minor et angustior, flavo-testacea, nitida, vertice cum fronte thoracis maculis duoibus elytrorumque macula utrinque prope scutellum (rarissime macula parva discoïdali versus apicem)

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nigris; variat elytris vel elytris et thorace immaculatis; elytrum quam in *C. lucida* apice latiore et minus sinuate, interdum obtuse truncato, cum fronte sparse punctato; thorace subtilius punctato elytrisque subtiliter sat sparsim praecipue lineatim punctulato. \textdegree. Tarsi antici ungue majore apice lato fuso; pygidium versus apicem convexum, sparse punctulatum, apice ciliatum; antennae breves, clava parva. \textdegree. Pygidium longitudinaliter haud convexum, punctulatum. Elytra post medium callo ovato margineque vicino anguste lobato-proacto.

Long. 16–19 millim. \textdegree \textdegree.


*Hab.* *Guatemala*, Zapote (*Champion*); *Nicaragua*; *Costa Rica*.

A large number of examples of both type-form and variety; the latter requires a distinct name on account of the peculiarity of its distribution, all the numerous examples from Zapote belonging to it, whilst further south the spotted type-form prevails mingled with very few individuals of *C. monochroa*. An example from Chontales is shown on our Plate.

26. *Cyclocephala gravis*.

*C. lucida* affinis: minor, rufo-castanea, polita, vertice nigro elytrisque flavo-testaceis; elytrum fere sicut in *C. lucida*, sed apice magis sinuate, arcuato-punctato; sutura frontali acuta impressa, flexuosa; thorace consipicue punctato; elytris sat dense punctulatis et seriis punctularum utrinque geminatis quatuor, suturam rufescenti. \textdegree. Pygidium valde convexum, punctulatum, disco posteriori laevior; tarsi antici ungue majore fuso; antennae cum clava breves. \textdegree. Pygidium fere sicut in \textdegree. convexum; elytra a \textdegree. parum diversa, haud callosa, apud medium gradatim leviter dilatata ibique margine paululum incrassato, post dilatationem angustata.

Long. 17–18 millim. \textdegree \textdegree.


A large number of specimens offering scarcely any variation. I have adopted the MS. name *C. gravis* which the species bears in the Sallé collection. Venezuelan examples were sent to me some years ago from Paris under the name *C. concolor*, Burm.: this is a very different and much larger species belonging to the group in which the clypeus is elongate, semiovate, and entire.

27. *Cyclocephala maffia*. (Tab. XVIII. fig. 6, \textdegree.)

*Cyclocephala maffia*, Burm. Handb. der Ent. v. p. 69.

*Hab.* *Mexico* 1, Orizaba, Cordova, Eleta (*Sallé*), Jalapa (*Höge*); *Guatemala* (*Sallé*), Zapote, Las Mercedes (*Champion*); *Nicaragua*, Chontales (*Belt, Janson*); *Costa Rica* (*Rogers*).

A Mexican specimen is figured.
28. Cyclocephala picta. (Tab. XVIII. fig. 7, ♀.)
Hab. México 1, Orizaba (Sallè).

29. Cyclocephala conspicua. (Tab. XVIII. fig. 8, ♂.)
Hab. Nicaragua, Chontales (Belt 1, Janson).

30. Cyclocephala atripes. (Tab. XVIII. fig. 9, ♂.)
Brevius oblongo-ovata, fulvo-testacea, capite toto, elytrorum margine angusto basali et laterali (prope humerose), pectore lateribus pedibusque toto, nigris, palpis antennisque piceo-rufis; clypeo transversim quadrato, apice late sinuato; thorace brevi et lato, dispare punctato; elytris utrinque striis punctatis geminatis tribus, interspatiis minutiis et crebrius punctulatis, versus basis et suturam punctis majoribus intermixtis. ♂. Pygidium mediocriter convexum, setifero-punctatum.
Long. 17 millim. ♀.
Hab. Nicaragua, Chontales (Janson).

Two males only.

31. Cyclocephala ligyrina. (Tab. XVIII. fig. 10, ♂.)
C. variolosa (Burm.) affinis, sed robustior thoraceque basi hand marginato. Oblonga, convexa, postice paullo ampliata, piceo-rufa vel nigra unicolor; capite cum clypeo paullo convexo, sparse punctulato, clypeo antice paullo angustato, angulis rotundatis, margine apicali sinuato; thorace sparse punctato, lateribus leviter usque ad angulos obtusissimos posticos rotundatis; elytris utrinque striis punctatis gaminatis tribus, interspatiis et limbo lato laterali confusae punctatis, punctulis minutiis intermixtis, punctis majoribus circularibus et umbilicatis; pygidio sat regulariter subdense punctato. Mandibulas fere sicut in C. maffa, sed extus minus sinuato; ligula angusta, subconcaeva, margine antice rotundato et leviter inciso; tibiae antice dentibus 3 robustis prope apicem approximatis. ♂. Tarsi antici articulos unguiculari cum ungue majore valde incrassato, hoc apice fissite; tarsi postici nec elongati nec subtitus ciliati; pygidium parum convexum. ♀. Pygidium longitudinaliter hand convexum; elytra margine laterali a basi usque longe ultras medium gradatim dilatato et incrassato, subito terminato, striisque marginali profunda.
Long. 25–26 millim. ♀.♀.
Hab. Nicaragua, Chontales (Belt); Panama, Chiriqui (Trötsch).

Three examples. This species very closely resembles the South-Brazilian C. variolosa, the female of which has a similarly thickened and to beyond the middle gradually widened lateral margin; but the latter is strikingly distinguished by the uninterrupted basal margin of the thorax, a most unusual character in the genus Cyclocephala.

32. Cyclocephala proba. (Tab. XVIII. fig. 11, ♀.)
Hab. Nicaragua, Chontales (Belt 1).

Similar in colour and sculpture to the preceding, but a relatively shorter insect, and differing in the broader and more quadrate form of the clypeus. It is a more aberrant
species, the sides of the thorax being sinuated behind to the distinct though obtuse hind angles, and the mandibles differing from those of *C. mafaffa* and allies in being gradually narrowed to the apex. The sides of the elytra in the female are simple, as in the males of the genus.

33. *Cyclocephala melane.*

Oblonga, medioanter convexa, nigra, nitida, antennis palpisque rufo-piceis; clypeo sat elongato trapezoidalii, angulis antice rotundatis, margine antice sinuato, haud dense ruguloso, fronte grosse punctata spatili lavibus; thorace sparissimè punctulato, antice et lateribus punctis nululis grossis setiferis, basi acuto marginato angulisque posticis distinctis sed obtusis, lateribus versus angulis posticis parum rotundatis; elytris sat grosso et regulariter punctato-striatis, versus latera et apicem lineam setiferum-punctatam; pygidio (♂) convexo, punctato et longe rufo-pilosso. Prosterni processus postocallis tuberculo supra magnno rotundato. Mandibulis quae clypeus hau breviores, apice extus hamata. Mentum sicut in *C. mafaffa*, antice angustato ligula apice rotundata. Antennas 10-articulatas. Tibiae antice densibus approximatis apicibus duoibus; tarsi antici (♂) ungue majore fisco.

Long. 22 millim. ♂.


One male example. Allied to *C. variolosa*, Burm., with which it agrees in the margined base of the thorax; but it is more parallel-sided and of a deeper black colour, and the clypeus is longer. It deceptively resembles at first sight *C. nigerrima*, from which it differs so greatly in the length of the mandibles and in the form of the ligular part of the mentum.

34. *Cyclocephala nigerrima.* (Tab. XVIII. fig. 12, ♂.)

Elongata, elongo-ovata, nigerrima, polita, pectore, pedibus abdomenisque lateribus haud dense vulpino-pilosos; clypeo magno subquadrato, antice leviter angustato, angulis distinctis, margine antico medioanter reflexo, subsinuato, cum vertice sparsim punctulato; thorace subtilissimè et sparsissimè punctulato, angulis posticis distinctis sed obtusissimis, basi emarginato; elytris plurumque fere levibus politis, interdum punctatissimè et geminato-striatis. ♂. Pygidium convexo, sat fortiter disertè setiferum-punctato; tibiis antice tridentatae, dense superiori parvo et subremoto; tarsi antici ungue majore profunde fisso. ♀. Pygidiurn recte declive punctatum, glabrum; tibiae antice acuta tridentatae; elytra medio gradatim leviter dilatatæ ibique margine ineressato. Mandibulis quan clypeus multo breviores, apice obtuse acuminatae. Ligula lata, subconcava, apice fere recta.

Long. 22–25 millim. ♀ ♀.

*Hab. Costa Rica* (Van Patten), Volcan de Irazu 6000 to 7000 feet, R. Succio (Rogers).

A large number of examples. Closely allied to the following, *C. ampitiata*, notwithstanding the different outline of the clypeus. Although coming within the definition of Burmeister’s section “Cyclocephala sinuata” the sinuation of the clypeus is different from that of *C. mafaffa* and its allies, being a gradual incurvation from angle
to angle with the angles well-marked, instead of being a curved sinus in the middle with the angles rounded. The mandibles are remarkably small and much shorter than the clypeus; on dissection they are found to be closely applied to the roof of the mouth.

35. *Cyclocephala ampliata.*

Robusta, praecipe elytris late quadrato-ovatis, castaneo-rufa, polita, elytris (sutura excepta) fulvis; clypeo magno subquadrate, antice perparum angustato, angulis antice acutis margineque antico acute reflexo valde flexuoso; thorace quam elytra multo angustiora, rotundato convexo, angula postica distinctis sed obtusissimis, basi marginato, teto sparsam punctulato; elytris subtilissime sparsam punctulatis et geminato-striatis; pygidio convexo, sat dense setifero-punctato. ♂. Tiber antice spicis acute bidentato; tibiis tertio subobsoleto supra reniforme, tarsi antici ungue majore fuso; mandibulae quam clypeus multo breviores, acuminatae, baud recurvae. Ligula late concava, antice leviter rotundata, integra. Antennae 10-articulae.

Long. 23 millim. ♂.

*Hab. Nicaragua; Chontales (Belt).*

Two damaged male examples.

*Species incerta sedis.*

36. *Cyclocephala — ?*

*Hab. Nicaragua (Sallé).*

A single female example.

**DYSCINETUS.**


*Chalepus*, MacLeay, Horse Ent. i. p. 149 (1819); Burmeister, Handb. der Ent. v. p. 75; Lacordaire, Gen. Col. iii. p. 403 (partim) (nom. preocc., Thunberg, 1805).

Upwards of twenty species of this exclusively American genus have been recorded. Although chiefly tropical a few are found in the warmer temperate zone both north and south.

Some of the species greatly resemble certain forms of Hydrophilidae, e.g. *Hydrocharis.*

1. *Dyscinetus lavipunctatus.*

*Dyscinetus trachypygus* (partim), Burm. Handb. der Ent. v. p. 79.

*Hab. Mexico*, Cordova, Toxpa (Sallé), Paso del Macho, Paso de San Juan, Acapulco (Höge), Temix in North Yucatan (Gaumer); British Honduras, R. Sarstoon (Blancaneaux); Guatemala, Paso Antonio (Champion); Nicaragua (Sallé), Chontales (Janson); Panama (Boucard).

Closely allied to *D. dubius* (Oliv.) of Cayenne, from which it differs in its narrower oblong form and in the pygidium being throughout confluent-punctate in both sexes; the four costae on each elytron are also broader and flatter and the interspaces less numerousy punctured. In the broad apex and narrow reflexed margin of the clypeus
and the broadly rounded mandibles the species closely resembles *D. dubius*. The closely sculptured pygidium led Burmeister to confuse it with the North-American *D. trachyppygus*; this latter is smaller and more ovate in form, more strongly punctate, and has the pygidium still more densely sculptured and opaque and in the female furnished with two polished callosities near the apex; in *D. levipunctatus* the sculpture of the pygidium is not so dense and leaves narrow smooth elevated interspaces.

The claw-joint of the anterior tarsi in the male is slender and straight as in the female, with level under surface, and the larger claw is scarcely thickened and forked; in *D. trachyppygus* it is much thickened and strongly sinuated underneath, with long and thick much deflected larger claw.

Two allied species (*D. dubius* and another undescribed) similarly differentiated in the males are found together also on the Lower Amazons, and I at first thought they were cases of dimorphism in the male; but the differences in the male claws are associated with other differences in the form and sculpture of the pygidium. In *D. levipunctatus* the pygidium is scarcely convex even in the male; in the following species it is rather strongly convex in this sex and triangular, but has compressed sides in the female.

I have adopted the MS. name given to the species by Chevrolat in the Sallé collection.

2. **Dyscinetus frater.** (Tab. XVIII. fig. 13, ♂)

*D. levipunctatus* simillimus, elongato-oblongus, postice vix dilatatus, niger, clypeo plurumque fere lavi, antice lato margineque ante (nec in medio altius) reflexo, fronte panceeri punctato; thorace passim distanter et mediocrer punctato; clypeo trii striis geminatis punctulatis vix impressis, costulis quatuor planis, interspatis plurumque sparse punctulatis.

♂. Pygidium crebro confluenter punctulatum, medio versus apicem leve politum. Tarsi antiei articulo unguiculati robusti, subius sat profunde sinuato, uige majore latissimo, deflexo, inequaliter fissi.

♀. Pygidium triangulare, param convexum, sparse punctatum, nitidum, basi crebro confluenter punctatum.

Long. 20 millim. ♂ ♀.

Hab. Mexico, Paso del Macho, Paso de San Juan in Vera Cruz, Tejeria (Höge).

3. **Dyscinetus picipes.**

*Chalepus picipes*, Burn. Handb. der Ent. v. p. 79 1.

Hab. Mexico, Cordova, Toxpan (Sallé), Jalapa, Toluca, Vera Cruz, Tejeria (Höge).—WEST INDIES 1, Cuba, Santo Domingo, Guadaloupe.

The strong and separated punctuation of the pygidium in both sexes mentioned by Burmeister is very constant; but a more important specific character is the very robust anterior tarsi of the male, the fourth joint of which is prolonged at the apex beneath (the prolongation finely striated) and the claw-joint strongly sinuated on its under surface, with the major claw remarkably broad, deflected, and unequally cleft, and the slender division divergent. The clypeus is always undulate-strigose and much narrower in front than in the preceding species, with its reflexed margin higher and sometimes
flexuous in the middle. The ligula differs from that of *D. lavipunctatus* in being deeply angulate-emarginate; and the mandibles differ greatly in being sinuated externally towards the apex, and not broadly rounded as in the typical species of the genus.

4. **Dyscinetus barbatus**.

*Scarabaeus barbatus*, Fabr. Mant. Ins. i. p. 10. no. 91.


*Chalepus barbatus*, Burm. Handb. der Ent. v. p. 77.

*Chalepus hydrophiloides*, Burm. loc. cit. p. 77.

*Hab. Guatemala* (Sallé).—**South America**, Pernambuco to Santa Catarina; **West Indies** ("India," Fabr.).

On comparing a large series from many localities in the West Indies and Brazil, I find no difference of any moment among them and suspect that *C. hydrophiloides*, Burm., is the same species. The sexual characters, both male and female, are the same throughout.

5. **Dyscinetus bidentatus**.

*Chalepus bidentatus*, Burm. Handb. der Ent. v. p. 81.


*Hab. Mexico*, Cordova (Sallé), Vera Cruz, Tejeria (Höge).—**South America**, Venezuela, Amazonas.

The description of *Cyclocephala brevis*, Perty, seems to me to apply to this species rather than to *D. gagates*, to which Burmeister refers it with doubt.

**STENOCRATES.**

*Stenocrates*, Burmeister, Handb. der Ent. v. p. 83 (1847).

Six species of this genus are known, all tropical American. Besides the simple anterior tarsal claws of the males, the excessively compressed hinder tibiae distinguish the genus from *Dyiscinetus*.

1. **Stenocrates laborator**.

*Geotrupes laborator*, Fabr. Ent. Syst. i. p. 33.


*Hab. Mexico*, Tuxtla (Sallé).—**South America**, to South Brazil.

A single example in the Sallé collection is all that I have seen from our region of this common South-American species. It differs from the southern form in the margin of the frontal suture being somewhat raised on each side and in the fewer punctures of the thorax.

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This new genus is necessary for the reception of the *Heteronychus humilis* of Burmeister, a species which its describer afterwards excluded from *Heteronychus* on account of the absence of stridulating-surface from the propygidium, and which also differs from *Heteronychus* by the simple claw-joints of the male anterior tarsi. The under surface of the elytra near the margins is clothed with fine laid hairs. In the bidentate clypeus *Euetheola* much resembles *Dyscinetus bidentatus*, from which it generally differs again in the simple fore tarsi of the male, and also in the shape of the mandibles. The last-mentioned character separates it from *Stenocrates*, with which genus it has the closest affinity, and to one species of which (*S. holomelcena*) it bears so striking a resemblance that if the mandibles formed the only point of difference a generic separation would scarcely be justified; but *Euetheola* has a further distinguishing character in the short basal joint of the hind tarsi, which effectively separates it from *Stenocrates*, the latter having this joint always long and linear.

1. **Euetheola humilis.** (Tab. XVIII. fig. 14.)


*Hab. Mexico, Tuxtla (Sallé), Tlacotalpam, Cordova (Höge); Panama, Lion Hill (McLeannan).—South America to South Brazil¹.*

A Panama specimen is figured.

**Ligyrus.**

*Ligyrus*, Burmeister, Handb. der Ent. v. p. 542 (1847); Lacordaire, Gen. Col. iii. p. 408.

*Tomarus*, Erichson, Wieg. Archiv für Naturg. 1847, i. p. 95.

About a dozen distinct species of this genus have been described, all American, and spread over the temperate as well as the tropical zones. The characters given by Burmeister and Lacordaire require to be modified as regards the fore tarsi, which both authors give as simple in both sexes, but which in about half the species have the outer claw, in the male, thickened and deflected. The species are otherwise so closely related, all agreeing in the singular position of the stridulating-surface, viz. underneath the apical part of the elytra, and not, as in the Dynastidae generally, on the propygidium, that the genus cannot well be divided. The mandibles are broad and flattened, with their apical edge armed with two teeth, and their outer edge strongly rounded, or in some cases forming a third tooth.
I. Tarsi antici utroque sexu simplices.

1. Ligyrus latifovea. (Tab. XVIII. fig. 15.)

_Heteronychus scarabaeinus_, Burm. Handb. der Ent. v. p. 100

_Ligyrus scarabaeinus_, Burm. loc. cit. p. 542 (nee Cyclocephala scarabeina, Perty).

_Hab._ Mexico, Teapa, Cosamaloapam (Sallé)._—South America, Guiana, Amazons.

Two examples (male and female), agreeing well with others from Demerara and the Amazons with which I have compared them. Burmeister, as is clear from the note following his description, confounded two widely-distinct species under his _L. scarabaeinus_. The “smaller-headed” form, with deeper thoracic excavation, to which his unsatisfactory description chiefly applies, is that in which the anterior tarsi are simple in both sexes; the “larger-headed” form, which appears to be equally common in Guiana and the Amazons valley, has a strongly thickened anterior claw-joint in the male, with the fourth joint produced and striated beneath. The latter is of a deeper black colour, and more finely punctured; the clypeus shows a wider space between the apical teeth; and the thoracic pit is narrower and triangular. This is, no doubt, the _Scarabaeus ebenus_ of De Geer (Mém. Ins. iv. p. 317, t. 19. f. 1), and according to Kirsch (Berl. ent. Zeitschr. 1873, p. 346), for whom von Harold compared specimens with the type at Munich, it is also the true _Cyclocephala scarabeina_ of Perty.

_L. ggas_, Erichs. (Schomburgk, Reise Guian. iii. p. 561), is evidently closely allied to _L. latifovea_; but the closely-punctured elytra and small shallow thoracic pit apply better to a somewhat smaller species, of which I have many from the Amazons.

_Ligyrus latifovea_ varies in size from 27 to 37 millim.; the clypeus is longer and more narrowed anteriorly than in _L. ebenus_, and the apical teeth are much more nearly approximated; and the thorax has a higher and sharper frontal tubercle, and a much broader (in large examples subquadrate) excavation. In both species the mandibles are bidentate, and the tibiae simply tridentate.

2. Ligyrus tumulosus.

_Heteronychus tumulosus_, Burm. Handb. der Ent. v. p. 101

_Ligyrus tumulosus_, Burm. loc. cit. p. 542.

_Hab._ ?North America,—Mexico, Vera Cruz (Höge); British Honduras, Belize (Blancaneaux)._—South America, Colombia; West Indies.

Burmeister describes _L. tumulosus_ as reddish-brown and strongly punctured (including the pygidium), with broad bidentate clypeus and front transversely carinated (carina depressed in the middle), and the thorax furnished with a feeble frontal tubercle and slight depression. These characters apply to a species of which I find only two examples in our collections, and which is very distinct from the deceptively-similar _L. sallaei_ described below. To Burmeister’s diagnosis must be added the important
characters that the anterior tarsi are simple in both sexes, and the tibiæ tridentate, i.e. without trace of a fourth upper tooth. The size ranges from 17 to 21 millim.

In the Munich catalogue Scorabæus antillarum of Beauvois is given as a probable synonym of L. tumulosus. The figure cited, however, plainly refers to a species with narrow bidentate clypeus, like L. nasutus.

3. Ligyrus gibbosus.
Scorabæus gibbosus, De Geer, Mém. Ins. iv. p. 322, t. 19. f. 7†.
Podalgus variolosus, Burm. Handb. der Ent. v. p. 121 ½.
Geotrupes juvencus, Fabr. Ent. Syst. i. p. 32.
Podalgus juvencus, Burm. Handb. der Ent. v. p. 121 ½.
Ligyrus juvencus, Burm. loc. cit. p. 542.
Bothynus neglectus, Leconte, loc. cit.

Hab. North America 1 2 8 3 4 5 6.—Mexico, Mazatlan (Dr. Caesar, sec. Sturm in coll. Sallé), Durango city (Höge).

The single example from Sturm's collection agrees precisely with North-American specimens of L. gibbosus (juvencus) with which I have compared it. Numerous so-called species have been founded on slight variations which are not more marked here than in other species of the genus, and I follow Dr. Horn in re-uniting them. L. gibbosus is closely allied to L. tumulosus; but is generally shorter and relatively broader, with the teeth of the clypeus approximated, the frontal carina median and entire, and the tubercle and pit of the thorax more strongly developed. The single specimen from Durango city is much worn, but is evidently referable to the same species.

4. Ligyrus ruginasus.

Hab. North America, Texas 1.—Mexico, San Pedro in Coahuila (Dr. Palmer), Chihuahua city, Villa Lerdo in Durango, Iguala in Guerrero (Höge), Ventanas (Forrer).

Distinguished from all other species of the genus by its pointed and submucronated clypeus and reddish-testaceous colour; the anterior tarsi are simple in both sexes, and the tibiæ tridentated.

5. Ligyrus laevicollis. (Tab. XVIII. fig. 16, 3.)
Oblongo-oratus, niger, punctatus, subtus piceo-rufescens; clypeo valde angustato apiceque dentibus duobus approximatis, fronte tuberculis duobus medioriter distantibus, conicis, acutis; thorace subelongato, disco lavi, interibus disperso punctulatis, tuberculo antico parvo obtusio foveaque parva triangulari, haud profunda parvis punctato-rugulosa; elytris subgrosse punctatis, striis geminatiuti utrinque tribus, interstitio lato sub-suturali pleuramque lavi; pygidio fere lavi, basi tantum confluentur punctulato, 3 valde convexo, 2 planato-decili. Tibiae antice dente 4° brevissimo; tarsi antici 3 simplices. Mandibulas bidentatas. Long. 18–22 millim. 3 2.
Hab. Mexico, Cordova, Acapulco and Chilpancingo in Guerrero, Tapachula in Chiapas (Hüege); British Honduras, R. Sarstoon, Belize (Blancaneaux).

Agrees in some respects with Burmeister’s description of his *L. fossator*, but he says the anterior tibiae are without trace of tooth above the third. An example from Acapulco is figured.

6. *Ligyrus nasutus*. (Tab. XVIII. fig. 17, ♂.)

*Podalgus nasutus*, Burm. Handb. der Ent. v. p. 120.

Hab. Mexico, Acapulco and Chilpancingo in Guerrero (Hüege), Yucatan; Guatemala, San Gerónimo (Champion).

Twelve examples, in all of which the frontal carina is continuous (without median depression), and at each end connected with the side of the head by a short lower carina. The weak marginal tubercle of the thorax mentioned by Burmeister exists at most only as a triangular flat projection of the anterior margin, and in many examples is entirely absent. The pygidium is smooth and polished, generally with a few scattered punctures. A specimen from San Gerónimo is figured.

7. *Ligyrus pygidialis*.

A precedente differt carina frontali medio depressa vel divisa plerumque utrinque abbreviata, pygidioque in ♀ medio apice depresso utrinque obtuse calloso.

Long. 16–18 millim. ♂ ♀.

Hab. Mexico, Temax in North Yucatan (Gaumer).

A very large series of examples, constant in their differences from *L. nasutus*. The thoracic tubercle is very seldom wanting, and is sometimes a little elevated and followed by a faint depression.

8. *Ligyrus fossor*.


Hab. Panama, Volcan de Chiriqui 2500 to 4000 feet, Taboga Island (Champion).—South America, Colombia.

Very similar to *L. nasutus* and *L. pygidialis*, agreeing with the latter in the frontal carina being depressed in the middle (it is, in fact, interrupted and each half much less raised); but it differs from both in the pygidium being coarsely umbilicate-punctate, and the clypeus truncate-edentate. The frontal tubercle of the thorax is very slightly indicated. Mr. Champion obtained two examples only.
II. *Tarsi antici et ungue externo crasso deflexo.*


*Scaraebus cordatus*, Fabr. Ent. Syst. i. p. 31 (1792).


*Hab. Mexico, Tuxtlá (Sallé).—South America, Guiana 1, Peru 3, Amazons, Brazil 3; West Indies, St. Martin (coll. Bates), Guadaloupe 2.*

Deep shining black (piceo-castaneous beneath) and finely sculptured. The head is broad, and the clypeus only moderately narrowed, with two very broad and obtuse distant teeth; the mandibles are bidentate and the tibie tridentate; the thoracic tubercle is acutely conical, and the fovea rather narrow and deep and subtrianular. In the male the anterior tarsi are short and thick, the fourth joint produced beneath into a longish flattened and striated tooth, and the outer claw is very broad and deflexed, and deeply, but unequally, cleft at the apex. The size of the Amazons and West Indian examples is 27–30 millim. M. Sallé's single Mexican specimen is only 22 millim. [De Geer says the species measures “about an inch” (old French?).] It is named (with *L. latifovea*) *Ligyrus fossator* (Burm.) in the Sallé collection.

10. *Ligyrus sallaei.* (Tab. XVIII. fig. 18.)

*L. relicte* (Say) proxime affinis, sed *L. tumulos* (Burm.) similior. *Elongato-oblongo-ovatus, castaneo-fuscus* (interdum elytris rubicundis) vel nigro-picea, nitidus, pectore vulpino-villoso; clypeo valde angustato apice valde reflexo, dentibus dubios latis, carina frontali alte elevata et medio valde depressa vertice concava; thorace disperse punctato, antice simplici; elytris utrinque stris punctatis geminatis tribus, interstisibus medio interdum punctatis; tibiae dente 4° parvo, acuto, juxta 3° basin alaeque simili inter 2° et 3°. θ: Tarsi anteci medio interdum robusti, ungue majore deflexo inerassato apice intus unispinoso; articulo 4° apice subitus producto et striato. Mandibulae tridentatae

Long. 15–25 millim. θ ♀

*Hab. Mexico, Toluca, Juquila, Vera Cruz (Sallé), Mexico city (Höge, Smith), Irapuato in Guanajuato, Jalapa, Almolonga, Oaxaca (Höge); Guatemala (Sallé), Cubulco in Vera Paz (Champion); Nicaragua, Chontales (Janson); Costa Rica, Cache (Rogers).*

More than fifty examples, varying widely in size, form, and colour, but very constant in the structural characters described above. The species comes very close to the North-American *L. relicte*, having a very similar form of frontal carina, and similar mandibles and anterior claw-joint and claws in the male. When a large series of each is compared, much dissimilarity is shown as to general form and colour, and *L. sallaei* differs in every example in the much broader and less approximated clypeal teeth, and the presence of a well-formed denticle between the 2nd and 3rd anterior tibial teeth. We figure an individual from Almolonga.
A genus containing five described species from South America. It is very insufficiently distinguished by the authors above cited from *Sceaptophilus*, of which eleven species from the same region and from the West Indies have been described. With *Corynoscelis*, Burm., the three genera form a small group, distinguished from *Ligyrus* and its allies by the propygidium being more or less strongly produced in the middle, and restricting the length of the pygidium, and its surface being scored in both sexes with fine transverse striae as part of the stridulating-apparatus.

1. *Bothynus quadridens*. (Tab. XVIII. fig. 22.)

*Corynoscelis quadridens*, Taschenberg, Zeitschr. f. d. gesammten Naturwissensch. i. Neue Folge, p. 185.

_Hab._ Mexico, Oaxaca (*Sallé*), Tres Marias Is. (*Forrer*); British Honduras (*Blanca-neaux*); Panama, Chiriqui (*Trötsch*).—South America; **Ecuador** 1.

♂. Tarsi antici unguis exteriore valde dentato, sed nee incrassato nee deflexo.

Five examples. This species is possibly the *Podalgus complanatus*, Burm. Our examples agree perfectly with Taschenberg’s description, except that no mention is made there of an obtuse prominence in the middle of the hind margin of the confluent-punctate thoracic fovea. This exists in all, except in a feebly-developed female. The insect is glossy-black or piceous, with nearly smooth elytra, which at most have a feebly-indicated sutural stria, and a few other faint striae near the base.

A specimen from Tres Marias Islands is figured.

2. *Bothynus simplicitarsis*.

*B. quadridens* similimima, differit solum unguibus tarsorum antecorum in ♀ simplicibus. Oblongus, interdum latius oblongus, nigro-nitidus, subtilis piceoscors et vulpino-rufo hirtus; mandibulis valde et acute tridentatis; capite punctato-scabroso, elypeo elongato attenuato, lateribus sinuatibus, apice acutis bidentatis, fronte tuberculato compresso basi dilatato; thorace mediocrer transverso, lateribus cum angulis posticis rotundatis, margini antico medio unituberculato, disco anteriore late foveato, ruguloso-punctato, fovea margine posteriore medio plurumque obtusissime unituberculato, lateribus discrete punctatis, versus basin sublavis, margini basali stria paullo impresso, confuse punctato; elytris fere levibus, plus minusve subtiliter striato-punctulatis, stria suturali haud impressa. Tibiae antecore valde 4-dentatae; 4 posteriores extus acutae biearinatae carinisque extus in dentem productis, apice flexuosis, subtilissimo.

♂. Pygidium paullo convexum; segmentum ultimum ventrali apice late et profunde sinuatum. Tarsi antici unguibus simplicibus.

♀. Propygidium medio minus productum; pygidium planum vel concavum; segmentum ultimum ventrale latum, apice integrum.

_Long._ 27–32 millim. ♀ ♀.

_Hab._ Guatemala, Coban in Vera Paz (*Champion, Conradt*). Eighteen examples.
Late quadrato-oblongus, niger, nitidus, subitus piceus, vulpino-rufus hirtus. Mandibulae et capitum sicut in B. simpliciari, occipite prolongato excepto; thorace latissimo et brevissimo, antice profundissimae triangulatae margine emarginato, margine ipso in medio interrupto, dorso medio sulcato, disco anteriore utrinque in foveam elongato-transversam excavatam et acutismo-punctato, fovearum margine posteriore flexuoso et obtuse plurihilobulata, lateribus cum angulis posticis rotundatis; elytris sicut in B. simpliciarii fere levibus. 
♀. Tarsi antii unguibus simpleibus.

Long. 30 millim.  ♂.

Hab. Guatemala, Coban in Vera Paz (Conradt). One example only.

CHEIROPLATYS.

Cheiroplatys, Hope, Col. Man. i. p. 84, t. 1. fig. 3 (1837); Burmeister, Handb. der Ent. v. p. 108; Lacordaire, Gen. Col. iii. p. 411 (1856).

The genus Orizabus was suggested, without name, by Lacordaire, who, in a footnote to his description of the Australian genus Cheiroplatys, mentioned that he had a Mexican species possessing characters belonging to it, but differing in many essential points; but these differences were not specified either by him or by Fairmaire, who admitted the very close affinity between the Mexican and Australian forms. The uncertainty under which the genus Cheiroplatys stands, owing to Hope's erroneous and misleading description and figures, and the further confusion he introduced by founding his characters on an undescribed species, whilst citing as the type a Fabrician species which has no near relationship to his described type, are no doubt partly the cause why the genus Orizabus was founded and has been retained. I think, however, the two genera may be safely reduced to one. The great similarity in the extraordinary form of the fore tibiae of the male in nearly all the species, and in the reflected front edge of the clypeus raised behind the true front edge, as well as the entire agreement in form of thorax and legs and in the sculpture, is corroborated by a close agreement in the parts of the mouth, especially in the short and broad, unarmed mandibles (concealed in repose), and the elongated mentum, gradually narrowed but parallel-sided in the ligular part, with the apex of the latter notched or truncated. Hope's figure of the maxillae is superficially accurate, but he failed to note that the two apparently simple teeth are each two teeth side by side; as to the mentum his figure and description are alike erroneous if they are taken from the same species, C. juvencus of Burmeister (Handb. der Ent. v. p. 110), which both authors consider to be the C. juvencus, Kirby, MS., the type of the genus. I have compared the parts of the mouth of that species with those of C. (Orizabus) cultripes, Fairm.

Five species of Orizabus have been described from the United States and Mexico, and twelve species of Cheiroplatys from Australia and the Islands of the Western Pacific. Many of the latter require re-examination.
CHEIROPLATYS.

1. Cheiroplatys cultripes. (Tab. XVIII. figg. 19 σ, 20 Ψ.)


_Hab._ MEXICO, Orizaba, Toluca, Tepansacualco, Duraznal (Sallé), Jalapa, Misantla, Mexico city (Höge); GUATEMALA, Coban in Vera Paz (Champion), Tactic, Tepan (Conradt).

This species is barely distinguished from the following by the immarginate base of the thorax; for some examples show a trace of marginal sulcus in the depression which exists on each side, and it is often visible also towards the hind angles.

The anterior tibiae of the female, both in this species and in _C. clunalis_, sometimes assume the male form, _i.e._ the outer side laminiform and unarmed. In all the other females the anterior tibiae are more or less expanded, and the outer edge is often deeply bisinuated, or even unisinuated, rather than tridentate.

2. Cheiroplatys clunalis.


Orizabus ligyroides, Horn, loc. cit. p. 125 (Ψ).


Orizabus Sallei, Fairm. loc. cit.

_Hab._ NORTH AMERICA, Texas, New Mexico, Arizona.—MEXICO, San Miguelito (Dr. Palmer), Orizaba, Oaxaca, Jalapa (Sallé), Cordova, Pachuca in Hidalgo, Mexico city (Höge).

The marginal sulcus or impressed line of the base of the thorax is always visible in both sexes, and, with a few exceptions (where it is interrupted and faint), continuous; it is nearly always curved or angular in the middle of the basal lobe, and scored on the dorsal surface (not on the deflected edge) of the thorax.

I have compared type-specimens of the males of _O. marginatus_ and _O. sallaei_, bearing names in Fairmaire’s handwriting, and find no differences between them, except in size and punctuation, in both of which features, as well as in general form, the species is very variable; and I have also compared these with examples of _C. clunalis_ (Lec.), male and female, named for me by Dr. Horn, and find no difference worth mentioning.

3. Cheiroplatys fairmairei. (Tab. XVIII. figg. 23 σ, 24 Ψ.)

Minor, brevior quadratus, piceo-niger vel castaneus, thorace interdum rufo, nitidus, subitus vulpino-villosus; elypei margine antico cariniformi minime bidentato, fronte inerani vel unisulficulata; thorace antice gradativum angustato, medio basi late immarginato; elytris fere sicut in _C. clunali_ punctato-striatis. Tibiae antice σ Ψ extus nullo modo explanate, obtuse tridentatae, dentibus duabus apicalibus approximatis. σ. Thorax sicut in Ψ convexus, simplex.

Long. 16–19 millim. σ Ψ.

_Hab._ MEXICO, Jacale, San Andres Tuxtla (Sallé), Pachuca in Hidalgo, Oaxaca, Esperanza (Höge).

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The male, of which there are many examples, is readily distinguishable from the same sex of the other species by the absence of thoracic fovea and marginal tubercle, and by the tridentate anterior tibiae; in all examples the thorax is free from traces of marginal stria along the base, except near the angles. The female is not distinguishable, except in size, from the same sex of C. cultripes.

The numerous specimens may, perhaps, be only degraded forms of one or other of the two larger species; some females (C. clunalis) are of similar size, and are distinguishable from C. fairmairei only by the base of the thorax being margined. One male specimen in the Sallé collection is labelled, in Fairmaire's handwriting, as Orizabus sallaei 2; but its small size shows that it was not included in his description and dimensions of that species.


**Hab.** Mexico, Toluca 1 (Sallé, Höge), Mexico city, Salazar (Höge).

A small species, similar to the preceding, but of shorter, subquadrat-ovate form, and distinguished from all others of the genus by the transverse carina near the frontal suture, extending from side to side in front of the eyes, and parallel to the straight apical carina of the clypeus. The anterior tibiae of the male are dilated and unisinate externally.

Subfam. ORYCTINÆ.

**XYLORYCTES.**

*Xyloryctes*, Hope, Col. Man. i. p. 90, t. 2. fig. 7 (1837); Burmeister, Handb. der Ent. v. p. 207; Lacordaire, Gen. Col. iii. p. 432.

A genus consisting of four described species, peculiar, so far as at present known, to North America, from temperate latitudes to the Isthmus of Panama, and to the West Indies.

Lacordaire is in error in stating that this genus has stridulating-striæ on the propygidium. That segment is simply punctured.

1. Xyloryctes satyrus.

*Scarabæus satyrus*, Fabr. Syst. Ent. p. 12 (1775) 1; Olivier, Ent. i. 3, p. 39, t. 11. fig. 94 2; Drury, Ill. Ex. Ins. i. t. 34. figg. 1, 2 (♀ ♂).


**Hab.** North America 1, 2, 3.—Mexico (*Flohr*), Paso de San Juan in Vera Cruz, Zimapán in Hidalgo (Höge).

The Mexican examples agree with others from the Atlantic States, except that some of them have distinctly longer elytra, and at the same time the sides of the thorax in
the male less (or not perceptibly) sinuated towards the anterior angles. Others agree with the North-American form in both these respects.

Drury, apparently misled in some way by Fabricius, gave, in his Index (1773), the inappropriate name of _S. jamaicensis_ to the insect of which he figured the male and female in the body of his work, stating, in the text, that he received the two sexes, found _in copula_, from New York. Fabricius soon after (1775) described his two species 

(S. _satyrus_ and _S. jamaicensis_), the former the same as Drury's species, the latter evidently different from it, although he cites Drury's figures. On these grounds Von Harold (Col. Hefte, vii. p. 117) proposed the suppression of the name _S. satyrus_, and the adoption of that of _S. jamaicensis_ for the New-York species. I cannot think that such a ridiculous misapplication of the laws of priority will be adopted by entomologists, especially by those of the United States, who, in fact, have hitherto ignored the suggestion.

2. _Xyloryctes lobicollis._ (Tab. XVIII. figg. 21, 21 a, ć.)

_X. satyro_ similimus, paullo magis elongatus, thorace in ć antice verticaliter truncato et profundius excavato, margine superiore medio lobulo horizontaliter porrecto et obtuse sub-bifido, pygidioque subtilior denser punctulato. Thorax margine antico rotundato et paullo dilatato, elytris sicut in _X. satyro_ punctato-striatis.

ć minor. Cornu capitis brevissimum; thorax antice multo minus alte truncatus, lobo mediano canaliculato brevissimo.

ć. Quam _X. satyro_ magis elongata pygidioque subtillias punctulato.

Long. 24-33 millim. ć ć.

_Hab. Guatemala (Sallé), Zapote (Champion); Panama, Volcan de Chiriqui (Trötsch, Champion)._ 

Fourteen specimens. From Mexican examples of _X. satyrus_ this species is not distinguishable, except by the form of the thorax in the male, the fore part of which is vertically truncated, with a central obtuse lobe projecting beyond the upper edge, and the face of the truncation concave. A male specimen from Chiriqui is figured.

3. _Xyloryctes telephus._ (Tab. XIX. figg. 4, 4 a, 5, 5 a, ć.)


_Hab. Mexico_ 1, Hacienda de Bleados in San Luis Potosi (Dr. Palmer), Oaxaca, Chiaspas (Sallé), Jalapa (Höge).

A large number of examples were collected by Herr Höge at Jalapa, all agreeing in the obliteration of the sutural stria (except near the apex) as well as in the smoothness of the rest of the elytral surface, and in the long, nearly horizontal, conical lobe of the thorax, which projects over the deeply concave and vertical anterior truncature. The pygidium is much more sparsely punctured than in _X. lobicollis_ and _X. furcatus_, and is often smooth and polished in the female. In males of minor development the thoracic lobe is very short and obtuse, but it is never absent. The size varies from

2 TT 2
23 to 33 millimetres. The following is a doubtful variety, occurring in the same localities as the type form:

Var. X. ensifer, Sturm, MS. Thorax latus, obtusus, medio canaliculatus; elytra levia, stria suturali punctulata subobsoleta. (Figg. 5, 5 a.)

**Hab. Mexico (Sturm, in coll. Sallé), Jalapa (Höge), Chiapas (Sallé).**

We figure a typical well-developed male from Jalapa and a male of the var. ensifer from Mexico (coll. Sturm).

4. **Xyloryctes furcatus.** (Tab. XIX. figg. 1, 1 a, 2, 2 a, c.)

**Xyloryctes furcatus,** Burm. Handb. der Ent. v. p. 209

**Hab. Mexico**, Cordova (Sallé), Mexico city, Jalapa (Höge); Guatemala (Sallé), Coban and Tactic in Vera Paz (Conradt).

Distinguished in the male (in well-developed individuals) by the narrow, long, obliquely elevated and bifid thoracic lobe; and from *X. telephus* in both sexes by the well-marked and punctulated sutural stria. The sides of the thorax in the male are more strongly explanate-reflexed than in the same sex of *X. telephus*, but some examples of the latter approach *X. furcatus* in this respect. The pygidium in the male is more closely punctulated. We figure a well-developed male example from Cordova, and a male minor from Jalapa.

5. **Xyloryctes corniger.**

**Hab. Mexico (Sturm, in coll. Sallé); Panama, Volcan de Chiriqui 3000 feet (Champion).**

A single male example, labelled *X. corniger*, Sturm, resembles *X. telephus*, var. ensifer, but has a well-impressed sutural stria and the thoracic lobe somewhat different, the latter being much broader and not canalicated. It is a well-developed male (32 millim. long), and has an almost perfectly straight cephalic horn flattened anteriorly. Two examples, males of minor development, from Chiriqui, agree with Sturm’s specimen in thoracic structure, and have cephalic horns very broad at the base, but small and acute-triangular in shape.

6. **Xyloryctes teuthras.** (Tab. XIX. figg. 3, 3 a, c.)

♂ minor. Brevior oblongus, castaneus, capitis cornu brevissimo basi lata apice acuto; thorace fere sicut in *X. satyro* antece oblique truncato-declivi, margine superiore medio minime vel haud producto; elytris obsolete striatis, stria suturali punctulato impresso, versus apicem profunde insculpta; pygido passim punctulato punctis majoribus intermixtis.

**Long. 24 millim.**

**Hab. Guatemala (Sallé), Aceytuno 5100 feet (Salvin).**

Two examples only; of similar development to the two males of *X. corniger* from
Chiriqui above described, but differing in the much more slanting truncature of the fore part of the thorax and the absence of median prominence. Slight as their peculiarities are they cannot be referred as varieties to any of the other described species.

The species is labelled *X. teuthras*, Candèze, in the Sallé collection.

7. **XYLORYCTES.**—MEGACERAS. (Tab. XVIII. figg. 25, 25a,  sık.)

Robustus, *X. telephus* latius oblongus, piceo- vel castaneo-niger; elytris subtiliter punctulato-striatis, interstitiis convexis, stria suturali punctata distincta sed medio parum impressa; pygidio disperse punctato.  sık major. Cornu capitis altum, subrecurvum, apice postice nodosum; thorax antice valde oblique declivis nec medio concavus, lobo mediano longe post medium oblique ascendentis, apice lato et plerumque emarginato. Long. 32-37 millim.  sık.

**Hab.** Mexico, near the city (Floh'r, Höge).

Numerous examples, differing but little in development, and all distinguished from *X. telephus*, apart from the presence of a sutural stria, by the very different form of the thoracic truncature, and the position of the central lobe or short horn projecting from its upper margin; this latter in *X. telephus* and in other species rises much before the middle of the thorax, and in *X. thestatus* considerably behind the middle, with the correspondingly oblique truncature plane, instead of concave, in the centre.

Certain female examples from the same locality may belong to this species; they do not, however, differ from the corresponding sex of *X. furcatus*. They are of large size (34 millim.), and have a distinct punctured sutural stria, with other striae on the elytra indicated by convex interstices as in the male.

**MEGACERAS.**

*Megaceras*, Hope, Col. Man. i. p. 82, t. 1. fig. 1 (1837); Burmeister, Handb. der Ent. v. p. 221;


Seven species of this fine genus have been described, all from Tropical South America; one of them is here recorded for the first time as occurring north of the isthmus.

1. **MEGACERAS PHILOCTETES.** (Tab. XIX. figg. 6, 6 a,  sık var.)

Scaraebæus philoctetes, Oliv. Ent. i. 3, p. 16, t. 14. fig. 125.¹

**Hab.** COSTA RICA (Salla, Van Patton), Cache (Rogers); PANAMA, Bugaba, Volcan de Chiriqui 4000 to 6000 feet (Champion).—SOUTH AMERICA, Surinam, Guiana, Brazil.¹

The very numerous Central-American specimens differ from the many typical examples from Surinam and the Amazons with which I have compared them sufficiently to be distinguished as a local form:—

Var. *M. septentrionis*. Brevior, piceo-niger vel castaneus; elypeo acuto bidentato; thorace brevi, lateribus medio valde rotundatis, angulis posticis obtusis font rotundatis, in  sık interdum (raro) subrectis.

elsif. Cornu capitis apice latam emarginatum, interdum subcentrum, postice propo apicem obtusissimam tuberculatum.
LAMELLICORNIA.

vel simplex; thorace sicut in typo gibbere alto antice dentibus duobus subparallelis lateribusque a gibbere usque ad angulos antice et marginibus grosse strigosis.

Thorax dimidio anteriore et lateribus grosse, antice confluenter, punctatis, medio prope marginem anticum obsolete bituberculatus.

Long. 32-45 millim. ʾ♀.

Examples of this variety are labelled in the Sallé collection M. morpheus, Burm.; but they do not at all agree with that author's description, which refers to a species from Colombia of narrow form, and especially narrow prothorax. Burmeister's descriptions of the species of this genus are, besides, so incomplete, that no safe determination is possible. The stridulating-strise of the propygiclium are beautifully perfect on two divergent ribs which cross the middle of the segment; on the rest of the surface they are coarser and interrupted. In a highly-developed male example from Costa Rica the thorax is longer than in the others, and is gradually narrowed in an incurved line from the median dilatation to the anterior angles. M. philoctetes was found in the greatest profusion in the water and along the banks of a lagoon in the dense forest on the slope of the Volcan de Chiriqui at an elevation of 4000 feet (Champion). A well-developed male from Bugaba is shown on our Plate.

COELOSIS.

Coelosis, Hope, Col. Man. i. p. 88, t. 2. fig. 6 (1837); Burmeister, Handb. der Ent. p. 215; Lacordaire, Gen. Col. iii. p. 436.

Three or four species are all that are at present known of this peculiar genus, one extending to Mexico and the others restricted to Tropical South America.

1. Coelosis biloba.

Scarabeus bilobus, Linn. Syst. Nat. i. 2, p. 544; Fabr. Syst. Ent. p. 6; Oliv. Ent. i. 3, p. 31, t. 5. fig. 35 (♀), t. 23. fig. 35 (♂), t. 1. fig. 5 (♂ minor) 1.


Hab. Mexico, Cordova, Toxpan (Sallé, Hörge); BRITISH HONDURAS, Cayo (Blancaneaux); GUATEMALA, Cubilguitz (Champion), Coban (Conradt); HONDURAS, Ruatan 1. (Gaumer); NICARAGUA, Chontales (Belt, Jenson); COSTA RICA (Van Patten); PANAMA, Bugaba, Volcan de Chiriquí, David, Tolé (Champion).—SOUTH AMERICA, Cayenne 12; WEST INDIES 1.

Mexican examples figure in collections under the catalogue-name of var. nicon (Chevr.), but they offer no character to distinguish them from the Panama and South-American form.
HETEROGOMPHUS.—DÆMONOPLUS.

HETEROGOMPHUS.

Heterogomphus, Burmeister, Handb. der Ent. v. p. 225 (1847); Lacordaire, Gen. Col. iii. p. 437.

Twenty species of this ill-defined genus of Dynastidae are recorded, with two or three exceptions all from South America, chiefly Brazil.

1. **Heterogomphus chevrolati.** (Tab. XIX. figg. 7, 7 a, σ; 8, 8 a, φ; 9, 9 a, φ, var.)


   **Hab.** Mexico¹, Mirador, Capulalpam (Sallé), Jalapa (Höge); Guatemala, Senahu in Vera Paz (Champion), Coban (Conradt); Costa Rica, Rio Sucio (Rogers).—Colombia, Santa Marta.

   Both mandibles and maxillae in this species are toothless, and prolonged into narrow sharp-pointed blades; and the apical rims of the four posterior tibiae are minutely crenulated, and not toothed. The following variety is known only in the form of undeveloped males, and though agreeing with *H. chevrolati* in mouth-structure and the form of the terminal rims of the posterior tibiae, it may prove when further material arrives to be a distinct species:—

   **Var.** *H. eurytus*. σ minor; brevior et latior, praecepis elytris postice ampliatis. *Bufo-castaneus*, cornu capitis brevissimum; thorae valde transverso, lateribus arcuatis dimidio anteiori et lateribus fulvo-hirsutis grossa striosis, forvosque late anterioris margine postico obtuso transversim tuberculato; elytris laevibus, subtiliter punctulatis, stria suturalis debili et striae nonnullis curritur. (Figg. 9, 9 a.)

   **Long.** 38 millim.

   **Hab.** Costa Rica, Irazu 6000 to 7000 feet (Rogers). Two examples.

   We figure a typical well-developed male from Mirador, a female from Capulalpam, and a male minor of the var. *eurytus* from Irazu.

2. **Heterogomphus hopei.**


   **Hab.** Mexico¹.

   Unknown to me.

DÆMONOPLUS.


This genus is limited, at present, to the following species, which Thomson, in describing it, believed to be from the Gaboon. Gemminger and Harold included it in the genus *Heterogomphus*; it has, however, well-marked peculiarities which render it advisable to retain the genus formed for its reception. In the form and dentition of its anterior tibiae in both sexes it comes much nearer to *Podischnus*, and the females are not easy to be distinguished from the same sex of certain species of *Golofa*. 
LAMELLICORNIA.

1. Daemonoplus mniszechi. (Tab. XIX. figg. 10, 10 a, σ; 11, 2.)

*Daemonoplus Mniszechii*, Thoms. Archiv. Entom. ii. p. 69, t. 2. fig. 2.


_Hab._ **MEXICO¹**; **COSTA RICA** *(Van Patten)*; **PANAMA,** Volcan de Chiriqui 4000 feet (Champion).

♀. Frons unituberculata; thorax simplex, prope marginem anticum breviter bituberculatus, dimidio anteriore punctato-rugosus.

The anterior tibiae have four rather fine sharp teeth, and the terminal tooth is formed like the others, and not broad and almost duplicated as Burmeister states of _H. hopei._

The apical rim of the hindmost tibia has four very short teeth, and that of the middle tibiae one very long and sharp projection which is bidenticulate on one side. In these points, and in the three slender, equal, and obliquely elevated thoracic horns of the male, the species also differs from _H. hopei._

A male from Costa Rica and a female from the Volcan de Chiriqui are figured.

ENEMA.

*Enema,* Hope, Col. Man. i. p. 83, t. 1. fig. 2 (1837); Burmeister, Handb. der Ent. v. p. 233; Lacordaire, Gen. Col. iii. p. 439.

A genus confined to the tropical zone of America. Six species have been described.

1. **Enema infundibulum.**

*Scarabaeus Enema,* Fabr. Mantissa Ins. i. p. 4 (1787); Syst. Ent. i. p. 6; Oliv. Ent. i. 3, p. 22, t. 12. fig. 114, t. 17. fig. 157.


_Hab._ **NICARAGUA,** Chontales *(Belt, Janson)._—**SOUTH AMERICA** to South Brazil¹ and Paraguay.

One male and one female example; considerably smaller than those found commonly Guiana and on the Amazons.

2. **Enema pan.** (Tab. XIX. figg. 12, 12 a, σ, var.)


*Scarabæus Titorum,* Perty, loc. cit. p. 45, t. 9. fig. 12 (σ minor).

*Scarabæus quadrispinosus,* Fabr. Species Ins. i. p. 11; Oliv. Ent. i. 3, p. 35, t. 19. fig. 179 (♀).

_Hab._ **MEXICO,** Toxpan *(Sallé),** Jalapa *(Höge)*; **NICARAGUA,** Chontales *(Belt, Janson)._—**SOUTH AMERICA** to South Brazil¹² and Paraguay.

Var. σ. Cornu capitis postice sine tuberculo.


*Scarabæus eneus,* Kirby, Trans. Linn. Soc. xii. p. 399²?

_Hab._ **MEXICO¹**; **Cordova** *(Sallé),** Jalapa *(Höge)._—**SOUTH AMERICA,** Colombia², Paraguay.
All gradations in the size of the tubercle on the hinder side of the horn of the male are found when a large series is examined. Its absence is simply a sign of lower sexual development. I do not remember to have seen the var. *lupercus* in the Amazons region, where *E. pan* is rather common, and where it is twice the size of the largest Mexican and Paraguayan examples that I have seen. Females of both forms do not differ, except in their very much smaller size, from the same sex of *E. infundibulum*, with which *E. pan* in the equatorial zone of America is always associated. These curious facts of distribution and development of male horns according to latitude make it extremely probable that *E. infundibulum* as well as *E. pan* and *E. lupercus* are only varying forms of development of one and the same species, the development being of size in both sexes, and of length and form of cephalic and thoracic horns in the male.

A male example from Cordova of the var. *lupercus* is shown on our Plate.

3. *Enema endymion*. (Tab. XIX. figg. 18, 13 a, c.)


*Hab. Mexico* 1, 2, Tuxtepec (Sallé), Jalapa (Höge), Oaxaca (Fenochio); British Honduras (Blancaneaux); Guatemala, Panzos (Champion); Nicaragua, Chontales (Belt, Janson); Costa Rica, Cache (Rogers); Panama, Volcan de Chiriqui (Champion).

A very distinct species, widely distributed, but apparently not common. It was well described by Chevrolat in both sexes, but subsequently mistaken for *E. lupercus* by Burmeister. The elytra are always rufo-castaneous, and the thorax unarmed in both sexes, the latter being gibbous on the posterior disc, and minutely shagreened (with some larger punctures) in the male, moderately convex, and more coarsely sculptured in the female. *E. endymion* is smaller and of a narrower oblong shape than *E. pan*, and the thorax is more regularly arcuated on the sides, the curve continuing to the anterior angles, which are acute, but not produced as in *E. pan*. The Venezuelan *E. paniscus*, Burm., is a closely allied species, or local form, in which the thorax in the male is smooth and highly polished in the middle.

We figure a male example from Tuxtepec.

**STRATEGUS.**

*Strategus*, Hope, Col. Man. i. p. 87, t. 1. fig. 5 (1837); Burmeister, Handb. der Ent. v. p. 128; Lacordaire, Gen. Col. iii. p. 440.

This genus is exclusively American, and found in the temperate zones north and south, as well as in the tropics and the West Indies. Seventeen species have been described, three of which inhabit Central America 8.

* The Munich Catalogue includes Mexico in the localities of *S. anturus*, but I have not seen a Mexican specimen. Dr. Horn, in his paper on the North-American *Strategus*, gives Texas as the southern limit of the range of *S. anturus*.

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1. **Strategus jugurtha.**

*Strategus Jugurtha,* Burm. Handb. der Ent. v p. 1311.

_Hab._ NICARAGUA, Chontales (Belt, Janson).—COLOMBIA1.

Distinguished by its acuminated clypeus in both sexes, and the three long and slender horns of the male.

2. **Strategus cessus.**


_Hab._ NORTH AMERICA, Arizona12.—MEXICO, Northern Sonora (Morrison).

3. **Strategus julianus.** (Tab. XIX. figg. 14, 14 a, 15, 15 a, c.)


_Hab._ NORTH AMERICA, Georgia2.—MEXICO12, Hacienda de Bleados in San Luis Potosi (Dr. Palmer), Orizaba, Oaxaca, Playa Vicente, Chiapas (Sallé), Jalapa, Mexico city (Höge), Temax in North Yucatan (Gaumer); BRITISH HONDURAS (Blancaneaux); GUATEMALA (Sallé), near the city (Salvin), Champerico, Escuintla, Capetille, Zapote, Panzos, Coban (Champion); HONDURAS, Ruatan I. (Gaumer); NICARAGUA, Chontales (Belt); COSTA RICA (Van Patten), Cache, Volcan de Irazu 6000 to 7000 feet (Rogers); PANAMA, Volcan de Chiriqui 2000 to 3000 feet (Champion).—SOUTH AMERICA, Colombia (coll. Bates).

The very numerous examples examined include the variations in the anterior thoracic horn of the male (notched or simple), and in the smooth or rugose thoracic cavities, mentioned by Burmeister, together with others not recorded by that author in the general form and colour, and in the number of teeth on the apical rim of the posterior tibiae. Some examples are remarkably broad, and in consequence differ from the majority in the greater width between the posterior horns of the thorax, and some are wholly pitchy-black in colour. The dentition of the apex of the posterior tibiae usually consists of three teeth, the inner one much smaller than the others, and (apparently by aberration) sometimes wanting or resolved into two smaller teeth. All examples of the male agree in the more or less broadly triangular emargination of the front edge of the clypeus; and this seems to be the sole character which distinguishes the species from the South-American *S. aloeus* (Linn.), of which Linnaeus in his original description (Mus. Lud. Utr. p. 7) says, "Caput depressum, obtusissimum, angulis reflexis," and Burmeister, "deren vorderes Kopfende stumpf, beim männchen mehr abgestutzt, scharfkantig." The female of *S. julianus* does not appear to differ from that of *S. aloeus*, the clypeus being much narrower than in the male, and obtusely truncated at the apex.
I cannot corroborate Burmeister's statement that the base of the anterior thoracic horn is always continued behind as an obtuse ridge along the middle of the thoracic cavity, dividing the latter into two deep pits; or that this is an important difference between S. julianus and S. aloeus. On the contrary, I have seen examples of S. julianus in both the larger and the minor developments of the male in which the ridge, except just at the commencement, is scarcely perceptible.

We figure a fully-developed male example from Mexico city, and a male minor from N. Yucatan.

Subfam. DYNASTINÆ.

PODISCHNUS.


Two species only are known of this genus, restricted to Central America and the northern part of South America.

Burmeister describes the singular comb-like dentition of the rounded maxillary lobe quite correctly; but at the apex of the mentum, which he says is broad, he has overlooked the curious deflection of the true apical part of the ligula, which is triangular, and bends downwards at right angles.

1. Podischnus agenor. (Tab. XIX. fgg. 16, 16 a, 17, 17 a, 18, 18 a, d ; 19, z.)

Scarabeus Agenor, Oliv. Ent. i. 3, p. 178, t. 27. fig. 241.

Podischnus agenor, Burm. Handb. der Ent. v. p. 2381.


Hab. Mexico2; British Honduras (Blancaneaux); Guatemala, Escuintla (Champion); Nicaragua, Chontales (Belt); Panama, Lion Hill (McLeannan).—South America, Colombia1, Upper Amazons.

The male exhibits numerous gradations of form, affecting the shape of both the cephalic horn and the curious thoracic elevation—half-moon shaped at the summit, and clothed with tawny hairs beneath—and also the sculpture of the anterior part of the thorax. The principal gradations are as follows:

1. Cephalic horn greatly elongated, and armed behind with a broad tooth.
2. The horn shorter, and the posterior dentiform thickening scarcely perceptible.
3. The horn only half as long again as the head, simple, acute; thoracic horn only slightly elevated, but broad, emarginated, and hairy beneath (S. barbicornis, Latr.).
4. The horn much shorter than the head; the thoracic elevation forming only a slight prominence, with a hairy fovea in front of it.

2 UU 2
5. The horn still shorter; the thoracic elevation advanced nearer to the front margin, with a glabrous fovea in front.

Fairmaire has proposed (Rev. et Mag. Zool. 1878, p. 266) to reverse the decision of Reiche, who referred Scarabaeus barbicornis, Latr., to the prior S. agenor of Olivier, and to regard it as synonymous with Podischnus tersander, Burm. In this I cannot help disagreeing with him, as the description and figure of Latreille apply exactly to the minor development described above (No. 3) of P. agenor, and do not at all agree with the other species. Fairmaire appears to have been misled chiefly by the simple and flattened (from front and rear) cephalic horn of Latreille’s figure; but this is the condition of the horn of P. agenor in minor developments, and the base is similarly flattened even in fully-developed males. As to the general form of the body, the figure of Latreille is that of an elongate-oblong insect like P. agenor, and not of a short and posteriorly-dilated species like P. tersander. The thoracic horn of the figure is also totally unlike the form assumed by P. tersander in any of its developments.

We figure two males from Chontales, and a male minor and a female from Lion Hill, Panama.

2. Podischnus tersander. (Tab. XX. figg. 1, 1a, c ; 2, 2a, 2.)


Hab. Mexico1, 2, 3, Orizaba (Sallé); Nicaragua, Chontales (Belt).

Fairmaire retains Thomson’s genus Mixigenus for this species, but does not specify the points of structure in which it differs from Podischnus. The two species, in fact, agree unusually well in all characters on which genera are founded in Dynastidae. The structure and armature of the legs are strikingly homogeneous, especially the sharply-toothed (instead of bristly) transverse ridges of the four hinder tibiae.

We figure a male and a female from Orizaba.

GOLOFIA.

Golofa, Hope, Trans. Ent. Soc. Lond. ii. p. 42 (1837); Burmeister, Handb. der Ent. v. p. 246;

Lacordaire, Gen. Col. iii. p. 443.

This fine genus, one of the most remarkable forms of Dynastidae found in the New World, is widely distributed over the tropical zone of the American continent, and is recorded, though possibly in error, as found in Chili. Fourteen species have been described; but some of them are founded on varieties, the species being subject to more than the usual range of modification as regards the shape of the horn-like processes of the head and thorax, and the size and colour are equally variable.
1. *Golofa pizarro*. (Tab. XX. figgs. 3, 3a, 5; 4, 4a, 5a, 5, 6a, 7, 7a, 5 var.)


_Hab. Mexico_ 1 3 4, Mazatlan, Tuxtlas, Cordova, Toxpan, Tanetza, Parada (Sallé), Jalapa (Höge); _Guatemala_ (Sallé), Coban and Tactic in Vera Paz, Tepan (Conradt).

The examination of a very large series of this species, mostly from Jalapa, shows that it is extremely variable in the male sex, not only in colour and sculpture, but in the length, form, and sculpture of the thoracic horn; and, in fact, that no two examples fairly agree. The females, on the contrary, are, as nearly as possible, alike in form, colour, and sculpture, and differ only in size. In fully-developed males, the apex of the thoracic horn is always curved forward, and dilated into a broad and more or less tridentate plate. Those examples in which the horn is very long form the _G. sallaei_ of Thomson, and these vary in the horn being sometimes inclined backwards, in the dilated apex, double the width in some examples that it is in others, obtusely carinated above or marked with an impressed line, and in the length of the three teeth, the anterior one being sometimes very much reduced, so that the front of the club is nearly truncated, and sometimes short and notched. Males of all developments, in which the thoracic horn is strongly punctured, form the _G. clavicornis_ of Thomson; but the non-validity of this species is shown by the facts that all the males of low development, with short subcylindrical thoracic horn, have the horn coarsely punctured, and that the coarsely-punctured horn does not correspond with coarsely-punctured elytra (as Thomson aver); moreover, every gradation is present, in a large series, with regard to the punctuation of the horn; and all were found together by Herr Höge in the same locality.

The general colour of the male varies from testaceous-yellow, through castaneous to sooty-black, the thorax in the yellower examples being generally more or less clouded with brown, and very rarely wholly brown. The underside of the body and legs also vary from yellowish or reddish-testaceous (with all articulations and tarsi darker) to sooty-black. The head entirely and thoracic horn are always black. The suture and the extreme lateral margin of the elytra in the yellower examples are dusky. The females are wholly black, moderately shining, and coarsely subconfluently punctured, and are difficult to be distinguished from the similarly-coloured females of allied species. The entire upper edge of the mandibles (in which they agree with the males) is the chief differentiating character; the colour of the pubescence on the under surface is tawny cinereous, scarcely rufescent as Burmeister gives it, and quite different from the foxy-red hue which distinguishes the very similar female of _G. championi_.

_G. hastatus_ (Castelnau), referred to this species by Burmeister, seems to me to belong to _G. imperialis_. The form of the thoracic horn described is that of the undeveloped
male; but the size (17 lines) and the length of the cephalic horn are not those of this class of male in *G. pizarro*, though agreeing well with *G. imperialis*.

We figure a fully-developed typical male from Tuxtla, and four others of the same sex of the var. *clavicornis*, from Toxpan, Cordova, and Jalapa, showing the different developments of the cephalic and thoracic horns, and also the variation in the sculpture of the upper surface.

2. *Golofa imperialis*. (Tab. XX. figg. 8, 8 a, 9, 9 a, 10, 10 a, σ.)


*Hab. Mexico* 12 (Sturm, in coll. Sallé), Capulalpam, Cuernavaca, Duraznal (Sallé); Guatemala (Sallé).

Evidently very closely allied to *G. pizarro*, but probably specifically distinct. It is larger, and the largest examples of the male (46 millim.), which, judging from the long cephalic horn, are of full development, have a thoracic horn with parallel sides bent forward and pointed at the apex, and therefore different in shape from either the major or the minor males of *G. pizarro*; in the male minor the thoracic horn is reduced to a thick and very obtuse tubercle. The surface is more finely punctured, and the suture and lateral margins of the elytra are blacker, the thorax in some examples spotted with black, and the humeral angles of the elytra and the scutellum also black. The female is entirely black. In both sexes the apical edge of the mandibles is sometimes faintly (in the female more sharply) notched towards the inner angle, a character which distinguishes the species from *G. pelagon* and *G. augeon*, in which the mandibles are bifid.

Hope’s description of the male of his *G. inca*, especially with regard to the thoracic horn, “thorax cornu erecto, brevi, apice acuto,” scarcely applies to *G. imperialis*, and that of the female is still less applicable. I have seen no *Golofa*, from Mexico of the colour he describes; but the present species is named *G. inca* in the Sallé collection.

We figure a well-developed male from Mexico (coll. Sturm), and a male minor from Duraznal and another from Guatemala.

3. *Golofa costaricensis*. (Tab. XX. figg. 11, 11 a, σ.)

σ. *G. imperialis* proxime affinis; minor et angustior, elytra cinnamomeo-flavis (sutura leviter infuscata), subtissime punctatis, sorico-opacis, versus sutaram subruitidas, thoracie rufores; mandibulis apice latis juxta angulum interioarem obtuse leviter incisae; corporo subitus cum femoribus longe et dense fulvo-griseo pubescenti. Tarsi antici articulo basali sequenti duplo longiori (ne sient in *G. porteri* longissimo).

σ (major?). Cornu capitatis valde elongatum, gracile, postice rugosum et dentatum; cornu thoraci quam in *G. imperialis* altius et gracilior, versus apicem paululum sensim dilatatum, apice antice curvatum obtusum vel obtuse acuminatum. Tarsi 4 postici hanc incrassati nec subitus dense pilosi.

Long. 38–44 millim.
Goloafa.


Long. 32 millim.

♀ ignota.

Hab. Costa Rica (Van Patten), Rio Sucio (Rogers).

Although in structure this species comes nearer to G. imperialis, it bears a greater general resemblance to the Venezuelan and Peruvian G. ageon; from the latter it differs in its more cinnamon-tawny hue and less distinct black suture and margins, and in the form of the thoracic horn in the different developments of the male, the horn in G. ageon being strongly compressed laterally in all stages, except the somewhat dilated apex of the most highly-developed individuals. The basal joint of the anterior tarsi is short (not longer than the second) in G. ageon; the hind tarsi robust and densely hairy beneath, and the mandibles narrow and bifid. A well-developed male is shown on our Plate.

4. Goloafa championi. (Tab. XX. figg. 12, 12 a, 13, 13 a, ♂; 14, 14 a, ♀.)

♂. Quoad corporis formam G. ageon similis, sed thorace fere inermi etc. valde differt. Supra fulvo-castaneo, thorace fusco-nigro nebuloso, elytris vaga fusco-nigra vittatia sutura et margine fascis, capite, corpore subtilissime fuliginoso-nigris, pectore et femorisibus flavo-cinereo villosis; thorace disperse disco posteriori confertim punctato, elytris irregulariter striato-punctatis. Tibie antice sicut in Goloafa typis tridentatis, intermediae medio extus unispinosae apice extus valde bidentata, postice medio et apice inermes; tarsi antici articulo basali 2° dimidio longiore, postici subitus brevissimo setosi. Mandibulae apice intus indentatas, interdum subdilato.

♀. Nigra, nitida, elytris fere sicut in G. pizarro ♀ dense punctatis, elypto magis elongato; subitus dense vulpino-rufus pubescent. Tibie antice 4-dentata, intermediae sicut in ♂, postice medio et apice brevissime dentata.

Long. 34–42 millim. ♂ ♀.

Hab. Guatemala, Cerro Zunil 4000 to 5000 feet (Champion).

Fifteen examples of the two sexes. The male minor agrees in many respects with the description of G. inermis, Thoms. Arcana. Nat. p. 11, but the size (21–28 millim.) and locality (Chili) and some minor discrepancies lead me to conclude that the species are different.

We figure a well-developed male, a male minor, and a female, all from Cerro Zunil.

5. Goloafa imbellis. (Tab. XX. figg. 16, 16 a, ♂; 18, 18 a, ♀.)

G. championi affinis; corpore postice magis ampliato; omnino castano-nigra, ♀ nigra nitida, subitus corpore toto cum propygidi et pygidi vulpino-rufus pubescentibus; thorace sat crebre, hie illice confertim, punctato; elytris vero-sexpeo speculis subtilius punctatissimis, hie illice substratiatis, versus suturam rugoso-punctatis et niti-dioribus. Pedes sicut in G. championi. Mandibulae apice integre.


♂ minor. Caput unituberculatum, thoracoque antice haud carinato.
LAMELLICORNIA.

2. Nigra, nitida, fortius et crebrius quam in O. championi punctata, elytris utrinque striis punctatis geminatis tribus. Long. 35-48 millim. \( \sigma \).  

_Hab._ Costa Rica (Sallé, Van Patten), Volcan de Irazú 6000 to 7000 feet, Rio Sucio (Rogers).

Seventeen examples.

DYNASTES.

_Theogenes_, Burmeister, Handb. der Ent. v. p. 254 (1847).

Four species have been described of this genus, comprising the grandest forms of the Dynastidæ group; all are American, the two belonging to the northern continent being, however, scarcely more than local forms of one stock.

1. _Dynastes hercules._  
_Scarabæus Hercules_, Linn. Syst. Nat. i. p. 541; Mus. Lud. Ulr. p. 3; Oliv. Ent. i. 3, p. 6, t. 1. f. 1 (\( \sigma \)), t. 23. f. 1 (\( \sigma \)); Burm. Handb. der Ent. v. p. 257.  
_Scarabæus scaber_, Linn. Mus. Lud. Ulr. p. 17 (\( \sigma \)).  
_Scarabæus Alcides_, Fabr. Mant. Ins. i. p. 3; Oliv. Ent. i. 3, t. 1. fig. 2 (\( \sigma \) minor).  
_Scarabæus Perseus_, Oliv. Ent. i. 3, t. 1. f. 3 (\( \sigma \) minor).

_Hab._ Guatemala (Champion); Nicaragua, Chontales (Belt); Costa Rica (Van Patten); Panama, Bugaba, Dolega in Chiriquí (Champion).—Tropical South America; West Indies.

This species is apparently very rare in Central America. In Guatemala and the State of Panama Mr. Champion only obtained fragments of male examples.

2. _Dynastes hyllus._ (Tab. XX. figg. 17, 17 a, \( \sigma \).)  

_Hab._ Mexico \( ^{1,2} \), Toxpan, Oaxaca (Sallé), Jalapa (Höge), Acapulco (Baron); Guatemala (Sallé), Escuintla (Conradt).

A male minor from Oaxaca is figured.

MEGASOMA.


The range of the gigantic beetles constituting this genus is the same as that of _Dynastes_, except that they do not appear to occur in the West India Islands. Eight species are described.
1. **Megasoma elephas.**

*Scarabaeus elephas*, Fabr. Syst. Ent. i. p. 7; Oliv. Ent. i. 3, p. 11, t. 15, fig. 138.


*Hab. Mexico* 2, Alvarado 1, Cordova (Salle), San Blas 1; British Honduras, Cayo (Blancaneaux); Guatemala 3, Champerico (Champion); Honduras, Ruatan Island (Gaumer); Costa Rica (Van Patten); Panama, Bugaba, David (Champion).

In Chiriqui, according to native report, this species is sometimes found in numbers about mango-trees when in fruit (Champion).

**Subfam. AGAOCHEPHALINÆ.**

**ÆGOPSIS.**


Two species of this distinct genus are known, one from Colombia, the other from Brazil.

1. **Ægopsis curvicornis.**


*Hab. Panama (Boucard), Taboga I. (J. J. Walker).*—**COLOMBIA** 1 2.

**LYCOMEDES.**


A genus apparently confined to Central America and the north-western parts of Tropical America; one species is stated to be from Mexico. Four species have been described.

1. **Lycomedes mniszechi.** (Tab. XXI. figg. 1, 1 a, c .)

*Lycomedes Mniszechii*, Thomson, Mus. Scient. i. p. 16, t. 6. fig. 1 1.

*Hab. Mexico* 1; Nicaragua, Chontales (Janson); Panama, Volcan de Chiriqui 4000 to 6000 feet (*Champion*).

Our collections do not contain a specimen of this species from Mexico, and only one (male) from Chontales, but Mr. Champion obtained a fine series in Chiriqui. The **Biol. Centr.-Amer.**, Coleopt., Vol. II. Pt. 2, March 1889.
male, from Mexico, described and figured by Thomson measured 44 millim., although, judging from the rudimentary state of the tubercle on the posterior side of the cephalic horn, it is not of the highest development of the sex; examples of similar development from Chiriqui are only 34 millim., and others of higher stage, in which the tubercle on the cephalic horn is distinct, acute, and situated nearer the middle of the horn, and in which the thoracic horn is of relatively much greater length than in Thomson’s specimen, measure only 40 millim. All the examples, nevertheless, agree in other respects with the figure above cited.

The species is distinguished from the three described from South America by the long, slender, pointed thoracic horn, which projects subhorizontally beyond the apex of the porrected cephalic horn.

The males, as they decrease in development, lose all trace of posterior tubercle on the cephalic horn, and in the lowest stage both that and the thoracic horn are extremely short (about 2 millim.), both still preserving the shape and direction characteristic of the species.

2. **Lycomedes beltianus.** (Tab. XXI. figg. 4, 4 a, $\delta$.)

*L. miniscusi* affinis, elytris medio magis explanato-dilatatis, tomentaque cinereo magis scirico et variegato. 
$\delta$. Cornu capitis spicis sextum, postice infra spicem unisubtorcularatum et prope basin tuberculo majore; cornu thoracis oblique elevatum, spicem sextum, antice versus basin tuberculo lato, compresso; tarsi antici ungue majore sient in *L. miniscusi* deflexo, medio subtus dilatato basique acutie dentata.

Long. $\delta$ 82 millim.; $\varphi$ 28 millim.

*Hab.* Nicaragua, Chontales (*Belt*).

One pair only. *Lycomedes reichel* has a totally different form of thoracic horn.

**Subfam. PHILEURINÆ.**

**PHILEURUS.**


A well-known genus, of wide distribution in tropical and temperate regions throughout the globe, but absent from Europe, including the Mediterranean subregion, Australasia, and Chili. *P. subcostatus*, Casteln., from Australia, belongs to the genus *Semanopterus*. The great majority of the species inhabit the Tropical and the warmer temperate zones of America.

**I. Outer apical angle of the posterior tibia not spiniform.**

1. **Phileurus cribrosus.**

**PHILEEURUS.**

_Hab._ NORTHERN AMERICA, New Mexico 1, Texas 2.—MEXICO, Nuevo Laredo in Tamaulipas, Villa Lerdo in Durango (Höge), Monclova in Coahuila (Dr. Palmer).

Allied to _P. simbratius_, Burm., from S. Brazil and Uruguay. The elytra are shorter and more rounded than in the typical _Phileurus_, and very coarsely striate-punctate. The head bears no trace of horns, but is transversely carinated. In the male the pygidium is conically convex, in the female plane. The size varies from 14 to 16 millim.

2. **Phileurus simplex.**

Oblongus, nigro-nitidus, sternis breviter vulpino-rufus pubescentibus pedibusque piceis; capite tenuiter arcuatim strigoso, clypeo acuto reflexo, fronte bituberculata extus nullo modo carinata, cantho oculari subito rotundato-dilatato; thoraces lateribus cum angulis posticis sat rotundatis, sulco dorsali punctato nec apicem nec basin attingente, antice nec tuberculato, disco anteriore sparse punctato, osteo lavi; elytris regulariter sat grosse punctato-striatis, apice confuso grosse punctatiss. _Tibiam_ antice tridentata, 4 postice carinis et apice breviter spinosus-setosis nec dentatis, apice extus tantum obtusum productum; tarsi postici articulo basali extus longe spinoso. _♀_. Pygidium medio transversum valde gibbosum, sparse grosse punctatum.

**Hab._ NICARAGUA, Chontales (Belt, Janson).**

Two female examples. The species is closely allied to _P. vexex_, Burm., but differs from it in the head above being nearly plane and without carinæ connecting the frontal tubercles with the sides and apex of the clypeus. The pubescence beneath is also much shorter and thinner.

II. Outer apical angle of the posterior tibia spiniform.

3. **Phileurus lavicauda.** (Tab. XXI. fig. 3, _♀_)

_P. depressus_ proxeime affinis, differt ventris segmento apicali feri lavi pygidioso grosse punctato. Oblongus, nigro-nitidus, subitus prunotis lateribus solum rufo-hirtis; capite grosse punctato, clypeo acuminato-reflexo, fronte tuberculis compresso-sonis duobus, cantho oculari lobiformi capitisque lateribus ante canthum acute angulatis ubi carina a basi tuberculii desinit; thoraces grosse punctato, disco utrinque et basi lavisi, sulco dorsali multo abbreviato punctato; elytris regulariter punctato-sulco, striola scutellaris nulla; pectoris lateribus cossique posticis grosse umbilicato-punctatiss. Pygidium grosse punctatum, _♂_ mediocriter convexum, _♀_ planum; segmento ultimo ventrali basi solum punctato. Tibiam 4 postice medio et apice spina longata et valida.

**Hab._ MEXICO, Tapachula in Chiapas (Höge); GUATEMALA, El Reposo, Teleman in Vera Paz (Champion).**

4. **Phileurus ——?**

_Hab._ MEXICO, Playa Vicente (Sallé).

A single old and worn example of a species which may be a variety of the Colombian

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P. variolosus, Burm., from which it differs only in the punctures being smaller, and on the thorax less close and evenly distributed.

5. Phileurus cylindroides. (Tab. XX. figg. 15, 15 a, c.)
Angustior, elongatus, subcylindricus, nigro-nitidus, protosternum subtilis vulpino-pubescens; capite basi c impunctato, polito, Q rugoso-punctato, clypeo acuminato-reflexo, cantho oculari lobato et anteriorius utrinque angulato, fronte in c erecte bisignata, in Q taberulis duobus latis conicis; thorace plus minusve grosse annulato-punctato, sulco dorso lati, grosse confluenter punctato, basin versus pleurumque lavi, margine antico hand tuberculato; elytris punctato-sulcatis, punctis grossis et umbilicatis, interdum minoribus et sulcis minus profundis hinc interstitiis laticornibus; sternis et exsis posticis grossissimae discrete punctatis.
Pygidium grosse punctatum, c valde convexum, Q fere planum; segmentum apicale ventrale impunctatum.
Long. 18-21 millim. c Q.

Hab. British Honduras, R. Sarstoon (Blancaneaux); Guatemala, Capetillo (Champion); Costa Rica, Volcan de Irazu 6000 to 7000 feet, Rio Sucio (Rogers); Panama, Bugaba, Volcan de Chiriqui 4000 to 6000 feet (Champion).

A male from Rio Sucio is shown on our Plate.

6. Phileurus dejanei. (Tab. XX. figg. 19, 19 a, c.)
P. depressus affinis, sed convexior, elytron interstititus alternis valde elevatis etc. Elongato-oblongus, sat convexus, nigro-nitidus, femoribus rufo-piceis; capite c antice fere levii, Q grosse alvelato-punctato, clypeo acuminato-reflexo carinis posticis divergentibus validis, cantho oculari subdilatato prominente dentequo anterio valido, fronte c cornibus duobus brevisibus erectis, Q taberulis basi dilatatis subconicis; thorace grosse et antice dense umbilicato-punctato sulcoque dorso profundo, lato et grosse confluenter punctato, margine antico hand tuberculato; elytris grossissimae umbilicato-punctato-stratiis, interstitiis 3° et 5° elevatis et incrassatis, 2° et 4° apud basin solum elevatis postice depressis et angustatis; meta-sterno fere toto sat grosse punctato. Pygidium grossissime punctatum, c et Q paullo convexum; segmentum apicale ventrale basi tantum punctulatum; tibia 4 postico extus spinis mediana et apicali latis.
Long. 17-23 millim. c Q.

Hab. Mexico, Cordova, Toxpan (Sallé), Jalapa (Höge); Guatemala, Cerro Zunil (Champion).

I have adopted the MS. name given to this species in the Sallé collection. It is very closely allied to P. cylindroides, but is distinguishable in all the numerous examples by its costate elytra, as well as by its broader and more robust form. P. dejanei is not much more convex than P. valgus or P. depressus.

We figure a male example from Toxpan.

7. Phileurus truncatus.

Hab. North America 1, from North Carolina southward ².—Mexico, Cordova (Sallé).

There is only one example of this species in the Sallé collection, others also labelled P. truncatus being the superficially very similar P. quadrituberculatus.
8. Phileurus didymus.

Scaraebus didymus, Linn. Syst. Nat. i. 2, p. 545; Oliv. Ent. i. 3, p. 42, t. 2. fig. 9.
Phileurus didymus, Burm. Handb. der Ent. v. p. 158.
Phileurus affinis, Reiche, Ann. Soc. Ent. Fr. 1859, p. 12 (nec Burm.).

_Hab._ Mexico, Cordova (Sallé, Höge), Toxpan (Sallé), Jalapa, Tapachula in Chiapas (Höge), Temax in North Yucatan (Gaumer); Guatemala, Cerro Zunil (Champion); Nicaragua, Chontales (Belt, Janson); Costa Rica (Van Patten); Panama, Volcan de Chiriqui 2000 to 3000 feet (Champion).

Varies in size from 28 to 50 millim. The thoracic tubercle on the fore margin followed by a broad depression, from which commences the dorsal sulcus, are constant characters in all the examples; but the quadridentate anterior tibia is subject to exceptions, as the upper tooth is sometimes scarcely perceptible, or disappears altogether. The tridentate _P. affinis_, Burm., which is reunited by Reiche and Gemminger and Harold as a var. to _P. didymus_, is, however, probably a distinct species, as it differs in the absence of the broad pit behind the thoracic tubercle, whilst the _P. affinis_ described by Reiche as distinct is clearly the same as _P. didymus_, the absence of a scutellar striae, adduced as the sole character, being of common occurrence in the species.


_Hab._ Mexico (Sallé, ex coll. Sturm).

A single example from Sturm's collection, agreeing very well with Burmeister's description.


Scaraebus valgus, Linn. Syst. Nat. i. (2) p. 546; Oliv. Ent. i. 3, p. 43, t. 17. fig. 160.

_Hab._ North America, Texas.—Mexico, Jalapa (Höge), Temax in North Yucatan (Gaumer); Guatemala, El Reposo (Champion).—South America, Colombia to S. Brazil; West Indies.


_Hab._ Guatemala, Yzabal (Sallé).

The largest examples of this species are distinguished from the smallest of _P. didymus_,
which they much resemble, by the very different armature of the four hind tibiae, which have two spines or long teeth at the outer apex instead of one, and on the median ridge a row of denticulations, ending sometimes with a short spine. In the var. capra the spines and denticulations are much stronger than in the type. The size of \textit{P. valgus} typ. varies from 16 to 24 millim.

11. \textit{Phileurus quadrituberculatus}.

\textit{Phileurus quadrituberculatus}, Burm. Handb. der Ent. v. p. 102′.

\textit{Hab.} Mexico\textsuperscript{1}; British Honduras, Belize (Blancaneaux); Honduras, Ruatan Island (Graumer); Nicaragua, Chontales (Belt, Janson).—South America to Brazil\textsuperscript{12}.

The four hinder tibiae in this species have three strong teeth at their outer apex, and a row of broad and strong denticulations on the median ridge.

**AMBLYODUS.**

\textit{Amblyodus}, Westwood, Trans. Ent. Soc. Lond. 1878, p. 32.

The following is the only known species of this genus, distinguished from \textit{Phileurus} chiefly by the tridentate mandibles. In this feature it agrees with \textit{Trioplus}, to which genus it is very closely allied, differing chiefly by the simple fore-tarsal claws in the male and the entire apex of the clypeus.

1. \textit{Amblyodus taurus}. (Tab. XXI, fig. 2, \sigma.)

\textit{Amblyodus taurus}, Westw. Trans. Ent. Soc. Lond. 1878, p. 32, t. 2. figg. 1 a–e\textsuperscript{1}.

\textit{Hab.} Nicaragua, Chontales (Belt\textsuperscript{1}); Panama, Volcan de Chiriqui 2000 to 3000 feet (Champion).

Three examples, including the type-specimen of Westwood.

The specimen described by Prof. Westwood has only two teeth on the right mandible, but as the two other examples (\sigma \& \varphi) have both mandibles tridentate, it appears probable that the bidentate state in this case is an aberration. The female (recognizable, as usual in the Dynastidae, by the entire apical margin of the apical ventral segment) is precisely similar to the male, except that the cephalic horns are very much shorter, and the declivous anterior surface of the thorax is only half as large. I suspect, however, that the difference is not always so great, as the females in \textit{Trioplus} are almost exactly similar to the well-developed males, whilst minor males have much shorter cephalic horns.
ISCHNOSCELIS.—ARGYRIPA.

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Fam. CETONIIDÆ.

Subfam. ISCHNOSTOMINÆ.

ISCHNOSCELIS.

Ischnoscelis, Burmeister, Handb. der Ent. iii. p. 179 (1842); Lacordaire, Gen. Col. iii. p. 489.

This genus, interesting as displaying an affinity with the Goliathinæ group of Africa and Asia, so far at least as the cornuted head of the males is concerned, seems peculiar to Mexico. Two species have been described, widely dissimilar in size, colour, length, and clothing of the male fore legs, and to a lesser extent in the armature of the head, but closely agreeing in all essential points of structure.

1. Ischnoscelis hopfneri.

Goliathus hopfneri, Gory & Percheron, Monogr. Cetoin. p. 154, t. 26, fig. 2.¹


Hab. Mexico ¹² (Sturm, in coll. Sallé).

There are two examples only, a male and a female, of this rare species in the Sallé collection.

2. Ischnoscelis dohrni.

Ischnoscelis dohrni, Westw. Linnæa Ent. x. p. 326, t. 2².

Hab. Mexico ¹, Sonora (in coll. Bates).

Subfam. GYMNETINÆ.

ARGYRIPA.

Argyripa, Thomson, Typi Cetonid. p. 11 (1878).

Allorhina, pars, Sallé, Bates (olim), Westwood.

Three species of this beautiful genus have been described, remarkable for the curious armature of the head and thorax in the males. The group appears to be restricted to Central America and the neighbouring North-western parts of South America.

1. Argyripa lansbergei.

Allorhina lansbergei, Sallé, Ann. Soc. Ent. Fr. 1857, p. 617, t. 13. no. iii. figg. 1, 1 a–c.¹


Argyripa lansbergei, Thomson, Typi Cetonid. p. 11.

Hab. Nicaragua ².—Colombia ¹.

This species is not contained in our collections and does not appear to have been
met with by either Belt or Janson during their lengthened residence in the eastern part of Nicaragua.

2. *Argyripa anomala*. (Tab. XXI. figg. 15,  σ; 17, ♀, var.)


♀. A σ differt solum capite et thorace inermibus; elypeo quadrato, plano, marginibus reflexis, apicali medio paullo altiore; tibias anteces extus (dente apicis excepto) inermibus ventroque albo polito nigro-punctato, segmentis 2°-5° medio antice macula nigra transverso-ovata.

*Var. σ*. Thorax marginem toto flavo-cretaceo, nigro-punctato.

_Hab. Nicaragua, Chontales (Belt 1)._  

3. *Argyripa subfasciata*. (Tab. XXII. figg. 2, 2 a,  σ; 3, 3 a,  σ, var.)

*Argyripa subfasciata*, Ritsema, Notes from the Leyden Mus. 1885, p. 41, t. 3. fig. 2 (♀) 1; O. Janson, loc. cit. 1888, p. 118, fig. 119 (♂) 2.

_Hab. Panama, Chiriqui 2 (Trötsch), Bugaba (Champion)._—_COLOMBIA 1._

One of Mr. Champion's examples represents a variety (fig. 3) of this beautiful species in which the dark purple velvety elytra are unicolorous, with the exception of four rather small yellow marginal spots in the situation of the lateral terminations of the fasciae and apical spot of the typical form. Mr. Janson in describing the male calls attention to the extraordinary form of the mentum, the disc of which is produced as a stout vertical spine, remarking, justly, that no trace of this exists in the male of _A. anomala_, and only a slight indication of it in the male of _A. lansbergei._

We figure two male examples from Bugaba.

**CHIRIQUIBIA.**

Gen. _Allorhina_ affinis, sed differt capite mari ab eoque cornu frontali, fronte ab occipite longitudinaliter usque ad cornu elypeo obtusissime carinata. Clypeus apice medio cornu medio creto, bifido, capite margine utrinque proprie oculos alto et acuto elevato, apice acuto et libero. Tibiae 4 postices sat graciles, inermes, anteces (♂) apice extus in spinam acutam prolongate et obsoleto obtusissime bidentate. Processus sternalis (sicut in _Cotinus_) latus, planus, apice lato rotundatus. ♀ ignota.

One fine and large species only is known of this genus. The absence of horizontal frontal horn necessitates its separation from _Allorhina_ (incl. _Tiarocera_, Burm.), from the species of which it also differs strikingly in colour and markings.

1. *Chiriquibia insignis*. (Tab. XXII. figg. 1, 1 a, σ.)

*Allorhina insignis*, O. Janson, Notes from the Leyden Mus. 1888, p. 119 1.

_Hab. Panama, Chiriqui 1 (Trötsch)._
COTINIS.

Cotinis, Burmeister, Handb. der Ent. iii. p. 254 (1842).
Latennis, Thomson, Le Naturaliste, i. p. 268 (1880).
Balsameda, Thomson, loc. cit.

The species with emarginated clypeus and long spiniform teeth at the apex of the four hind tibiae (genera Amithao and Desicasta) being withdrawn, this genus is here left as defined by Burmeister. It includes about twenty species distributed throughout the tropical and north temperate zones of America, and distinguished by having the same armature of the head in both sexes, namely an erect clypeal horn often much reduced, until in the aberrant forms it consists of a barely perceptible median elevation of the reflected apex of the clypeus, and a horizontal frontal horn, which likewise is sometimes partly atrophied, but in the most aberrant species is visible as a tolerably distinct central carina. The genus Latennis of Thomson I consider as certainly congeneric with Cotinis, but Balsameda is rather better defined, consisting of those species in which the external posterior angles of the hindmost coxae are obtuse and not acutely produced as in the rest of the genus; the armature of the head remains, however, normal, and I think it advisable to retain it as a section of Cotinis.

I. Coxa postice angulis posticis subfalcato-productis.

1. Cotinis laticornis. (Tab. XXII. figg. 6, 6 α, Ψ.)
C. barthlemyi affinis. Subelongato-oblonga, thomaeo quam in C. mutabli postice multo angustiore; cornu clypeali apice late dilatato et tridenticulato, dente intermediae obtuso, cornu horizontali frontali apice longe libero et recte porrecto. Caput. thoracis margine lato (et interdum lineae angusta dorsali), epimeris corporoque subsitus viridi-metallicis, nitidis, elytris velutinis fusco-purpureis vel fusco-fulvis versus suturam viridi-obscures; thorace disco viridi-velutino, margine nitido, rugoso-punctato; pygidio sparso quam in C. mutabli transversum striiguloso; pectoro, ventris lateribus et tibii 4 posticos intus fulvo-rufo pilosis. Tibiae 4 postica medio extus carina denticulata, apice late et obtuse dentatae; antice 9 anae extus valde dentatae, supra biflexae interdum unidentatae, 9 bidentatae. Processus sternalis latus, planus, parte mesosternalis fere sicut in C. mutabli, sed paullo angustiore.

Long. 27–35 millim.; lat. thor. basd 10–13 millim. Ψ 2.

Hab.: Mexico, Sonora (coll. Bates), Villa Lerdo in Durango, Tupataro in Guanajuato (Höge), Guanajuato (Sallé), Mexico city (Dr. Palmer, Flohr).

A good number of examples of both sexes, in all of which the clypeal horn is greatly dilated at the apex and more or less distinctly tridentate. This character, added to the tawny or rich purple-brown colour of the elytra, distinguishes the species well from C. barthlemyi of Colombia.

We figure an example from Mexico city.

2. **Cotinis mutabilis.** (Tab. XXI. fig. 5; Tab. XXII. figg. 4, 4 a, 5, 5 a, 12, 12 a, vars.)

After careful examination of about 250 examples I have come to the conclusion that the characters adduced by Burmeister to distinguish this species from *C. sobrina* are in the highest degree inconstant, and that there are no means of defining the two species. All that can be said is that *C. mutabilis* is, in the great majority of its individuals, larger and broader. The shape of the clypeal horn is very variable, and its varieties do not correspond with variations in size, breadth, and colour, large and robust specimens of the typical *mutabilis* having the horn either dilated towards the apex, parallel-sided, or triangular, and the same diversities may be seen in small and slender oblong examples of *C. sobrina*. It is the same with regard to form and colour; for it is far from the case that the large and broad examples (*C. mutabilis*) only are unicolorous; smaller and narrower individuals exist equally unicolorous and of nearly all the colour-varieties displayed by the larger set. It is true that the variegated varieties described by Burmeister under *C. sobrina* are, as a rule, smaller than the others; but they are connected by the most finely graduated series of variations, so that it is impossible to draw a distinction between the two series. The case is a very difficult one to deal with. It would not be satisfactory, and scarcely practicable, to include under one specific diagnosis all the numerous varieties, some of which are possibly local, thus presenting an interesting study to future collectors and students; the better course seems to be to treat the more distinct separately, giving the localities of each:—


*Hab. Mexico*¹ ², Matamoros Izucar in Puebla, Jalapa (*Höge*), Cordova, Vera Cruz, Campeche (*Salle*), Temax in North Yucatan (*Gaumer*); ? *Costa Rica* (*Van Patten*).

**Var. 1.** Eadem, sed corpore subitus saturatus viridi-ancea vel subchalybeo.

*Hab. British Honduras, R. Saroston* (*Blancaneau*); *Guatemala*, near the city alt. 5000 feet (*Salvin*), Volcan de Atitlan (*Champion*).


*Hab. Mexico*¹ ², Cuernavaca (*Salté, H. H. Smith*), Jalapa (*Höge*), Temax in North Yucatan (*Gaumer*); *Guatemala*, Chimaltenango (*Conradt*).

**Var. 3.** Var. 2 quoad formam similis, sed interdum robustior, differt elytrorum lateribus et versus apicem obscure rufo-translucentibus; cornu clypeale variabile.

*Hab. Mexico*, North Yucatan (*Gaumer*); *Guatemala*, San Gerónimo (*Champion*).
COTINIS.

Var. 4. Cotinis cuprascens. Supra aureo- vel cupreo-fusca, subitus aurata, cupreo-aurata, vel rufo-cuprea; magna, robusta; cornu clypeale quadratum. (Tab. XXI. fig. 5.)

Hab. Mexico, Jalapa (Höge), Temax in North Yucatan (Gaumer); Nicaragua, Chontales (Belt).

Sent in abundance by Mr. Gaumer from Northern Yucatan.

Var. 5. Var. cuprascens quoad coloris simillima, sed plerumque multo minor et cornu clypeali brevi triangulari.

Hab. Mexico, Jalapa (Höge), Temax in North Yucatan (Gaumer); Guatemala, San Gerónimo (Champion).


Hab. Mexico, Jalapa (Höge).


Hab. Mexico 1, Puebla, Cordova, Juquila (Sallé), Putla (Boucard, coll. Bates); British Honduras, R. Sarstoon (Blancaneaux); Guatemala, near the city (Salvin), San Gerónimo, Coban and Tamahu in Vera Paz (Champion), Chimaltenango (Conradt).


Hab. Mexico 1, Puebla (Sallé, Höge), Atlixco, Cordova, Jalapa (Höge), Cuernavaca (Höge, H. H. Smith); Guatemala, Coban in Vera Paz (Conradt).

Sometimes there is a trace of red marginal vitta on the elytra, which connects this variety with the following.

Var. 9. Cotinis sobrina, var. cabira, Burm. Handb. der Ent. iii. p. 256. Var. atrace similis, differt tantum elytrorum vitta laterali vel vittis laterali et discoidali (apice conjunctis) et thoracis margine saturate rufo, vittis interdum obselatis vel maxime dilatatis.

Hab. Mexico 1, Puebla (Sallé, Höge), Atlixco, Jalapa, Cordova (Höge).

The clypeal horn is in all our examples triangular; in some broader and obtuser than in others.

Var. 10. C. intergamma. Var. cabira individus graecioribus similibus, thoracis lateribus elytrisque vittis latissimis interdum obscure rufo; sed cornu clypeali siccat in forma maxima typica latum et alatum, apice paullo dilatato et summo sinuasto; corpore subitus et pedibus fere siccat in var. subcostanea castaneis vel cupreo-castaneis. Long. 24 millim. ♂♀. (Tab. XXII. figg. 5, 5 a.)

Hab. Mexico, Jalapa (Höge).

Two examples, one almost exactly similar in form and colour to a specimen of var. cabira in which the obscure red vittae of the elytra are dilated and extend over the whole surface leaving only a broad sutural vitta (narrowed behind) of the blackish
LAMELLICORNIA.

ground-colour; the other precisely similar in form, but with the reddish stripe and thoracic margins less distinct and the underside reddish-castaneous, slightly cupreous.


Hab. Mexico12, Ciudad in Durango (Forrer), Toltepec (Sallé), Mexico city (Dr. Palmer), Jalapa, Almolonga, Matamoros Izucar in Puebla (Höge).

The red lateral stripe of the elytra is sometimes very ill-defined from the green ground-colour and in other examples reduced to a narrow border; this form, in short, graduates into the variety mexicana.

Var. 12. Cotinis aurantiaca. Magis robusta et quadrata (¢ ?), supra latius viridi vittaque laterali elytrorum aurantaca-flava et magis distincta (raro interrupta vel obsoleta); subitus viridi-metallica, ventre sape rufo; cornu elyptale breve triangulari, late triangulari et obtusum vel quadratum. Long. 21–30 millim. ¢ ?.

(Tab. XXII. figg. 4, 4 a.)

Hab. Mexico, Ciudad in Durango 8100 feet (Forrer), Alamos, Pinos Altos in Chihuahua (Buchan-Hepburn), San Luis Potosi (Dr. Palmer), Isteppec (Sallé).

Has the facies of a distinct species and the sternal process is somewhat longer; but the form graduates into C. palliata.

An example from Alamos is shown on our Plate.


Hab. Mexico12, Isteppec, Guanajuato, Oaxaca (Sallé), Matamoros Izucar in Puebla, Almolonga (Höge).


Var. 15. Cotinis obliqua (sobrina, var. d), Burm. Handb. der Ent. iii. p. 256.4; C. malina, O. Janson, Cist. Ent. ii. p. 575.1. Viridis, subitus viridi- interdum aurco-viridi-metallica, thoracis vitta marginali (plerumque quoque vitta dorsali vel macula postica) elytrisque tota (vitta vel plaga magna basali et suturali excepta) ochrea-fulvis; cornu elyptale variabilie, parum triangulari vel major, truncatum vel alte quadratum, venter interdum rufescens. (Tab. XXII. figg. 12, 12 a.)

Hab. Mexico12, Parras and Saltillo in Coahuila, San Luis Potosi (Dr. Palmer), Ventanas in Durango (Höge), Guanajuato (Sallé), Mexico city (H. H. Smith, Dr. Palmer).

Passes by insensible gradations into C. sobrina and exhibits the same great diversity
of general form of body; some examples (♂) are small (19 millim.) and narrow, others (♀) remarkably elongate (28 millim.) without corresponding width and with high parallel-sided clypeal horn, whilst others (♀, 26 millim.) have the broad oblong-ovate outline of *C. mutabilis* typical form. Male examples also occur with a clypeal horn so excessively reduced that it appears only as a small obtusely triangular elevation.

An example from Guanajuato is figured.

3. **Cotinis punctato-striata.** (Tab. XXII. figg. 9, 9, a ♀.)

*C. mutabilis* varietatis minoribus similis, sed differt elytris scintillanter punctulato-striatis. Colore variet:—

(1) Viridi-concolor (subitus aurato-viridula metallica); (2) viridis, elytrorum vita lateralis usque ad suturam apicem extensa obscure rufa; (3) viridis, thoraces lateribus vittaque dorsale et elytris tota (sutura et plaga magna triangulamenti juxtagenerali exteriose) obscure fulvis; (4) cupreo-aurata, subitus resplendens rufo-reducent; et (5) purpureo-fusca, subitus usque hastam haud metallica. Cornu clypeale sat elongatum, plerumque triangulare acutum, interdum truncatum, rarum lateribus subparallelis; cornu frontale interdum angustum, apice haud longe liberum. Pygidium et processus sternalis sicut in *C. mutabilis*.

Long. 21–25 millim. ♀.

*Hab. Mexico, Vera Cruz (Sallé), Almolonga, Jalapa (Höge); Nicaragua, Granada (Sallé).*

The shining punctured striae are visible chiefly in the depressed intervals between the suture and the first costae and between the two costae; they are in each interval two in number, and the space between the first pair is irregularly punctured; the apex between the callus and the suture is also more or less punctured. The males are slenderly oblong, like the smallest males of *C. mutabilis*; the females are more robust and subquadrata. The species was captured in abundance by Herr Höge at Almolonga; it is in many points intermediate between *C. mutabilis* and *C. pauperula*.

The single female example from Granada, Nicaragua, differs from all the others in its larger size (28 millim.), and broader, more robust figure. It resembles, in fact, closely, certain Guatemalan examples of *C. mutabilis*, typical form, which have a broadly triangular clypeal horn, except in the numerous shining green punctures of the elytra.

4. **Cotinis pauperula.** (Tab. XXII. fig. 13.)


*Hab. Mexico¹, Acapulco (J. J. Walker, Höge), Iguala in Guerrero (Höge), Yolotepec (Sallé).*

Smaller in size and more slender in form than any but exceptionally dwarfed examples of *C. mutabilis* or than *C. punctato-striata*. It agrees with the latter in the punctate-striate elytra, but the punctures are opaque; and it also differs in the frontal horn being reduced to a sharp carina, never free, though nearly always vertically truncated at the extremity. The clypeal horn is always very short and triangular, and the sternal process somewhat narrow and rather more acutely rounded at the apex than in *C. mutabilis*. 

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¹ From the context, it appears that this might be a reference to the species *Cotinis pauperula*. However, without more context, it's not clear whether or not there's a specific location or additional information missing from the transcription.
The margins of the thorax are distinctly less broadly incrassated than in C. mutabilis and C. punctato-striata; in this respect the species approaches the North-American C. nitida. The colour varies: (1) dullish green, very dark and tinged with brassy beneath; (2) the same, with the margins of the thorax and the whole of the elytra, except a broad triangular juxtascutellar patch, dull fulvous; (3) wholly fulvous above, except the disc of the thorax, which remains green; (4) thorax and elytra entirely fulvous. The length ranges from 21 to 23 millim.

5. Cotinis pueblensis. (Tab. XXII. figgs. 11, 11 a.)

C. pauperula quam proxime affinis, sed differt duplo majore et robustiore; nigro-viridis, opaca, elytrorum lateribus obscurae rufo translucucentibus, subtus nigro-mana, nitida; carina frontali antice leviter declivi, cornu elypei late triangulari; thoracis margino latius incrassato, antice obsoletae et cum lateribus sparsim grosse punctato; elytris passim grosse striato-punctatis; processu sternali antice (parte mesosternali) transverse et subulate rotundato; metasternis coxiisque postcrio-externis sicut in C. mutabilis et affinis autque producti, subtus pubescens vulpino-rufa.

Long. 28 millim. ♀ (?).

Hab. Mexico, Matamoros Izucar in Puebla (Höge).

Possibly a local or geographical form of C. pauperula. One example only.

6. Cotinis producta.

Elongato-oblonga, viridis, opaca, subtus metallicca, elytris fulvis, sutura et plaga juxtascutellaris viridibus; cornu elypei brevi, latissimo, apice paullo dilatato, postice concavo-arcato apice truncato; cornu frontali fore usque ad cornu clypeale extenso, apice fore verticali vix libero; thorace postice minus dilatato, passim sat grosse punctato, lateribus late glabris nitidibus, margine sat incrassato ante apicem obsoletae; elytris punctulato-striatis; pygidio sicut in affinis dense striuloso; processu sternali brevi, parte mesosternali parva triangulari; tarsi breves et robusti, posticus articulis 1°-4° longiturnine aequalibus.

Long. 27 millim. ♂ (?).


One example only.

7. Cotinis lebasi. (Tab. XXI. fig. 6.)

Gymnetis Lebas, Gory & Perch. Monogr. Cétom. p. 335, t. 66. fig. 34.

Cotinis Lebasi, Burm. Handb. der Ent. iii. p. 258.

Hab. Panama, Chiriqui (Ribbe), Bagaba, Taboga Island (Champion), Panama city (J. J. Walker).—Colombia.

About a score examples answering to the above-cited descriptions and figure, except with regard to the pygidium, the great peculiarity of which, namely its opaque surface, is not mentioned. The insect is of the broad robust form of the typical C. mutabilis (28-35 millim.), though rare examples occur of rather smaller and narrower outline; the colour above is dark olivaceous-green, beneath red-coppery, inclined to seneus in Taboga Island examples. It differs constantly from C. mutabilis, apart from the opaque
pygidium, in the frontal horn having only a short free extremity, the sides of the thorax simply rounded, and in the mesosternal part of the sternal process being much broader and shorter. It is remarkable that the clypeal horn, so variable in form in *C. mutabilis*, is here always very short and triangular.

Found in rotten pine-apples and other fruits (Champion).

8. **Cotinis subviolacea.**


*Cotinis subviolacea*, Burm. Handb. der Ent. iii. p. 259.2.

*Hab. Mexico* 12, Cordova, Tuxtl (Sallé), Jalapa (Höge), Teapa, Orizaba (H. H. Smith), Temax and Valladolid in Yucatan (Gaumer); Guatemala (Sallé), Coban in Vera Paz (Conrad).

Varies from glossy black through violaceous, purple-brown, on to brassy-green. Some examples show faint rows of punctures on the elytra, and in others the clypeal horn is obsolete, or visible only as an indistinct triangular fold of the posterior edge of the front margin.

9. **Cotinis plicatipennis.**


*Hab. Mexico* 1, Jalapa (Salle, Höge).

Probably only a variety of *C. subviolacea*, but besides the transverse inequalities and folds of the elytral surface, which constitute its sole structural difference, the colours are more brilliant—golden or brassy-green and sometimes lustrous coppery.

10. **Cotinis viridicyanea.**


*Hab. Mexico* 1, Campeche (Salle), Temax in North Yucatan (Gaumer).

Sent in abundance from Temax by Gaumer.

11. **Cotinis polita.**


*Hab. Nicaragua, Chontales (Janson 1); Panama, Bugaba (Champion), Chiriqui (Trütsch).

A glossy black species, with frontal carina gradually lowering and not free at its extremity.
12. **Cotinis olivia.** (Tab. XXI. fig. 10.)

*Long.* 23–30 millim. ♀.

*Hab.* **Costa Rica** (Van Patten), Rio Sucio (Rogers).

Five examples, apparently all females.

13. **Cotinis antonii.**

*Hab.* **Mexico** 2, Guanajuato 1 (Dugès, *in coll. Sallé*), Tupataro in Guanajuato (Höge).

Wholly violet-black, the pubescence beneath black. The frontal carina is short and elevated, and terminates abruptly; the reflexed apex of the clypeus is often very distinctly higher in the middle and can never be called truncate. The sternal process is flat, but somewhat acutely rounded at the apex as in *C. producta.*

14. **Cotinis alboscripta.**

*Hab.* **Mexico,** Almolonga (Höge), Amula in Guerrero (*H. H. Smith*), Oaxaca 1.

In this, the most aberrant species of the genus, the frontal carina though distinct blends gradually in front with a slight convexity in the middle of the clypeus, which latter has no trace of dentiform projection in the middle of the front edge; the sides of the forehead and truncated clypeus are equally and rather strongly elevated; the sternal process has the flat obtusely rounded form prevalent in *Cotinis.*

II. **Coxa postice angulis posticis obtusis** (gen. Balsameda, Thoms.).

15. **Cotinis cincta.**
*Cotinis cincta,* Burm. Handb. der Ent. iii. p. 262 3.

*Hab.* **Mexico** 2.—Interior of Brazil 1 (locality erroneous, according to Burmeister).

Our collections contain nothing resembling this species.

*Obs.* Gory and Percheron give Mexico as the locality of another species, *C. terminata,* which Burmeister says is also erroneous, the species being from Brazil.
16. *Cotinis pulverulenta.* (Tab. XXII. fig. 10, ♂.)

*Cotinis pulverulenta*, Burm. Handb. der Ent. iii. p. 262.⁴

*Hab.* México¹, Mirador (*Sallé*), Almolonga (*Höge*), Valladolid in Yucatan (*Gaumer*); British Honduras, Cayo (*Blancaneaux*); Honduras².

Burmeister mistook a (probably slender) female example for the male, and described both sexes as having sharply tridentate anterior tibiae and the scattered scaly clothing as changing into scaly hairs on the under surface and legs. But the true males, in fact, have remarkably slender fore tibiae, with no conspicuous tooth except the long curved terminal one; the second tooth is only slightly indicated, and in some examples entirely wanting, and the uppermost tooth is a very short sharp spine. The males have scattered oval scales over the entire body and legs; in the females the scales change on the pygidium, under surface, and legs into more or less slender hairs. In length the species varies from 17 to 21 millim., and in width from 7½ to 12 millim. *C. gracilis*, Sharp, is founded on a slender male example.

We figure an individual from Mirador.

17. *Cotinis adspersa.* (Tab. XXI. fig. 14.)


*Hab.* Nicaragua, Chontales (*Belt*¹).

A very distinct species. The frontal horn is much raised and laterally compressed, with a rather long free end pointed and curving downwards; in *C. pulverulenta* it forms a scarcely perceptible longitudinal swelling, free at the end through the deep pit-like depression of surface of theclypeus.

18. *Cotinis* —— ?

*Hab.* Mexico, Santa Clara in Chihuahua (*Höge*).

One example, crushed and distorted, of an evidently new species allied to *C. antonii*.

**GYMNETIS.**


A genus characteristic of Tropical America and comprising about 100 described species.

1. *Gymnetis cinerea.*

*Gymnetis cinerea*, Gory & Perch. Monogr. Cétoin. p. 371, t. 75. fig. 4; Burmeister, Handb. der Ent. iii. p. 288.¹

Var. *Gymnetis punctata*, Blanch. Cat. Coll. Ent. i. p. 36.⁷

city, Lagos in Aguas Calientes, Tonila in Colima, Colima city, Guadalajara, Matamoros Izuca and Atlixco in Puebla, Jalapa (Höge), Alamos (Buchan-Hepburn), Guerrero (Baron), Presidio (Forrer), Cordova, Puebla, Vera Cruz, Juquila, Oaxaca, Eta, Guanajuato (Sallé); Guatemala (Sallé), San Isidro, San Gerónimo (Champion).

A very large number of examples. The chief colour-varieties are:—(1) ochreous-tawny, (2) rich fulvous-brown, (3) dark purplish-brown, and (4) ashy-black, none of which seem to be local except no. 3, all the examples of which come from Colima city, some of them impunctate and others more or less strongly punctured. But the punctuation, which is the sole character of C. punctata of Blanchard, is present in certain specimens of all the colour-varieties, and, though apparently more frequent in those from the central and northern plateaux, is evidently of very little importance.

2. Gymnetis uniformis.
Gymnetis uniformis, Blanch. Cat. Coll. Ent. i. p. 36.

Hab. Mexico (Ghiesbrecht); Guatemala, near the city alt. 5000 feet (Salvin, coll. Bates).

A small example (♀, 20 millim.), evidently referable to this species, distinguished by its dark coppery under surface, legs, and pygidium, was brought from Guatemala by Mr. Salvin. The upperside is dark, nearly black, and velvety; the sternal process is formed as in G. cinerea.

Cetonia liturata, Olivier, Ent. i. 6, p. 83, t. 12. fig. 131.
Gymnetis liturata, Gory & Perch. Monogr. Cetoin. p. 369, t. 75. fig. 1; Burm. Handb. der Ent. iii. p. 272.

Hab. Mexico, Cordova (Sallé), Jalapa (Höge); British Honduras (Blancaneaux); Guatemala (Sallé), Cerro Zunil, Zapote, San Juan in Vera Paz (Champion), Coban (Conradt); Nicaragua, Chontales (Belt, Janson); Costa Rica (Van Patten), Rio Sucio, Cache (Rogers); Panama, Bugaba, Volcan de Chiriqui 2000 to 3000 feet, David, Caldera (Champion).—South America, Venezuela to S. Brazil.

Gymnetis ocellata, Gory & Perch. Monogr. Cetoin. p. 368, t. 74. fig. 5; Burm. Handb. der Ent. iii. p. 274.

Hab. Mexico, Frontera in Tabasco (H. H. Smith); Nicaragua, Chontales (Belt).—South America 12.

5. Gymnetis argenteola. (Tab. XXII. fig. 7.)
Sat anguste oblonga, subviridescenti-flava, opaca, capite antice, thoracis margine incrassato, epimeris, scutello et corpore subitus pedibusque splendide cobaltino-argentis; capite sparsim (plerumque arcuatim) punctato,
GYMNETIS.

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plane, clypeo quadrato, margine, praeapice antico, acuto reflexo, hoc medio sinuato; thorace et elytris
sparsim et irregulariter arcuatim punctulatis, punctulis minoribus rotundis intermixtis, illo dorso et basi
fere impunctato, sutura parum elevato apice vix producto; pygidio (♂) flavo-opaco, sat magnis inaequaliter
convexo, vermiculato-stricto, breviter setoso; corpore subtilis et pedibus grossis sparsis arcuato-punctatis.
Processus sternalis brevis, conicus, haud deorsum inclinatus; tibiae antice (♂) breviter et acute tridentatae.

Long. 17 millim. ♂.

Hab. Mexico, Pinos Altos in Chihuahua (Buchan-Hepburn).

One example only of this beautiful little species has been received.

6. Gymnetis margaritis. (Tab. XXII. fig. 8, ♂.)

Supra pallide fusco-grisea vel fulvo-grisea, saturatius fusco-punctata (punctis minutis quoad formam multo
diversis), elytris plaga magna juxtascutellari, lateribus et costis versus apicem pallide et sordide fuscis,
minus dense punctatis, thorace linea tenui dorali pallidior; capite antice, thoracis margine incassato,
epimeris, scutello, corporeque subtilis cum pedibus aureﻗanti-margaritaceis, nigro-punctatis (punctis
arcuatis); ventre metasterneo medio levibus. Capite nigro, punctato, clypeo quadrato, margine antico
elevato et medio sinuato, fere obtusum bidentato; thoracis margine laterali ante basin sinuato; epimeris
nigro-punctatia; pygidio transversim subvermiculatam nigro-strigosam. Processus sternalis brevis, conicus,
haud deorsum inclinatus.

♂. Venter medio longitudinaliter depressus, segmentisque 2º-5º antico macula nigra; tibiae antice angustae,
brevissime tridentatae. ♀. Venter medio late niger, politus.

Long. 13-21 millim. ♂ ♀.

Hab. Mexico, Guerrero (Baron), Acapulco, Oaxaca (Höge), Etla, Tehuantepec (Salle);
Guatemala (Salle).

The single examples from Etla and Tehuantepec have a short and narrow dark brown
vitta from the middle of the base of each elytron. The unique Guatemalan specimen
has a lazuline-bluish tinge on the upper surface and on the tibia.

An example from Tehuantepec is shown on our Plate.

7. Gymnetis apiata.

Gymnetis apiata, Burm. Handb. der Ent. iii. p. 278¹.

Hab. Mexico ².

8. Gymnetis difficilis. (Tab. XXI. fig. 13.)

Gymnetis difficilis, Burm. Handb. der Ent. iii. p. 283¹.

Hab. Mexico ¹, Cordova (Salle), Misantla, Jalapa (Höge), Temax in North Yucatan
(Gaumer); Guatemala, Chimaltenango (Conradt); Nicaragua, Chontales (Belt).

Burmeister says the males are lighter in colour and the females darker with the
apex of the elytra only pale; but this distinction is not constant, as most of the males
I have seen have the same characteristic fulvous apex (clouded with pale brown) as the
females; the darkest or blackish individuals are, however, females. The mesosternal
epimera are not furnished with a shining apical tubercle, and the mesosternal process
is simple, i. e. without tubercle above, and of little vertical thickness; characters which
distinguish the species from several others of similar colour and markings.

2 ZZ 2
9. Gymnetis chontalensis. (Tab. XXIII. fig. 11.)
Gymnetis chontalensis, O. Janson, Cist. Entom. i. p. 374, t. 9. fig. 4.

_Hab._ NICARAGUA, Chontales (Janson, Belt).

In this species the sternal process is of remarkable vertical width, and rather short and abruptly bent downwards.

10. Gymnetis coturnix. (Tab. XXIII. fig. 12, var.)
Gymnetis coturnix, Burm. Handb. der Ent. iii. p. 289.

_Hab._ PANAMA, Chiriqui (Ribbe, coll. Bates).—SOUTH AMERICA, COLOMBIA.

Var. _G. nigrina_. Griseo-nigra, confluent nigro-maculata, thorace strigis nonnullis guttisque elytrorum marginalibus versus apicem carneis.

_Hab._ PANAMA, Chiriqui (Trötsch), Volcan de Chiriqui (Champion).

An example obtained from the late Edwin Brown’s collection, and ticketed “Brazil,” agrees with Burmeister’s description of this species, and I suspect the locality attached is erroneous, the real habitat being most likely Colombia. A Chiriqui specimen from Ribbe agrees with it, except that the black spots of the elytra unite in larger patches. The ground-colour of this (the typical form) is above dark greyish or tawny-brown, with two or three distinct orange-coloured spots on the margin of the elytra. The species is extremely close to _G. chontalensis_. Besides the very different colour and the fewer and larger black spots of the elytra, I find no differences except that in _G. coturnix_ the thorax has more acute and produced hind angles, and the black tubercle of the epimera is surrounded by a pink ring. The sternal process is a little less abruptly bent downwards, but the degree of this may be a variable character; it has the same great vertical width as in _G. chontalensis_. The male is of a uniform dark grey colour beneath as in _G. chontalensis_.


_Hab._ COSTA RICA (Van Patten).—ECUADOR, Balzar Mts.

One example of this well-marked species was obtained from Van Patten’s collection. _G. balzarica_ was previously known only from the Balzar Mountains on the Pacific side of the main Andes in Ecuador.

12. Gymnetis chevrollati. (Tab. XXI. fig. 16, var. _ramulosa_.)

Gymnetis Chevrollat, Gory & Perch. Monogr. Cétoin. p. 346, t. 69. fig. 3.


_Hab._ NICARAGUA, Chontales (Belt); PANAMA, Chiriqui (Trötsch), Volcan de Chiriqui 2000 to 3000 feet (Champion).
GYMNETIS.

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The examination of a large series has shown that G. ramulosa is only a slight and inconstant variety of G. chevrolati; but I have seen no specimen agreeing in the yellow lines of the elytra with Gory and Percheron’s figure except one from Mr. Edwin Brown’s collection labelled “Panama.” In all the others the yellow fascia very nearly reaches the suture and in some both the fascia and borders are of considerable width, a small dark spot remaining at the junction of the fascia and border on each side. The colour of the upperside varies from dark olivaceous-brown to rich purplish-black. In the original description 1 of G. ramulosa the symbols of the sexes were accidentally reversed; it is the male that has the under surface dark (blackish) grey, and the female the glossy-black abdomen and middle of the sternum.

13. Gymnetis kerremansi. (Tab. XXI. figg. 7, 8.)

Gymnetis kerremansi, Van de Poll, Notes from the Leyden Mus. viii. p. 231.

Hab. NICARAGUA, Chontales (Belt); PANAMA, Buguba (Champion), Isthmus of Panama 1.

Our five examples (three males, two females) agree with V. de Poll’s description, if we may understand his terms “cervina” and “fallow” to mean bluish-grey, for this is the colour of the underside, the mesosternal epimera, and the vague spots and borders of the numerous black spots and streaks which on a ground of ochreous make up the beautiful and highly diversified colour-pattern of the upperside. The males have more bluish-grey above, and the yellow spots of the female are more orange-coloured.

14. Gymnetis callispila. (Tab. XXII. fig. 15, ①.)

Brevius quadrata, sat convexa, G. radiicollis similis; supra late ochreo-flava (interdum subaurantiaca), nigromaculata et plagiata nec maculis in lineas prolongatis sic ut in G. radiicollis, fronte macula mediana; thorace plaga magna angulata basali (aque ad lobi basin extensa) strigis duabus flavis includente et antioce vitta emittente, lateribus utrinque bi- et antioce quadri-maculato; epimeris antice ochreis, postice nigris; elytris maculis plerumque in plagas majorae sed irregulares congestis, margine angusto laterali latioreque apicali flavo immaculato. Subtus ① ochrea, nigro-punctata, mesosterni medio ventrisque fascis medianis quattuor nigris, hirsutie nigra; ② ventre toto nigro polito. Processus sternalis oblique dependens, apice inferiorve paullo curvato.

Hab. MEXICO, Temax in North Yucatan (Gaumer).

15. Gymnetis radiicollis. (Tab. XXII. fig. 14.)

Gymnetis radiicollis, Burm. Handb. der Ent. v. p. 552.

Hab. MEXICO 1, Orizaba (Sallé).

One (female) example in the Sallé collection. Besides the differences of colour-pattern on the upperside, this species is distinguished from G. callispila by the greyish-black epimera and under surface, and the more prolonged and narrower sternal process.
16. **Gymnetis poecila.**


*Hab.* MEXICO ¹, Puebla (Sallé), Guerrero (Baron).

17. **Gymnetis sallaei.**


*Gymnetis tristis*, Burm. loc. cit. v. p. 551 (nee Olivier).

*Hab.* NORTH AMERICA, Louisiana ¹.—MEXICO ¹, Cordova, Orizaba (Sallé), Jalapa, Playa Vicente (Höge); GUATEMALA, Escuintla (Conradt).

The large female example from Escuintla has the thorax and mesothoracic epimera entirely black.

18. **Gymnetis stellata.** (Tab. XXII. fig. 16.)


*Gymnetis stellata*, Burm. Handb. der Ent. iii. p. 298; Gory & Perch. Monogr. Cétoin. p. 350, t. 70. fig. 2 ¹.

*Macronota radiata*, Wiedemann, Analecta Entom. p. 8 ².

*Hab.* MEXICO, Orizaba (Sallé), Guadalajara (Höge); PANAMA (coll. Bates).—SOUTH AMERICA ¹ ², Santa Marta, Colombia.

The example figured is from Orizaba.

**GUATEMALICA.**


Distinguished from *Gymnetis*, with which it agrees in the velvety-opaque upper surface of the body, by the clypeus being narrowed to the front and triangularly (not very deeply) emarginated at the apex, the spino-dentate apices of the four hinder tibiae, and (in the typical species) by the acuminate sternal process curved upwards at the apex. The abdomen in the males is depressed and longitudinally subsulcate in the middle.

The following two species only, both peculiar to Central America, are known. The second differs from *G. hueti* in the sternal process being shorter, acutely conical, and not recurved at the apex.

1. **Guatemalica hueti.**


*Hab.* GUATEMALA ¹, Cerro Zunil 4000 feet (Champion); PANAMA, Volcan de Chiriqui 3000 to 4000 feet (Champion).

The underside is similar in both sexes, shining black, glabrous, with small chalky-
white or yellow spots on the lateral segments of the metasternum and the sides of the ventral segments.

2. *Guatemalica marginicollis.*

*Gymnetis marginicollis,* Burn. Handb. der Ent. iii. p. 266.

_Hab._ Mexico¹ (Sallé), Almolonga in Vera Cruz (Höge).

Named *G. marginicollis,* Burn., in the Sallé collection, and agreeing with Burmeister’s description, with the very important exception of the emarginated clypeus, Burmeister saying expressly “kopfschild vorn aufgebogen, nicht ausgebuchtet.” It is only on the venturesome supposition that Burmeister’s specimen had the head of another species fixed to it that I adopt M. Sallé’s determination; one of Herr Höge’s two examples has also a false head glued to it, apparently the head of a _Euphoria._

The chalky-white or yellow markings of the elytra are sometimes separated mostly into spots, viz. (in a female example) one in the middle of the base on each elytron, two on the disc nearly side by side behind the middle, a short marginal streak near the shoulder, another on each side of the scutellum, and a flexuous fascia near the apex extending from the suture to the outer angle. In two male examples the spots (all in the same position) are united in streaks, the scutellar stripe with the basal spot, and the two spots on the disc in an angular band reaching the lateral margin, the subapical fascia remaining the same. In the male the mesothoracic epimera are entirely opaque white, and the naked part of the underside is faintly punctured. Burmeister describes his insect as a male, shining (i.e. glabrous) and rugose beneath, with the hind margins of the ventral segments at the sides grey: this agrees precisely with our female specimen.

**AMITHAO.**

_Amithao,_ Thomson, Typi Cetoni. p. 11 (1878).

_Cotinis_ (pars), Burmeister, Handb. der Ent. iii. p. 263.

_Melasictes,_ Thomson, Le Naturaliste, i. p. 268 (1880).

This genus seems to be sufficiently well-defined by its deep and angularly emarginated clypeus, the three more or less spiniform apical teeth of the four hinder tibiae, and the horizontal sternal process, generally conical but sometimes more elongate and flattened. The type-species of Thomson (*A. lafertei*) has, at least in the male, what he terms a tubercle on the head, “caput tuberculatum;” this no doubt refers to a prominence which marks the abrupt end of what in _Cotinis_ would be a frontal carina or horn, but which in _Amithao_ is scarcely elevated. This structure is more pronounced in another species, *A. cavifrons*; but in others it disappears, leaving as a trace of its termination a small pit near the base of the raised edge of the clypeus. There are gradations in this structure from species to species, which are not accompanied by any
other character of importance. I therefore do not venture to adopt Thomson’s genus Melasictes, the chief justification of which lies in this character, although the description does not point it out.

The genus seems to be peculiar to Central America and the northern parts of South America.

1. **Amithao albopictus.** (Tab. XXII. fig. 17.)
   *Hab. Panama*¹, Chiriqui (Trötsch).

2. **Amithao cavifrons.** (Tab. XXI. fig. 9.)
   *Cotinis cavifrons*, Burm. Handb. der Ent. iii. p. 263.
   *Hab. Mexico*¹, Toxpam, Cordova (Sallé), Misantla (Höge), Atoyac in Vera Cruz (*H. H. Smith*); *Nicaragua*, Chontales (*Belt, Janson*).

   A good series of examples. In both sexes the sides of the crown and forehead and the apex of the bidentate clypeus are more elevated than in *A. albopictus*, and the pit in front of the tubercle is broad and deep.

3. **Amithao haematopus.** (Tab. XXI. fig. 11.)
   *Desicastha haematopus*, O. Janson, Cist. Entom. iii. p. 147.
   *Hab. Mexico*¹ (Sallé); *Nicaragua*, Chontales (*Belt, Janson*²).

   Two examples, males, perfectly similar. The centre of the forehead is very feebly convex, and slopes in front into a small but deepish pit near the triangular emargination of the clypeus; the latter is strongly bidentate and scarcely reflexed.

4. **Amithao thomsoni.**
   *Hab. Panama*¹.

   Described as allied to *A. haematopus*. Not contained in our collections.

5. **Amithao metallicus.**
   *Desicastha metallica*, O. Janson, Cist. Entom. iii. p. 146.
   *Hab. Costa Rica*¹ (*Van Patten*); *Panama*, Volcan de Chiriqui 4000 to 6000 feet (*Champion*), Veragua¹.

6. **Amithao pyrrhonotus.** (Tab. XXII. fig. 18.)
   *Hab. Mexico*¹, Mirador (Sallé), Cordova (*Höge*).

   Closely allied to *A. haematopus* and similar in form and size (26–28 millim.), but the
head and thorax are very much smoother, and the whole upper surface tawny-red with a golden tinge, and highly polished; the sternal process is elongated, flattened, and slightly curved upwards at the tip. The clypeus has a much shallower emargination, and the convexity of the middle of the forehead is slight and slopes in front into a moderately deep pit. The front and lateral margins of the clypeus differ also in being sharply raised.

7. *Amithao erythropus.* (Tab. XXII. fig. 19.)

*Colinis erythropus*, Burm. Handb. der Ent. iii. p. 263.

*Var. Supra immaeleata.*

*Colinis moreletii*, Blanch. Cat. Coll. Ent. i. p. 331?

*Hab. Mexico* 12, Cordova, Toxpa, Tanetza (Sallé), Jalapa (Hüge); Guatemala, Panzos in Vera Paz (Conradt).

The forehead and clypeus are shaped nearly the same as in *A. pyrrhonotus*, but the sternal process differs in being short and conical. The legs in all our examples (except an immature one) are black. An example in the Sallé collection is entirely without white tomentose markings, and agrees with Blanchard’s description of *C. moreletii*, except in the black legs.

A specimen from Panzos is figured.

ESICASTA.


*Moscheuma*, Thomson, Le Naturaliste, i. p. 268 (1880).

*Stethodesma* (pars).

After defining the genus somewhat imperfectly in 1878, Thomson redescribed it more intelligibly in 1880, renaming it and giving the same species as belonging to it. The only character which distinguishes it from *Amithao* is the obliquely deflected and thick sternal process, described by Thomson as “mesosterni appendix robustissima sat elongata, paullo subtos directa, apice rotundato.” *D. lobata* (Oliv.), a well-known species from Guiana, is included both in *Desicasta* and *Moscheuma* by the author, also *D. sculptilis*, Thoms. (the type of *Desicasta*), the description of which offers nothing to distinguish it from *D. lobata* and *D. reichei*, Thoms. Under *Desicasta* is further enumerated *D. haematopus* of Schaum, which does not agree with the others in the form of the sternal process.

The genus appears to be confined to Colombia (with Panama) and Guiana. *D. lobata* (Oliv.) and *D. sebosa* (Van de Poll) are also found on the Lower Amazons.

1. *Desicasta lavicostata.*


*Hab. Panama*.

I have not seen this species.

BIOLOGICAL CENTRAL-AMERICAN, Coleopt., Vol. II. Pt. 2, March 1889. 3 AA
LAMELLICORNIA.

Subfam. CETONIINAE.

STEPHANUCHA.

Stephanucha, Burmeister, Handb. der Ent. iii. p. 394 (1842).


A North-American genus, of which three species have been described. The following differs from the generic type in the clypeus having only two spiniform teeth at the apex instead of four; but in the rounded thorax (entire near the scutellum), the short narrow mesosternal process, and the strongly elevated exterior ridges of the four hinder tibiae, in the middle pair bicuspid, the species accords with Stephanucha. Although the clypeus has only two teeth at the tip, there is a trace of another on each side in the distinct angle formed on the abrupt narrowing of the clypeus towards the apex.

1. Stephanucha bispinis.

Euphoria verticalis (Horn) affinis; differt corporis toto fulvo-pubescente, supra breviter et erecto, subaeus dense et longe, villosa; brevis, ovata, nigra vel [innaturn (?)] rufescens; clypeo curvilineariter (juxta apicem abrupte) angustato apicoque dentibus duobus acuis erectis; capite supra concavo, dense rugoso-punctato, vertice tuberculato valido; thorace late ovato, lateribus cum angulis posticis rotundatis, dense strigulosopunctato et erecte pubescenti, linea dorsali levii, postice prope scutellum obtusa truncato; clystis costis duobus levibus interstitiis sublineatim et sat dense umbilicato-punctatis, quam thorax paullo sparsius pubescentibus; pygidio (♂ lato convexo, ♀ subplano) paullo dense transversim subruguloso punctato, pubescenti. Pedes cum tarsis breves; tibie antice, ♀ ♀, dentibus graciosis acuis exstantibus tribus, 4 postice, praeicpe in ♀, medio extus grosse dentatis vel bidentatis. Processus sternalis brevis, apice truncato.

Long. 14 millim. ♀ ♀.

Hab. Mexico, Ventanas in Durango 2000 feet, Ciudad in Durango 8100 feet (Forrer).

Evidently closely allied to Euphoria verticalis, Horn, but differing, besides the dense pubescence, in the broader clypeus, each side of which, near the apical teeth, is subangulated owing to the suddenly increased narrowing.

EUPHORIA.


Eirikhipis, Burmeister, loc. cit. p. 385.

Euryomia (pars), Lacordaire, Gen. Col. iii. p. 527.

A genus difficult to define, though the same may be said of many other genera of Cetoniidae which have hitherto been generally admitted. It comprises nearly all the "Cétonides vraies" of Lacordaire found in America, all of medium or small size, and differing greatly in colours and style of markings and in the shape of the clypeus and other structural features on which systematists rely for generic characters in this difficult family. The clypeus especially presents in different species the various forms characteristic of many distinct genera of the Old World, such as Cetonia, Euryomia, Elaphinís, and others; and this was chiefly, no doubt, the cause of Lacordaire's too
hasty conclusion that *Euphoria* was admitted only on considerations of geographical distribution, and that it should be merged together with numerous Old-World genera under *Euryomia*. Dr. Horn, rightly, considered that the author of the 'Genera' in this proceeded too far. On the examination of a large series of species and individuals it is found that the clypeus in this group is exceedingly variable: first, to a minor but still considerable extent among individuals of the same species, and, next, in various degrees from one closely allied species to another; the variability of this important member may in fact be adduced as one of the characters of the genus, the variations being modifications of a certain typical form, *i.e.* narrowed anteriorly with the apical margin more or less reflexed and sinuated. The most constant structural feature is that of the mesosternal process, which is always horizontal and more or less dilated and rounded at its apex.

About 45 species have been described, the great majority from the United States and Mexico.

1. *Euphoria lesueuri*.

*Euphoria Lesueuri*, Burm. Handb. der Ent. iii. p. 372 (♀).  
*Cetonia Latreille*, Gory & Perch. loc. cit. p. 213, t. 39. fig. 3 (♂).  
*Euphoria Latreillii*, Burm. Handb. der Ent. iii. p. 373.  

_Hab. Mexico_ ¹ ² ³ ⁴, Orizaba, Juquila, Capulalpam, Tepansacualco (Sallé), Jalapa, Almolonga (Höge); **Guatemala**, Sinanja and Purula in Vera Paz (Champion), Coban in Vera Paz (Conradt).  

A large series of examples. M. Sallé took *E. latreillei* and *E. lesueuri* in copula, and convinced himself that the former (velvety-opaque above and generally smaller) is the male of *E. lesueuri*, distinguished by its glabrous and shining thorax, more spotted elytra, and generally larger size. The external characters of the male, one or other of which is commonly present in the Cetoniidae, fail entirely in this species, the pygidium only showing a slightly greater convexity in some examples; but on dissection, examples of *E. lesueuri* are found to be males. The species varies in colour from green to dark purple and olivaceous-black, and the size from 16 to 22 millim.

2. *Euphoria westermannii*.

*Euphoria Westermannii*, Burm. Handb. der Ent. iii. p. 374 (♂).  

_Hab. Mexico_ ¹ ², South Mexico (*Sturm, in coll. Sallé*), Juquila (Sallé).  

Three examples, males, all agreeing in the long and rather dense pubescence on the forehead, sides of the thorax, and under surface of the body, two of them in the tubercle on the crown and the long antennal club-characters which Burmeister adduces as distin-
guishing this species. But they also agree in the gibbous convexity of the pygidium, which Burmeister does not mention, but which Gory and Percheron specify as a characteristic of their *E. latreillei*. The three examples are all green. The differences in colour and in the frontal carina, as well as in other numerous points enlarged on by Burmeister, are not of the slightest value, as they exist in all gradations in *E. lesueuri*. Many male examples of the latter species show traces of pubescence on the sides of the thorax. I doubt very much if the *E. westernmani* of Burmeister is the same as Gory and Percheron’s species of the same name, as it does not agree either with their description or their figure, especially with regard to the spinose sutural apices of the elytra; it is possible that this character may be variable, but none of our specimens show any distinct trace of it.

3. **Euphoria steinheili.**


*Hab.* Panama¹, Volcan de Chiriqui 2000 to 3000 feet (*Champion*).

Two male examples, with the abdomen longitudinally depressed and subsulcate and the pygidium nearly plane.

4. **Euphoria candezei.** (Tab. XXIII. fig. 3.)

*Euphoria (Erihipis) Candezei*, O. Janson, Cist. Entom. i. p. 375, t. 9. fig. 5 (1875)¹.


*Hab.* Guatemala (Sallé), San Gerónimo (*Champion*), Coban in Vera Paz (*Conrad*); Nicaragua, Chontales (*Belt², Janson¹*); Costa Rica (*Van Patten*), Volcan de Irazu (*Rogers*).

II.

5. **Euphoria leucographa.**


*Cetonia Reich*, Gory & Perch. loc. cit. p. 210, t. 38. fig. 3²?

*Euphoria leucographa*, Burm. Handb. der Ent. iii. p. 375⁴.

*Hab.* México¹²³, Vera Cruz, Tuxtlx, Étla, Capulalpam, Oaxaca (Sallé), Jalapa, Almolonga, Misantla, Guadalajara, Chilpancingo in Guerrero (*Höge*), Acapulco (*J. J. Walker*).


Rufescens cupreo-tineta, thorace plerumque plagiis daubus nigro-aneis.

*Hab.* México¹, Northern Sonora (*Morrison*), Pinos Altos in Chihuahua (*Buchan-Hepburn*), Durango city, Ventanas in Durango, Zapotlan in Colima, Iguala and Chilpancingo in Guerrero, Tuxambaro in Michoacan, Matamoros Izcuir in Puebla, Cordova, Almolonga, Mexico city (*Höge*), Guanajuato, Puebla (Sallé).

A great number of examples. The species varies much in colour—dark bluish,
brassy-green, coppery, and tawny-red with coppery-red gloss; also in the form of the clypeus, which assumes such a diversity of outline in individuals otherwise so nearly alike that no other proof is necessary of the unreliability of this part for classificatory purposes in the group of Cetonidae to which this genus belongs—it is most frequently rather elongate, curvilinearly or rectilinearly narrowed, with reflexed sub-bidentate apex; from this it rapidly varies to trapezoidal and to semiovate with or without strongly raised margins and entire apical border, and to short and transverse with high and entire margins. The variety rufina will be seen, from the localities enumerated above, to have a more northerly or elevated range than the type-form, and it is often much more densely pubescent above, but insensible gradations connect the two forms.


Hab. Mexico, S.W. Yucatan (Dr. Horn); Guatemala 1 (Sallé), Acentuno 5100 feet (Salvin), San Gerónimo (Champion); Nicaragua, Chontales (Bell); Costa Rica (Van Patten).

A good series of examples. The prevailing colour is, as the author describes it, dark greenish-blue, but it varies, and a rufous variety (like that of E. leucographa) is not uncommon. The species scarcely differs from E. leucographa, except in the sparser punctuation and impunctate dorsal vitta of the thorax, and in the generally shorter clypeus, which latter varies in the situation of the apex, but less so than in E. leucographa. The transverse chalky spots on the sides of the ventral segments exist only in a few examples of the male, and the metasternum has sometimes on each side, visible under the long grey pubescence, a few large scale-like whitish spots.

7. Euphoria yucateca.

E. liniatula proxime affinis, sed differt brevius oblongo-ovata, thorace et elytris adhuc sparsius punctatias, metasterno ventreque in ♀ lateribus late cretaceo-albis illo vix hirsuto. Cyanescenti-viridi-encea, raro obscura cuprascente-encea, elytris sicut in affinis cretaceo-maculatis et thoracis lateribus latis albo-vittatis; clypeo sepe-encea, obtuse quadrato vel semiovato marginibus parum reflexis, apice interdum sinuato, sepe maculis duabus cretaecis; thorace sparsissime punctato, medio levii; elytris sparse arenatim (lateribus striatulatim) punctatis; pygidio maculis duabus grossis cretaecis; postere multo brevius cinereo-hirsutis, metasterno lateribus in ♀ fere toto, in ♀ maculátim cretaecis, ventro utrinque in ♀ lato, in ♀ maculis tantam parvis latalibus, cretaecis.

Long. 12—15 millim. ♀ ♀.

Hab. Mexico, Temaz in North Yucatan (Gaumer).

A large number of examples. According to the description and figure of Gory and Percheron this species must resemble E. bivittata of Guiana; but in no example is there a trace of the two cretaceous vittae of the disc of the thorax which distinguish E. bivittata.

Obs.—There is an example of E. lurida (Fabr.) in the Sallé collection labelled
“Mexico;” but as this species seems to be restricted to Southern Brazil it is to be suspected that the locality in this case is an error.

III.

8. **Euphoria lineoligera.** (Tab. XXIII. fig. 4.)


_Hab._ Mexico² (Ghesbrecht¹), Ventanas (Forrer), Hacienda de Bleados in San Luis Potosi (Dr. Palmer), Villa Lerdo in Durango, Aguas Calientes city, Guadalajara, Cuernavaca (Höge), Guanajuato, Orizaba (Sallé).

In this species, like all others of Group III., the clypeus is plane with very narrow and scarcely reflexed margins.

9. **Euphoria biguttata.** (Tab. XXIII. fig. 2.)

_Euphoria biguttata_, Burm. Handb. der Ent. iii. p. 384².

_Hab._ Mexico¹ ², Cordova, Orizaba, Izucar, Vera Cruz (Sallé), Jalapa, Mexico city, Oaxaca, Tonila, Zapotlan in Colima (Höge), Cuernavaca (H. H. Smith, Höge); Guatemala (Sallé), El Jicaro, Escuintla, Capetillo (Champion), Chimaltenango (Conradt).

10. **Euphoria canescens.**

_Euphoria canescens_, Burm. Handb. der Ent. iii. p. 383³.

_Hab._ Mexico¹ ², Puebla, Orizaba, Guanajuato (Sallé), Jalapa, Matamoros Izucar in Puebla, Lagos in Aguas Calientes (Höge); Guatemala, Toco (Champion).

11. **Euphoria leucopyge.**

_E. dimidiata_ similis, at differt elytris apice pygidioque dense albido-tomentosis, hoc apice nudo nigro; nigro-nitida, elytris dimidio basali sanguine margineque juxta scutellum breviter anguste nigro-marginato; capite dense confluent punctato; clypeo sat elongato, medio dilatato, apice lato, subtruncato, anguste reflexo, marginibus lateralis breviter haud reflexis; thorace dense confluent punctato, disco postice leviora, lobo basali vix producto, lato et parum margiнатo; elytris mediocris punctatis; subitus hirsutie fulva, ventre utrinque marginibus antieis solum hirsutis. Processus sternalis brevis apicem dilatatum et obtusissime rotundatus.

Long. 14 millim.

_Hab._ Mexico, Hacienda de Bleados in San Luis Potosi (Dr. Palmer), Alamos (Buchan-Hepburn), Ventanas in Durango (Forrer).

The clypeus does not essentially differ from that of _E. dimidiata_, in which species it is very variable in length and outline.
12. Euphoria dimidiata.
Euphoria dimidiata, Burm. Handb. der Ent. iii. p. 3801.

Hab. Mexico12, Hacienda de Bleados in San Luis Potosí (Dr. Palmer), Orizaba, Cordova, Vera Cruz, Guanajuato (Sallé), Jalapa, Atlixco, Tonila in Colima (Höge); Guatemala (Sallé), San Joaquin, San Gerónimo, Tocoy (Champion), Chimaltenango, Escuintla (Conradt).

In all the very numerous examples the apex of the elytra and the pygidium are clothed with silvery-grey setose hairs, with no trace of the compact tomentum of E. leucopyge.

13. Euphoria pulchella. (Tab. XXIII. fig. 6.)
Cetonia pulchella, Gory & Perch. Monogr. Cetoin. p. 279, t. 54. fig. 41.
Euphoria pulchella, Burm. Handb. der Ent. iii. p. 3811.
Cetonia ferrugata, Gory & Perch. Monogr. Cetoin. p. 276, t. 53. fig. 8 (C. pulchella, var., Burm. loc. cit.1).
Euphoria Childreni, Burm. Handb. der Ent. iii. p. 3821.
Cetonia Thelasco, Gory & Perch. Monogr. Cetoin. p. 279, t. 54. fig. 5 (E. Childrenii, var., Burm. loc. cit.1).
Cetonia Montesuma, Gory & Perch. Monogr. Cetoin. p. 277, t. 54. fig. 2 (E. childrenii, var., Burm. loc. cit.1).

Hab. Mexico1234567, Pinos Altos in Chihuahua (Buchan-Hepburn), Ventanas (Forrer), Cordova, Orizaba, Vera Cruz, Toxpan, Oaxaca (Sallé), Almolonga, Chilpancingo in Guerrero, Sayula in Jalisco (Höge), Misanta (F. D. G.), Teapa, Atoyac (H. H. Smith); Guatemala (Sallé), San Gerónimo, Chacoj in Vera Paz (Champion), Tactic, Coban (Conradt); Nicaragua, Chontales (Belt).

Most of the colour-varieties of this very variable species figured by Gory and Percheron were captured at Almolonga by Herr Höge, and others equally or more distinct appear in other Mexican localities. The examples from Guatemala are similarly variable in colour and markings, and they do not form a distinct local form.

Euphoria basalis, Burm. Handb. der Ent. iii. p. 3801.

Hab. Mexico12, San Luis Potosí (Dr. Palmer), Chihuahua city, Sayula in Jalisco, Chilpancingo, Tacambaro in Michoacan, Esperanza, Jalapa (Höge), Puebla, Cordova, Parada, Guanajuato, Toxpan, Cuernavaca, Oaxaca (Sallé).
IV.

15. **Euphoria chontalensis.** (Tab. XXIII. fig. 10.)

*E. moronae* (Jans.) proxime affinis, sed differt inter alia thorace setulloque politia nigro-aneis. Oblongo-
quadrate, nigro-anea, elytris solum opacis maculis transversis undulatis fulvis; supra capite
densius, elytris sparsius, fulvo-setosa; subbas hirsutio sat rigida fulva; capite densissime punctato, clypeo
prope apicem angustato apiceque alte reflexo nee sinuato; thorace disco sparsius, lateribus densius arcuato-
punctatis, basi medio lavi, lobo basali sat fortiem marginate; elytris utrinque coetis dubius validis
impunctatis, interstitiis distanter linesatis punctatis, apice sat hirsutis, hau productis; pygidio ovato
setoso, crebre striatose, nigro-aneo, maculis utrinque fulvis (interdum deficientibus). Processus sternalis
brevi et latus, antice rotundatus. Tibiae anticae s acutae tridentatae, duobus apicalibus approximatis et
externatis, 3° valde remoto. Antennae s clava elongata, carteris articulis conjunctis vix breviar.

Long. 17 millim.

Hab. Nicaragua, Chontales (Belt).

Five examples, apparently all males.

16. **Euphoria precaria.**


Hab. Panama, Chiriqui (Trötsch), Bugaba, Tolé (Champion).—South America, Colombia. 1.

Closely allied to *E. iridescens*, Schaum. One of our examples agrees with Janson’s
description with regard to the elytra being of a dark olive-green ground-colour (like
the rest of the body), with some small obscure yellowish spots on the elytra; but in
others there is as much dark yellow spotty-colouring on the elytra as dark green,
and the sides of the elytra especially are yellow with a series of large, quadrate, but
irregular, dark green spots. The thorax is dark green, with a fine dorsal line and a
small basal spot on each side yellow; but in one example the thorax has four dark-
green vittae as in *E. iridescens*.

17. **Euphoria iridescens.** (Tab. XXII. fig. 1.)


Hab. Mexico, Puebla, Izucar (Sallé), Guerrero (Baron); Guatemala (Sallé),
Mirandilla 1700 feet, Aceytuno (Champion).

V.

18. **Euphoria leprosa.**


Hab. Mexico, San Andres Tuxtlas (Sallé), Attoyac in Vera Cruz (H. H. Smith).

The form of the clypeus is intermediate between that of Section IV and that of
Section VII. There are two varieties of this species in our small series:—

1. Smaller and narrower, dull black, with three narrow chalky-white vittae on the
thorax, and numerous small and narrow transverse white spots on the elytra. This
appears to be the form described by Burmeister.

2. Rather larger and broader. Ochreous, with two broad black vitææ on the disc of
the thorax, and the elytral costæ, and numerous marks in the interstices, black. The
antennal club in the male is considerably shorter than joints 1–7.

VI.

19. **Euphoria mystica.** (Tab. XXIII. fig. 5.)

*Euphoria mystica*, Thomson, Typi Cetoniid. p. 27°.

*Hab. Mexico, Orizaba, Cordova (Sallé), Jalapa (Höge); Guatemala, Coban in Vera
Paz (Conrad).*

Thomson’s description is taken from an unusually small specimen (12½ millim.); the
numerous series before me (which includes examples named by Sallé) range from
14 to 18 millim., the smallest being males, brassy-black, with the elytra thickly
sprinkled with confluent transverse and undulated fulvous spots. The females much
resemble *E. precaria*, and the species connects Section IV. with the present group, to
which it belongs by the clypeus being in the male narrowly quadrate, with the apical
margin strongly reflexed, and more or less deeply sinuated, sometimes almost bidentate,
in the female shorter and less reflexed. The upper surface in fresh specimens, especially
in the male, is rather densely erect pubescent, the thorax and scutellum shining, and
the elytra opaque. The more or less thickly punctured and large scutellum is an excellent
distinguishing character. The antennal club is elongated in both sexes, in the male
about one fourth longer than joints 1–7 taken together. The thorax, as usual in this
group, differs in form in the two sexes, but not in all examples—in the male being
gradually narrowed (with a slight sinuation) from the base to the apex, in the female
strongly rounded about the middle. The female varies much in colour—the head,
thorax, and scutellum being more or less rufous, with a strong metallic gloss, and
sometimes metallic green vitææ, and the elytra fulvous, with numerous small transverse
confluent spots, or, in extreme cases, almost spotless.

20. **Euphoria —?**

*Hab. Guatemala, Purula (Champion).*

A single female example, discoloured, apparently distinct from the preceding.

21. **Euphoria submaculosa.**


*Hab. Mexico 1 2, Orizaba (Sallé), Jalapa (Höge), Cordova (Sallé, Höge).*

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Velvety-opaque; generally green, but sometimes coppery; elytra often concolorous, but in most examples with a few or numerous transverse tawny-red spots; when thickly spotted the thorax is also obscure tawny-red, with the disc or two vague dorsal vittse green. The clypeus is nearly square, i.e. parallel-sided, with the margins raised and the apex more or less sinuated.

22. Euphoria avita. (Tab. XXIII. figg. 8; 9, var.)


Hab. Guatemala¹ (Sallé), Las Mercedes, Cerro Zunil, Calderas, Ducías (Champion), Chimaltenango (Conradt).

Differs from E. mystica in its much smaller size and opaque thorax and scutellum, the latter being smooth, with the exception of a puncture or two near the base. In most respects it is much more nearly allied to E. vestita, from which it differs in the clypeus being narrower, much longer, and more reflexed-sub-bidentate at the apex. E. avita is of rather smaller and more slender form, and offers a somewhat different range of variation; some examples being dull dark green, a triangular spot on the basal lobe of the thorax and a few transverse undulating spots on the elytra only being fulvous, in which state it resembles a small E. submaculosa. The clypeus in both sexes is as described under E. mystica. In the great majority of examples the elytra are fulvous, with very numerous blackish spots, the thorax blackish with a dorsal line, and a discal spot on each side, and the base fulvous, and in many the lateral and anterior margins are also of the same colour. The antennal club in the male is rather longer than joints 1-7 taken together. The anterior tibie are tridentate in both sexes, the upper tooth sometimes very short in the male.

23. Euphoria fulveola. (Tab. XXIII. fig. 7.)

Convexiuscula, lastias fulva, pubescens, opaca, thoraces disco utringue signatura flexuoso-trilobata (interdum interrupta), elytrique maculis numerosis parvis et majoribus hic illic conuentibus, nigro-fuscis; clypeo (¢ 2) quadrato, lateribus fere parallelis, marginibus reflexis, apicali lato medio depresso-sinuato; thoraces (¢ 2) trapezoidali, basi lato medio arcuatim emarginato; scutello fulvo, impunctato; pedibus, ventre et antennis rufescensibus, nitidis. 2. Antennarum clava articulis 1°-7° conjunctis paululum longior; tibie antice acute tridentata. 2. Antennarum clava articulis 1°-7° paulo brevior; tibie antice lata et latius tridentata.

Long. 13-15 millim.

Hab. Mexico, Zacualtipan in Hidalgo, Oaxaca (Höge).

The rather clearer orange-tawny colour distinguishes this species from E. vestita, besides the striking difference in the size of the antennal club and armature of the anterior tibie in the male. The shorter, broader, and squarer clypeus distinguishes it from E. avita. The markings of the thorax are the same as in the clear-coloured examples of both the other allied species. There is scarcely any difference in colour or markings in the seven examples examined.
24. *Euphoria nigriventris*.

*E. vestita* affinis et similariter colorata, sed differt statura minore, magis quadrata, subdepressa, thorace medio basi vix emarginata, antennarum clava mediocri, sed articulis 1°-7° conspiciue longioribus tibialisque antecis sat latius tridentatis. Subtus nigro-nitida podibus concoloribus; clypeo antice minime vel haud dilatato, fere quadrato, margine apicali medio paullo sinuato; thorace obtuse trapezoides, medio paullo rotundatim dilatato, deinde usque ad basis lateribus paululum sinusatis, opaco, dense piloso, fulvo, vitta lata utrinque discoidali (intus recta extus dilacerata) nigro-viridi; scutello opaco, impunctato; elytris obtuse costatis, subtilissime punctulato-striatis, fulvis, nigro-viridi (plerumque transversum) maculatis; pygidio dense confluenter striguloso.

*Hab. Mexico, Peras, Etla (Sallé), Jalapa (Höge).*

The more typical examples are from Jalapa. Two from Etla and Peras are distinctly more elongate and are darker, the broad dull greenish-black thoracic vittae invading nearly the whole surface. Eight examples, males.

25. *Euphoria quadricollis*.

*E. nigroventri* maxime affinis; differt magis elongata, thorace antice medium angulatim dilatato deinde ad basia lateribus paralleliis, medio basi situe in *E. nigroventri* minime emarginato; quoad colores vix differt, ventre rufo-nitido excepto. ♀. Antennarum clava articulis 1°-7° paullo longior; tibiae antice anguste, sitae in *E. geminata*, dentibus duobus parvis proprie apicem, 3° superioris obtuse.

*Hab. Mexico, Durango city (Höge).*

Two male examples, perfectly similar.


Quoad formam *E. nigroventri* simillima, sed toto atra, supra opaca, subtus nitida, dense griseo-pubescentes; thorace medio basi distincte sed minus quam in *E. vestita* sinuato; elytris fortiter costatis. ♀. Antennarum clava articulis 1°-7° paullo longior; tibiae antice tridentatae, dente 3° minore acuto, remotis.

*Hab. Mexico, Peras (Sallé), Oaxaca (Höge).*

Three examples, all males.

27. *Euphoria vestita*.


*Cetonia irregularis*, Gory & Perch. loc. cit. p. 272, t. 53. fig. 1° (nec Olivier).


*Hab. Mexico 123, Oaxaca, Capulalpam, Peras (Sallé), Jalapa (Höge), Cuernavaca (H. H. Smith); Costa Rica, Cache (Rogers).*

Burmeister describes this species as having, in the male, an excessively large antennal club and nearly simple anterior tibiae. A few male examples answering to this description, with females corresponding in size and colour, have been received from the above-mentioned localities. The figures cited from Gory and Percheron represent 3 BB 2
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females, and are indeterminable, but in general form and markings they agree with this species. *E. vestita* is larger (15 millim.) than any of the preceding species, and more convex and elongate-ovate in the males, this sex having the antennal club twice the length of the remaining joints, and correspondingly broad. The thorax is trapezoidal, but rather elongated, and is strongly arcuate-sinuate in the middle of the base.

28. **Euphoria eximia.**

♂. Oblonga, virescenti-nigra, supra opaca, breviter erecte pilosa, thorace vitta utrinque utrinque marginali pygidae maculis duabus magnis, cretaceo-albis; thorace maculis tribus basalibus elytrique maculis numerosis et fasciा maculari ante apicem rubo-sauriantiis; corpora subitus nigro-piloto, ventris segmentis 1-5a utrinque cretaceo-albo fasciatis; capite negro, confluenter punctato, clypeo valde elongato lateribusque rotundatis, margine medio reticulo refexo apicem medio depresso-sinuato. Antennarum clava maxime elongata; tibiae antice graciles, prope apicem breviter bidentatae. Processus sternalis brevis et valde dilatus, apice paullo rotundato.

*Hab. Costa Rica* (Sallé, Van Patten). Two examples only, both males.

29. **Euphoria humilis.**


*Hab. Mexico* 1 (Sallé, ex Coll. Sturm), Peras (Sallè), Oaxaca (Höge).

Closely allied to *E. atra*, but larger, more oblong, and always glabrous above and beneath, generally black; the antennal club in the male is scarcely longer than joints 1-7; the scutellum is shining, and more or less punctured, the punctuation generally confined to the base; the elytral costae are narrower and more strongly elevated; and the grey pubescence of the under surface is dense on the sides of the ventral segments. Some examples have traces of reddish spots at the base (sometimes at the sides) of the thorax and on the elytra, or are reddish-tawny, with two broad dusky vitæ on the thorax and the elytra marbled with dusky; these specimens are not easily to be distinguished from abraded examples of *E. vestita*, the sinuation of the basal lobe of the thorax is, however, considerably less.

30. **Euphoria subguttata.**


*Hab. Mexico* 1.

This species is not contained in our collection. It is compared with the North-American *E. fulgida*, but is stated to be opaque above, emerald-green or golden-coppery, with the limb of the thorax and numerous spots and the apical margin of the elytra white.
31. **Euphoria geminata.**


*Erichoris geminata*, Burm. Handb. der Ent. iii. p. 386.

_Hab. Mexico_ 1,2, Ventanas in Durango (*Höge, Forrer*), Vera Cruz (*Sallé*), Tonila in Colima, Colima city, Tapachula in Chiapas (*Höge*); _Guatemala_, Tactic (*Conradt*).

The unicolorous black variety described by Burmeister is distinguishable from _E. atra_ by the two chalky-white spots of the pygidium, and the much narrower and elongate form. A beautiful variety was captured by Hoge at Colima city, black, with the thorax broadly margined with rich red. The typical form was found by Höge in great profusion at Tapachula, on the lower part of the Pacific slope.

The form of the clypeus differs from that of the species included in Section VI. in the apical margin being greatly elevated, and deeply emarginated in the middle. The male anterior tibiae are long and slender, often with only one (terminal) tooth, and when bidentate the upper tooth is obtuse, and separated from the apical one by a deep sinuation. This structure is quite different from that of _E. vestita_ and _E. eximia_ of Section VI.

32. **Euphoria inda.**


*Cetonia inus*, Oliv. Ent. i. 6, p. 39, t. 5. fig. 29.


*Cetonia barbata_, Say, _Journ. Acad. Phil._ ii. p. 239.


_Hab. North America_ 1,2,4, _east of Rocky Mountains_; _Mexico_ 1, Puebla, Guanajuato, Chalchicomula (*Sallé*), Mexico city, Zapotlan in Colima (*Höge*).

Mexican examples are, on the average, smaller than those from the Eastern States; I can detect no other general difference.

33. **Euphoria subtomentosa.**


*Cetonia tomentosa*, Gory & Perch. Monogr. _Cetoin._ p. 278, t. 54. fig. 3.

_Hab. Mexico_ 1,2, Puebla, Parada, Guanajuato, Izcuar, Oaxaca (*Sallé*), Guadalajara, Cuernavaca, Zapotlan in Colima (*Höge*).

34. **Euphoria histrionica.**

_Euphoria histrionica_, Thomson, _Typi Cetonid._ p. 27.

_Hab. Mexico_ 1, Cordova (*Sallé*).
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Var. E. sonora. Angustior, scutello utrinque multipunctato.

Hab. SONORA (coll. Bates).

Allied to E. subtomentosa. The clypeus is short and broad, but not quite so broad or rectangular as in that species. The elytral costae (especially the outer ones) are not nearly so elevated, and the ochreous spots are not arranged in three longitudinal rows, but are in extremely irregular and variable transverse macular streaks; the apex is broadly ochreous, with a denuded spot in the centre, and there are some transverse streaks on the lateral margins almost as in E. lineoligera. In fact E. histrionica seems to connect the last-named with E. subtomentosa. The antennal club in the male is as long as joints 1–7, but still not notably elongated, as the whole antenna is short.

35. Euphoria kerni.


Euphoria Clarki, Leconte, loc. cit. p. 441.


Hab. NORTH AMERICA, Kansas to Texas.—MEXICO, Durango city (Höge).

The Mexican examples closely agree with others from Texas.

CHLORIXANTHE.

Corpus elongato-oblongum, supra deplanatum, glabrum. Caput latum; oculi valde convexi; clypeus late quadratus, antice late et recte truncatus marginibus reflexis. Antennae breves, clava $\geq$ mediocri. Thorax medio basi valde emarginatus, basi utrinque valde flexuoso juxta scutellum angulatim producto, margine laterali late incrassato. Scutellum elongatum, lateribus longe sinuatis, apice subrotundato. Elytra aequalia, nullo modo costata. Pedes robusti, tibiae 4 postice extus medio acuto unidentatae, apice dentibus 3 elongatis. Mesosternum valde et late productum, late lanceiforme, planatum. Tibiae anticae breviter tridentatae, dentibus duobus inferioribus contiguis et conjunctim productis, 3$^r$ superiore longe remoto in $\geq$ parvo obtuso, in $\geq$ valde et acuto. Tarsi robusti, incrassati, articulis arcto colligatis.

A genus formed for the reception of Euphoria flavoviridis, which, as will be seen from the above description, differs in very many structural points from all species of Euphoria.

1. Chlorixanthe flavoviridis. (Tab. XXI. fig. 12.)

Euphoria flavoviridis, Thomson, Musée Scientif. p. 36 (1869).

Hab. MEXICO, Etla (Sallé), Oaxaca (Sallé, Fenochio).

Subfam. CREMASTOCHILINÆ.

GENUCHINUS.


Judging from Dr. Horn’s figure and description of the rare North-American Psilocnemis (Cremastochilus) leucostictus, Burm., there appears to be little to distin-
Genuchinus.—Cremastocheilus.

Genuchinus from Psilocnemis. Both agree in the rounded outline of the thorax, and apparently in the flattened form of the mentum.

Three species were described by Westwood from Ecuador and Mexico.

1. Genuchinus v-notatus. (Tab. XXIII. fig. 14.)

Hab. Mexico\(^1\), Cordova (Salté), Jalapa, Trapiche (Höge); Nicaragua, Chontales (Belét); Costa Rica, Cache (Rogers).

A good series of examples has been received from Herr Höge. In all the thorax is polished and sparsely punctured.

2. Genuchinus velutinus.

Hab. Mexico (mus. Parry \(^1\)), Amula in Guerrero (H. H. Smith).

Distinguished from the preceding by its opaque and closely punctulated thorax. The punctures in two male examples recently captured by Mr. Smith are circular or ring-shaped, with the rings mostly open posteriorly, and the interstices between the rings are, in part, minutely granulated.

Cremastocheilus.


A genus, so far as at present known, peculiar to North America, with its southern limits in Mexico. Deducting the numerous synonyms recently detected by Dr. Horn, the described species number twenty-three.

1. Cremastocheilus saucius.

Hab. North America, Kansas to Texas. — Mexico, Durango city (Höge).

A single example supplied by Herr Höge agrees well with Dr. Horn's descriptions and figure, the only difference observed being the longer and more spiniform (straight) tooth at the base of the thorax near the hind angle.

2. Cremastocheilus planatus.

Hab. North America, California. — Mexico, Northern Sonora (Morrison).

One example only of this distinct species was received from Morrison.
3. Cremastochilus mexicanus.

*Cremastochilus mexicanus*, Schaum, Germar’s Zeitschr. iii. p. 256; Ann. Soc. Ent. Fr. 1844, t. 11. fig. 8¹; Burm. Handb. der Ent. iii. p. 682.

*Cremastochilus Villadæ*, Dugès, La Naturaleza, iv. p. 174 (1879)².

_Hab._ Mexico ¹, Northern Sonora (Morrison), Guanajuato ² (Sallé, ex coll. Dugès).

The single example received from Morrison differs from the one from Guanajuato only in the reddish-testaceous clypeus and legs; the two agree in all details of structure.


_Hab._ North America¹².—Mexico, Chihuahua city (Höge).

One example only, agreeing well with Dr. Horn’s description and having the long hairs of the upper surface in a good state of preservation.

LISSOMELAS.


♂. Tibiae antice extus denticulo obtuso vel obsoleto, apice lato et recto prolongato. Pygidium apice maxime convexum et versus ventrem inflexum; venter medio depressus, subcanaliculatus.

♀. Tibiae antice distinctius bidentata. Pygidium apice minus subtus inflexum, dorso late planato; venter convexus.

By the form of the clypeus this genus is nearest allied to *Cremastochilus,* but the disc of the mentum is not in the slightest degree cutiform, and more nearly resembles that of *Genuchinus,* and the form of the thorax is unlike that of any American genus of the group.

1. Lissomelas flohri.

*Omnino nigre, sericeo-nitidus, elytris versus basin plus minusve velutinis; capite, pygidio corporeque subtilissime sparsim punctulatis; thorace, sentello elytrique levibus, his disco planato-subdepressio.*

Long. 22–25 millim. ♂♀.

_Hab._ Mexico, Ventanas in Durango (Höge), Mexico city (Flohri).

A good series of examples. In some the fine carinæ of the trigetal tibiae are more or less chipped or ragged by wear, and in one the front edge of the clypeus is similarly, but symmetrically, broken on each side.
Fam. TRICHIIDÆ.

PANTODINUS.


Burmeister placed this extraordinary and isolated form, in which the head and thorax are corunuted, in the family Dynastidae, notwithstanding its semimembranous mandibles; but Candèze having had an opportunity of examining both sexes, and finding that the clypeus of the female was that of a Cetonid, and the anterior femora exserted, has shown that it belongs to the melitophilous series of Lamellicornia, and that it would be best placed by the side of Inca, in the Trichiidae. The species on which the genus is founded is of extreme rarity.

1. Pantodinus klugi.


Hab. GUATEMALA 1, 2.

The species is not contained in our collections.

INCA.

Inca, Serville, Encycl. Méthod. x. p. 380 (1825); Burmeister, Handb. der Ent. iii. p. 706.

This well-known genus is one of the characteristic forms of the American Coleopterous Fauna. Eight species have been described, mostly from Southern Brazil; one only extends northwards as far as Mexico.

1. Inca clathratus.


Inca Fabricii, Perty, Del. anim. artic. Bras. p. 51, t. 11. fig. 3.

Var. & cornibus apice fere truncatis.


Hab. MEXICO 2; BRITISH HONDURAS, Cayo (Blancaneaux); NICARAGUA, Chontales (Belt); PANAMA, Volcan de Chiriqui 3000 feet (Champion).—SOUTH AMERICA, Guiana, North Brazil 1.

In all the males I have seen from Mexico and Central America the upper inner carina of the male horns curves towards the inner apical angle, and in all those from South America towards the outer apical angle. This is a more constant difference

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than the straight truncature specified by Westwood as the distinctive character of *I. sommeri*, as Mexican examples vary much in this respect, the apex being sometimes strongly sinuated.

**DIALITHUS.**


This genus contains a single species, which, so far as at present known, is peculiar to Central America.

1. **Dialithus magnificus.** (Tab. XXIII. fig. 17.)


*Hab. Mexico* \(^1\); *Nicaragua*, Chontales *(Belt).*

Mr. Belt obtained three examples of this superb insect at Chontales, in one of which the elytra and legs are tawny-red instead of black as in Parry's type specimen. In the male the anterior tibiae are abruptly narrowed near the apex; without upper tooth, and the apical tooth is much less prolonged than in the female.

**TRIGONOPELTASTES.**


Six species of this exclusively American genus have been described, one South Brazilian excepted, all from the United States and Mexico.

1. **Trigonopeltastes deltoides.**


*Hab. Mexico* \(^1\, 2\).*

This, the largest species of the genus, is not contained in our collection.

2. **Trigonopeltastes archimedes.**

*Trigonopeltastes Archimedes*, Schaum, in German's Zeitschr. iii. p. 235; Burm. Gen. Ins. no. 34, fig. 3 (♂); Handb. der Ent. iii. p. 749.

*Hab. Mexico* \(^1\, 2\), Acapulco *(Höge).*

♂. Pygidium fere planum; venter medio subglaber; tibiae anticae bidentatae, medio extus late rotundatae.

♀. Pygidium prope apicem convexum; venter medio (et metasternum) dense albido-villosus; tibiae anticae graciliores acutiusque bidentatae.

This species is distinguished by its narrow oblong form, the great length of the sides of the thorax after the antemedian dilatation, and the broad quadrate black circum-scutellar (including the scutellum) spot of the elytra, on the hinder margin of which a short, sometimes interrupted, fascia crosses the suture. The raised triangular plate of the thorax and adjoining parts are impunctate.
3. **Trigonopeltastes simplex.**

Oblongus, niger, elytris rufescenti-fulvis, sutura (et interdum dimidio posteriore) nigra, lateribus medio lineola transversa vix perspicua albida; pygidio convexo, nigro, striolato, polito, utrinque macula triangulari albo-pubescente. Subtas niger, politus, ventre utrinque maculis transversis segmentoquo 5° fere toto, pectore et femorisibus sparsim, albo-pubescentibus. Caput cum elypeo toto acute striatulosum; thoraces paulo ante medium obtuso dilatato, angulis posticis rectis, disco triangulo profunde inciso (hand pubescente), toto sat crebre et grosse punctato, angulis anticus pubescentibus. Elytra disco planata, striis subtilissimis totis fere rectis. Tibiae anticae tridentatae.

**Hab. Guatemala,** San Gerónimo (Champion). Two female examples only.

This species is distinguished from its allies by the absence of white spots near the suture or on the scutellum, and the simple coloration of the elytra, without trace of the usual black lines and curves. There is a faint trace of the usual short lateral transverse white lineola on the elytra. The thorax in both examples is possibly abraded, and the yellow pubescence in the triangle-shaped sulci consequently wanting.

4. **Trigonopeltastes geometricus.**

*Trigonopeltastes geometricus,* Schaum, in Germar's Zeitschr. iii. p. 284; Burm. Gen. Ins. no. 34, fig. 2 (?); Handb. der Ent. iii. p. 750.

**Hab. Mexico**, Cordova (Sallé), Jalapa, Almolonga (Höge), Teapa in Tabasco (H. H. Smith); **Guatemala,** San Gerónimo (Champion).

The markings of the elytra, well described by Burmeister, are tolerably constant, the most characteristic being a black line arising from a broad spot behind the shoulder, which curves towards the narrow sutural vitta (with which it is connected by a short transverse line), and continuing thence down the disc nearly parallel to the suture ends in a large apical spot. The general form is shorter than in the allied species, ovate rather than oblong. The thorax is correspondingly shorter, more angularly dilated in the middle, and with the sides more or less sinuated to the hind angles, which are rectangular or acute; the yellow triangular signature of the disc is short, and the grooves in which it lies are strongly impressed, not quite so strongly and broadly as in *T. archimedes* and *T. simplex,* and in the S. Brazilian *T. triangulum.* The sexes closely agree, and I do not find that the female is differently coloured to the male or smaller than it, as stated by Burmeister, who must have had before him a variety in describing the female. The typical state varies slightly in its elytral markings, the short transverse lineola being sometimes absent, and in other cases the longitudinal curved line interrupted; the following recede further from the type-form:

Var. *T. nigrinus.* Niger, opacus, elytris utrinque versus humeros macula rotunda aurantiaca. Thorax angustior, triangulo profundiis impresso; pygidio flavo-pubescente, vitta angusta integrą; venter segmentis 1°-4° 5°que dimidio medio tantum flavo-tomentosis, lateribus late et 6° glabris nitidis.

**Hab. México,** Cordova (Sallé). One example.

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**Var. T. nigricans.** Niger, opacus, elytris utrinque versus humeros macula rotunda aurantiaca. Thorax angustior, triangulo profundiis impresso; pygidio flavo-pubescente, vitta angusta integrą; venter segmentis 1°-4° 5°que dimidio medio tantum flavo-tomentosis, lateribus late et 6° glabris nitidis.

**Var. T. nigrius.** Niger, opacus, elytris utrinque versus humeros macula rotunda aurantiaca. Thorax angustior, triangulo profundiis impresso; pygidio flavo-pubescente, vitta angusta integrą; venter segmentis 1°-4° 5°que dimidio medio tantum flavo-tomentosis, lateribus late et 6° glabris nitidis.

**Var. T. nigra.** Niger, opacus, elytris utrinque versus humeros macula rotunda aurantiaca. Thorax angustior, triangulo profundiis impresso; pygidio flavo-pubescente, vitta angusta integrą; venter segmentis 1°-4° 5°que dimidio medio tantum flavo-tomentosis, lateribus late et 6° glabris nitidis.
LAMELLICORNIA.

Var. T. intermedium. Magis elongatus, capite tota crebre punctato-ruguloso; thorace paullo longiore, ante medium dilatato, postice sinuatum angustato, angulis posticis rectis vel paululum obtusis, longiore (apice acutior), triangulo sat profunde impresso; elytris linea nigra curvata ab macula posthumerali usque ad suturam bidentice extensa (suturam interdum haud attingente), a linea longitudinali disjuncta. 

♂. Venter et metathorax medio albo-villosi; tibiae antice dente 3° obtuso. 

Long. 9 millim.  ♂♀. 

Hab. Mexico, Yolos, Chiapas (Sallé). Five examples.

An example of Sturm's in the Sallé collection, differing only in the irregular thickness of the flexuous subbasal fascia of the elytra, is labelled (in Sturm's handwriting) T. deltoides, Newm.

5. Trigonopeltastes sallai. (Tab. XXIII. figg. 15; 16, 18, vars.)

T. geometrico proxime affinis; major; thorace longiore, medio multo obtusius dilatato, postea recte angustato, angulis posticis obtusis (rarissime acutus), triangulo flavo longiore, basi plerumque utrinque abbreviata; elytris sicut in T. geometrico, sed macula communi magna transversa post scutellum, interdum maculam humeralen attingente sed haud per lineam flexuosam connexa, linea longitudinali ab apice obliqua antico abbreviata. 

Long. 9–10 millim. ♂♀.

Hab. Mexico, Tehuantepec (Sumichrast, in coll. Sallé), Almolonga, Jalapa (Höge), Temaz in North Yucatan (Gau ner); Nicaragua, Chontales (Belté).


A large series of this insect was obtained by Herr Höge at Almolonga, offering scarcely any variation, and giving the impression of a species very distinct from the series of T. geometricus from Cordova, which is also found at Almolonga. The differences between the two forms are, however, to a great extent bridged over by the var. intermedium described above, and slighter individual variations. The Tehuantepec examples bear the MS. name of T. elongatulus in the Sallé collection. The following variety is somewhat more distinct:—

Var. T. frontalis. Thorax sicut in T. sallai postice recte angustatus angulisque posticis obtusis; nigrior, fronte cum clypei basi fulvo-villosa; thorace triangulo minus elongato, parum sulcato; elytris fulvis, linea curvata subbasali abbreviata vel interrupta, linea recta longitudinali a medio usque ad apicem maculaque ovata submarginali (lineola transversali alba includente) fusco-nigris; pygidio albo-tomentoso, (♂) medio vitta, (♀) macula latiore, nigra, glabra, basi haud attingente; pedibus antennisque fulvis. ♀. Venter sternaleque tota albido-tomentosi; tibiae antice bidentatae. ♀♀. Venter medio anguste segmentorumque marginibus solum glabratis.

Long. 9 ½ millim.

Hab. Mexico, Playa Vicente (Sallé). Two examples.

The Mexican species of the genus evidently tend to form local varieties, and many more no doubt remain to be discovered.
6. Trigonopeltastes carus.
*T. geometrico* affinis, ad hue brevier, niger, supra opacus, subitus politus; thorace triangulo lato et brevi profunde impresso flavo-pubescente; elytris utrinque lineae curvatae basali, fascia transversali laterali ad trientem longitudinem, alteraque oblique apicem versus, flavis, medieque lineola tumissima laterali transversa alba; scutello suturaque bazi immaculatis; elypeo ant longato et angustato; thorace paullo ante medium valde angulatino dilatato deinde tam antice quam postice omnium angustato, angulis posticis productis acutis. Pygidium sericeo-flavo tomentosum, medio vitta nigra glabra. ♀. Venter medio sternaque utrinque breviter albo-fasciata. ♀. Subtas (femoribus antice exceptis) toto glabra.

Long. 7 millim.

Hab. Panama, Bugaba, Volcan de Chiriqui 3000 feet (Champion).

Two examples only, one of each sex. The yellow lines of the elytra evidently vary in extent, and appear to be the rudiments of the more developed lines of similar colour in the allied species.

7. Trigonopeltastes linea.

*Trigonopeltastes linea*, Burm. in German’s Zeitschr. iii. p. 235; Gen. Ins. no. 34, fig. 5 (♀); Handb. der Ent. iii. p. 752.¹

*Trigonopeltastes quadrisignatus*, Schaum, in German’s Zeitschr. iii. p. 236.

*Trigonopeltastes quadriguttatus*, Burm. Gen. Ins. no. 34, fig. 4 (♀); Handb. der Ent. iii. p. 752.²

Hab. Mexico.¹²

Unknown to me.

CELOCRACTUS.

*Ceolcratus*, Burmeister, in German’s Zeitschr. iii. p. 242 (1841); Handb. der Ent. iii. p. 767.

One species only has hitherto been described of this genus, from “the interior of Northern Brazil.” I refer the following, smaller, Mexican species to the genus owing to the very similar form of the elytra (in which *Ceolcratus* differs from all other genera of Trichiidæ), viz. transverse-square, with straight front edge and equally raised fore and lateral margins. The Mexican insect also agrees in the form of the thorax and elytra, and in the anterior tibiae having two outstanding teeth in both sexes, but it differs in the middle tibia of the male not being bowed.

1. Ceolcratus anesocens. (Tab. XXIII. fig. 13.)

Oblongo-ovatus, parum convexus, toto electe (apud caput et thorace munto longius) pubescent, viridi-anecus vel obscure neano, nitidus; elytris opacis, testaceo-rufis vel fulvis, sutura et marginibus, vitta utrinque angusta recta, antice abbreviata, dorsali, vittaque laterale curvata et intus bilobata laterali, obscure viridi-aneis, interdum vagis et subobsoletas; thorace fore sicut in *Trichio fasciato* rotundato, angulis posticis vix distinctis, antice angustato angulis acutis, adae punctato; elytris striis nonnullis subtillissimis et sparsim subtillissimo punctulatis; pygidio ♀ longe fulvo-villoso, subverticali, ♀ breviter pubescente, marginibus dense albo-squamulosis.

Long. 10-1-1.2 millim. ♂ ♀.

Hab. Mexico (Salle).

Four examples, labelled “Trichius, sp.”, in the Salle collection.
SUPPLEMENT.

The following supplementary pages contain descriptions of the new species received during the progress of the present volume, together with indications of new localities for species previously recorded and a few rectifications of synonymy, errors, and omissions that have been detected since the foregoing parts were published.

PSEUDOLUCANUS (p. 1; to precede the genus Cantharolethrus).

_Pseudolucanus_ (Hope), Parry, Trans. Ent. Soc. Lond. 1870, p. 72.

According to Major Parry this genus includes four described species, viz. one North-American, one peculiar to the Mediterranean region, one Indian, and the following from Northern Mexico:—

1. **Pseudolucanus mazama.**


_Hab._ Mexico, Santa Clara in Chihuahua (Höge).

I am indebted to Mr. Flohr for calling my attention to this species, which was overlooked in the former part of this work. It has since been captured in large numbers by Herr Höge.

ÆSALUS (p. 2).

2 (a). **Æsalus smithi.**

Æ _neotropicalis_ valde affinis et similis; differt statura paullo majore coloreque subescenti-fusco et punctue cantho oculari multo breviori et latiore; supra nitidior, sparsius et discretius umbilicato-punctulatus, sedulis griseo-fusis (bland nigro-fusis) brevioribus et sparsioribus, elytrisque interstitiis planis.

Long. 5 millim.

_Hab._ Mexico, Chilpancingo in Guerrero (H. H. Smith). One example only.

The much shorter and broader canthus of the eyes is the principal character which distinguishes this species from _Æ. neotropicalis_, the length of the canthus being scarcely one fourth the width of the eye and its ridge arcuated, whilst in _Æ. neotropicalis_ it is about one half the length of the eye and linear, with a straight ridge. Compared with a good series of _Æ. neotropicalis_ the surface is conspicuously more shining, due to the more separated punctures and correspondingly sparser setæ, which latter are also shorter and lighter in colour.
PECTINICORNIA.

PROCUULUS (p. 3).

**Proculus goryi** (p. 3).
To the localities given, add:—Mexico, Tapachula in Chiapas (Höge).

PROCULEJUS (p. 4).

6 (A). **Proculejus nudicostis**.
A *P. championi* differt elytris relative longioribus, dorso subplanatis, punctato-sulciatis. In hoc genere elongatus, niger, nitidus; corru verticis porrectus, compresso-conicus, acutus, carinisque valde diversiatis et brevibus inermibus, tuberculo valido, compresso-conico, utriusque a carina late separato et supra elypei angulum site; frons brevis, elypei margiis simplici; mandibula spicce tridentata; thorax sat magnus, quadratus, cum fovea lateralis lavis, sulco marginali punctato antice juxta collum terminato ibique nullo modo dilatato; elytra thorace duplo longiora, medio dorso depressa, punctato-sulciata, interstitiis totis lavissimis.

Long. 37 millim.

*Hab.* Mexico, Chilpancingo in Guerrero (*H. H. Smith*). Two examples.

In the punctate-sulcate elytra this species resembles *P. brevis* (Truqui), and in the glabrous sides of the elytra and thorax *P. championi*, Bates; but it differs from both in the more elongate and dorsally-flattened elytra and in the longer “horn” of the vertex, which is porrect and compressed, and also in the abbreviated frontal carina, from the ends of which the tubercle is removed to the anterior angles of the forehead.

PLATYVERRES (p. 9).

**Platyverres intermedius** (p. 9).
To the Mexican localities given, add:—Omitlteme and Amula in Guerrero 6000 to 8000 feet (*H. H. Smith*).

RIMOR (p. 10).

**Rimor sagittarius** (p. 10).
To the Mexican localities given, add:—Omitlteme in Guerrero 8000 feet (*H. H. Smith*).

The numerous examples from Omitlteme are much larger (40 millim.) than those taken at Orizaba by M. Sallé (34 millim.).

POPLIUS (p. 11).

**Popilius granulifrons** (p. 12).
To the Guatemalan localities given, add:—Capetillo (*Rodriguez*).
SUPPLEMENT.

NELEUS (p. 14).

Neleus tlaclalca (p. 14).
To the localities given, add:—Honduras, Ruatan Island (Gaumer).

Neleus interstitialis (p. 15).
To the localities given, add:—Mexico, Teapa in Tabasco, Atoyac in Vera Cruz (H. H. Smith), Temax in North Yucatan (Gaumer), Tabi in Yucatan (P. D. G.).

RHODOCANTHOPUS (p. 15).

Rhodocanthopus maillei (p. 15).
To the localities given, add:—Mexico, Omilteme and Amula in Guerrero, Teapa in Tabasco (H. H. Smith).

PTICHOPUS (p. 17).

Ptichopus angulatus (p. 17).
To the localities given, add:—Mexico, Dos Arroyos in Guerrero (H. H. Smith), Temax in North Yucatan (Gaumer).

UNDULIFER (p. 18).

Undulifer incisus (p. 18).
To the Mexican localities given, add:—Omilteme in Guerrero (H. H. Smith).

SORANUS (p. 19).

S. recticornis similis, sed elytris relative longioribus. Sat anguste elongatus, politus; labrum antice paullo angustaturn, sinusto-truncatum, grosse punctatum; clypeus latus, laevis, margine subrecto; frons toto depressa, medio transversim conceava, piloso-punctata, cornu frontali nullo carinase brevissimis; thorax relative parvus, antice distincte angustatus, subtiliter punctulatus, juxta marginem anticum fere sicut in gen. Veturio paullo praeminent et convexus, sulco marginali antice lato et profunde fore usque linea dorsalem extenso, lateribus impunctatis foveisque transverse laevi; elytra relative elongata, dorso subdepressa, punctato-sulcata; prothorax subtus tibinque dense fulvo-hirsuta.
Long. 25 millim.

Hab. Mexico, Huitzilac in Morelos (Höge). Two examples.

The leaflets of the antennal club are short (not more than twice as long as the joints), but the species does not well fit into any of the genera of the restricted group "Passalini" which have this character. The prominence of the anterior margin of the thorax in the middle, limited on each side by the end of the deep and broad marginal sulcus, is a character of the genus Veturius; it is, however, only slight in the present case, and
the small head, strongly-punctured elytra, and facies show a closer relationship to Soranus than to Veturius, in which the head is remarkably broad, and the elytra finely punctulate-striate.

PASSALUS (p. 21).

Passalus striatopunctatus (p. 22).
To the localities given, add:—Mexico, Teapa in Tabasco (H. H. Smith), Temax in N. Yucatan (Gaumer).

VERRES (p. 23).

Verres corticicola (p. 24).
To the localities given, add:—Mexico, Teapa in Tabasco (H. H. Smith)

CANTHON (p. 26).

Canthon speciosus (p. 27).
To the localities given, add:—Mexico, Teapa in Tabasco (H. H. Smith).

Dr. Horn (Trans. Am. Ent. Soc. 1870, p. 45) gives this name as synonymous with C. cyanellus, Lec., from Texas. The two species are, in fact, almost identical in form and in the deeply emarginate clypeus, bispinose in the emargination, and differ only in the punctuation of the upper surface, which in the Texan species is very distinct though fine, imparting to the elytra a slight opacity, whilst in all Mexican examples it is scarcely perceptible with a strong lens, and the whole surface is highly polished.

Canthon eurysoelis (p. 28).
To the localities given, add:—Mexico, Atoyac in Vera Cruz, Teapa (H. H. Smith), Temax in North Yucatan (Gaumer).

Canthon viridis (p. 30).
To the localities given, add:—Mexico, Rincon in Guerrero (H. H. Smith), Temax in North Yucatan (Gaumer).

Many specimens have lately been received from Yucatan, nearly all of the dark violet form, a few only having the thorax tinged with green.

Canthon gagatinus (p. 33).
M. Sallé has pointed out to me that this species, or its blue variety C. amethystinus, Harold, is the Ateuchus humectus of Say, a name omitted by Harold and Gemminger in the Munich Catalogue, and also by Harold in his monograph of the genus Canthon. Dr. Horn also informs me that C. indigaceus of Leconte belongs to the same species. The synonymy therefore will stand thus:—

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23. Canthon humectus.

_Ateuchus humectus_, Say, New Sp. N. Amer. Ins. p. 4 (1832) ; Leconte, Complete Writings Th.
Say, i. p. 301.
Var. _Canthon amethystinus_, Har. loc. cit.

To the localities given, add:—North America, Arizona 2.—Mexico 1, Amula and Mescala in Guerrero (H. H. Smith).

All the examples from Guerrero are of the black variety.

_Canthon chevrolati_ (p. 33).

To the localities given, add:—Mexico, Mescala, Chilpancingo, Venta de Zopilote, Amoquileca 6000 feet in Guerrero, Cuernavaca (H. H. Smith), Temax in North Yucatan (Gaumer); Guatemala, Capetillo (Rodriguez).

I give these localities, which add nothing of importance to the range previously recorded, simply to note that all the very numerous examples from Capetillo are of the violet-black form, all from Guerrero bright green, and all from Temax blackish-green, especially on the elytra.

**PSEUDOCANTHON** (p. 35).

2. _Pseudocanthon chlorizans._

_Canthon chlorizans_, anteab, p. 34.

To the Mexican locality given, add:—Temax in North Yucatan (Gaumer).

A large series has been received from the above-named locality, and on further studying the species I find that it has all the characters of the genus _Pseudocanthon_—the longer mesosternum separated from the metasternum by a sharp straight suture, the flexuous inner edge of the fore tibia, and the sides of the thorax parallel from the base to near the anterior angles, and thence sharply narrowed to the apex. I am inclined now, however, to doubt the generic importance of the longer and sharply delimited mesosternum, as this character is somewhat variable in the genus _Canthon_, _C. transversalis_, Har., and _C. balteatus_, Boh., belonging to distinct sections of the genus, having the same form of this segment as _Pseudocanthon._

_P. chlorizans_ is of a glossy, but not deep black colour, often with a slight greenish tinge, but without pale markings; the legs are always testaceous-red; the elytra, especially behind, are studded with minute shining hair-scales, as in _P. perplexus_. The prothoracic cavity beneath the anterior angles is deep and sharply margined.
EURYSTERNUS (p. 39).

**Eurysternus claudicans** (p. 33).

To the localities given, add:—**Mexico**, Atoyac (*Flohr*); **Guatemala**, Coban in Vera Paz (*Conrady*).

CANTHIDIUM (p. 47).

**Canthidium puncticolle** (p. 47).

To the localities given, add:—**Mexico**, Atoyac in Vera Cruz (*H. H. Smith*), Temax in North Yucatan (*Gaumer*).

2. **Canthidium smithi**.

*C. puncticolli* proxime affine; majus verticeque binodoso; quadrato-ovatum, viridescenti-nigrum; clypeus bidentatus; thorax valde convexus, dorso postice sulco lato sed hondo profundo cum basi tecta grosse punctata, cetera superficie dense et minute punctulata; clytra striata, striis vix perspicue punctulatis, intersitiis obsolete corrosco-punctulatis; pygidium paullulum convexum, sparsim subtiliter punctulatum, medio forea magna parum profunda. Mesosterni episterna grosse arcuatim rugosa, metasterni lateribus arcuatim aciculatis. Tidiae anticae spicis recte truncatis, intus spicis in ♀ acute productae.

Long. 8 millim. ♀ ?

*Hab.* **Mexico**, Omilteme in Guerrero 8000 feet (*H. H. Smith*). Two examples.

The two prominences on the crown are large and only very slightly elevated, probably worn; the third or frontal tubercle, conspicuous in *C. puncticolle*, is entirely wanting.

COPRIS (p. 53).

**Copris rebouchei** (p. 54).

To the localities given, add:—**Mexico**, Puente de Ixtla in Morelos 3500 feet, Mescal and Tepetlapa in Guerrero (*H. H. Smith*).

**Copris boucardi** (p. 54).

To the Mexican locality given, add:—Omilteme in Guerrero 8000 feet (*H. H. Smith*).

PHANÆUS (p. 55).

**Phanaeus pluto** (p. 56).

To the localities given, add:—Amula in Guerrero (*H. H. Smith*).

2. **Phanaeus mimaeformis**.


*Hab.* **Costa Rica**.

Unknown to me.
Phanæus scutifer (p. 60). (Tab. XXIV. figg. 1, 1 a, 2.)

Mr. Flohr has sent me the female of this species from Oaxaca, which is remarkable for the distinct although short horn in the middle of the vertex:

2. Long. is 

The anterior dorsal prominence is an exaggeration of that of P. quadridens (Say) 2, its front face forming a steep slope to the fore margin of the thorax.

Phanæus daphnis (p. 61).

To the Mexican localities given, add:—Amula 6000 feet, Omilteme 8000 feet, and Chilpancingo 4600 feet, in Guerrero (H. H. Smith).

Phanæus eximius (p. 62).

To the localities given, add:—Guatemala, Chimaltenango 6000 feet (Conradt).

22 (a). Phanæus tepanensis. (Tab. XXIV. figg. 2, 2 a, 3; 3, 3 a, 4, var.)


2. Vertex carinula trinodosa; thorax confluentem rugulosum-punctulatum, prope apicem medio carina brevi arcuata unituberculata foreaque lata parum profunda.

Long. 20—23 millim.

Hab. Guatemala, Tepeh (Conradt).

The bronzed examples of this species much resemble P. beltianus, but the surface is less shining and the opaque sulci of the elytra are much broader. In the form of the thorax it comes nearer P. palliatus, the hind angles of the flattened triangular disc being as in that species more elevated, and the keel which extends from the sharp apex of the angle towards the lateral fovea is flexuous.

Phanæus pilatei (p. 65).

To the Mexican locality given, add:—Temax in North Yucatan (Gaumer).

On examination of the large series obtained from Mr. Gaumer I find that the two tubercles or rough ridge in the middle of the triangular declivity of the thorax are
present only in the most highly-developed males; in those of medium and lower development there is no trace of them.

**Phanæus damon** (p. 65).

To the localities given, add:—Mexico, Dos Arroyos, R. Papagaio, Venta de Pelegrino, Tierra Colorada and Acapulco in Guerrero (*H. H. Smith*).

31. **Phanæus obliquans.**

*Phanæus mirabilis*, anteâ p. 65 (nom. præocc.).

It is necessary to change the name of this insect, as it is preoccupied by Harold for another species of the same genus.

32. **Phanæus excelsus.** (Tab. XXIV. figg. 4, 4 a, †; 5, 5 a, †, var.)

*Phanæus damon*, var., anteâ p. 65.

*P. damon* proximo affinis, sed differt colore nigro-chalybeus plus minusve plumbeo-viridi tinctus, minus resplendens.

† major. Cornua thoracis altiora, verticalia, apice hau dilatata nec angulis productis; thorax angulis anticus acutioribus, ante medium acutus angulatus.

† minor et †. A *P. damon* præter colore hau diversus. Long. 16–22 millim.

**Hab. Guatemala, Capetillo (Rodriguez), Tocoy (Champion); Nicaragua, Chontales (Janson).**

Ten examples, including two male major, which agree perfectly in the form of the thoracic horns, these being higher, narrower, and more vertical than in *P. damon*, †, of the same development, and their posterior angles are not produced. In all examples the general colour is violet-black, the fore part of the body and sometimes the elytra metallic green, more or less plumbeous or silvery in tint.

A fully-developed male from Chontales, and a male minor from Capetillo are figured.

**ONTHOPHAGUS** (p. 66).

**Onthophagus nitidior** (p. 67).

To the localities given, add:—Mexico, Xucumanatlan in Guerrero 7000 feet (*H. H. Smith*). Females only.

**Onthophagus crinitus** (p. 68).

To the locality given, add:—Mexico, Teapa in Tabasco (*H. H. Smith*).

**Onthophagus rhinolophus** (p. 69).

To the localities given, add:—Guatemala, Coban in Vera Paz (*Conradt*).
Onthophagus guatemalensis (p. 73).
To the localities given, add:—GUATEMALA, Chimaltenango (Conradt).

Onthophagus landolti (p. 75).
To the localities given, add:—MEXICO, Temax in North Yucutan (Gaumer).

Onthophagus chevrolati (p. 80)
Add:—
Var. O. omiltemius. σ. A typo differt thoracis gibbere medio tumorem prominentem rotundatum simplicem efficiente.
Long. 11 millim.

Hab. MEXICO, Omilteme in Guerrero 8000 feet (H. H. Smith).

Mr. Smith obtained two well-developed males and one male minor, with several females of this form, which may prove to be distinct from O. chevrolati. In the latter the middle anterior protuberance of the thorax is broad and rather concave in front; in the var. omiltemius it is narrower, and forms a simple tuberiform prominence. There is a distinct tubercle on the crown as in O. chevrolati; the surface is opaque, bronzed-black, with fine and sparse punctuation on the thorax. The females are of the same colour, but the surface is silky and undulating; and they are distinguishable from the same sex of the following (O. undulans) only by their colour.

39 (σ). Onthophagus undulans. (Tab. XXIV. figg. 6, 6 a, σ.)
O. chevrolati proxime affinis, differt colore sericeo-nigro, superficie inaequali sicut in O. totonacpanum sed glabra et thorace sparsissime punctulato.
σ major. Clypeus marginis apicalis valde reflexo medio paullo producto, angulis rotundato-productis, vertice simplicie vel carinulato. Thorax gibbere utrinque laterale in dentem validum producto, lobo anteriore anguste subcompresso simplici.
σ minor. Clypeus fere semi-rotundatus. Thorax gibbere minore sed lobo anteriore rotundato simplice.
Long. 8½—10 millim.

Hab. MEXICO, Omilteme 8000 feet, and Chilpancingo 4800 feet in Guerrero (H. H. Smith).

41 (σ). Onthophagus inflaticollis. (Tab. XXIV. figg. 7, 7 a, σ ; 8, ♀.)
O. chevrolati affinis; brevis, niger, capite thoraceque politis, elytris et pygidio opacus, thorace grosse sparsim punctato, elytris subtiliter punctulato-striatis interstiiis sparsissime setifero-punctulatis. Caput rugoso-punctatum, genis ante oculos σ magis ♀ minus rotundato-dilatatis.
σ major. Clypeus late quadratus, concavus, margine antico medio paullo producto; vertex flexuoso-carinatus, fronte obtuso carinata. Thorax elytris paullo longior et dimidio latior, maxime convexus, margine ante medium breviter alte arcuato, gibbere antice verticali utrinque angulato, lobo mediano parum producto antice convexo. Tibiae antice elongata, apice curvata.
σ minor. Clypeus semicircularis. Thorax gibbere minus convexo, angulis lateribus loboque anteriore sub-obsoletis.
Long. 7—9 millim.
Hab. Mexico, Omilteme in Guerrero 8000 feet (H. H. Smith).

This singular species is an extreme form of the *O. chevrolati* group. With legs extended it resembles in general form and proportions the genus *Eucranium* of the La Plata region.

**ONITICELLUS** (p. 82).

**Oniticellus monstrosus** (p. 83).

I learn from Mr. Flohr that this eccentric species occurs, so far as he is aware, only in ants' nests.

2. **Oniticellus rhinocerulus.** (Tab. XXIV. ffgg. 9, 9 a, c; 10, 10 a, c, var.)

*O. ostiforaeo* (Horn) affinis; differt ♀ majore, genis angulatim dilatatis cornuque clypei versus apicem gradatim dilatato. Oblongus, dorso subplanatus, obscure subfuscus nigerrimus, apicem clypei versus genem dilatatim, elytris strigis humatim impressis, nitidis, distanter punctulatibus intastisque spuris setiferopunctulatibus; corpore subus polito fere laevi.

♀ major. Clypeus apice cornu mediocrem versus apicem gradatim dilatatus apicemque sinuato; vertex cornu parvo acuto; genis dilatatis acuto angulatis. Thorax dorso postice planato, antice profunde triangulariter retusum et obtuse bicornutum.

♂ minor. Clypeus apice brevissimum versus apicem angustato; vertex tuberculo conico parvo; genis multo minus dilatatis, angularitis. Thorax dorso fere integro, juxta marginem antice tantum obsolete retusum.

♀. Clypeus apice inerme; vertex tuberculo parvo; thorax omnino inermis.

Long. 9-12 millim.

Hab. Mexico, Canelas in Durango (Becker), Omilteme in Guerrero 8000 feet (H. H. Smith).

We figure a fully-developed male and a male minor.

**APHODIUS** (p. 83).

**Aphodius sallaei** (p. 84).

To the localities given, add:—Mexico, Mescal in Guerrero (H. H. Smith), Temax in North Yucatan (Gaumer).

**Aphodius indutilis** (p. 84).

To the localities given, add:—Mexico, Amula in Guerrero (H. H. Smith).

13. **Aphodius cruentatus.**


*Aphodius*, sp. no. 13, antcæ p. 86.

To the locality given, add:—North America, New Mexico, Arizona.

According to Dr. Horn, our insect from Sonora is *A. cruentatus*, Lec.
16 (a). **Aphodius constricticollis.** (Tab. XXIV. fig. 11.)

Elongato-oblongus, mediocriter convexus, piece-niger, politus, pedibus rufo-piecis, antennis tarsisque pallidioribus; capite levissimo, inermi, clypeo fere semi-circulari apice vix perspicue truncate, genis parum prominentibus; thorax quadratus, post medium paullo constrictus, apud angulos posticos longe paululum dilatatus, propo angulos anticos leviter angustatus, dorso subconvexo levissimo, lateribus parce punctatis, basi marginata; scutellum medio; elytra striata, striis subtillissime punctulatis, interstitial paululum convexis; tibiae antice punctulatas.

Long. 7 millim.

_Hab._ Mexico, Omilteme in Guerrero 8000 feet (H. H. Smith).

The bristles at the apex of the posterior tibiae are unequal in a different way from those of the species allied to _A. rufipes_ and _A. contaminatus_, the great majority being short, with a long one only at distant intervals.

16 (b). **Aphodius — ?**

_Hab._ Mexico, Omilteme in Guerrero (H. H. Smith).

A single specimen, discoloured; extremely near _A. euprosopus_.

17. **Aphodius opisthius.**

*Aphodius duplex*, antec. p. 87.

*Aphodius opisthius*, antec. p. 92, note.

24. **Aphodius larrea.** (A. bifrons, Tab. VI. fig. 20.)


_Aphodius bifrons_, antec. p. 90 (September 1887).

To the localities given, add:—North America, El Paso, Texas 1.

Dr. Horn recognized our _A. bifrons_, the types of which he saw on a recent visit to England, as his _A. larrea_.

24 (a). **Aphodius omiltemius.**

_A. mexicanus_ et affinitibus primo intuito similis, sed valde differt genis haud productis. Paullo brevior, pestice leviter dilatatus, piece-niger, capitis thoracisque limbis, antennis, palpis et pedibus testaceo-rufis; caput inerme, vix perspicue punctulatum; clypeus semi-circularis limbo explanato, margine antico obtusissime truncate, propo genas nullo modo sinuate, his subacutis sedit haud productis; thorax transversim quadratus, a basi ad apicem subrecte et mediocriter angustatus, lateribus late bimpresso punctulatis, disco fere levii, basi immarginata utrinque versus angulos posticos obtusos sed distinctos obliquata; elytra subsericeo-nitidissia, sat profunde striata, striis parum conspicue punctulatis, interstitialis convexis; tibiae postice extus carinis longe setosis, apice valde inaequaliter setose; tarsi elongati, graciles.

Long. 5 millim. ?

_Hab._ Mexico, Omilteme in Guerrero 8000 feet (H. H. Smith).

The two examples appear to be females, and all the claws are simple. _A. omiltemius_ resembles the species of the _A. mexicanus_ group in so many features that it ought probably to be placed in it. It lacks, however, what von Harold considered...
an essential character, viz. the produced and acute genæ. But the character is not always strongly pronounced, and is very slight, for instance, in A. villosipes.

**SAPROSITES** (p. 92).

*Saprosites parallelus* (p. 93).

To the localities given, add:—Guatemala, Coban in Vera Paz (Conradt).

**EUPARIA** (p. 93).

2. *Euparia castanea?*


_Hab._ North America, Florida, Louisiana 1.—Mexico, Teapa in Tabasco (H. H. Smith).

I refer the single example from Teapa to _E. castanea_ with some reserve, Serville's species being known to me only by description. Our insect agrees, however, in form, punctuation, and colour with the careful description of Dr. Horn above cited. In the Southern States, according to Dr. Horn, _E. castanea_ is found in the nests of a small ant.

**ATÆNIUS** (p. 94).

*Atœnius imbricatus* (p. 99).

To the localities given, add:—Mexico, Teapa in Tabasco (H. H. Smith); Guatemala, Panzos (Conradt).

15 (1). _Atœnius steinheili._


_Hab._ Mexico, Temax in North Yucatan (Gaumer).—South America, Colombia 1.

Four examples agreeing well with the detailed description above cited, excepting that I am unable to detect the "spinula accessoria" near the apical spur of the hind tibiae, which is probably a variable character and perceptible only in well-preserved individuals. The outer apical angles of the same tibiae are prolonged and acute. The sculpture of the elytra is similar to that of _A. complicatus_, from which the present species is readily distinguished by its smaller size (4 millim.) and by the short but sharp tooth on each side of the emargination of the clypeus. The carine of the elytra, eight in number on each side, are narrow from the base to the apex, each being accompanied by a less elevated and more or less crenulated line on each side, and the punctures of the broad striae are large and strung closely together.

**Atœnius carinat corrected (p. 101).**

To the localities given, add:—Mexico, Teapa (H. H. Smith).

_Biol. Centr.-Amr., Coleopt.,_ Vol. II. Pt. 2, _December 1889._
Two examples resembling in form and sculpture the Panama specimens which I referred (anteà p. 101) to A. carinator, Har. They are larger (\(3\frac{1}{2}\) millim.) and therefore accord better with Harold's description.

**Atænius abditus** (p. 101).

To the localities given, add:—Mexico, Teapa in Tabasco (*H. H. Smith*).

**OCHODÆUS** (p. 105).

**Ochodæus luridus** (p. 106).

The example from the Sallé collection referred to this species is probably distinct. Mr. H. H. Smith obtained at Omilteme in Guerrero four specimens of an insect which agrees much more closely with Westwood's description; these all have the short frontal carina between the eyes, this carina being more or less depressed in the middle and nearly separated into two transverse tubercles. The sculpture also agrees with the description. The peculiar form of the left mandible described and figured by Westwood, viz. bidentate at the apex and not sharply pointed as in both mandibles of all other species of *Ochodæus*, is certainly not shown in our examples; but I think it is clear that this is a mutilation, the figure on being regarded attentively evidently representing a mandible in which the tip is broken off. The anterior tibiae are unarmed at the inner apex in all the specimens.

The two species will therefore stand thus:—

1. **Ochodæus luridus.**

*Ochodæus luridus*, Westw. Trans. Ent. Soc. Lond. n. s. ii. p. 67, t. 9. fig. 4 ¹.

_Hab._ Mexico ¹, Omilteme in Guerrero (*H. H. Smith*); Guatemala, Tepan (*Conradt*).

The single example from Tepan differs in the less densely punctured thorax and in the clypeus being slightly produced and thickened in the middle; it is probably the male.

1 (a). **Ochodæus —— ?**

_Hab._ Mexico (Sallé).

7. **Ochodæus —— ?**

_Hab._ Mexico, Amula in Guerrero (*H. H. Smith*).

A single example; indeterminable.

**BOLBOCERAS** (p. 111).

**Bolboceras sallæi** (p. 111).

To the Mexican localities given, add:—Amula in Guerrero 6000 feet (*H. H. Smith*).
Bolboceras arcuatus (p. 111).

The males described are of somewhat minor development, two examples since received being larger and having a more prominent thoracic armature.


To the localities given, add:—Mexico, Tepetlapa and Amula in Guerrero 6000 feet (H. H. Smith), Temax in North Yucatan (Gaumer); Guatemala, Tepan and Chimaltenango (Conradt).

The male major is from Tepan.

GEOTRUPES (p. 112).

Geotrupes viridi-obscurus (p. 113).

To the Mexican localities given, add:—Omitleme in Guerrero 8000 feet (H. H. Smith).

A black male example from Omitleme, apparently of major development, differs from all the numerous other specimens of the same sex examined, in the apical tooth of the anterior tibiae being not only dilated but bifid, with the outer prong not on the same level as the inner; beneath, the same tibiae have only one instead of two teeth.

TROX (p. 116).

Trox punctatus (p. 116).

To the localities given, add:—Guatemala, Escuintla (Conradt).

Trox suberosus (p. 117).

To the localities given, add:—Mexico, Temax in North Yucatan (Gaumer); British Honduras, Cayo (Blancaneaux); Guatemala, Chimaltenango (Conradt).

9. Trox — ?

Hab. Mexico, Amula in Guerrero (H. H. Smith).

A single example, closely allied to, if not the same species as, T. terrestris, Say.

CLGEOTUS (p. 118).

Clæotus aphodioides (p. 120).

Var. prionomus.

To the locality given, add:—Mexico, Temax in North Yucatan (Gaumer).

3 EE 2
Cloëotus nasutus (p. 124).
Two examples taken by Mr. Godman at Atlixco, on his visit to Mexico last year, are a little larger (4 millim.) than the type, and show a more distinctly bidentate clypeus.

CHNAUNANTHUS (p. 130).

Chnaunanthus discolor (p. 130).
To the Mexican localities given, add:—Amula in Guerrero 6000 feet (H. H. Smith).

HOPLIA (p. 130).

Hoplia cretacea (p. 132).
To the Mexican localities given, add:—Atoyac in Vera Cruz and Teapa in Tabasco (H. H. Smith).

FAULA (p. 136).

Faula pilatei (p. 136).
To the localities given, add:—British Honduras, Cayo (Blancaneaux).

Faula mexicana (p. 137).
To the localities given, add:—Mexico, Teapa in Tabasco (H. H. Smith); Guatemala, Coban in Vera Paz (Conradt).

Found in profusion at Teapa by Mr. Smith in April 1888.

MACRODACTYLUS (p. 138).

Macrodictylus rufescens (p. 145).
To the localities given, add:—Mexico, Omilteme 8000 feet and Xautipa in Guerrero (H. H. Smith).

DIPLOTAXIS (p. 157).

Diplotaxis pilifera (p. 157).
To the Mexican locality given, add:—Puente de Ixtla 3500 feet in Morelos (H. H. Smith).

2 (a). Diplotaxis (?) —— ?
Hab. Mexico, Jalapa (M. Trujillo).
A single example, apparently belonging to this genus.
Diplotaxis ænea (p. 158).

To the Mexican localities given, add:—Chilpancingo 4600 feet, Tepetlapa 3000 feet, Amula 6000 feet, and Mescala, all in Guerrero (H. H. Smith).

These examples are smaller (6–7 millim.) than those from Central Mexico, and the anterior tarsi in the male have a scarcely perceptible fringe of very short hairs beneath.

Diplotaxis trapezifera (p. 159).

Var. 1. D. consentanea.

To the Mexican localities given, add:—Omilteme in Guerrero 8000 feet (H. H. Smith).


_Hab._ Mexico, Temax in North Yucatan (Gaumer).

Many examples, offering very little variation. The clypeus is perceptibly a little shorter than in the typical _D. trapezifera_; form, sculpture, and dentition of claws offer no difference.

6 (a). _Diplotaxis — ?_

_Hab._ Mexico, Xucumanatlan (H. H. Smith).

A single example; indeterminable.

6 (b). _Diplotaxis — ?_

_Hab._ Mexico, Puente de Ixtla in Morelos (H. H. Smith).

A single example.

Diplotaxis sinuaticeps (p. 162).

To the localities given, add:—Mexico, Temax in North Yucatan (Gaumer); Guatemala, La Tinta in Vera Paz (Conradt).

14 (a). _Diplotaxis lœvivertex._

Sat graciliter oblonga, nitida, glabra, rufo-testacea interdum supra fusco-ænea; caput sat breve et latum, vertice convexo, lævi, lateribus tantum sparse punctatis, clypeo brevi, latisime trapezoideo, angulis rotundatis sed distinctis, margine antico breviter reflexo, parum sinuato, discrete punctato, sutura frontali haud impressa fronteque plana parce punctata; thorax quadratus, medio perparum rotundato-dilatatus nullo modo angulatus, toto subgrosse irregulariter spatioso punctatus, lateribus vage foveatis; elytra striis punctatis geminatis dusibus, interstitiis pluripunctatis, lateribus punctato-striatis. Pygidium (♂ et ♀ ?) in hoc genere magnum, fere laeve, grosse bicallosum. Ungues fere æqualiter et profunde bifidi. Long. 7–8 millim.

_Hab._ Mexico, Omilteme in Guerrero 8000 feet (H. H. Smith).

Several examples.
14 (b). *Diplotaxis cribriceps*.

Ovata, postice ampliata, nigro-picea, minus nitida, supra dense et sat grosse annulato-punctata; antennis palpisque pallide rufo-testaceis; clypeus brevis, trapezoidalis, lateribus fere rectis, margine antice paullo reflexo parum sinuato, sutura frontali vix distincte impressa; thorax versus angulus posticos rotundato-dilatatus, dein de ad angulum lateribus sinuatis, areola angusta, diei solum levii, basi valde marginata; elytra glabra, striis punctatis geminatis plus minusve distinctis, Subtus et pedes nitida, grosse distantier punctata. Ungues dente inferiore magis curvato. Pygidium parvum, politum, discrete grosse annulato-punctatum. Long. 8-9 millim.

*Hab.* Mexico, Tepetlapa in Guerrero (*H. H. Smith*), Cuernavaca (*Höge*).

Three examples.

14 (c). *Diplotaxis carinifrons*.

Ovata, aureocele viridescenti-fusca, glabra, antennis palpis et pedibus rufo-testaceis; caput dense confluenter punctatum, clypeo breviter trapezoidali, lateribus et apice sinuatis, fronte transversim crasse carinata, carina medio interrupta punctata; thorax post medium valde dilatatus, margine laterali post dilatationem recto, angulis posticis obtusis, supra dense (lateribus scabrose) punctatus, basi sulcato-marginata; elytra equaliter dense punctulata, striis geminatis parum distinctis. Long. 9 millim.

*Hab.* GUATEMALA, Capetillo (*Rodriguez*), Panzos in Vera Paz (*Conradt*).

Two examples only were obtained of this species, recognizable by the transverse ridges of the forehead situated close above the frontal suture.

23 (a). *Diplotaxis alutacea*. (*Tab. XXIV. fig. 12.*

Oblongo-ovata, postice dilatata, castaneo-fusca, minus nitida, glabra, antennis palpisque rufo-testaceis; caput crebre punctatum, interstitiis reticulatim elevatis, interdum scabrosum, clypeo parvo, breviter trapezoidale; thorax latus et brevis, medio valde dilatatus ibique lateribus fere lobatis, ante et post dilatationem sinuatis, angulis posticis rectis, supra antice et postice transversim depressus, creberrime confluenter punctatus, antice et postice medio juxta marginem area polita, basi inmarginata; elytra dense sed subtiliter punctulato-striatulosa, striis geminatis et lateralibus parum distinctis. Pygidium grossissime confluenter punctatum. Long. 10 millim.

*Hab.* GUATEMALA, Capetillo (*Rodriguez*), Coban in Vera Paz (*Conradt*).

Several examples.

23 (b). *Diplotaxis aurata*. (*Tab. XXIV. fig. 13.*

Oblonga, fuso-viridis, aureocele, pedibus rufescensibus metallicis, antennis palpisque pallidis; caput crebre punctatum, clypeo brevi et lato, angulis late rotundatis, margine reflexo antice sinuato; thorax medio subangulatim dilatatus, angulis posticis obtusis sed distinctis, basi subtiliter marginato, supra toto crebre sat grosse punctatus; elytra seriatim fulvo-pilosae, grosse rugulosae et subtiliter spatiose et irregulariter punctata. Pygidium parvum, grossissime punctatum, longe setosum. Ungues dente inferiore latiore et brevioro. Long. 10 millim.

*Hab.* GUATEMALA, Panzos in Vera Paz (*Conradt*).

A single example only has been received of this distinct and easily recognizable species.
**Diplotaxis hebes** (p. 164).
To the Mexican localities given, add:—Santa Clara in Chihuahua (Höge).

25 (a). **Diplotaxis —?**
*Hab.* Guatemala, Capetillo (*Rodriguez*).
A single example of a doubtful species.

25 (b). **Diplotaxis cribratella**.
Oblonga, aeneeenti-fusca, glabra; caput crebre punctatum, clypeo breve minimo antice obtusum subimnato, lateribus valde obliquis, fronte medio rotata; thorace medio perparum dilataci, grosse et crebre hie illie confluenti punctata, basi immarginata, angulis posticus obtusis sed distinctis; elytra striis geminisstriisque lateralibus et suturali distinctis cum interstitiis sat grosse punctatis. Subtus cum pygidio parva, crebre punctata.

*Hab.* Mexico, Omilteme in Guerrero 8000 feet (*H. H. Smith*).
Two examples. This species is extremely near *D. hebes*, but differs especially in the form and sculpture of the thorax, which in *D. hebes* is rather strongly dilated much behind the middle and is sparsely punctured on the disc.

**CHLÆNOBIA** (p. 166).

7. **Chlænobia unituberculata**.
Anguste elongata, flavo-testacea, supra discrete (capite grossius) punctulata, thorace medio subangulatum dilatato, angulis posticus rectis, elytris striisque costulis duabus sublaprhibus.


*Hab.* Mexico, Temaz in North Yucatan (*Gaumer*).
Seven examples.

8. **Chlænobia rodriguezi**.
A *C. tumulosa* ♀ differt corpore toto densius et fortius punctato, vix nitido; thorace medio angulatur dilatato, feminaque valde disperpat pygidio hauقد profunde concavo etc.

♀. Tarsi sicut in *C. tumulosa* subtus dense pilosi. Pygidium grosse punctatum, medioctiter convexum, prope apicem foesea elongata parum profunda, margine apicali reflexo simplici. Ventrur segmenta 2°-5° dense punctulato-pilosi, 6° polito, margine apicali medio dentiformiter producto.

*Hab.* Guatemala, Capetillo (*Rodriguez*).
Three examples, all females.
PHYTAIUS (p. 174).

In the characters of Section I. b, at p. 177, with regard to the lower spur of the hind tibiae being connate, the words "in the male" were inadvertently omitted. The same omission occurs under Lachnosterna at p. 196.

Phytalus (?) punicollis (p. 176).

To the locality given, add:—GUATEMALA, Coban in Vera Paz (Conradt).

The species is rather small (15 millim.) and slender, oblong, tawny-castaneous and shining, though clothed throughout somewhat densely with short suberect ashy pile. The elytra are closely and finely punctured, with undulating wrinkles, and without costa or stria, the head and thorax being more distantly, and the pygidium more coarsely and sparsely punctulated, the latter with coarser rugae. In the male the tarsal claws have the teeth rather close together, though the lower tooth is much broader and more curvate-dflexed, a character which induced me to query the position of the species in the genus Phytalus. The female taken by Conradt differs from the male in the dentition of the claws, the lower tooth being nearly as narrow and sharp as the apical one, and more bent and apparently situated lower down the claw. This form of dentition is entirely foreign to the Phytalus group, and the species should be removed to Lachnosterna. The pygidium in the female is scarcely convex and slightly prolonged, flattened and smooth at the apex.

Phytalus cometes (p. 177).

To the localities given, add:—GUATEMALA, Coban in Vera Paz (Conradt).

Phytalus bolacoides (p. 182).

To the Mexican locality given, add:—Omitme in Guerrero 8000 feet (II. H. Smith).

Mr. H. H. Smith obtained on his recent journey several examples of both sexes of this curious little species. In none of them is the triangular circumcucullellar spot so dark and conspicuous as in the unique type specimen (?), being at most indicated by a slightly browner tint in that part of the otherwise tawny-yellow elytra, neither are the elytra in the female so widely dilated behind. In some, apparently immature, examples the head and thorax are testaceous-red, in others they are brownish-black as described.


25 (a). Phytalus omiltemius. (Tab. XXIV. fig. 14, ♂.)

P. fasciabri proxime affinis et simillimus; differt corpore supra densius et subtilius punctato, oculis (♂ ♀) minoribus et minus convexis et dydeo minus concavo antice minus profunde sinuato lateribusque oblique
convergentibus (nece subparallelis). Antennae 9-articulatae; clava & gracilis, exteri articulis conjunctis subaequalis.

Long. 11-12 millim. © 2.

Hab. Mexico, Omilteme in Guerrero 8000 feet, Chilpancingo 4600 feet (H. H. Smith).

The similarity in form and coloration—chestnut-brown, with broad lateral (marginal) thoracic vitta testaceous-yellow—and, especially, the very similar sexual characters in the pygidium and abdomen, render it doubtful if this is a distinct species from P. fissilabris. But the difference in the volume and convexity of the eyes, and the flatter, broader, and less sharply sinuated clypeus being constant in the large series of specimens taken at Omilteme, and confirmed by the much closer and finer sculpture, I consider it necessary to treat them as a separate specific form.

LACHNOSTERNA (p. 185).

2 (♀). Lachnosterna baroni. (Tab. XXIV. fig. 15, @.)

L. heteronyche proximo affinis, sed magis elongata fulvo-pubescent et corpore supra longe fulvo-pilos, pectore fulvo-villos; caput magnum, grosse acrobos-punctatum, vertice levii fronteque subito declivi, clypeo subsemicirculari spise obtuse truncato et sinuato, margine paullo reflexo; thorax medio sat valde vix angulatim dilatatus, angulis posticis obtusis, dense seto discretum punctatum, margine basali medio longe fulvo-penicilato; elytra dense sat subtiliter punctulata, striis punctatis nullis; ungue dente inferiori lato apud medium denteque basali proximo lato vix breviore.

♀. Pygidium amplum, convexum, setifero-punctulatum. Venter medio depressus, sat dense setifero-punctulatus; segmento 6° subdepresso, densius et longius setoso. Antennae 10-articulatae, clava gracilis articulis 1°-7° conjunctis paullo longiore, articulis 8°-50° parum elongatis intus convexis, 6° et 7° intus acute proculis.

♀. Pygidium paulo elongatum, apice convexum, setifero-punctulatum. Venter convexus, sat dense setifero-punctulatus, segmento 6° convexiore et grossius punctato. Antennae sicut in @ sed clava parva.

Hab. Mexico, Omilteme in Guerrero 8000 feet (H. H. Smith), Mochitlan in Guerrero (Baron).

Mr. Smith obtained one example only, a well-preserved male. The female is also described from a single somewhat abraded specimen sent by Mr. Harford from Baron’s collection.

4 (♀). Lachnosterna rostripyga. (Tab. XXIV. fig. 16, @.)

L. picolet quod formam et sculpturam simillima, colore differt solum corpore toto rufo-castaneo. Caput grossissime subalveolato-punctatum, vertice levii, fronte abrupto declivi, longe pilosa, clypeo utrinque rotundato, margine paululum reflexo antice medio sat fortiter sinuato; thorax medio sublobatim dilatatus, margine laterali distantem cenato et setifero, post dilatationem sinuato, angulis posticis rectis, grosse spatose punctatus punctis minoribus intermissis; elytra punctulata, versus suturam antice subtiliter rugulosa, postice leviora parce longe pilosa; pectus fulvo-pilosus. Ungues latius quam in L. picolet fissi, dente inferiore latiore, apice oblique truncato, dente basali brevissimo et obtusissimo.

♀. Pygidium mediocriter convexum, grossissime hic illic spatose punctatum, glabrum. Venter medio convexus levissimus, segmento 5° apice medio depresso setifero-punctulato, 6° sat elongato, medio transversim concavo et grossius punctato.

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Pygidium grosse punctatum, medio apice taberuulo magni paullo recurvato. Venet medio convexus laevissimus, segmento 5° piloso-punctaiuto, 6° fere plano, sparse punctato. 

*Hab.* Guatemala, Chimaltenango (Conradt).

Many examples of both sexes.

### Lachnosterna leonina (p. 188).

To the Mexican localities given, add:—Omilteme in Guerrero (*H. H. Smith*).

Numerous examples, including both sexes.

12 (a). **Lachnosterna crinipennis.** (Tab. XXIV. fig. 17, 2.)

Elongato-oblonga, rufo-castanea, capite thoraceque interdum obscurioribus; caput grosse confluentur punctatum, vertice levii, fronte subito declivi, erecta pilosa, clypeo utrinque rotundato margine breviter reflexo, anticj medio emarginato subincurso; thorax medio angulatum valde dilatatus, margine laterali setis longis instructo, post dilatationem recto angulis posticis obtusis, toto grosse punctatus, interstitiis punctorum hic illie elevatis vermiculatis; elytra elongata, haud profunde punctato-rugulosa, nitida, toto serieim erecte et longe fulvo-pilosa, striis gminatis sat vage, suturali profunde, impressis; pectus griseo-villosus. Ungues dente inferiore breviore extanti curvato acute apud medium sito, dente basali lato parum elevato.

2. Pygidium mediocriter convexum, glabrum, punctatum, apicem versus late concavum. Venet medio politus, parum punctulatus, segmenti 5° et 6° medio grosse seti-ro-punctatis.

*Ignota.*

Long. 21–23 millim.

*Hab.* Mexico, Omilteme in Guerrero 8000 feet (*H. H. Smith*).

The following nine species are represented by single examples only, in some cases in mutilated condition, and in others doubtful as to sex:—

12 (b). **Lachnosterna** ——?

*Hab.* Mexico, Chilpancingo in Guerrero (*H. H. Smith*).

12 (c). **Lachnosterna** ——?

*Hab.* Guatemala, Tepan (Conradt).

12 (d). **Lachnosterna** ——?

*Hab.* Mexico, Xautipa in Guerrero (*H. H. Smith*).

12 (e). **Lachnosterna** ——?

*Hab.* Mexico, Xautipa in Guerrero (*H. H. Smith*).

12 (f). **Lachnosterna** ——?

*Hab.* British Honduras, Cayo (Blancaneaux).
12 (g). **Lachnosterna — ?**

*Hab. Guatemala, Tepan (Conradt).*

12 (h). **Lachnosterna — ?**

*Hab. Guatemala, Chimaltenango (Conradt).*

12 (i). **Lachnosterna — ?**

*Hab. Guatemala, Tepan (Conradt).*

12 (j). **Lachnosterna — ?**

*Hab. Mexico, Omiteme in Guerrero 8000 feet (H. H. Smith).*

22 (a). **Lachnosterna godmani.** (Tab. XXIV. fig. 18, d.)

Elongato-ovata, fulvo-castanea, nitida, fronte et thorace antice erecte fulvo-pilosis; capite aspero confluenter punctato, clypeo discretius punctato, brevi, utrique mediocriter rotundato, margine redexo antice medio sinuato; thorax medio subangulatum dilatatus, margine ante et post dilatationem leviter sinuato, angulis antice et postice subtectis, disperse mediocriter punctatus, medio basi auro-fuvo-penicillatus; elytra subbisulcite plicumque discrete punctata; pectus auro-fuvo-villosus. Ungues dente inferiore infra medium breve acuto basin versu inclinato, dente basali parvo rotundato.

*Hab. Mexico, Misantla (F. D. G.).*

We have two examples of this elegant and distinct species, both males. In the dentition of the claws it agrees rather better with the species of Section V. than with those of Section II.; but it seems preferable to leave it at the end of the latter section in the vicinity of the two polyphyllous species there located.

**Lachnosterna rorulenta** (p. 196).

To the localities given, add:—*Mexico, La Venta in Guerrero, Teapa in Tabasco (H. H. Smith).*

**Lachnosterna parvisetis** (p. 196).

Among the numerous examples of *L. rorulenta* taken by Mr. H. H. Smith are some in which many of the elytral punctures have a short seta. As the occurrence of these setae (not the long loose hairs with which the elytra are provided towards the apex, and which are often seen also in *L. rorulenta*) furnishes the sole character of the present species, it must be withdrawn and treated as a slight variety of *L. rorulenta*. The pygidium in the female is impressed and bituberculated at the apex as in *L. rorulenta*; in the following very closely-allied species the form of the pygidium is very different.

3 FF 2
25 (a). **Lachnosterna parilis.**

*L. rorulenta* affinisima et similis, differt corpore magis elongato et supra crebris et profundius punctato, minime pruinose.

♂. Pygidium, calcaria postica et venter sicut in *L. rorulenta* ♀.

♀. Pygidium situt in ♀ subconvexus, integrum, glabrum, distanter punctatum. Venter sicut in *L. rorulenta* ♀.

Long. 23–25 millim.

_Hab._ Mexico, Temax in North Yucatan (*Gaumer)._ Three males and one female.

26 (a). **Lachnosterna gaumeri.**

Elongato-oblonga, sat gracilis, fulvo-testacea, supra glabra; caput sat latum, discrete punctatum, elytrum brevi utrinque rotundato, margine mediorecto reflexo antice medio sinuato; thorax medio rotundato-dilatatus, angulis antemis et postemis obtusis sed distinctis, regulariter et distanter punctatus; elytra medio recto punctata, costa naturalis valida sed prope seccellum absenta. Subtus pectus longius tenuior pubescens.


Long. 15–17 millim.

_Hab._ Mexico, Temax in North Yucatan (*Gaumer)._ Eight examples. The sexual difference in the dentition of the claws is greater than in any other species of _Lachnosterna_ I have examined, the lower tooth being very curved and situated above the middle in the female, whilst it is short and straight, and placed nearer the base than the middle, in the male. The species is also remarkable in Section IV. for its elongate, slender form.

**Lachnosterna submetallica** (p. 204).

To the localities given, add:—Mexico, Atoyac (*Flohr)._ 57 (a). **Lachnosterna yucateca.**

*L. triniti* (Fabr.) proxime affinis et quado elytrorum sculpturam simillima, sed differt inter alia thorace sparsius et rigidius piloso. Fulvo-castanea, capite et thorace rubro-rufibispunctis integris, margine toto alte reflexo, punctato, fronte scabrosa; thorax post medium valde dilatatus, margine (grosse crenulato) interali antice sinuato, angulis antemis acutis, postemis obtusis, sat grosse et dense punctatis, creste rigide pilosus; elytra glabra, subequiliter crebre et forte punctulata medio suturm versus rugulosae. Ungues dente inferior infra medium sito, sat robusto, brevi, acuto, dente basali nullo.

♂. Pygidium medio recto convexum, grosse punctatum, pilis crebris valde elongatis. Venter medio sublaevis politus, segmento 5° postice medio crebre setifero-punctato, 6° transversim concavo, punctato et longius piloso.

Long. 13–14 millim. ♀.

_Hab._ Mexico, Temax in North Yucatan (*Gaumer)._ Six examples, all males.
57 (b). **Lachnosterna crinita.**


_Hab._ NORTH AMERICA, Texas 1 2.—MEXICO 1 2.

Judging from the descriptions this species must be very closely allied to _L. integra_ if it be not really the same.

**Lachnosterna anodentata** (p. 208).

To the Mexican localities given, add:—Puente de Ixtla in Morelos (H. H. Smith).

This species is closely allied to the recently described _L. lenis_, Horn, from Arizona; but it is clearly distinct, the clypeus being semicircular, not broad and subquadrate, and the elytra having very short pubescence.

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**EUGASTRA** (p. 214).

1. **Eugastra** —?

_Eugastra cribrosa_, ante a p. 214, Tab. XI. fig. 21.

According to Dr. Horn, who has examined the unique specimen, our Mexican insect is not the _E. cribrosa_ of Leconte; it is not advisable, however, to name it.

**ANOMALA** (p. 217).

**Anomala undulata** (p. 217).

To the localities given, add:—GUATEMALA, Chimaltenango, Escuintla, Panzos, Coban (Conradt).

**Anomala millepora** (p. 231).

To the locality given, add:—MEXICO, Teapa in Tabasco (H. H. Smith).

49 (a). **Anomala conradii.**

_Ovata_, glabra, nigro-virid-zena, elytris maculis oblongis flavis interdum in fascias duas valde irregularues (1a basali, 2a paullo post medium) digestis, sed variat fulvo-testacea zene-metallica, vertice et interdum plagi duobus thoracis nigro-aneis; clypeus subsemicircularis, dense ruguloso-punctatus, vertice discrete punctulato; thorax transversus, basi (marginato sulculo medio interrumpito) utrinque conspicue arcuratim sinnata, angulis posticis rectis, lateribus a basi usque ante medium paralleli deinde ad angulos anticos acutos convergentibus, subtiliter spatiose punctulatus, intra marginem lateralem seriatis pilifero-punctulatus; elytra sat profunde punctato-striata, interstitiis convexis sparsim punctulatis, astra 2a basin versus irregulariter duplicata ibique interstitiis 1a et 2a planioribus. Tibiae posticen fere rectae. _Mesosternum inter_
coxae angustam et anguste declivi-carinatum. " Tarsi antici ungue majore lato robusto dextro, dente superiore brevi et tenui vix abbreviato; articulo unguiculari robusto, infra profunde sinuato.

Long. 11-13 millim. &.

Hab. Guatamala, Coban and La Tinta in Vera Paz (Conradt).

Several examples.

68 (a). Anomala smithii.

A. cupricollis individus minoribus similis, sed differt corpore supra densius et subtillus punctato, vix nitido. Fusco-aneus, elytris fulvo-testaceis disco interdum grossae fusco-maculatis. Caput densissime confluentem punctatulatum, opacum; elypto minus quadrato, angulis magis rotundatis; thorax et scutellum dense sed plerumque discrete punctulati, subnuditi; elytra subtiliter et densissime confluentem punctulata, utrinque striis geminatis tribus grossae et irregulariter punctatis, stria suturel apex versus solum impressa. Mesosternum apice (juxta metasternum) vix inornatum. Pygidium densissime subtiliter scabroso-punctulatum, opacum. &. Ungue antici profunde fissi, dente superiore tenuiore, hand breviore, articulo unguiculari subitus acute sinuato.

Long. 16-18 millim. &.

Hab. Mexico, Teapa in Tabasco (H. H. Smith).

Four examples, all males.

The two unnamed Anomala, Nos. 45 and 104, from Playa Vicente, are possibly females of this species; but their mutilated condition, especially the absence of anterior and intermediate tarsi, renders their determination doubtful. They are more oblong in form and somewhat smaller than the four examples above described.

Anomala nitidula (p. 246).

The following beautiful colour-variety is to be added:—

Var. a. escuintleensis. Rufo-cuprea, thorace vitta marginali albo-testaceae, elytris cuprascento-fulvis.

Hab. Guatamala, Escuintla (Conradt).

One male example only.

Anomala vidua (p. 247).

The following is an interesting local modification:—

Var. A. cuproasculpta.—Caput densissime minute scabroso-punctatum, vertice laviore; thorax grossae spatiose punctatus; elytra utrinque costis tribus tribus elevatis, interstitialis sat grosse punctatatis. &. Rufus, thorace vitta lata (interdum in duas divisa) elytrique nigres; & dilutius rufa, elytris flavo-testaceae, thorace maculis discoidalibus dubius nigres. Pedes utroque sexum rufo-testaceis tarsi semper concoloribus.

Hab. Guatamala, Chimaltenango (Conradt).

It will be seen that the modification relates chiefly to the sculpture, the only colour-difference being that the tarsi in the variety are pale in both sexes and black (at least in all the examples before me) in the Mexican A. vidua: an analogous difference in the form and colour of the sexes is presented by both type form and variety.
EPECTINASPIS (p. 250).

5 (α). Epectinaspis chalconota.

Oblonga, viridi-vel cupreo-anea interdum amenecenti-rufa, supra polita, glabra, elytris nigro-aneis, aenescenti-castaneis vel flavo-testaceis amene-nitentibus interdum fusco-vel rufo-plagiatis; caput medio depressum, densissime minute scabrosum; thorax convexus, discrete punctatus; elytra fortiter punctato- striata, striis 2a et 7a basin versus diffusi, multipunctatis, margine laterali medio (♂ ♂) paullo incrassato. Pygidium densissime confuso strigulosum, longe griseo-pubescentes.

♂. Clypeus magnus angulis rotundatis, margine altae elevato. Tarsi antici ungue majore deflexo, lato, dente superiore tenuissimo paullo breviore; articulo unguiculari subtus valde sinuato.

♀. Clypeus minor et minus quadratus, margine vix elevato. Tarsi antici ungue majore gracili fisso.

Long. 8-10 millim.

Hab. GUATEMALA, Chimaltenango 6000 feet (Conradt).

A good series of examples.

STRIGODERMA (p. 252).

Strigoderma sallsei (p. 255).

To the Mexican localities given, add.—Chilpancingo 4000 feet, and Xucumanatlan 7000 feet, in Guerrero (H. H. Smith).

Strigoderma teapensis (p. 258).

Several examples were taken by Mr. H. H. Smith, also at Teapa, among them a colour-variety, in which the head and thorax are testaceo-red tinged with green, the lateral pale thoracic vitta margined with a brassy-green line, the elytra wholly pale testaceous with a slight brassy lustre, and the femora and tibiae rufo-testaceo tinged with coppery.

15 (α). Strigoderma presidii.

S. teapensi similis, sat breviter quadrato-ovata, fusco-anea, nitida, elytris pallide fusceis margine laterali apicenlie strague submarginali nigrecantibus; fronte, thorace et pygidio erecte griseo-pilosis, corpore subuts polibusque sarsuis griseo-pilosis; caput densissime conlicuator punctulatum, clypeo subsemicirculari, lateribus fere parallelis; thorax dense sed discrete punctulatus, equaliter convexus, basi marginatus, paullo ante medium dilatus; semelium punctatum; elytra dorsi paullo planata, conspicue et regulariter punctato-striata, inter suturam et humerum striis septem, interstitiis angustis haurd elevatis. Pygidium politum, sparse punctatum. Mesosternum tubercule valido minime percorro. Epimera mesosternalia margine acute vix elevato.

Long. 8 millim. ♂.

Hab. Mexico, Presidio near Mazatlan (Forrer).

The mesosternal epimera do not rise nearly to the level of the elytral humeri. S. presidii according to this character would be an Anomala, but it has so close an affinity with S. teapensi that its natural place must be next to that species.
SUPPLEMENT.

DILOPHOCHILA (p. 261).

Dilophochila bolacoides (p. 261).
To the localities given, add:—GUATEMALA, Tepan (Conradt).

CHLOROTA (p. 268).

Chlorota cincticollis (p. 269).
To the localities given, add:—GUATEMALA, Coban in Vera Paz (Conradt).

RUTELISCA (p. 270).

Rutelisca flohri (p. 270).
To the Mexican localities given, add:—Omitlteme in Guerrero 8000 feet (H. H. Smith), Amecameca, Atlapango (Flohr).
A few beautifully preserved examples of both sexes.
Mr. Flohr informs me that this interesting Rutelid occurs chiefly under pine-bark, but sometimes under oak-bark.

PELIDNOTA (p. 273).

Pelidnota notata (p. 273).
To the Mexican locality given, add:—Teapa in Tabasco (H. H. Smith).

Pelidnota virescens (p. 274).
The type form and var. 1 were both taken in the State of Guerrero by Mr. H. H. Smith, the former at Mescala and Tepetlapa, the latter at Venta de Pelegrino and Tierra Colorada. Also the following new variety:—

Var. 5. Frons et thorax late saturatus viridi-senea.

Hab. MEXICO, Tepetlapa in Guerrero (H. H. Smith).

One example.

Pelidnota punctulata (p. 276).
According to Mr. Flohr, the locality “Jalapa” given by Herr Höge is a mistake, as the species does not occur there. It is an inhabitant of the “tierra caliente.” He has received it from Minatitlan, Atoyac, and Playa Vicente. A dark brassy-brown, nearly black, variety has been received from Conradt taken at Escuintla, Guatemala.
10. **Pelidnota cylindrica**.


*Tab. Guatemala*.

A very elongate brassy-green species 16 lines long; not contained in our collections.

**PLUSIOTIS** (p. 276).

**Plusiotis lacordairei** (p. 280).

To the Mexican localities given, add:—Omilteme 8000 feet, and Xautipa in Guerrero (*H. H. Smith*).

**Plusiotis prasina** (p. 282).

To the Mexican localities given, add:—Omilteme in Guerrero 8000 feet (*H. H. Smith*).

**Plusiotis laniventris** (p. 283).

Mr. Flohr states that this species is confined in its range to the “tierra fria.” He finds it near the city of Mexico and also at the Hacienda de las Trojes, on the border of the States of Mexico and Michoacan. It feeds on the leaves of the oak and alder.

**Plusiotis adelaida** (p. 283).

To the localities given, add:—Mexico, Omilteme in Guerrero 8000 feet (*H. H. Smith*).

This species also, according to Mr. Flohr, does not occur outside of the “tierra fria” in Mexico. Höge’s localities Jalapa and Oaxaca are wrong; his specimens were obtained near Mexico city, Atlapango, and Parada. Mr. Flohr adds as localities, Quecholac, Xolotlalaya, on the slopes of the Cofre de Perote. It feeds on the young shoots of pine-trees.

**Plusiotis rodriguezi** (p. 283). *(Tab. XXIV. fig. 22.)*

To the localities given, add:—Mexico, Omilteme in Guerrero 8000 feet (*H. H. Smith*).

One of Mr. Smith’s specimens is a clayey-reddish-tawny variety similar to the corresponding variety of *P. costata* mentioned at p. 282. It differs from that, however, in the sides of the elytra and the under surface having a rich metallic tinge, thus corresponding with the green typical form.

20 (a). **Plusiotis alticola**. *(Tab. XXIV. fig. 22.)*

*P. lecontei* proxime affinis, differt prescipte corpore elongato-oblongo supra pallide viridi, capite, scutello, thoracis elytronque marginibus argenteis; elypons sicut in *P. lecontei* parvis, brevis, subsemicircularis, dense biol. centr.-amer., Coleopt., Vol. II. Pt. 2, December 1889. 3 GG

Long. 26 millim.

Hab. Mexico, Sierra Nevada de Colima 11000 feet (Richardson).

One example.

20 (b). Plusiotis orizabae. (Tab. XXIV. fig. 24.)

P. lecontei (partim), anteà pp. 283, 284.

P. lecontei affinissima, sed mullo major, elytris latius metallico-nitentibus, etc. Oblonga, robusta, supra pomaeo-viridis, elytris argentaeo-viridi tinctis; thorax basin versus minus dilatatus angulique magis obtusus, margine laterali paullo flexuosus, subtilissime alutaceus et distinctius punctatius; elytra punctato-striata, intersitiis convexis. Pygidium et propygidium argentaeo (subaurato) metallica. Pectus dense fulvo-cinereo-villosus (P. lecontei villositate vulpino-rufo). Femora et abdomen sicut in P. lecontei argentaeo-rosacea, tibias et tarsis viridi-ameis.

Long. 30 millim.

Hab. Mexico, Suapam, Volcan de Orizaba (Sallé).

M. Sallé is of opinion that this species does not belong to Plusiotis; but I can see no difference except in the shorter and more semicircular clypeus, which it has in common with P. lecontei and P. alticola. The base of the labrum is broad and sinuated as it is in Plusiotis and the Rutelidae generally.

The unique example is in a damaged condition and I am not sure that the outline of the thorax has not been distorted. The colour of the dense and long villosity of the breast is the character which chiefly inclines me to think the species is distinct from P. lecontei.

CHRSINA (p. 285).

Chrysina macropus (p. 285).

Var. miniszechi.

Mr. Flohr believes that Herr Höge's examples of this variety came, not from Jalapa, but from the neighbourhood of Tepansacualco.

Var. adolphi.

To the Mexican localities given, add:—Omilteme 8000 feet, and Xautipa in Guerrero (H. H. Smith).

Two females, one male, the latter belonging rather to the var. miniszechi; but all gradations between these two forms are now known.
Chrysina amœna (p. 286).

The female example from Ciudad in Durango belongs to the following species, and the locality should therefore be erased.

3. Chrysina erubescens. (Tab. XXIV. fig. 23, ♀.)

*O. amœna* affinisima, sed differt corpore paulllo majore coloribusque diversis. Supra pallide pomaceo-viridi, fronte et clypeo erubescibibus, acutellum thoracisque lateribus leviter rosaceis; subtus differt peduncile obscure aeneo ventroque dimidio basilii argenteo-aeneo politissimo dimidio apicali rufo-aeneo minus nitido, femoribus tibiasque rufo-testaceis, politis, submetallicis, tibiis apice erubescentibus, tarsis cyaneis; pygidio laticulo carnescenti-lateritio, dense punctulato lineae dorsali levii. Supra socii in *O. amœna* dense hie ille rugulose punctulatis punctis minutis intermixtis. ♀. Pedes postici parum elongati sed femoribus incrassatis, tibiis rectis latiss imus basi subito profunde emarginatis, dentulii.

*Long.* 40 millim. ♀ ♀.

*Hab.* Mexico, Ciudad in Durango (*Höge*), Durango city (*Becker*), Sierra de Nayarit (*Richardson*).

Three examples, a male and two females. Our figure is taken from a female from Ciudad.

4. Chrysina beckeri.


*Long.* 36 millim. ♀ ♀.

*Hab.* Mexico, Canelas in the Sierra Madre de Durango (*Becker*).

A pair of this species has been sent me by Mr. Flohr, who points out its close affinity with *C. amœna*. It differs from *C. amœna* in the sparser punctuation of the upper surface, in which character it is intermediate between *C. amœna* and the more strongly punctured examples of *C. macropus*. It agrees with *C. amœna* in the prominent, though small, mesosternal process, which is narrower and more acute, though much stouter than in *C. erubescens*.

I have named it, at Mr. Flohr’s request, after the discoverer, Mr. Richard Becker of Durango, who is exploring with great success the Coleopterous treasures of the interesting region near which he resides.

MACROPOIDES (p. 286).

Macropoides nietoi (p. 287).

To the Mexican localities given, add:—Atoyac, Monte verde (apud *Flohr*).

Macropoides mniszechi (p. 287).

To the Mexican localities given, add:—Atoyac (*H. H. Smith, Flohr*), Misantla (*Flohr*). 3 GG 2
SUPPLEMENT.

When fresh this fine species is of a beautiful bluish-green colour, which is soon lost after death. The Misantla specimens were cut out of tree-trunks by Mr. Flohr.

HETEROSTERNUS (p. 287).

Heterosternus buprestoides (p. 288).

The type specimen of this rare species, Mr. Flohr informs me, on the authority of M. Blanchard, was taken near Zongolica; a second example, he says, has been taken on an Aquacatillo tree between Huatusco and Mirador; and a third, now in the Philadelphia Museum, was obtained from Sumichrast, but in what locality it was found is not known.

PARISOLEA (p. 288).

Parisolea alba (p. 288).

Parisolea fulva, ante p. 288, Tab. XVII. fig. 1.

The locality of this species is Jalapa, where it was cut out of old or felled Liquidambar trunks (Flohr).

P. fulva was founded on examples found in the manner above-mentioned, but curiously discoloured by being kept in a damp locality; it must therefore be withdrawn.

METAPACHYLUS (to precede the genus Aspidolea, p. 296).


The interesting form on which this genus is founded partakes of the characters of Pachylo, Oryctomorpus, and Parastasia, with the allied Indian forms Didrephano- phorus, Peperonota, &c., genera widely separated in the received classification. It has much also in common with the genus Rutelisca, which would be better placed in its vicinity than in the group Rutelina, the tarsal claws not being really unequal in length, their different curvature only making them appear so. The North-American genus Polymaechus apparently belongs to the same hitherto unindicated group of genera.

1. Metapachylus sulcatus. (Tab. XXIV. figg. 19 ơ, 20 ơ.)

Niger, politus, Clytris macula utrinque juxta scutelli basin et interdum thoraeae lateribus, femoris apicis maculaeque frontali, flavo-testaceis, antennis et palpis piceo-rufis; clypeus et frontis minute scabrosus; thorax transversus, sparsim punctulatus, linea dorsali lata impressa a basi ad apicem mediocriter rotundato-angustatus, tenuiter marginatus, linea impressa marginali basi medio late interrumpita, angulis posticis
LAMELLICORNIA.

rectis sed apice obtusis; elytra profunde punctato-sulcata, interstitiis convexis, margine laterali tenui, 
♀ medio paullo incrassato. Pygidium ♀ latum, medio leve, lateribus longe piloso-punctulatis.
Pectus, coxae posticae femoraque subitus fusco-nigro- vel obscure fulvo-villosa.

Long. 17-22 millim. ♀.

Hab. Guatemala, Tepan (Conradt).

Three examples, viz., two males, one female; the female with imperfect hind tarsi, the claws of which are inferred to be toothed like the others.

ANCognatha (p. 297).

Ancognatha quadripunctata (p. 298).

To the localities given, add:—Guatemala (Conradt).

CYclocephala (p. 299).

Cyclocephala complanata (p. 301).

A single example, taken by Conradt at Coban in Vera Paz, is much larger than any of the other Mexican or Guatemalan examples I have seen, measuring 21 millim., the others ranging from 16 to 17 millim.

CHEiroplatys (p. 320).

Cheiroplatys isodonoides (p. 322).

To the Mexican localities given, add:—Amula in Guerrero 6000 feet (H. H. Smith).

GOLOFA (p. 332).

Golofa imperialis (p. 334).

To the localities given, add:—Mexico, Amula 6000 feet, Soledad 5500 feet, and Xucumanatlan 7000 feet, in Guerrero (H. H. Smith).

A good series has been supplied by Mr. Smith, including one large example 50 millim. long, which is probably of the fullest development, and tends to establish the validity of the species. Its thoracic horn is only 10 millim. long (measured from the surface of the thorax behind it), but the apex is but very little dilated and angulated laterally and at the tip. In the largest males of G. pizarro, measuring 42 millim., the thoracic horn is fully 15 millim. long and very broadly dilated and tridentate at the apex. The elytral humeri are more often concolorous than black. The four female examples, all black, show a constant difference from G. pizarro, female, in the nearly smooth apical half of the pygidium and less rugosely punctured elytra.
ÆGOPSIS (p. 337).

Ægopsis curvicornis (p. 337).


M. Salle informs me that the only other described species of this genus, Æ. westwoodii, Thoms., is not from the interior of Brazil as Thomson stated¹ but from Panama. This is confirmed by the fact that the slight differential features mentioned by Thomson are seen in at least one of our Panama examples.

ISCHNOSCELIS (p. 343).

Ischnoscelis dohrni (p. 343).

Mr. Flohr informs me that an example of this rare species has been taken at Tonila.

COTINIS (p. 346).

Cotinis mutabilis (p. 346).

Var. 2. C. mexicana (p. 346).

To the Mexican localities given, add:—Omitlème 8000 feet, Amula 6000 feet,Venta de Zopilote 2800 feet, and Xucumanatlan 7000 feet, all in Guerrero (H. H. Smith).

All these examples have a pointed clypeal horn.

Var. 8. C. atrata (p. 347).

Add to the Mexican localities:—Amula 6000 feet, and Venta de Zopilote 2800 feet, in Guerrero (H. H. Smith).

13 (a). Cotinis salicis. (Tab. XXIV. fig. 25.)

C. antonii affinis et similium, sed valde diversi thoraces lobo obtuso setate truncato. Nigra, polita, pubescens subus nigra; caput quadratum, fronte late concava, punctata et nigro-setosa, carina centrali vix elevata et obtusa usque ad clypeum continuata ibique gradatim subsidente; clypeo lato, margine antico valde reflexo recto; thorace elytrisque, praecipue lateribus, sparsim punctatis. Pygidium striulosum, plagis duobus cretaceis. Processus mesosternalis quam in C. antonii paullo longior, apice rotundato. ♂.

Long. 20 millim.

Hab. Mexico, near the city (Flohr).

In decayed willow-trees (Flohr).

13 (b). Cotinis rufipennis.

Cotinis ——— ? (no. 18), antea p. 353.

C. antonii affinis. Oblongo-quadrata, nigra, velutino-opaca, subus (et capite) glabra polita, pectore pedibusque nigro-hirsutis, elytris (sutura angusta nigra excepta) miniatœ-rufis; clypeus sicut in C. antonii margine antico recto oblique reflexo, fronte quadrata, concava, sparsim punctata carinaque alta acuta longe ante clypei apicem subabrupte terminata; antennae nigrae; thorax trapezoides, sparse punctatus, disco lavi, ante medium paullo dilatatus, lobo basali mediocri, obtusus rotundato scutelloque conspicuo acuto triangu-

Hab. Mexico, Canelas in the Sierra Madre de Durango (Becker), Santa Clara in Chihuahua (Höge).

The example brought home by Herr Höge is much crushed, and I am not sure that it is a female, though it is broader and larger than the undoubted male specimen received from Mr. Flohr.

GYMNETIS (p. 353).

13 (♀). Gymnetis vandepolli.

Gymnetis kerremansi, anteā p. 357, cum Tab. XXI. fīgg. 7, 8 (nec Van de Poll).

M. Van de Poll having sent me a drawing of G. kerremansi, I perceive that his is a species quite distinct from that which I described and figured from Chontales and Bugaba under this name, and which I now name as above. G. kerremansi will remain, therefore, with the locality "Panama" only.

Obs. G. wollastoni, Schaum, Trans. Ent. Soc. Lond. v. (1) p. 66, t. 8. f. 3, described as from Mexico, is a Venezuelan insect.

EUPHORIA (p. 362).

1 (♀). Euphoria monticola.

♀. Oblonga, supra nitida, glabra, saturato viridis vel olivaceo-nigra, elytrorum lateribus maculis nonnullis cretae; clypeus quam in E. lesueuri paullo longior, lateribus paullo rotundatis, antice angustatis et subbidentatus cum fronte concavus, grosse punctatus, medio vertice obtuso curinato; thorax sat grosse discrete, disco subtilius et dispersius, punctatus, lateribus subrugosis, lobo basali subrecte truncato; scutellum lavo; elytra utrinque valide bicosta, sparsim punctulata apicemque versus rugulosa, interstitio prope suturam postice plaga nigro-viridita; pygidium confluentem subtiliter rugulosum, nitidum, sparse inclemente pilosum. Subtus olivaceo-nigra, polita, cum pedibus tenuiter griseo-pilosæ. Tibiae antice tridentata. Long. 18 millim. ♀.

Hab. Mexico, Canelas in the Sierra Madre de Durango (Becker).

A very distinct species allied to E. lesueuri and E. candezei.

Euphoria lineoligera (p. 366).

To the Mexican localities given, add:—Rincon 2800 feet, Mescala, and Venta de Zopilote 2800 feet, all in Guerrero (H. H. Smith).

Euphoria biguttata (p. 366).

To the localities given, add:—Mexico, Tepetlapa 3000 feet, and Acaguizotla 3500 feet in Guerrero (H. H. Smith).
Euphoria dimidiata (p. 367).
To the localities in Mexico, add:—Mescalá, Chilpancingo 4600 feet, Rincon 2800 feet, Venta de Peregrino, Acaguizotla 3500 feet, all in Guerrero (H. H. Smith).

Euphoria pulchella (p. 367).
M. Sallé believes that there are two species mixed up in the varieties attributed by authors to E. pulchella, one in which the elytra are plane and another in which they are prominently bicostate. The two species would stand thus:—

Elytra utrinque bicostata.
Cetonia pulchella, C. ferrugata, and C. montesuma, Gory & Perch.

13 (α). Euphoria childreni.
Elytra disco plana.
Cetonia children and C. thelasco, Gory & Perch.
The colour-varieties in the two species, though similar, do not exactly correspond; but according to our series of specimens the two forms occur together in many localities.

Euphoria subtomentosa (p. 373).
To the Mexican localities given, add:—Chilpancingo 4600 feet in Guerrero (H. H. Smith).
INDEX.

[Names in small capitals refer to Families &c.; those in roman type to the chief reference to each species included in the work; those in italics to species incidentally mentioned, synonyms, &c.]

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