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JOURNAL OF ENTOMOLOGY.

No. I.—April 1860.

I.—*On the* Halticidæ *of the Canary Islands.* By T. Vernon Wollaston, M.A., F.L.S.

In the following paper I propose to enumerate such members of the *Halticidæ*, amounting in all to eighteen well-defined species, which have been hitherto observed in the Canarian archipelago. Their detection is due to the combined researches of John Gray, Esq., and myself, in January and February of 1858 (whilst visiting the various islands in his yacht, the "Miranda," in which he afterwards sailed for the West Indies); and to those, subsequently, of myself alone during the five following months of the same year, as also during February, March, April and May of 1859. And since, therefore, the whole seven islands have been explored (indeed four of them twice over, and some very carefully), it is believed that the subjoined list will give a fair approximate idea of the entire Halticideous fauna of that sub-African Group. I have been mainly induced to undertake it through the instigation of my friend M. Allard, of Paris, who is preparing a Monograph of the European and North-African forms, and in which therefore the species of these Atlantic islands should be properly inserted.

Genus Haltica.

Geoffroy, Hist. Abr. des Ins. de Paris, i. 244 [script. *Altica*] (1762).

(Subgenus *Crepidodera*, Chevr.)

1. *Haltica Allardii*, n. sp.

H. ovata convexa subnitida subtus nigra, capite prothoraceque rufo-testaceis, illius fronte fere impunctata, hoc brevi profunde et dense punc-

tato, postice in medio leviter transversim impresso, marginibus ipsis plus minus angustissime nigrescentibus; elytris testaceis, sutura fasciaque brevi transversa media communi (extus utrinque plus minus fracta, vel etiam subito abbreviata) nigris, profunde punctato-striatis, interstitiis pilis cinereis demissis longitudinaliter obsitis; antennis pedibusque pallido-testaceis, illarum apice femoribusque posticis vix obscurioribus.

Long. corp. lin. $\frac{7}{8}$–1.

Mas, tarsorum anteriorum articulo basilari leviter dilatato.

Variat (in utroque sexu) elytris omnino immaculatis.

Habitat in foliis *Physalidis aristatæ* in ins. Teneriffa, circa Portum Orotavæ, tempore vernali A.D. 1858 a meipso copiose reperta. Species valde distincta, et in honorem entomologici periti necnon Halticarum investigatori oculatissimi Dom. E. Allard, Parisiis, dicata.

The present interesting little *Haltica* is closely allied, in affinity and general facies, to the European *H. atropæ*, of which I possess specimens communicated to me by M. Allard. It is, however, a trifle smaller than that insect, and its head and prothorax are pale rufo-testaceous, instead of black; its limbs also are paler, its punctuation (although coarse) not *quite* so rugose, and the dark portions of its elytra are very much narrower and less developed. I captured it abundantly throughout the whole district immediately above the Puerto de la Orotava, in the north of Teneriffe, during February and March of 1858,—where it was entirely confined to the *Physalis aristata* (a plant intimately allied to the *Atropa Belladonna*, being of the same natural family, and, as I am informed by the Rev. R. T. Lowe, possessing nearly the same chemical properties), on the leaves of which shrub it subsists. I have much pleasure in dedicating it to M. Allard, to whose kindness I am indebted for an accurate comparison of my Canarian *Halticidæ* with his large collection of European and North-African types.

(Subgenus *Aphthona*, Chevr.)

2. *Haltica Paivana*, n. sp.

H. ovato-oblonga nitida profunde dense et rugose punctata læte metallica, modo cyanea, modo viridi-cyanea, modo æneo-cuprea, prothorace transverso-subquadrato, ad latera marginato subrotundato, angulis ipsis posticis leviter prominulis acutiusculis, antennarum basi pedibusque rufo-testaceis, antennis versus apicem, femoribus anterioribus ad basin, femoribus posticis omnino tarsorumque apicibus plus minus nigrescentibus.

Long. corp. lin. 1–$1\frac{1}{2}$.

Mas vix minor, oculis magis prominulis tarsorumque anteriorum articulo basilari paulo dilatato.

Variat (æneo-cuprea) pedibus in utroque sexu omnino pallidis.

Habitat in foliis Euphorbiarum (præsertim *E. piscatoriæ* et *Regis Jubæ*) in ins. Lanzarota, Canaria, Teneriffa et Hierro, valde gregaria. Viro illustrissimo Baronis ei lusitanicè "Castello de Paiva" dicato hanc Halticam formosam certe novam, ob gratias mihi amicissime oblatas, tribui.

A metallic species of very variable colour, shading off from bright cyaneous-blue into golden-green, and almost, at times, into coppery-brown. It is attached to the foliage of the various large Euphorbias, and was taken on the *E. Regis Jubæ* by Mr. Gray and myself on the cliffs above the Salinas, in the north of Lanzarote, during January 1858 (in which same locality I captured it again, abundantly, in March of the following year); as also, by myself, on the mountains above San Martao, in Grand Canary; on the *E. piscatoria* above the Puerto de la Orotava, of Teneriffe; and in the district of El Golfo, in the west of Hierro. I have dedicated it to my learned and excellent friend the Barão do Castello de Paiva, to whose researches, especially in Madeira and Portugal, I have been frequently indebted for many additions to my collection.

3. *Haltica crassipes*, n. sp.

H. cylindrico-ovata nitida subhyalina testacea, capite paulo rufescentiore, prothorace transverso-subquadrato angulis ipsis posticis leviter prominulis acutiusculis, elytris paulo pallidioribus leviter subtilissime punctulatis, antennarum articulis 4 basalibus rufo-testaceis, reliquis paulatim nigrescentibus, pedibus plus minus rufo-, femoribus anterioribus pallido-testaceis.

Long. corp. lin. $2\frac{1}{3}$–$2\frac{2}{3}$.

Mas, antennis vix longioribus robustioribus; tarsis anterioribus articulo basilari valde dilatato [secundo latiore].

Habitat in foliis plantarum ad rupes locorum editiorum crescentium, præsertim *Sempervivi*, in ins. Teneriffa et Palma, rarior.

At first sight the present insect and the following one are somewhat alike; nevertheless, apart from the *generic* characters (of the longer legs and hind feet, &c.) of *Longitarsus*, the *H. crassipes* may be known by its more quadrate prothorax, stouter antennæ (which have four of their basal joints, instead of only three, more or less testaceous), and by its more finely punctured elytra. Its four anterior male tarsi have their basal joint greatly dilated, so as far to exceed the second,—a structure which is more or less expressed in most of the *Halticidæ*, but which in the *H. crassipes* is peculiarly conspicuous. I am informed by M. Allard, of Paris, that it is un-

questionably new, though slightly akin to his *Aphthona flaviceps*,—which, however, is smaller, with its prothorax and antennæ shorter, and the feet of its males less expanded, &c. It is apparently rare; nevertheless I have taken it sparingly at the Agua Mansa, in Teneriffe; and from off plants (I think chiefly *Semperviva*) growing on the damp rocks in the deep sylvan ravines of Palma,—especially the Barranco da Agua, towards the north-east of the island.

Genus Longitarsus.

Latreille, Fam. Nat. des Ins. 405 [script. *Longitarse*] (1825).

4. *Longitarsus Kleiniiperda*, n. sp.

L. oblongo-ovatus subnitidus pallido-testaceus, capite vix rufescentiore, prothorace antice angustiore angulis posticis obtusis, elytris sat profunde punctatis, antennarum articulis tribus basalibus testaceis, reliquis plus minus subito nigris, pedibus fere concoloribus (femoribus posticis vix obscurioribus).

Long. corp. lin. $2\frac{1}{2}$–$2\frac{3}{4}$.

Mas, tarsis anterioribus articulo basilari valde elongato dilatato [secundo latiore].

Habitat in plantis *Kleiniæ neriifoliæ*, DC., gregatim, folia destruens, in ins. Teneriffa, Palma et Hierro.

The *prima facie* distinctions (apart from generic ones) between the present insect and the last one have been already pointed out. It is much allied, at first sight, to the common *L. tabidus* of more northern latitudes; nevertheless it is less convex and more strongly punctured than that species, its prothorax is less abbreviated and rather more narrowed in front, its antennæ and legs are longer, and the basal joint of the four front male feet is altogether larger and broader. Its habits, too, are quite different, since it appears to be almost entirely attached to the leaves of the *Kleinia neriifolia*, on which it often exists by thousands, and whole plants of which I have occasionally observed almost defoliated by its attacks. In such positions I have taken it abundantly in the waste grounds above the Puerto of Orotava, and near Santa Cruz, as also in the sylvan districts of the Agua Garcia and Taganana, of Teneriffe; in the Barranco above Santa Cruz, of Palma; and towards the coast, in El Golfo, of Hierro.

5. *Longitarsus persimilis*, n. sp.

L. oblongo-ovatus angustulus subnitidus læte maculatus; capite nigro-piceo, fronte rufescentiore; prothorace rufo-testaceo sublunulato (angulis posticis rotundatis) minute sed distincte punctulato, ad latera in

medio subangulato; elytris dense subrugose et sat profunde punctatis, distincte (præsertim versus latera) longitudinaliter striatis, testaceis, sutura et maculis duabus (una sc. parva humerali, et altera majore subrotundata centrali) in singulo positis ornatis; antennis basi rufo-testaceis, apicem versus nigrescentibus; pedibus testaceis, femoribus posticis apice nigris.

Long. corp. lin. $1\frac{1}{4}$–$1\frac{1}{2}$.

Mas, tarsorum anteriorum articulo basilari sat dilatato.

Habitat in foliis Echiorum (præsertim *E. simplicis*) in locis editioribus Teneriffæ et Hierro.

Before examining critically this beautiful *Longitarsus,* I had regarded it as a mere topographical state of the Madeiran *L. Masoni* (the *L. Isoplexidis,* Ins. Mad. 443, tab. 9. f. 4); for, being attached principally to a gigantic *Echium* closely related to the *E. candicans* on which that insect subsists, being exposed, apparently, to much the same external conditions as its ally, and ornamented with almost the same colouring, I did not imagine it probable that the small *prima facie* differences which it presented would be anything more than such as we might reasonably look for, as the result of local influences, in the same species inhabiting islands so separated from each other as Madeira and Teneriffe. Nevertheless, on a nearer inspection, the *L. persimilis* possesses such a number of minor characters peculiarly its own, that I cannot feel justified, despite the many points of resemblance in the two insects, in regarding them as otherwise than truly distinct, though clearly members of the same geographical province. The Canarian species may be readily known from the Madeiran one by its uniformly smaller size, rather shorter and more lunulate prothorax (which is a little more truncated in front, and has the hinder angles more rounded-off, and the sides somewhat more angulated in the middle), and by its entire sculpture, which is denser and very much more coarse, especially on the elytra (which are also more evidently striated than is the case in the *L. Masoni*). Its elytra also are slightly more truncated at their apex, its whole surface much less opake, and its coloration is altogether a little different,—its head being less black, or more piceous, its prothorax more evidently *rufo*-testaceous, its legs and elytra not quite so pale, and the dark portions of the latter smaller in size; *i. e.* the humeral and discal patches are, both of them, reduced in dimensions, and the sutural line is equal throughout, being scarcely (if at all) expanded posteriorly, whereas in the *L. Masoni* it is regularly hastate or spear-shaped. Its limbs, moreover, are shorter and less robust. It seems almost confined to the foliage of a large

Echium (which the Rev. R. T. Lowe informs me is probably the *E. simplex*), much resembling, in general growth and aspect, the Madeiran *E. candicans*, on which I have taken it abundantly at the foot of the Organo rocks in the sylvan region above the Agua Mansa, of Teneriffe, nearly 5000 feet above the sea. It does occasionally, however, occur on other and smaller plants of the same genus, on one of which (I believe the *E. violaceum*) I captured it, during February of 1849, on the hills to the west of Valverde, in the island of Hierro.

6. *Longitarsus Messerschmidtiæ*, n. sp.

L. præcedenti valde affinis, sed vix minor et gracilior, sculptura subtiliore et colore paulo pallidiore elytris fere vel omnino immaculatis.

Long. corp. lin. 1—vix $1\frac{1}{2}$.

Variat (rarior) elytris plaga parva centrali in singulo posita (necnon interdum etiam altera minore obsoletissima suffusa ad humeros) ornatis.

Habitat in foliis *Messerschmidtiæ fruticosæ* in ins. Teneriffa et Hierro, hinc inde vulgaris.

It is not without some little hesitation that I regard the present *Longitarsus* as distinct from the preceding one; nevertheless, since its normal *facies* is very dissimilar, and its habits different, I think it is scarcely safe to amalgamate the two. Indeed, in its *general* aspect it is so unlike the *L. persimilis*, that no one could ever suppose them to be identical, did not an occasional (though very rare) variety of the present insect make such a curious approach, in the arrangement of its colouring, to its ally, as to lead one to suspect that it may be but a phasis of the latter, gradually assumed through the adoption of a totally different plant for its subsistence. Still this is but conjecture, and I therefore prefer treating the two as separate. In its typical state, the *L. Messerschmidtiæ* is, on the average, a trifle smaller and narrower than its ally, its sculpture is less deep, and it is of a uniformly pale, brownish-testaceous hue. Its elytra, however (in which case the apex of its posterior femora are also dark), have an occasional tendency to become clouded about their disk, suture, and shoulders; and in one or two highly coloured specimens (out of many hundreds which I possess) the discal cloud assumes the form of a small well-defined patch (and even the humeral one is somewhat concentrated),—thus causing them to resemble very much the paler examples of the *L. persimilis*. Such individuals, however, are extremely scarce; and even in them the lighter sculpture prevails (as in the ordinary ones); and therefore, in spite of their *prima facie* approach to the last species, I must regard their *connectiveness* as more apparent than real. So far as I have hitherto observed, the

present *Longitarsus* is exclusively attached to the fragrant *Messerschmidtia fruticosa*,—on which shrub, when carefully examined, I have scarcely ever failed to detect it. Its range is consequently somewhat lower than that of the *L. persimilis*, which feeds on the *Echia* of more lofty elevations. I have taken it abundantly in the waste grounds above the Puerto of Orotava, as well as between Yeod de los Vinhos and Garachico, of Teneriffe; on rocks between the plains of los Llanos and the Pinal, in the Banda, of Palma; and a little above the sea-coast, in the district of El Golfo, to the west of Hierro.

7. *Longitarsus ochroleucus*, Mshm.

Chrysomela ochroleuca, Mshm., Ent. Brit. 202 (1802).
Haltica ochroleuca, Gyll., Ins. Suec. iv. App. 658 (1827).
Thyamis ochroleuca, Steph., Ill. Brit. Ent. iv. 311 (1831).
Altica ochroleuca, Lucas, Col. de l'Algérie, 547 (1849).

Habitat in insulis Canaria et Teneriffa, rarior.

The common European *L. ochroleucus* appears to be somewhat scarce, or at any rate extremely local, in the Canaries, and may perhaps have been introduced into the islands. I have taken it sparingly near Santa Cruz in Teneriffe; and, more abundantly, in Grand Canary, where, during April 1858, it was rather plentiful on the mountain-slopes above San Martao, on the ascent to the Roca del Soucilho.

8. *Longitarsus cognatus*, n. sp.

L. subovatus convexus nitidus testaceus, capito ferrugineo; prothorace brevi transverso angulis posticis subrectis, vix punctulato; elytris minute et lævissime punctulatis; antennis gracilibus, ad basin pedibusque anterioribus pallido-testaceis; femoribus posticis (præsertim versus apicem) nigro-piceis, tibiis posticis piceo-testaceis.

Long. corp. lin. $1\frac{1}{3}$.

Mas adhuc latet (sp. fœmineum solum vidi).

Habitat in ins. Fuerteventura, prope Puerto de Cabras a Dom. Gray Januario exeunte A.D. 1858 repertus.

The single specimen, from which I have drawn out the above description, was detected by John Gray, Esq., near Port Cabras, in the island of Fuerteventura, during our sojourn there, in his yacht, at the end of January 1858. It is a good deal allied, at first sight, to the common European *L. tabidus*, but is smaller and of a more pallid hue, and with its hind femora dark. Its antennæ also are slenderer; its prothorax shorter, more truncated in front, and less margined at the edges; and its punctuation is altogether very much finer.

9. *Longitarsus brevipennis*, n. sp.

L. oblongo-ovatus nitidus, capite rufo-piceo; prothorace rufo-testaceo angulis posticis obtusis, sat distincte punctulato; elytris brevibus testaceis, sutura præsertim in medio nigrescente, vix densius punctulatis; antennis brevibus, ad basin, pedibus anterioribus tarsisque posticis testaceis, versus apicem femoribusque posticis piceis; tibiis posticis piceo-testaceis.

Long. corp. lin. $1\frac{1}{3}$.

Mas adhuc latet (fœmineum tantum possedi).

Habitat in ins. Lanzarota, ad plantam *Heliophyti erosi*, Lemann, per litus arenosum crescentem prope oppidum Arrecife, mense Aprili A.D. 1859, a meipso captus.

Like the last species, the present one has been also described from a unique example. It was captured, by myself, from off a plant of the *Heliophytum erosum*, Lemann, on the sands behind the sea-beach to the south of Arrecife, in the island of Lanzarote, during April 1859. There were three more specimens in company with it, but I unfortunately failed in securing them. It is apparently akin to the *L. atricapillus*, Dufts., of more northern latitudes; and M. Allard, of Paris, to whom I lately submitted it for inspection, returned it with the observation: "affinis *Teinodactylæ atricapillæ*, Dufts., sed aliter colorata, capite et prothorace latioribus, antennis brevioribus, et cæt."

10. *Longitarsus nubigena*, Woll.

Longitarsus nubigena, Woll., Ins. Mad. 447 (1854).
—— ——, Woll., Cat. Mad. Col. 133 (1857).

Habitat in ins. Gomera: specimen unicum prope oppidum San Sebastian, Februario ineunte A.D. 1858 deprehensit Dom. Gray.

A single specimen of the Madeiran *L. nubigena* was captured by John Gray, Esq., near San Sebastian, in Gomera, during our visit to that island at the beginning of February 1858. It is a trifle larger than any of the few examples which I have hitherto taken in Madeira; but in all other particulars (such as colour, outline, sculpture, &c.) it agrees with them precisely.

11. *Longitarsus dorsalis*, Fab.

Chrysomela dorsalis, Fab., Mant. Ins. i. 77 (1787).
Thyamis dorsalis, Steph., Ill. Brit. Ent. iv. 315 (1831).
Altica dorsalis, Lucas, Col. de l'Algérie, 548 (1849).

Habitat Lanzarotam borealem, in graminosis circa oppidum Haria, tempore vernali haud infrequens.

The European *L. dorsalis* is tolerably common in the north of Lanzarote, where it was taken by Mr. Gray and myself, in grassy

places around Haria (especially, I think, from off the *Mercurialis annua*, L.), during January of 1858; and I subsequently captured it in the same locality during March of the following year. But it is the only region in which I have hitherto observed it throughout the Canarian group.

12. *Longitarsus inconspicuus*, n. sp.

L. elliptico-ovatus convexus nitidus minutissime subalutaceus, capite dilute piceo, prothorace angustulo longiusculo piceo crebre et sat distincte punctulato, elytris dilute testaceis sutura picescenti, minus crebre et profundius punctatis; antennis fusco-piceis, ad basin pedibusque anterioribus testaceis, pedibus posticis paulo obscurioribus.

Long. corp. lin. vix $\frac{7}{8}$.

Habitat locos editiores Teneriffæ, in montibus supra "Agua Mansa" Maio ineunte, A.D. 1859, a meipso captus.

The single specimen described above was captured by myself, at the beginning of May 1859, in Teneriffe, on the mountain-slopes midway between the Agua Mansa and the Cumbre, more than 5000 feet above the sea. It very much resembles the European *L. thoracicus*, Steph., of which it may perhaps be but a geographical state; nevertheless, since M. Allard, to whom I lately transmitted it for inspection, believes it to be distinct therefrom, I have treated it accordingly. It seems to differ principally from that species in its smaller size and larger punctuation.

13. *Longitarsus fusco-æneus*, Redt.

Longitarsus fusco-æneus, Redt., Fna Austr. 535 (1849).

Habitat in foliis *Echii violacei*, L., in ins. Fuerteventura et Teneriffa rarior, plerumque una cum *L. Echii* degens.

The *L. fusco-æneus* was first detected in the Canary Islands by Mr. Gray, who took three specimens of it near Puerto de Cabras in Fuerteventura; and it was subsequently captured by myself in Teneriffe,—both on the mountains above Sta Cruz and at the Agua Garcia. It occurs principally on the leaves of the *Echium violaceum*, L., and, for the most part, in company with the *L. Echii*.

14. *Longitarsus Echii*, Illig.

Haltica Echii, Illig., Mag. für Insekt. vi. 171 (1807).
—— *tibialis*, Dufts., Fna Austr. iii. 258 (1825).
Altica Echii, Lucas, Col. de l'Algérie, 547 (1849).
Longitarsus excurvus, Woll., Cat. Mad. Col. 133 (1857).

Habitat plantas *Echii violacei*, L., in ins. Teneriffa, Gomera et Palma crescentes, folia destruens.

Not an uncommon insect on the *Echium violaceum*, L., in Teneriffe,

where I have taken it abundantly around the wood at the Agua Garcia; and it was captured by Mr. Gray in the valley of San Sebastian in Gomera, and near Sta Cruz in Palma. It is identical with the species which I described, from the Madeiran Group, in 1857, under the name of *L. excurvus*, from specimens detected in Porto Santa by Mr. Bewicke.

Genus Psylliodes.

Latreille, Fam. Nat. des Ins. 405 [script. *Psylliode*] (1825).

15. *Psylliodes hospes*, Woll.

Psylliodes hospes, Woll., Ins. Mad. 449 (1854).
—— ——, Woll., Cat. Mad. Col. 134 (1857).

Habitat insulas Canarienses, præsertim in locis inferioribus frequens.

The *P. hospes* abounds at low and intermediate elevations throughout the Canarian Group, on the whole seven islands of which I have taken it in greater or less profusion; and it was also captured in Lanzarote, Gomera, and Hierro by Mr. Gray. In the Madeiras also, though less common, it is nearly (if not quite) universal, having been observed by myself in Madeira proper, in Porto Santo, and on the Dezerta Grande; so that it may be properly regarded as an Atlantic species. It is the representative of the *P. cuprea* of more northern latitudes; and M. Allard, to whose examination I have lately submitted it, returned it with the remark: "*Psyll. cupreæ*, Ill., affinis, et ut illa in elytris punctato-striata, sed differt interstitiis punctulatis, prothorace ad latera minus recto, et cæt."

16. *Psylliodes vehemens*, Woll.

Psylliodes vehemens, Woll., Ins. Mad. 451 (1854).
—— ——, Woll., Cat. Mad. Col. 134 (1857).

Habitat insulas Canarienses, tempore vernali et æstivo, ubique vulgaris.

Like the last species, the present one abounds throughout the Canarian archipelago, Gomera being the only island on which I have not hitherto captured it; nevertheless there can be no doubt that it exists there, no less than on the others,—our short visit to that island happening to be during the depth of winter, when the *Halticidæ* are not plentiful. It was taken also by Mr. Gray in Fuerteventura and Palma. It is equally common likewise in the neighbouring group, where I have observed it, in profusion, at nearly all elevations in Madeira proper, as well as in Porto Santo and on the Dezerta Grande.

17. *Psylliodes stolida*, n. sp.

P. breviter elliptica convexa ænescenti- (rarius subviridescenti-) picea, capite deflexo, prothorace alutaceo minute et leviter punctato; elytris plus minus picescentioribus profunde punctato-striatis, interstitiis subtilissime seriatim punctulatis (punctulis vix observandis), antennis basi pedibusque dilute testaceis, femoribus posticis picescentioribus.

Long. corp. lin. 1.

Habitat in ins. Lanzarota et Fuerteventura, quasdam herbas præsertim *Mercurialis annuæ*, L., destruens.

The small, convex, æneo-piceous *Psylliodes* described above, the head of which is much deflexed, and the prothorax (in addition to its shallow punctures) minutely alutaceous, is tolerably abundant in certain parts of Lanzarote and Fuerteventura,—in the former of which islands it was taken both by Mr. Gray and myself, on the common *Mercurialis annua*, in the vicinity of Haria, during January 1858; and in the latter, by myself, at Oliva, towards the end of March of the following year.

Genus Chætocnema.

Stephens, Ill. Brit. Ent. iv. 325 (1831).

18. *Chætocnema tarsalis*, n. sp.

C. subovata nitida, vel ænea vel viridescenti-ænea, capite prothoraceque dense et profunde punctatis, elytris profundius et rugose punctatis; antennarum articulis intermediis gracilibus, basalibus, tibiis tarsisque dilute testaceis; femoribus (præsertim posticis) picescentioribus; tarsis gracilibus longiusculis, articulo ultimo gracillimo elongato.

Long. corp. lin. 1.

Habitat ins. Canariæ, in graminosis ad Argeniguin, per marginem paludis ejus juxta mare sitæ, a meipso mense Aprili reperta.

The general aspect of the present *Chætocnema* is almost the same as that of the common European *C. aridella*, except that it is a little more æneous and shining, that the prothorax is somewhat more truncated (or less produced behind), and that the intermediate joints of the antennæ are rather slenderer; and it was not until closely overhauling it that I detected a *structural* character which at once separated it from its more northern ally. This consists in the formation of the tarsi, which are very much narrower and more elongated than those of the *C. aridella*, with their *apical* joint especially (as compared with the corresponding one in that species) long and slender. The penultimate one also is less dilated than is the case in that insect, and the whole foot has a different appearance. It was detected by myself, on the 14th of April, 1858, at Argeniguin, in the south

of Grand Canary, where I obtained several specimens by brushing the grass at the edges of the small marsh immediately behind the sea-coast.

II.—*Remarks on the Pollinosity of the Genera* Lixus *and* Larinus. By Henri Jekel, Member of the Entomological Society of France, &c. &c.

The following paper, the manuscript of which was delivered to Mr. White, of the British Museum, in January 1859, together with certain remarks on two species of *Larinus*, for Mr. Daniel Hanbury, to accompany his note on the products of these two species*, has not (from a misunderstanding on my part?) been added to that note, but was returned to me a few weeks ago by Mr. White. I had understood Mr. Hanbury desired me, besides determining the two species, to give a general account of the authors who had treated on the habits of that genus; hence the few remarks which I now beg for acceptance in this Journal, hoping they will not be devoid of interest.

With respect to the tomentosity and pollinose transudation of *Lixus* and *Larinus*, I think it will not be out of place to mention here a fact until now overlooked, so far as I know. It appears to me, from long observation of the covering adorning many Curculionideous Beetles, that Nature acts, in clothing them, by *layers* or coatings. There is, immediately above the derm of the elytra and thorax, a thin tomentose squamosity, either more or less piliform and opake, or very fine, silky, and bright. This ground-layer, common to many other tomentose Coleoptera, is comparatively persistent, though far more easily rubbed off than setiform or hairy pilosity, and is analogous to the squamosity of species having *one layer* only. This tomentosity is not produced by exudation, but grows according to the general law, is susceptible of partial or total baldness, as in merely squamose insects, and if rubbed off, when the insect is alive, would be restored in course of time only. Then comes the *second layer*, much less persistent (even in non-pollinose species†), which in the above two genera, as in many others, is a real pollinose transudation, susceptible of a relatively immediate renewal when rubbed off the living insect. Of this upper *layer* I need not remark, after the conscientious observations of M. Godart, the highly interesting contro-

* "Note on two Insect-products from Persia," in Journ. Proceed. Linn. Soc. iii. p. 178 (1859).

† See my analogous observations in 'Fabricia Entomologica,' i. 154.

versies of MM. Coquerel and Laboulbène, and the experience of M. Rojas*, all recorded in the 'Annales de la Société Entomologique de France,' 1851–1857.

Hence the results in pollinose species are these: specimens may have their pollinosity more or less rubbed off, and show underneath part of the ground squamose tomentosity; others may be completely deprived of that pollinose efflorescence, and show the ground tomentosity only; finally, others, still more rubbed, show only a portion of the latter, &c. Any entomologist, therefore, in describing either squamose, tomentose, or pollinose species, should not content himself with the description of so variable a substance only, but note also if there is another layer beneath it, and, in fine, should lay bare the derm in order to display its characters.

Exclusive of hair or pile, to which (like naked Coleoptera) squamose, tomentose, or pollinose species are liable, one might divide them, according to the composition of their clothing, as follows:—

1. *Col. Monolepida*: having a *single layer* of squamosity or tomentosity, with or without denser markings.

* One of M. Rojas's observations bears on a species of *Lixus*, inhabiting Venezuela, that I called *L. vittatus in litt.*, intending to describe it in its proper place in 'Insecta Saundersiana.' I think it now preferable to profit by this opportunity to give a complete diagnosis of the species, and change its name, 1st, in honour of that zealous entomologist; 2ndly, because, as that gentleman observes, very fresh specimens are so densely covered with sulphureo-ochraceous pollinose dust, and others, entirely rubbed off, are so completely destitute of it, that the *vittæ* are hardly discernible.

Lixus Rojasi, Jekel (*L. vittatus*, Jekel, litt.: Rojas, Ann. Soc. Entom. France, 1857, p. 330, without description).

Elongatus, postice latior, niger, subnitidus, polline sulphureo-ochraceo in maculis lateralibus inferis vittisque elytrorum densius tectus; rostro terete, arcuato, leviter punctulato et canaliculato; capite profundius punctulato; thorace elongato, angusto, dorso densissime levissimeque punctulato, cum punctis majoribus remotis, medio linea tenuissima basi ante scutellum profunde impressa, lateribus lævioribus, politis; scutello haud conspicuo; elytris pone medium ampliatis, lateribus paulo compressis, apice conjunctim obtuse acutis, ad suturam tantum paulo divergentibus, dorso bifariam punctatis, sutura, margine, interstitiis duobus illa connexis alternisque dorsalibus elevatis, subpolitis, alternis angustioribus, impressis, præsertim antice et postice, fundo polline plus minusve repletis.

Longit. (rostr. 4–5½ mill. excl.) 16–22. Latit. bas. thor. et elytr. 4½–5½—pone med. elytr. 6–7 mill.

♂ minor, angustior, rostro thorace breviore, minus arcuato; thorace subcylindrico, h. e. ante medium haud angustiore quam basi; elytris modice convexis, ante medium haud fornicatis.

♀ rostro longitudine thoracis; thorace lateribus versus apicem conico-angustatis; elytris ante medium subfornicato-convexis.

2. *Col. Dilepida*: having two layers of squamosity or tomentosity, one inferior, with or without denser markings, generally of a pale unicolor hue (grey, ashy, or whitish); the other superior, less persistent, easier rubbed off, increasing or modifying the coloration of the markings, when they exist, and filling more or less the areas between the markings.
3. *Col. Paipalepida*: *ground-layer* tomentose, following the same laws as in class 2; but *superior layer* being a pollinose transudation, more or less deeply colouring the ground, as well as the ground-markings, when they exist.

To complete the various modes in which the derm of Coleoptera presents itself to the eye of the entomologist, the *naked species* (always exclusive of hair or pile) should form the fourth class (or rather the first of all), viz.,—

4. *Col. Alepida.*

As a supplement to the above observations, it will not be superfluous, I hope, to give a summary list of the principal species of *Larinus*, whose habitat, food, even larva state and metamorphoses, have been recorded by various authors; a stimulus, I think, to further researches on the part of such entomologists as may be in the condition of making so desirable investigations.

Lar. cynaræ, Fabr.—Cynara cardunculus: Jacq. Duval, Genera Coleopt. Eur., Curcul. p. 40; South of France.—Thistles: Lucas, Explor. Scient. Algér., Artic. iii. 442; Algeria, May and June.—Cynara scolymus: Johannes Gistel, Die Mysterien der Insektenwelt, 1856, p. 82; Germany; &c. &c.

Lar. cardui, Rossi.—Carduus nutans and Cynara scolymus: Gistel, loc. cit. pp. 68 & 82; South Germany; &c. &c.

Lar. buccinator, Oliv.—Thistles: Lucas, loc. cit. p. 443; Algeria, May, June; &c.

Lar. onopordinis, Fabr.—Onopordon acanthium: Gistel, loc. cit. p. 444; Algeria.—Echinops spinosus: Lucas, loc. cit. p. 443; May, June, Algeria; &c.

Lar. maculosus, Besser.—Larva in capitula of Echinops ritro, vicinity of Montpellier, June, August, and September; Jacq. Duv. Ann. Soc. Ent. Fr. 1852, p. 731; with an account of the variability of coloration of that species, owing to the state of the plant (conf. the opinion of Germar in Ins. Spec. Nov. p. 381).—Letzner, Catal. of Coleopt. Larvæ, in Zeitschrift für Entomologie, Breslau, 1855, p. 43.—Laboulbène, Ann. Soc. Ent. France, 1858, p. 284; &c. &c.

Lar. scolymi, Oliv.—Echinops spinosus: May–July, Lucas, loc. cit. p. 443; Gistel, loc. cit. p. 82; &c. &c.

Lar. flavescens, Germ.—Echinops spinosus: May–July, Lucas, loc. cit. p. 443.—Centrophyllum lanatum: June and July, Montpellier, Jacq. Duval, Ann. Soc. Ent. Fr. 1852, p. 732, &c.

Lar. virescens, Sch.—Thistles: Küster, Käfer Europa's, xi. 87.

Lar. sturnus, Schall.—Thistles, May, Algeria: Lucas, loc. cit. p. 443.—Cirsium lanceolatum; Montpellier, August: Jacq. Duv. Ann. &c. 1852, p. 733; &c.

Lar. pollinis, Germ.—Berberis communis, Jacq. Duv. Genera, loc. cit. p. 40; August, Montpellier.—Cirsium palustre, Gistel, loc. cit. p. 75; &c.

Lar. maurus, Oliv.—Thistles, May: Lucas, loc. cit. p. 444.—Id. Jacq. Duv. Ann. 1852, p. 733, with an account of the larva, its parasite (a species of *Ichneumon*), and causes of variations in the coloration of the perfect insect.—Chapuis et Candèze, Catal. Larv. Coleopt. in Mém. Soc. Liège, p. 552 (extract, 212), tab. 7. f. 7; with a description of the larva; &c.

Lar. jaceæ, Fabr.—Carduus nutans and crispus, in society with Lixus filiformis and Rhinocyllus latirostris: L. A. Dieckhoff, Stettin, Ent. Zeit. 1844, p. 384.—Centaurea jacea: Jacq. Duv. Genera, &c., p. 40.—Id. Gistel, loc. cit. p. 71.—Julius Roger in Zeitschrift für Entom., Breslau, 1856, p. 100: large Thistles; &c.

Lar. turbinatus, Sch.—Carduus crispus, in society with Lar. carlinæ and Rhinocyllus latirostris, Jul. Roger, loc. cit. p. 101.

Lar. canescens, Sturm.—All species of Carduaceæ, especially Carduus macrocephalus, Desf., May and June, in Algeria; Lucas, loc. cit. p. 444; &c.

Lar. planus, Fab.—Thistles: Küster, loc. cit. xi. 91; &c.

Lar. lynx, Küster, loc. cit. xi. 92, on Thistles.

Lar. bombycinus, Lucas.—Carduus macrocephalus, Desf.; May and June, Lucas, loc. cit. p. 444; Algeria.

Lar. obtusus, Sturm, Sch.—On flowers of Thistles: Küster, xi. 95; &c.

Lar. ferrugatus, Sch.—Carduaceæ, spec. Card. macrocephalus, Desf.; Algeria, May, June: Lucas, loc. cit. p. 444.—Flowers of Centaurea aspera, July, vicinity of Montpellier: Jacq. Duval, Ann. &c. 1852, p. 733, et Genera, p. 40; &c.

Lar. carlinæ, Oliv.—Carlina acaulis: Gistel, loc. cit. pp. 69 & 310. —Carduus crispus and other species, J. Roger, loc. cit. p. 101.—Serratula arvensis, Laboulbène, Annal. Soc. Entom. France, 1858, p. 279–285, pl. 7. no. 2. fig. 1–9; with complete and most accurate history and description of the metamorphosis, &c. &c.

Lar. ursus, Fabr.—Carlina corymbosa, June and July, Montpellier; Jacq. Duval, Annal. &c. 1852, p. 233.—Genera, &c. p. 40; &c.

Lar. Genei, Sch.—On dead and desiccated Thistles, Sardinia: Küster, loc. cit. xi. p. 94.

Lar. rugicollis, Sch.—Carduaceæ, May, June, July: Lucas, loc. cit. p. 445, Algeria.

Lar. albicans, Lucas, loc. cit. p. 445.—In capitula of Carduaceæ, February, Algeria.

Lar. Chevrolatii, Sch.—Along the stems of Thistles, Algeria: Lucas, loc. cit. p. 446.

Lar. cardopatii, Lucas, loc. cit. p. 446.—Vicinity of Cherchel, Algeria; with an account (after *Dr. Mialhes*) of the habits of the larva, feeding on *Cardopatium amethystinum*, Sp., where it undergoes all its transformations.

Lar. nanus, Lucas, loc. cit. p. 447.—Under stones, Boudjarea mountains, near Algiers, January.

Lar. lineola, Dufour, Excursion Entomologique dans les montagnes de la vallée d'Ossau, in Bulletin Soc. Scienc. Lettr. et Arts de Pau, 1843; on flowers of Compositæ.

III.—*Characters of undescribed Species of the Genus* Leucospis. By F. Walker, F.L.S.

The *Leucospidæ* are very distinct from the other families of Chalcidites, and appear to be nearly as much allied to the Cynipites, and to connect the two tribes.

In New Caledonia they are represented by *L. antiqua*; in the Aru Islands by *L. Aruera* and *Aruina*; in China by *L. Sinensis*; in Hindostan by *L. atra*, *petiolata*, and *Guzeratensis*; in South Africa by *L. ornata* and *incarnata*; in West Africa by *Marres dicomas*; in North Africa by *L. brevicauda*, *Fabricii*, and *Algirica*; in Egypt by *L. miniata*, *frenata*, *scutellata*, *obsoleta*, and *intermedia*; in Arabia by *L. elegans*; in Tauria by *L. aculeata* and *gibba*; in South Europe by *L. grandis*, *gigas*, *nigricornis*, *intermedia*, *Spinolæ*, *varia*, *Biguetina*, *dorsigera*, *rufonotata*, *clavata*, *Grohmanni*, *assimilis*, and *Sicelis*; in Canada by *L. Canadensis*; in the United States by *L. Shuckardi*, *subnotata*, and *basalis*; in Mexico by *L. Klugii* and *Mexicana*; in the West Indies by *L. Cayennensis*; in South America by *L. Hopei*, *Cayennensis*, *leucotelus*, *Santarema*, *Egaia*, *Tapayosa*, and *speifera*, and by *Polistomorpha Surinamensis* and *sphegoides*.

It thus appears that the Mediterranean region is their chief habitation, and there they have their most characteristic form, which is more or less modified in several other districts.

In North America and in China there is no alteration of the

typical structure; in Hindostan the species, as represented by *L. atra*, hardly differ from the Mediterranean type, except in colour, and the same may be said of *L. ornata* in South Africa. In West Africa the only one known species is very peculiar, and in Aru Island the species differ less from those of Europe than in New Caledonia; but the greatest variation occurs in Mexico, in the West Indies, and in South America, and the principal group in the latter continent may be divided into at least four subgroups. One of these has been named *Metallopsis*, but is hardly sufficiently different from *Leucospis*. *Polistomorpha* forms a very distinct genus.

Leucospis Algirica. *Fœm.* Nigra, sat angusta, scapo subtus, prothoracis margine interrupto scutellique fascia flavis; abdomen fasciis quatuor flavis, 1ª lata, 2ª angusta, 3ª arcuata, 4ª apicali; pedes flavi, femoribus anterioribus nigris apice flavis, femoribus posticis nigris flavo late marginatis.

Female. Black, rather narrow. Antennæ with the scape yellow beneath. Prothorax with a yellow margin, which is interrupted on each side of the fore border. Scutellum with a broad yellow band. Epimera of the metathorax yellow. Abdomen sessile, subfusiform, with four yellow bands; first band broad; second narrow, much interrupted; third arched; fourth apical, vertical. Oviduct reflexed to the base of the abdomen. Legs yellow; anterior femora black, with yellow tips; hind femora black, broadly bordered above with yellow. Wings cinereous, brownish along the costa and at the tips. Length of the body $4\frac{1}{2}$ lines; of the wings 7 lines.

Algeria. In Mr. Saunders's collection.

Leucospis Canadensis. *Mas.* Nigra, pallido pubescens; antennæ scapo subtus flavo; prothorax gutta transversa antica, lateribus margineque postico flavis; mesothorax parapteris et epimeris flavo notatis, scutello fasciato; abdomen basi rufum, fascia antica lunata fasciis duabus posterioribus strigaque apicali flavis; pedes femoribus apice tibiisque flavis, femoribus posticis basi flavo guttatis, tibiis anterioribus fusco vittatis, tarsis pallide rufescentibus, alis luridis.

Male. Black, thickly punctured, with pale pubescence. Scape of the antennæ yellow beneath. Prothorax bordered with yellow behind and on each side, and with a transverse yellow dot in front. Mesothorax with a yellow stripe on each of the paraptera; scutellum with a yellow band. Pectus with a clavate oblique yellow streak on each of the epimera. Abdomen red at the base; first segment linear, with a lunate yellow band, narrower than the rest of the abdomen, which is fusiform, and has two yellow bands and a short apical longitudinal yellow streak. Femora yellow at the tips; hind femora with a yellow dot at the base and with several very minute teeth beneath; tibiæ yellow; anterior tibiæ striped with brown on the outer side; tarsi pale

reddish. Wings lurid, with a paler stripe in each disk. Length of the body $4\frac{1}{2}$ lines; of the wings 7 lines.

Canada; discovered by Mr. D'Urban. In the British Museum.

Leucospis Sinensis. *Fœm.* Nigra; antennæ scapo subtus flavo; prothorax fulvo bifasciatus; mesothorax fulvo marginatus; metathorax fulvo trimaculatus; abdomen subpetiolatum, subcompressum, flavo bifasciatum; oviductus brevis; pedes tibiis piceis, tarsis rufescentibus, femoribus posticis flavo marginatis; alæ obscure cinereæ, apud costam luridæ, apice nigricanti-fuscæ.

Female. Black, thickly and minutely punctured. Head with pale cinereous tomentum in front. Scape of the antennæ mostly yellow beneath. Prothorax with two tawny bands, the fore one slightly curved. Mesothorax with a callus on each side, and with the hind border of the scutellum tawny. Metathorax with a tawny spot hindward and with one on each side. Abdomen subpetiolated, slightly compressed; first segment linear, yellow hindward, full half the breadth of the other part, which is fusiform and has one yellow band. Oviduct much less than half the length of the abdomen. Tibiæ piceous; knees and tarsi dull reddish; hind femora of the typical structure, bordered with yellow before and behind, armed with six large teeth. Wings dark cinereous, lurid along the costa, blackish-brown towards the tips. Length of the body 6 lines; of the wings 10 lines.

Shanghai. Discovered by Mr. Fortune. In the British Museum.

Leucospis Aruera. *Fœm.* Nigra; antennæ apice ferrugineæ, scapo subtus flavo; prothorax flavo bifasciatus, fascia postica interrupta; paraptera flavo notata; scutellum flavo bimaculatum; metathorax flavo unimaculatus; abdomen subcompressum, maculis duabus basalibus fasciaque postica flavis; oviductus brevis; pedes tibiis anterioribus flavis, femoribus tibiisque posticis supra flavis, tarsis rufescentibus; alæ obscure cinereæ, costa apiceque nigricantibus.

Female. Black, very thickly and minutely punctured; pubescence very short. Antennæ ferruginous at the tips; scape yellow beneath. Prothorax with two yellow bands; the fore one dilated on each side; the hind one narrower, interrupted in the middle. Mesothorax with a yellow streak on each of the paraptera, and with a yellow spot on each side of the scutellum. Metathorax with a large yellow spot. Metapectus with a yellow streak on each side. Abdomen hardly petiolated, slightly keeled and compressed; first segment nearly linear, with a yellow spot on each side, more than half the breadth of the other part, which is fusiform and has a yellow band hindward. Oviduct recurved above to much less than half the length of the abdomen. Legs of the typical form; tarsi reddish; anterior tibiæ and tips of anterior femora yellow; hind femora and hind tibiæ yellow above, the former with six large teeth. Wings dark cinereous, very iridescent; fore wings black-

ish along the costa and at the tips. Length of the body $6\frac{1}{2}$ lines; of the wings 10 lines.

Aru Island. Discovered by Mr. Wallace. In the British Museum.

Leucospis Aruina. *Mas.* Nigra; caput antice aureum; antennæ scapo flavo; prothorax et scutellum flavo fasciata; paraptera et epimera flavo notata; abdomen subpetiolatum, basi fasciisque duabus flavis; pedes rufescentes, femoribus basi coxisque nigris, femoribus posticis nigris flavo marginatis, tibiis posticis subtus nigris; alæ obscure cinereæ, costa apiceque nigricantibus.

Male. Black, very thickly and minutely punctured, hardly pubescent. Head with gilded tomentum in front; cavity for the base of the antennæ shining, metallic. Scape of the antennæ yellow. Prothorax with a yellow band, which is dilated on each side. Mesothorax with a yellow streak on each of the paraptera and with a yellow spot on each of the epimera; scutellum with a semicircular band, which is dilated on each side. Metathorax and pectus slightly metallic. Abdomen slightly petiolated; first segment very convex, mostly yellow above, about half the breadth of the other part, which is short-fusiform and has two yellow bands; first band very narrow. Legs reddish; femora towards the base and coxæ black; hind femora yellow, of the typical form, with black disks, armed with one large and with about nine very minute teeth; hind tibiæ black beneath. Wings dark cinereous; fore wings blackish along the costa and at the tips. Length of the body $4\frac{1}{2}$ lines; of the wings 8 lines.

Aru Island. Discovered by Mr. Wallace. In the British Museum.

Leucospis antiqua. *Mas.* Nigro-metallica, albo-pubescens; scapus flavo subtus maculatus; prothorax fascia discali lunata maculisque duabus lateralibus flavis; scutum flavo bipunctatum et bimaculatum; scutellum et metapectus flavo bimaculata; abdomen subpetiolatum, fasciis duabus flavis, 1^a lata, 2^a tenuissima; coxæ posticæ flavo strigatæ; alæ nigricanti-cinereæ.

Male. Black, minutely punctured, with a slight metallic tinge and with short white pubescence. Vertex and keel of the front metallic green. Antennæ black, metallic green at the base; scape with a yellow spot beneath. Prothorax with a yellow lunate discal band and with a yellow spot on each side. Scutum with a yellow point on each side by the suture of the parapsides and with a yellow spot on each of the paraptera; scutellum with a yellow spot on each side of the hind part. Metapectus with a yellow spot on each side. Abdomen subpetiolated; first segment slightly convex on each side, with a broad yellow band, hardly half the breadth of the following part, which is fusiform and has a very slender yellow band. Hind coxæ with a yellow streak; hind femora much less dilated than in the typical species, armed with five teeth, of which the first one is much broader than the others.

Wings blackish-cinereous, very iridescent, darkest along the costa of the fore wings. Length of the body 5 lines; of the wings 9 lines.

New Caledonia. Discovered by Mr. Macgillivray. In the British Museum.

Leucospis Mexicana. *Fœm.* Nigro-metallica; caput sulco antico læto cupreo; antennæ piceæ, scapo flavo; abdomen subfusiforme, subcompressum, dimidio postico aurato; oviductus scutellum attingens; femora postica flavo lineata; alæ fuscæ, postice cinerascentes.

Female. Black, very thickly and minutely punctured, with iridescent metallic reflexions and with pale pubescence. Head with smooth bright cupreous furrows wherein the scapes of the antennæ are lodged. Antennæ piceous; scape yellow, except at the tip. Abdomen subfusiform, slightly compressed, clothed with bright gilded pubescence on the apical half. Oviduct retracted above to the hind border of the scutellum. Hind femora with a dull yellowish line above and with another on the fore part beneath, where they are armed with one large and with several very minute teeth. Wings brown, greyish towards the hind border. Length of the body 5 lines; of the wings 9 lines.

Mexico. Discovered by M. Sallé. In the British Museum.

Leucospis Egaia. *Fœm.* Rufa; caput viridi-cupreum; antennæ ferrugineæ, scapo basi flavo; prothorax striga transversa discali nigra, flavo late marginatus; pectus flavo bivittatum; abdomen viride, subcompressum, antice rufum flavo bimaculatum, postice flavo bifasciatum; oviductus scutellum fere attingens; pedes flavi, coxis femoribusque posticis rufis flavo marginatis; alæ cinereæ, apud costam nigricantes.

Female. Red, thickly punctured. Head cupreous, varied with metallic green. Antennæ ferruginous; scape yellow towards the base. Prothorax broadly bordered with luteous-yellow; a transverse black mark in its disk. Scutum and scutellum black, with metallic reflexions, bordered with luteous-yellow. Pectus with a metallic disk; two oblique yellow stripes on each side. Abdomen slightly compressed, metallic green; first segment red, linear, with a yellow spot on each side of the hind border, a little narrower and shorter than the following part, which is elliptical and has two yellow bands. Oviduct recurved nearly to the hind border of the scutellum. Legs luteous-yellow; hind coxæ and hind femora with red disks; the latter with one large and with several very minute teeth. Wings grey, blackish along the costa. Length of the body 4 lines; of the wings 7 lines.

Ega. Discovered by Mr. Bates. In the British Museum.

Leucospis Santarema. *Fœm.* Rufa; caput luteo-flavum, nigro fasciatum; antennæ piceæ, scapo flavo; prothorax flavo late marginatus; scutum vittis tribus nigris lanceolatis antice connexis; metathorax niger, flavo fasciatus; pectus nigrum, flavo bivittatum; abdomen fusiforme, subcompressum, fascia basali nigra arcuata fasciisque duabus posterioribus flavis, 1ª lata arcuata; oviductus scutellum attingens;

pedes flavi, coxis femoribusque posticis rufis flavo marginatis; alæ fuscæ, postice cinerascentes.

Female. Red, thickly punctured. Head luteous-yellow, with a black band on the vertex. Antennæ piceous; scape luteous-yellow. Prothorax broadly bordered with luteous-yellow. Scutum of the mesothorax with three black lanceolate stripes which are connected in front. Metathorax black, with a yellow band. Pectus black, with a broad yellow stripe on each side. Abdomen fusiform, slightly compressed, with a black arched band at the base, and with three luteous-yellow bands, of which the first is broad and much arched. Oviduct recurved above to the hind border of the scutellum. Legs luteous-yellow; hind coxæ and hind femora with red disks; the latter with one large, and with several minute teeth. Wings brown, greyish along the hind border. Length of the body 4 lines; of the wings 7 lines.

Santarem. Discovered by Mr. Bates. In the British Museum.

Leucospis Tapayosa. *Fœm.* Nigricanti-viridis; caput viridi-cupreum, antice argenteo tomentosum; antennæ ferrugineæ, basi pallide rufescentes; prothorax flavo marginatus; mesothorax flavo fasciatus et bilineatus; epimera flavo notata; abdomen sessile, subcompressum, basi rufum, fascia antica interrupta fascia posteriore lineisque duabus apicalibus flavis; pedes femoribus anticis flavo vittatis, femoribus posticis flavo marginatis; alæ fuscæ, apud costam nigricantes.

Female. Blackish metallic green. Head bright cupreous and metallic green above and hindward, with silvery tomentum in front. Antennæ ferruginous, pale reddish towards the base. Prothorax bordered with yellow. Mesothorax with a yellow line along each side, and with a yellow band on the hind border of the scutellum; a yellow streak on each of the epimera. Metathorax and pectus bright metallic green. Abdomen sessile, slightly compressed, red towards the base, with an arched yellow interrupted band hindward, a little narrower than the following part, which is short, fusiform, and has a yellow band and two yellow apical and vertical lines. Oviduct recurved to the base of the abdomen. Anterior legs mostly piceous; fore femora striped with yellow beneath; hind coxæ and hind femora yellow above; the latter much incrassated, yellow beneath, armed with one large and with several very minute teeth. Wings brown, blackish along the costa, with a pale line in each disk. Length of the body 4 lines; of the wings 6 lines.

Tapayos. Discovered by Mr. Bates. In the British Museum.

Leucospis speifera. *Fœm.* Nigricanti-viridis; caput, metathorax et pectus læte viridia; antennæ basi rufescentes, scapo subtus flavo; prothorax flavo marginatus, linea antica brevi; abdomen compressum, sessile, elongatum, basi obscure rufescens, apice aureum; oviductus metathoracem attingens; pedes flavi, coxis femoribusque anterioribus

nigris, femoribus posticis tibiisque nigro vittatis; alæ cinereæ, apud costam fuscæ.

Female. Blackish metallic green, thickly and minutely punctured. Head, metathorax and pectus bright metallic green. Antennæ black, reddish towards the base; scape yellow beneath. Prothorax with a yellow short transverse line in front, bordered with yellow behind and on each side, where the yellow part is triangular. Abdomen compressed, sessile, about twice the length of the thorax, bright golden towards the tip; first segment dark red, with metallic green reflexions, very little narrower than the other part, which is fusiform and keeled. Oviduct recurved to the metathorax. Legs yellow; anterior femora, except towards the tips, and anterior coxæ black; tibiæ striped with black; hind coxæ very large, green, striped with yellow; hind femora dilated, striped with black, with one obtuse and with about eight minute teeth. Wings cinereous, brown along the costa. Length of the body 6 lines; of the wings 10 lines.

Ega. Discovered by Mr. Bates. In the British Museum.

Leucospis ignota. *Mas.* Nigra; caput postice cupreum; antennæ basi obscure rufescentes, scapo subtus flavo; prothorax flavo bifasciatus; scutum flavo marginatum; scutellum flavo bimaculatum; abdomen subpetiolatum, basi apice et segmentorum marginibus æneis; pedes femoribus tibiisque posticis femoribusque anticis flavo vittatis, tarsis rufescentibus; alæ cinereæ, apice nigricantes.

Male. Black, thickly and minutely punctured. Head cupreous hindward. Antennæ dark reddish towards the base; scape yellow beneath. Prothorax bordered with yellow in front and behind. Mesothorax with the border of the scutum and a spot on each side of the scutellum yellow. Metathorax dull reddish. Abdomen subpetiolated, bright æneous towards the base and towards the tip and on the hind borders of the segments; first segment cylindrical, hardly half the breadth of the following part, which is fusiform. Knees yellow; tarsi reddish; fore femora, hind femora and hind tibiæ striped above with yellow; hind femora moderately dilated, striped beneath with yellow towards the base, armed with one large and with several very minute teeth. Wings cinereous; fore wings blackish at the tips. Length of the body 3 lines; of the wings 5 lines.

Hab. —— ? In the British Museum.

Polistomorpha sphegoides. *Fœm.* Piceo-nigra; antennæ rufæ, basi nigræ; prothorax linea postica transversa brevi pallide fulva; mesothorax lineis duabus pallide fulvis postice approximatis; abdomen cinereo-pubescens, fulvo unifasciatum; pedes tibiis tarsisque anterioribus fulvis, femoribus posticis fulvo pallidissimo vittatis; alæ luridæ.

Female. Piceous-black, very thickly and minutely punctured. Head in front and mouth much prolonged. Antennæ red, black towards the base. Prothorax with a short pale tawny transverse line on the hind border. Mesothorax with two pale tawny lines which converge hind-

ward; epimera partly pale tawny. Metathorax with a dorsal ridge and with an elevated border. Abdomen with thick cinereous pubescence, keeled above and beneath; first segment linear, with a tawny hind border, much narrower than the other part, which is elongate-pyriform. Anterior tibiæ and tarsi mostly tawny; hind femora slightly dilated, striped with very pale tawny, armed with six rather large teeth. Wings lurid. Length of the body 9 lines; of the wings 16 lines.

St. Paulo. Discovered by Mr. Bates. In the British Museum.

IV.—*Descriptions of New Genera and Species of* Eumolpidæ.

By J. S. Baly.

The chaotic state of the *Eumolpidæ*, the crowd of species which remain unnamed and unarranged in our collections, and the want of generic landmarks, have induced me to select some of the more interesting for description, proposing in many instances new genera, of which I have briefly given the differential characters.

Genus Basilepta.

Caput exsertum, facie subelongata, fere perpendiculare; *oculis* prominentibus, rotundatis, integris; *antennis* gracilibus, filiformibus, corpore longioribus, articulo tertio quarto fere dimidio breviori; *palpis maxillaribus* subfiliformibus, articulo ultimo angustato-ovato, ad apicem attenuato. *Thorax* lateribus marginatis, pone medium angulatis; *antepectoris segmento antero-laterali* (fig. 1 *b*) cuneiformi, apice acuto, angulo exteriori ad thoracis angulum anticum extenso. *Scutellum* subtrigonatum, apice obtusum. *Elytra* thorace latiora, oblonga, modice convexa. *Pedes* elongati, graciles; *femoribus* dimidio basali attenuatis, filiformibus, dimidio apicali incrassatis, ampullatis, quatuor posticis subtus ante apicem dente acuto armatis; *tibiis* gracilibus, extus ante apicem emarginatis; *tarsis* (fig. 1 *d*) gracilibus, articulo primo duobus sequentibus æquali; *unguiculo* (fig. 1 *c*) basi appendiculato.

Type, *Basilepta longipes*, Baly.

Basilepta longipes. (Plate I. fig. 1.)

B. subelongata, valde convexa, nitida, supra obscure viridi-ænea; pedibus elytrorumque tuberculo obscure piceis, corpore subtus antennisque (his basi fulva exceptis) nigro-piceis; thorace lateribus angulato.—Long. 2 lin.

Subelongate, very convex, nitidous, above obscure metallic green, body beneath and the antennæ (the fulvous base of these latter excepted) obscure pitchy-black; a large shining circular protuberance on the basilar space of each elytron, together with the legs, piceous; attenuated base of four posterior thighs obscure fulvous. Head smooth above, forehead with a longitudinal groove; lower portion of face deeply punctured; antennæ slender, filiform, longer than the body, three basal

joints obscure fulvous. Thorax rather longer than broad; sides produced and angled just behind their middle, their hinder portion sinuate; above transverse, convex, gradually thickened and gibbose towards the apex; surface deeply rugose-punctate, interstices irregularly thickened; gibbose portion nearly impunctate. Scutellum subtrigonate. Elytra much broader at the base than the thorax, nearly three times the length, slightly narrowed behind, convex; each elytron with eleven rows of distinct punctate striæ, the first abbreviated; on the posterior half of the elytra nearly all the striæ become obsolete, whilst on the epipleura are two short additional rows, making the total number across that portion of the surface thirteen; humeral callus elevated into a short compressed ridge; on the basilar space, between the humeral callus and the suture, is a distinctly raised circular piceous protuberance, its circumference bounded by an indistinct circular groove, the surface of the protuberance smooth and shining, impunctate. Body beneath obscure nigro-piceous; legs piceous, elongate, basal half of thighs slender, filiform, apical half flask-shaped, two posterior pairs armed towards their apex beneath with a fine acute tooth, basal half of the same thighs obscure fulvous; all the legs sparingly covered with long silky hairs.

Hab. Borneo.

This insect, most remarkable from its slender, spider-like legs, has been sent in some abundance from the above-mentioned locality by Mr. Wallace.

Genus Spilopyra.

Caput exsertum, modice deflexum; *oculis* prominulis, oblongo-ovatis, intus obsolete sinuatis; *antennis* modice robustis, subfiliformibus, articulo secundo obconico, tertio illo duplo longiori, articulo sequenti paullo breviori, quinque ultimis vix incrassatis; *palpis maxillaribus* (fig. 3 *m*) articulo ultimo ovato, ad apicem attenuato. *Thorax* transversus, *antepectoris segmento antero-laterali* (fig. 3 *b*) brevi, transverso. *Scutellum* trigonatum, apice obtusum. *Elytra* oblonga, postice paullo attenuata, convexa, ante medium gibbosa. *Pedes* robusti, subelongati, antici cæteris paullo longiores; *tarsis* (fig. 3 *d*) articulo tertio bilobato, fere ad basin diviso; *ungue* valido, *unguiculo* (fig. 3 *e*) simplici, inermi. *Prosternum* (fig. 3 *f*) trapeziforme, elevatum, antice abbreviatum; *mesosternum* (fig. 3 *f*) breve, transversum. *Corpus* oblongo-elongatum, convexum.

Type, *Spilopyra sumptuosa*, Baly.

This splendid genus, like its near neighbour *Podontia*, has quite the habit of a *Chrysomela*; but M. Lacordaire, in the introductory remarks to his 'Monographie des Phytophages,' having separated the closely allied families of *Chrysomelidæ* and *Eumolpidæ* by the deeply bilobed third joint of the tarsi in the latter group, rigidly excludes all insects possessing that character from the former. In

deference therefore to his opinion, I have placed it for the present amongst the *Eumolpidæ*, although it is so closely connected in other respects with the true *Chrysomelidæ* as almost to form a link between the two groups. In addition to the general form of the body, the structure of the sternum, and above all, the simple claw (common to the great majority of *Chrysomelidæ*, but wanting, with this solitary exception, in the *Eumolpidæ*), there is yet another important differential character, hitherto overlooked, uniting it to the *Chrysomelidæ*, and which, I believe, will become extremely useful in separating the two families,—I mean the form of the antero-lateral plate of the antepectus; this part, in all the *Chrysomelidæ* that I have as yet examined, is short and transverse, its hinder margin being entire, and not dilated posteriorly; in the *Eumolpidæ* (the present genus and *Podontia* excepted) the same organ is more or less trigonate or trapezoid, its posterior edge being produced backwards into an oblong or angular process. This process varies much in shape, and might often, I think, be made available in determining the limits of some of the genera in this difficult group of insects.

The simple claw at once divides *Spilopyra* from *Podontia*, the only genus with which it can be confounded.

Spilopyra sumptuosa. (Plate I. fig. 3, 3* lateral view.)

S. oblonga, convexa, dorso gibbosa, nitido-metallico-purpurea, violaceo-micans; antennis nigris, basi obscure fulvis; pedibus rufis, femorum tibiarumque apice tarsisque viridi-æneis; clypeo, thoracis basi et apice, scutello elytrorumque maculis duabus basalibus, fascia impressa ante medium, altera brevi, vix pone medium, ad marginem exteriorem adfixa, vitta obliqua apicem versus lineaque suturali, antice abbreviata, viridi-igneis, rufo-aureo-marginatis.—Long. 5–6 lin.

Oblong, slightly narrowed towards the apex, convex, elytra gibbose at their base; shining metallic purple, with a violaceous reflexion; the clypeus, the base and apex of the thorax, and the scutellum, together with some markings on the elytra, bright metallic green, narrowly margined with rufo-aureous. Head excavated and coarsely punctured between the eyes, front impressed with an oblong fovea, jaws and antennæ black; six basal joints of these latter, together with the labrum and palpi, obscure fulvous; lower half of face bright metallic green. Thorax more than one-half broader than long, slightly narrowed from base to apex, apical border concave; sides nearly straight, obliquely narrowed near the anterior angles, the latter produced, their apex obtuse; above transversely convex, remotely punctured, punctures more crowded at the base and sides; the base and apex, together with the extreme lateral borders, bright metallic green. Scutellum smooth and shining, subtrigonate, its apex rounded. Elytra broader at the

base than the thorax; sides nearly parallel, slightly narrowed towards the apex, the latter acutely rounded; above convex, obtusely gibbose below the base; each elytron with thirteen rows of fine punctures, the first abbreviated, the outer row placed on the extreme lateral border, interspaces smooth and shining, impunctate; on the surface of each elytron are placed the following bright metallic green markings, bordered with aureous; viz., two spots at the base, the first elongate, situated halfway between the humeral callus and the suture, the second placed on the humeral angle; an entire, slightly sinuous and deeply-grooved fascia just before the middle; a short, deeply impressed subsinuous band, situated immediately behind the middle, and extending from the outer margin more than a third part across the elytron; an oblique line commencing at the outer border, halfway between its middle and apex, and running obliquely upwards nearly to the suture; and lastly, a narrow line covering the posterior two-thirds of the suture itself. Body beneath variegated with bright metallic green and purplish cupreous; legs rufous, the knees and tarsi bright metallic green.
Hab. Moreton Bay. Sent by Mr. Diggles.

Of this magnificent insect I know but two specimens—one in my own collection, the other in the cabinet of Mr. Bakewell.

Genus Trichotheca.

Caput (fig. 5 *c*) exsertum, valde deflexum, fere perpendiculare; *oculis* prominulis, oblongo-ovatis, intus obsolete sinuatis; *antennis* corporis longitudini fere æqualibus*, gracilibus, filiformibus, ad apicem vix incrassatis, articulo tertio quarto breviori; *palpis maxillaribus* articulo ultimo ovato, ad apicem attenuato. *Thorax* subcylindricus, lateribus non marginatus; *antepectoris segmento antero-laterali* (fig. 5 *b*) subtrigonato, angulo postico truncato. *Scutellum* trigonatum, lateribus sinuatum, apice truncatum. *Elytra* thorace multo latiora, oblonga, parallela. *Pedes* modice elongati, graciles; *femoribus* anticis (fig. 5 *d*) incrassatis, subtus dente valido productis, intermediis subtus dente parvo armatis; *tarsis* gracilibus, articulo primo duobus sequentibus longitudine æquali, secundo elongato-trigonato; *ungue* elongato, arcuato; *unguiculo* (fig. 5 *e*) basi dente valido armato. *Corpus* elongatum, subcylindricum, hirsutum.
Type, *Trichotheca hirta*, Baly.

This genus ought to stand close to *Adoxus*, Kirby; its elongated body, slender filiform antennæ, and incrassated anterior pair of femora will separate it from the latter.

Trichotheca hirta. (Plate I. fig. 5.)

T. elongata, subcylindrica, pallide fulvo-fusco, pilis concoloribus suberectis

* In the figure of this insect, as well as that of *Epiphyma intestinorum*, the artist has drawn the antennæ rather too long in proportion to the body.

induta, thoracis vittula elytrorumque plagis sex nigris.—Var. A. Elytris totis nigris.—Long. $2\frac{1}{4}$ lin.

Elongate, subcylindrical, pale fulvo-fuscous, whole body clothed with suberect concolorous hairs; a short vitta on the disc of the thorax, together with three patches on each elytron, black. Head shining, remotely punctured, surface sparingly covered with hairs; clypeus transverse, separated from the face by a deep groove which runs across between the insertion of the antennæ; jaws pitchy-black; antennæ nearly equal to the body in length, slender, third joint two-thirds the length of the fourth. Thorax slightly broader across the middle than long, subcylindrical, slightly flattened above, lateral border obsolete; sides rounded, sinuate behind the middle, posterior angles produced into an obtuse tooth; surface covered with large deep punctures. Scutellum trigonate, the sides slightly excavated, its apex truncate. Elytra broader than the thorax; sides parallel; apex regularly rounded; above convex, each elytron impressed with eleven rows of deep punctures, the first abbreviated, outer striæ indistinctly sulcate; interspaces smooth and shining; two parallel patches placed immediately below the base, the first within the shoulder, narrowly oblong, the second on the outer margin, still narrower and elongate, and a large subovate patch situated behind the middle, shining black. Beneath shining, more sparingly clothed with fine pubescence.

Var. A. Elytra entirely black.

Hab. Northern India.

Genus Adoxus, Kirby.

The Rev. W. Kirby, in his work on the North American Coleoptera, has formed a genus for the reception of the non-metallic, hairy species of *Eumolpus*, taking for his type American representatives of our European *Eumolpus vitis*; I have therefore retained his name, in preference to the commonly used but more recent one of *Bromius**.

Adoxus Bowringii.

A. ovatus, valde convexus, nuceus, pilis adpressis obscure fulvis indutus, thoracis plaga obtrigonata, elytrorum maculis 7, metacoxis pleurarumque plaga nigris.—Var. A. Thoracis plaga elytrorumque maculis nonnullis obsoletis.—Long. $2\frac{1}{2}$–3 lin.

Ovate, very convex, nuceous, body covered with obscure fulvous adpressed hairs; an obtrigonate patch in the centre of the thorax, seven spots on the elytra, a patch at the apex of each pleura, and the metacoxæ shining black. Head distinctly punctured; clypeus triangular, separated from the face by an acutely angled grooved line; on either side, just above the insertion of the antennæ, is a slightly raised smooth tubercle; eyes black. Thorax subglobose above, covered with fulvous

* Redtenbacher, Faun. Austr. 1st ed. p. 558 (1849).

hairs, which are shorter and less depressed than those of any other part of the body; sides regularly rounded; surface deeply punctured, puncturing crowded and rugose on the sides, somewhat more scattered on the disc, the centre of the latter covered by a large obtrigonate black patch. Elytra oblong, sides parallel, slightly narrowed near the apex, the latter regularly rounded, dehiscent at the sutural angle; above convex; each elytron with eleven sulcate striæ, the first abbreviated, each stria impressed with a single row of irregular punctures, interspaces somewhat raised and subcostate towards the lateral margin, their surface covered with distinct punctures, which render those of the striæ confused; a large subbasal rotundate spot, a common bilobate patch at the middle of the suture, another, larger and oblong-ovate, placed behind the middle, and a small spot placed external to the humeral callus, shining black.

Var. A. The patch on the thorax, together with several of those on the elytra, obsolete.

Hab. Nepal; Northern China.

Adoxus nigripes.

A. ovatus, valde convexus, pallide nuceus, pilis adpressis pallidioribus indutus; antennis (basi excepta) pedibusque nigris.—Long. $2\frac{2}{3}$ lin.

Ovate, very convex, pale nuceous, body covered with adpressed paler hairs; antennæ (their base excepted) and legs black. Exactly similar in form and sculpture to the preceding species; the whole body more closely clothed with coarser ash-coloured pubescence, that on the legs nearly white. Four basal joints of antennæ obscure fulvous.

Hab. Hong Kong.

Adoxus pollinarius.

A. ovatus, valde convexus, niger, pilis cinereis cum albidis intermixtis indutus; pedibus obscure rufo-piceis, antennis basi fulvis.—Long. $2\frac{1}{2}$ lin.

Ovate, very convex, black, body clothed with coarse cinereous hairs, intermingled with whiter pubescence, the latter covering a broad space along the outer margin of each elytron, and also forming an interrupted vitta on the inner disc. Head rugose-punctate; basal joints of antennæ obscure fulvous. Thorax subcylindrical, sides obtusely rounded, narrowed in front; rugose-punctate; the centre of the disc with a slightly elevated shining ridge. Elytra coarsely punctured, the puncturing irregularly arranged in striæ. Tibiæ and tarsi obscure rufo-piceous; four anterior thighs armed beneath with a minute tooth.

Hab. Bombay. Collected by H. Downes, Esq.

The single individual of this insect sent by Mr. Downes is unfortunately rather worn, but fresh specimens are in all probability much more closely covered with white pubescence.

Genus Epiphyma.

Caput perpendiculare, thorace insertum; *oculis* oblongis, intus sinuatis; *antennis* (fig. 4 *a*) dimidio corporis longioribus, subfiliformibus, articulis tertio ad sextum gracilibus, fere æqualibus, quinque ultimis paullo elongatis et incrassatis, filiformibus; *palpis maxillaribus* articulo ultimo ovato. *Thorax* transversus, *antepectoris segmento antero-laterali* (fig. 4 *b*) subcuneiformi, angulo postico obtuso, angulo exteriori ad thoracis angulum anticum non extensum. *Scutellum* breviter oblongum, apice rotundato. *Elytra* oblonga, convexa, thorace latiora. *Pedes* robusti, *tarsis* (fig. 4 *d*) articulo primo duobus sequentibus fere æquali, *ungue* valido, *unguiculo* (fig. 4 *e*) vix ante medium appendiculato. *Prosternum* (fig. 4 *f*) postice ampliatum, lateribus bisinuatis; *mesosternum* pentagonum. *Corpus* anguste oblongum, valde convexum.

Type, *Epiphyma intestinorum* (Thoms.). Brazil. (Plate I. fig. 4.)

Genus Meroda.

Caput thorace fere insertum, *facie* lata, perpendiculare; *antennis* gracilibus, filiformibus; *oculis* vix prominulis, intus emarginatis. *Thorax* transversus, lateribus marginatus; *antipectoris segmento antero-laterali* (fig. 2 *b*) postice in lobum oblongum producto, angulo exteriori ad thoracis angulum anticum extenso. *Scutellum* latum, subhemisphæricum. *Elytra* oblonga, convexa. *Pedes* antici incrassati; *femoribus* anticis valde ampliatis, subtus dente acuto productis; *tibiis* ejusdem paris arcuatis; *tarsis* (fig. 2 *d*) articulo primo duobus sequentibus fere æquali; *unguiculo* (fig. 2 *e*) medio appendiculato. *Prosternum* (fig. 2 *f*) ad apicem ampliatum, lateribus bisinuatis, *mesosternum* subpentagonum. *Corpus* oblongo-elongatum, valde convexum.

Type, *Meroda costata*, Baly.

Meroda costata. (Plate I. fig. 2.)

M. anguste oblonga, convexa, nitido-picea, antennis obscure fulvis; elytris costatis, interspatiis confuse bifariam punctatis.—Long. 3–4 lin.

Narrowly oblong, convex, shining piceous, antennæ pale fulvous; elytra punctate-striate, the interspaces costate. Head closely strigose-punctate, front impressed with an elongate fovea; labrum smooth, pale piceous; antennæ two-thirds the length of the body, terminal joint stained with piceous; palpi fulvous. Thorax nearly twice broader than long at the base; apex indistinctly produced in the middle, slightly sinuate on either side; sides rotundate-angustate, anterior and posterior angles produced into an obtuse tooth; above transversely convex, deflexed at the anterior angles, surface deeply but subremotely punctured, puncturing on the sides subvariolose. Scutellum semirotundate, surface minutely punctured, opake. Elytra broader than the thorax, oblong, each elytron with nine smooth and shining elevated costæ, the first abbreviated; interspaces deeply punctate, the punctures irregularly arranged in a double row. Body shining beneath, segments of abdo-

men distinctly punctured; anterior pair of thighs incrassate, their lower edge flattened, and produced in the centre into an acute tooth; anterior tibiæ strongly curved, gradually thickened from their base to the apex; outer edge of four posterior tibiæ produced immediately before their apex into a flat obtuse process.

Hab. Amazons. Collected by H. W. Bates, Esq.

Genus Callisina.

Caput (fig. 6 *c*) exsertum, declive; *oculis* prominentibus, oblongo-ovatis, intus sinuatis; *antennis* (fig. 6 *a*) ad apicem valde compresso-dilatatis, articulis quinto ad nonum perparum ampliatis, tribus ultimis latitudine æqualibus; *palpis maxillaribus* elevatis. *Thorax* transversus, convexus, lateribus marginatis; *antepectoris segmento antero-laterali* (fig. 6 *b*) trigonato, angulo postico obtuso, angulo exteriori ad thoracis angulum anticum non producto. *Scutellum* subtrigonatum, apice rotundatum. *Elytra* thorace latiora, oblonga, convexa. *Pedes* (fig. 6 *d*) robusti, *femoribus* (præsertim anticis) incrassatis, subtus dente acuto armatis; *tarsis* articulo primo duobus sequentibus conjunctim breviori; *unguiculo* (fig. 6 *e*) appendiculato. *Corpus* oblongo-elongatum, valde convexum.

Type, *Callisina fasciata*, Baly.

Approximating closely to *Corynodes*, Hope, through its dilated antennæ, but easily separated by the transverse thorax and toothed thighs.

Callisina fasciata. (Plate I. fig. 6.)

C. oblonga, convexa, nitido-rufo-testacea; antennis extrorsum nigris; thoracis basi elytrorumque sutura fasciisque duabus latis, nigro-piceis. —Long. $2\frac{3}{4}$ lin.

Oblong, convex, shining rufo-testaceous; the seven outer joints of the antennæ black; the base of the thorax, the suture, and two broad transverse bands on the elytra, nigro-piceous. Head remotely punctured; eyes black, surrounded by a deep circular groove; clypeus separated from the face by a short oblique groove on each side; forehead with an oblong fovea; jaws nigro-piceous; four basal joints of antennæ rufo-testaceous, the rest black, second and two following joints slender. Thorax broader than long; apical margin entire, convex; sides narrowly margined, obtusely rounded, armed just behind the middle with a small obtuse tooth, anterior and posterior angles notched; above very convex, constricted and cylindrical at the anterior margin; surface remotely impressed with large deep punctures; the base, together with the extreme lateral margin, nigro-piceous. Scutellum piceous. Elytra oblong, slightly narrowed behind, convex; on the basilar portion of each elytron is a slightly elevated transverse space, which, covering the shoulders, extends inwards nearly to the suture, behind being bounded by a shallow transverse groove; each elytron with ten rows of punctures, the first abbreviated; the outer stria, which is placed on the lateral margin,

deeply sulcate; the puncturing of the remaining striæ distinct, and deeply impressed in their middle portion, indistinct and nearly obsolete on the elevated space at the base and towards their apex; interspaces each impressed with a single row of fine punctures placed midway between the striæ; those in the outer interspaces are larger and deeper, rendering the striæ themselves confused: the extreme basal and lateral margin, a broad sutural vitta, abbreviated at the extreme apex of the elytra, together with two broad transverse fasciæ, the first immediately before the middle, the other halfway between the latter and the apex, piceous. Body beneath rufo-testaceous, somewhat more obscure on the breast.

Hab. Malacca; Borneo. Collected by Mr. A. R. Wallace.

Genus Corynodes, Hope.

Corynodes 10-*notatus*.

C. subelongatus, valde convexus, nitido-cæruleus; pleuris, sterno corporeque supra (antennis exceptis) metallico-viridibus; scutello elytrorumque maculis decem nigro-cæruleis, cupreo vix micantibus.—Long. 5 lin.

Subelongate, very convex, dark shining metallic blue; pleuræ, sternum, and body above (the antennæ excepted) bright metallic green; the scutellum and five large spots on each elytron obscure shining blue with a faint cupreous reflexion. Head distinctly punctured; antennæ deep metallic blue. Thorax subglobose above, deeply but remotely punctured. Elytra irregularly punctate-striate, the punctures aciculate, less deeply impressed towards the apex; each elytron with five large spots, obscure metallic blue with a cupreous reflexion, viz., the first subrotundate, at the base, two before the middle, parallel and oblong, the inner one somewhat larger, the fourth rotundate, placed just behind the middle, and the fifth elongate, subapical, and parallel with the suture. Body beneath deep metallic blue, prosternum and pleuræ bright metallic green; legs deeply punctured, anterior pair of tibiæ slightly curved near the apex, intermediate pair strongly curved beyond their middle.

Hab. India?

Corynodes pulchellus.

C. oblongus, valde convexus, nitido-cæruleus, thorace sparse punctato; elytris punctato-striatis, nigro-cæruleis, utrisque fasciis duabus utrinque abbreviatis, punctoque subapicali læte viridi-æneis.—Long. 5 lin.

Oblong, very convex, deep shining metallic blue; elytra shining obscure metallic blue with a faint cupreous reflexion, each with two broad transverse bands and a subapical spot bright metallic green. Head with the face rugose, forehead deeply punctured. Thorax slightly broader than long; apex indistinctly trisinuate; sides narrowly margined, nearly straight and parallel, narrowed and rounded in front, slightly deflexed, above subglobose, smooth and shining, sparingly impressed with rounded deep punctures, which are irregularly congregated

on the disc, the sides nearly impunctate. Scutellum smooth, impunctate. Elytra nearly a third longer than broad, very convex, slightly depressed on the sides below the shoulders, regularly punctate-striate, the striæ somewhat less regular towards the apex; obscure metallic blue with a faint coppery reflexion; each elytron with a small subapical patch and two broad transverse bands shining metallic green; the first of the latter is basal, and extends from immediately within the extreme outer border nearly to the suture, its lower edge being deeply emarginate on the shoulder; the second, slightly irregular above and below, is situated immediately behind the middle of the elytron, commencing and terminating in the same manner as the former.

Hab. Siam. Collected, together with the two following species, by M. Mouhet.

Corynodes igneo-fasciatus.

C. oblongo-elongatus aut oblongus, valde convexus, nitido-cæruleus; thorace subremote punctato; elytris subcrebre irregulariter punctato-striatis, metallico-purpureis, utrisque fasciis duabus utrinque abbreviatis, læte viridi-æneis, auro-marginatis.—Long. $3\frac{1}{4}$–$4\frac{1}{2}$ lin.

Oblong-elongate or oblong, very convex, deep shining metallic blue; elytra each with two broad transverse bands, bright metallic green, edged with gold. Head with the face finely rugose-punctate, forehead deeply punctured; five outer joints of antennæ more suddenly dilated than in the preceding insect. Thorax as broad at the base as long, cylindrical, apex obsoletely trisinuate; sides slightly rounded, narrowed in front; subglobose above, surface subremotely covered with deep punctures, which are regularly dispersed over the whole surface, but are somewhat more distant on the sides and apex. Scutellum broadly semiovate, its apex subacute. Elytra from a quarter to a third longer than broad, very convex, transversely depressed below the shoulders; surface covered with numerous rows of punctures, more crowded and less regular than in *Corynodes pulchellus*; each elytron with two broad transverse bands extending from just within the outer margin nearly to the suture, bright metallic green, edged with aureous; the first of these, placed at the base, has its lower border distinctly emarginate; the second, situated just below the middle, has both the upper and lower margins notched. Body beneath dark metallic blue.

Hab. Siam.

Very closely allied to the preceding species, but nevertheless distinct, the thorax rather more closely punctured, the punctate striæ on the elytra much more numerous.

Corynodes pyrospilotus.

C. oblongo-elongatus aut oblongus, valde convexus, nitido-cæruleus; thorace subremote punctato; pleuris thoracisque maculis quatuor, transversim positis, viridi-æneis; elytris subcrebre irregulariter punctato-striatis, utrisque plagis tribus (harum duabus baseos, tertia sub-

apicali), fasciaque flexuosa pone medium viridi-æneis.—Long. 3¼–4½ lin.

Oblong-elongate or oblong, very convex, dark shining metallic blue with a purple reflexion; the pleuræ, two patches on the forehead, four others placed transversely on the thorax, together with three spots (two basal, the third subapical), and an irregularly curved transverse band on each elytron, bright metallic green. Head with the lower portion of the face finely rugose-punctate, forehead deeply punctate, two trigonate patches on its surface bright metallic green. Thorax one-sixth broader than long, apex sinuate on either side; above moderately subglobose, deeply impressed with subremote punctures; transversely placed on the surface are four bright metallic green patches, viz. one on either side the centre of the disc, the two others larger and lateral, extending from the apical nearly to the basal margin. Scutellum distinctly and minutely punctured. Elytra much broader than the thorax, scarcely three times its length, above very convex, transversely grooved below the basilar space; surface somewhat closely covered with deep punctures, which are arranged in irregular striæ; each elytron with two patches at the base,—the first oblong, near the suture, the second on the shoulder and covering the humeral callus, a third placed obliquely immediately before the apex of the elytron, and in addition a broad sinuate transverse band, commencing scarcely below the middle and extending across the elytron nearly to the suture, its apex curving suddenly backwards; all these markings narrowly edged with aureous. Body beneath deep metallic blue, pleuræ and metasternum bright metallic green.

Hab. Siam. Collected by M. Mouhet.

Genus Euryope, Dalm.

Euryope cingulatus.

E. oblongus, valde convexus, nitido-fulvus; antennis, scutello, elytrorum maculis sex, pleurarum limbo pedibusque (femoribus medio exceptis) nigris; thorace elytris latitudine fere æquali.—Var. A. Pedibus totis nigris.—Long. 3–4 lin.

Oblong, very convex, shining fulvous; antennæ, scutellum, a short fascia below the base and two spots on each elytron, the limb of the pleuræ, and also the legs (the middle of the thighs excepted) shining black. Head broad, face flattened and impressed with three shallow foveæ placed in a triangle between the eyes; apex of jaws and the antennæ black, basal joints of the latter obscure rufous beneath. Thorax twice broader than long, slightly increasing in width before the middle; sides rounded, anterior and posterior angles produced into a short obtuse tooth; above transversely convex, surface minutely punctured, the puncturing rather more distinct on the sides. Scutellum semirotundate, smooth, shining black. Elytra shortly ovate, not broader at their base than the thorax; sides rounded; apex regularly rounded;

above convex, finely but not very closely punctured, at the outer margin are several rows of rather deeper impressions; each elytron with a short longitudinal line at the base, placed immediately within the humeral callus, a deeply impressed transverse fossa, situated just below the basilar space, and a short spot behind the middle of the disc, shining black. Body beneath somewhat paler, legs (the centre of the thighs excepted) black.

Hab. Port Natal.

Euryope terminalis.

E. oblongus, valde convexus, nitido-rufo-castaneus; antennis, macula frontali, thoracis maculis quatuor, scutello, elytrorum plagis, pleurarum limbo, abdominis segmento anali pedibusque (femoribus medio exceptis) nigris; thorace elytris angustiori; elytris confuse tenuiter punctato-striatis, utrisque carina submarginali vittisque impunctatis (his postice obsoletis) instructis.—Long. 3–4½ lin.

Oblong, very convex, shining rufo-castaneous; antennæ, a frontal patch, four spots on the thorax, placed in a transversely oblong square, the scutellum, five irregular patches on each elytron, the limb of the pleuræ, the anal segment of the abdomen, and the legs (the middle of the thighs excepted) shining black. Head finely punctured, face impressed on either side between the eyes with a broad oblique fovea; apex of basal joints of antennæ rufous, apex of jaws nigro-piceous. Thorax not quite twice broader than long; sides nearly straight, obliquely deflexed; above transversely convex, impressed on either side by a deep fovea, surface punctured; four patches on the disc, two transverse, attached one on either side to the anterior margin, and the two others smaller and nearly round, placed immediately behind the former, shining black. Scutellum broad, subtrigonate, its apex rounded. Elytra broader at their base than the thorax, subquadrate-oblong, their apex regularly rounded; above convex, lightly impressed with numerous piceous punctures, confusedly arranged in irregular longitudinal striæ; on each elytron, distinct and slightly elevated in front, but nearly lost towards the apex, are several impunctate vittæ; in addition to these, immediately within the lateral border is a strongly elevated costa, which continues entire to the apex of the elytron; bounding the basilar space posteriorly is an oblique fossa, which extends from the suture to the submarginal costa, near its termination becoming broadly dilated, and its surface coarsely punctured; on each elytron are placed six irregular shining black spots, which in some specimens become more or less confluent, viz. one at the base, just within the humeral callus, two on the oblique fossa (the one near the suture much larger than the outer one), a fourth, smaller and submarginal, situated below the humeral angle, and lastly, two others, parallel and placed immediately behind the middle of the disc, the inner one elongate, the outer smaller and subrotundate. Body beneath, with the limb of the pleuræ, the meta-

coxæ, and the anal segment of the abdomen (its base excepted), shining black; legs as in the preceding species.

Hab. South Africa.

Genus Colaspis, Fabr.

Colaspis dimidiata.

C. oblongo-ovata, convexa, pallide fulva, nitida; abdomine elytrorumque dimidio postico nigris.—Long. 4–5 lin.

Oblong-ovate, convex, pale shining fulvous; abdomen and the posterior half of the elytra shining black. Head smooth, front impressed with an oblong fovea: clypeus and lower portion of face elevated into a triangular space, the apex of which extends upwards between the antennæ; the latter nearly the length of the body, indistinctly thickened towards their apex, six basal joints shining, the rest opake; eyes black. Thorax nearly twice broader at the base than long; apex entire; sides slightly rounded, quickly narrowed from the base to the apex, anterior angles produced laterally into a small obtuse tooth; above very convex, deflexed on either side in front; surface subremotely impressed with minute punctures, only visible under a lens. Scutellum smooth, impunctate. Elytra broader than the thorax, more than four times its length; sides parallel; apex acutely rounded; above convex, each elytron with ten distinctly punctured striæ, the first abbreviated, each stria, with the exception of the first, ninth and tenth, consisting of a double row of punctures, interspaces between the fifth and ninth striæ costate.

Hab. Peru.

Colaspis humeralis.

C. ovato-oblonga, nigro-æenea, nitida; elytris nigris, utrisque plaga magna basali rufa; tibiis posticis ante apicem spina magna, apice curvata instructis.—Long. $2\frac{1}{2}$ lin.

Ovate-oblong, shining nigro-æneous; elytra shining black, each with a large subtriangular patch at the base, extending from the outer margin nearly to the suture, and downwards rather more than a third the length of the elytron, shining rufous. Head deeply inserted in the thorax; face perpendicular, deeply punctured, puncturing more crowded on the clypeus; antennæ subfiliform, half the length of the body, black, basal joints fusco-fulvous. Thorax moderately convex, nearly as wide at its base as the elytra; sides rounded and narrowed from the base to their apex; surface finely punctured. Elytra rather more than three times longer than the thorax; shoulders rounded, sides narrowly margined, sinuate behind the anterior third; apex acutely rounded; above moderately convex, transversely impressed below the shoulders; surface finely punctate-striate, the puncturing distinct in front, nearly obsolete towards the apex. Body beneath obscure brassy-green; last two segments of abdomen stained in the middle with obscure rufo-piceous, apical segment deeply impressed with a large transversely

oblong fovea; thighs moderately incrassate; hinder tibiæ below the middle with a stout spine, the apex of which is suddenly bent backwards, the inner surface clothed with long whitish hairs; four anterior tarsi with their basal joints dilated, ovate.

Hab. Ega, Upper Amazons. Collected by H. W. Bates, Esq.

Genus Colasposoma, Laporte.

Colasposoma pretiosa.

C. subquadrato-oblonga, convexa, nitida, metallico-cærulea; antennis tarsisque nigris; elytris irregulariter subcrebre punctato-striatis, utrisque aureo-roseis, cæruleo anguste marginatis; femoribus subtus dente parvo armatis, anticis incrassatis.—Long. $4\frac{1}{4}$ lin.

Subquadrate-oblong, convex, shining metallic blue; antennæ and tarsi black; elytra bright auro-rosaceous, with a slight violet tint, the suture and outer limb narrowly edged with metallic blue. Head flat, closely strigose-punctate, three small smooth spaces placed in a triangle between the eyes metallic green; front impressed with a longitudinal groove, which terminates below at the central space. Thorax more than twice broader than long; sides rounded, slightly narrowed in front, notched at their apex, anterior and posterior angles each armed with a small obtuse tooth; above very convex transversely, slightly convex from base to apex, somewhat closely covered with deep punctures. Scutellum metallic green, impressed at the base with several deep punctures. Elytra scarcely broader than the thorax, about four times its length; sides parallel; apex regularly rounded; surface covered with numerous distinctly impressed subaciculate punctures, irregularly arranged in striæ, interstices finely reticulate-strigose. Body beneath deep metallic blue, with a faint green reflexion; tarsi black; all the femora armed on their lower edge just beyond the middle with a small acute tooth; anterior pair of thighs incrassate.

Hab. Northern India.

V.—*Notices of new or little-known Genera and Species of* Coleoptera. By Francis P. Pascoe, F.L.S., &c.

Part I.

It is difficult to form any adequate idea of the number of new forms, to say nothing of new species of insects, which exist in, or are being constantly added to, our cabinets*. Many of these are almost hope-

* Mr. S. Stevens has just favoured me with the sight of a collection of Coleoptera (perhaps about a thousand species) made by Mr. Squire at Petropolis (a sort of Brazilian Cintra, and a short day's journey from Rio), and although the district has been repeatedly worked, and Mr. Squire was there scarcely two months, yet the result of his visit has been the discovery of a vast number of novelties and some new forms of a very interesting character.

lessly entombed in private as well as in public collections, or have long been accumulating in my own. To record the most remarkable, and such, at the same time, as can *easily* be recognized by figures and descriptions, if confined to a private collection, is one of the objects of this Journal, and the following is the first of a series of papers which will be devoted to the Coleoptera. As it will be impossible to follow any systematic plan beyond the limits of each paper, a classified list will be given hereafter to diminish this inconvenience.

It must not be forgotten that many of the insects to be described will be either uniques, or, belonging to others, cannot therefore be mutilated by dissection; but as every new genus will be figured, it is hoped that the absence of the usual analyses will not create any difficulty. *Practically*, we are satisfied with referring species to their genera from their external resemblances; but although it is very often quite impossible to ascertain the affinities of an insect without dissection, there is the danger of attaching too great importance to organs whose characters cannot always be determined satisfactorily, and which, moreover, because they occur in one species, are sometimes erroneously assumed to be present in others. Indeed, it may be doubted if even individual species are so invariable as to justify the minute descriptions of many naturalists.

While believing in the existence of genera quite as much as in the existence of species, is it satisfactorily established that they can always be distinguished by technical characters, such as we are in the habit of employing? In all large genera, I believe, it will be eventually found that they possess no one character in common that is not also possessed by the group or family to which they respectively belong, and hence it is quite natural that the limits of such genera cannot be very strongly defined. This is especially the case in the Longicorn families, which with endless differences in habit agree in a certain similarity of details, so that the generic characters often become mere questions of degree,—while, on the other hand, many Heteromera alike in habit are found to vary remarkably in structure, and in fact to belong to very different groups than those in which their general appearance would seem to place them.

These and other points of the same kind will be often exemplified in the course of these 'Notices;' but in considering the difficulties which beset all attempts at a satisfactory limitation and arrangement of species into families, genera, &c., it will be as well to bear in mind the remark of our great naturalist,—"Nature is less of a systematist than Man."

OMOPHRON [Carabidæ].

Latreille, Hist. Nat. des Ins. viii. p. 278.

Omophron Brettinghamæ.

O. ovato-rotundatum, nitidum, testaceum; capite, prothoracis disco, elytrisque (marginibus exceptis) viridi-æneis.

Hab. India (Dacca).

Shortly ovate or nearly orbicular, moderately convex, very smooth and shining; head sparingly punctured, brassy-green; labrum, epistome, and small triangular spot above the latter brownish-testaceous; prothorax finely and remotely punctured, and with the elytra rich brassy-green, bordered externally with testaceous,—the border much wider on the latter, which are also very finely punctured in rather distant rows; eyes and tips of the mandibles dark brown; antennæ, palpi, and legs pale testaceous; body beneath with the sterna pitchy, the abdomen deep testaceous. Length 2 lines.

For the possession of this and many other Coleoptera from the same locality, I am indebted to Dr. Ernest Adams of University College, the author (*inter alia*) of some exceedingly interesting and learned papers on the "Vernacular names of Insects," in the Transactions of the Philological Society, who received them from India*, where they were collected by Mrs. Brettingham (to whom I have dedicated the exquisite little *Omophron* just described) in the compound attached to the quarters of Charles Brettingham, Esq., in medical charge of the Kamroop Regiment of Native Infantry stationed at Dacca. They comprised above seventy species, belonging to nearly as many genera. Of these there were only six or seven that were not represented in Europe, viz. *Adoretus*, *Heteronychus*, *Anisotelus*, *Macratria*, a Nitidulid, and two, or perhaps three, obscure Heteromerous genera, which I have not been able to refer to any hitherto published. Except that there were very few Staphylinidæ, they were mostly such forms as would be found in this country in the *débris* of a flood; and it is, therefore, most likely that they were collected in the rainy season. Dacca is nearly in the latitude of Calcutta, lies very low, and as it is subject to inundations from the Ganges, it is probable that it affords a larger proportion of European forms than would have been the case in a drier or more elevated district. So little is *really* known of the Entomology

* Upwards of a thousand specimens, some nearly an inch long, although generally much smaller, enclosed in two large-sized pill-boxes, were transmitted by post in the ordinary way in a single letter. A wine cork hollowed out in the middle, and a little trimmed at the sides, would be an excellent, and at all times available substitute for a box.

of India, that it would be premature to speculate as to its character; but although in its animal productions there is a remarkable amount of Northern temperate forms, they could never have been expected to predominate to such an extent in any one group, as it now appears they do, judging, however, solely from the facts here stated*. There is one point in connexion with this subject which can only be just alluded to here, viz. the apparent tendency of animals to migrate to the south, and not the reverse, or very slightly so†. The idea first occurred to me in noticing the very few Australian forms of Coleoptera occurring in Mr. Wallace's Indian Island collections contrasted with the number of these Indian forms in Australia, especially its northern parts;—compare also Natal with the Cape, or the United States with Mexico or Cuba; notice Upper Egypt, Arabia, Persia, &c., just receiving a tropical form here and there.

Casnonia [Carabidæ].

Latreille, Icon. de Coleop. d'Europe, ed. 1. p. 77.

Casnonia aliena.

C. picea; capite infra oculos profunde lunato-impresso; prothorace capite breviore, postice transverse corrugato; elytris leviter striatis, singulo macula flavescenti apicem versus ornato.

Hab. Australia (Moreton Bay).

Pitchy, shining; head rather broad, a deep semicircular impression between the eyes and the epistome; prothorax not so long as the head, somewhat elliptical, smooth anteriorly, but with delicate transverse folds behind; elytra about the length of the head and thorax together, and three times the width of the latter at its base, faintly striated with an oblong yellowish patch towards the apex of each; antennæ dark brown; legs pitchy, femora at the base and tibiæ in the middle (nearly obsolete, however, in the anterior pair) testaceous-yellow; body beneath pitchy-brown, shining. Length 5 lines.

Although the genus *Casnonia* is found in India as well as in South America, this is, I believe, the only species yet detected in

* While this sheet was passing through the press, Dr. Adams received another collection from Dacca, evidently made in a more favourable season; still, although there is an addition of many tropical genera, European vastly predominate; and it is worth notice, that nearly all these tropical genera have a very wide range, as for example, *Anthia*, *Chrysochroa*, *Protætia*, *Xylonychus*, *Cerosterna*, *Olenocamptus*, *Glenea*, *Apomecyna*, *Batocera*, *Xylorhiza*, &c., all of which are represented by the commonest species.

† The same tendency has been noticed in plants, so far as those of America and Australia are concerned.

Australia, and so far it appears to be absent from the Indian Islands. The present insect is rather larger, with a shorter thorax, than any *Casnoniæ* that I am acquainted with.

Sostea [Parnidæ].

Head small, completely retractile within the thorax. Antennæ received, in repose, in a cavity beneath the eye; 11-jointed, the first very large, laminate, the second dilated inferiorly, the remainder forming a compact flabellate mass. Eyes rounded, entire. Mandibles bidentate at the apex. Maxillæ with lobes, short and broad. Maxillary palpi short, the last joint very large, cylindrical; the labial claviform. Mentum transverse, lobed in front. Labium dilated anteriorly. Prothorax transverse, convex, nearly semicircular. Elytra ovato-triangular, very convex, gibbous towards the base. Legs slender, coxæ distant, tarsi short. Prosternum received in a notch of the mesosternum.

These characters are drawn up exclusively from *S. Westwoodii*; but the other species so completely resemble it, that there can be no doubt as to their generic identity. In all, the elytra have nine rows of punctures on each. The structure of the antennæ will be better comprehended by the figure* than by any description, but owing to their minuteness, I was unable to detach completely the large basal joint; when in repose it appears to act as a valve, closing in entirely the rest of this organ: all the joints composing the flabellate mass are what may be called boat-shaped, except the last, each being received at its base, and for the greater part of its length, in the concavity of the preceding one,—the first, however, being so much more dilated as so far to enclose the succeeding or fourth joint, that it is only visible at its free extremity; and unless this is attended to, the antennæ will appear to be composed of ten joints only.

I have dedicated the first species to J. O. Westwood, Esq., M.A., F.L.S., &c., and have adopted his views respecting the position of the genus, of which, indeed, there can be no doubt.

Sostea Westwoodii. (Pl. II. fig. 6.)

S. ovata, fusco-atra, nitida, longe setosa; scutello triangulari; pedibus rufescentibus.

Hab. Borneo (Sarawak).

Ovate, shining brownish-black, covered with scattered long black setose hairs; prothorax sparingly punctured; scutellum triangular; elytra strongly punctured; legs brownish-ferruginous. Length 2 lines.

* This plate was a first attempt at drawing on stone.

Sostea carbonaria.

S. suboblongo-ovata, atra, nitida, breviter setosa; scutello oblongo; tarsis rufescentibus.

Hab. Moluccas (Batchian).

Ovate, a little inclining to oblong, shining black, with short scattered black setose hairs; scutellum oblong; tarsi ferruginous-red. Length $1\frac{1}{2}$ line.

Smaller than the last, with which it agrees in shape (except that it is a little longer proportionally), punctuation, &c.; but it is at once distinguished by its oblong-ovate scutellum.

Sostea æneipennis.

S. ovata, nigra, nitida, longe setosa; scutello triangulari; elytris æneis; pedibus rufo-ferrugineis.

Hab. Borneo (Sarawak).

Ovate, shining bluish-black, with long setose hairs; prothorax rather sparingly punctured; scutellum triangular; elytra brassy; legs reddish-ferruginous. Length $2\frac{1}{4}$ lines.

Sostea cyanoptera.

S. ovata, atra, nitida, setosa; scutello triangulari; elytris læte cyaneis; pedibus ferrugineis.

Hab. Borneo (Sarawak).

Ovate, shining black, with moderately long setose hairs; prothorax finely punctured; scutellum triangular; elytra rich ultramarine blue; antennæ pale testaceous; legs ferruginous. Length 2 lines.

Sostea secuta.

S. ovata, fusca, subnitida, setosa; prothorace griseo-pubescenti; elytris obscure cyaneis; pedibus ferrugineis.

Hab. Borneo (Sarawak).

Ovate, dark brown slightly inclining to reddish, with long setose hairs; prothorax covered with a short thick greyish pile; scutellum triangular; elytra deep indigo-blue, shining but slightly, with a pale, thin pubescence; legs ferruginous. Length $1\frac{1}{2}$ line.

Resembles the last, but is smaller, with a very decided pubescence, which is almost absent in the rest of the genus.

Sostea elmoides.

S. breviter ovata, fusca, longe setosa, fortiter punctata; scutello subcordato; pedibus rufo-ferrugineis.

Hab. Borneo (Sarawak).

Shortly ovate, dark brown, with long setose hairs, strongly punctured above; scutellum subcordate; legs reddish-ferruginous. Length $1\frac{1}{2}$ line.

Broader and more rounded at the apex of the elytra than any of its congeners, and proportionably shorter.

BYRSAX [Colydiidæ].

Head small, vertical, hidden above by the prothorax. Eyes large, rounded, partially divided by the cheek. Antennæ retractile, short, gradually increasing upwards; the first joint rather slender, the second shortest, the third and fourth longest and equal, the fifth triangular, the sixth to the tenth transverse, the eleventh shortly ovoid. Labrum and epistome very small. Palpi short, linear, the terminal joint ovate. [Mentum transverse; labium oblong, entire, as seen *in situ*.] Prothorax very transverse, gibbous in the middle, bicornuted anteriorly, the margins dilated and crenulate. Elytra short, very convex, tuberculate, with broad crenulate margins. Legs of moderate size; tarsi with the first three joints very short, equal, with fine hairs beneath. Prosternum strongly compressed. Mesosternum toothed.

In habit this genus closely resembles the *Diaperis horrida*, Ol., with which Mr. Walker's *Asida horrida* is probably identical. Its real affinity, however, if we are to be guided by the tetramerous tarsi, is with *Endophlœus*, *Pristoderus*, and some other little-known and even undescribed forms among the Colydiidæ, but differing from all in its head being perfectly hidden by the prothorax when viewed from above*.

Byrsax cœnosus. (Pl. III. fig. 7.)

B. rotundatus, pellicula fusco-murina indutus, infra piceus; antennis palpisque brunneis.

Hab. Singapore.

Nearly orbicular, very convex, dark brown, covered with a thin yellowish-brown pellicle, which readily peels off; prothorax with two short porrect horns in front; scutellum small, triangular; elytra each with three tubercles placed near the suture, the two anterior much the largest; body beneath pitchy; antennæ and palpi light brown. Length 4 lines.

The figures represent the head as seen from below, and the intermediate tarsus.

SPHÆROMORPHUS [Scarabeidæ].

Germar, Zeitschr. für d. Entom. iv. p. 111.

Sphæromorphus acromialis.

S. convexus, fusco-piceus; prothorace antice elevato, basi inæquali; elytris suboblongis, elongato-punctatis, humeris elevatis bituberosis.

Hab. Singapore.

* The male (which I have only just noticed in the British Museum) has two long erect horns on the head. The same collection contains a second species of this genus, also from Singapore.

Convex, dark pitchy-brown; head rather broad and a little flattened in front, finely punctured; prothorax very transverse, with numerous areolated punctures, tumid anteriorly behind the head, the sides and disc somewhat concave, the base with two round prominences on each side and a transverse raised line behind them, the anterior angles short, obtuse; scutellum triangular, lying in a hollow between the elytra; elytra shining, slightly oblong, covered with irregular elongate punctures, elevated at the base, the shoulder with two tuberous prominences; antennæ, palpi, body beneath, and all parts of the legs not exposed when the animal is rolled up, pale ferruginous. Length 2 lines.

Sphæromorphus Wallacei.

S. subdepressus, nigro-piceus; prothorace æquo; elytris rotundatis, basi paullo convexis.

Hab. Borneo (Sarawak).

Subdepressed, dark pitchy inclining to black; head slightly convex, finely punctured; prothorax smooth, even, with minute areolated punctures, its anterior angles rounded; scutellum very large, triangular; elytra with a nearly rounded outline, the base towards the shoulders very slightly convex, covered with delicate elongate punctures; antennæ, palpi, body beneath, and legs, where not exposed when the animal is rolled up, ferruginous. Length 1½ line.

The occurrence of a genus so purely American as *Sphæromorphus* in Borneo may well excite surprise, as, *à priori*, it might have been supposed, if any of that group occurred at all in the Indian Archipelago, it would have been either a new form, or the Madagascar *Synarmostes*. I cannot, however, find, from dissection of *S. acromialis*, any variation of character sufficiently marked to warrant its separation from *Sphæromorphus*. Dedicated to Mr. A. Wallace, to whose researches in the Indian Archipelago we owe so much.

Idgia [Telephoridæ].

Laporte de Castelnau, in Silberm. Rev. Ent. iv. p. 27.

Idgia flavirostris.

I. viridis; capitis fronte nigra; rostro, prothorace, femoribusque flavo-testaceis.

Hab. North China.

Elongate, deep green, scarcely shining; head thinly punctured, a deep A-shaped impression between the eyes, front to just below the eyes black, rest of the head and palpi yellow; prothorax yellow, subquadrate, a little broader than the head, its sides towards the base somewhat concave with a longitudinal impression in the centre; scutellum obtuse behind; elytra deep green, narrow (from contraction

in drying appearing acuminate at the apex), very minutely punctured with small granular points principally on the basal half, and sparingly covered with short stiffish hairs (invisible except under the lens); antennæ about half the length of the body, the four basal joints yellow, the remainder dark brown; legs slender, coxæ and femora testaceous-yellow, tibiæ and tarsi brown; body beneath black, breast and sides of the abdomen pale yellow. Length 6 lines.

Dascyllus [Dascyllidæ].

Latreille, Précis de Carac. gén. des Ins. p. 43.

Dascyllus congruus.

D. elliptico-ovatus, fusco-piceus, griseo-pilosus; antennarum articulis subcylindraceis.

Hab. North China.

Ovate-elliptical, pitchy-brown, everywhere covered with short, coarse greyish hairs; scutellum broadly cordate; joints of the antennæ nearly cylindrical (particularly the last seven). Length 6 lines.

Closely allied to the European *D. cervinus*, but larger and more robust, the thorax a little longer, the scutellum less transverse, and the joints of the antennæ more cylindrical, or rather less contracted at the base.

Cylidrus [Cleridæ].

Latreille, Fam. Nat. p. 354.

Cylidrus centralis.

C. piceus; plaga magna fulva communi medio elytrorum; pedibus quatuor posticis testaceo variis.

Hab. Moreton Bay.

Pitchy-brown, very glossy; head and prothorax finely punctured; elytra minutely punctured in rows, a large, nearly median fulvous-yellow patch common to both; palpi and four or five basal joints of the antennæ fulvous; middle and posterior legs, especially the latter, testaceous, slightly varied with brown. Length 3 lines.

C. nigrinus, from Tasmania, is, I believe, the only species of this widely diffused genus hitherto described from the Australian province.

Cylidrus alcyoneus.

C. cyaneus; capite chalybeo-atro; femoribus testaceis; antennis nigris, basi palpisque fulvis.

Hab. New Guinea (Dorey).

Rather narrower than *C. cyaneus*, Fab., and very glossy; head bluish-

black, finely punctured; prothorax metallic green, sometimes blue, slightly corrugated at the side, coarsely punctured at the anterior margin; elytra rich indigo-blue, with a few scattered pale yellowish hairs; antennæ black, the four basal joints and palpi fulvous; legs testaceous, tibiæ and tarsi varied with brown; abdomen, and sometimes the metasternum, brownish-testaceous. Length 5 lines.

Eleale [Cleridæ].

Newman, The Entom. p. 36.

Eleale sellata.

E. chalybeo-viridis; prothorace pedibusque nigro-æneis; elytris angustis, singula plaga magna elongata, antennisque flavis.

Hab. Moreton Bay.

Rather narrow and subdepressed, covered with long black setose hairs; head with numerous shallow punctures, dark bluish-green; prothorax transversely corrugated, brassy-black; scutellum covered with white hairs; elytra rather elongate, a little contracted posteriorly, closely and deeply punctured in nearly regular lines at the base, more dispersed towards the apex, which has a slight fringe of greyish hairs, dark steel-blue, each with a long fulvous patch extending from the shoulder to about two-thirds of its length, but not meeting at the suture; legs brassy-black; antennæ yellow; eyes brown. Length 4 lines.

Eleale lepida.

E. aureo-viridis, modice elongata; elytris purpureo-atris, fasciis duabus, scutelloque fulvis.

Hab. Moreton Bay.

Moderately elongate; head and prothorax thickly punctured, deep golden-green; elytra slightly contracted in the middle, coarsely punctured, dark purple-black,—a broad band nearly in the middle, another at the apex, and the scutellum fulvous-yellow; legs brassy-black, the tibiæ more or less fulvous; eyes black; antennæ yellow; body beneath coppery, with long greyish hairs. Length 5 lines.

Eleale simulans.

E. aureo-viridis, breviuscula; elytris purpureo-atris fasciis duabus fulvis; scutello concolore.

Hab. Moreton Bay.

Closely resembles the last, but is smaller and proportionably shorter, the sides of the elytra parallel, the scutellum black, the eyes dark blue, the head and legs with a decided bluish tint, &c. Length 3½ lines.

SCROBIGER [Cleridæ].

Spinola, Monog. de Clérites, i. p. 230.

Scrobiger albocinctus.

S. ater; prothorace subtilissime punctato; elytris fasciis duabus albis, una subobsoleta, altera, pone medio, obliqua.

Hab. Moreton Bay.

Nearly allied to *S. idoneus*, Newm., but the eyes are smaller and less prominent, the prothorax more finely punctured, the anterior band on the elytra nearly obsolete and more median, and the posterior *directly* oblique, not curved. Length 5 lines.

CORMODES [Cleridæ].

Head rather short, broad in front. Eyes ovate, vertical, scarcely emarginate. Antennæ as long as the thorax, arising laterally in front of the eyes, 11-jointed, the first largest, the second shorter than the third, the last three forming a slender pointed club. Palpi with the terminal joint of the labial securiform, of the maxillary cylindrical. Labrum small, hairy. Prothorax subdepressed, rounded in front and at the sides, contracted posteriorly,—the pronotum confounded with the parapleura. Scutellum transverse. Elytra depressed, narrowed at the base, gradually expanding at the sides, with a strongly marked carina at the shoulder, but no humeral angle. Wings none. Legs stout, femora clavate, tibiæ and tarsi short, the first tarsal joint nearly covered above by the second; claws simple. Abdomen of five segments.

Although very dissimilar in habit to the Cleridæ in general, there is no doubt that this genus is closely allied to *Natalis*. It is, I believe, the only one of its family without wings,—a condition due, as Mr. Darwin tells us, in reference to other insular apterous Coleoptera, to "the action of natural selection, but combined probably with disuse," and therefore it would not, perhaps, be very difficult for the advocates of his theory to suppose *Cormodes* a descendant of *Natalis*, to which it certainly bears a very peculiar resemblance. The absence of a real humeral angle, but its simulation by an elevated and narrow carina (absent in all other Cleridæ), and the, in other respects, well-developed elytra, do not appear to lead to the conclusion of the gradual reduction of the wings which such an explanation implies, because corresponding with this presumed reduction we have an unaccountable and apparently unnecessary increase of the elytra, combined, however, with the absorption of the humeral angle. I possess a Longicorn, closely allied to Mr. Wollaston's oceanic genus *Deucalion*, also without humeral angles, but having perfect, although excessively small, wings, and of course entirely useless for the purpose of flight; but in this case the wings might at any time

disappear from physical causes alone, just as we find certain species of Hemiptera becoming apterous in cold localities or in very cold seasons. In these and other instances of abnormal variation, which in almost every case seem to have some speciality of their own, we look in vain for the "advantage" which is supposed to have been acquired in the "struggle for life." An insect so suggestive of Mr. Darwin's theory should appropriately bear his name.

Cormodes Darwinii. (Pl. II. fig. 8.)

C. testaceo-brunneus, fere piceus, hirtis sparsis indutus; prothoracis medio sulcato; elytris pallidioribus, seriatim punctatis.

Hab. Lord Howe's Island, South Pacific.

Pale testaceous-brown inclining to pitchy, particularly on the prothorax and base of the elytra, and everywhere but very sparingly covered with loose greyish hairs; head punctured in front; prothorax with a short deep longitudinal impression in the centre; elytra rather wider than the base of the prothorax, with a strong basal carina, which gradually disappears at rather beyond half their length, the shoulder with another strong carina which is continued nearly to the apex, the side beneath the outer carina bent inwards at the shoulder, coarsely and regularly punctured, the punctures becoming smaller posteriorly; mandibles pitchy; eyes brown. Length 7 lines. British Museum.

AULICUS [Cleridæ].

Spinola, Rev. Zool. 1841, p. 74.

Aulicus viridissimus.

A. subangustus, chalybeo-viridis, nitidus; antennis fusco-luteis; pedibus atro-cyaneis, gracillimis.

Hab. Australia (Sydney).

Rather narrow, dark chalybeate green, shining, with sparse, long, black, setose hairs; head and prothorax coarsely punctured, the latter with a deep transverse groove anteriorly, and a longitudinal one in the centre; elytra about two and a half times longer than broad, thickly and coarsely punctured in rows; legs (especially the posterior pair) slender, dark blue; body beneath shining greenish-blue. Length 3 lines.

Aulicus lemoides.

A. latior, aureo-viridis, nitidus; capite prothoraceque cupreis; antennis flavis; pedibus piceis, femoribus basi apiceque testaceis.

Hab. Australia (Moreton Bay and Sydney).

Rather broad, golden-green, shining, with numerous pale greyish setose hairs; head and prothorax rich copper-red, sparingly and rather less coarsely punctured, the latter with the transverse impression nearer the anterior border, and with the longitudinal one rather less deep than in the last: elytra only twice as long as broad, coarsely punctured in

rows; antennæ, palpi, mouth, and throat pale yellow; legs pitchy, stout, femora at the base and apex (or legs altogether) testaceous; body beneath green, more or less covered with greyish hairs. Length 3 lines.

Aulicus instabilis, Newm., the type of the genus, is such a variable insect, that it is quite possible this may be but one of its protean forms; nevertheless, besides its smaller size, it is more convex, the prothorax narrower and less depressed, its greatest breadth being behind the middle, and the posterior and anterior margins being nearly equal; its head is also shorter, the eyes proportionally larger, and the antennæ longer; moreover I have never seen any specimen of *A. instabilis* approaching this in colour.

Allelidea [Cleridæ].

Waterhouse, Trans. Ent. Soc. vol. ii. p. 193.

Allelidea brevipennis. (Pl. II. fig. 9.)

A. elongata, atra, nitida; elytris brevibus, fasciis duabus antennisque (apice excepta) albidis; tibiis flavis.

Hab. Australia (Melbourne).

Very slender, elongate, deep glossy black; the prothorax moderately, the elytra strongly punctured, the latter very short, not exceeding half the length of the abdomen, the base and band at the apex a pale yellowish-white; antennæ white, except the three apical joints; tarsi yellow. Length 2 lines. British Museum.

Lemidia [Cleridæ].

Spinola, Rev. Zool. 1841, p. 75.

Lemidia carissima.

L. fulvo-testacea, nitida; elytris læte-viridibus, humeris, fascia media apiceque aurantiacis; tibiis tarsisque posticis nigris.

Hab. Australia (Melbourne).

Shining reddish-testaceous; elytra bright green, shoulders, band across the middle, and apex rich orange-red; eyes, tibiæ and tarsi black; throat, meso- and metathorax, and patch on the abdomen brassy-black. Length 3 lines.

Lemidia insolata.

L. pallide fulva, breviter setosa; prothorace nitido; elytris striato-punctatis, dense tomentosis; oculis apiceque mandibularum nigris.

Hab. Macassar.

Pale tawny, covered with short, erect, setose hairs; head and prothorax glossy; scutellum and elytra with a dense opake pale tomentum, the latter regularly and finely punctured; eyes and tips of the mandibles black. Length 5 lines.

TENERUS [Cleridæ].

Laporte de Castelnau, Silberm. Rev. Entom. iv. p. 43.

Tenerus telephoroides.

T. subangustatus, ater, nitidus; prothorace, articulo basali antennarum, labro, tibiisque flavis.

Hab. Australia (Moreton Bay).

Rather narrow and depressed, black, shining, finely punctured, covered with short setulose hairs; head scarcely as broad as the prothorax, black; oral organs and palpi yellow, except the tips of the mandibles, which are black; prothorax reddish-yellow, the anterior border black, three mammillated prominences on the disc, placed transversely; scutellum small, black; elytra deep black, shoulders rather prominent; femora and tarsi black, coxæ and tibiæ yellow; antennæ black, the basal joint yellow; body beneath black, shining, except the prothorax, which is yellow. Length 3 lines.

The joints of the antennæ are strongly produced on one side, as in the majority of the species of this genus, beginning from the third. I have only seen a single specimen, which is in my own collection.

CHORESINE [Cleridæ].

Head small, transversely triangular in front, slightly exserted behind. Eyes rounded, prominent, entire. Antennæ 11-jointed, linear, not half the length of the body, arising in front of the eyes; the first joint twice as long as the second, which is only a little shorter than the third, the fourth and fifth slightly longer, the rest subequal. Labrum transverse, entire. Mandibles strongly curved, bidentate at the apex. Palpi claviform, the joints very short and transverse, the maxillary much larger than the labial. Maxillæ rounded, two-lobed. Labium obovate. Prothorax subquadrate, constricted posteriorly before the base; pronotum distinct from the parapleuræ. Scutellum small, triangular. Elytra convex, nearly hemispherical, advancing at their insertion on the base of the prothorax. Legs slender; first joint of the anterior tarsi nearly covered by the second above; the middle and posterior tarsi with all the joints free, the three intermediate of all furnished with lamellæ. Abdomen slender, of six ? segments.

The habit of this very remarkable insect approaches in some respects the Melyrideous genus *Chalcas*; the structure of the tarsi, however, is that of a Clerid, and although a very isolated form, I see no difficulty in placing it in the subfamily Enopliinæ.

Choresine advena. (Pl. II. fig. 2.)

C. flava; elytris cyaneis; oculis pectoreque nigris.

Hab. Moluccas (Batchian).

Head and prothorax pure yellow; scutellum and elytra dark indigo-

blue, covered with a sparse pale greyish pubescence; eyes and mesosternum black; rest of the body beneath, eyes and antennæ pale yellow. Length 2 lines.

DOLIEMA [Tenebrionidæ].

Head short, transverse. Eyes lateral, contiguous to the prothorax, partially divided by the antennary orbit, larger below than above. Labrum small, rounded in front. Mandibles thin, triangular, bidentate at the apex. Antennæ short, perfoliate, moniliform, and gradually increasing in thickness from the fourth joint to the seventh or eighth. Mentum subquadrate. Labium small, entire; labial palpi stout, clavate, the maxillary with its terminal joint subsecuriform. Maxillæ two-lobed, the lobes ciliated (the inner armed* ?). Prothorax depressed, contracted behind, broadly emarginate in front, its anterior angles rounded. Elytra very depressed, parallel, abruptly bent down at the sides; the epipleural plait narrow, terminating before reaching the apex. Legs short; coxæ distant; tibiæ spurred, the anterior serrated externally; tarsi slender, the first joint of the posterior as long as the last. Pro- and mesosterna broad and flat, the former rounded posteriorly, and received into a slight emargination of the mesosternum.

A remarkable genus, which might readily be taken for a *Platisus*, but which is very closely allied to, if not identical with, Mr. Wollaston's *Adelina*. As, however, the characters of his genus were drawn up from an insect which he suspects may not be congeneric with certain representatives in the British Museum of M. Chevrolat's original, but unpublished *Adelina* (but which unquestionably includes the species now to be described), and his detailed description differs in several, although somewhat secondary points, from that given above, and he has taken no notice of the peculiar elytra, I have thought it better to consider my species the type of another group; and I do so with less hesitation, as the name of *Adelina* has been long preoccupied by a genus of Gasteropods. *Doliema*, thus restricted, has a remarkable range, *D. platisoides* occurring in Ceylon, Manilla, and the Moluccas, while a closely-allied species, differing in nothing apparently but in having a somewhat broader head, is found in the valley of the Amazons.

Doliema platisoides. (Pl. III. fig. 8.)

D. pallide ferruginea, nitida; capite modice transverso; prothorace postice bifoveolato.

Hab. Moluccas (Batchian); Ceylon; Manilla.

Extremely depressed, pale rusty testaceous, shining, and very mi-

* With a high power of the microscope, I cannot satisfactorily determine whether the inner lobe of the maxillæ be armed or not.

nutely punctured; disc of the prothorax slightly concave, with two large foveæ at the base; scutellum subquadrate; elytra punctured, principally in rows of about six on each; eyes dark brown. Length $2\frac{1}{2}$ lines.

EURYPUS [Tenebrionidæ ?].

Kirby, Trans. Linn. Soc. vol. xii. p. 389.

Eurypus cupripennis.

E. subangustus, subtilissime punctatus, cæruleo-chalybeatus, nitidus; elytris cupreis.

Hab. Brazil (Para).

Head rounded, pitchy, finely punctured; eyes and antennæ black; prothorax narrower than the head or elytra, steel-blue, finely punctured, a deep transverse impression posteriorly; elytra elongate, gradually widening behind, rich coppery-red, minutely punctured; legs small, pitchy; body beneath steel-blue. Length 5 lines.

Stilpnonotus eurypiformis (named, but not described, by Mr. G. R. Gray in the English edition of the 'Règne Animal') appears to me to be referable to Mr. Kirby's *Eurypus*, a genus not alluded to by M. Lacordaire in his great work. Mr. Kirby's species, *E. rubens*, from the figure, seems to be a much broader insect than the present, which it is not impossible may be identical with Olivier's *Tenebrio nitens*. The pronotum is confounded with the parapleuræ, and the anterior coxæ are contiguous and greatly exserted, two characters which do not accord well with the Tenebrionidæ: the possession of antennary orbits forbids its association with Lagriidæ. In habit it is slightly assimilated to *Camaria*.

ŒDEMUTES [Helopidæ].

Head transversely subquadrate; epistome large, deeply inserted in front. Labrum short, transverse, broadly emarginate. Eyes rather broad, sublunate. Last joint of the labial palpi securiform, of the maxillary narrowly triangular. Antennæ very short, clavate, 11-jointed, the first joint nearly concealed by the antennary orbit, the second short, third longest, the rest gradually increasing in breadth to the seventh, which, with the remainder, forms a sort of club. Prothorax transverse, slightly convex, carinated at its sides, the base closely applied to the elytra. Scutellum small. Elytra ovate, very convex. Legs rather short; anterior femora strongly toothed; tibiæ slightly curved; tarsi very short, the last joint longer than the rest together. Prosternum received in a notch of the mesosternum.

Very near *Sphærotus*, from which it differs in the antennæ and legs, especially in the profemora toothed as in *Enoplopus*, and in

the form of the prosternum and its contiguity to the mesosternum. My specimen is the only one I have seen, and was obtained from a small collection sent to this country by Mr. Thwaites, the Superintendent of the Botanic Garden at Peradenia.

Œdemutes tumidus. (Pl. II. fig. 4.)

Œ. æneus; capite prothoraceque modice punctatis; elytris elevatis, punctato-sulcatis.

Hab. Ceylon.

Brassy-brown; head and prothorax irregularly, but not closely punctured; elytra very gibbous, as if inflated, each with about seven rows of strongly sulcated punctures; body beneath paler and less brassy. Length 4 lines.

CAMARIA [Helopidæ].

Encycl. Méthodique, Ins. vol. x. p. 454.

Camaria spectabilis.

C. viridi-ænea, subiridescens; elytris punctato-striatis, interstitiis cupreo-vittatis, apice obtusis; tarsis chalybeatis; corpore infra viridi-aureo.

Hab. North China.

Brassy-green, somewhat iridescent; head and prothorax finely punctured, the former with a semicircular impression above the epistome (common apparently to the genus); scutellum small, rounded posteriorly, chalybeate blue; elytra very convex, punctate-striate, punctures minute, the interstices in certain lights showing a stripe of rich copper-red, the apex obtuse; femora and tibiæ finely punctured, varied with blue, purple, and gold; tarsi dark blue; labrum, palpi, antennæ, and eyes black; body beneath rich golden-green. Length 12 lines (♂), 14 lines (♀).

ELACATIS [Melandryidæ].

Head broadly triangular, as wide as the prothorax. Eyes distinct, large, ovate, contiguous to the prothorax. Antennæ arising from beneath a narrow orbit, eleven-jointed, the two basal joints thick, the second shortest, the third to the eighth subequal, slender, the last three forming a short ovate club. Labrum small, rounded anteriorly. Mandibles short, with a single tooth in the middle. Palpi robust, claviform. Maxillæ with two ciliated lobes. Labium small, subcordate. Mentum transverse. Prothorax subquadrate, posterior angle emarginate, the parapleuræ distinct. Elytra as broad as the thorax, tapering posteriorly, the epipleural plait very narrow. Legs short; anterior coxæ conical, contiguous, their acetabula closed behind, the intermediate subapproximate, oblique, furnished with trochanters, the posterior transverse; tibiæ spurred; tarsi very slender, the first joint long, the penultimate entire; claws simple. Mesosternum narrow, truncate behind.

I have not placed this genus among the Melandryidæ without hesitation, on account of its antennary orbits, and its acetabula closed behind; on the other hand, its parapleuræ, distinct from the pronotum, make its location in any other family still more difficult. Except the comparative shortness of the maxillary palpi, it agrees with the Melandryidæ in most of the characters given by M. Lacordaire, according also in form with some of its genera, without, however, being related to any of them. Like *Tetratoma*, it has the antennæ terminating in a club, but only composed of three joints. In the drawing the maxillary lobes are much too large, compared to their palpus.

Elacatis delusa. (Pl. II. fig. 5.)

E. griseo-testacea, punctulata; elytris fasciis tribus dentatis, maculaque basali nigris.

Hab. Borneo (Sarawak); New Guinea (Dorey).

Greyish-testaceous, finely punctured, a short setulose hair arising from each puncture; prothorax with three or four very minute teeth at the side, and a shallow transverse impression near the base; scutellum long and narrow; elytra with three black, toothed bands, the first often interrupted or replaced by a few spots; a patch of the same colour, also sometimes broken up into spots, at the base near the scutellum; antennæ and legs testaceous-yellow, more or less clouded with brown; body beneath ferruginous, slightly tomentose. Length 1½–2 lines.

My New Guinea specimen agrees perfectly well with those from Borneo; but they all vary a little in colour, some being darker than others, and the black band and scutellar patch being more or less interrupted. A second species, and a much finer one, from the Moluccas, is in the collection of W. W. Saunders, Esq.

Biophida [Melandryidæ ?].

Head moderately long, tumid in front, suddenly contracted behind into a narrow neck. Eyes distant, lateral, reniform. Antennæ arising close to the eye, filiform, half as long as the body, 11-jointed; the second very short, the rest subequal. Labrum transverse, inserted below the line of the front. Labial palpi filiform; the maxillary elongate, with the last joint narrowly securiform. Prothorax depressed, semicircular, as wide as the elytra behind, its parapleuræ distinct. Elytra depressed, rather broader behind. Legs moderate; anterior and middle coxæ contiguous, the former conical and elongate; tibiæ spurred; tarsi slender, the first joint of the four posterior as long or longer than the rest together, the penultimate bilobed; claws undivided, strongly toothed beneath.

This is another of those puzzling genera, of which there are so

many among the Heteromera; in its habit it resembles *Scraptia*; but as the more important characters are those of Melandryidæ, and that family is also one which contains several anomalous forms, it seems less objectionable to place it in that group than in any other.

Biophida unicolor. (Pl. III. fig. 4.)

B. fulvo-testacea, pube pallidiori vestita; prothorace bifoveolato; oculis fere concoloribus.

Hab. Natal.

Entirely of a light-brownish testaceous colour, rather closely covered with short stiffish paler hairs; a large fovea on each side of the prothorax near the posterior angle; scutellum transverse, rounded behind; eyes a little darker. Length 4 lines.

Ischalia [Pedilidæ?].

Head small, contracted behind, and narrowed anteriorly below the eyes. Antennæ shorter than the body, linear, 11-jointed; second joint smallest, the rest subequal. Eyes reniform. Epistome and labrum large, covering the mandibles. Maxillary palpi robust, the last joint securiform; labial much shorter, terminating in a broad triangular joint. Maxillæ short, obtuse. Prothorax narrowed anteriorly, irregular above, its posterior angles produced, the epipleuræ confounded with the pronotum. Elytra broader than the prothorax, subparallel, bent at the side, and concave on the disc, the epipleural plait narrow. Legs moderate, anterior acetabula open behind; all the coxæ approximate, the anterior and intermediate conical; tibiæ unarmed; tarsi short, first joint longer than the rest together, the penultimate bilobed; claws simple.

I refer this genus doubtfully to Pedilidæ, notwithstanding that it agrees in two characters which M. Lacordaire considers of high importance, viz. the anterior acetabula largely open behind, and the complete contiguity of the posterior coxæ. The family, however, as it stands at present, is not a satisfactory one, and its learned proposer will probably see reasons for modifying it eventually.

Ischalia indigacea. (Pl. III. fig. 6.)

I. cyaneo-violacea; antennis pedibusque nigris, illis articulis tribus ultimis albis.

Hab. Borneo.

Deep violet-blue; head and prothorax very minutely punctured (scarcely visible under a strong lens), the latter more or less irregular; scutellum small, triangular; elytra coarsely punctured, rich violet-blue; antennæ black, with the last three joints white; legs black; body beneath black, with a slight bluish tinge on the breast. Length 3–4 lines.

The irregularity of the surface of the prothorax varies; in extreme

cases it has the appearance of being shrivelled up by desiccation. The structure of the palpi and maxillæ will be seen in the figures; the labium and mentum unfortunately disappeared in dissection.

Macratria [Pedilidæ].

Newman, Entom. Mag. vol. v. p. 377.

Macratria mustela. (Pl. II. fig. 7.)

M. fusca; tarsis (basi excepta), palpis antennisque fulvescentibus, his apicem versus infuscatis; scutello parvo.

Hab. Natal.

Dark brown, sparingly covered with a pale golden-yellow pile; head and prothorax finely punctured, the latter with the sides posteriorly nearly parallel; scutellum small, subtriangular; elytra very thickly punctured*, with a larger series of punctures arranged in closely set rows, which are divergent at the base; antennæ and palpi tawny, the former, except three or four of the basal joints, gradually becoming darker; legs dark brown; the tarsi, except the basal joint of the posterior, yellowish. Length 3 lines.

Macratria fulvipes.

M. nigra; pedibus (tibiis posticis exceptis), palpis antennisque fulvis, his apicem versus infuscatis; scutello magno.

Hab. Macassar.

Black, very sparingly covered with a pale golden-yellow pile; head and prothorax rather coarsely punctured, the latter with the sides gradually but very slightly contracting posteriorly; scutellum large, subquadrate; elytra finely punctured, a larger series in rows as in the last species; legs (except the posterior tibiæ), palpi, and antennæ tawny-yellow, the latter with the three or four terminal joints darker. Length 2½ lines.

Macratria pallidicornis.

M. picea; antennis, palpis pedibusque (posticis exceptis) testaceis; capite fulvescenti.

Hab. Borneo.

Pitchy, very sparingly covered with a pale yellowish or greyish pile; head and prothorax slightly punctured, the latter somewhat ovate; scutellum indistinct; elytra punctured as in the last species, but with the pile more confined to the rows of punctures; antennæ, palpi, and four anterior legs pale testaceous; the posterior femora, except at the base, tibiæ at the base and apex, and basal joints of the tarsi, dark brown or nearly black; head tawny-yellow. Length 2¼ lines.

* It is rather the appearance of punctures caused by minute transverse wrinkles.

Macratria fumosa.

M. rufo-brunnea; pedibus (posticis exceptis), palpis antennisque fulvis, his apicem versus infuscatis; capite pedibusque posticis nigris.

Hab. India (Dacca).

Light reddish-brown, with a pale greyish pile; head and prothorax very finely punctured, the latter rather broad and somewhat ovate; scutellum subtransverse; elytra punctured, &c., as in the preceding; legs (except the posterior pair), palpi, and antennæ fulvous, the latter with the last three joints dark brown; head and hind legs black, except the extremity of the tarsi, which are pale yellow. The claws in this species appear to be broadly toothed at their base. Length $2\frac{1}{4}$ lines.

Macratria subguttata.

M. atra, nitida, sparse albo-hirta; elytris, singulo maculis duabus, fere obsoletis, albis.

Hab. Moluccas (Batchian).

Glossy black, with much-dispersed whitish hairs; each elytron with two rather indistinct white or somewhat ashy spots, one a little before the middle, the other the same distance beyond it; antennæ, palpi, and mouth pale yellow, the former gradually deepening towards the apex into black; tarsi pale yellowish, except the first joint of the posterior pair. Length 3 lines.

EMYDODES [Lagriidæ].

Head very small, rounded behind the eyes, then contracting into a neck, which is nearly immersed in the prothorax. Eyes large, oblong, emarginate, transverse, and approximating both above and beneath. Labial palpi very small; maxillary elongate, the terminal joint ovate, pointed. Antennæ robust, shorter than the body, arising close to the eye, the first joint tumid, the second very short, the third to the tenth thick, triangular, with a bifid prolongation at the apex of each on one side, the eleventh elongate-ovate. Prothorax slightly transverse, rounded anteriorly, twice the breadth of the head, but much narrower at the base than the elytra, its parapleuræ confounded with the pronotum. Elytra depressed, with a subovate outline, the epipleura strongly bent in beneath. Legs robust; anterior coxæ large, approximate, shortly cylindrical; tibiæ not spurred, the four posterior thickened in the middle; tarsi short, the penultimate joint subbilobed; claws undivided, slightly toothed at the base.

A very curious genus, which, if rightly referred to Lagriidæ (and of this I have little doubt), differs entirely in the remarkable structure of the antennæ, in which it somewhat resembles the Pyrochroidæ. From my solitary specimen, I cannot make sure that the anterior acetabula are closed: they appear to be so, however. As far as I

can judge from the parts *in situ*, the mentum is subtriangular and the labium obcordate.

Emydodes collaris. (Pl. III. fig. 3.)

E. nigra, setoso-hirsuta; capite prothoraceque luteis.

Hab. Brazil (Para).

Black, covered with short stiff hairs; head dull reddish-yellow; prothorax thickly punctured, clear reddish-yellow; elytra coarsely punctured, each in ten rows; tibiæ with long stiff hairs. Length 3 lines.

IODEMA [Cantharidæ].

Head shortly triangular. Eyes round, prominent, entire. Labrum small, rounded anteriorly. Palpi slender; terminal joint of the labial ovate, of the maxillary subcylindrical. Antennæ short, linear, the joints slightly obconic. Prothorax transverse, narrowed in front. Elytra subdepressed, wider behind; the sides somewhat concave. Legs slender; tibiæ bicalcarate; penultimate joints of all the tarsi small, triangular.

Differs from *Cantharis*, with which only it is likely to be confounded, in the short penultimate joint of its tarsi: the claws appear to be undivided, from the close application of their two divisions.

Iodema Clarkii. (Pl. III. fig. 1.)

I. atra, nitida; elytris violaceis; tarsorum posticorum articulo primo albido.

Hab. Brazil (Organ Mountains).

Head and prothorax deep glossy black, sparingly punctured, especially the latter; scutellum narrowly triangular; elytra dark violet-blue, thickly and irregularly punctured; body beneath and eyes black; base of the first joint of the posterior tarsi whitish; spurs of the middle tibiæ, and all the claws, except at their apices, yellow. Length 4 lines.

I am indebted for my specimen to the Rev. Hamlet Clark, who took several individuals at Constancia, in the Organ Mountains.

ZONITIS [Cantharidæ].

Fabricius, Syst. Entom. p. 126.

Zonitis cyanipennis. (Pl. III. fig. 5.)

Z. angustus, glaber, ater; prothorace, scutello, femoribusque (apice excepta) luteis; elytris cyaneis, nitidis.

Hab. Australia (Melbourne).

Narrow, glabrous, shining; head black, very narrow, and produced anteriorly; prothorax reddish-yellow, much longer than broad; scutellum dull yellowish; elytra narrow, parallel, rather convex, dark

indigo-blue; legs black, with the coxæ and femora (except at the apex) yellow; meso- and metasterna, abdomen, and antennæ black. Length 6 lines.

This has scarcely the habit of any European *Zonitis*, and still less of some depressed Australian species, of which the *Z. dichroa* of Germar may probably be taken as the type.

ECELONERUS [Anthribidæ].

Schönherr, Gen. et Spec. Curcul. tom. v. p. 163 (Supplem.).

Ecelonerus albopictus. (Pl. II. fig. 3.)

E. subcylindricus, fuscus nigroque varius, fascia dentata antica et punctis tribus discoideis prothoracis, lunulis duabus magnis maculariformibus, apiceque elytrorum albis.

Hab. Australia (Moreton Bay).

Subcylindrical, pitchy, with a short dark-brown tomentum mixed with black, and blotched with pure white; head shortly ovate, brown, slightly spotted with white; prothorax subrotund, very convex, thickly punctured, dark brown, with an irregular, toothed, white, band-like mark on its anterior margin; scutellum very small, white; elytra punctato-striate, the alternate interstices raised and spotted with black, a large white lunate patch, more or less spotted with brown, extending longitudinally on the middle of each elytron, with its convexity towards the suture, and extending externally to its margin, the apex also with a white patch of the same character; antennæ pitchy-brown, slightly hairy; legs brown, annulated with white; body beneath dull cinereous, the three middle abdominal segments having on each side an impressed hairy spot; mesosternum three-lobed posteriorly. Length 6 lines.

With this fine species of *Ecelonerus* I also obtained a specimen of *Dipieza Waterhousei*, Pasc., hitherto only known from Aru, unless indeed (as I have elsewhere suggested as regards the genus) the *Œdecerus** *bipunctatus* of M. Montrouzier, from Woodlark Island, should be identical, in which case it will probably be found to be very generally distributed in those regions.

The subjoined is a list of the Australasian Anthribidæ, so far, I believe, as they have been described:—

Ecelonerus subfasciatus, *Hope.* Sydney, Melbourne, Moreton Bay.
—— insularis, *Hope.* Melbourne.
—— albopictus, *Pasc.* Moreton Bay.
Cratoparis callosus, *Schön.* (mihi invisus).

* There is a genus of Galerucinæ bearing this name (although incorrectly written *Œdicerus*) in Hugel's 'Reise durch Kaschmir,' 1842, p. 556.

Anthribus bispinus, *Erich.* Tasmania.
Basitropis peregrinus, *Pasc.* Port Essington.
—— ingratus, *Pasc.* Port Essington.
—— solitarius, *Pasc.* Moreton Bay.
Tropideres musivus, *Erich.* Tasmania.
—— albuginosus, *Erich.* Tasmania.
Aræcerus sambucinus, *MacLeay.*
Ethneca Bakewellii, *Pasc.* Melbourne.
Genethila retusa, *Pasc.* Moreton Bay.
Ancylotropis Waterhousei, *Jekel.* Moreton Bay.
Dipieza Waterhousei, *Pasc.* Moreton Bay.

Dysnos [Anthribidæ].

Pascoe, Ann. and Mag. Nat. Hist. ser. 3. vol. iv. p. 438.

Dysnos semiaureus.

D. breviter ovatus, fusco-tomentosus, obscure aureo-varius; prothorace corpore non latiore; articulis duobus basalibus tarsorum nigris.

Hab. Moluccas (Batchian).

Shortly ovate or inclining to cylindrical, with an opake brownish-black tomentum, varied on the elytra with pale longitudinal patches of pale golden hairs; prothorax not wider than the elytra; first two joints of the antennæ and the legs ferruginous, the tarsi with the two basal joints black. Length 1½ line.

Smaller and proportionably shorter than *D. auricomus*, with the prothorax nowhere wider than the elytra. In my specimen, the subulate process terminating the last joint of the antennæ is absent, a character which may probably turn out to be sexual only.

Habrissus [Anthribidæ].

Pascoe, Ann. and Mag. Nat. Hist. ser. 3. vol. iv. p. 432.

Habrissus omadioides.

H. angusto-ovatus, fusco-tomentosus griseo-varius; tibiis tarsisque annulatis.

Hab. Singapore.

Narrowly ovate, with a tawny yellowish tomentum varied with dark brown; head tawny, with a longitudinal ridge between the eyes, and one on each side beneath them, not extending to the end of the rostrum; about five elongate indefinite marks on the prothorax; elytra striato-punctate, a large dark brown patch at the base and another in the middle common to both elytra, the alternate interstices also spotted with brown, particularly at the sides; legs very distinctly annulated with clear brown and tawny; body beneath greyish, inclining to ashy. Length 3 lines.

MISTHOSIMA [Anthribidæ].

Pascoe, Ann. and Mag. Nat. Hist. ser. 3. vol. iv. p. 434.

Misthosima lata.

M. late ovata, fusca griseo-varia; pedibus brunneis, tibiis, apice, tarsisque (basi excepta) nigris.

Hab. Moluccas (Batchian).

Broadly ovate and very slightly depressed, pubescent, dark brown varied with a few spots of grey, principally on the elytra, the striæ have also a line of grey hairs in each; antennæ about two-thirds the length of the body, ferruginous, the club nearly black; legs pale brown, the tibiæ, at the apex, and tarsi, except at the base of the first joint, black. Length $2\frac{1}{2}$ lines.

NESSIARA [Anthribidæ].

Pascoe (*Nessia*), in Annals and Mag. Nat. Hist. ser. 3. vol. iv. p. 329; non *Nessia*, J. E. Gray.

Nessiara planata. (Pl. II. fig. 1.)

N. hirta, fusca, griseo-varia; elytris deplanatis, retusis, singulo postice bituberculatis.

Hab. Moluccas (Batchian).

Clothed with short appressed dark brown hairs varied with grey, which are more or less ashy; head entirely grey, the rostrum with a central carina, and a shorter one on each side below the eye; prothorax with the sides dark brown spotted with grey, the disc with a central subtriangular ashy spot which is abruptly narrowed behind; scutellum ashy; elytra punctato-striate, rather broad, flatly depressed, suddenly bent down near the apex, the outer posterior angle of each bituberculate, the depressed portion dark ashy, the sides dark brown, the alternate interstices with black and pale yellowish-grey spots; body beneath yellowish-brown; legs annulated with dull brown and pale grey; eyes pale brown, somewhat lustrous. Length 5 lines.

I have elsewhere mentioned my suspicions that this genus is synonymous with *Dendropemon*, Schön., and M. Jekel is inclined to take the same view of it; as, however, the name was previously used by Perty, or what will be considered to amount to the same thing—for his orthography was *Dendropœmon*—another name must be adopted, and *Nessia* having been applied to a group of Saurians, I have thought a modification of it to *Nessiara* will be attended with the least inconvenience. *Stenocerus platipennis*! Montrou., is evidently nearly allied to the species just described, and his three other *Stenoceri* probably belong likewise to this genus. *S. Garnotii*, Guér., and the insect figured in the 'Voyage de la Bonite,' Coleop. pl. ii.

fig. 21, under the name of *Stenocere Damier*, are doubtless also *Nessiaræ*. *Nessiara centralis*, Pasc., is found in the Moluccas, as well as in Borneo.

BASITROPIS [Anthribidæ].

Jekel, Ins. Saundersiana, p. 90.

Basitropis solitarius.

B. elongato-subcylindricus, fusco-tomentosus; capite prothoraceque obscure griseo-variis; elytris striato-punctatis, interstitiis alternis elevatis, irregulariter albo-maculatis.

Hab. Moreton Bay.

Elongate, subcylindrical, with a short dark brown tomentum, slightly varied with greyish-white; head shortly ovate, eyes rather large; prothorax a little longer than wide, varied anteriorly and at the sides with greyish; scutellum minute; elytra punctate-striate, the alternate interstices raised and spotted with white, the spots a little before, as well as behind the middle, elongate, forming an indistinct, oblique, band-like mark; antennæ dark brown; legs paler, varied with greyish; body beneath greyish-brown. Length 3 lines.

This species, together with *B. peregrinus* and *B. ingratus* from Port Essington, described by me in a recent number of the 'Annals and Magazine of Natural History' (Dec. 1859, pp. 432, 433), &c., differ from *B. nitidicutis*, Jekel, the type of the genus, in their narrower and more elongate form, and their brown, not ashy, colour.

DINORHOPALA [Curculionidæ].

Head small, abruptly contracted below the eyes into a short rostrum. Eyes large, round, prominent. Antennæ short, straight, arising close to the eyes in a cavity formed between them and a short thick process, twelve-jointed, the first subpyriform, elongate, the second shorter, subcylindrical, the third to the eighth slender, gradually diminishing in length, the last four forming an ovate compact club. Prothorax subtriangular, lobed at the base, narrow anteriorly, irregular above. Elytra large, much wider than the prothorax at the base, very irregular and spinous. Anterior and intermediate legs moderate, the femora clavate and unidentate beneath, each tibia with a single curved spur; the posterior longer, their femora slender at the base, abruptly clavate at the apex, and armed with a strong tooth, their tibiæ strongly compressed and curved; the tarsi of all short, the penultimate joints broadly lobed; claws toothed beneath; anterior coxæ approximate, intermediate and posterior widely apart. Meso- and metasterna very large.

The affinity of this genus is no doubt with *Tachygonus*, and judging from its posterior legs, it is probably also saltatorial. As the import-

ance of the geniculation of the antennæ is now only recognized as a secondary character, I think M. Jekel* has done good service in referring all the groups of Schönherr's Orthocerati, after eliminating those which evidently belonged to the true Curculionidæ, to four families. *Tachygonus* is one of the genera so removed, and this M. Jekel seems inclined to place near *Ceutorhynchus*.

Dinorhopala spinosa. (Pl. III. fig. 2.)

D. atra, subnitida; rostro, antennis, pedibusque (clava tibiisque posticis exceptis) fulvescentibus.

Hab. Burmah (Rangoon).

Glossy black; rostrum, throat, antennæ, the four anterior legs, bases of the posterior femora and tarsi brownish-yellow. Length 2½ lines.

The figure, which is in no degree exaggerated, will give a better idea of this singular little insect than the most lengthened description. It was taken, with other very interesting species, by an English officer at the time of our recent occupation of Rangoon.

ORTHOSTOMA [Cerambycidæ].

Serville, Ann. de la Soc. Ent. de France, t. iii. p. 61.

Orthostoma cyanea.

O. læte-cærulea; thorace luteo; antennarum articulis tribus ultimis albis.

Hab. Brazil (Para).

Bright cobalt blue; head thickly punctured; eyes dark brown; prothorax reddish-yellow, finely punctured; scutellum subquadrate; elytra minutely granulated, sparingly clothed with short stiff black hairs; a few scattered hairs on the legs and antennæ; antennæ somewhat longer than the body, the last three joints white; jugulum, prosternum, and anterior coxæ yellow; abdomen glossy greenish-blue. Length 8 lines.

OSTEDES [Lamiidæ].

Pascoe, Trans. Ent. Soc. n. s. vol. v. p. 43.

Ostedes spinosula.

O. grisescens, fusco-variegata; prothorace trituberculato, lateribus muticis; elytris basin versus spinosis, spina incurva.

Hab. New Guinea (Dorey); Moluccas (Batchian).

Finely pubescent, greyish varied with brown; head small, deeply sulcated in front; prothorax a little longer than wide, the sides unarmed, the disc with two broadly depressed tubercles towards the anterior margin; scutellum scarcely transverse, rounded behind; elytra rather narrow, the basal half sparingly punctured, a prominent, strongly

* Insecta Saundersiana, pt. ii. pp. 156, 157.

recurved spine on each towards, but at some distance from the base, the sides with three or four brown patches, the outer apical angle produced; legs dark brown, the basal portions of the femora and tibiæ reddish-testaceous; antennæ longer than the body, slightly setose, reddish-brown, the apices of the intermediate joints black; body beneath reddish-brown. Length 5 lines.

From the slender and elongated tarsi, particularly the posterior, I should be inclined to refer this genus to the neighbourhood of *Œdopeza*, rather than to *Monohammus*, where formerly I had doubtfully placed it. Except the slightest possible variation in the patches on the elytra, there appears to be no difference between the Batchian and Dory insects.

ASTATHES [Lamiidæ].

Newman, The Entom. p. 299.

Astathes caloptera.

A. atra, nitida, breviter setosa; elytris læte cyaneo-violaceis; antennis testaceis, apicem versus infuscatis.

Hab. Borneo.

Ovate, sparingly clothed with short setose hairs; head and prothorax shining black with a slight copper tinge, and a few scattered punctures; scutellum very transverse, black; elytra deep bluish-violet, very bright and glossy, and in certain lights having a strong purple tinge, their disc somewhat concave, and each having two abbreviated costæ; antennæ pale testaceous-yellow, the apex dark brown; body beneath and legs black, the last abdominal segment obscurely testaceous. Length 5 lines.

A most beautiful species, approaching my *A. purpurea*, but perfectly distinct. It was found in Borneo by Lieut. De Crespigny; and does not occur, I believe, in Mr. Wallace's collections.

EURYPTERA [Lepturidæ].

(Encycl.) Serville, Ann. de la Soc. Ent. de France, t. iv. p. 222.

Euryptera albicollis.

E. nigra; prothorace, humeris, femoribusque subtus albis.

Hab. Brazil (Para).

Opake brownish-black, finely punctured; head narrowly elongate, the sides whitish, front between the eyes darker; epistome, labrum and palpi glossy black; prothorax white, with a yellowish tinge, a blackish spot on its anterior border; scutellum triangular, black; elytra nearly parallel, black, with a fine, scattered, greyish pubescence, which gives them a dull tinge, the shoulder with a triangular whitish spot, the apex truncate, its outer angle sharply spined; femora beneath, coxæ, and

base of the first joint of the intermediate tarsi whitish; antennæ with the bases of all the joints, except the first two, white; breast and throat white, rest of the body beneath smoky-black. Length 8 lines.

TRIPLATOMA [Erotylidæ].

(Westw.) Lacordaire, Monog. des Erotyliens, p. 44.

Triplatoma Sheppardi.

T. elongato-ovata, subtilissime punctata, nigro-ænea; elytris singulis maculis duabus luteis; pedibus ferrugineis, genubus tarsisque infuscatis.
Hab. Moluccas (Batchian).

Elongate-ovate, rather narrow, dark brassy-black, and very minutely punctured above; elytra very convex, truncate at the apex, each with a round yellow spot near the shoulder, and another towards, but at some distance from, the apex (sometimes two similar spots on the prothorax anteriorly); legs glossy ferruginous, femora at the apex and tarsi dark brown or nearly black; body beneath smooth, brownish, with a slight brassy tinge. Length 11 lines.

I have dedicated this fine and, I believe, hitherto undescribed species to Edward Sheppard, Esq., F.L.S. &c., of Notting Hill, the possessor of an extensive collection of Erotylidæ.

EXPLANATION OF THE PLATES.

PLATE II.

Fig. 1. *Nessiara planata.* Moluccas.
Fig. 2. *Choresine advena.* Moluccas.
Fig. 3. *Ecelonerus albopictus.* Moreton Bay.
Fig. 4. *Œdemutes tumidus.* Ceylon.
Fig. 5. *Elacatis delusa.* Borneo.
Fig. 6. *Sostea Westwoodii.* Borneo.
Fig. 7. *Macratria mustela.* Natal.
Fig. 8. *Cormodes Darwinii.* Lord Howe's Island.
Fig. 9. *Allelidea brevipennis.* Melbourne.

PLATE III.

Fig. 1. *Iodema Clarkii.* Organ Mountains.
Fig. 2. *Dinorhopala spinosa.* Burmah.
Fig. 3. *Emydodes collaris.* Para.
Fig. 4. *Biophida unicolor.* Natal.
Fig. 5. *Zonitis cyanipennis.* Melbourne.
Fig. 6. *Ischalia indigacea.* Borneo.
Fig. 7. *Byrsax cœnosus.* Singapore.
Fig. 8. *Doliema platisoides.* Moluccas.

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VI.—*Descriptions of new Genera and Species of Exotic* Hymenoptera. By Frederick Smith, Esq., Assistant in the Zoological Department of the British Museum.

Since the publication of the 'Catalogue of the *Formicidæ*,' in 1858, I have described nearly two hundred new species belonging to that family, the whole being inhabitants of the Eastern Archipelago. I have not described, since the above period, any Ants from other localities; the consequence has been, that many interesting and some remarkable species have accumulated which are new to science; a portion of these I purpose describing in the present paper, and also figuring some of the more remarkable forms. I hope to add additional interest to my work, by compiling a series of observations on the habits of some of the species, from notes made on the spot by Mr. H. W. Bates, who has in so many ways added greatly to our knowledge of the entomology of Brazil.

I think it will be readily admitted that no family in the wide range of the Insect world contains species which present such a wonderful diversity of forms as are to be found amongst the *Formicidæ*; so great is it, indeed, that nothing short of actual observation could possibly lead the entomologist to suppose, in many instances, that any relationship existed between the different members of the same community. In my correspondence with both Messrs. Wallace and Bates, I have always impressed upon them the importance of collecting these insects from their nests, or under such circumstances as would warrant their being considered sexes of the same species; to my request both these gentlemen have most willingly responded. A few species obtained under such conditions, are of more real ento-

mological value than hundreds of specimens taken at random, without even a local habitation or a name.

Great as is our astonishment when we behold the endless diversity, I may add, the eccentricity of form in these remarkable insects, it will not for a moment bear comparison with the wonder which irresistibly seizes us when we are led into the details of their marvellous individual economics. Wonderful, doubtless, are many monuments of engineering skill—vast tunnels excavated under lofty hills, or hewn through solid rocks — mighty pyramids heaped up thousands of years ago; but the Ant (*Œcodoma*), ages preceding the epoch of the construction of our tunnels, or of the marvels of Egypt, bored her highways beneath the rivers of Brazil, and raised her mounds, which, when compared with the tiny architects, outstrip even the gigantic pyramids themselves.

The three genera treated upon in the present paper are each remarkable for readily distinguished characteristics: *Cryptocerus* especially for the endless diversity of form in the different species, and many of the species for the extraordinary differences in the sexes of the same community.

The species of the genus *Pseudomyrma* are distinguished by their elongate form, petiolated abdomen, and by the greatly enlarged eyes of all the sexes, in many species occupying the entire sides of the head.

In the genus *Eciton* we have the reverse of the genus *Pseudomyrma*; at least it is so in the only sex yet discovered—the worker; in these the eyes are so small, that, except in two or three species, they cannot be seen without a high magnifying power, whilst in three species I have been unable to discover any eyes at all. I shall now proceed to give some account of the habits of the genera, in the order in which I have here enumerated them.

The habits of a few species of the genus *Pseudomyrma* have been observed: most of these excavate the pith from dried twigs; in the tunnels or burrows thus formed the eggs are laid, and the young brood developed: the communities are small, frequently not more than twenty, exclusive of larvæ and pupæ. One species, *P. termitaria*, constructs its nest, or more correctly, takes up its abode, in the tumuli of different species of *Termes*: others form small elliptical chambers in the outer walls of Termitaria, a single colony only apparently occupying each chamber; these are usually wide apart, and do not appear to contain communities which have any connexion with each other. The pupæ of this genus of Ants do not spin cocoons. The insects, when at large, are to be seen coursing rapidly over trees and herbage; their sting is very slight.

The species of the genus *Eciton* are very abundant, and cannot fail to attract general attention; we are now acquainted with about twenty species. The processions of these insects are of common occurrence; and the different colours of the species are very observable when the lines are seen upon the march, some, as Mr. Bates remarks, appearing like "a liquid stream of metal." These Ants are regular clearers of all animal matter, living or dead: when on a foraging expedition, they spread out their columns, climbing over every leaf, plant, shrub, and tree, putting the whole animal as well as insect world into commotion and alarm; should any decaying mass of vegetable matter fall in their way, it is instantly covered with a living crowd, every chink and cranny is carefully searched, after which the army resumes its march. All apterous insects, particularly *Blattæ* and Spiders (the former being exceedingly numerous under fallen leaves, especially in their larva state), are preyed upon; the larvæ of Lepidoptera and Diptera fall an easy prey, as well as the species of *Formicidæ*. At other times a community of *Ecitons* engage in a regular attack upon a nest of some peaceful and industrious species of *Formica*; the *Ecitons* crowd into the nest of the ants, each seizing upon a helpless victim, and carry or drag it out of the nest; if the ant prove too bulky for a single *Eciton* to carry, it is ruthlessly torn into pieces, two or more assisting in the operation. The march is then commenced back to the nest of the *Ecitons*, the living ants and the mangled remains of others being probably conveyed there for the purpose of feeding the young brood of the marauders.

Every community of *Eciton* consists of two distinct forms of workers, besides the males and females. In the typical species, *E. hamata*, the large worker, or soldier, is furnished with long, curved, sickle-shaped mandibles; there is no gradation either in the form of these organs, or between these larger ants and the ordinary smaller workers: these soldiers bear the proportion of about five to one hundred of the smaller individuals. In other species, such as *E. vastator* and *E. erratica*, described in the present paper, the soldier workers have the head greatly enlarged, with mandibles of the ordinary size; but even here there is no trace of gradation between the two forms: it is true that the smaller form has individuals differing in size; so also, but in a less degree, do the big-headed soldiers differ in size; but between the two distinct forms there are no gradations which would unite them.

Although the ants belonging to this genus are so numerous in Brazil that they cannot fail to attract the notice of the naturalist,

yet hitherto no one has been fortunate enough to discover either the male or female of a single species; "their societies," says Mr. Bates, "are so numerous, and their sting so severe, that an attack upon one of their colonies is not to be rashly undertaken."

The species of the genus *Cryptocerus* are not unfrequently to be observed on low trees and bushes in dry open places, or running on branches of newly felled trees; they also visit flowers abundantly. The species generally are wood-borers, usually perforating the dead branches of trees. The males and females are winged, the latter only temporarily so. The typical species, *C. atratus*, has been observed to construct its nests in the dead suspended branches of woody climbers; outside is seen a number of neatly drilled holes, but inside the whole solid wood is perforated with intercommunicating galleries. Each community appears to consist of a single female and two kinds of workers; the latter, in some species, are quite unlike each other, differing in the form of the head, and in the armature of the thorax and nodes of the peduncle. The species appear to be omnivorous, and are frequently attracted by the excrement of birds. These insects, like those belonging to the genus *Myrmica*, do not, in the pupa state, enclose themselves in cocoons.

The new species of the genus *Epomidiopteron*, from Mexico, is exceedingly interesting; the only one previously described was from Brazil. I also describe a new species of the rare genus *Trigonalys*, from Mexico; Shuckard has described one from South Carolina; two are therefore known from North America, four have been discovered in South America, one in Celebes, one in Australia, and one in Europe, making in all nine species of this beautiful genus.

Family **Formicidæ**, *Leach.*

Genus Formica, *Linn.*

1. *Formica chartifex.*

Operaria. *F.* castaneo-rufa, vertice nigro; thorace postice attenuato; abdominis squamula incrassata, supra rotundata. *Mas.* Fusco-nigra, pilis cinereis hirtula; alis pellucidis, venis fusco quasi marginatis.

Worker. Length 3 lines. Of a bright chestnut-red; the vertex black; a fuscous stain on the thorax anteriorly, and the abdomen more or less fuscous; entirely smooth and shining. The front of the head very prominent, and much narrowed behind the eyes; the antennæ elongate, as long as the body. The thorax narrower than the head, somewhat compressed behind, the metathorax curving from the base to the apex downwards. Abdomen ovate, sometimes fusco-ferruginous, sometimes

clear chestnut-red; the scale of the peduncle incrassate at the base, its superior margin sharp and rounded; the body, antennæ, and legs with a scattered, thin, pale pubescence.

Male. Length $3\frac{1}{4}$ lines. Brownish-black, shining; the legs very slender, elongate, and, as well as the apex of the abdomen, pale rufo-testaceous. The head narrower than the thorax; the antennæ a little longer than the thorax, very slender, the scape as long as the flagellum. The abdomen ovate-lanceolate, the scale of the peduncle subglobose.

Hab. Ega (Brazil). In the Collection of the British Museum.

This ant constructs a papery nest, in texture and appearance like thin coarse brown paper; it is usually attached to the underside of a leaf, and about 2 inches long by 1 inch broad; the inner chambers are intricate and irregular: when alarmed, the workers issue forth in great commotion, making a curious rattling noise by vibrating their abdomens over the papery nest, apparently for the purpose of intimidating their enemies.

2. *Formica nidulans.*

F. fusco-nigra, pilis flavo-cinereis hirtula; abdomine ferrugineo (♀); alis pellucidis, venis fusco quasi marginatis (♂ ♀).

Female. Length $3\frac{1}{2}$ lines. The head, antennæ, thorax, and legs dark brown; the head finely shagreened; the front, as well as the eyes, prominent, the latter ovate; the ocelli minute; the mandibles ferruginous, and furnished with a number of acute black teeth; the tips of the antennæ rufo-testaceous; the head and scape with a thin yellowish-white pubescence. Thorax black, with the intermediate and posterior coxæ, the base of their femora, the anterior femora beneath, and the apical joints of all the tarsi rufo-testaceous; the thorax is finely shagreened, and has a thin, scattered, pale pubescence; the legs are also pubescent; wings subhyaline, the nervures fuscous, with a brown stain along their course. Abdomen ferruginous and pubescent; the scale of the peduncle black, incrassate, its superior margin rounded.

Worker. This is rather smaller than the female, the thorax more elongate, the sides straighter and narrowed posteriorly; the legs paler and rather more elongate.

Hab. St. Paul (Brazil). Taken from the nest by Mr. H. W. Bates. In the Collection of the British Museum.

Subfamily Myrmicidæ, *Smith.*

Genus Pseudomyrma, *Guér.*

1. *Pseudomyrma perforator.*

P. capite thoraceque nigro-fuscis; abdomine rufo-testaceo.

Worker. Length $3\frac{1}{2}$ lines. The head, thorax, and femora dark

brown; the femora pale fusco-testaceous, subpilose, and slightly shining; the abdomen pale rufo-testaceous; the mandibles and anterior margin of the face narrowly pale rufo-testaceous; the antennæ fuscous, with the extreme base and apex of the scape, and four or five of the apical joints of the flagellum pale testaceous; eyes ovate, very large, occupying nearly the whole of the sides of the head; the tibiæ and tarsi pale rufo-testaceous, the posterior pair of the latter slightly fuscous; the first node of the abdomen with a slender petiole.

Hab. Ega. In the Collection of the British Museum.

2. *Pseudomyrma agilis.*

P. capite thoraceque nigro-æneis; mandibulis pallide testaceis; antennis, pedibus abdomineque pallide ferrugineis.

Worker. Length 4 lines. Head and thorax nigro-æneous; the head large, much wider than the thorax; eyes large, prominent, and ovate; the anterior margin of the face and the mandibles pale testaceous; the antennæ rufo-testaceous, slightly fuscous above. Thorax flattened above, and having a shining silky gloss; the legs rufo-testaceous, the coxæ, trochanters, and base of the femora slightly fuscous. Abdomen pale ferruginous; the petiole slender; covered with a short pale pubescence, the apex with a few long dark hairs.

Hab. St. Paul (Brazil); captured by Mr. H. W. Bates. In the Collection of the British Museum.

3. *Pseudomyrma concolor.*

P. polita, rufo-fulva; pedibus concoloribus; scutello et spatio ocellari fuscis.

Female. Length 4 lines. Shining fulvous-red; the head oblong, palest anteriorly; the eyes, ocelli, and space between them black. The thorax elongate-ovate; the scutellum and post-scutellum black. Abdomen oblong, pointed at the apex; the first node clavate, short and stout; the second node subglobose.

Hab. St. Paul (Brazil). In the Collection of the British Museum.

4. *Pseudomyrma atripes.*

P. polita, pallide fulva; abdominis segmentis duobus basalibus nigro variegatis; pedibus mediis et posticis nigricantibus.

Worker. Length $4\frac{1}{2}$ lines. Pale fulvous; the anterior margin of the face and also the mandibles pale testaceous, the scape and teeth black; the flagellum fuscous, with three or four of the apical joints fulvous. The thorax flattened above, the metathorax obliquely rounded; the thorax narrower than the head, broadest in front, with the anterior margin slightly rounded; the intermediate and posterior tarsi nearly black, the tibiæ fuscous outside. The petiole and three spots on the

second node black; the insect is thinly sprinkled with erect fuscous hairs, most dense at the apex of the abdomen.

Hab. Brazil. In the Collection of the British Museum.

Genus Eciton, *Latr.*

1. *Eciton vastator.*

E. rufo-fulva, lævis et nitida; capite maximo, in medio sulcato, abbreviato; mandibulis nigris, longitudinaliter striatis; oculis obsoletis.

Worker major. Length 3 lines. Rufo-fulvous; the head and abdomen smooth and shining, the thorax subopake. The head very large, more than twice the width of the thorax, subquadrate, rather longer than broad, with an abbreviated impressed line between the antennæ; the anterior margin of the head (narrowly) and the mandibles black, the latter longitudinally striated, and with a single tooth in the middle of their inner margin; the head is distantly and finely punctured, with a few stronger punctures at the anterior margin laterally; the antennæ short, moderately stout, pubescent, and about the length of the head. Thorax delicately shagreened; the legs paler than the thorax, and thinly sprinkled with short pubescence. Abdomen subglobose, pubescent, particularly the apical segments; the nodes of the peduncle subquadrate, the anterior margin above rounded; an acute spine beneath the anterior node.

Worker minor. Length $1\frac{3}{4}$–$2\frac{1}{4}$ lines. Of the same colour as the *worker major*, excepting that the mandibles are obscure fusco-ferruginous, not black; the head narrower, more oblong, and slightly narrowed behind.

Hab. Ega.

This ant I believe to be destitute of organs of vision. In the place where the eyes are usually situated, I discovered, with a high magnifying power, a minute pit. Mr. Bates observed that this insect showed a great aversion to light, taking every means of hiding from it.

2. *Eciton erratica.*

E. opaca, rufo-fulva; capite maximo, in medio sulcato; mandibulis rufo-fuscis, longitudinaliter striatis; oculis obsoletis.

Worker major. Length $3\frac{1}{2}$–4 lines. Rufo-fulvous, opake; the head very large, subquadrate, rather longer than broad, with a central impressed line between the antennæ running upwards nearly to the posterior margin of the vertex; the head is delicately shagreened, and has a regular set of scattered punctures, in each of which is a pale, short, erect hair; the anterior margin of the head and the mandibles rufo-fuscous, the latter with a single tooth in the middle of its interior margin, and a number of erect pale hairs. Thorax finely shagreened and slightly pubescent; the legs pubescent. Abdomen subglobose; the nodes of the peduncle subquadrate; the first with a short, stout, acute spine beneath.

Worker minor. Length 1–3 lines. Of the same colour and punctation as the *worker major*; small specimens are usually paler; all the individuals have the head much narrower and longer than in the larger form, and it is also widest in front. The thorax at the sides in front is obscurely fuscous; this character is rarely observable in the large examples. The antennæ in this species are rather longer than in *E. vastator.*

Hab. Ega.

The habits of this species are very singular; it does not, like many other species, march in long columns, crossing open spaces, and climbing up trees and bushes, but constructs covered ways built of minute grains of earth, beneath the protection of which the lines of foragers march, when engaged in plundering other ants' nests; if a gallery of this kind is broken into, the larger workers or soldiers rear their heads and gesticulate in a threatening manner. On examining this species under a powerful microscope, I could detect only an irregular pit in the usual situation of the minute eyes of this genus.

Genus Strumigenys, n. g.

Head cordate; mandibles porrect, tridentate; eyes round, placed anteriorly at the sides of the head, at the extremity of a broad, deep excavation; the antennæ inserted in the excavation, into which they are received in repose; the flagellum 5-jointed; the scape three-fourths of the length of the flagellum; the ocelli placed in a triangle on the vertex, obsolete in the workers. Thorax ovate, oblong, and attenuated posteriorly in the workers; the anterior tibiæ only furnished with a single spine at their apex. Abdomen with two nodes, the first attached to the thorax by a short petiole; both are subovate, the second twice the width of the first; the abdomen subovate, and pointed at the apex.

The genus *Strumigenys* is doubtless closely allied to the *Daceton* of Perty; these genera, with that of *Orectognathus*, form a small group of ants, which appear to me to lead into the family of the *Cryptocerides*; they agree with the latter insects in having the antennæ placed at the sides of the head in a groove, into which they fall when in repose; they are also, like some species of *Cryptocerides*, more or less ornamented with scales.

1. *Strumigenys mandibularis.* (Plate IV. fig. 6♀, 7☿.)

S. rufo-ferruginea; capite cordato; abdomine lævissimo, nigro.

Female. Length 2½ lines. Rufo-ferruginous; the head black and opake, with the anterior and posterior parts ferruginous; the mandibles produced, with their apex curved inwards, forming an acute, stout tooth; there are also two short, stout, blunt ones near their apex on the inner

margin; the antennæ with the flagellum clavate, and pointed at their apex; the head and antennæ sprinkled with minute glittering semi-transparent pale scales. Thorax short, subovate; the scutellum semicircular and prominent; the metathorax abruptly oblique, deeply excavated behind; the legs with glittering scales. Abdomen subglobose, the apex pointed; the nodes subglobose, the first petiolated; the second segment obscure red; the abdomen delicately aciculated longitudinally.

Worker. Length 1¼ line. The head, thorax, legs, and nodes of the abdomen rufo-ferruginous, and sprinkled with minute glittering scales; mandibles elongate, produced, with three long acute teeth; the head more elongate than in the female. Thorax elongate and narrowed behind; the thorax and legs sparingly sprinkled with glittering scales. Abdomen smooth, shining black.

Hab. St. Paul (Brazil). In the Collection of the British Museum.

This curious species is found, Mr. Bates informs me, running slowly and prowling about the bark of trees.

Subfamily Attidæ, *Smith.*

Genus Myrmicocrypta, n. g.

Head oblong, narrowed anteriorly; eyes round and prominent; antennæ inserted in the middle of the anterior part of the head, outside of two elevated carinæ; the flagellum subclavate, increasing in thickness to the middle of the apical joint, which is pointed at the apex, and twice the length of the penultimate joint; the scape about one-fourth shorter than the flagellum. Thorax oblong, widest in the middle; the anterior margin transverse, with the angles slightly produced; the scutellum deeply emarginate, forming a tooth on each side; the metathorax has also a tooth on each side; the superior wings with one marginal and one submarginal cell. Abdomen attached to the thorax by a petiole composed of two nodes; the first subglobose, the second cup-shaped, and as wide as the base of the abdomen.

The affinities of this very singular and minute ant are somewhat difficult to assign. After a careful examination of the characteristics of those genera to which, on a slight inspection, it appeared to me most nearly related, I am of opinion that its situation in the family is next to, or in the immediate vicinity of, the genus *Œcodoma*; it agrees with the species of that genus in many important characters, namely, in the form of the mandibles, in the situation and character of the antennæ, very closely in the venation of the wings, and in the intermediate and posterior tibiæ being destitute of spines at their apex. I have only seen one sex—the female; the discovery of the males and workers will probably furnish other important characters, which may show the exact situation that the genus ought to occupy, should I not have assigned it its true one.

1. *Myrmicocrypta squamosa.* (Plate IV. figs. 14–17.)

M. ochracea; corpore asperrime squamoso; alis subhyalinis.

Female. Length 1½ line. Ochraceous, and covered on every part with separate and not very distant scales, which are of a glittering semitransparent white,—those on the scape of the antennæ and legs most dense, the flagellum alone being naked; the mandibles stout, subtriangular, with seven acute teeth on their inner margin; the eyes and ocelli black; the apex of the joints of the antennæ fusco-ferruginous. Thorax: the disk rather darker than the sides or the legs; the anterior tibiæ armed at their apex with a stout flattened spur; the intermediate and posterior pair are not furnished with spines; the scutellum bidentate; the verge of the truncation of the metathorax is also bidentate. The abdomen is very finely and delicately reticulated, and of a rather darker colour than the head and thorax; the wings slightly coloured, semiopake, with the nervures pale testaceous.

Hab. St. Paul (Brazil); captured by Mr. H. W. Bates. In the National Collection.

Genus Pheidole, *Westw.*

1. *Pheidole diversa.*

P. nigra, nitida; capite maximo, elongato-quadrato, postice profunde emarginato, antice striato.

Worker major. Length 3¼ lines. Black and shining; the head oblong-quadrate, deeply emarginate behind, and with a central deeply impressed longitudinal line; the scape of the antennæ, the mandibles, and anterior margin of the head obscure ferruginous; the flagellum rufo-testaceous; the head longitudinally striated, with the hinder portion rugose. The thorax and legs ferruginous, the former obscure above and coarsely rugose; the metathorax with two erect acute spines; the femora and tibiæ more or less fuscous in the middle above. Abdomen ovate, very smooth and shining; the insect thinly sprinkled with erect black pubescence.

Worker minor. Length 1¼ line. Pale rufo-testaceous; the abdomen slightly fuscous above; the head very smooth and shining, of the ordinary size, as in *Myrmica scabrinodis,* thinly covered with erect pale pubescence.

Hab. St. Paul (Brazil).

Subfamily Cryptoceridæ, *Smith.*

Genus Cryptocerus, *Latr.*

1. *Cryptocerus quadrimaculatus,* Klug.

Fœmina. *C.* elongatus, aterrimus; abdomine flavo 4-maculato.

Operaria. *C.* niger, depressus, setis argenteo-nitidis ornatus: capitis ante oculos marginibus lateralibus pallide ferrugineis; tibiis ferrugineis: thorace latere utroque spinis duabus armato.

Worker. Length 3 lines. Black and shining; finely punctured, each puncture having a shining silvery seta; the margins of the head before the eyes, the apex of the scape and also of the flagellum pale ferruginous. Thorax much narrower than the head, armed on each side anteriorly with two acute stout spines, from which it is much narrowed to the base of the metathorax, which has a long, stout, blunt spine at each of its posterior angles, these spines each having a smaller one at their base outside; the tips of the femora, the tibiæ, and anterior tarsi ferruginous, the claw-joint of the intermediate and posterior tarsi ferruginous. Abdomen ovate, emarginate at the base, which has on each side a thin, transparent, pale lamina; the nodes of the peduncle transverse, and spinose on each side.

Hab. Brazil.

This insect is described as the worker of *C. quadrimaculatus* on the authority of Mr. H. W. Bates, who took them in their nest; of this species he remarks, "The difference between the female and worker in form is very remarkable: I find a constancy in the spines, &c., in all the workers, showing that the species are constant in their characters: the female has a spotted abdomen." The female is described by Klug in his Monograph on the genus; I have also described and figured it in the second volume of the 'Transactions of the Entomological Society,' new series.

2. *Cryptocerus elongatus*, Klug.

Fœmina. *C.* elongatus, aterrimus; thorace antice posticeque spinoso. Long. lin. 5.

Operaria. *C.* niger, depressus; capite thoraceque setis aurato-nitidis ornatis; thorace latere utroque spinis quinque acutis armato; capitis marginibus lateralibus ante oculos pallide testaceis.

Worker. Length 2–2½ lines. Black, depressed, and with glittering pale golden setæ on the head and thorax, sometimes a little on the legs and base of the abdomen; the sides of the head, before the eyes, pale rufo-testaceous, the margins narrowly membranaceous; the tip of the antennæ testaceous. Thorax: the anterior angles bispinose, from whence it is abruptly narrowed to the base of the metathorax, with a minute spine near the sutural division; the metathorax with a minute spine at its basal angles, and a long, stout, diverging one at the apical ones; the tarsi rufo-piceous at their apex. Abdomen ovate, with the basal margins narrowly testaceous; the nodes of the peduncle transverse, and having on each side an obtuse spine.

Hab. Brazil.

The worker is described on the authority of Mr. H. W. Bates; the female is described by Klug in his Monograph on the genus.

3. *Cryptocerus placidus.*

C. capite thoraceque nigris; antennis, pedibus abdomineque ferrugineis; alis fusco-hyalinis.

Male. Length 4 lines. Head black, transverse, with large shallow punctures on the vertex; the eyes large and prominent; the scape and basal joint of the flagellum black, the following joints ferruginous, and gradually thickening from the basal to the apical joint. Thorax, and also the coxæ, black; the mesothorax with large shallow punctures; the metathorax rugose above, truncate posteriorly, deeply emarginate behind, forming teeth at the lateral angles; the legs ferruginous; the wings fusco-hyaline, with the first submarginal cell clear hyaline. Abdomen ferruginous, with the nodes of the peduncle black; each node with a minute tooth at the sides.

Hab. St. Paul (Brazil).

4. *Cryptocerus laminatus.* (Plate IV. fig. 3.)

C. niger; antennis tibiisque subferrugineis; capite ante et pone oculos, abdominisque basi lamina pellucida instructis.

Worker. Length 2–2½ lines. Black, and sprinkled over with silvery-white glittering setæ; the sides of the head, before the eyes, broadly pale testaceous yellow; the eyes prominent, situated at the posterior angles of the head, which has the margin curved behind the eyes and emarginate in the middle; the antennæ pale beneath and fuscous above. The thorax with five pale spines on each side, the posterior pair longest; a deep strangulation at the base of the metathorax; the tips of the femora, the tibiæ, and apical joints of the tarsi pale ferruginous, the tibiæ with a dark stain beneath. The abdomen subcordate, the margins at the base pale and membranaceous; the nodes of the peduncle transverse; the anterior one subquadrate, with a pale acute spine on each side curved backwards towards the abdomen; the second node somewhat cup-shaped, terminating laterally in a pale acute spine, which is directed outwards.

Captured by Mr. H. W. Bates at Ega, Brazil. In the Collection of the British Museum.

5. *Cryptocerus grandinosus.* (Plate IV. fig. 5.)

C. ochraceus, supra squamis albis pellucidis transversis tectus; capite antice, thoracis lateribus, abdominisque nodis et basi glacie quasi marginatis.

Worker. Length 1½ line. Ochraceous; the head subquadrate, rather longer than broad; the sides before the eyes broadly pale luteo-testaceous, and the posterior margin laterally narrowly so; the eyes black, and the flagellum rufo-testaceous. Thorax: the anterior angles acute; the sides margined with a glassy-white, subtransparent membrane. The abdomen ovate, and emarginate at its base; the nodes of

the peduncle and the base of the abdomen with a glassy-white membranaceous margin. The insect sprinkled over evenly with minute white glittering scales or setæ.

Hab. Ega (Brazil). In the Collection of the British Museum, &c.

Some examples of this species are of a much darker colour than that of the description; they are usually considerably smaller, and are, I consider, the small form of the worker of this species; the margins of the head, &c., are of the same glassy whiteness, and contrast more strikingly than in paler examples.

6. *Cryptocerus bimaculatus.* (Plate IV. fig. 4.)

C. niger; capite antice et lateribus testaceis; abdomine elongato, basi utrinque flavo maculato.

Female. Length 3 lines. Black; the head and thorax with strong confluent punctures; the abdomen with a longitudinal striation at the base, the striæ slightly divergent. The head, viewed in front, ovate, slightly widest anteriorly, and emarginate in the middle in front; the sides of the head rufo-testaceous. Thorax transverse anteriorly, very slightly rounded, with the lateral angles acute; the sides of the thorax parallel to the insertion of the antennæ, from thence to the apex of the metathorax gradually narrowed, the metathorax abruptly truncate; the wings subhyaline, with the nervures fusco-testaceous. Abdomen elongate, the base emarginate, the apex rounded; a large ovate yellowish-white macula at each of the basal angles; the nodes of the peduncle with a small acute spine on each side.

Hab. Mexico. In the Collection of the British Museum.

Genus Meranoplus, *Smith.*

1. *Meranoplus striatus.* (Plate IV. fig. 1.)

M. niger; capite thoraceque longitudinaliter striatis; metathorace bispinoso; abdomine ovato, delicatule striato.

Worker. Length $2\frac{3}{4}$ lines. Black and slightly shining; the head strongly striated longitudinally, the striæ diverging from the centre; the palpi and extreme tip of the flagellum rufo-testaceous. The thorax strongly striated, widest in front, with an obtuse tooth on each side at the margin near the deep strangulation at the base of the metathorax, the latter terminating posteriorly in two long, stout spines; the legs rugose and slightly pubescent, the claws of the tarsi rufo-testaceous. Abdomen ovate, and very finely striated or aciculate longitudinally; the first node of the peduncle oblong and subovate; the second subquadrate, with the lateral margins rounded; both coarsely rugose.

Captured by Mr. H. W. Bates at St. Paul, Brazil. In the Collection of the British Museum.

2. *Meranoplus subpilosus.* (Plate IV. fig. 2.)

M. niger; thorace abdomineque longitudinaliter striatis; thorace spinis duabus postice armato; corpore pubescente.

Worker. Length 2¼ lines. Black: the head subovate, narrowed anteriorly, delicately and rather distantly punctured, very finely and indistinctly aciculate, with a little strong abbreviated striation at the posterior margin of the vertex. The thorax deeply striated; the transverse impressed line at the base of the metathorax profound; the metathorax with two straight, stout, acute spines directed backwards. Abdomen ovate, finely striated; the nodes of the peduncle with an irregular coarse rugose longitudinal striation; the body, as well as the legs, with a scattered, glittering, pale pubescence.

Captured by Mr. H. W. Bates at St. Paul, Brazil. In the Collection of the British Museum, &c.

Genus Ceratobasis, n. g.

Head oblong in the ♀ and ☿; eyes small and round, situated in a groove at the sides of the head, into which the antennæ are received in repose; the antennæ subclavate; the scape as long as the funiculus, and grooved beneath for its reception; the funiculus twelve-jointed; ocelli in a triangle on the vertex in the ♀, but wanting in the ☿; mandibles incrassate, produced, with their inner edge serrated. The thorax subovate in the ♀, oblong and narrowed posteriorly in the ☿; the superior wings with one marginal cell, open at its apex; one submarginal cell; the discoidal cells obsolete; legs stout and of moderate length; the claws of the tarsi simple; the metathorax with a tooth on each side of the insertion of the abdomen. Abdomen ovate, pointed at the apex, attached to the thorax by a petiole, which is binodose; the first node oblong-quadrate, the second subglobose. The body squamulose.

Note.—In my 'Catalogue of the *Formicidæ*,' I included this insect amongst those which form the genus *Meranoplus*. The species was received shortly before my work went to press, but the winged female has come to hand subsequently. The neuration of the wings is very different from that of the genus *Meranoplus*; I have therefore removed it from the genus in which I provisionally placed it. It is one of the most singular insects in the whole family of the *Formicidæ*.

1. *Ceratobasis singularis.* (Plate IV. figs. 12, 13.)

C. obscure fusco-brunnea, supra squamis pellucidis tecta; capite elongato; alis rufo-brunneis.

Female. Length 3 lines. Reddish-brown, with the head, thorax above, and apical half of the second segment of the abdomen very dark brown; thickly covered with white setæ, the abdomen most sparingly

so, the setæ on which are erect and narrowed at their base. The head oblong, and narrowed from the posterior margin to the base of the mandibles; above, with two impressed oblique lines, which run upwards and unite in the middle opposite to the insertion of the mandibles; a deeply impressed fovea above, in which is situated the anterior ocellus, behind which is a deep curved depression which crosses the head; the mandibles produced, incrassate, and finely serrated on their inner margin; the scape of the antennæ as long as the flagellum, broad and flattened, widest at the base, and fringed on its anterior margin with a row of white scales or setæ; the flagellum clavate. Thorax oblong, transverse in front, narrowed behind; the metathorax truncate; the wings brown. The first node of the abdomen oblong-quadrate, the second somewhat bell-shaped; the abdomen subovate, pointed at its apex and truncate at its base.

Worker. The same length as the female, but of a more elongate form; densely covered all over with a coating of brown scales or setæ; the head of the same form as in the female, but with the mandibles dilated and meeting only at their apex; the nodes of the abdomen similar to those of the female, but the basal one with a longer petiole.

Hab. Ega (Brazil).

The worker of this species is figured in my 'Catalogue of the *Formicidæ*,' but the species was obtained too late to give a detailed description; it will be found in my work under the name of *Meranoplus singularis*.

Family **Scoliadæ**, *Leach.*

Genus Epomidiopteron, *Romand.*

1. *Epomidiopteron elegantulum.*

E. nigrum, nitidum; abdomine pulchre prismatico, supra plagis sex flavo maculato; alis fuscis, violaceo-micantibus.

Female. Length 9 lines. Black: the head and scape of the antennæ shining; the former punctured, closely and strongly so on the face, but more finely and distantly on the vertex; the flagellum opake, fulvous beneath; the scape fimbriated beneath. Thorax: the prothorax with oblong punctures; the mesothorax with a few large punctures; the scutellum strongly punctured; the metathorax opake, with a fine sericeous pile; smooth at the base, and with a few transverse ridges at the verge of the truncation, the truncation striated, the striæ radiating from the centre; the legs set with coarse rigid pubescence, the calcaria pale testaceous, the pubescence on the tarsi pale ferruginous; the post-scutellum yellow; the wings dark fuscous, with a violet iridescence. Abdomen black, with a beautiful purple and violet iridescence; the three basal segments with a large ovate yellow macula on each side; the apical segment longitudinally striated, and with its posterior margin rounded and rufo-piceous.

Hab. Mexico. In the National Collection.

Family **Pompilidæ**, *Leach.*

Genus Planiceps, *Latr.*

1. *Planiceps concolor.*

P. nigro-violacea, sericea et iridescens; alis anticis nigro-purpureis micantibus, alis posticis pallidioribus viridi-tinctis.

Female. Length 5 lines. Deep blue, with brilliant reflexions in different positions; the mandibles obscurely ferruginous; the antennæ black. Thorax: the wings beautifully iridescent, the anterior pair dark brown, the posterior pale fusco-hyaline; the anterior tarsi rufo-testaceous, the intermediate tibiæ and tarsi slightly spinose. The abdomen of a smooth shining iridescent blue.

Hab. Mexico.

All the species of the genus *Planiceps* are insects of great rarity: four have been previously recorded; the two described in the present paper are, perhaps, the most beautiful that have been discovered.

2. *Planiceps notabilis.*

P. nigerrima, sericea; abdomine supra plagis quinque albido-luteis notato, 2·2·1; alis nigris, vix iridescentibus.

Female. Length $7\frac{1}{2}$ lines. Black, subopake, and covered with a fine silky silvery pile; that on the vertex and disk of the thorax has a purple iridescence; the mandibles obscurely ferruginous at their apex; the scape of the antennæ compressed; the posterior ocelli situated on the posterior margin of the vertex. Thorax: the wings very dark brown and slightly iridescent; the intermediate and posterior tibiæ and tarsi slightly spinose. Abdomen: a large subovate yellowish-white spot on each side of the second and third segments, and a single one at the base of the apical segment.

Hab. Mexico.

Family **Nyssonidæ**, *Leach.*

Genus Pison, *Spin.*

1. *Pison maculipennis.*

P. niger, subtiliter punctatus, sericeo-pubescens; capite antice aureo-villoso; thorace, pedibus abdominisque segmento primo et secundo ferrugineis; alis hyalinis, maculis fuscis.

Female. Length $4\frac{1}{2}$ lines. Head black, the face densely covered with golden pubescence; the scape, three basal joints of the flagellum, the clypeus and mandibles ferruginous. The thorax, legs and abdomen with a pale silky pubescent pile; the thorax ferruginous as well as the legs; the post-scutellum and sides of the metathorax black; the apical joints of the tarsi slightly fuscous; the wings hyaline, the externo-medial and the marginal cells occupied by a dark-fuscous cloud, the

stigma and first submarginal cell yellowish. Abdomen: the two basal segments ferruginous, the rest black; the apical margins of the first, second and third segments with narrow yellow fasciæ; beneath black, with the first segment and a spot on each side of the second ferruginous.

Hab. Ega (Brazil).

2. *Pison flavo-pictus.*

P. niger, lævis nitidusque; capite antice argenteo-villoso; thorace, pedibus abdomineque flavo-notatis; alis hyalinis.

Female. Length 4 lines. Black, smooth and shining; the clypeus, scape, and mandibles yellow, the latter rufo-piceous at their apex, the scape with a black line outside; the face and cheeks densely covered with silvery pubescence; the vertex very finely punctured. Thorax: the collar, tubercles, a spot on the tegulæ in front, and two large ones on the scutellum, yellow; the wings hyaline and iridescent, the nervures testaceous, the stigma fuscous; the base of the metathorax longitudinally striated; the two recurrent nervures received within the second submarginal cell; the tips of the femora, the tibiæ and tarsi pale yellow, the tips of the posterior tibiæ and of the intermediate pair beneath black; the apex of the joints of the tarsi and the claw-joint fuscous; a yellow spot on the coxæ. Abdomen: a large ovate yellow macula on each side of the second segment; the apical segment rugose, rufo-fuscous, and ferruginous at the apex.

Hab. St. Paul (Brazil).

3. *Pison lætus.*

P. niger, flavo-maculatus; metathoracis basi longitudinaliter striata; abdomine lævi, nitido; alis subhyalinis.

Female. Length 5 lines. Black; the head and thorax slightly shining and finely punctured; the clypeus, mandibles, and scape yellow, the basal half of the latter black behind; the clypeus, lower portion of the inner orbits of the eyes and the cheeks with silvery pubescence; the collar, tubercles, tegulæ in front, two ovate spots on the scutellum, the anterior and intermediate tibiæ in front, and a spot at the base of the posterior pair beneath, yellow; the base of the metathorax longitudinally striated, the sides with a little silvery pubescence; wings fusco-hyaline, the nervures fuscous. Abdomen smooth and shining, with an ovate macula on each side of the second segment.

Hab. Ega (Brazil).

Genus Philanthus, *Fabr.*

1. *Philanthus* (*Trachypus*) *cementarius.* (Plate IV. fig. 18.)

P. (*T.*) melleo-flavus, lucidus; capitis vertice et thorace supra nigris, flavo-vittatis; alis flavo-hyalinis.

Female. Length 8 lines. Honey-yellow; the vertex black above the

insertion of the antennæ, the yellow colouring extending obliquely upwards on each side; a yellow spot in front of the ocelli, and two oblique stripes behind them; the mandibles with their tips black; the antennæ fulvous beneath and rufo-fuscous above. Thorax: the pectus, the mesothorax, and base of the metathorax above, black; the mesothorax with two longitudinal yellow lines, which also cross the sides of the scutellum; a line over the tegulæ, the post-scutellum and two oblique lines beneath it, yellow; a black line down the centre of the metathorax; the wings flavo-hyaline, the nervures pale ferruginous, and a yellow spot on the tegulæ. The abdomen petiolated, entirely yellow, and very smooth and shining.

This is a fine addition to the division of the genus *Philanthus* which has the abdomen petiolated, of which Klug has formed the genus *Trachypus*; but having hitherto adopted the neuration of the wings as the primary character of generic subdivision, I use Klug's name merely as a sectional one. This insect was discovered by Mr. H. W. Bates at St. Paul, Brazil. Seven species of the petiolated *Philanthi* are now known.

APIDÆ.

Family **Cuculinæ**, *Latr.*

Genus Nomada, *Fabr.*

1. *Nomada advena.*

N. atra; antennis basi ferrugineis; capite antice, thorace abdomineque flavo-variegatis; alis hyalinis, maculis anticis fuscis; pedibus ferrugineis, maculis flavis.

Female. Length 4 lines. Black, smooth and shining; the face yellow; the scape and tips of the mandibles ferruginous. Thorax: a spot on each side of the collar, the tubercles, a large irregular-shaped spot beneath the wings, the scutellum and a minute spot at its anterior angles, the post-scutellum and the sides of the metathorax, yellow; the legs ferruginous; the anterior and intermediate tibiæ, the posterior pair outside, the basal joint of the posterior tarsi beneath, the posterior coxæ beneath, and four spots on the pectus, yellow; wings hyaline, with a dark fuscous stain on the margin of the anterior pair beyond the stigma, the posterior pair slightly stained at their apex. Abdomen: a yellow fascia on the first, second and fourth segments, that on the second wide at the lateral margins of the abdomen, and abruptly narrowed in the middle, where it is slightly interrupted; beneath, the second and third segments have a transverse yellow fascia in the middle.

Hab. Chili, or Columbia.

Genus Liogastra, *Perty*.

1. *Liogastra quadriplagiata*.

L. nigerrima, pilosiuscula; abdominis basi plagis quatuor lutescenti-albis ornata; capite supra, thorace antice et lateraliter albo-pilosis; alis nigrescentibus violaceo-micantibus.

Male. Length $9\frac{3}{4}$ lines. Jet-black, and thinly sprinkled with pale glittering silky pubescence; the face as high as the insertion of the antennæ, and a line on each side above them, nearly meeting in front of the ocelli, covered with white pubescence; the clypeus widely emarginate; the anterior margin of the labrum rounded; the antennæ rufo-piceous beneath, and with an elevated carina between their insertion. Thorax: two transverse spots in front, a larger subovate one beneath the wings, and a line on each side of the metathorax covered with white pubescence; the scutellum bituberculate; the wings nigro-fuscous, with a bright violet iridescence. Abdomen: a large ovate macula of white pubescence on each side of the two basal segments.

Female. This sex differs in having the face black, and the white spots on the thorax nearly obsolete: the spots on the abdomen are much smaller, and the apical segment is pointed; in the male it is bilobed.

Hab. Mexico.

This species was taken by M. Sallé; it is one of the most beautiful of the whole family of Apidæ, and is the fourth species discovered of the genus to which it belongs; the other three are from Brazil.

ICHNEUMONIDÆ.

Family **Aulacidæ**, *Shuck*.

Genus Trigonalys, *Westw*.

1. *Trigonalys ornata*.

T. nigro-fusca; capite thoraceque maculis flavis ornatis; abdomine flavo-fasciato; alis hyalinis; pedibus flavis.

Length $5\frac{1}{2}$ lines. The head large, wider than the thorax; the margins rounded, somewhat flattened in front; the clypeus transverse, its anterior margin slightly rounded and emarginate in the middle; the head, mandibles, and four middle joints of the antennæ of a sulphur-yellow; the mandibles with three black teeth; a minute black, or rather a fuscous spot between the antennæ, a circular broad ring above them extending to the first ocellus and uniting with a subtriangular spot enclosing the posterior ocelli, on each side of which is another curved fuscous stripe, which becomes narrower and unites at the margin of the vertex. The thorax and legs are yellow; the former has three broad longitudinal stripes on the mesothorax, another on the scutellum and metathorax in the middle, and also a small triangular spot on each

side of the scutellum, dark fuscous; the wings hyaline, with a slight fuscous stain along the anterior margin of the superior pair. Abdomen fuscous, darkest towards the apex, with a yellow fascia on the posterior margin of all the segments.

Hab. Mexico.

EXPLANATION OF PLATE IV.

Fig. 1. *Meranoplus striatus* ☿.
Fig. 2. *Meranoplus subpilosus* ☿.
Fig. 3. *Cryptocerus laminatus* ☿.
Fig. 4. *Cryptocerus bimaculatus* ♀.
Fig. 5. *Cryptocerus grandinosus* ☿.
Fig. 6. *Strumigenys mandibularis* ♀.
Fig. 7. *Strumigenys mandibularis* ☿.
Fig. 8. Antenna of *Strumigenys* ♀.
Fig. 9. Antenna of *Strumigenys* ☿.
Fig. 10. Mandible of *Strumigenys* ♀.
Fig. 11. Mandible of *Strumigenys* ☿.
Fig. 12. Head of *Ceratobasis singularis* ♀.
Fig. 13. Wing of *Ceratobasis singularis* ♀.
Fig. 14. *Myrmicocrypta squamosa* ♀.
Fig. 15. Wing of *Myrmicocrypta squamosa* ♀.
Fig. 16. Antenna of *Myrmicocrypta squamosa.*
Fig. 17. Mandible of *Myrmicocrypta squamosa.*
Fig. 18. *Philanthus cementarius* ♀.

VII.—*On the* Coleoptera *of the Salvages.* By T. Vernon Wollaston, M.A., F.L.S.

The peculiar position of the almost inaccessible rocks of the Salvages, which lie in the direct course from Madeira to the Canaries, though somewhat nearer to the latter than to the former, give them an especial interest in the eyes of geographical naturalists,—particularly those, however, who have had an opportunity of studying the productions of the two neighbouring groups. The *quæstio vexata*, as to whether these several Atlantic islands are not, in reality, the mere exponents or outposts of an immense continent now for the most part submerged, may perhaps never be solved; yet certainly one of the best methods of helping towards a solution is carefully to examine the fauna and flora of what seem to be its detached portions, and then closely to compare them with each other, in order to ascertain whether they possess sufficient in common (after every reasonable allowance has been made for the accidental intermission

of specimens, from time to time, by chance agencies) to render their *quondam* connexion, thus far at least, probable.

The small size of the Salvages, which consist of two uninhabited rocks (the minute third one being absolutely inaccessible) separated by a channel of about twelve miles, added to the great difficulty of approaching their few and dangerous landing-places*, render every fact concerning them, correctly arrived at, doubly valuable; and therefore I do not deem it necessary to apologize for these few preliminary remarks on an enumeration of the eleven species of Coleoptera which have been hitherto detected upon them. Six of these (apparently new to science, or at any rate treated by myself as such) were described in the 'Insecta Maderensia' in 1854, and were due to the indefatigable researches of T. S. Leacock, Esq., of Funchal, who effected a landing on both of the islands during the spring of 1851; whilst the remaining five (three only of which would seem to be novelties) have been lately communicated by my friend the Barão do Castello de Paiva, who obtained them from the master of a Portuguese boat, which was freighted from Madeira for the purpose of gathering orchil and barilla, with which most of these Atlantic rocks more or less abound. In the following catalogue I do not undertake to pronounce for certain on which of the two islands the five recently added species were collected, though I believe them to be from the Great Salvage. Those discovered by Mr. Leacock were, he informs me, from the southern or *smaller* island,—known, nevertheless, as the 'Great Piton.'

Fam. **Carabidæ.**

Genus Tarus.

Clairville, Ent. Helv. ii. 94 (1806).

1. *Tarus Paivanus*, n. sp.

T. capite prothoraceque piceis, illo sat profunde punctato, hoc ruguloso sed minus profunde punctato, postice valde angustato truncato angulis

* I should add that, whilst accompanying my friend John Gray, Esq., to the Canaries, in his yacht the 'Miranda,' two years ago, one of our main objects was to explore thoroughly these remote and almost unknown islands. Accordingly, sailing from Madeira on the 6th of January, 1858, we arrived off the Great Salvage on the following morning, and, after lowering the boat, pulled towards the rocks. The sea, however, ran so high, and the surf was so tremendous, that we found it impossible to approach nearer than a stone's throw from the shore without the utmost danger; for the boat must have been literally dashed to pieces had we attempted to land. We therefore returned to the yacht (not without a "ducking"), and resumed our voyage to Teneriffe.

ipsis acutis; elytris subtilissime alutaceis crenato-striatis, interstitiis distincte punctulatis, testaceis, maculis duabus communibus (una sc. minore transversa ad basin sita, et altera maxima dentata postmedia) nigris ornatis; antennis palpisque piceo-ferrugineis; pedibus testaceis; palporum labialium articulo ultimo haud securiformi (leviter subclavato).

Long. corp. lin. $3\frac{1}{2}$–$3\frac{3}{4}$.

T. head dark-piceous, and rather deeply punctured. *Prothorax* a shade paler, and more strictly piceous, and with the lateral edges more or less slightly rufescent; a little less deeply punctured than the head, but rather more rugose, especially about the hinder angles; abruptly truncated both before and behind, and much narrowed posteriorly,—the extreme hinder angles, however, being acute and prominent. *Elytra* subovate, much shortened behind, but nevertheless rather produced in the middle (*i. e.* at their apical point of junction); somewhat acute at their humeral angles, much depressed, and most minutely and delicately alutaceous all over,—causing their surface to be a little less shining than that of the head and prothorax; regularly crenate-striate, and with the interstices rather distinctly punctulated; testaceous, but ornamented with two black or dark-piceous patches (common to both elytra) which cover the greater portion of the surface,—the first being comparatively small and transverse, placed at the centre of the extreme base, behind the scutellum, and reaching on each side to about (or a little beyond) the fourth stria, its portion between the third and fourth stria being more or less backwardly produced; and the second being immensely larger, postmedial, sometimes much suffused, and of a zigzag form, being produced both before and behind along the suture, and extending on either side to about the seventh stria. *Antennæ* and *palpi* piceo-ferruginous; and with the terminal joint of the labial palpi only very slightly enlarged and subclavate (instead of securiform, as in the ordinary *Tari*). *Legs* testaceous.

The three specimens from which the above description is compiled have been lately communicated to me by the Barão do Castello de Paiva, to whom I have great pleasure in dedicating the species. From the close resemblance of their elytral patches and colouring to those of the Canarian examples of the *T. discoideus*, Dej., I had at first supposed them to be the exponents of a merely depauperated and slightly altered form of that insect, from (perhaps) a long isolation on the small and remote rocks of the Salvages; but a more careful inspection has proved that such an opinion (as is too often the case in like instances) is only a superficial one, and that the two species are not only altogether distinct in their minor features, but even in their structural ones. Indeed, were it not that the specimens from the Salvages are essentially *Tari* in everything else, I

should have been almost inclined to regard them as *generically* removed from their *quasi*-(Canarian) allies,—the scarcely expanded (and only slightly *subclavate*) terminal joint of their labial palpi (I believe, in both sexes) affording a marked difference from the immense and largely securiform corresponding one (at any rate in the males) of the normal members of that group; but as such is the case, I prefer treating them (at any rate for the present) as only very anomalous *Tari*. As regards their more evidently specific details, they recede from the *T. discoideus* in their smaller size and darker head and prothorax, the latter of which is more distinctly roughened and punctured, more straightly truncated before and behind, and is much more narrowed posteriorly (with the extreme hinder angles themselves more prominent and acute); in their *alutaceous* and more shining elytra, which are shorter posteriorly (though rather more produced in the centre), with their shoulders more acute, and with their darker portions a little different, the basal patch being more or less *backwardly-produced* between the third and fourth stria, and the postmedial one larger and more suffused (extending on either side to the *seventh* stria, instead of only the sixth); in their darker palpi and antennæ; and in their rather more coarsely serrated claws.

Genus Pterostichus.

Bonelli, Obs. Entom. i. Tab. Syn. (1809).

(Subgenus *Orthomus*, Chaud.)

2. *Pterostichus haligena*, n. sp.

P. apterus, niger, subnitidus; prothorace subquadrato antice vix latiore, in disco canaliculato (canalicula antice et postice abbreviata et abrupte terminata), basi utrinque foveis duabus (una sc. interna angusta longiuscula subflexuosa lineaformi, et altera breviore latiore minus profunda) impresso; elytris (in fœmina saltem) subtilissime alutaceis, leviter subcrenulato-striatis, singulo punctis duobus impresso, interstitiis planiusculis; antennis pedibusque rufo-piceis.

Long. corp. lin. $3\frac{3}{4}$–4.

P. apterous, black, and slightly shining. *Prothorax* subquadrate, being but very little narrowed behind, and with the sides only very slightly rounded: scarcely as broad, even anteriorly, as the elytra: with a deep, but abbreviated, dorsal channel down the disk,—it being suddenly shortened both before and behind: and with two foveæ on either side at the base,—the inner ones being rather long, deep, subflexuose, narrow and lineaform, and abruptly defined; and the outer ones short, very broad and shallow (forming merely a depression). *Elytra* with their sides almost parallel, and (at any rate in the female sex, for which

I can alone vouch) most closely and delicately alutaceous all over—[a structure which is very conspicuous under a high magnifying power, but which is only just traceable on the prothorax]; lightly and regularly subcrenate-striate, the striæ being fine and narrow; with two punctures, just within the third stria, down the disk of each, and with the interstices rather flattened. *Limbs* rufo-piceous; the *antennæ* brighter at their base.

The present *Pterostichus*, two female specimens of which have been communicated to me by the Barão do Castello de Paiva, is closely allied to the *P. canariensis* of Brullé, which I have taken abundantly in Lanzarote, Fuerteventura, and Grand Canary; nevertheless it is rather smaller and less brilliant than that insect,—the entire surface of its elytra (at least in the females, of which I can alone speak) being densely and distinctly alutaceous (a sculpture which is *just traceable* even on the prothorax also); its prothorax is a little less expanded anteriorly, and with its dorsal channel more abruptly terminated both before and behind; and its elytral striæ are finer, narrower, and shallower, with the interstices much less convex.

Genus Harpalus.

Latreille, Gen. Crust. et Ins. i. 201 (1806).

3. *Harpalus pelagicus*, n. sp.

H. oblongus, latus, subnitidus, niger vel nigro-piceus; prothorace transverso, convexo, ad latera subæqualiter rotundato (basi haud constricto, sed paulo angustiore), utrinque leviter foveolato, angulis posticis obtusis; elytris leviter crenato-striatis (stria subsuturali abbreviata longiuscula); antennis rufo-ferrugineis, pedibus rufo-piceis.

Long. corp. lin. $4\frac{1}{4}$–5.

H. oblong, broad, shining (but not very brilliantly so), and black (or, when immature, piceous-black). *Head* rather large. *Prothorax* broad, transverse, and convex, almost equally rounded at the sides (*i. e.*, with the edges in a continuous curve,—not being suddenly attenuated, or *constricted*, posteriorly, though a little narrower behind than before); almost unpunctured, though with a shallow and obscurely punctured fovea on either side, at the base, behind. *Elytra* lightly striated, the striæ being finely but distinctly crenulated; with the abbreviated second stria longer than in the Madeiran and Canarian *Harpali* of this type, and completely joining the sutural one at a great distance behind the scutellum; more truncated at their base than in the other *Harpali* of this type, the humeral angles being less porrected and more obtuse; a little acuminated at their apex, but not minutely divaricate as in the *H. vividus*. *Antennæ* rufo-ferruginous. *Legs* rufo-piceous.

The *Harpalus* here described is one of a small cluster of Atlantic

forms,—four or five of which I have taken in the various islands of the Canarian archipelago, whilst another, the *H. vividus* (if, indeed, that insect be not in reality separable into more than a single species), is universal throughout the Madeiran group. After a very careful comparison of the *H. pelagicus* with all the *Harpali* as yet detected both in the Madeiras and the Canaries, I am perfectly satisfied that it cannot be referred to any of them; though it has a greater affinity, perhaps, with those of the latter islands than with those of the former. Apart from minor characteristics, it differs from them *all* in being rather broader *throughout*, as well as in the shape of its prothorax, which is wide, transverse and convex, and entirely *unconstricted* posteriorly (though a little narrower behind than before),—its edges being in a continuous curve, and with its angles therefore more obtuse than is the case in the allied species. Its elytra, also, have their shoulders less porrected or acute (the thickened line between the *extreme apex* of each humeral angle and the scutellum being almost straight); and their striæ are much more perceptibly (though minutely) crenulated, and with the abbreviated second one longer than in any of the allied forms, and moreover completely joining the sutural one at a very considerable distance behind the scutellum. Three specimens of it have been lately communicated by the Barão do Castello de Paiva, to whose kindness I am indebted for the other novelties described in this memoir.

Fam. **Sphæridiadæ.**

Genus Cercyon.

Leach, Zool. Miscell. iii. 95 (1817).

4. *Cercyon centrimaculatum*, Sturm.

Sphæridum centrimaculatum, Sturm, Deutsch. Fna, ii. 23 (1807).
—— *pygmæum*, Gyll., Ins. Suec. i. 104. var. *b* (1808).
Cercyon centrimaculatum, Woll., Ins. Mad. 104 (1854).

A single example of the common European *C. centrimaculatum* was lately communicated (along with the three preceding insects and the *Blaps gages*) by the Barão do Castello de Paiva, as coming from the Salvages. It is not a very important addition to the fauna, —for, being somewhat abundant both at the Madeiras and Canaries, the species may have been accidentally naturalized through the instrumentality of the boats, which proceed there almost every year for the purpose of collecting orchil and shooting gulls.

Fam. **Curculionidæ.**

Genus Acalles.

Schönherr, Curc. Disp. Meth. 295 (1826).

5. *Acalles Neptunus*, Woll.

Acalles Neptunus, Woll., Ins. Mad. 330 (1854).

A fine series of this noble *Acalles* was captured by Mr. Leacock, on the 'Great Piton,' during the spring of 1851. It is somewhat allied to the Canarian *A. argillosus*, Schönh. (of which I possess several specimens, collected at Taganana and Orotava, in the north of Teneriffe),—though much larger than, and perfectly distinct specifically from, that insect.

Fam. **Lamiadæ.**

Genus Deucalion.

Wollaston, Ins. Mad. 430 (1854).

6. *Deucalion oceanicus*, Woll.

Deucalion oceanicus, Woll., Ins. Mad. 433 (1854).

The *D. oceanicus* is also due to the researches of Mr. Leacock, who secured a fine series of it (now in the Collection of the British Museum) on the 'Great Piton,' in 1851. It is a most interesting insect, as representing a group of which three* remarkably distinct exponents have been hitherto brought to light,—viz., one in the Madeiras, the Salvages, and the Canaries, respectively. The genus was established in the 'Insecta Maderensia,' in 1854, to receive a very rare and anomalous Longicorn detected by myself on the extreme summit of the Dezerta Grande during January of 1859, and subsequently by the Rev. R. T. Lowe and myself on the top of the almost inaccessible Southern Dezerta, or 'Bugio'; so that Mr. Leacock's capture on the Salvages, of a kindred species, became at once a very significant and suggestive one. It is, however, rendered still more

* I ought perhaps to say *four*, instead of three,—for a single (very old and imperfect) example of an additional species, closely allied to the Dezertan one, is in the collection of F. P. Pascoe, Esq.; but from what country it came, he is unable to state. If therefore it should turn out eventually to be likewise a native of one or the other of these Atlantic islands (which I cannot but regard as probable), we should have another confirmation of the geographical exclusiveness of this curious Euceratic group. Another insect, from Lord Howe's Island, in the South Pacific, has been described and figured by Mr. White, in the 'Proceedings of the Zoological Society,' under the name of *Deucalion Wollastoni*, but this belongs to a different, although nearly allied genus.

important now, through the discovery that the *Lamia gibba* of Brullé, peculiar to the Canaries, is in reality a *Deucalion*; of which I have been able to satisfy myself, from the comparison of many specimens which I took during the spring of last year in Fuerteventura and Teneriffe,—from out of the decaying Euphorbias, on the stems of which the larvæ would appear exclusively to subsist. And it is worth remarking that M. Brullé, whilst describing the *L. gibba* in Webb and Berthelot's 'Histoire Naturelle des Iles Canaries,' in 1839, implies his conviction that it would constitute eventually the type of a new genus: "Espèce fort remarquable, et qui formerait peut-être une division nouvelle dans le système proposé récemment par quelques auteurs."

Fam. **Opatridæ.**

Genus Opatrum.

Fabricius, Syst. Ent. 76 (1775).

7. *Opatrum dilatatum*, Woll.

Opatrum dilatatum, Woll., Ins. Mad. 501 (1854).

A single specimen of this insect was captured by Mr. Leacock on the 'Great Piton' in 1851.

Fam. **Tentyriadæ.**

Genus Hegeter.

Latreille, Hist. Nat. des Crust. et Ins. iii. 172 (1802).

8. *Hegeter latebricola*, Woll.

Hegeter latebricola, Woll., Ins. Mad. 510 (1854).

Taken in tolerable abundance by Mr. Leacock on the 'Great Piton,' in 1851; and I have also lately received specimens from the Barão do Castello de Paiva, which I believe to have been captured on the 'Great Salvage.' I have not yet compared it accurately with the many Hegeters which I have found during the last two years in the Canaries; but it evidently approaches very closely to a species which is common in most of the islands (particularly, however, the eastern ones) of that group. Whether it will prove to be identical with it, or only nearly allied, I will not undertake to say at present; but I must decide for certain when my Canarian material is sufficiently assorted for examination.

Fam. **Helopidæ.**

Genus Helops.

Fabricius, Syst. Ent. 257 (1775).

9. *Helops Leacocianus,* Woll.

Helops Leacocianus, Woll., Ins. Mad. 517 (1854).

A single example was taken by Mr. Leacock on the 'Great Piton' in 1851.

Fam. **Blapsidæ.**

Genus Blaps.

Fabricius, Syst. Ent. 254 (1775).

10. *Blaps gages,* Linn.

Tenebrio gages, Linn., Syst. Nat. ii. 676 [script. per err. *gigas*] (1767).
Blaps gages, Fab., Ent. Syst. i. 106 (1792).
—— ——, Woll., Ins. Mad. 508 (1854).

Several specimens of the common *Blaps gages* have been lately communicated by the Barão do Castello de Paiva, and were taken I believe on the 'Great Salvage.' It is a tolerably common insect both in the Madeiras and the Canaries.

Fam. **Œdemeridæ.**

Genus Ditylus.

Fischer de Waldh., Mém. de la Soc. de Nat. de Moscou, v. 469 (1817).

11. *Ditylus fulvus,* Woll.

Ditylus fulvus, Woll., Ins. Mad. 523 (1854).

A single specimen of this beautiful *Ditylus* was discovered by Mr. Leacock on the 'Great Piton' in the spring of 1851. For the reason given under the *Hegeter latebricola,* I must decline at present to pronounce for certain whether or not it is identical with the *D. concolor* of Brullé, which I have recently captured in Grand Canary, Teneriffe, and Palma; but my belief is, that a careful comparison will prove it to be conspecific with that insect.

Such are the eleven species of Coleoptera which have been hitherto detected on these small and remote rocks; and it is interesting to remark, that they are each of them exponents of a separate genus,

and represent as many as nine families, whilst five of the species (*i. e.* nearly half of the entire number) are Heteromerous. Although it may appear absurd, at first sight, to speculate from such scanty data, it nevertheless is not difficult to decide, even from this material (which, after all, is considerable enough from islands thus minute), to which of the Atlantic groups these intermediate "stepping-stones" are the more akin; for if we remove the *Cercyon centrimaculatum* and *Blaps gages*, which are common to both, from the above list, we shall perceive that, of the remaining nine, eight are most intimately connected with Canarian forms,—whilst two of these (the *Hegeter latebricola* and *Ditylus fulvus*) will, in all probability, be found to be absolutely identical with them. The *Pterostichus haligena*, moreover, is very nearly related to the *P. canariensis*, Brullé (belonging to a section, *Orthomus*, which apparently does not exist in Madeira); the *Harpalus pelagicus* is, emphatically, on the Canarian type; the *Acalles Neptunus* finds its natural ally in the *A. argillosus* of Teneriffe; the *Deucalion oceanicus* is *more* akin to the *D. gibbus* of the Canaries than to the Madeiran *D. Desertarum*; and the *Opatrum dilatatum* is but slightly removed from a representative of the same genus which is found in Fuerteventura and Lanzarote,—the *Helops Leacocianus* alone having *perhaps* more affinity with a species from the Madeiras (namely, the Porto-Santan *H. infernus*) than with any of those from the Canaries; though even of this I have by no means, as yet, completely satisfied myself. So that I think we may fairly conclude from these facts, that the Salvages, if indeed they are to be considered as belonging physically to either of the neighbouring groups, are essentially Canarian.

VIII.—*Descriptions of six new species of* Chrysomela *from the East.* By J. S. Baly.

1. *Chrysomela Templetoni.*

C. breviter ovata, valde convexa, obscure nigro-ænea, nitida; elytris subglobosis, obscure rufis, utrisque striis decem punctorum impressorum biseriatim dispositis instructis.—Long. $3\frac{1}{2}$–4 lin.

Very convex, obscure nigro-æneous, nitidous; elytra obscure rufous. Head nearly impunctate; antennæ black, slender, more than half the length of the body, subincrassate towards their apex. Thorax twice broader than long; sides slightly dilated from their base to before the middle, thence rotundate-angustate to the apex: above smooth and shining, sparingly impressed here and there with fine but distinct punctures; sides thickened, bounded within by a longitudinal depression. Scutellum semiovate. Elytra subglobose, smooth and shining,

each impressed with ten rows of distinct punctures, the first abbreviated, the second running parallel to the suture, the others arranged in pairs, the puncturing of the outer pair more distant than in the rest, all the rows less distinct and nearly obsolete near the apex; outer margin impressed with a single row of fine punctures; interspaces smooth, indistinctly punctured. Body beneath finely punctured; legs slender, subelongate.

Hab. Ceylon.

The form of the elytra and the slender legs give this insect a different appearance from the rest of the genus.

2. *Chrysomela Fortunei.*

C. oblonga, valde convexa, nitidissima, iridescens; subtus viridi æneoque variegata, capite pedibusque purpureis; supra viridi-ænea; capite thoraceque rufo-violaceo-maculatis, hoc transverso, a basi ad ante medium ampliato, lateribus incrassatis, intra marginem profunde punctatis, irregulariter bi-impressis, disco lævi, hic illic sparse punctato; elytris dorso obsolete gibbosis, infra humeros transversim impressis, tenuiter punctato-striatis, punctis in striis confuse biseriatim dispositis, ad latera et apicem versus subdissipatis, interspatiis lævibus; utrisque plaga magna male definita baseos, vittisque postice rufo-violaceis, vitta pone medium cærulea.—Long. 5½ lin.

Oblong, very convex, almost gibbous just behind the middle, nitidous, iridescent; body beneath bright metallic-green, more or less intermingled with aureous; head and legs deep metallic-blue; above brilliant metallic-green, variegated with rufo-violaceous. Head sparingly impressed with minute punctures; epistome semilunate, bordered above by a regularly curved line; antennæ slender, deep metallic-blue. Thorax before its middle twice broader than long; sides gradually dilated from their base to before the middle, thence suddenly rounded and narrowed to the apex; upper surface sparingly impressed here and there with deep distinct punctures, sides thickened, bounded internally by a number of large, deep, confluent variolose punctures, placed longitudinally in the middle of which are two large, deeply impressed, ill-defined irregular foveæ; the basal margin and an irregularly curved marking on either side the disk, united with its fellow at the base, rufo-violaceous. Scutellum smooth, semirotundate-ovate. Elytra broader than the thorax, indistinctly dilated behind their middle, very convex, more particularly on the hinder half, their middle portion almost gibbous; surface very smooth and shining, each elytron below the shoulder with a well-defined transverse impression, which extends from immediately within the outer border nearly to the suture; finely punctate-striate, the punctures on the striæ irregularly arranged in a double row, the striæ themselves, about nine in number, becoming confused and irregular on the side and towards the apex of the elytron; interspaces on the disk smooth and nearly impunctate, those on the sides

and apex impressed with very fine remote punctures; whole surface distantly reticulate-aciculate; a large irregular ill-defined patch at the base, nearly covering the space above the transverse groove, and four or five broad vittæ, confluent at their base and apex, extending from the hinder margin of the groove to the apex of the elytron, rufo-violaceous; in the centre of the hinder disk is also a short deep-metallic-blue stripe.
Hab. Northern China. Collected by Mr. Fortune.

This beautiful species is very closely allied to *C. quadri-impressa*, and when first received, I considered it as merely a local variety of that insect; subsequently, however, it has been sent in some abundance, and after a careful examination of many individuals, I have come to the conclusion that it has a just claim to be considered a good and distinct species. It differs from *C. quadri-impressa* in the following characters:—it is larger, less regularly oblong, being slightly broader behind; its convexity is greater, particularly on the hinder portion of the elytra, which are also obsoletely gibbous in their middle; the whole body is much smoother, far less closely and coarsely punctured; the punctate striæ on the elytra are distinct over nearly the whole surface, whilst in the other species they are so mixed up with the coarse irregular punctation of the whole elytron, that they are only visible at the base; the thorax is more dilated on the sides, its disk is smoother and covered with much finer punctures, interspersed here and there with a few deeper impressions, which are much larger and more distinct than those in *C. quadri-impressa*; lastly, the grooved line bounding the upper edge of the epistome, instead of being triangular, forms a regular curve.

3. *Chrysomela Stålii.*

C. ovata, convexa, nitido-cuprea; thorace disco lævi, impunctato, lateribus a basi ad paullo ante medium leniter ampliatis, hinc ad apicem rotundato-angustatis, incrassatis, intra marginem profunde punctatis; elytris profunde punctato-striatis, punctis magnis, striis per paria subapproximatis, hic illic sulcatis.—Long. 4 lin.

Ovate, convex, shining cupreous. Head finely but sparingly punctured. Thorax nearly twice broader than long; sides moderately dilated from the base to just before their middle, thence rotundate-angustate to the apex: upper surface smooth and shining, convex and impunctate on the disk; sides incrassate, bounded within, for their whole length, by a broad but shallow longitudinal groove, the surface of which is covered with large, deep, round punctures; these, although somewhat crowded, are rarely confluent. Scutellum smooth, impressed in the middle with a single fovea. Elytra broadly ovate, very convex, deeply punctured, the punctures varying greatly in size and depth, and arranged, somewhat irregularly and at unequal distances, in ten longitu-

dinal rows on each elytron,—the first row abbreviated, the others approximating in pairs; on the outer border is also a single row of finer punctures; interspaces shining, slightly swollen, impressed with a few fine scattered punctures; the striæ here and there deeply sulcate. Body beneath subremotely punctured.

Hab. Northern China.

4. *Chrysomela separata.*

C. oblonga, convexa, nitido-cuprea; thorace transverso, lateribus rotundatis, subincrassatis, profunde rugoso-punctatis, disco sparse hic illic fortiter punctato; elytris profunde punctatis, punctis in striis interruptis dispositis.—Long. 4 lin.

Oblong, convex, shining cupreous. Head vaguely punctured; antennæ scarcely half the length of the body, robust, nigro-æneous. Thorax twice broader than long; sides slightly ampliate-rotundate, narrowed in front: disk sparingly covered with large, deep, irregularly crowded punctures; sides incrassate, deeply and coarsely rugose-punctate, their inner edge bounded by a longitudinal depression. Scutellum smooth, impunctate. Elytra subovate, convex, deeply porose-punctate; punctures large, somewhat irregularly arranged in interrupted longitudinal rows (about ten in each elytron), which indistinctly approximate in pairs; interspaces smooth, slightly swollen, impunctate. Body beneath shining cupreous, finely but remotely punctured; legs nigro-æneous.

Hab. Northern India.

At once distinguished from the preceding species (to which it is otherwise closely allied) by its narrower and less convex form, and by the rugose lateral border of its thorax.

5. *Chrysomela Bowringii.*

C. oblonga, convexa, nigro-ænea, nitida; thorace disco fortiter- et irregulariter-, lateribus rugoso-punctato; scutello elytrisque rufo-testaceis, æneo vix micantibus, his subcrebre subseriatim punctatis; abdomine ad apicem plus minusve rufo-testaceo.—Long. 4 lin.

Oblong, convex, nigro-æneous, nitidous; scutellum and elytra rufo-testaceous, with a faint metallic reflexion. Head punctured; antennæ half the length of the body, slightly incrassate towards their apex. Thorax nearly twice broader than long; sides slightly rounded, narrowed towards their apex, sometimes notched at the base, anterior angles subacute: disk irregularly punctured; sides moderately incrassate, coarsely rugose, bounded within by a longitudinal depression. Elytra four times the length of the thorax, oblong-ovate, sides slightly oval, apex regularly rounded; above moderately convex, surface covered with numerous irregular rows of deeply impressed but not very large punc-

tures; interspaces smooth, impunctate. Body beneath dark metallic-green, the posterior border of the three or four apical segments, and in some specimens the entire apex of the abdomen, rufo-testaceous.

Hab. Hong Kong. Collected by J. Bowring, Esq.

This pretty insect ought to stand near *C. grossa* and its congeners.

6. *Chrysomela cingulata.*

C. elongato-ovata, convexa, nigro-ænea, nitida, supra obscure cuprea; thorace lateribus incrassatis, intra marginem sulcatis et profunde punctatis, disco tenuiter subcrebre punctato; elytris fulvo-rufo marginatis, punctato-striatis, striis bifariam dispositis; antennarum articulo ultimo penultimo fere duplo longiore, oblongo-ovato, apice angustato.—Long. 3–4 lin.

Elongate-ovate, convex, nigro-æneous or obscure cupreous, nitidous; body above obscure cupreous. Head finely but distinctly punctured, puncturing scattered on the forehead, rather more crowded on the lower portion of the face; antennæ nigro-cæruleous, slender, rather shorter than half the body, their apical joint oblong-ovate, its apex subacuminate; three basal joints more or less fulvous beneath. Thorax twice broader than long; sides nearly straight and parallel behind the middle, rotundate-angustate in front, more quickly narrowed at the apex; upper surface with its lateral borders thickened, and bounded internally with a broad shallow longitudinal depression, more distinct at the base, its surface covered with large, deeply impressed, irregularly confluent, variolose punctures; disk, together with the thickened margin, subremotely covered with distinct but fine punctures. Scutellum smooth, shining, semi-ovate. Elytra slightly broader than the thorax, five times its length; sides subparallel, their outer margin bordered with fulvo-rufous: each elytron with eleven rows of distinct, deeply impressed punctures; the first abbreviated; the second running parallel to the suture; the eleventh finer, and placed on the extreme edge of the rufous border; the eight others forming four double rows of punctures, which are placed at nearly equal distances on the disk; interspaces vaguely and distantly reticulate-strigose, minutely and subremotely punctured. Beneath shining, distantly punctured; legs covered with subremote deep punctures.

Hab. Northern India.

Nearly allied to *Chrysomela marginata*, but easily separated from that species by its larger size, finer punctation, and, above all, by the different form and greater length of the terminal joint of its antennæ, which themselves are also more slender than in *C. marginata*. In the present insect the last joint is more slender and nearly twice the length of the penultimate, whilst in the other species it is broader, shorter in relation to the penultimate, more regularly ovate, with its upper edge towards the apex oblique.

IX.—*Notices of new or little-known Genera and Species of* Coleoptera. By Francis P. Pascoe, F.L.S., &c.

[Continued from p. 64.]

Part II.

Calonecrus [Nitidulidæ].

Thomson, Arch. Ent. i. p. 117.

Calonecrus rufipes.

C. rufo-flava; oculis elytrisque nigris.

Hab. Borneo.

Entirely reddish-yellow, except the eyes and elytra, which are black; head and prothorax finely, elytra more coarsely punctured; sides of the latter, pygidium, femora and tibiæ pubescent. Length 3 lines.

Proportionally a more slender form than *C. Wallacei*, Thoms., and altogether less robust, with the antennæ and legs reddish-yellow, and not black as in that species.

Prostomis [Cucujidæ].

Latreille, Fam. Nat. du Règne An. p. 397.

Prostomis morsitans. (Pl. V. fig. 6.)

P. oblongus, testaceus vel piceo-testaceus; prothorace transverso; elytris punctato-striatis.

Hab. India (Darjeeling).

Larger and proportionally broader than *P. mandibularis*, the prothorax transverse, the antennæ shorter, &c. Length 4 lines.

In the only two specimens which I have seen (in the British Museum), one is very much darker than the other. Mr. Bakewell has another very distinct species from Melbourne.

Rhyssopera [Cucujidæ].

Head small, slightly exserted, narrowed anteriorly. Antennæ of moderate length, the first joint thick, abruptly contracted at its base, the rest more or less ovato-triangular, the last three stouter, forming a loose oblong club. Eyes transverse, rather prominent. Mandibles bidentate at the apex. Labrum long, narrow, rounded anteriorly. Palpi claviform, the last joint broadly ovate, obliquely truncate, the maxillary much larger than the labial, and widely separated at their origin. Mentum subquadrate, not larger than the labium, which is transverse and emarginate anteriorly; external maxillary lobe broad, strongly ciliated, inner very narrow. Prothorax subcordate, scarcely sinuated in front. Elytra much broader than the prothorax, parallel, slightly depressed. Legs

small; anterior coxæ transverse, scarcely approximate; tibiæ bicalcarate; tarsi five-jointed, slender, short, hairy beneath.

If rightly referred to the Cucujidæ, the position of this genus will be near *Silvanus*, which it approaches in habit and in its clavate antennæ.

Rhyssopera areolata. (Pl. VII. fig. 4.)

R. fusca, sparse flavo-pubescens; prothoracis basi latiuscula; elytris areolatis.

Hab. Tasmania.

Opake umber-brown, with a sparse yellowish or almost golden pubescence, especially on the head and prothorax, the latter about as broad as long, rounded at the side, produced into a short acute angle anteriorly and slightly contracted behind, with four tubercles on its disc; scutellum transverse; elytra with their external margins serrated, each with three rows of coarsely punctured hexagonal nearly equal cells, the walls of which are formed by narrow raised lines; labrum, palpi, and legs ferruginous. Length 4 lines.

Rhyssopera illota. (Pl. VII. fig. 4, trophi only.)

R. fusca, sparse griseo-pubescens; prothorace longiore, basi angustata; elytris subareolatis.

Hab. Australia (Melbourne).

Like the last, but the prothorax is longer and much narrower posteriorly, the lines bounding the areolæ and punctures less marked, and the pubescence of a greyer hue.

GLŒANIA [Trogositidæ].

Head small, rounded and dilated below the eyes, emarginate in front. The labrum entire. Antennæ short, eleven-jointed, the last three forming a subunilateral, compressed club. Eyes round, prominent. Mandibles entire at the apex, toothed in the middle. Palpi robust, with the terminal joint subcylindrical; maxillary lobes finely toothed, the inner narrow. Labium quadrate, slightly fringed. Mentum large, quadrate. Prothorax subquadrate, narrower anteriorly, broadly sulcated at the side, and slightly margined. Elytra scarcely broader than the prothorax, subdepressed, the sides nearly parallel. All the coxæ distant; femora broad, compressed; tibiæ dilated below, terminating in a series of small teeth; tarsi slender, slightly ciliated beneath, the basal joint minute, the second as long or longer than the third and fourth together; claws toothed at the base. Prosternum rounded behind; mesosternum depressed.

The Trogositidæ do not appear to have any very definite characters, if we except the minuteness of the first tarsal joint, and include genera varying very much in their form. Of the four subfamilies

into which M. Lacordaire divides them, the present genus must be arranged in the same group with *Trogosita* proper.

Glœania ulomoides. (Pl. VIII. fig. 9.)

G. fusco-picea, sublævigata; prothorace antice excavato; elytris seriatim punctatis.

Hab. Brazil (Rio).

Rather depressed, dark pitchy-brown, nearly smooth and shining; head and prothorax minutely punctured, the latter with a long V-shaped excavation in front, with the side broadly and deeply grooved, the groove bounded internally by a gradually elevated ridge, which anteriorly forms a well-marked angular process projecting slightly over the head, the external border of the groove formed by a narrow uniform line, parallel to, and very slightly removed from the margin of the prothorax; scutellum very transverse; elytra with about seven rows of minute punctures on each, the shoulder with a short broad ridge gradually passing into the disc posteriorly; anterior and intermediate tibiæ rounded and denticulate externally at the extremity, with the posterior strongly spurred internally; body beneath scarcely punctured. Length 3 lines.

LEPERINA [Trogositidæ].

Erichson in Germar, Zeitschr. für die Entom. v. p. 453.

Leperina adusta.

L. oblonga, picea, supra albido nigroque squamosa; elytris postice latioribus.

Hab. Australia (Melbourne).

Oblong, pitchy-brown, rather sparingly covered above with short, round, whitish scales, varied with black; head and prothorax with large, shallow, crowded punctures with a few white scales, which are more closely arranged on the sides of the latter; scutellum triangular; elytra becoming gradually broader behind for about two-thirds of their length, with three elevated lines on each, a broad stripe of whitish scales extending along the suture, giving off a transverse branch at the base, another rather below the middle, and expanding again at the apex; lip, palpi, antennæ, legs, and borders of the prothorax, and elytra beneath ferruginous. Length 4 lines.

Leperina cirrosa.

L. oblonga, picea, supra albo nigroque squamosa, fasciculisque elongatis ornata; elytris parallelis.

Hab. Australia (Moreton Bay).

Oblong, pitchy-brown, covered above with white, and more or less lengthened scales, occasionally collected into fascicles, and varied with black; head and prothorax remotely and deeply punctured, with

small and mostly white scales, except on the sides of the latter, where they are drawn out into long, linear, curved laminæ, on each side a long fascicle of whitish hairs mixed with black, and nearly meeting on the median line anteriorly; scutellum triangular, with a tuft of erect white scales; elytra parallel, the scales towards the suture principally white, but more or less black at the side, long and filiform at the base, and spatulate on the exterior margins, a fascicle of long, erect black scales on the middle of each near the suture, and posteriorly another of mixed black and white scales; body beneath, legs, antennæ, and lip dark brown or nearly black. Length 4 lines.

In this curious species, the lines on the elytra are nearly covered by the longer and more densely set scales. In all the Australian and New Zealand *Leperinæ* which I have examined, I have never noticed any other than simple, undivided eyes.

Leperina lacera.

L. oblonga, picea, supra nigro-squamosa, albo varia, fasciculisque brevibus induta; elytris lateribus rotundatis.

Hab. Australia (Melbourne).

Oblong, pitchy-brown, partially covered with short black scales, and sparingly varied with white; head coarsely punctured, with two black fascicles between the eyes; prothorax with a smooth elevated median line, the sides strongly and deeply punctured, above four short black fascicles anteriorly, the margins densely covered with long, white, appressed scales; scutellum triangular; elytra rounded at the sides, the scales almost entirely black, spatulate at the margins, with a single short black fascicle on each shoulder; body beneath, legs, and antennæ dark ferruginous. Length 4½ lines.

Bitoma [Colydiidæ].

Herbst, Die Käfer, v. p. 25.

Bitoma serricollis.

B. depressa, fusca; prothorace punctato utrinque bicostato, lateribus serrulatis; pedibus rufo-ferrugineis.

Hab. Australia (Melbourne).

Depressed, dark brown; head coarsely punctured, grooved at the side below the eyes, and somewhat three-lobed anteriorly; prothorax transversely subquadrate, coarsely punctured, with two costæ on each side, the exterior crenate, continuous with its fellow in front, the sides strongly serrulate, the anterior angle produced; elytra a little wider than the prothorax, with five narrow costæ on each, the intervals transversely plicate from a double row of deeply impressed punctures; antennæ and legs rusty-red; body beneath coarsely punctured. Length 2 lines.

A little broader and more depressed than *Bitoma crenata*; but, as far as external characters go, there can be no doubt as to its genus.

Bitoma prolata.

B. lata, depressa, fusca luteo varia; prothorace transverso, granulato, utrinque bicostato, costa interiori postice duplicata, antice emarginato, lateribus crenulatis.

Hab. Moluccas (Batchian).

Broad and depressed, dark brown varied with reddish-yellow; head punctured, a little concave on each side below the eyes; prothorax transverse, finely granulated, broadest at the base, rounded and dilated at the sides and irregularly crenate, deeply emarginate in front, the disc with two costæ on each side, the interior approximating and forming a short canal open towards the head and a loop posteriorly; elytra not wider than the prothorax, with five crenulated costæ on each, the intervals with a double row of deeply impressed punctures, a yellowish spot on the shoulder, another near the apex, between these three others, which, with their fellows, form an indistinct ring; legs pale yellowish-brown; body beneath dark brown. Length 2½ lines.

A broader species than the last, with the prothorax especially dilated at the sides and deeply emarginate anteriorly; hereafter it may be found necessary to separate it generically from *Bitoma.*

Bitoma jejuna.

B. angusta, rufo-brunnea; prothorace quadrato, granulato, utrinque tricostato, costa interna antica abbreviata.

Hab. Brazil (Rio).

Narrow, slightly depressed, reddish-brown, the elytra paler; head granulated, principally between the eyes; prothorax quadrate, equal in length and breadth, with three costæ on each side, the inner very short and confined to the anterior part, the interstices strongly granulated, the margins crenulated; scutellum subquadrate; elytra with five costæ on each, the interstices with two rows of rather shallow punctures; legs and antennæ ferruginous; body beneath dark brown, the abdomen reddish-pitchy. Length 1½ line.

Collected by Alexander Fry, Esq., to whose kindness I owe my specimens.

COLOBICUS [Colydiidæ].

Latreille, Gen. Crust. et Ins. ii. p. 9.

Colobicus parilis.

C. oblongus, nigro-piceus, sparse albido-setulosus; elytris punctato-striatis; antennis pedibusque ferrugineis.

Hab. Moluccas (Batchian).

In size and outline very like *C. emarginatus,* but the head is narrower and the form rather more convex; the colour on the head, prothorax, and elytra is uniform, with a pitchy gloss, not nearly opake, and the

punctures are decidedly smaller, with the rows more approximate. Length 2 lines.

Rechodes [Colydiidæ].

Erichson, Naturg. der Ins. Deutschl. iii. p. 255.

Rechodes verrucosus.

R. modice convexus, fuscus; elytris antice subgibbosis, tuberculis oblongis disco instructis.

Hab. Natal.

Moderately convex, dark brown, more or less clouded with a lighter shade, or even inclining to grey; head with a line of four tubercles between the eyes, the antennary orbit large, a semicircular impression above the epistome; mentum large, quadrate; labium transverse, entire, ciliated in front; prothorax very transverse, wider than the elytra, the sides strongly dilated and margined with a double series of equal serriform tubercles, and deeply sinuated in front for the reception of the head, the disc with a row of five tubercles on each side the central line, the anterior pair accompanied by two others placed on the edge of the prothorax; scutellum small, quadrate; elytra seriato-punctate, slightly gibbous at the base, so as to be above the line of the prothorax, a row of small tubercles along the side, above this another of three oblong tubercles, followed by a third row which is incomplete in the middle, and lastly close to the suture is a line of smaller tubercles running, with a slight interruption posteriorly, to the apex,—the sides less strongly dilated than in the prothorax, but edged with a double row of serriform tubercles of the same size (in some specimens there is a lighter shade posteriorly, forming a band-like mark); antennæ, palpi, and eyes ferruginous, with a paler pubescence; body beneath dark brown, covered with small tubercles. Length 3 lines.

Rechodes fallax.

R. fere convexus, fuscescens; elytris antice subdepressis, tuberculis oblongis instructis.

Hab. Natal.

Closely allied to the former, but is smaller, less convex, the elytra narrower, and their base being depressed, they are on the same line with the prothorax; the disposition of the tubercles is almost precisely the same, except perhaps that they may be a trifle less marked; the colour in both species is somewhat variable. Length 2½ lines.

Rechodes signatus.

R. subdepressus, fuscus; prothoracis lateribus, elytrorumque macula magna albescentibus.

Hab. Natal.

Rather depressed, dark brown, tomentose; sides of the prothorax, and a large patch on the disc of the elytra, which, commencing at the base, is contracted in the middle and again expanded behind, and a smaller spot at the apex, greyish-white; disposition of the tubercles (which are all more or less conical) nearly as in the last; antennæ, palpi, and legs dull reddish-brown; under surface dark brown, covered with numerous small tubercles, and but slightly pubescent. Length $2\frac{1}{4}$ lines.

The few characters which Erichson has given of *Rechodes* accord perfectly well with the insects described above, except that the last joint of the maxillary palpi is scarcely securiform, although very broad and truncate. *Rechodes* is closely allied to *Ulonotus* and *Endophlœus*. To the former of these genera, M. Lacordaire refers, and I think correctly, *Bolitophagus antarcticus*, White; and I would also refer to it *Asida serricollis*, Hope. The genus *Pristoderus* of the latter author, founded on the *Dermestes scaber*, Fab., is probably identical with *Ulonotus*.

Distaphyla [Colydiidæ].

Head small, transverse, scarcely visible from above, slightly dilated below the eyes, with a broad antennary groove beneath. Antennæ short, stout, 11-jointed, the two basal incrassated, the third longer than the rest, which are very transverse, the last two forming a short compressed club. Eyes large, round. Mandibles bidentate at the apex. Palpi robust, the terminal joint of the maxillary elongate, subcylindric, of the labial obovate; maxillary lobes narrow, ciliated. Labium very small, subcordate, fringed with long cilia. Mentum large, narrowed in front, rounded and dilated at the sides. Prothorax nearly quadrate, very irregular anteriorly, the margin granulate and setose. Elytra elongate, subcylindrical. Legs short; coxæ not contiguous; tibiæ gradually enlarging at the extremity, terminated by two small spurs, and bordered externally with a row of stiff setæ; tarsi with the three basal joints short, hairy below. Prosternum rounded posteriorly, the mesosternum depressed.

Judging from the position which Erichson has assigned to his genus *Phlœonemus*, this must be a near ally, although it cannot be by any means likened to *Colobicus*.

Distaphyla mammillaris. (Pl. VIII. fig. 4.)

D. subcylindrica, picea (vel rufo-brunnea), fortiter punctata, setosa; prothorace antice bigibboso.

Hab. Brazil (Rio; Para).

Subcylindrical, pitchy-brown (or, in the Rio specimens, reddish-

brown), strongly and deeply punctured, the intervals having the appearance of granulations, and being furnished here and there with short stiff yellowish hairs or setæ; head deeply and semicircularly grooved between the eyes; prothorax narrowing slightly behind, the sides strongly granulated in a double row which is divided from the granulations of the disc by a smooth line, anteriorly two large oblong lobes overhanging the head, separated from each other by a narrow groove, but posteriorly from the rest of the prothorax by a broad deep hollow, which extends beneath them; scutellum small, triangular; elytra with about eleven rows of large deep punctures; legs reddish-ferruginous, with stiff scattered hairs; antennæ short, not longer than the breadth of the head, dark brown, slightly setose; body beneath roughly punctured. Length 2½ lines.

Acropis [Colydiidæ].

Burmeister, Gen. Ins. no. 25.

Acropis Fryi.

A. rufo-picea, fulvescenti-hirta; elytris subseriatim tuberculatis, tuberculis setiferis, fasciculis sextis nigris in medio obsitis; pedibus ferrugineis nigro variis.

Hab. Brazil (Rio).

Reddish-pitchy, rather sparingly clothed with short, scale-like, greyish-yellow or almost golden hairs; head and prothorax with a few greyish setæ, the latter with about five dark spots on its disc; scutellum rounded behind, closely covered with white hairs; elytra uneven, with several small granular tubercles, ranged in more or less interrupted lines, each tubercle bearing at its apex a black erect rigid seta, in the centre six dense fascicles of stiff black hairs, the first and third of these nearer the suture than the second, an oblique stripe (composed of more closely set hairs) below each shoulder, and towards the apex another oblique patch of pure white hairs (composed, however, of two distinct spots); legs dark ferruginous, with scattered grey hairs, the femora varied with black, the tibiæ with a black ring in the middle; antennæ and palpi pitchy-ferruginous; body beneath pitchy-brown with pale greyish hairs. Length 3 lines.

This appears to differ from *A. tuberculifera*, Burm. (which, however, I have not seen) in its larger size, the black fascicles, the yellow, almost golden, tinge of its scale-like hairs, the absence of the shining chestnut colour of the apices of the tibiæ, knees, tarsi, &c. Burmeister in his description of this genus has overlooked the basal joint of the antennæ, and describes the second (last) joint of the club as composed really of two, soldered together, and in this he is followed by M. Lacordaire. I can find no trace of any such union, which, if it existed, would give twelve joints to the antennæ, and not eleven,

as is really the case, that is to say, with the addition of the basal one. *A. Fryi* and *A. incensa* were both taken by Mr. Fry at Rio.

Acropis incensa.

A. rufo-picea, fulvescenti-hirta; elytris subseriatim tuberculatis, tuberculis setiferis, fasciculis plurimis fuscis in medio obsitis; pedibus ferrugineis.

Hab. Brazil (Rio).

Differs from the last in its much smaller size, comparatively narrower and longer elytra, in the more numerous tubercles, and brown fascicles of hairs, the almost unvarying hue of the pubescence, although near the shoulder and apex may be traced rather more densely set patches of hairs than elsewhere, and the more uniform colour of the legs. Length $1\frac{2}{3}$ line.

Acropis aspera. (Pl. VI. fig. 1.)

A. nigra; prothorace granulato; elytris seriatim tuberculatis, setiferis, macula alba pone humeros, postice fasciculo nigro indutis; tibiis tarsisque ferrugineis.

Hab. Brazil (Para).

Black, very slightly shining, and nearly free from pubescence, except two small patches on the anterior margin of the prothorax, and a short oblique white stripe, which, however, may be resolved into three spots, below the shoulder; scutellum rounded behind, naked; prothorax covered with small flat granulations; elytra with a large fascicle of black hairs on the lower third of each, the tubercles varying in size, but all furnished with a rigid black seta; antennæ, tibiæ, and tarsi ferruginous. Length 2 lines.

Lemmis [Colydiidæ].

Head vertical, rounded in front, and prolonged at the sides into two short peduncles bearing the eyes. Antennæ short, eleven-jointed, the last two forming a short ovate club. Prothorax short, very transverse, narrower behind, broader than the head anteriorly, the sides strongly denticulate. Elytra nearly regular above, not broader, except at the base, than the prothorax. Legs slender, first tarsal joint scarcely longer than the second.

The other characters of this genus are the same as those of *Acropis*, to which, indeed, it is nearly allied; the form, however, of the prothorax, added to the apparent absence of asperities, and the peculiar scaly crust, which covers the whole of the upper surface, as if a layer of opake varnish had been applied to it, obviously prevent its union with that genus. The shortness of the first tarsal joint, being more of a comparative character, is, perhaps, of less importance.

Lemmis cœlatus. (Pl. VIII. fig. 3.)

L. oblongus, grisescens, setis hamatis brevissimis obsitus; antennis capite brevioribus.

Hab. Brazil (Rio).

Oblong, brown ?, covered above as well as beneath with a scaly crust of a pale yellowish or greenish grey, with very short hooked hairs, particularly on the margins of the prothorax and elytra, curving forwards on the former, and backwards on the latter; head (including the peduncles) narrower than the prothorax, this with seven well-marked but obtuse teeth on each side; scutellum punctiform; elytra a little wider posteriorly, each with three very slightly raised gibbosities near the suture, another at the shoulder, and externally towards the apex two or three more, but which are considerably less prominent; antennæ pitchy, shorter than half the length of the head; legs pitchy; eyes dark brown. Length $1\frac{1}{2}$ line.

In one of the two specimens now before me, the hairs are scarcely evident even on the margins, being, apparently, more enveloped by the scaly layer described above. In Mr. Fry's collection.

ETHELEMA [Colydiidæ].

Head vertical, rounded anteriorly, and prolonged at the side into a short peduncle bearing the eye. Antennæ as in *Acropis*, but more robust. Labium short, transverse, fringed with long hairs. Maxillary palpi robust, the terminal joint short, stout, obliquely truncate; the labial with the two basal joints small, the third large, broadly subovate, slightly truncate. Mentum quadrate, very large. Prothorax as broad as the head, transverse, regular and convex above, narrowed anteriorly, the sides margined. Elytra oblong, nearly parallel, the surface smooth and regular. Legs rather slender; tibiæ not ciliated externally, terminated by two short spines. Prosternum produced behind.

The above include the characters which, combined with the total absence of tubercles, chiefly separate this genus from *Acropis*.

Ethelema luctuosa. (Pl. VIII. fig. 6.)

E. oblonga, hirta, nigra, flavescenti-varia: prothoracis marginibus denticulatis, setosis.

Hab. Brazil (Rio; Para).

Oblong, closely covered above with short scale-like black hairs, many of which are curved backwards, more or less varied with pale yellowish or white; head not wider than the prothorax, a transverse depression in front below the peduncles; prothorax scarcely narrower than the elytra, except at the base, the margins denticulate, each denticulation with a short curved hair arising from its apex; scutellum very transverse: elytra regular, punctate-striate, the striæ rather remote, the patches of

yellowish hairs more conspicuous on the head and prothorax, but indefinite as to outline and varying apparently in different individuals; body beneath black; legs with a few scattered hairs only. Length 2 lines.

DASTARCUS [Colydiidæ].

Walker, Ann. and Mag. Nat. Hist. 3 ser. ii. p. 209.

Dastarcus confinis. (Pl. VI. fig. 6.)

D. elongato-ovatus, fuscus; prothorace elytrisque costatis, costis ferrugineo-hirtis.

Hab. New Guinea (Dorey).

Elongate-ovate, dark brown, with stout, stiff, dilated, pale rusty hairs (or scales), which are chiefly confined to costæ and other elevations on the upper surface; head small, partially retracted in repose; prothorax with two waved grooves on each side, the outer smallest, and fringed with stiff hairs; scutellum scarcely visible; elytra punctato-sulcate, the costæ between them closely covered with stiff hairs; body beneath coarsely punctured, with a setaceous hair in the centre of each; palpi ferruginous. Length 5 lines.

Larger and stouter in proportion in all its parts than the Ceylonese *D. porosus*, but otherwise very closely allied.

I am unable, at present, to give any oral details of this curious genus, which Mr. Walker has only very briefly characterized, at the same time associating it with the Hydrophilidæ; it is, however, an undoubted Colydian, and evidently nearly allied to *Emmaglœus* of M. Léon Fairmaire. The large primo-abdominal segment and distant posterior coxæ suggest also an affinity with *Bothrideres* and *Derataphrus*; but its head, vestiture, and habit altogether, point to a distinct subfamily. It may be mentioned that all the coxæ are widely apart; the femora canaliculate beneath for the reception of the tibiæ, which are fringed with stiff hairs externally, and the anterior terminated by two spines, the inner of which is much longer and curved, whilst the outer, under a strong lens, is seen to be tridentate; the mouth is almost entirely closed below by the prolonged mentum? (as in *Derataphrus*), the small, pointed maxillary palpi protruding at the sides.

BOTHRIDERES [Colydiidæ].

Bothrideres succineus. (Pl. V. fig. 3.)

B. niger; prothoracis angulis anticis subacutis, ecostatis; elytris striatis, tuberculatis, medio succineo-granulatis.

Hab. Brazil (Rio; Para).

Dull black, opake; head covered with rather distant, shallow punctures; prothorax remotely punctured, longer than broad, considerably

narrower behind, its anterior angles not produced although somewhat acute, a tubercle at the side, the disc very concave anteriorly, with a deeply impressed, interrupted ring in the centre, behind which is an oval depression terminating posteriorly in an elevated tubercle, which again has on each side a short but very deep and narrow groove; elytra elongato-ovate, broader than the prothorax, deeply and irregularly striated, the interstices, except the two sutural on each side, with very strong, elevated, compressed tubercles, particularly at the base and inner row, becoming smaller and more conical externally,—each elytron, before the middle and on the outside of the second sutural stria, with two pellucid granules of an amber colour; body beneath with rather shallow, large, and somewhat remote punctures. Length $2\frac{1}{2}$ lines.

The upper part of the labium in the figure is intended to represent its cilia: as it stands, it only shows their position.

Bothrideres latus.

B. niger, latior; prothoracis angulis anticis productis, utrinque tricostatis.
Hab. Brazil (Santarem).

Wider than the last, black, opake; head rather coarsely and deeply punctured; prothorax less coarsely punctured, rather wider than long, emarginate in front to receive the head, its anterior angles slightly produced, with three strong ribs on each side, the inner occupying the anterior half only, the outer terminating in the anterior angle, the disc largely impressed with a bilobed protuberance in the centre, and opening out behind into a deep channel, which is bounded on each side by an oblique protuberance; elytra broader than the prothorax, strongly ribbed, the interstices with shallow, somewhat remote punctures, the ribs seven on each elytron, the external and the two sutural ones less marked than the others; antennæ not longer than the breadth of the head; palpi ferruginous; body beneath remotely punctured. Length 3 lines. British Museum.

Sosylus [Colydiidæ].

Erichson, Natur. der Insekt. Deutschl. iii. p. 288.

Sosylus sulcatus. (Pl. VI. fig. 1.)

S. niger, subnitidus; prothorace medio lineolato; elytris apice obtusis, in singulo quadrisulcatis.
Hab. Brazil (Para).

Black and slightly shining; head finely punctured, regular, a little convex in front; prothorax oblongo-ovate, twice as long as the head, finely punctured, a very delicately elevated line along the middle, terminating posteriorly between two short linear impressions; scutellum very narrow; elytra nearly parallel, obtuse at the apex, each with five elevated costæ having between them four broad deep grooves, the two

outermost costæ uniting posteriorly and forming a slightly projecting angle at the apex; antennæ and legs dark ferruginous, shining; body beneath shining, dark reddish-brown, with small oblong impressed spots. Length 4 lines.

ANARMOSTES [Colydiidæ].

Head subquadrate. Antennæ short, eleven-jointed, the two basal incrassated, the third longest, the rest gradually decreasing in length to the eighth, the last three forming an ovate, compressed, perfoliate club. Eyes large, round, slightly divided in front. Maxillary palpi subcylindric, the last joint obliquely truncate, the labial smaller, subacuminate. Prothorax elongate, narrower posteriorly, deeply sulcate, not contiguous to the elytra. Scutellum punctiform. Elytra elongate, nearly parallel, ribbed, wider than the prothorax. Legs short; coxæ not contiguous; tibiæ spurred, somewhat dilated and more or less toothed externally near the apex; tarsi slender, hairy beneath, the basal joint subelongate. Prosternum prominent, keeled in the middle. Abdominal segments gradually diminishing in size.

Allied to *Sosylus*, with which it also agrees in habit, but at once distinguished by its triarticulate club and sulcate prothorax. I have not dissected the mouth of my specimen (which I owe to the kindness of Mr. Fry, by whom alone, I believe, it has been taken); but the mentum seems to be very small, and attached internally to the large subquadrate jugular plate, which M. Lacordaire has, apparently, denominated the "*sous-menton*"; the point of insertion of the palpi is, however, not covered by it, but is more than usually obvious.

Anarmostes sculptilis. (Pl. VIII. fig. 8.)

A. elongatus, piceo-fuscus; pedibus rufo-piceis.

Hab. Brazil (Rio).

Elongate, dark pitchy-brown; head and prothorax covered with numerous impressed punctures, with a very short hair-like point in the centre of each, the latter with five deep longitudinal grooves; scutellum hollowed out in the middle; elytra about three times the length of the prothorax, each with five strongly marked costæ, the intervals with a double row of elongated punctures, giving the spaces between them a granulated appearance; antennæ much shorter than the prothorax, yellowish-red; legs dark pitchy-red; tibiæ finely ciliated and armed externally at the base with three or four teeth; body beneath coarsely punctured, the abdominal segments with numerous fine, longitudinal, but more or less interrupted lines. Length $4\frac{1}{2}$ lines.

ASPROTERA [Colydiidæ].

Head rather narrow, depressed, slightly expanded at the sides over the antennæ. Eyes large, round, with a deep antennary groove beneath. Antennæ short, ten-jointed, the first two incrassated, the remainder

to the ninth more or less transverse, the tenth forming a round compressed club. Labrum small, entire. Palpi rather short, filiform, the last joint subcylindric. Mentum very transverse. Prothorax elongate, with nearly parallel, slightly margined sides, constricted a little at the base, produced anteriorly into a broad lobe overhanging the head. Elytra lengthened, parallel, very convex. Legs short; posterior coxæ distant; femora strongly grooved beneath for the reception of the tibiæ; tibiæ enlarged at their extremity, without spurs, ciliated on their external margin; tarsi slender, the three basal joints very short. Prosternum produced. The first two abdominal segments larger than the others.

Although the second abdominal segment is fully as large as the first, yet, as they exceed the remainder, this genus cannot be placed in any group in which the segments are equal; otherwise, as its posterior coxæ are not contiguous, it might be associated with *Pycnomerus*, *Apeistus*, &c. In its scaly pubescence it differs from *Bothrideres*, *Sosylus*, and all the genera of that group (and the character, as well as the absence of vestiture, like the sculpture, appear to me to be of importance in this family). The antennæ, described as ten-jointed, may probably have eleven, the club being composed of two, soldered together. In the figure eleven joints are given, but the third should be united with the second.

Asprotera inculta. (Pl. VI. fig. 3.)

A. elongata, cylindrica, fusca, supra albido-squamulosa; elytris seriatim punctatis, interstitiis squamulosis.

Hab. Natal.

Elongate, cylindrical, dull brown, furnished above with stiff whitish scale-like setæ; head coarsely punctured, with few scales; prothorax strongly and thickly punctured, with numerous scales between them, the anterior margin on each side obliquely grooved; scutellum very small; elytra very coarsely seriato-punctate, the alternate interstices with a more closely set row of scales than the intermediate ones; antennæ not longer than the breadth of the head, reddish-brown; legs reddish-brown; body beneath dark brown, coarsely punctured. Length $3\frac{1}{2}$ lines.

PENTHELISPA [Colydiidæ].

Head small, slightly dilated below the eyes. Antennæ short, stout, eleven-jointed, the last two forming a short ovate club. Eyes round. Mandibles bidentate at the apex. Maxillary palpi robust, the terminal joint broadly ovate, the labial smaller. Maxillary lobes short, ciliated, somewhat falcate, the inner narrower. Labium very transverse, rounded anteriorly, and finely ciliated. Mentum subquadrate, its anterior angles rounded. Prothorax subquadrate, scarcely emarginate in

front, with a narrow margin at the side. Elytra elongate, subparallel. Legs short; coxæ distant; tibiæ smooth externally, dilated at the extremity, and terminated by two or three spurs; tarsi stout, the first three joints subequal. Abdominal segments equal. Prosternum continuous with the mesosternum.

I believe this genus will be found to include that portion of Erichson's *Pycnomerus* which is characterized by its eleven-jointed antennæ. *Dechomus*, distinguished by having eight only, has been recently separated by M. Jacquelin du Val. The two European species, *P. terebrans* and *P. inexspectus*, with ten joints, will, therefore, alone represent the true *Pycnomeri*. The species described below has very slightly impressed antennary grooves, a character which, among the Pycnomerinæ, does not appear to be of generic importance.

Penthelispa porosa.

P. elongata, subdepressa, rufo-picea; prothorace fortiter punctato; elytris punctato-striatis.

Hab. Brazil (Rio).

Elongate, subdepressed, reddish-pitchy; head slightly convex in front, moderately punctured; prothorax longer than broad, a little narrowed posteriorly, covered with large and somewhat remote punctures; scutellum indistinct; elytra coarsely striato-punctate, the striæ very narrow, with the punctures oblong; legs smooth, the internal border of the tibiæ towards the extremity, especially of the anterior, slightly spinulose; body beneath pitchy-brown, with large shallow punctures. Length 2 lines.

HYBERIS [Colydiidæ].

Head short, transverse, immersed in the prothorax nearly to the eyes. Antennæ of moderate length, arising beneath the lateral border of the head, moderately thick, ten-jointed, the joints ovate-elongate, setigerous, the first rather incrassated, the third longest, the tenth forming a pyriform club. Eyes lateral, round, rather prominent. Mentum nearly quadrate. Palpi claviform, terminal joint of the maxillary much larger than the others, shortly ovate, truncate, of the labial oblong-ovate. Prothorax transverse, bisinuated in front, rounded and strongly serrated at the side, narrowed behind. Elytra much wider than the prothorax, broadly ovate, convex. Legs moderate; coxæ distant; femora robust; tibiæ fusiform; tarsi short, the basal joint longer than the two following. Abdominal segments nearly equal.

As the only specimen I have seen of this insect belongs to the British Museum, I am unable to give any account of its oral organs; but there can be no doubt that it is nearly allied to *Apeistus*, and it would therefore be interesting to know if it be

furnished with paraglossæ, as in that genus. It is remarkable that the basal joint, which in *Apeistus* is very indistinct, and was considered to be a mere knob (and the insect, therefore, trimerous) by Erichson, should be also in *Hyberis* so indented, that when viewed sideways it seems composed (at least in the intermediate tarsus) of two distinct joints; but the absence of any division beneath shows that it is not really so.

Hyberis araneiformis. (Pl. VII. fig. 1.)

H. fuscus, tuberculiferus, fulvo-setosus; antennis capite prothoraceque longioribus.

Hab. Borneo.

Broadly ovate, dark brown, opake, covered with small tubercles and short stiff fulvous hairs; head scarcely more than half the breadth of the prothorax, a thin patch of yellowish hairs in front of each eye; prothorax slightly convex, much broader than long, with two tufts of yellowish setose hairs on the disc, and six stout teeth on each side; scutellum very indistinct; elytra broad, convex, rounded at the side, the edges serrated, a small tuft of black hairs on each at the base, and a larger one common to both elytra behind and on the highest part of their convexity; antennæ about one-third the length of the whole insect, all the joints, except the last, furnished with three stiff setæ arising in the middle of each, two anterior and one posterior; palpi ferruginous; legs rough, with short thick hairs, tarsi ferruginous; eyes black; body beneath somewhat pitchy, coarsely punctured. Length $2\frac{1}{2}$ lines.

PHARAX [Colydiidæ].

Head short, transverse, rather widely dilated below the eyes, and deeply inserted in the prothorax. Antennæ short, eleven-jointed, the two basal incrassated, and nearly concealed above, the third longest, the rest gradually diminishing in length and becoming transverse, the last two forming a compact ovate club. Eyes small, round. Mentum rounded at the sides and in front. Terminal joint of the maxillary palpi triangular. Prothorax transverse, largely dilated and rounded at the sides, narrowed posteriorly, the disc very convex and irregular. Elytra connate, much broader than the prothorax at the base, short and irregular. Legs moderate; all the coxæ distant; femora robust; tibiæ fusiform, bordered externally with scale-like hairs; tarsi short, the basal joint longer than the second or third. Abdominal segments nearly equal.

This genus, in habit like *Ulonotus*, is allied to the last (*Hyberis*), from which the eleven-jointed antennæ and biarticulate club will at once distinguish it. The description of the mentum and palpi must be received with some hesitation, as they were examined *in situ*. The two specimens now before me are among those almost inexhaustible

captures of Mr. Fry at Rio, which perhaps, partly from their small size, and partly from the extremely limited area which many of the insects of that country affect, it is almost hopeless to expect can ever be obtained except by the most indefatigable and experienced collectors. The number of undescribed genera which are almost sure to be found in every extra-European collection that may be formed by an accomplished naturalist, should not be overlooked by those who are inclined to question the necessity of the multiplication of new names.

Pharax laticollis. (Pl. VIII. fig. 1.)

P. ovatus, fuscus, tuberculiferus, griseo-setosus; antennis capitis latitudine æqualibus.

Hab. Brazil (Rio).

Ovate, dark brown, covered with short, stiff, scale-like hairs; head slightly concave above; prothorax somewhat bilobed anteriorly, its disc with four depressed tubercles; scutellum deeply set; elytra short, convex, with about ten tubercles on the disc, the posterior being the largest, the margins irregularly set with short stiff scales; antennæ, palpi, and tarsi ferruginous, the former about equal in length to the width of the head. Length $1\frac{1}{2}$ line.

CHORITES [Colydiidæ].

Head transverse, much narrower than the prothorax and deeply inserted in it, its supra-antennary borders slightly produced. Eyes large, and very rough, from the facets being prolonged into short spines. Antennæ short, slender, eleven-jointed, the first and second slightly incrassated, the third longest, the remainder to the ninth gradually decreasing in length, the tenth and eleventh forming an abrupt ovate club. Maxillary lobes ciliated, the external subtriangular, the internal narrower. Palpi short, claviform; the terminal joint of the maxillary ovate-cylindrical, of the labial ovate-oblong. Mentum subquadrate. Labium transverse, ciliated anteriorly. Prothorax very transverse, narrowed and sinuated anteriorly, as broad as the elytra at the base. Elytra convex, short, the sides gradually rounded to the apex. Legs small; coxæ, especially the posterior, very remote; femora compressed; tibiæ slightly enlarged at their extremity, ciliated externally, and terminated by two short spurs; tarsi short, slender, with long hairs beneath, the basal joint very distinct. Abdominal segments gradually decreasing in size.

The widely separated posterior coxæ narrow considerably the number of Colydian genera with which *Chorites* may be compared; at the same time, although the first abdominal segment is in every way larger than the others, there is not the decided difference we see in *Derataphrus*, *Sosylus*, &c.; and if we exclude these genera,

we are reduced to *Pycnomerus*, *Apeistus*, &c. To none of these, however, is our insect closely related, the contiguity of the whole base of the elytra to the prothorax completely isolating it from all of them and their allies.

Chorites aspis. (Pl. VII. fig. 3.)

C. niger, subnitidus, squamis griseis indutus; antennis, palpis pedibusque ferrugineis.

Hab. Borneo.

Broadly elliptical, black, rather glossy, covered with short erect pale greyish scales, which are disposed in narrow rows on the elytra and form a regular fringe round their margins and the sides of the prothorax; antennæ, palpi, and legs ferruginous, the tibiæ with a black stripe externally and edged with a row of greyish scales; body beneath dull black, thickly punctured, the throat only covered with yellow scales. Length $2\frac{1}{2}$ lines.

There is a second species? in my collection, also from Borneo: but, except in its much smaller size (about $1\frac{1}{2}$ line long), and a few black scales being interspersed among the others, there is little to distinguish it.

DISCOLOMA [Colydiidæ].

Erichson, Natur. der Ins. Deutschl. iii. p. 292.

Discoloma Fryi. (Pl. VII. fig. 2.)

D. piceo-ferruginea vel testacea, pubescens; elytris parce punctatis; antennis, palpis pedibusque dilutioribus.

Hab. Brazil (Rio).

Pitchy-ferruginous, in some specimens testaceous, sparingly pubescent; head rather closely punctured, inserted in a deep emargination of the prothorax; prothorax very transverse, nearly twice as broad as long, very finely punctured, the margins gradually but strongly dilated, with its anterior angle rounded; scutellum small; elytra rather broader than long, and as wide as the prothorax at the base, the disc with several rather large, remote punctures, with a broad and strongly-marked margin at the sides; antennæ, palpi, and legs pale ferruginous; body beneath pitchy, with a few scattered hairs. Length $1\frac{1}{4}$ line.

Although Erichson has characterized *Discoloma* in very few words, I cannot doubt that the insect described above is correctly referred to that genus, as indeed Mr. Fry had previously suggested to me; the only difficulty is, that *Discoloma* is said to have the basal joint of its antennæ simple, or not enlarged, which is not the case in the present species. However, the habit of the typical form appears to agree with this, and is so remarkable—resembling some of the Nitidulidæ (*Amphotis* for example)—whilst the structure so nearly

accords with *Cerylon*, in close proximity to which Erichson has placed the genus, that this discrepancy need not, for the present at least, necessitate the generic separation of the two insects. In addition to Erichson's description, the following generic characters (most of them the same as in *Cerylon*) may be noticed in *D. Fryi*:—Eyes narrow, transverse, scarcely prominent; external maxillary lobe long and very slender, ciliated at the apex (inner lobe not seen); maxillary palpi short, the first joint very small, the second greatly enlarged, the third subcylindrical, the fourth minute, aciculate; the labial palpi with the second joint enlarged, the third shortly conical; mandibles bidentate at their extremity; mentum small, quadrate; labium rounded anteriorly; tarsi very short, the three basal joints oblique, and hairy beneath.

Glyptolopus [Colydiidæ].

Erichson, Natur. der Ins. Deutschl. iii. p. 292.

Glyptolopus histeroides. (Pl. VIII. fig. 5.)

G. late ovatus, piceus; prothorace elytrisque rugoso-costatis.
Hab. Brazil (Rio).

Broadly ovate, pitchy-black; head coarsely punctured, small, vertical, scarcely visible above, narrowed below the eyes; antennæ twelve-jointed, the first large, incrassated, and uncovered at its insertion, the second short, not thicker than the third, the remainder becoming gradually stouter to the tenth and eleventh, the last small, closely enveloped in long silky hairs; prothorax semicircular, very convex, vaulted above and emarginate anteriorly, the centre with a broad longitudinal groove, and a stout interrupted costa on each side, the lateral margin strongly produced, the intervals coarsely punctured; scutellum triangular; elytra as broad as the prothorax at the base, but not continuous with it above, the sides rounded and gradually decreasing posteriorly, with five strong rugose costæ on each, the intervals coarsely punctato-granulate; all the coxæ distant, tibiæ fusiform, strongly fluted, not spurred, tarsi short; prosternum very strongly keeled, produced behind, and received in a notch of the mesosternum; first abdominal segment nearly as large as the rest together; body beneath coarsely punctured. Length 2 lines.

The few characters which Erichson has given of this genus, its very peculiar habit (resembling an *Onthophilus*), combined with the acicular palpi of the Ceryloninæ, and its habitat of Brazil, would seem to leave no doubt that the insect described above is correctly referred to *Glyptolopus*. The antennæ, however, are certainly twelve-jointed, while *Glyptolopus* is said to have only eleven. Has

the little terminal joint been overlooked; and the ninth, which is nearly as large as the eleventh, been regarded as one of the three forming the club?

Althæsia [Mycetophagidæ].

Head deeply inserted in the prothorax, triangular, slightly dilated below the eyes. Antennæ longer than the prothorax, eleven-jointed, the last three forming an oblong perfoliate club. Eyes large, round, very prominent, rugose. Maxillary palpi with the second and third joints thickest, the terminal obconic, truncate; the labial short, triangular, approximate. Maxillary lobes narrow, nearly equal. Prothorax transverse, narrower and slightly emarginate in front, rounded at the side, the base bisinuated. Elytra slightly convex, margined, the base closely applied to the prothorax, but enlarging behind the shoulder, then rounded to the apex. Legs moderate; coxæ distant; tibiæ fringed externally, enlarging towards the extremity, and terminated by four or five short spines; tarsi slender, hairy beneath, four-jointed, the anterior with the penultimate very indistinct (male only?).

Resembles *Mycetophagus* in outline, but with a triarticulate club, and large round, very rugose and prominent eyes.

Althæsia pilosa. (Pl. VI. fig. 4.)

A. piceo-brunnea, griseo-pubescens, pilosa; corpore infra pedibusque rufo-brunneis.

Hab. New Guinea (Dorey).

Pitchy-brown, covered with a close greyish pubescence combined with numerous soft, slender hairs; head scarcely half the breadth of the prothorax, sparingly punctured; prothorax with three grooves on each side, the inner two connected by a deep transverse one at the base: elytra slightly convex, widest behind the shoulder, with a very narrow margin; scutellum very small, triangular; body beneath and legs dark reddish-brown; abdomen, femora and tibiæ with a fulvous pubescence. Length 3 lines.

Atractocerus [Lymexylonidæ].

Palis. de Beauvois, Magaz. Encycl. 1802 (*sec.* Lacord.).

Atractocerus morio. (Pl. VI. fig. 5.)

A. ater; elytris prothorace longioribus alis chalybeatis; profemoribus coxisque testaceis.

Hab. Moluccas (Batchian).

Black; head nearly round, thickly punctured, closely covered with short erect black hairs; antennæ extending nearly to the end of the prothorax; eyes large, widely separated above: mandibles not projecting; prothorax narrower than the head, quadrate, hairy, shining: scutellum subtriangular, obtuse behind: elytra closely punctured.

pubescent, nearly as long as the head and prothorax together; wings deep steel-blue, shining; abdomen black, slightly tinged with blue, with a very remote greyish pubescence; legs black, anterior coxæ and femora testaceous, the intermediate darker. Length 11 lines.

Dioptoma [Lampyridæ].

Head exposed. Eyes very large, horizontally constricted, the upper portion smallest, the lower much larger, and completely contiguous. Antennæ short, claviform, subapproximate, deeply set on each side of the narrow prolongation of the front, twelve-jointed, the first two incrassated, the remainder forming an elongated club. Mandibles very slender, curved, not toothed. Palpi robust. Prothorax transverse, semicircular, not dilated at the sides. Scutellum rather large, triangular. Elytra as broad as the prothorax at the base, gradually rounded at the sides, narrow and flattened posteriorly. Winged. Legs moderate; intermediate coxæ not approximate; tarsi slender, the fourth joint not bilobed.

Although I do not hesitate to refer this most extraordinary insect to the Lampyridæ, yet it must be confessed that it is a very aberrant form, and suggests no affinity with any Malacoderm genus that I am acquainted with. Its head (composed, at least externally, almost entirely of eyes, which are constricted in the middle like an hour-glass) is fully exposed; the narrow vertex descends behind the upper portion of the eye, and fills in the space behind and between the constriction, and is prolonged in front to terminate in the labrum, although, from the presence of numerous coarse hairs, the existence of this organ cannot be positively asserted. The antennæ are very short, scarcely extending to the prothorax, and show no traces of being serrated. I am indebted for the only specimen I have seen to Dr. Ernest Adams, of University College, after whom I have named it. The abdomen of the specimen having been cut away, apparently to facilitate (?) the mounting, the number of its segments cannot be ascertained: the abdomen itself, however, appears to have been very small; the metasternum must have exceeded it in length as well as in breadth.

Dioptoma Adamsii. (Pl. V. fig. 2.)

D. fusca, parce pilosa; scutello elytrisque pallide grisescentibus, his plaga elongata fusca humerali.

Hab. India (Dacca).

Dark brown, rather sparingly clothed with pale semi-erect hairs, especially on the prothorax; head coarsely punctured, mandibles reddish-brown, antennæ and palpi pale yellowish; prothorax thickly and

coarsely punctured; scutellum and elytra very pale greyish, inclining to yellow, the latter irregularly punctured with several slightly-raised longitudinal lines and a dark-brown elongate patch at the shoulder; body beneath and legs pale greyish. Length 3½ lines.

Cotulades [Tenebrionidæ].

Head subquadrate, exserted, but not constricted behind. Eyes small, lateral, round. Antennæ submoniliform, short, thick, very hairy, the basal joint longest, the rest to the tenth subequal, very transverse, the eleventh smaller, truncate. Labrum small, rounded anteriorly and ciliated. Mentum subquadrate, produced at the sides. Labium transverse, rounded in front. Palpi short, clavate, terminal joint ovate. Prothorax subquadrate, wider anteriorly. Elytra ovate, convex. Legs short; all the tarsal joints, except the last, very short.

To this genus belongs the *Tagenia leucospila* of Mr. Hope; the head, however, not contracted behind into a neck, and other characters show that it is very distinct from *Tagenia* [*Stenosis*]; at the same time it is difficult to point out a nearer ally. In this and the following genus the intermediate legs appear to be without trochanters.

Cotulades fascicularis. (Pl. VII. fig. 5.)

C. niger, rugoso-punctatus; elytris obsolete albo-fasciculatis.
Hab. Australia (Melbourne).

Dull brownish-black; head and prothorax covered with large, coarse, nearly confluent punctures, and sparingly furnished with stiff, decumbent, scaly hairs; elytra coarsely striato-punctate, each with three indistinct ridges and with eight to ten short fascicles of brownish-white hairs, indeterminately arranged, but sometimes nearly wanting (from abrasion?); claws pale ferruginous; body beneath strongly punctured. Length 3 lines.

Elascus [Tenebrionidæ].

Head rather elongate, scarcely exserted. Eyes small, lateral, undivided. Antennæ short, hairy, eleven-jointed, the first longest, the rest transverse and more or less equal, except that the last is smaller than the preceding one. Palpi moderate, filiform, the terminal joint ovate, subacuminate. Mentum transverse, the angles rounded. Labium small, transverse. Prothorax subquadrate, irregular, much broader than the head, projecting in front, and lobed posteriorly, slightly dilated and serrated at the sides. Scutellum very small, quadrate. Elytra nearly parallel, broader than the prothorax. Legs short; femora and tibiæ compressed, the latter ciliated externally; tarsi very short and slender, the last joint nearly as long as the rest together.

This genus is not very far removed from the last: and, judging

both from the figure and the description, I think that it is also allied to Erichson's *Latometus**.

Elascus crassicornis. (Pl. VII. fig. 7.)

E. subdepressus, fuscescenti-varius; antennis medio abrupte incrassatis.
Hab. Australia (Melbourne).

Rather broadly depressed, covered with coarse, curly, dusky-brown hairs varied with paler or greyish markings; head and prothorax greyish-brown, the latter with four tubercles on its disc and the projecting anterior portion strongly bilobed; elytra bordered with hooked hairs, with three waved costæ on each, terminating posteriorly in as many tubercles, between which and the apex is another and larger one, a small oblique stripe behind the shoulder and a broad band near the apex; antennæ greyish-brown, the terminal half darker, with the third joint much thicker than the two preceding, the fourth and succeeding joints gradually diminishing in thickness; legs dark brown; body beneath pitchy, with yellowish-brown scaly hairs. Length 3 lines.

I have only seen two specimens, both of which were taken by Mr. Bakewell, at Melbourne, under the bark of trees composing a stock-yard fence.

Elascus lunatus. (Pl. VII. fig. 8.)

E. subangustatus, fuscus, nigro-varius; elytris albo-fasciatis.
Hab. Australia (Melbourne).

Rather narrow, slightly depressed, covered with coarse scaly hairs, which are yellowish-grey on the head, but considerably darker on the prothorax and elytra, or nearly black, the latter having three whitish bands (the two anterior crescent-shaped, but sometimes nearly coalescing, the posterior straight); prothorax with four tubercles on its disc, the anterior projecting portion rather broadly bilobed, each lobe forming (so to speak) an additional tubercle; elytra coarsely seriato-punctate, each with three costæ, the inner nearly obsolete except at the base; antennæ not abruptly thickened in the middle, yellowish varied with dark brown, especially the three terminal joints; legs ferruginous, more or less marked with dark brown; body beneath covered with greyish-yellow scaly hairs. Length $2\frac{1}{2}$ lines.

The post-prothoracic lobe is less developed in this species than in the former, or, in other words, it is broader and less abruptly defined. The two specimens (also captured by Mr. Bakewell) now before me differ considerably in depth of colour and amount of white on the elytra; but in this, as in other instances, the pattern is the same.

* Wiegmann's Archiv, 1842, p. 213. pl. 5. fig. 3.

DOCALIS [Tenebrionidæ].

Head rounded, exserted, the antennary orbit nearly dividing the eye. Antennæ short, covered with numerous small flattish hairs, the first three joints longest, the rest transverse, the tenth larger than the eleventh. Mandibles stout, bifid at the apex. Palpi robust, terminal joint of the maxillary short, stout, of the labial obconic, obtuse; external maxillary lobe short, triangular, fringed, the inner narrow, toothed. Mentum arising within the jugular plate. Prothorax subquadrate, scarcely wider than the head. Elytra ovate-oblong, broader than the prothorax. Legs short, the intermediate furnished with trochanters; coxæ not contiguous; tibiæ not spurred; tarsi with all the joints except the last very short and fringed with spiny hairs. Prosternal process quadrate. Mesosternum depressed.

The *Tagenia funerosa* of the Rev. F. W. Hope is, I think, referable to this genus; and, trusting solely to recollection of his type, now in the Taylor Institute at Oxford, it is very close to, if not identical with, my *D. degener*; but without certainty on this point, it is better to assume that they are distinct. The genus seems to be referable to the Scaurinæ, and, so far as my knowledge of the group extends at present, it might follow *Ammophorus*. The structure of the mouth, in reference to what I have called the "jugular plate," but which appears to be the "*sous-menton*" of M. Lacordaire, is very similar, judging from that author's description, to that of *Nyctoporis*, which genus immediately precedes *Ammophorus*. The larger penultimate joint of the antennæ is suggestive in a slight degree of the club of many Colydian genera; indeed, there are so many points of resemblance between several of the Heteromera and the Colydiidæ, as to justify a doubt whether they may not be more than mere analogies.

Docalis exoletus. (Pl. VIII. fig. 9.)

D. oblongo-ovatus, fuscus; prothorace transverso.

Hab. Australia (Melbourne); Tasmania.

Oblong-ovate, dark brown, everywhere covered, but not very closely, with semi-erect, stiff black scales (hairs), intermixed, especially on the head and prothorax, with rusty-white; prothorax slightly broader than long; scutellum rounded behind; elytra coarsely seriato-punctate, marked with several slightly elevated longitudinal lines, which are severally crested with a row of whitish scales; body beneath punctured, each puncture enclosing a short rusty hair. Length 2 to 3 lines.

For my knowledge of this and the species of the two preceding genera, I am indebted to Robert Bakewell, Esq., who informs me that they, and many other insects as well, are found beneath the

bark of logs which are piled one on another in the formation of stockades. Few of the many collectors in Australia appear to be aware of the novelties which a careful examination of such localities would afford them.

Docalis degener.

D. oblongo-ovatus, præcedenti angustior, niger; prothorace æquali.
Hab. Tasmania.

Narrower and darker than the last, with the prothorax at least as long as it is broad, the scales whiter and less numerous and the punctures larger, and the longitudinal lines on the elytra more prominent. Length 2 lines.

SPHARGERIS [Tenebrionidæ].

Head small, transverse, abruptly contracted below the eyes. Antennæ eleven-jointed, very short, gradually increasing in thickness from the third, which is longest, the second minute, the first incrassated. Eyes lateral, very small, round. Labrum narrow, not covering the mandibles, which are bifid at the tip. Maxillary lobes narrow, the terminal joint of their palpi subsecuriform. Mentum subcordate, narrower behind. Labium bilobed and ciliated anteriorly; labial palpi long, the terminal joint ovate, pointed. Prothorax short, transverse, narrower anteriorly, rounded at the sides. Elytra shortly ovate, very convex. Legs short, more or less covered with spinous hairs; tibiæ triangular, strongly spurred, the anterior sinuated externally; tarsi short, the basal joint longer than the second. Prosternum compressed, cariniform.

Closely allied to Mr. White's genus *Chœrodes* (Voyage of the Erebus and Terror, Ins. p. 12. tab. 2. fig. 12), but differs essentially in the antennæ, *Chœrodes* having (*inter alia*) a triarticulate club (*see* Pl. V. fig. 10); in both, however, they are eleven-jointed.

Sphargeris physodes. (Pl. V. fig. 9.)

S. testaceus, subnitidus, punctulatus; oculis mandibulisque nigris.
Hab. Australia (Melbourne and Adelaide).

Broadly ovate, very convex, smooth, shining, testaceous, closely and finely punctured; scutellum small, triangular; antennæ about as long as half the breadth of the head; eyes and mandibles black; body beneath darker, punctured, with short scattered hairs. Length 3 lines.

CHÆTYLLUS [Tenebrionidæ].

Head subtriangular, rounded posteriorly, larger than the prothorax, its supra-antennary borders forming a short, thick, elevated protuberance. Antennæ moderately long, eleven-jointed, the first incrassated, the

second minute, the third longest, the rest more or less moniliform and becoming gradually thicker upwards. Eyes lateral, small, round. Maxillary palpi strongly securiform, the labial very short and thick. Prothorax narrower than the head, much contracted behind. Scutellum none. Elytra connate, very convex, broadly elliptical. Legs moderate; anterior coxæ globose, not contiguous; tibiæ unarmed, hairy at the base internally; tarsi short, thick, hairy beneath, the basal joint longer than the second, the penultimate bilobed. Prosternum produced, rounded posteriorly, and remote from the mesosternum.

An examination of the mouth might throw some light on the affinities of this very curious little insect; but as the only specimen I have seen belongs to the British Museum, and moreover is not in very good condition, this cannot be done at present. In habit it resembles the Anthicidæ, but the globose anterior coxæ separate it from that family; the bilobed tarsi, an unusual character amongst the Tenebrionidæ, suggest an analogy, or perhaps an affinity, with *Phymatodes* and *Phobelius*. It is one of the many important captures of Mr. Bates in the valley of the Amazons; and as that gentleman is preparing a series of papers on some of the insects of his extensive collections, it is to be hoped that this and many other curious forms which he possesses will be at no distant date more amply illustrated.

Chætyllus anthicoides. (Pl. VI. fig. 8.)

C. niger, nitidus; prothorace elytrisque tuberculatis, tuberculis setigeris; tarsis pallidioribus.

Hab. Brazil (Ega).

Black, shining; head coarsely punctured, with scattered, erect, setulose hairs, a semicircular groove between the antennary orbits; prothorax and elytra covered with large tubercular elevations, arranged in rows on the latter, each of which bears a long, erect, setose hair: tarsi and base of the tibiæ internally with pale silky hairs; labial and maxillary palpi at the base pale ferruginous; antennæ setigerous, as long as the head and prothorax together. Length 2 lines.

Dipsaconia [Tenebrionidæ].

Head small, rather narrow and elongate below the eyes, deeply inserted in the prothorax. Eyes transverse, undivided. Antennæ rather short, submoniliform, slightly hairy, the basal joint incrassated, the second very short, the third longest, the remainder gradually decreasing in length, but becoming broader and transverse, to the ninth and tenth, the eleventh subovate. Labrum rounded anteriorly. Maxillary palpi rather long, claviform, the last joint large, ovate, truncate: the labial very small; external maxillary lobe broad, strongly ciliated. Mentum

quadrate. Labium very transverse. Prothorax narrower than the elytra, transverse, sinuated anteriorly, its surface regular. Elytra rather long, slightly rounded at the sides. Legs moderate; tibiæ bicalcarate, ciliated externally; tarsi slender.

Allied to *Ulodes*, Er., which differs in the following points. In *Ulodes* the head is short, not being prolonged below the eyes; the joints of the antennæ are subequal and transverse, surrounded by a dense whorl of squamose hairs; the surface of the prothorax is very irregular; the elytra are short, and the body generally is covered with short crisp scales. To *Ulodes* I refer *Bolitophagus Saphira*, Newm., and *Endophlœus variicornis*, Hope. My genus *Byrsax* (*ante*, p. 42) is also a member of this group of Tenebrionidæ (Bolitophaginæ): it is true I cannot quite satisfy myself that it is heteromerous, but I have no doubt a minute basal joint exists; and in other respects it appears to be congeneric with *Diaperis horrida*, Ol. (*Asida horrida*, Walk.). *Trox cornutus*, Fab., is also referable to *Byrsax*.

Dipsaconia Bakewellii. (Pl. VII. fig. 6.)

D. elliptico-ovata, pilosa, fulvo-brunnea; elytris nigro-variegatis.

Hab. Australia (Melbourne).

Elliptic-ovate, brownish-fulvous, covered with short decumbent hairs, among which others longer, nearly erect and slightly curved, are interspersed; prothorax nearly as wide as the elytra at the base; scutellum rather indistinct, subtriangular; elytra nearly parallel at the sides, rounded at the apex, striato-punctate, each with three costæ, and varied with four or five dull-black band-like marks; antennæ brown; body beneath ferruginous-brown, very sparingly pubescent. Length $3\frac{1}{2}$ lines.

In this and the following species, both of which we owe to Mr. Bakewell's researches, may be noticed, in certain lights, a glowing fiery-red tubercle at the bottom of each elytral puncture.

Dipsaconia pyritosa.

D. elongato-ovata, hirta, rufo-fusca; prothorace elytrisque nigro-variegatis.

Hab. Australia (Melbourne).

Elongate-ovate, reddish-brown, closely covered with short, thick, strongly hooked hairs; prothorax narrower than the elytra at the base, the disc with a large irregular blackish patch; scutellum indistinct, subquadrate; elytra rather broader behind, striato-punctate, marked with several irregular, dull brownish-black patches; antennæ brown; body beneath and legs ferruginous-brown, sparingly pubescent. Length $3\frac{1}{2}$ lines.

TITHASSA [Tenebrionidæ].

Head small, exserted, its anterior border incrassated. Antennæ stout, moderately long, the first and second joints scarcely thicker than the third, which is longer, the remainder to the eighth short, the last three forming an oblong, loose, compressed club. Eyes small, lateral, round. Epistome and labrum narrow, not covering the mandibles, the latter broadly emarginate. Mandibles bifid at the apex; terminal joint of the palpi ovate, subacuminate, the second joint of the labial larger than the third; maxillary lobes subequal, fringed. Mentum subquadrate. Labium rounded. Prothorax transversely subquadrate, narrower than the elytra, its margins dilated. Elytra large, convex, broadly ovate. Legs small; coxæ not approximate, the anterior cylindrical, transverse; tibiæ not spurred; tarsi pubescent beneath, the penultimate joint dilated. Prosternum pointed behind; mesosternum depressed; post-intercoxal process triangular.

The majority of the characters of this genus point, as it appears to me, to the Diaperinæ, but the differently-formed tarsi and the disproportion between the prothorax and elytra forbid its union with that group. At the same time, the antennæ come nearer those of *Pentaphyllus* "in plan" than any other heteromerous genus that I am acquainted with. It seems to be a common Rio insect.

Tithassa corynomelas. (Pl. V. fig. 7.)

T. testaceo-lutea, nitida, punctata; oculis, antennisque, ab articulo sexto, nigris.

Hab. Brazil (Rio).

Dark glossy testaceous, or luteous-brown, irregularly punctured above, with a few very fine and extremely scattered slender hairs; eyes and last five joints of the antennæ, including a portion of the sixth, which are also more hairy than the rest, black. Length 3 lines.

CHARIOTHECA [Helopidæ].

(Dej.) Catal. des Coléopt.

Head moderate, subquadrate. Eyes large, transverse, contiguous to the prothorax. Antennæ short, claviform, the first joint nearly concealed above by the antennary orbits, the four or five terminal joints compressed and, except the last, more or less transverse. Labrum rounded anteriorly. Maxillary palpi with the last joint securiform, the labial ovate, truncate; maxillary lobes short, strongly ciliated. Mentum subquadrate. Labium slightly expanded at the sides, entire and ciliated in front. Prothorax transverse, nearly as broad as the elytra at the base, rounded at the sides, scarcely emarginate anteriorly. Elytra elongate, their greatest breadth behind the shoulders, slightly curved

at the sides. Legs rather slender; tarsi hairy beneath, the basal joint longer than the succeeding one. Prosternum pointed behind, with a narrow impression in the middle; mesosternum notched for the reception of the prosternum; post-intercoxal process pointed anteriorly.

This unpublished genus of Dejean's was placed by him nearly at the end of his *Tenebrionites*, an heterogeneous assemblage, including as it does *Melandrya*, *Pytho*, *Pezodontus*, *Camaria*, &c. With the last of these genera, however, and with its allies, *Chariotheca* must be placed.

Chariotheca coruscans. (Pl. VI. fig. 7.)

C. atra, nitida; elytris cyaneis; corpore infra, antennis pedibusque ferrugineis.

Hab. Moluccas (Batchian).

Deep black, smooth, shining; head and prothorax lightly and irregularly punctured; scutellum triangular; elytra rich indigo-blue, seriato-punctate (about nine rows), with numerous smaller punctures irregularly crowding the interstices; antennæ not longer than the breadth of the head, reddish-ferruginous, the last five joints with a few short scattered greyish hairs; palpi and legs, particularly the tibiæ and tarsi, reddish-ferruginous; body beneath ferruginous, inclining to chestnut. Length 4½ lines.

Chariotheca litigiosa.

C. atra, nitida; elytris chalybeo-cyaneis; antennis tarsisque ferrugineis; corpore infra, femoribus tibiisque atris.

Hab. New Guinea (Aru).

Deep black, smooth, shining; head with crowded oblong punctures, often three or four more or less confluent, and then forming short longitudinal folds in the spaces between them; prothorax with small scattered punctures; scutellum rather small, triangular; elytra dark green, punctured as the last; antennæ, palpi, and tarsi reddish-ferruginous; body beneath, femora and tibiæ black. Length 4½ lines.

Rather narrower than the former, the scutellum smaller, the head differently punctured, the colour less brilliant, &c.

Chariotheca cupripennis.

C. atra, nitida; elytris cupreis; corpore infra, antennis pedibusque piceis.

Hab. New Guinea (Dorey).

Deep black, shining; head, especially between the eyes, with many oblong punctures; prothorax irregularly punctured; elytra seriato-punctate, the interstices crowded with very minute punctures, coppered, the suture rich green; antennæ and palpi ferruginous-brown; body beneath and legs pitchy. Length 4 lines.

OMOLIPUS [Helopidæ].

Head transverse, vertical, sulcated in front. Antennæ short, gradually increasing in thickness, the two basal joints small, the third longest, the fourth to the seventh obconical and decreasing in length, the last four submoniliform, compressed. Eyes transverse, partially divided in front. Labrum rounded anteriorly and ciliated. Mandibles bidentate at the apex. Maxillary palpi securiform; the labial approximate at the base, with the terminal joint triangular. Maxillary lobes small, the inner strongly hooked. Labium transverse. Mentum subtriangular, truncate at the base, carinated in the middle. Prothorax convex, rounded in front and at the sides, closely applied to the elytra, its parapleuræ distinct. Scutellum small, triangular. Elytra connate, ovate, convex. No wings. Legs stout; anterior coxæ globular, not contiguous; tibiæ straight, unarmed; tarsi short, all the joints except the last dilated. Prosternum wedge-shaped, produced, with a deep central impression; mesosternum notched for the reception of the prosternum.

In characterizing *Œdemutes* (*ante*, p. 51), the semilunar, sulcated anterior portion of the head was described as the epistome, and M. Lacordaire appears to have done the same in his description of *Sphærotus* *. The real epistome, however, is inserted *beneath* the anterior border, and in *Sphærotus curvipes* is completely hidden by it; but, on the other hand, it is almost entirely exposed in another common species, *Sphærotus gravidus*. In *Omolipus* (at least in the species described below; for the character scarcely seems to be of generic value), the labrum, which is rather strongly developed, also appears to be inserted directly beneath the anterior border of the head, and the epistome is therefore not apparent. The nearest affinity of *Omolipus* is probably *Misolampus*, from which, among other characters, the presence of a very distinct scutellum will at once distinguish it. This genus is another exception to the absence of the hook on the internal maxillary lobe, a character which at one time was supposed to distinguish the Helopidæ from the Tenebrionidæ. Another exceptional character is the approximation of the base of the labial palpi, which are inserted in front of the broadly transverse, membranous lower lip.

Omolipus corvus. (Pl. VI. fig. 9.)

O. ater, nitidus; elytris punctato-impressis; antennis tarsisque pallidioribus.

Hab. Australia (Melbourne).

Deep glossy black; head and prothorax very minutely punctured; elytra narrower than the prothorax, each with about nine rows of deeply

* Gen. des Coléopt. v. p. 446.

impressed punctures; legs smooth and shining, tarsi brownish; antennæ shorter than the prothorax, paler at the apex; body smooth beneath. Length 5–6 lines.

RHINOSIMUS [Salpingidæ].

Latreille, Gen. Crust. et Ins. ii. p. 231.

Rhinosimus Wallacei.

R. atro-chalybeus, nitidus; rostro pedibusque rufis; elytris purpureis; antennarum funiculo tarsisque luteis.

Hab. New Guinea (Dorey).

Ovate, slightly depressed, finely punctured, smooth and shining; head deep steel-blue, the rostrum dark reddish-yellow, rather dilated at the apex, the antennæ inserted at about the middle, the last three joints, forming a strongly marked club, black; prothorax deep steel-blue, narrower than the elytra; scutellum very transverse; elytra dark purple; femora and tibiæ yellowish-red, tarsi pale brownish-yellow; body beneath chestnut-brown. Length 2½ lines.

ZONITIS [Cantharidæ].

Fabricius, Syst. Entom. p. 126.

Zonitis Downesii.

Z. breviusculus, luteus, punctulatus; antennis, basi excepta, nigris; tarsorum articulo ultimo apiceque elytrorum infuscatis.

Hab. India (Bombay).

Rather short, brownish-yellow, the upper surface minutely punctured; head and prothorax rather glossy, and together considerably more than half the length of the elytra; scutellum rounded posteriorly; elytra much wider than the prothorax at the base, the apex clouded with brown; antennæ scarcely extending to the base of the prothorax, black, the two basal joints yellow; palpi and mandibles at their tips, and the last joint of all the tarsi above and their claws (more or less) dark brown; legs covered with short silky hairs. Length 6 lines.

Dedicated to Ezra Downes, Esq., of Calcutta, who, during his residence at Bombay, collected and sent to this country many interesting insects from that locality, and after whom was named, as its discoverer, the very fine and remarkable Prionian *Cantharocnemis Downesii.*

TRIGONOPS [Curculionidæ].

Guérin-Méneville, Rev. Zool. 1841, p. 128.

Trigonops Jekelii. (Pl. VII. fig. 9.)

T. piceus, punctato-granulatus, squamis viridescentibus tectus; elytris brevibus, perpendiculariter deflexis; femoribus basi rufis.

Hab. Celebes (Manado).

♂ Elytris convexis, angulis posticis cornutis.
♀ Elytris deplanatis, angulis posticis muticis.

Ovate, dark pitchy-brown, sparingly furnished above with pale yellowish-green scales; rostrum longer than the head, gibbous below the eyes, and separated from them by a semicircular depression, with a broad longitudinal furrow in the middle; prothorax shortly ovate, closely granulated, and covered with coarse deep punctures; scutellum none; elytra very short, perpendicularly bent down behind, roughly punctato-granulated, slightly convex in the male, with the posterior angle produced into a long flexible process, flat and depressed in the female, and without any prolongation; legs moderate, furnished with stiff scattered hairs, the femora orange-red, except at the apex (in the female darker); antennæ black, shorter than the body, slightly hairy; body beneath pitchy, coarsely punctured. Length 3½ lines (♂), 3 lines (♀).

Blapsilon [Cerambycidæ].

Head short, scarcely convex in front. Eyes small, lateral, deeply emarginate. Antennæ shorter than the body, sublinear, distant at the base, the first joint thickened, shorter than the third, which is longest, the fourth moderate, the remainder very short and subequal. Labrum small, slightly emarginate. Mandibles robust. Palpi stout, the terminal joint elongate-ovate, truncate. Mentum very short and transverse. Prothorax broader than long, narrower in front. Scutellum elongate, produced anteriorly. Elytra ovate, broader than the prothorax at the base, elevated in the middle, and produced at the shoulder into a short, hooked, horizontal process. Legs moderate; coxæ distant; tarsi short, very slightly dilated. Prosternum received into a notch of the mesosternum.

The scutellum of this genus is remarkable. It is not only unusually narrow and somewhat hexagonal in form, but it is projected forwards on the prothorax, which is probably notched for its reception, although this point cannot be ascertained without risk of injury to the specimen. *Blapsilon* must be placed near *Tmesisternus*.

Blapsilon irroratum. (Pl. V. fig. 8.)

B. fusco-piceum, maculis hirtis ochraceis punctisque impressis adspersis.
Hab. New Caledonia.

Broadly ovate, dark pitchy-brown, the whole upper surface, except the scutellum, covered with small, round, hairy ochraceous spots and deeply impressed closely-set punctures; body beneath pitchy-brown; anterior tibiæ and tarsi paler. Length 7 lines.

There are two specimens in the British Museum, collected during the surveying expedition of H.M.S. Herald.

Auxa [Lamiidæ].

Head small, convex in front, the vertex elevated. Antennæ setaceous, longer than the body, pedunculate, the first joint thickened, pyriform,

the third longest, slightly curved, the rest subequal. Eyes small, deeply divided. Epistome and labrum large and transverse, the latter broadly emarginate. Palpi long, acuminated. Prothorax elongate-ovate, broader than the head, very irregular, toothed at the sides. Elytra narrow, convex, tapering posteriorly. Winged. Legs stout; femora clavate; tarsi short. Prosternum dilated posteriorly; mesosternum slightly bilobed.

The unusually large prothorax of this insect and its narrow, tapering elytra at once suggest some *Dorcadion* form, but its real position appears to be with *Pogonochærus* and its allies. The specimen from which the description has been drawn up is in the Hopean collection at Oxford.

Auxa amplicollis. (Pl. VI. fig. 2.)

A. fuscata, subtilissime pubescens; elytris pallidioribus, plagis magnis duabus, una basali, alteraque apicali, albescentibus.

Hab. Madagascar.

Dull brown, finely pubescent; prothorax very irregular, transversely corrugated, the centre armed with two strong recurved teeth and a shorter tooth at the side; scutellum very transverse, whitish; elytra narrow, apiculate, spined at the shoulder, pale brown, a large whitish irregular patch at the base and another at the apex; antennæ rather longer than the body, ferruginous-brown, slightly ciliated beneath; palpi testaceous; legs dark brown, rather glossy, the base of the femora paler, a whitish patch on the posterior; body beneath with a greyish-white pubescence. Length $3\frac{1}{2}$ lines.

Cacia [Lamiidæ].

Newman, The Entom. p. 290.

Cacia anthriboides. (Pl. V. fig. 5.)

C. atra, pubescens; capite prothoraceque strigis, elytrisque (parte antica) albo-cinereis; antennis tarsisque albo-annulatis.

Hab. Amboyna.

Deep black, covered with a very short dense pubescence; head below the eyes, and two nearly confluent stripes between them, ashy-white, lip margined with white; prothorax longer than wide, subcylindrical, a little bulging at the sides, with a broad central stripe and the sides ashy-white; scutellum subquadrate, the apex white; elytra much wider than the thorax at the base, rather short, very slightly receding towards the apex, which is rounded, with considerably more than its basal half white, except at the shoulders and around the scutellum ashy-white, a few white spots also at the apex; legs rather short and robust, slightly tinged with ashy, the two basal joints of all the tarsi white; antennæ nearly twice as long as the body, the base of the third, fourth and fifth joints white, the fourth with a slight tuft of hairs at its apex; body beneath ashy. Length 8 lines.

OMOSAROTES [Lamiidæ].

Head exserted, vertical, quadrate in front. Eyes very deeply divided, the two portions connected only by a narrow line. Antennæ distant, robust, shorter than the body, pedunculate, and ciliated beneath, the first joint slightly incrassated, the third longest, the rest gradually decreasing in length. Epistome very short. Labrum small, transverse, rounded. Palpi slender, subacuminate. Prothorax arched, narrower than the elytra, rounded in the middle, contracted anteriorly and posteriorly, the sides strongly toothed. Scutellum quadrate. Elytra short, narrow, broadest at the base, convex. Legs moderate; tibiæ compressed, the anterior emarginate internally; tarsi very short, the basal joint triangular. Prosternum broad, rounded posteriorly; mesosternum sub-bilobed.

This genus, with *Scopadus*, appears to enter into a small group of South American Longicorns, of which the *Cerambyx sericeus* of Perty may be considered as the type. This is one of Mr. Bates's rarest captures, he having never met with more than two specimens; one is now in my collection, the other in his own.

Omosarotes singularis. (Pl. VIII. fig. 5.)

O. atro-piceus, crinitus, pube sparsa griseo-fulva varius; elytris basi pedunculo-fasciculatis.

Hab. Brazil (Para).

Pitchy-black, with long slender scattered hairs, particularly on the posterior part of the elytra and legs, and rather thinly covered with a greyish-yellow pubescence, which is most predominant on the prothorax and basal half of the elytra, forming also a sort of band, which is margined with a little white anteriorly, across their posterior third; head narrower above the eyes, the peduncles bearing the antennæ rather distant, with a longitudinal groove between them; lateral tooth of the prothorax on the middle; a sharp carina half the length of the elytra terminating at the humeral angle, the side below it bent abruptly down, near the base an elevated protuberance bearing a fascicle of long, nearly erect black hairs; tibiæ with a line of thickly-set yellowish hairs externally; body beneath deep black, the throat, breast and abdomen very glossy. Length 5 lines.

LANGURIA [Languriidæ].

Latreille, Gen. Crust. et Insect. iii. p. 65.

Languria illætabilis. (Pl. V. fig. 4.)

L. elongata, rubro-fusca; elytris chalybeo-viridibus; antennarum clava, pedibusque fuscis.

Hab. Natal.

Narrowly elongate, dark reddish-brown, smooth, shining; head and prothorax finely punctured, the latter much narrower posteriorly; scutellum subcordate, reddish-brown; elytra narrow, parallel, striato-punctate, dark steel-green; antennæ pale at the base, the club black;

legs dark brown; eyes black; body beneath smooth, glossy black, the breast reddish-brown. Length 3 lines.

Languria pulchella.

L. elongata, fulva; prothorace medio sulcato; capite elytrisque viridibus; antennarum clava fusca; pedibus flavis.

Hab. Natal.

Narrowly elongate, smooth, shining; head dark green; prothorax finely punctured, reddish-yellow, longitudinally grooved in the middle; scutellum subcordate, black; elytra punctato-striate, glossy bluish-green; antennæ dark brown, paler at the base; legs yellow; body beneath glossy black, the breast reddish-yellow. Length 3 lines.

This and the above are probably distinct from the true *Languriæ*.

EXPLANATION OF THE PLATES.

Plate V.

Fig.

1. *Acropis aspera.* Para.
2. *Dioptoma Adamsii.* Dacca.
3. *Bothrideres succineus.* Rio.
4. *Languria illætabilis.* Natal.
5. *Cacia anthriboides.* Borneo.
6. *Prostomis morsitans.* Darjeeling.
7. *Tithassa corynomelas.* Rio.
8. *Blapsilon irroratum.* Lord Howe's Island.
9. *Sphargeris physodes.* Melbourne.
10. Antenna of *Chærodes trachyscelides*, White.

Plate VI.

1. *Sosylus sulcatus.* Para.
2. *Auxa amplicollis.* Madagascar.
3. *Asprotera inculta.* Natal.
4. *Althæsia pilosa.* New Guinea.
5. *Atractocerus morio.* Moluccas.
6. *Dastarcus confinis.* New Guinea.
7. *Chariotheca coruscans.* Moluccas.
8. *Chætyllus anthicoides.* Ega.
9. *Omolipus corvus.* Moreton Bay.

Plate VII.

1. *Hyberis araneiformis.* Borneo.
2. *Discoloma Fryi.* Rio.
3. *Chorites aspis.* Borneo.
4. *Rhyssopera areolata.* Tasmania. (Trophi of *R. illota.*)
5. *Cotulades fascicularis.* Melbourne.
6. *Dipsaconia Bakewellii.* Melbourne.
7. *Elascus crassicornis.* Melbourne.
8. *Elascus lunatus.* Melbourne.
9. *Trigonops Jekelii.* Celebes.

Plate VIII.

1. *Pharax laticollis.* Rio.
2. *Glyptolopus histeroides.* Rio.
3. *Lemmis cælatus.* Rio.
4. *Distaphyla mammillaris.* Para.
5. *Omosarotes singularis.* Para.
6. *Ethelema luctuosa.* Rio.
7. *Docalis exoletus.* Melbourne.
8. *Anarmostes sculptilis.* Rio.
9. *Glœania ulomoides.* Rio.

9*a*. Its anterior tarsus seen from beneath.

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X.—*On certain Coleopterous Insects from the Cape of Good Hope.*

By T. Vernon Wollaston, M.A., F.L.S.

Having lately received a small, but very important, batch of Coleoptera from my friend Mr. Bewicke of Madeira, collected by himself during a short visit to the Cape of Good Hope in May and June last, I purpose describing a few of the smaller species which more immediately interest me,—either from their own singularity, or from their near relationship to certain forms with which I have long been acquainted in the Atlantic Islands. I may mention perhaps that Mr. Bewicke's material, although got together very hastily, at the worst season of the year, and under peculiar disadvantages (he having omitted to take with him any nets, or other entomological apparatus, on his hurried departure from Funchal), contained about 270 species; and since a large proportion of these belong to the smaller families, there are probably few collections which have been brought to this country from the Cape Colony that have afforded so fair a display of the minute Coleoptera of that almost inexhaustible region. In the present Paper I shall not attempt to characterize more than a very few of them, as I hope to reserve certain of the others for separate notices, according as leisure and opportunities may permit.

Fam. **Colydiadæ.**

Genus Cossyphodes.

Westwood, Trans. Ent. Soc. Lond. (New Series) i. 168 (1851).

Cossyphodes Bewickii, n. sp. (Plate XI. fig. 2.)

C. subellipticus, valde depressus, limbo explanato subrecurvo, alutaceus ferrugineus, subnitidus: capite semicirculari, antice leviter bituberculo-

lato, oculis distinctis, in foveolis obliquis inmersis; prothorace subæquali transverso, utrinque linea obsoletissima instructo; elytris postice acutis, utrisque lineis tribus delicatulis subelevatis longitudinaliter distincte notatis.

Long. corp. lin. $1\frac{1}{3}$.

The present insect is peculiarly interesting, as being the second species hitherto detected of one of the most anomalous genera within the whole range of the Coleoptera. The genus was established by Mr. Westwood, in 1851, to contain a small (and then unique) beetle, discovered by myself in Madeira in 1848, and to which he gave the name of *Cossyphodes Wollastonii*. Subsequently it was ascertained, by Professor Heer of Zurich, during his residence in the island in 1851, that the insect was an attendant upon ants, he having taken seven or eight examples of it within the nests of *Œcophthora pusilla* around Funchal,—under which circumstances it has been since frequently captured by Mr. Bewicke, myself, Mr. E. Leacock and others: and I may add that I have taken it in similar positions in Teneriffe and Gomera, of the Canary Islands. Hence the detection, by Mr. Bewicke, of a new and very distinct species during his late visit to the Cape of Good Hope becomes exceedingly important, though more particularly in a geographical point of view,—as making it at least probable that *Cossyphodes* is an African, and not merely an Atlantic, form. In my Madeiran Catalogue, published in 1857, I called attention to the fact, insisted on by Mr. Leacock, that the eyes of the *Cossyphodes Wollastonii* are not in reality quite obsolete (as inferred by Mr. Westwood, and subsequently endorsed by myself in the 'Insecta Maderensia'); but that they certainly exist, although in a very rudimentary state, immersed within the small oblique line or fovea with which either side of the head is furnished (on its upper surface) posteriorly. And it is satisfactory, therefore, to see, that this suggestion as to the peculiarity of the organs of sight is entirely confirmed in the species from the Cape of Good Hope,—in which the eyes are *remarkably apparent*, though to a certain extent buried within this lateral foveolet, or slit. In their minor details, the two species of *Cossyphodes* are very distinct, the unique *C. Bewickii* differing, not merely in its more apparent eyes and bituberculated head, but likewise in its rather broader, more elliptic, depressed and almost unkeeled body, alutaceous surface, and posteriorly-acute elytra. Its entire margin, also, especially behind, is more recurved; its prothorax is shorter, and nearly free from any appearance of longitudinal costæ (there being only the faintest possible indication of an obsolete line on either side); and the elytra have only three (instead

of four) longitudinal costæ down each,—and those extremely fine and delicate ones.

Its habits appear to be the same as those of the Madeiran and Canarian *C. Wollastonii*, as I am informed by Mr. Bewicke that he captured it "in an ants' nest on the Atlantic side of the promontory of the Cape, about three or four hundred feet above the sea." It would seem to be very scarce, for Mr. Bewicke states that he "searched diligently, but without effect, for more;"—adding, "From the locality in which I took it, miles from even a road, amidst thick underwood and rocks, I should consider it as *certainly* a true native of the Cape."

Genus Mimema, nov. gen.

Corpus parvum, lineare: *capite* subpedunculato, in maribus majore quam in fœminis, *oculis* magnis prominentibus, subtus *juguli lateribus* in maribus utrinque valde dilatatis, projecturam subconcavam (superne, ante oculos, conspicuam) formantibus: *prothorace* sublineari-quadrato: *mesothorace* superne subobservando, *scutello* parvo: *elytris* apice truncato-abbreviatis, pygidium haud tegentibus: *alis* amplis: *abdomine* e segmentis ventralibus quinque composito, segmento apicali reliquis paulo longiore. *Instrumenta cibaria* fere ut in *Europs* [vide *Ins. Mad.* 149], sed *antennarum* articulo 3tio vix longiore et clava paulo magis solida (partibus basali et apicali inter se paulo minus perfoliatis); *maxillarum lobo externo* magis palpiformi; *ligula* apice acutiore, in media parte inter palpos labiales angulata, et utrinque ad angulos anticos paraglossis sat elongatis obtusis, interne ciliatis membranaceis exstantibus instructa; et *tarsis* multo latioribus, articulis 1mo et 2do (1mo solum in *posticis masculis*) dilatatis et profunde bilobis. *Tarsi postici maris* forsan 3-articulati; certe articulus basalis solus dilatatus est, sed sive articulus singulus minutus inter lobos hujus est reconditus, sive duo, etiam oculo valde armato egomet haud affirmare potui.

A μίμημα imitatio.

The two insects* on which the present genus is founded are so very close, in general aspect and structure, to the Madeiran and Canarian *Europs*, that it was not until I had examined them minutely that I could conceive it possible that they should perhaps be regarded as distinct; whilst even now I am anything but satisfied that they ought not rather to be treated as aberrant members of

* Whether the *Rhyzophagus capensis* and *rufulus* of Dejean's Catalogue, registered as natives of the Cape, be these two insects (which is not impossible, from their great external resemblance to *Rhyzophagi*), I cannot tell; as, however, they are mere Catalogue-species, it fortunately is not of much importance to ascertain.

that Atlantic group. Their main difference consists in the structure of their tarsi, the first and second joints of which (instead of being simple) are very broad, and deeply bilobed,—except in the hinder pair of the male sex, where only the *basal* one is thus developed. Moreover, as regards these hinder male feet, there *may* also be a difference in the actual *number* of the articulations (as compared with those of *Europs*); but unfortunately the structure is so obscure, even beneath the highest powers of the microscope, that I am unable to decide whether there are one or two minute joints concealed within the lobes of the basal one. If there should be but one, then the posterior male tarsi will be only trimerous, and therefore diminished in the number of their joints; but if two, they will be tetramerous (like the remainder of the feet in both sexes), their *form* only being altered,—*i. e.* the second articulation (which in the other feet is as large and cordate as the first) will be reduced to an excessively minute size, like the penultimate one in *all* the feet. At any rate, whether the *number* of the hinder tarsal joints of the male feet be the same or not, in *Mimema* and *Europs* [and I may add that it is nearly equally difficult to pronounce *for certain* whether they are trimerous or tetramerous even in the latter also], the *form* of the tarsi is unquestionably different,—the two largely-developed *bilobed* basal joints in all the feet of *Mimema* except the posterior ones of the male sex, where (whatever be the exact number of the following minute articulations) the *basal one only* is thus constituted, giving it a character which it is impossible to mistake.

Moreover, this tarsal peculiarity is not altogether unaccompanied with minor differences (from *Europs*) even in its oral organs; for in *Mimema* the antennæ have their third joint a little longer than the fourth (thus making a slight approach to *Rhyzophagus*), and the two divisions of their club are more compact, or less separated from each other; also the outer maxillary lobe, although narrow like that of *Europs*, is not so aciculated, but almost palpiform,—appearing as though articulated at its base, and with its long apical portion subclavate. The ligula also of *Mimema*, although elongate and linear as in *Europs*, is sharp and angular at its apex (between the palpi), instead of being obtusely rounded, and with broad elongate membranous internally ciliated paraglossæ stretching out on either side from the anterior angles. The general aspect of *both* groups is that of *Rhyzophagus*; but, apart from the many other differences which will be gathered from the diagnoses, I may add that, whilst in the latter the numerical formula for the tarsal joints is 5·5·5 and 5·5·4 in the two sexes respectively, that for *Mimema* (and indeed for

Europs also) is either 4·4·4 and 4·4·3, or 4·4·4 *in both sexes*,—as the case may be. If properly distinct, however, so completely does our present genus *imitate* its Atlantic representative, that I have thought the above generic title would not be altogether an inappropriate one.

Mimema pallidum, n. sp.

M. lineare, opacum, parce pubescens, rufo-testaceum; capite prothoraceque alutaceis, remote leviter punctatis, hoc quadrato ad latera minutissime suberenulato; elytris leviter striato-punctatis, pallido-testaceis, concoloribus; pygidio rufescente; antennis piceo-ferrugineis. Long. corp. lin. $1\frac{1}{2}$–$1\frac{3}{4}$.

The larger size, broader outline, and pallid hue of the present *Mimema*, in conjunction with its more opake surface, ampler elytra, and consequently less exposed pygidium, will, apart from all other differences, immediately distinguish it from the following one. Although apparently not a *Euphorbia*-feeding insect like the Atlantic *Europs*, it would nevertheless seem to have something in common with the members of that genus, as regards its habits; for whilst *Europs* more particularly delights in the viscous, adhesive exudations in the interior of the rotten *Euphorbia*-stems, Mr. Bewicke writes me word that the two species of *Mimema* "dwell in the thick sticky matter at the bottom of the flowers of the common sugar-bush (a *Protea*),"—which "sugar-bush," I am further informed by the Rev. R. T. Lowe, is probably a corruption of "Sugarbosch" (the Dutch *Zuykerbosch*), and that the plant is the *Protea mellifera*, Thunb., of which there is a figure given in the *Bot. Mag.* t. 346.

Having been accustomed to collect in Madeira, Mr. Bewicke at once recognized the present insect as a probably new species of *Europs*; though he informs me that he felt a little doubtful as to its generic identity through the fact of finding it in flowers,—a position in which the two hitherto detected species of *Europs* have never been observed. Perhaps, however, the dilated tarsi of *Mimema* may well accord with this slight difference in its mode of life; though its close resemblance to *Europs* in most of its other details and outward contour, would certainly lead us to anticipate a considerable *similarity* also,—which "similarity" is, I conceive, sufficiently established in the peculiarity of its food to which I have just drawn attention.

Mimema tricolor, n. sp.

M. lineare, angustum subopacum, parcius pubescens, piceo-nigrum; capite prothoraceque alutaceis, remote punctatis, hoc subconvexo

quadrato; elytris leviter striato-punctatis, pallido-testaceis sed ad apicem (necnon plerumque etiam per suturam et circa scutellum) nigro-infuscatis; pygidio valde retecto, nigrescente; antennis piceo-ferrugineis; pedibus piceo-testaceis.

Long. corp. lin. 1–1$\frac{1}{3}$.

The narrow outline, smaller size, more shining surface and shorter elytra of the *M. tricolor*, in conjunction with its totally different colour—the head, prothorax and abdomen being dark, with the elytra (which, however, have their scutellary and apical regions more or less darkened also) pale-testaceous, and the limbs *piceo*-testaceous,—will readily separate it from the foregoing species. As already stated, it was found by Mr. Bewicke in company with the *M. pallidum*.

Fam. **Cryptophagidæ.**

Genus Atomaria.

(Kby.) Steph., Ill. Brit. Ent. iii. 64 (1830).

Atomaria Capensis, n. sp.

A. ovata, convexa, pallido-castanea, parce pubescens, nitida, profunde sed remote punctata; prothorace transverso-subquadrato, ad latera paulo rotundato et ibidem distincte marginato, postice subtruncato, margine in media leviter elevato; elytris ad apicem ipsum vix pygidium tegentibus; antennis fusco-piceis, clava obscuriore; pedibus infuscato-testaceis.

Long. corp. lin. $\frac{2}{3}$.

Two examples of this little *Atomaria* were captured by Mr. Bewicke at the Cape of Good Hope, but under what circumstances I cannot say. It is very nearly akin to the common European *A. apicalis*, but certainly distinct therefrom,—as will be readily seen when the species are placed alongside each other beneath the microscope. It is of a more pallid-castaneous hue, and of a rather more ovate (or less elliptic) form; its punctation is deeper and more distant, its surface less pubescent, its prothorax is less drawn-in anteriorly (being a trifle more rounded at the sides and of almost equal breadth before and behind), rather more truncated at its base, and more evidently margined (particularly at the lateral edges), its elytra are not quite so ample at their extreme apex (where they do not *completely* conceal the pygidium), and its limbs (especially the antennal club) are altogether darker.

Fam. **Mycetophagidæ.**

Genus Mycetæa.

(Kby.) Steph., Ill. Brit. Ent. iii. 80 (1830).

Mycetæa ovulum, n. sp.

M. ovata, nitida, pallido-ferruginea, longe pilosa; prothorace parvo angusto, profunde et parce punctato, postice integro (*i. e.* linea basali transversa haud impresso) sed intra marginem lateralem costa longitudinali subcurvata (antice minus distincta) utrinque instructo; elytris valde profunde punctatis sed haud striatis; antennis (elongatis gracilibus) pedibusque pallido-testaceis.

Long. corp. lin. $\frac{2}{3}$.

A most distinct and interesting little *Mycetæa*, differing (*inter alia*) from the common *M. hirta* in its smaller size, more globose form, narrower and much less ample prothorax (which is apparently free from the transverse impression at its hinder margin), and by the punctures of its elytra having no tendency to be disposed in longitudinal rows. I possess a single specimen, captured by Mr. Bewicke at the Cape, but have no information as to its habits.

Genus Microxenus, nov. gen. (Plate XI. fig. 3.)

Corpus minutum, *Mycetæ* obovatum, forma et affinitate proximum, sed antennarum structura omnino differt: *prothorace* lato, ad latera marginato sed haud crenulato: *alis* obsoletis: *abdomine* e segmentis sex composito, 1mo magno lato, ultimo parvo fere immerso. *Antennæ* (fig. 3*a*) 10-articulatæ, breves, clavatæ, inter oculos insertæ; articulatis 1mo et 2do robustis crassis, illo majore crassiore subquadrato, 3tio ad 8vum minutis subæqualibus (8vo vix majore), 9no et 10mo clavam magnam 2-articulatam efficientibus (9no poculiformi, 10mo subovato basi truncato). *Labrum* (fig. 3*d*) transverso-subquadratum, pilosum, apice fere integrum sed ibidem tenuissime membranaceum ciliatum, angulis anticis rotundatis longe pilosis. *Mandibulæ* (fig. 3*c*) magnæ validæ corneæ arcuatæ, extus ad basin incisæ et ante basin valde rotundato-ampliatæ, ad apicem incurvæ acutæ bifidæ, mox intra apicem (in uno saltem) unidentatæ, et infra versus basin submembranaceæ. *Maxillas* et *labium* haud observavi; sed *palpi maxillares* articulato 1mo minuto, 2do paulo majore crassiore, 3tio huic latitudine æquali sed breviore, 4to elongato (reliquis conjunctim vix longiore) subfusiformi,—*i. e.* basi truncato et apicem versus leviter acuminato. *Pedes* (fig. 3*b*) basi distantes: *tibiis* gracilibus subrectis, paulo ante apicem leviter dilatatis: *tarsis* 4-articulatis, articulatis 1mo et 2do inter se arctissime conjunctis (sutura obliqua nisi oculo valde armato haud observanda), illo hoc paulo longiore, 2do et 3tio subtus productis, 4to elongato *unguiculis* simplicibus munito.

A μικρὸς parvus, et ξένος hospes.

The diminutive insect from which the above characters have been drawn has so much the resemblance of a minute *Mycetæa*, that it was not until I had examined it attentively that I perceived its distinctions. Its maxilla and under-lip I have unfortunately not succeeded (in the single specimen which I broke up) in securing; but its antennæ, upper-lip, mandibles, maxillary-palpi and feet, I have mounted carefully in balsam, and have thoroughly inspected. In all these details it offers slight differences from the corresponding ones both of *Mycetæa* and *Symbiotes*, to which it is closely allied; but in the structure of its much more abbreviated antennæ, which are 10-articulate and with a 2-jointed club, it recedes from them altogether,—the antennæ of both of those genera having eleven joints, with a 3-articulated club.

Microxenus laticollis, n. sp. (Plate XI. fig. 3.)

M. obovatus postice paulo acuminatus, nitidus, ferrugineus, breviter et parce pubescens; prothorace lato convexo, leviter punctato, ad basin linea transversim impresso et intra marginem lateralem costa longitudinali valde abbreviata (*i. e.* antice omnino evanescente) utrinque instructo; elytris profundius punctatis sed haud striatis; antennis (brevibus) pedibusque testaceis.

Long. corp. lin. vix $\frac{2}{3}$.

Several examples of this interesting little insect were captured by Mr. Bewicke "out of an ants' nest, in a grass-field above the Botanic Garden," at Cape Town.

Fam. **Cissidæ.**

Genus Cis.

Latreille, Précis des Caract. Gen. des Ins. 50 (1796).

Cis subornatus, n. sp.

C. lineari-cylindricus angustus, piceus, nitidus, dense punctulatus et (oculo valde armato) pilis minutissimis brevissimis cinereis parce irroratus; capite magno subporrecto, apice subtruncato incrassato marginato; prothorace subæquali, subquadrato, antice vix producto, ad latera (et minus postice) marginato; elytris parallelis, vix subrugulosis (punctis haud longitudinaliter dispositis), versus humeros et apicem plus minus obscure subrufescentioribus; antennis dilute testaceis, clava infuscata; pedibus rufo-ferrugineis.

Long. corp. lin. 1–$1\frac{1}{3}$.

The present *Cis* has, to me at least, a peculiar interest, from it being of precisely the same type as the Madeiran *C. Wollastonii*, of

Melliè,—a species remarkable for its oblong form, large subporrected head, nearly unproduced prothorax, almost naked surface, and submaculated elytra. As regards the last, however, the *C. subornatus* has but a very obscure tendency to assume that singularity of marking which in highly-coloured examples from Madeira is often so apparent; nevertheless the same *tendency* is just traceable in all the specimens which Mr. Bewicke collected, whilst in one of them it is particularly conspicuous. In minor details, the Cape of Good Hope species is much smaller, narrower, and a little more linear, than the Madeiran one, its clypeus is more truncated in front, its pubescence still shorter and more remote (being imperceptible except under a powerful lens), its prothoracic punctation rather deeper and less dense, and its scutellum a trifle more triangular. Whether the *C. subornatus* and *Wollastonii* are at all abnormal in their structure, or whether (as I rather suspect) the generic details given by Melliè in his excellent monograph are not quite correctly drawn, I cannot tell; but certainly in *both* the above species the maxillary palpi are much longer than he has figured them, and the inner lobe, although very short, is more apparent (being internally membraneous and most powerfully ciliated); the ligula, too, is considerably more elongated (being rounded anteriorly, and gradually contracted before the base); and the ultimate joint of the labial-palpi (instead of being ovate, as he has represented it) is narrow, sublinear and *aciculate*,—being of a very much less width than the preceding one. I should mention perhaps that, judging from the description, the *C. subornatus* is perfectly distinct from the three species—*Guerinii*, *Capensis*, and *muricous*—stated by Melliè to come from the Cape of Good Hope.

Fam. **Curculionidæ.**

(Subfam. Cossonides.)

Genus Stenoscelis, nov. gen. (Plate XI. fig. 1.)

Corpus parvum, cylindricum sculpturatum, *Hylastes*, prima facie simulans, sed tibiarum structura Curculionidis certe congruit: *capite* (fig. 1 *b*) magno subgloboso convexo subporrecto, mare paululum rostrato (*i. e. rostro* brevissimo latissimo subtriangulari crasso); *scrobe* fere nullo (antennis in impressione brevi mox ante medium oculi insertis); *mandibulis* magnis exsertis; *oculis* magnis rotundatis sed valde demissis: *prothorace* transverso-subquadrato, antice paulo angustiore et pone marginem anticum transversim constricto: *scutello* minutissimo punctiformi: *elytris* cylindricis, postice obtusis muricatis. *Antennæ* (fig. 1 *a*) brevissimæ, crassiusculæ, prope medium rostri brevissimi insertæ

scapo brevissimo robusto, apice clavato; *funiculo* 7-articulato brevi, artº 1mo magno valde incrassato subquadrato, reliquis minutis brevissimis transversis, longitudine latitudineque paulatim vix crescentibus, ultimo clavæ haud arcte adpresso; *capitulo* solido abrupto subgloboso, obscure 4-annulato. *Pedes* subgraciles, *anteriores* basi approximati, *postici* parum distantes: *femoribus* muticis: *tibiis* (fig. 1 *c*) rectis gracilibus, ad apicem externum in uncum magnum acutissimum inflexum productis: *tarsis* pseudotetrameris gracilibus elongatis, articulo ultimo elongato clavato *unguiculis* simplicibus munito.

A στενὸς angustus, et σκελὶς tibia.

So very closely does the present insect, at first sight, assimilate *Hylastes*, that I had regarded it, previous to a critical examination, as an abnormal member of that group, in which the external edge of the tibiæ were edentate. But, on closer inquiry, it proves to be undoubtedly one of the *Curculionidæ*, the entire structure of its slender, toothless, *apically uncinate* tibiæ, and its unreceived tarsi, assigning it to that family. From *Rhyncolus*, however, to which it is clearly related, it recedes completely in its excessively short, broad, thick and subtriangular rostrum, in its very abbreviated and differently constructed antennæ (which have apparently no lateral *scrobs* for the reception of their scape), in its minute, punctiform scutellum, its more globose, exposed head, and in its longer feet; and I should consider that the Madeiran *Hexarthrum* is perhaps its nearest described ally,—though in that genus the funiculus is only 6-articulate, whereas in *Stenoscelis* it is 7-. I have two uncharacterized insects from the Canaries (which reside in the rotten pine-trees of the old Pinals of Grand Canary and Teneriffe) to which it is also much akin; but in them the funiculus is, likewise, hexamerous, the antennæ and rostrum are, both of them, differently formed, and the *scrobs* is very apparent.

Stenoscelis hylastoides, n. sp. (Plate XI. fig. 1.)

S. subcylindrica, nigro-picea, fere calva, subnitida; capite prothoraceque sat profunde et confertissime punctatis, illo convexo æquali, hoc subæquali postice recte truncato immarginato, pone medium ad latera subrecto sed ibidem paulo sinuato; elytris piceis striato-punctatis et rugose seriatim asperatis, asperitate antice plicaturas transversas postice tubercula parva acuta efformante, interstitiis minutissime punctulatis; antennis pedibusque piceis, illarum capitulo horumque tarsis pallidioribus.

Long. corp. $1\frac{1}{2}$–2.

Several specimens of this curious insect were captured by Mr. Bewicke, but under what circumstances I have no information.

(Subfam. Brachyderides.)

Genus Stenotherium, nov. gen. (Plate XI. fig. 4.)

Corpus sat parvum, elongatum, angustatum, dense squamosum, valde inæquale, costatum, sculpturatum: *capite* lineari angusto exserto; *rostro* (fig. 4 *b*) elongato lineari curvato, supra (præsertim ad basin) convexo; *scrobe* profunda valde obliqua, *i. e.* mox pone apicem (longissime ante oculum) sub rostrum subito retrorsum desiliente; *oculis* a margine prothoracis antico sat remotis, parvis subreni formi-ovatis demissis, obliquis et valde lateralibus,—*i. e.* infra superficiem frontis basinque rostri convexam omnino positis: *prothorace* angusto subconico, antice truncato et pone marginem anticum leviter transversim constricto: *scutello* haud observando: *elytris* angustis, subellipticis basi truncatis, valde longitudinaliter costatis, singulo ad apicem ipsum per se acuminato, apicem bifidum efficiente. *Antennæ* (fig. 4 *a*) elongatæ, gracillimæ, fere ad apicem rostri insertæ; *scapo* elongato gracillimo basi flexuoso, ad apicem ipsum valde et abrupte clavato; *funiculo* 7-articulato filiformi, articulato 1mo secundo (brevi) paulo longiore, basi flexuoso, 3tio et 4to secundo paulo longioribus (singulo primi longitudine et inter se æqualibus), 5to ad 7mum inter se æqualibus (singulo secundi longitudine aut vix longiore); *clava* elongata laxa 3-articulata et haud abrupta (articulatis 1mo et 2do subæqualibus, hoc illo vix latiore, ultimo elongato conico acuto). *Pedes* breviusculi, subæquales (*antici* vix reliquis longiores); *femoribus* minus clavatis, muticis; *tibiis* ad apicem truncatis muticis, sed intus ibidem leviter productis: *tarsis* pseudotetrameris brevibus, articulato 3tio haud late bilobo (præcedentibus vix latiore), ultimo breviusculo clavato *unguiculis* parvis simplicibus munito.

A στενὸς angustus, et θηρίον bestiola.

The very extraordinary insect from which the above structural diagnosis has been compiled is an undoubted member (as indeed I have been, also, assured by both MM. Jekel and Waterhouse) of the subfamily *Brachyderides*, retaining the essential character of the various groups around *Polydrosus*, though widely differing from them all in its actual modifications; and it would seem probable that the New Zealand *Rhadinosomus acuminatus* may perhaps be found to be amongst its nearest known allies. In its general contour and surface it is not altogether unsuggestive (to me at least) of a very extreme form of some of the longer-snouted, and more deeply sculptured, *Sitonæ*; nevertheless its real details of structure debar it altogether from admission into that genus, it having scarcely a single point in which it absolutely agrees with it. Indeed in its elongate and very slender antennæ (with their abruptly clubbed scape, almost unthickened clava, and peculiar proportions of funiculus-joints—the first, third, and fourth of which are subequal, whilst the second is

short, and the fifth, sixth, and seventh scarcely longer than the second), its extremely long, convex and arcuate rostrum (at least for the *Brachyderides*)—with its nearly apical and excessively oblique *scrobs*, and its small, sunken and oblique eyes (which are placed altogether *below* the upper surface of the forehead)—in conjunction with its narrow, fusiform body, deeply sculptured, costate surface, apically cleft elytra, and comparatively undilated third tarsal-joint, it presents a combination of features essentially its own.

When viewed laterally, its small, oblique, subreniform, deeply immersed eye, situated so much lower than the frontal (or rather nasal) projection above it, added to the remarkable curvature of its long and blunt rostrum—which is bent downwards at the extreme apex, comparatively straight along the middle, and suddenly *humped* or rounded at the base, just before its junction with the forehead (a structure, however, which is caused mainly by a transverse constriction across the forehead itself)—have a most comical effect—presenting a quaint analogy (in likeness) with the American Tapir (*Tapirus terrestris*), from which I have consequently borrowed its specific name.

Stenotherium Tapirus, n. sp. (Plate XI. fig. 4.)

S. subfusiforme, angustum, squamulis fulvo-brunneis et albido-brunneis densissime variegatum; rostro creberrime punctato et punctis maximis remotioribus longitudinaliter impresso canalicula lata dorsali (utrinque costata) notato; prothorace valde inæquali, irregulariter punctato, per dorsum profunde necnon versus utrumque latus minus distincte longitudinaliter sulcato; elytris punctato-striatis, sutura interstitiisque alternis valde elevatis; antennis nigrescentibus, ad basin rufescentioribus. Long. corp. lin. 3.

I could detect but a single example of this anomalous Curculio amongst Mr. Bewicke's insects; it is probably, therefore, rare.

Fam. **Chrysomelidæ.**

Genus Chrysomela.

Linnæus, Syst. Nat. edit. 1 (1735).

Chrysomela nodulipennis, n. sp.

C. ovalis, ochreo-castanea, subnitida; capite minute punctato, antice inæquali impresso; prothorace valde inæquali, convexo, ad latera rotundato anguste marginato, dorso leviter canaliculato necnon inter dorsum et utrumque latus sulco profundo flexuoso lato (fortiter punctato) utrinque impresso, in disco et versus latera necnon per lineam basalem impressam fortiter et parce punctato; elytris prothorace paulo

latioribus, postice nigrescentioribus, profunde striato-punctatis (punctis, ut in prothorace, maximis), interstitiis (sed præsertim alternis) elevatis costatis, costis postice elevatioribus interruptis, nodos longitudinales efficientibus; tarsorum (sed præcipue anticorum) articulo basilari valde dilatato.

Long. corp. lin. $2\frac{1}{3}$.

A single specimen of the present curious *Chrysomela* was captured by Mr. Bewicke at the Cape. Its ochreo-castaneous hue (the hinder portion of the elytra being alone darker), uneven, subnodulose prothorax, and strongly punctured surface, in conjunction with its raised elytral interstices (which, from being interrupted posteriorly, shape-out towards the apex a series of longitudinal tubercles), and the greatly developed basal joint of all its feet (though especially of its anterior pair), give it a character which it is impossible to mistake.

Fam. **Tenebrionidæ.**

(Subfam. Trachyscelides.)

Genus Anemia.

De Casteln., Hist. Nat. des Col. II. 218.

Anemia oculata, n. sp.

A. oblonga, nigra, subnitida, limbo longe ciliato; capite prothoraceque confertissime æqualiter punctatis, illo antice profunde bilobo (lobis rotundatis obtusis, apice haud recurvis), oculis sat magnis subrotundatis, mox intra marginem clypei lateralem sitis; hoc postice paulo angustato, antice ad latera rotundato, angulis anticis obtusis (sed haud rotundatis); elytris profundius et parcius punctatis, obsoletissime (versus latera saltem) longitudinaliter striatis; pedibus piceis; antennis rufescentioribus.

Long. corp. lin. $2\frac{1}{4}$–$2\frac{1}{3}$.

The present genus is usually known in collections as *Cheirodes*; it has never, however, been *characterized* under that name, and therefore the above title must necessarily supersede it. The *A. oculata* is very closely related to the *A. granulata*, Casteln. (the *Cheirodes scarabæoides* of Dejean's Catalogue), from Senegal,—of which a specimen, for comparison, has been lent me by Mr. Waterhouse: it is, however, darker (or less piceous) than that insect, and not quite so shining; its head and prothorax are much more densely and finely punctured, and its elytra are a little more perceptibly longitudinally striated. Its head, too, is a trifle more emarginated in front (the lobes being very rounded and obtuse, and not minutely recurved at their respective apices as in the West African species): its prothorax is less rounded at the sides (being somewhat

narrowed, or straightened posteriorly, and with the fore-angles, though obtuse, less decidedly rounded off); and the two minute teeth *behind* the two larger ones, of its front-tibiæ, are in the *A. oculata*, nearly obsolete. Its most decided difference, however, is in the shape of the eye,—which is considerably larger and more circular, and extends much nearer to the lateral edge (and hinder angle) of the clypeus, than is the case with the *A. granulata*.

Although a representative (viz. the *A. sardoa*, Gené.) has been described from Sardinia, it is probable that the group is essentially an African one, and that many allied forms will consequently, in the course of time, be brought to light. In addition to the present species, from the Cape of Good Hope, and the *A. granulata* from Senegal, I possess a third (nearly related, I imagine, to the Sardinian one) from the Canaries, captured by myself near Arrecife, on the sandy shores of the island of Lanzarote. Of the *A. oculata* there was but a single example amongst the insects collected by Mr. Bewicke; but I have seen a second in the possession of Mr. Waterhouse.

XI.—*Descriptions of new Genera and Species of Exotic* Hymenoptera. By Frederick Smith, Esq., Assistant in the Zoological Department of the British Museum.

Of all the various genera of bees, there is not one which contains more brilliant and beautifully coloured species than *Augochlora*; the Mexican species, described in the present paper, are remarkable for the extreme richness of their colouring; this genus contains the Halicti of the New World. They are separated, however, from the genus *Halictus* by several structural characters, and also by the different habit of the species; all, whose economy I have ascertained, burrow in putrescent wood, or construct tunnels under the bark of trees. Eight new species of *Bombus* are described, those from Mexico are amongst the most beautiful of that widely distributed genus.

Family **Andremidæ.**

Div. Acutilingues.

Genus Augochlora, *Smith.*

1. *Augochlora flammea.*

A. læte polita, ærata, punctata, et pube pallida sparse tecta, alis hyalinis.

Female. Length 3 lines. Brilliant shining copper, with tints of rich carmine, particularly on the disk of the thorax, and on the vertex of the head; closely and strongly punctured on the head and thorax;

the metathorax smooth and shining, with a deep central longitudinal furrow; the clypeus, sides of the head, and of the thorax, with cinereous pubescent; the legs pubescent; the wings hyaline, the nervures testaceous, the stigma pale testaceous. The abdomen finely punctured and pubescent.

Hab. Mexico. This beautiful species is in the Collection of the British Museum.

2. *Augochlora ignita.*

A. capite thorace pedibusque læte viridibus, delicatule rugosis; abdomine fulgido, metallico kermesiaco-rubris, delicatule punctatis.

Female. Length 4 lines. Head and thorax bright green, and finely rugose; the clypeus, cheeks, sides of the thorax, and the legs, thinly clothed with cinereous pubescence; the antennæ black; the apex of the clypeus black and coarsely punctured; the apex of the mandibles ferruginous, the basal portion black, tinged with green; wings hyaline and iridescent, the nervures testaceous, the stigma pale. Abdomen of a rich refulgent metallic crimson-red, finely punctured and shining; the margins of the segments with a thin narrow fringe of cinereous pubescence; beneath, covered with longer pubescence of the same colour.

Hab. Mexico. In my own Collection.

The general colouring of this beautiful bee is exactly that of *Chrysis ignita.*

3. *Augochlora viridana.*

A. læte viridis; capite thoraceque rugosis, abdomine punctato, pube pallide fulva, alis hyalinis.

Female. Length 3½ lines. Bright emerald-green; the head and thorax finely rugose, the clypeus coarsely punctured, with its apex black; the mandibles black at their base, tinged with green, their apex ferruginous; the antennæ black, with the flagellum fulvous beneath; the cheeks, thorax at the sides and beneath as well as the legs, with glittering cinereous pubescence; the tarsi rufo-piceous; the wings hyaline, the nervures and stigma testaceous, the latter palest. Abdomen finely punctured; the margins of the segments narrowly fringed with white pubescence; the abdomen is entirely covered with a thin pale pubescence, which is longest and most dense beneath.

Hab. Mexico. In my own Collection.

4. *Augochlora refulgens.*

A. fulgida viridis, vertice, thoracisque dorso fulgido-æreis, delicatule punctatis, alis hyalinis.

Female. Length 3½ lines. Bright shining green; the disk of the thorax and the vertex of the head with a coppery refulgence; the clypeus coarsely punctured, a bright green line at the inner margins of the eyes; antennæ black, faintly piceous beneath; the mandibles

black, tinted with green at the base, their apex piceous. The wings hyaline, their apical margins slightly clouded, the nervures testaceous, the tegulæ shining green; the legs obscurely rufo-piceous, the tarsi palest, the pubescence pale and glittering; the pectus with a brassy tinge. Abdomen subovate, very convex above and shining, finely punctured, the basal segment more strongly so; the pubescence on the apical segment fuscous, that on the abdomen beneath pale; the floccus on the posterior femora white.

Hab. St. Paul (Brazil). Mr. H. W. Bates.

Genus Megalopta, *Smith.*

1. *Megalopta ianthina.*

M. nigro-purpurea violaceo tincta, facie polita ærata; pedibus nigris, alis hyalinis, venis testaceis.

Female. Length 4 lines. Dark purple with tints of violet, shining and very delicately punctured; the face brassy; the clypeus with deep punctures, its anterior margin, the mandibles and base of the scape, ferruginous; the flagellum, except the two basal joints, fulvous beneath; tips of the mandibles black. Thorax: the tegulæ and legs rufo-piceous, apical joints of the tarsi ferruginous; the coxæ and femora with cinereous pubescence, the scopæ on the posterior tibiæ black; the wings hyaline, the nervures testaceous, the stigma pale. Abdomen with a few cinereous hairs at the apex, and the margins of the segments beneath fringed with the same; the abdomen pale rufo-testaceous beneath.

Hab. Ega (Brazil). In the Collection of the British Museum.

Of this species Mr. Bates remarks,—"A most lovely species of bee, exhaling a very powerful aroma months after death. One day, on breaking a piece of dead branch to pieces, I came upon a row of cells containing these bees, already enclosed and ready to escape. There were about a dozen cells placed end to end, of which two contained pupæ; most of them escaped: I could only secure four or five."

Genus Apista.

Head rather narrower than the thorax, sub-orbiculate; eyes elongate-ovate; ocelli in a curve on the vertex; *antennæ* geniculated, 12-jointed in the female, the flagellum very slightly thickened towards the apex. *Mentum* elongate, cylindrical; the *labial palpi* 4-jointed, the joints short, stout, and cylindrical, nearly of equal length, each being in succession more slender, the apical one pointed; the *paraglossæ* as long as the two basal joints of the palpi, and capitate at their apex; the *maxillary palpi* 6-jointed, the joints short, stout, and cylindrical, tapering to the apical joint; the labium about half the length of the mentum, blunt at its apex, and very pubescent. *Thorax* rotundate;

the superior wings with one marginal cell, truncate at its apex; with three submarginal cells, the first as long as the two following, which are both slightly narrowed towards the marginal cell; the second submarginal cell receiving the first recurrent nervure at its base, nearly uniting with the first transverso-medial nervure, the third submarginal receiving the second transverso-medial nervure at its apex, uniting with the third transverso-medial nervure. Abdomen oblong-ovate and subdepressed.

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1. *Apista opalina.*

A. capite thorace pedibusque nigris; clypei marginibus mandibulisque ferrugineis; flagello fulvo, tegulis, alarum venis, tarsorumque articulis apicalibus rufo-testaceis; abdomine pallide ferrugineo subopalino.

Female. Length 6 lines. Head, thorax, and legs black; the clypeus anteriorly and the mandibles ferruginous; the flagellum, excepting the two basal joints, fulvous, slightly fuscous above; a little pale downy pubescence in front of the anterior stemma and along the inner margin of the eyes. The thorax above has a short, dense, sooty-black pubescence, blending into white at the sides and beneath; a narrow line of white pubescence passes over the tegulæ and base of the scutellum; the floccus on the posterior femora beneath is dense, white, and of a woolly texture; the legs beneath and the apical joints of the tarsi rufo-piceous; the scopæ on the posterior tibiæ short, dense, and black; the wings hyaline and iridescent, the nervures ferruginous. Abdomen oblong-ovate, pale ferruginous, with a beautiful opaline iridescence, and longer than the head and thorax; the apical margins of the first and three following segments with a narrow fascia of white pubescence; the two apical segments with ferruginous hairs intermixed with fuscous ones at the sides; the apical segment has a small black naked triangular space in the middle, carinated at the sides.

Hab. Brazil. Mr. H. W. Bates. In my own Collection.

This insect has a strong resemblance in form to *Apis mellifica*; it is altogether a most singular bee; its situation in arrangement must, I think, be between the genera *Macropis* and *Andrena*.

Genus Megacilissa, *Smith.*

1. *Megacilissa notabilis.*

M. capite thoraceque nigris, thorace abdominisque basi pube fuliginoso-nigra dense vestitis; abdomine rubro; alis subhyalinis.

Female. Length 8 lines. Head and thorax black; the cheeks and clypeus densely covered with short white downy pubescence; eyes very large and approximate at their vertex; the mandibles short and slender, bidentate at their apex; the flagellum piceous beneath. Thorax wider than the head, densely clothed with short downy sooty-black pubescence, having a velvety appearance; the legs obscure ferruginous,

with fuscous and black pubescence; the metathorax has a triangular smooth shining space behind; the wings subhyaline, their nervures blackish-brown. The abdomen of a deep flesh-coloured red; the basal segment fringed with sooty-black pubescence; the two apical segments thinly covered with black hairs; the segments beneath fringed with black hairs.

Hab. St. Domingo. In the Collection of the British Museum.

2. *Megacilissa eximia.*

M. capite thoraceque nigris; abdomine nigro-æneo; thorace abdominisque basi pube brevi fulva dense vestitis; alis subhyalinis, venis ferrugineis.

Female. Length 9 lines. Head and thorax black, the latter densely clothed with short downy fulvous pubescence, which is palest on the sides and beneath. The vertex fringed with fuscous pubescence; a tuft of the same colour occupies the space between the ocelli; there is also a similar tuft at the insertion of the antennæ; the cheeks covered with short downy white pubescence; a line of the same colour runs round the base of the clypeus and along the inner margin of the eyes; the clypeus rufo-fuscous; the flagellum, except the two basal joints, rufo-fulvous beneath. The wings subhyaline, faintly clouded at their apex; the nervures ferruginous, the costa black; the legs ferruginous, with a dense fulvous pubescence, the intermediate and posterior tibiæ fuscous outside. Abdomen nigro-æneous, with a dense short fulvous pubescence at the base; the apical margins of the second and two following segments with a fascia of short glittering golden pubescence; the two apical segments with long brown pubescence; the abdomen is rufo-testaceous at its base and beneath; the apical margins of the segments beneath thickly fringed with long pale-fulvous pubescence.

Male. Rather smaller than the *female*, but closely resembling that sex; it differs in having the clypeus and scape of the antennæ yellow.

Hab. Mexico. In the Collection of the British Museum.

3. *Megacilissa luctuosa.*

M. aterrima; thorace dense et breviter velutino-piloso, pilis nigris, flocco post-femorali albo-lanuginoso; alis nigro suffusis.

Female. Length 10 lines. Black; the pubescence on the cheeks sooty-black; the clypeus with a central broad longitudinal depression; the pubescence on the face black. The thorax densely clothed with black pubescence above, having a velvety appearance; beneath, the pubescence is more of a brown or sooty-black; the floccus on the posterior femora white, dense and woolly; the wings dark-fuscous. Abdomen nigro-æneous above; the two apical segments thinly clothed with black pubescence; beneath, the basal segment has a patch of short pale pubescence on each side; the apical margins of the segments with a fringe of long sooty-black pubescence.

Hab. Mexico. In the Collection of the British Museum.

Genus Lagobata, n. g.

Head not quite as wide as the thorax; eyes ovate; ocelli in a curve on the vertex; mandibles small, subacute and edentate; labial palpi 4-jointed, the two basal joints elongate, flattened, broad, of about equal length, their inner margin thin and semitransparent, the second joint pointed at the apex; the two apical joints minute, inserted near the apex of the second joint towards its apex; the palpi a little shorter than the labium; the labium lanceolate, acute at its apex. The maxillary palpi short, 6-jointed, each joint in succession more slender than the preceding; the inner margin of the maxillæ, towards its apex, fringed with short thick setæ; the maxillary lobe fringed with setæ longer than those on the maxilla. Thorax globose; the anterior wings with one marginal cell, which is rounded at its apex; with three submarginal cells of nearly equal length, the first subquadrate, the second narrowed towards the marginal cell and receiving the first recurrent nervure in the middle; the third much narrowed towards the marginal cell; the posterior legs with long dense scopæ; the claws of the tarsi simple.

This genus of bees is closely allied to those which are included in the genus *Panurgus*, and appears to me to form a connecting link between the latter and the genus *Megachile*. The species resemble those of the genus *Tetrapedia* of Klug.

1. *Lagobata diligens.*

L. ferruginea, thorace abdomineque nigro maculatis; alis hyalinis, venis pallide testaceis.

Female. Length 5 lines. Ferruginous, inclining to yellow; the region of the scutellum and a triangular shape between the antennæ black; in some examples the front is altogether blackish, in others wholly rufo-testaceous, the clypeus and labrum pale rufo-testaceous; the flagellum more or less fuscous above; the tips of the mandibles blackish. Thorax: the disk sometimes black above, or with two oblong black maculæ, in some specimens obsolete; the metathorax usually with black stains, the pectus black; the wings colourless-hyaline, iridescent, with the nervures pale testaceous; the legs pubescent, the posterior pair with long dense fulvous scopæ. Abdomen oblong, narrowed to the apex; the first and three following segments with an ovate black spot on each side; sometimes the basal margins of the segments are black, the black spot uniting with the basal band; the apical margins are in some examples stained, no two specimens exactly correspond; beneath, much paler than above, each segment with a round spot, more or less dark; the apex of the abdomen with fulvous pubescence on each side.

Hab. Para, Ega, and St. Paul's (Brazil).

Subfamily Dasygastræ.

Genus Megachile, *Latr.*

1. *Megachile Tithonus.*

M. nigra; capite thoraceque pube nigra vestitis, abdomine dense fulvo pubescente, basi nigro; alis nigro-fuscis.

Female. Length 10 lines. Black; the head, thorax, legs and base of the abdomen densely clothed with short black pubescence; the second and following segments are clothed, above and beneath, with bright ferruginous pubescence; at the extreme base of the second segment is an intermixture of black pubescence; the anterior margin of the clypeus truncate, with a slight point, or tubercle, produced in the middle of the margin; the mandibles long, stout, and armed at their apex with two strong acute teeth; the wings brown-black, with a slight violet iridescence.

Hab. Knysna (South Africa). Walter Trimen, Esq. In the British Museum Collection.

Subfamily Scopulipedes.

Genus Epicharis, *Klug.*

1. *Epicharis elegans.*

E. capite thoraceque nigris, pube atra vestitis; abdomine flavo.

Female. Length 9 lines. The head, thorax and legs black; the vertex and thorax densely clothed with short black pubescence; the mandibles orange-yellow at their apex, the tips black; the flagellum obscurely rufo-piceous beneath; wings fusco-hyaline and iridescent; the posterior femora and basal joint of the tarsi densely clothed with broad scopæ of bright pale-fulvous pubescence. Abdomen honey-yellow, the extreme base black; the basal segment with a small fuscous stain in the centre.

Male. About the same size as the female, but differs in having dark cinereous pubescence on the thorax; the scape of the antennæ in front, the clypeus, sides of the face, labrum and base of the mandibles yellowish-white; the posterior femora and basal joint of the tarsi outside, and the knees yellow; abdomen as in the female.

Very like *E. bicolor*, but has the basal joint of the posterior tarsi broad, margined within, and produced into a stout spine at the apex.

Hab. Mexico. M. Sallé. In the Collection of the British Museum.

Subfamily Sociales.

1. *Bombus festivus.*

B. niger, pubescens; thorace supra abdominisque segmentis duobus apicalibus pube alba vestitis; alis fuscis.

Female. Length 13 lines. Black and pubescent. The head with

long sooty-black pubescence on the front and beneath, the cheeks with a short downy cinereous pile. The disk of the thorax with silvery-white pubescence; the apical joints of the anterior and intermediate tarsi, and the posterior tibiæ and tarsi rufo-piceous; wings fusco-hyaline. Abdomen: the pubescence on the first four segments short, dense and black, that on the two apical ones silvery-white.

Hab. Northern India. In the British Museum Collection.

2. *Bombus opulentus.*

B. niger, pubescens; vertice, thorace supra, abdominisque basi pube læte fulva vestitis; alis nigro-fuscis.

Female. Length 9 lines. Black, pubescent; the pubescence on the face black, that on the vertex fulvous. The thorax clothed above with fulvous pubescence, a tuft of the same colour beneath the wings; the pubescence on the legs black, that on the basal joint of the posterior tarsi within obscurely ferruginous, the apical joints of the tarsi rufo-piceous. Abdomen: a large quadrate patch of fulvous pubescence at the base above, extending to the apical margin of the second segment, the pubescence otherwise intensely black. The wings dark brown.

Hab. North China.

This beautiful species was captured by Mr. R. Fortune: it is in the Collection of the British Museum.

3. *Bombus laboriosus.*

B. niger, pubescens; thoracis lateribus, abdominisque tribus segmentis basalibus pube pallido-flava vestitis, segmentis apicalibus pilis ferrugineis tectis.

Female. Length 8 lines. Black, pubescent; the head entirely black, with the clypeus very smooth and shining, and delicately punctured. The thorax with black pubescence above and beneath, that on the sides pale yellow; the pubescence on the legs entirely black; the wings fusco-hyaline, the nervures black. Abdomen: the three basal segments clothed with pubescence of a pale yellow, somewhat lemon-coloured; that on the third segment not quite extending to the lateral margins; the apical segment thinly sprinkled with ferruginous hairs.

Worker. Length 5 lines. Coloured like the female.

Hab. Oajaca (Mexico). In the Collection of the British Museum.

4. *Bombus modestus.*

B. niger, pubescens; thorace antice, scutello, abdominisque apice flavis.

Female. Length 9 lines. Black, pubescent; the clypeus very smooth, shining, and delicately punctured. Thorax: the pubescence above before the wings yellow; the scutellum with a slight admixture of

fulvous hairs; the wings subhyaline; the pubescence on the legs black, that on the basal joint of the posterior tarsi within ferruginous, the claw-joint of the tarsi obscurely ferruginous. Abdomen: the third and fourth segments clothed with yellow pubescence, the fifth with black, and fringed on its apical margin with yellow hairs, the apical segment has also a thin clothing of hair of the same colour.

Worker. Length 5½ lines. The pubescence similarly disposed to that of the female, but paler, that on the apical segments white.

Hab. Oajaca (Mexico). In the Collection of the British Museum.

5. *Bombus diligens.*

B. hirsutus, ater; alis nigricantibus, ano rubro.

Female. Length 10 lines. Black, and clothed with black pubescence; wings dark brown, shining. The pubescence on the thorax short and dense, except on the disk above, which is smooth and shining; the three apical segments clothed with ferruginous pubescence, the apical segment smooth and shining in the middle.

Hab. Oajaca (Mexico). In the Collection of the British Museum.

This species closely resembles *Apathus rupestris*, and *Apis arenaria* of Panzer; but it is a true *Bombus*, and distinct from every species with which I am acquainted.

6. *Bombus venustus.*

B. hirsutus, ater; thorace antice, scutello, abdominisque basi et fascia media pallide flavo-albis; alis nigricantibus.

Female. Length 10 lines. Black, pubescent; the head and a space between the wings very smooth and shining, with scattered black hairs, which are most dense at the insertion of the antennæ. The scutellum and the thorax in front and beneath the wings clothed with pale yellow pubescence; the abdomen at the base, and the third segment, with pale yellow pubescence; the wings dark blackish-brown.

Male. Length 6 lines. Coloured like the female, with the addition of a little pale pubescence on the clypeus; the antennæ as long as the thorax.

Hab. Constantia (Brazil). In the Collection of the British Museum.

Genus Apathus, *Newm.*

1. *Apathus intrudens.*

A. niger, pubescens; vertice, thorace supra pube pallide flava; alis fusco-hyalinis.

Female. Black: a tuft on the vertex and another in front of the anterior stemma pale yellow; the thorax clothed above with pale yellow pubescence, which is continued down the sides in front of the

tegulæ; the thorax smooth and shining behind the scutellum; the legs with very short black pubescence; the wings fusco-hyaline. Abdomen nearly naked, shining, incurved, and very acute at the apex, the margins of the segments thinly fringed with black pubescence.

Hab. Oajaca (Mexico). In the British Museum Collection.

2. *Apathus insularis.*

A. hirsutus, ater; thorace flavescente, fascia nigra; abdominis apice acuminato inflexo, lateribus pube flava vestitis.

Female. Length 9 lines. Black, shining and pubescent; a tuft on the vertex and another in front of the anterior stemma, yellow; the pubescence on the thorax above and beneath the wings yellow, a band of black pubescence between the wings, or sometimes only a space in the middle with black pubescence; the wings fusco-hyaline; the apical joints of the tarsi rufo-piceous; the basal joint of the posterior tarsi ferruginous within. Abdomen incurved, very smooth and shining, with more or less of bright yellow pubescence at the sides of the third and two following segments.

Hab. Vancouver's Island. Dr. Lyall. In the Museum Collection.

XII.—*Descriptions of new Diurnal* Lepidoptera. By W. C. Hewitson.

Eueides.

1. *Eueides Eanes*, n. s. (Plate X. fig. 1.)

Upperside (*Male*) black. Anterior wing with lines and triangular spots of orange at the base, crossed beyond the middle by an irregular transverse band of yellow divided by the nervures. Posterior wing with a line of orange at the base, forming the centre of, but *not connected with*, six diverging lines of the same colour (one of which is wider than the others and traversed by a black line) which pass *between the nervures* to within a short distance of the outer margin.

Underside as above, except that it is lighter, that there is but one ray of orange at the base of the anterior wing, and that the posterior wing has the base of the costal margin orange and a band of minute white spots near the outer margin.

Exp. $2\frac{6}{10}$ inch.

Hab. Peru. In the Collection of W. C. Hewitson.

2. *Eueides Edias*, n. s. (Plate X. fig. 2.)

Upperside (*Male*) dark brown. Anterior wing with ten indistinct rufous spots: one from the base until it touches the second placed within the median nervules, four near the middle at angles with each other, and three not far from the apex. The inner margin orange.

Posterior wing orange, with the base, the outer margin, and the nervures as they approach it, black.

Underside as above, except that it is much lighter, that the outer margin of the posterior wing is rufous, and that both wings have a band of small white spots (in pairs on the posterior wing) near the outer margin.

Exp. $2\frac{8}{10}$ inch.

Hab. New Granada. In the Collection of W. C. Hewitson.

3. *Eueides Thales*, var. (Plate X. fig. 3.)

Upperside (*Female*) black. Anterior wing with four oblong spots of orange at the base, crossed at the middle by a large irregular spot of pale yellow divided into four by the nervures, one part within the cell. Posterior wing with a line of orange at the base, and, *branching from it* and *following the course of the nervures*, several unfinished lines of the same colour. The outer margin towards the anal angle with some minute white spots.

Underside as above, except that the orange spots at the base of the wing are smaller, that there are some minute spots near the anal angle, that the posterior wing is almost without the orange line at the base, and that there are two bands of minute white spots, in pairs, near the outer margin.

Exp. $2\frac{8}{10}$ inch.

Hab. New Granada. In the Collection of W. C. Hewitson.

If a butterfly or a genus resemble another (though placed, systematically, at a distance from it), let it be in colour or in form, it may be expected to resemble it in other characteristics.

The Heliconidæ are notable for their liability to vary. Certain species of *Leptalis* scarcely differ in general appearance from some of the *Ithomiæ*. Other species resemble the Heliconidæ in the strange varieties into which they run. At first sight, *Eueides Thales* and *Heliconia Vesta* appear to be almost identical. A variety of *H. Vesta* scarcely differs from the insect now figured as a variety of *E. Thales*. A second variety of *H. Vesta* is so close an imitation of *Eueides Eanes*, fig. 1 of the Plate, that I believed it only a second variety of *E. Thales* until I noticed a difference in the position of the discoidal nervures of the posterior wing, as well as in the orange rays which proceed from the base of the posterior wing.

LYMANOPODA, Westwood.

1. *Lymanopoda Leæna*, n. s. (Plate IX. fig. 1.)

Upperside dark brown from the base to the middle, rufous-brown beyond.

Underside as above, except that the posterior wing is crossed transversely beyond the middle, from margin to margin, by a regular, nearly straight band of pale yellow.

Exp. $1\frac{9}{20}$ inch.

In the Collection of W. C. Hewitson.

It is with some doubt that I have included this species in the genus *Lymanopoda*. Its wings are of different form, but it is the best place I can find for it.

2. *Lymanopoda lactea*, n. s. (Plate IX. figs. 2 & 3.)

Upperside white. Both wings densely clouded at the base. Anterior wing with the costal and outer margins rufous, each with a submarginal band of black. A spot on the costal margin at the termination of the cell, a large square spot at the apex, and a round eye-like spot (its centre white) between the second and third median nervules all black. Posterior wing with the nervures as they approach the outer margin black. Two minute black spots between the discoidal nervures, and one near the anal angle.

Underside white. The margins of the anterior wing and the whole of the posterior wing pale yellow. Anterior wing with the spot at the end of the cell and the eye-like spot scarcely seen. Posterior wing crossed obliquely by two rufous bands; the lower band marked by three small black spots. A minute spot at the apex, a second between the first and second median nervures, and two near the anal angle all black.

Exp. $1\frac{6}{10}$ inch.

Hab. New Granada. In the Collection of W. C. Hewitson.

3. *Lymanopoda Labda*, n. s. (Plate IX. fig. 4.)

Upperside uniform dark brown.

Underside rufous. Anterior wing clouded with dark brown; the apex and outer margin lighter. Five silvery-white spots parallel to the outer margin; three of them in a line near the apex, two at a greater distance from the margin between the median nervules. Posterior wing lighter, undulated with darker colour, marked by bands and spots of silvery white. A band of five spots (the first within the cell, the second minute) from the middle of the wing to the costal margin, followed by three minute spots; a second band (more oblique) of four spots, followed near the anal angle by four small spots, three of them, round, in a line; the other, nearer the margin, linear.

Exp. $1\frac{6}{10}$ inch.

Hab. New Granada. In the Collection of W. C. Hewitson.

4. *Lymanopoda albocincta*, n. s. (Plate IX. fig. 5.)

Upperside uniform dark rufous-brown.

Underside lighter, more rufous. Anterior wing with a minute white

spot towards the outer margin. Posterior wing undulated with darker brown from the base to beyond the middle, where it is crossed obliquely from margin to margin by a continuous, nearly straight band of seven silvery-white spots.

Exp. $2\frac{1}{10}$ inch.

Hab. New Granada. In the Collection of W. C. Hewitson.

5. *Lymanopoda albomaculata*, n. s. (Plate IX. fig. 6.)

Upperside rufous-brown near the base, darker brown beyond.

Underside rufous-brown. Anterior wing lighter towards the apex and outer margin. A line of four minute white spots parallel to the outer margin. Posterior wing lighter, minutely undulated throughout; crossed obliquely beyond the middle, from margin to margin nearly, by a band of seven detached spots (deviating from a straight line) of silvery white.

Exp. 2 inches.

Hab. New Granada. In the Collection of W. C. Hewitson.

This genus, except in its most typical species, scarcely differs from *Pronophila*.

XIII.—*On the* Endomychidæ *of the Amazon Valley.*

By H. W. Bates, Esq.

Genus Corynomalus.

In the Transactions of the Entomological Society of London I have commenced a series of papers on the subject of the insect fauna of the valley of the Amazons, the result of eleven years' research in that region. They are limited at present to the group of Rhopalocerous or Diurnal Lepidoptera, and, besides a detailed review of the genera and species, will contain an investigation of the general question of the nature and relations of the fauna, which that group of insects is so well calculated to illustrate. I shall not be able, nor will it be necessary, to treat the whole, or any considerable number, of the insect families in the same copious way; it will be sufficient if I give from time to time, as the materials become completed, shorter essays upon detached families or smaller groups, communicating any facts that I may have observed regarding their habits, and describing the new species. In some groups, even of the favourite order Coleoptera, this task will be surrounded with difficulties in consequence of no recent monograph existing embodying in a connected form the various memoirs on the subject, thus necessitating tedious research for the already published descriptions in the bewildering maze of entomological literature. The object of the present paper is to give

an account of the Amazonian species of the family Endomychidæ, beginning with the genus *Corynomalus*; and here the task becomes an easy one, as one of the best of the many admirable monographs published of late years has been given on this subject by Dr. Gerstaecker so lately as the year 1858. In this work the previous literature has been so thoroughly and conscientiously worked up that we may with safety take it as a starting-point, and dispense with research into works anterior to its date; whilst the precision of the generic and specific descriptions renders it a pleasant labour to ascertain and supplement the newly discovered forms.

Dr. Gerstaecker in his introduction gives an elaborate review of the generalities relating to the family,—the whole structure internal and external, the position and affinities and the geographical distribution. But in the part of his subject relating to the habits and earlier states of the insects he had little to say, in consequence of the almost total want of information regarding the exotic species. It gives me great pleasure therefore to be able to contribute a little towards completing those portions of their history by describing the larvæ of two of the neo-tropical genera, *Corynomalus* and *Stenotarsus*. Of the former I bred two species, *C. discoideus* and *C. subcordatus*, but as they offered no material difference, I will describe the larva (and the pupa) of the former only.

The larva of *C. discoideus* (Pl. XI. fig. 5) is oval and convex, fleshy beneath, but above having a hard granular integument, sprinkled with minute scales; the margins of the thorax and abdomen dilated and flattened. The colour above is sooty-black with the margins fulvous; there is a double dorsal series of transverse, oval, velvety-black spots, around which the minute pale scales are arranged, similar scales forming also pale transverse lines on the margins. The mandibles (fig. 5 *b*) are simply but obtusely pointed, the palpi (fig. 5 *c*, *d*) taper to a point, the maxillary consisting of three joints; the blade of the maxilla is narrow, obtusely pointed, curved inwards near the tip, and on the outside of the curved part near the tip, ciliated. The antennæ (fig. 5 *a*) are elongate, cylindric, formed apparently of three joints, two basal, minute (the second perhaps only apparent, or separated by a constriction), and the third very long. There are four ocelli on each side of the head, viz. three in a triangle above and one below the insertion of the antennæ. The tarsi have one joint and a simple claw. The first thoracic segment is broadly but not deeply rounded-emarginate in front. The pupa is beset with horny and fleshy tubercles; there is a pair of long horny ones in the middle of the hind margin of each thoracic segment, and a

single one in the centre of each abdominal one; the sides of the mesothorax have each three long corneous spines, and the lateral margin of each of the first five abdominal segments is prolonged into a large trilobed fleshy process.

The larva of *Stenotarsus obtusus* (Pl. XI. fig. 6) is oblong-oval, widest behind; it is beset with long and fine pale hairs; eight of the abdominal segments have their lateral margins prolonged on each side into an obtuse lobe. The colour is fulvous, each of the thoracic segments having two large discoidal black spots, and the sides of the abdomen are occupied by a broad stripe of black, leaving a broad central vitta fulvous, through which runs a fine dorsal black line. The body is not so convex as that of *C. discoideus*; the prothorax is much longer, being semicircular, rounded in front instead of emarginate. The antennæ are similar in shape to those of the *Corynomalus*, but they are more slender, and there is no trace of the second apparent basal joint. I did not dissect the mouth.

I found these larvæ feeding in company with the perfect insects at different times on the minute fungous, or perhaps lichenous substance on the surface of old damp dead wood; either broken branches of forest trees, old barked stumps or palings around plantations, in the forest at Ega. When about to change, the larva (of *Corynomalus*) attaches itself by the tip of the abdomen to the surface of the wood, sometimes seeking a crevice for the purpose. The pupæ are thus found in clusters of numerous individuals near the places where the perfect insects are feeding.

With regard to the habits of the perfect insects, the whole family feed on fungi, and seem to prefer the smaller fungous growths; they are slow in motion (probably, like most other tropical Coleoptera, they are more active at night, but they do not come to lamps) and gregarious. Many species are amongst the commonest of tropical beetles, and are found wherever there is old dead wood in or near the forest. They are not usually found in the large woody Boleti, but almost always on small Boleti of loose texture, or on very minute, scarcely perceptible fungi. Neither are they seen on the very large fungi which grow in immense masses, springing up and decaying with great rapidity in the wet seasons on dead wood in the humid shades of the forest. These are more especially the food of the large Erotylidæ, which exist in equatorial America in great profusion both as to individuals and species. Many of the smaller species, especially of the genera *Epopterus*, *Anidrytus*, *Phalantha*, &c., are found only on slender dead twigs, which are generally spotted with minute fungi.

Dr. Gerstaecker gives statistics to show that the large-sized species of Endomychidæ (the *Eumorphini*) exist in far greater numbers in the tropics of the Old World than in those of the New. The species of the former are to those of the latter in the numeric proportion of four to one. This shows that they are far more highly developed in one hemisphere than in the other. It is true that the proportion is reversed in the case of the small-sized species (the *Dapsini*). In this group the Old-World species are to the New, in numbers, as one to four and a half. Notwithstanding this, on looking over a large general collection of the family, the great superiority of the Old-World species in size and variety of forms is very striking. On this account it would be worth while to inquire whether the large *Eumorphini* of the East do not occupy there that sphere in the economy of nature, which in America is filled by the large Erotylidæ. The latter family in America far surpass in variety and general individual bulk the members of the same group in the Old World. It would be interesting, therefore, to know whether the *Eumorphini* in the East live upon the same class of large ephemeral fungi in the humid forests, that in America is the peculiar prey of the Erotylidæ. When a new sphere of function is opened in nature, it is apparently filled by members of a group whose habits already in some measure fit them for it and who happen to be close at hand for the purpose; thus it is that similar or the same functions are performed in different parts of the world not always by the same family or group or species, but frequently by an allied group or species. That sphere of action which is filled in one hemisphere by a certain family, in another is filled by an analogous or by an allied family. Instances of this occur in all departments of natural history; there is a beautiful one in the diurnal Lepidoptera, where the Heliconianæ of the New World fill that sphere of action, which in the Old World is filled by the allied groups Acræanæ and Danainæ.

Family **Endomychidæ.**

Subfamily Eumorphinæ.

Genus Corynomalus, (*Dejean*) *Gerstaecker.*

§ A. *Elytra gibbous, the convexity towards the middle bulging out so as to conceal part of the lateral margins when viewed from above.*

1. *Corynomalus maximus*, n. sp.

C. subglobosus, piceus, vix nitidus, antennis, articulo basali excepto, tibiisque nigris; thorace angusto, sublongiore, angulis apicalibus sub-

acutis, fere opaco, sericeo-nitente; elytris violaceo-nigris, nitidis, fortiter subrugoso-punctatis.—Long. lin. 5 (♀).

Pitchy, scarcely shining. Head opake. Antennæ stout, third joint about as long as the fourth and fifth united, the two latter of equal length, the sixth, seventh, and eighth joints much shorter and uniform in length; basal joint pitchy-red, the club black, opake, the rest shining black. Thorax much narrower and more elongate than is usual in this genus, fore-angles rather produced and acute, the sides from the base narrowed to one-third the length, then gradually dilated to near the apex, whence they are again narrowed to the apex, the side furrows not reaching to the middle, the longitudinal line faintly impressed, not perceptibly punctured, pitchy with a slight silken gloss. Scutellum shining, with a large opake fovea in the middle. Elytra nearly covered with large and deep punctures, many of them connected by rugæ, interstices convex in some places, smooth and shining, globose-convex, of equal breadth from the shoulders to two-thirds their length, then gradually narrowed to the apex, the external flattened margins very narrow; pitchy, with a violet tinge. Body beneath reddish-pitchy, including the under margins of the elytra, which are coarsely punctured. Legs pitchy-red, base of the hind femora and all the tibiæ black.

I have one example only of this large and distinct species, which was taken at Fonte Boa, on the Upper Amazons.

2. *Corynomalus rugosus*, n. sp.

C. subglobosus, piceus vix nitidus, antennis, articulis duobus basalibus exceptis, tibiisque nigris; thorace angusto, fere opaco, sericeo-nitente; elytris æneis nitidis fortissime rugoso-punctatis.—Long. lin. $3\frac{1}{2}$ (♀).

Head pitchy-red, very finely punctured, slightly shining. Antennæ with the joints short and stout, their relative lengths the same as in the preceding species; the basal joint red, the second pitchy; the club opake, the rest shining black. Thorax similar in shape to that of the preceding, but considerably shorter in comparison to its breadth, yet notably longer than the other species of the genus, reddish-pitchy, darker in the middle, very obscurely punctured, shining with a very slight silky gloss. Scutellum with a very large central fovea. Elytra short, compact, of equal breadth from the shoulders to two-thirds their length, then suddenly narrowed to the apex; covered nearly throughout with large and deep punctures, connected in groups by irregular rugæ, the interstices convex; brilliant dark brassy, the external margins moderate in breadth and ferruginous towards the apex. Breast piceous, scarcely shining, abdomen rusty-red, shining, the margins of the elytra piceous-brassy and coarsely rugose punctate. Femora and tarsi bright-red, tibiæ black.

I have only one example of this handsome species, which I took at St. Paulo, on the Amazon, near the Peruvian frontier.

§ B. *Elytra moderately convex, the whole of the lateral margins seen when viewed from above.*

a. *Elytra at the base as broad or broader than in the middle (at least in the ♂), obtuse heart-shaped.*

3. *Corynomalus circumcinctus*, n. sp.

C. rufus, antennis rufis, articulis nonnullis ante clavam fuscis, ipsâ clavâ nigrâ; elytris punctatis, interstitiis æqualibus subtiliter punctatis, nitidis, nigro-cyaneis, margine omni et regione scutellari testaceo-rufis. Long. lin. 3 (♂ ♀).

Pale red. Head rather thickly punctured, shining. Antennæ slender, third joint shorter than the two following united, the seventh and eighth joints fuscous, the club black. Thorax short, the sides very slightly bowed outwards from the base to the apex, being broadest at two-thirds the length; finely punctured, and shining rather brightly with a silky gloss. Scutellum plane, pale red. Elytra evenly punctured, the interstices plane, and covered with very minute punctures; dark steel-blue, with the outer and basal margins and the region of the scutellum testaceous red. Body beneath, under-margins of the elytra, and legs pale red.

This species I found only at Obydos, on the Guiana side of the Lower Amazon; it was abundant on the branches of felled trees there in March 1859; but I have now before me only three examples, namely two males and one female. At first sight it might be taken for the *C. marginatus*, Fab., Gerst., which is peculiar to Guiana, especially as it is found on the Guiana side of the Amazons; but it differs from that species greatly in the punctuation of the elytra and in the want of pale sutural margins. The true *C. marginatus* I did not meet with at all on the Amazons. In the punctuation of the elytra our species resembles *C. discoideus*, and it might be said to represent that species on the Guiana side of the Amazons, as *C. discoideus* does not occur in company with it, although common in many other localities on the opposite side of the river.

4. *C. discoideus*, Fab., Gerstaecker, Mon. der Endom. p. 151.

I have before me one male and six females of a form which agrees extremely well with Gerstaecker's description of this species; six of the specimens were taken at Ega, and one at Santarem. Gerstaecker's examples came from Bahia; but he had examined others supposed to have been found in Columbia and near Rio Janeiro. It appears that he did not obtain from these various localities any wider deviations from the normal form than those described in his work as varieties *a* and *b*; on the Amazons, however, several forms more

strongly marked than those varieties are found in company with the type. I cannot decide to treat them as distinct species, and shall therefore describe them as varieties of *C. discoideus*, giving to the most distinct a separate name.

Var. 1. *C. robustus.* Thorace mox pone basin sensim ac paululum ampliato, elytris pone humeros sensim, apicem versus citius sed semper gradatim angustatis, margine pallido apud latera exiguo, apud humeros et apicem in maculam amplificato. Reliquis ut in typo.—Long. lin. 4 (♂).

Of this form I have two males, one taken at Ega and one at Fonte Boa; the elytra are much more tapering than in the same sex of the type. It appears a more robust insect, the antennæ seem to be thicker. The pale margin is extremely narrow along the sides, but is dilated at the shoulders, and especially at the apex, into a large spot.

Var. 2. Thorace angusto, mox pone basin sensim ac paululum ampliato, angulis anticis acutis. Reliquis ut in typo.—Long. lin. 3 (♀).

I have two examples of this form, taken at Ega. Like *C. robustus*, the thorax is not widened from the middle as in the type, but gradually and slightly widened from the base, rounded, and narrowed again slightly towards the apex. In every other respect it is the same as the type.

Var. 3. Antennis tenuibus, articulo 3tio quam 4to et 5to conjunctis longiore. Reliquis ut in typo.—Long. lin. 3½ (♂ ♀).

One example (male) from Ega, and one (female) from the river Tapajos.

Var. 4. Rufo-ferrugineus, aurichalceo-micans, antennarum articulis 4–8 fuscis, elytrorum margine præcipue humerali et apicali pallidiore; elytris subrugoso-punctatis interstitiis perminute punctatis.—Long. lin. 3⅓ (♂ ♀).

I have before me two males and three females, all from Ega. They differ from the var. *aurichalceus* of Gerstaecker in the coloration of the antennæ. They are not constant, however, in this character, some individuals having the antennæ much darker than others; one having only the tips of the seventh and eighth joints fuscous. It is curious that the typical examples of the species taken in the same locality should always have the same joints of a clear red colour, whilst the pale ones have them always more or less fuscous. The elytra are more roughly punctured in this variety than in the type.

5. *Corynomalus humeralis*, n. sp.

C. rufo-ferrugineus, antennis, articulis duobus basalibus exceptis, tibiisque nigris; thorace lato, angulis anticis obtusis; elytris breviter cordatis, mediocriter subrugoso-punctatis, interstitiis perminute punctulatis, violaceis, nitidis, humeris apicibusque macula flava.—Long. lin. $3\frac{1}{2}$ (♀).

Head finely punctured, shining. Antennæ with the basal joint bright red, second pitchy, the rest black, shining. Thorax similar in shape to that of *C. discoideus*, but having the fore-angles more produced, smooth, shining, finely punctured. Elytra obtuse-cordate, not quite so convex as in *C. discoideus*, covered with moderately large shallow punctures here and there connected by rugæ, the interstices glossy and finely punctured; violet or brassy-violet, the very prominent and glossy humeral callus and a subrounded spot at the extreme apex yellow. The body beneath shining red; the under-margins of the elytra brassy-piceous, rugose; the basal half of the tibiæ black.

I have two examples, both females, of this species, which I took at St. Paulo.

6. *Corynomalus lætus*, n. sp.

C. rufo-ferrugineus, antennis, articulis duobus basalibus exceptis, tibiisque nigris; thorace pone basin parum ampliato, angulis anticis prominulis, acutis; elytris elongato-cordatis, fortiter rugoso-punctatis, interstitiis convexis, subtiliter punctulatis, læte cyaneis, margine flavo apud latera angustissimo, apud humeros et apices in maculam amplificato.—Long. lin. $3\frac{3}{4}$ (♂).

Shining red. Head punctured. Two basal joints of antennæ red, the rest black, shining. Thorax with the sides slightly and very gradually widened to a little beyond the middle, thence rather more abruptly to the apices, which are produced and acute. Scutellum red, smooth. Elytra more elongate than in *C. discoideus*, otherwise similar in shape, not quite so convex, roughly rugose-punctate; the interstices raised and finely punctured, shining steel-blue; the lateral margins narrowly edged with yellow, which colour expands at the shoulders into a large spot covering the humeral callus, and at the apex into a triangular spot. Beneath, the under-margins of the elytra are yellow, with a stripe along the inner edge brassy; the tibiæ have the basal half black; the rest of the under surface and the legs are red.

One example, also from St. Paulo. Notwithstanding the considerable points of difference between this and the preceding, I am inclined to consider them as belonging to one and the same species. I think it probable that the *C. apicalis* of Gerstaecker is another variety. I believe we have to deal here with a very variable species, which would require a much larger number of examples to enable us to define its limits correctly, and unfortunately I neglected whilst

in that country to obtain a sufficient number of specimens. I think it likely the following is also another variety of this species.

7. *Corynomalus auratus*, n. sp.

C. rufo-ferrugineus, antennis, articulis duobus basalibus exceptis, tibiisque nigris; thorace pone medium paulo ampliato; elytris ovatis, fortissime rugoso-punctatis, interstitiis subtiliter punctulatis, auratis nitidissimis apicibus flavo-rufis.—Long. lin. $4\frac{1}{4}$ (♂).

Head and prothorax shining, sparingly punctured; the sides of the latter gradually widened after the middle, rounded and narrowed to the apex, the fore-angles rounded. Elytra slightly widened from the shoulders to one-fourth the length, then slightly narrowed to two-thirds the length, afterwards gradually narrowed to the apex, the convexity regular and moderate; they are covered with large punctures, which are everywhere connected in groups by rugæ; the interstices convex, highly polished, very finely and sparingly punctured, brilliant golden, the apex only with a yellowish-red spot. Beneath, the body and legs shining red; the tibiæ, except their apices, black; the under-margins of the elytra brassy, coarsely punctured.

The middle tibiæ of the male in this species are strongly bowed, with the usual emargination on the inner side near the apex very large. I captured only one individual of this remarkably beautiful form, at St. Paulo, in company with the two preceding.

8. *Corynomalus Gerstaeckeri*, n. sp.

C. rufo-ferrugineus, antennarum articulis 4–8 elongatis, clava nigra; prothoracis lateribus apud medium fere rectis, angulis anticis prominulis; elytris subovatis, mediocriter punctatis, interstitiis subtiliter punctulatis, nigro-cyaneis, margine omni, sutura fasciisque duabus, post medium linea angusta in medio connexis, rufo-ferrugineis.—Long. lin. $4\frac{1}{4}$ (♂).

Head and thorax shining, thickly and finely punctured. Antennæ with the joints 4–8 more elongated than is usual in this genus, red, seventh and eighth joints piceous; club black. Thorax scarcely perceptibly widened from the base to near the apex, whence narrowed, the apical angles being produced and subacute. Elytra shaped as in the preceding species, but the convexity much sharper, rising more abruptly from the thorax, moderately punctured, the interstices thickly and finely punctured, blue-black; the margins and suture narrowly and equally edged with red; behind the middle are two narrow crooked fasciæ of the same breadth and colour as the margins, connected together in the middle by a narrower line of the same colour; the anterior fascia is a little behind the middle, the posterior midway between it and the apex. Body beneath and legs ferruginous, shining; under-margins of the elytra yellow, punctured.

The middle tibiæ in the male are not bowed, the apical notch short

but deep, and the first ventral segment has a small tubercle in the middle of its hind edge.

I captured one individual of this remarkable species at Obydos, in company with *C. interruptus*, Gerst., and *C. cinctus*, Fab., the extreme varieties of which it curiously resembles in colour.

9. *Corynomalus lividus*, n. sp.

C. ovatus, paulo convexus, rufo-ferrugineus, antennis, articulis duobus basalibus exceptis, tibiisque nigris; elytris punctatis, interstitiis punctulatis, brunneo-rufis parum nitidis.—Long. lin. $3\frac{1}{4}$ (♂ ♀).

The body is more oblong and less convex than in the other species of this section. Reddish. Head punctate, shining. Antennæ with the joints slender, the first red, the second pitchy, the rest black, shining. Prothorax slightly widened after the middle, thence narrowed to the apex, the apical angles prominent and acute, punctured, shining. Elytra slightly but regularly convex, the convexity being nearly in continuity with the prothorax, its highest part at the middle of the elytra, widest behind the shoulders, thence narrowed and rounded gradually to the apex, punctured, the interstices finely punctured; brownish-red, livid, the margins scarcely paler. Under surface of the body, legs except the tibiæ which are black, and under-margins of the elytra rufous, shining.

This was a common species at Para, on small Boleti covering old palings in plantations, or on decayed branches of trees in the forest. I have before me three males and one female. The legs are remarkably short, the middle tibiæ of the male very crooked near the apex, and the first ventral segment in the same sex is furnished with a minute tubercle in the middle of the hinder edge.

10. *Corynomalus subcordatus*, Gerstaecker, Mon. p. 157.

This species is common throughout the Amazon region from Para to St. Paulo. All the examples before me (two) from the last-mentioned locality seem to belong to var. *b* of Gerstaecker, having the head, thorax, femora, and tarsi clear red ferruginous. The specimens from Ega (six) have the same parts more obscure, with the elytra brassy-violet or dark greenish-blue. The typical examples, as Gerstaecker mentions, occur at Para.

11. *Corynomalus quadriplagiatus*, n. sp.

C. ferrugineo-rufus sericeo-micans, antennarum clava fusca, elytrorum maculis duabus magnis cyaneo-nigris vix nitidis.—Long. lin. $3\frac{1}{2}$ (♀).

Compact, rusty-red. Head distinctly punctured. Antennæ shining red, club fuscous. Thorax with the sides gradually but very slightly

dilated from a little before the middle, fore-angles obtuse, the hinder right-angled, not perceptibly punctate; rufous shining, with a silky gloss. Elytra shaped like those of *C. discoideus*, surface coriaceous, evenly and moderately punctured, scarcely shining; each with two large blue-black patches, one larger on the basal part of the disk, one smaller on the apical part, leaving a rufous margin of about equal breadth all around them. The under surface of the body and legs rufous.

I have only one example of the present species, which was taken at Serpa, on the Guiana side of the Lower Amazon. I was at first inclined to refer it to the *C. quadrimaculatus* of Gerstaecker; but the nature of the thoracic surface, the colour of the antennæ, and the shape of the spots of the elytra, as described by that author, seem to show that we have here to deal with a different species.

12. *Corynomalus angulicollis*, n. sp.

C. rufo-ferrugineus, antennarum articulis interdum nonnullis ante clavam fuscis, ipsa clava nigra; prothorace apud medium angulariter ampliato, angulis omnibus acutis, opaco; elytris subnitidis vel fere opacis, in femina postice subampliatis, punctatis, nigro-cyaneis apicibus rufis, vel rufo-ferrugineis plagis magnis cyaneo-fuscis.—Long. lin. $3\frac{1}{2}$ (♂ ♀).

Rusty-red. Antennæ with the third joint as long as the two following united, a variable number of joints preceding the club fuscous, sometimes the extreme tips of the seventh and eighth joints alone dusky. Prothorax from the base slightly narrowed to one-third the length, then abruptly widened to two-thirds the length, afterwards slightly narrowed to the tip, the dilatation forming an obtuse angle; fore angles prominent, hind angles produced and acute, the usual grooves strongly marked, the whole surface opake. Elytra in the male cordate, very slightly narrowed from behind the shoulders to after the middle, in the female oval, gradually widened from the shoulders to about the middle, then rounded and more slowly narrowed to the apex, the shoulders with a long and narrow callus bordered on the inner side by an oblong deep fovea, the whole surface rather closely covered with moderate-sized punctures and slightly shining; they present the following diversities of coloration:—

1. Rusty-red unicolorous.
2. Rusty-red, with an obscure greenish-fuscous stripe along the disk near the suture, interrupted in the middle.
3. Rusty-red, each with two large subtriangular greenish-fuscous patches on the disk, one occupying the basal half, the other the apical, leaving around them a rusty red border of equal breadth.
4. Dark-blue or greenish-black; apex, the extreme margin from the apex to about the middle, the basal margin and humeral callus narrowly pale ferruginous.

Body beneath and legs rusty-red; the under-margins of the elytra thickly punctured, and in the dark varieties blue-black along the basal half.

This species was common at Ega. I have described it from three male and four female examples, in the coloration of the elytra: two of them belong to var. 1, two to var. 2, one to var. 3, and two to var. 4; it was thus not possible to fix upon any of them as the type of the species, describing the others as varieties. I have therefore comprehended them all in the specific definition. The species seems to be allied to *C. 4-maculatus* of Gerstaecker.

13. *Corynomalus nigripennis*, n. sp.

C. rufus, antennis, articulis duobus basalibus exceptis, tibiisque nigris; thorace apud medium fortiter rotunde ampliato, angulis posticis productis acutis, opaco; elytris in femina postice ampliatis, punctatis, subopacis, cæruleo-nigris, apicibus flavo-rufis.—Long. lin. $3\frac{3}{4}$ (♀).

Rusty-red. Antennæ with the third joint as long as the two following united, the two basal joints red, the rest black, shining. Thorax before the middle strongly widened, rounded and narrowed more gradually to the tip, apical angles obtuse, hinder angles projecting, acute, opake. Scutellum red. Elytra in female gradually widened from the shoulders to two-thirds the length, then more quickly narrowed to the apex, the convexity very gradual from the base, the highest part placed far behind the middle; the humeral callus narrow, prominent, bordered on the inner side by an oblong fovea, thickly covered with moderate-sized punctures, coriaceous, opake, except along the sutural margins, which are slightly shining, dark bluish-black, apex alone edged with yellowish-red. Beneath rusty-red, shining; under-margins of the elytra bluish-black; legs red, the tibiæ, their tips excepted, black.

One specimen, from St. Paulo. In the shape of the elytra this species would come under the following subsection; but I believe the male, if it were known, would be similar in shape to that of *C. angulicollis*, and therefore would belong to the present subdivision. It so nearly resembles the dark female varieties of *C. angulicollis* that I think it very likely to be a local variety of it. It requires, however, a long list of specimens (at present wanting) to decide such questions as these.

b. *Elytra in both sexes narrower at the base than in the middle.*

14. *Corynomalus interruptus*, Gerstaecker, Mon. p. 160.

At Obydos, on the Guiana side of the Lower Amazon, in company with *C. cinctus*.

15. *Corynomalus cinctus*, Fab.; Gerstaecker, Mon. p. 162.

At Obydos; also at Ega, Fonte Boa, and St. Paulo, on the Upper Amazon.

Dr. Gerstaecker has devoted much space to the analysis of these two forms with their numerous varieties, and he gives as a result that the latter is always distinguishable from the former by the following characters:—1. The antennæ are always black, with the exception of the first two joints, which are rusty-red; 2. The disk of the thorax is black, the colour generally being divided into two lateral spots, which, though often notably reduced in size, are never entirely absent; and, 3. The tibiæ are black at the basal and rust-coloured at the apical half. In the typical examples, also, the black colour of the under side of the body, where only the middle of the breast and the anus are red, is characteristic. *C. interruptus* is an abundant species in Brazil, including Para, whence the Berlin Museum obtained its specimens, whilst *C. cinctus* is found only in Columbia and thence further northward to Guatemala. I believe both will prove to be only geographical forms of one and the same species, as the great majority of the specimens which I obtained in the Amazon region, from Obydos to near the Peruvian frontier, partake of the characters of one and the other—a natural result when two forms are not decidedly distinct, seeing that this district of country lies between the ranges of the two extreme forms. Of eighteen examples now before me, one only agrees strictly with Gerstaecker's description of *C. interruptus*; it has the thorax, the tibiæ, and the under side of the body wholly red, the first four joints of the antennæ are red, and the fifth to the eighth are pitchy. It was taken at Obydos, on the Lower Amazons, in company with numerous individuals having most of the above-mentioned characters of *C. cinctus*. Of seventeen examples which I refer to *C. cinctus*, five have the thorax spotless red, the antennæ (except the basal two joints) and the base of the tibiæ remaining black, as they are in the other twelve. Two or three of the specimens have the sides of the breast, and one also the middle of the abdomen, dusky; with these exceptions, all have the whole of the under surface of the body clear rusty-red. In none of them is the disk of the thorax wholly black, as in the typical individuals of *C. cinctus*. We may conclude, therefore, from these considerations, that the two forms are related to each other, not as species, but as geographical varieties. By attending carefully to the geographical distribution of forms, we shall find that there are several gradations of relationship between them, and not merely the two

simple ones of variety and species. There is, first, the case of individual differences which arise amongst the members of one and the same species in one and the same locality: these can scarcely be called varieties, as they may exist amongst the offspring of the same parents. Secondly, there is the case of species which are tolerably constant to their type in one region whilst extremely variable in another. There are others which, in a distant locality, produce a variety which embraces all the individuals of the species existing there: in some cases there is an intermediate space, between the ranges of these varieties and their typical forms, which is unpeopled by either the species or its variety: in numerous instances, however, there exist no apparent natural barriers. The origin and maintenance of these defined local varieties is a highly interesting question: some of them have a great resemblance to their typical forms, whilst others differ greatly, although often more in appearance than in reality. It can be shown in some instances, where the local form is considered on all hands to be a perfectly distinct species, that all the points of difference from its parent form can be paralleled separately by instances in undoubted varieties of species of the same group. The first step in specific dissimilarity is afforded us by Nature in those instances where two closely allied forms, each inhabiting its separate area, live together in an intermediate district without amalgamating. The dissimilarity is proved to be incomplete when two forms, apparently specifically distinct, intermingle and produce connecting links when they meet together on the frontiers of their respective ranges. It is, however, I think, very desirable that the two or more forms in such cases should be treated separately in our books and placed separately in our collections, and therefore *C. interruptus* and *C. cinctus* may require their distinctive appellations. The tendency in systematic zoology to treat geographical forms as distinct species, has the advantage of exciting attention to the exact determination of the localities of specimens. A variation, which in one case might be an individual difference of little importance, becomes in another a scientific fact of the highest significance.

§ C. *Elytra very slightly convex; joints of the antennæ short and thick; abdomen of the male with conspicuous sexual marks on the ventral surface.*

16. *Corynomalus dentatus*, Fab.; Gerstaecker, Mon. p. 166.

I obtained, at Ega, one example only of this species, a male. It is darker in colour than any of the varieties mentioned by Gerstaecker

as occurring at Bogota, the only district in which the species has hitherto been found. The colour is bright rusty-red; the elytra are brassy-greenish-black, the outer margins and a narrower edge at the base bordering the scutellum with two short imperfect fasciæ and a triangular marginal spot rusty-red; the first fascia commences at the margin, behind the shoulders, curves downwards, and terminates about halfway to the suture; the second arises about the middle of the lateral margin and extends straight across without reaching the suture; the spot is on the margin, halfway between the second fascia and the apex, and marks the place where the third fascia originates in the typical examples. The rest is in accordance with the description of Gerstaecker.

XIV.—*Characters of undescribed Species of the Family* Chalcidæ. By F. Walker, F.L.S.

The following communication is the sequel of my remarks on the characters and distribution of the Chalcidites, which I commenced in the first Number of this Journal, by some notes on the Leucospidæ.

This part will contain descriptions of Chalcidæ, and observations on that family, which is usually placed next to the Leucospidæ; but there is no connecting link between the two groups, and, as it will afterwards appear, the Leucospidæ are associated with the rest of the Chalcidites by means of the Torymidæ.

The undescribed Chalcidæ are numerous, and in the following pages the characters of new species will precede the sketch of the geographical distribution of the family.

In these descriptions some of the generic names are retained, others are set aside. As in other cases, the characters of recently-discovered species of this family obliterate most of the distinctions between many of the established genera, and then ensues the alternative of making many new genera or of uniting the old genera; and this fact is an illustration of the rule, that an increase of knowledge modifies or changes, or does away with, all previous knowledge.

Smiera luteipennis. *Fœm.* Lutea, glabra, nitens; caput et thorax subpunctata; vertex niger; antennæ ferrugineæ, graciles, filiformes; scutum disco piceo; scutellum inerme; petiolus brevis; abdomen fusiforme, acuminatum, ferrugineo fasciatum; pedes anteriores nigro vittati; coxæ extus piceo subtus nigro vittatæ; femora postica subdentata, striga basali lata nigra; alæ limpidæ, apice cinereæ.

Mas? Antennæ nigræ; thorax luteus, striga lanceolata nigra; petiolus longissimus, supra niger; abdomen ellipticum, nigro vittatum; pedes lutei, coxis tibiisque posticis nigro vittatis; alæ amplæ.

Female. Luteous, smooth, shining. Head and thorax very minutely punctured. Head pale yellow, vertex and grooves for the antennæ black. Antennæ ferruginous, slender, filiform; scape pale yellowish beneath towards the base. Prothorax yellow. Mesothorax with the disk of the scutum piceous; scutellum unarmed. Abdomen fusiform, acuminated, slightly compressed, with ferruginous bands, much longer and narrower than the thorax; petiole short. Anterior femora and tibiæ with black stripes; hind coxæ very long, with a piceous stripe on the outer side and with a black stripe beneath; hind femora much incrassated, minutely dentate, with a broad black basal streak. Wings limpid, cinereous towards the tips; veins luteous, black towards the tips; ulna a little less than half the length of the humerus, shorter than the radius; cubitus short. Length of the body 5 lines; of the wings 8 lines.

Villa Nova. Discovered by Mr. Bates. In the British Museum.

Male? Flagellum of the antennæ black. Thorax wholly luteous, except a black streak, which is broad on the hinder half of the scutum and slender on the scutellum. Petiole very long, black above. Abdomen elliptical, hardly longer than the petiole, with a broad black stripe which does not extend to the base. Legs wholly luteous, except a black stripe on each of the hind coxæ, and another on each of the hind tibiæ. Wings darker towards the tips and more ample than those of the female.

St. Paulo. Discovered by Mr. Bates. In the British Museum.

Smiera dux. *Fœm.* Lutea, glabra, nitens; caput et thorax punctata; antennæ piceæ, filiformes, apice rufescentes; scutum nigro quadristrigatum; scutellum bidentatum, nigro fasciatum; metathorax basi nigro fasciatus; petiolus brevissimus; abdomen lanceolatum, fasciis duabus piceis unaque nigra; coxæ posticæ extus nigro strigatæ; femora postica dentata; alæ cinereæ, anticæ apud costam lutescentes.

Female. Luteous, smooth, shining. Head and thorax punctured. Head with a short black band behind. Antennæ piceous, filiform, reddish at the tips; scape luteous beneath. Scutum with four black streaks which converge to the black suture between it and the scutellum, the latter with a black band near the bidentate hind border; metathorax with a short black band at the base. Abdomen lanceolate, narrower and very much longer than the thorax, with a black band near the base, and with two piceous bands in the middle; petiole very short. Hind coxæ with a black streak on the outer side; hind femora incrassated, armed with several rather large black-tipped teeth; basal tooth very large and acute. Wings cinereous; veins piceous. Fore wings with a luteous tinge along the costa; ulna about half the length

of the humerus; radius not longer than the ulna; cubitus short. Length of the body 6 lines; of the wings 7 lines.

Para. Discovered by Mr. Bates. In the British Museum.

SMIERA LANCEOLATA. *Fœm.* Lutea; caput et thorax subpunctata, illum antice flavum; antennæ piceæ, filiformes, apice luteæ, scapo fulvo; scutum nigro quadrimaculatum; scutellum bidentatum, nigro bifasciatum; metathorax nigro unifasciatus; abdomen lanceolatum, fasciatum; coxæ posticæ vittatæ; femora postica dentata; alæ longæ, cinereæ.

Female. Luteous. Head and thorax minutely punctured. Head yellow in front. Antennæ piceous, filiform, luteous at the tips; scape tawny; scutum with a black spot on each side of the fore border, and with a black exterior spot on each side hindward; scutellum with a black band at the base extending to the paraptera, and with a black band near the hind border, which is armed with two short teeth; metathorax with a short black band. Abdomen lanceolate, slightly compressed, a little narrower and much longer than the thorax, extending a little beyond the fore wings; a darker band on each segment. Hind coxæ long, with a darker stripe on the outer side; hind femora incrassated, with several large teeth beneath, the basal tooth very large. Wings long, cinereous; veins tawny; ulna full half the length of the humerus; radius a little shorter than the ulna; cubitus short. Length of the body $4\frac{1}{2}$ lines; of the wings 8 lines.

Santarem. Discovered by Mr. Bates. In the British Museum.

SMIERA COSTALIS. *Fœm.* Lutea, glabra, nitens; caput et thorax punctata; antennæ nigræ, filiformes, subtus apiceque rufescentes, scapo luteo; scutum nigro trivittatum; paraptera nigro guttata; scutellum inerme, nigro vittatum; petiolus longus, nigro bilineatus; abdomen ferrugineum, fusiforme; coxæ posticæ extus nigro lineatæ; femora postica dentata; alæ cinereæ, amplæ, anticæ apud costam fuscescentes.

Female. Luteous, smooth, shining. Head and thorax punctured. Antennæ black, filiform, reddish beneath and at the tips; scape luteous. Scutum with three black stripes; one discal, triangular, attenuated hindward, and one on each of the parapsides; a black dot on each of the paraptera; scutellum unarmed, with a black stripe, which is dilated hindward. Petiole long, shorter than the hind coxæ, with a black line on each side. Abdomen fusiform, ferruginous, except at the base and beneath, narrower than the thorax, more than twice the length of the petiole. Hind coxæ with a black line on the outer side; hind femora incrassated, with large black-tipped teeth. Wings cinereous, ample; veins piceous. Fore wings with a brownish tinge along the costa; ulna about half the length of the humerus; radius as long as the ulna; cubitus short. Length of the body $4\frac{1}{2}$ lines; of the wings 8 lines.

Para. Discovered by Mr. Bates. In the British Museum.

Smiera demonstrata. *Fœm.* Lutea, glabra, nitens; caput et thorax subpunctata; antennæ nigræ, graciles, filiformes, scapo luteo; thorax disco nigro; scutellum inerme, nigro maculatum; petiolus brevis; abdomen lanceolatum, supra ferrugineum; coxæ posticæ nigræ; femora dentata, basi apiceque nigra; tibiæ posticæ apice nigræ; alæ cinereæ.

Female. Luteous, smooth, shining. Head and thorax very finely punctured. Head black behind. Antennæ black, slender, filiform; scape luteous. Paraptera, disk of the scutum, and disks of the parapsides black; scutellum unarmed, with a round black spot. Petiole short. Abdomen lanceolate, ferruginous above except towards the tip, much longer and narrower than the thorax. Hind coxæ long, black; hind femora much incrassated, black at the base and at the tips, armed beneath with very large teeth; hind tibiæ with black tips. Wings cinereous; veins black; ulna full half the length of the humerus; radius a little shorter than the ulna; cubitus short. Length of the body 4 lines; of the wings 6 lines.

Villa Nova. Discovered by Mr. Bates. In the British Museum.

Smiera imitator. *Fœm.* Lutea, glabra, nitens; caput et thorax subpunctata; scutum nigro strigatum; scutellum inerme, macula discali elongata nigra; pectus nigro biguttatum; petiolus brevissimus; abdomen lanceolatum, ferrugineo fasciatum; coxæ posticæ apice nigræ; femora postica subdentata, nigro biguttata; alæ cinereæ, breviusculæ.

Female. Luteous, smooth, shining. Head and thorax minutely punctured. Antennæ mutilated. Scutum with a black longitudinal line and with a short black streak on the suture of each of the parapsides; scutellum unarmed, with an elongated black spot on the disk; a black dot on each side of the pectus. Abdomen lanceolate, extending beyond the fore wings, narrower and a little longer than the thorax, with ferruginous bands, two of these mostly blackish; petiole very short. Hind coxæ with black tips; hind femora much incrassated, minutely dentate, with a black dot on each outer disk and a black apical dot. Wings cinereous, rather short; veins piceous; ulna about half the length of the humerus; radius as long as the ulna; cubitus very short. Length of the body $3\frac{1}{2}$ lines; of the wings 5 lines.

Santarem. Discovered by Mr. Bates. In the British Museum.

Smiera obliterans. *Mas.* Lutea, glabra, nitens; antennæ nigræ, filiformes, subtus rufescentes, scapo subtus flavo; parapsides nigro unipunctatæ; scutellum bidentatum, nigro lineatum; petiolus flavus, sat longus; abdomen fusiforme; coxæ posticæ apice nigræ; femora postica dentata; alæ cinereæ, apice obscuriores.

Fœm. Scutum nigro bilineatum; scutellum nigro vittatum; petiolus brevissimus; abdomen lanceolatum, strigis transversis lateralibus nigris.

Male. Luteous, smooth, shining. Head yellow in front, with a black line behind. Antennæ black, filiform, reddish beneath; scape yellow beneath. Parapsides with a black point on each; scutellum

bidentate, with a short black longitudinal line. Petiole yellow, less than half the length of the hind coxæ. Abdomen fusiform, much shorter and narrower than the thorax. Hind coxæ with black tips; hind femora incrassated, with large black teeth. Wings cinereous, darker towards the tips; veins black; ulna about half the length of the humerus; radius as long as the ulna; cubitus short. Length of the body $3\frac{1}{2}$ lines; of the wings 6 lines.

Female. Scutum with two black lines which are united hindward; scutellum with a lanceolate black stripe. Petiole very short. Abdomen lanceolate, much longer than the thorax; segments with black transverse streaks on each side. Length of the body $4\frac{1}{2}$ lines; of the wings 7 lines.

Santarem. Discovered by Mr. Bates. In the British Museum.

Smiera congrua. *Fœm.* Lutea, glabra, nitens; caput et thorax scitissime punctata; antennæ nigræ, longæ, graciles, filiformes, scapo luteo; thorax punctis duobus lateralibus nigris, scutello bidentato; abdomen lanceolatum, ferrugineo fasciatum, petiolo breviusculo; femora postica subdentata; alæ limpidæ, sat parvæ, venis luteis.

Female. Luteous, smooth, shining. Head and thorax very finely punctured. Head oblique in front, face very concave. Antennæ black, long, slender, filiform, much longer than the thorax; scape luteous. Thorax with a black point at the base of each fore wing; scutellum with two very minute teeth. Abdomen lanceolate, slightly compressed, much narrower but hardly longer than the thorax, with a ferruginous band on the fore borders of each segment; dorsal ridge slightly undulating; petiole less than half the length of the hind coxæ. Hind femora incrassated, very minutely dentate. Wings limpid, rather small; veins luteous; ulna a little less than half the length of the humerus; radius a little longer than the ulna; cubitus short, with a black stigma. Length of the body $3\frac{1}{2}$ lines; of the wings 5 lines.

Santarem. Discovered by Mr. Bates. In the British Museum.

Smiera decisa. *Mas.* Lutea, glabra, nitens; caput et thorax scitissime punctata; antennæ rufescentes, filiformes, apices versus nigræ; scutum nigro trivittatum; scutellum bidentatum, nigro vittatum; petiolus flavus, longiusculus; abdomen ovatum, gibbum, nigricante quadriguttatum; coxæ posticæ apice nigræ; femora postica dentata, nigro extus trimaculata; alæ cinereæ.

Male. Luteous, smooth, shining. Head and thorax very finely punctured. Head black behind. Antennæ reddish, filiform, black towards the tips. Scutum with a black discal stripe, which is dilated in front, and with a black oblique stripe on each side; scutellum bidentate, with a black stripe which is dilated hindward. Petiole yellow, slender, full half the length of the hind coxæ. Abdomen oval, gibbous, much shorter and very much narrower than the thorax, with two blackish dots on each side. Hind coxæ with black tips; hind

femora much incrassated, with large teeth, with two black spots on the outer side, the second apical. Wings cinereous; veins black; ulna a little more than half the length of the humerus; radius a little shorter than the ulna; cubitus very short. Length of the body $2\frac{1}{2}$ lines; of the wings $4\frac{1}{2}$ lines.

St. Paulo. Discovered by Mr. Bates. In the British Museum.

Smiera sordida. *Fœm.* Lutea, glabra, nitens; caput et thorax subpunctata; antennæ nigræ, filiformes, breviusculæ, scapo luteo; scutum nigro quadristrigatum et postice marginatum; scutellum inerme, macula nigra elongata trigona; petiolus brevis; abdomen fusiforme, acuminatum, basi fasciisque pallidioribus; coxæ posticæ apice nigro strigatæ; femora postica subdentata, intus nigro bimaculata, apice piceo maculata; alæ cinereæ, amplæ, apud costam lutescentes.

Female. Luteous, smooth, shining. Head and thorax minutely punctured, the former with a black transverse line behind. Antennæ black, filiform, rather short; scape luteous. Scutum with two black streaks, which are connected hindward and join in a slender line the black hind border; a black streak on each of the parapsides; scutellum unarmed, with an elongated triangular black spot. Abdomen fusiform, acuminated, slightly compressed, paler at the base and on the hind border of each segment, much narrower but hardly longer than the thorax; petiole short. Hind coxæ very long, with a black streak above towards the tips; hind femora very minutely dentate, with two black spots on the inner side and with a piceous apical spot. Wings cinereous, ample, with a luteous tinge along the costa except towards the tips; veins black; ulna about half the length of the humerus; radius nearly as long as the ulna; cubitus very short. Length of the body 4 lines; of the wings 8 lines.

Villa Nova. Discovered by Mr. Bates. In the British Museum.

Smiera abdominalis. *Mas.* Lutea, glabra, nitens; caput et thorax subpunctata; antennæ nigræ, breves, robustæ, filiformes, apice scapoque luteis; scutum et parapsides discis nigris; scutellum inerme, nigro marginatum; metathorax niger, scaber; petiolus longus, niger; abdomen ovatum, gibbum, supra piceum flavo fasciatum; coxæ posticæ supra nigræ; femora postica subdentata, macula discali apicibusque nigris; alæ fuscescentes, apice cinereæ.

Male. Luteous, smooth, shining. Head and thorax minutely punctured. Head black behind. Antennæ black, short, stout, filiform; tips and scape luteous. Prothorax black along the fore border; disks of the scutum and of the parapsides black; scutellum unarmed, black along the fore and hind border; paraptera and metathorax black, the latter scabrous. Petiole, long, black. Abdomen oval, gibbous, very much shorter and narrower than the thorax, piceous above, with a yellow middle band. Hind coxæ black above; hind femora much incrassated, minutely dentate, with a black spot on each disk and with

black tips. Wings brownish, cinereous towards the tips; veins black; ulna thick, hardly half the length of the humerus; radius a little longer than the ulna; cubitus very short. Length of the body $2\frac{1}{2}$ lines; of the wings 5 lines.

Orizaba, Mexico. Discovered by M. Sallé. In the British Museum.

Smiera discalis. *Mas.* Fulva, glabra, nitens; caput et thorax subpunctata; caput vertice nigro, facie flavescente; antennæ piceæ, filiformes, scapo fulvo; thorax pubescens, nigro trimaculatus, scutello inermi; abdomen longi-ellipticum, petiolo brevi; coxæ posticæ apice nigræ; femora postica dentata; alæ cinereæ, anticæ apud costam luridæ.

Male. Tawny, smooth, shining. Head and thorax minutely punctured. Head with the vertex mostly black; face pale yellowish. Antennæ filiform, piceous; scape tawny. Thorax pubescent, with a large discal black spot, and a small elongated black spot on each side of the scutum; scutellum unarmed. Abdomen with darker bands, elongate elliptical, slightly compressed; much narrower, but hardly shorter than the thorax; petiole hardly one-fourth of the length of the abdomen. Hind coxæ very long, with black tips; hind femora incrassated, armed with several large teeth. Wings cinereous; veins piceous. Fore wings with a lurid tinge along the costa; ulna about half the length of the humerus; radius almost as long as the ulna; cubitus rather long for this family. Length of the body $3\frac{1}{2}$ lines; of the wings 6 lines.

Ega. Discovered by Mr. Bates. In the British Museum.

Smiera divisa. *Mas* et *Fœm.* Nigra, glabra, nitens; caput et thorax scite punctata; caput antice flavo bimaculatum; antennæ maris filiformes, fœm. subclavatæ; thorax flavo bifasciatus, scutello inermi, metathorace scabro; abdomen compressum, breve, gibbosum, petiolo flavo, fœm. longo, maris longissimo; femora postica dentata; tibiæ posticæ flavo unimaculatæ; alæ cinereæ, anticæ apud costam luridæ.

Male and *Female.* Black, smooth, shining. Head and thorax minutely punctured. Head with a yellow spot on each side of the front; this spot much larger in the male than in the female. Antennæ filiform, and longer than the thorax in the male, subclavate, and a little shorter in the female. Thorax with a yellow curved band in front; scutellum unarmed, with a yellow hind border; metathorax roughly scabrous. Abdomen compressed, short, gibbous; petiole yellow, long, slender, nearly as long as the hind coxæ in the male. Hind coxæ very long; hind femora much incrassated, armed beneath with one large and several small teeth; hind tibiæ with a yellow spot. Wings cinereous; veins black. Fore wings with a lurid tinge along the costæ; ulna more than half the length of the humerus; radius shorter than the ulna; cubitus very short. *Male.* Tarsi reddish; anterior tibiæ yellow beneath; hind femora with two yellow stripes on the outer side. *Female.* Hind

femora with one yellow stripe on the outer side. Length of the body 3–3½ lines; of the wings 6 lines.

Orizaba, Mexico. Discovered by M. Sallé. In the British Museum.

Smiera mesomelas. *Fœm.* Fulva, glabra, nitens; caput et thorax subpunctata; antennæ piceæ, filiformes, longiusculæ, sat graciles, apice nigræ, scapo fulvo; thorax pubescens, scutello inermi, metathorace scabro; abdomen nigrum, lanceolatum, apice fulvum, petiolo breviusculo; femora posteriora basi nigra, postica subdentata; tibiæ posticæ apice nigræ; tarsi postici basi nigri; alæ cinereæ, anticæ apud costam fulvescentes.

Female. Tawny, smooth, shining. Head and thorax very minutely punctured. Antennæ piceous, filiform, rather long and slender, black towards the tips; scape tawny. Thorax pubescent; scutellum unarmed; metathorax roughly scabrous. Petiole black, less than half the length of the hind coxæ. Abdomen black, lanceolate, slightly compressed, longer and narrower than the thorax, tawny towards the tip. Posterior femora black towards the base; hind femora much incrassated, with many very minute teeth, and with one large tooth near the base; hind tibiæ with black tips; hind tarsi black towards the base. Wings cinereous; veins piceous. Fore wings with a tawny tinge along the costa; ulna about half the length of the humerus; radius longer than the ulna; cubitus short. Length of the body 5 lines; of the wings 8 lines.

Ega. Discovered by Mr. Bates. In the British Museum.

Smiera erythrina. *Fœm.* Rufa, glabra, nitens; caput et thorax subpunctata; caput antice flavescens; antennæ nigræ, filiformes, breviusculæ, scapo rufo; thorax linea transversa vittaque tenui pectorisque disco nigris, scutello inermi; abdomen brevi-fusiforme, parvum, petiolo breviusculo, segmentis piceo fasciatis; coxæ posticæ nigro vittatæ; femora postica subdentata, intus nigro vittata; alæ cinereæ.

Female. Red, smooth, shining. Head and thorax minutely punctured. Head yellowish in front, with a black mark behind. Antennæ black, filiform, rather short; scape red. Prothorax short, with a black sutural line between it and the mesothorax; scutum of the latter with a black longitudinal line; scutellum unarmed; pectus mostly black. Petiole less than half the length of the hind coxæ. Abdomen short, fusiform, acuminated, slightly compressed, shorter, and much narnower than the thorax; segments with piceous bands on the fore-borders. Hind coxæ with a black stripe on each side; hind femora much incrassated, with a black streak and a lower black stripe on the inner side, armed beneath with many minute teeth. Wings cinereous; veins black; ulna about half the length of the humerus; radius a little longer than the ulna; cubitus short, clouded with black. Length of the body 3½ lines; of the wings 6 lines.

Orizaba, Mexico. Discovered by M. Sallé. In the British Museum.

Smiera melanoptera. *Mas.* Lutea, glabra, nitens; caput et thorax subpunctata; caput nigrum; antennæ nigræ, filiformes, scapo luteo; scutum disco punctisque duobus nigris; scutellum bidentatum, gutta basali nigra; petiolus longissimus; abdomen longi-ovatum, dimidio apicali supra nigro; coxæ posticæ apice nigro strigatæ; femora postica subdentata, basi subtus nigro notata; alæ nigræ, apices versus cinereæ.

Male. Luteous, smooth, shining. Head and thorax minutely punctured. Head black. Antennæ black, filiform; scape luteous. Scutum with a black disk, and with a black point on the hind border of each of the parapsides; scutellum with a black dot on the base, and with two minute teeth. Abdomen elongate, oval, hardly longer than the very long petiole; apical half black above. Hind coxæ very long, with a black apical streak on the outer side; hind femora much incrassated, minutely dentate, with a black mark near the base beneath. Wings black, cinereous towards the tips and along most of the hind border; veins black; ulna a little more than half the length of the humerus; radius a little shorter than the ulna; cubitus very short. Length of the body 3½ lines; of the wings 6 lines.

Venezuela. Discovered by Mr. Dyson. In the British Museum.

Smiera discolor. *Fœm.* Nigra, glabra, nitens; caput et thorax subpunctata; antennæ filiformes, sat robustæ; prothorax postice flavo marginatus; mesothorax flavo quadrinotatus, scutello inermi, metathorace scabro; abdomen longi-ovatum, basi sordide flavescens, petiolo brevissimo; pedes albido-flavi, femoribus posticis nigris subdentatis flavo fasciatis, tibiis posticis nigris; alæ cinereæ, subluridescentes.

Female. Black, smooth, shining. Head and thorax minutely punctured. Antennæ filiform, rather stout. Prothorax with a yellow band on its hind border. Scutum with two yellow streaks along the sutures of the parapsides; scutellum unarmed, with two yellow oblique oblong spots which are almost connected hindward; metathorax largely scabrous, with a yellowish spot on each side. Abdomen elongate-oval, narrower and a little shorter than the thorax, dingy yellowish towards the base; petiole very short. Legs whitish-yellow; hind femora black, much incrassated, very minutely dentate beneath, with a broad irregular yellow band towards the tips; hind tibiæ black. Wings cinereous, with a slight lurid tinge; veins black; ulna less than half the length of the humerus; radius a little longer than the ulna; cubitus short. Length of the body 3 lines; of the wings 6 lines.

St. Paulo. Discovered by Mr. Bates. In the British Museum.

Smiera nebulosa. *Fœm.* Fulva, glabra, nitens; caput et thorax subpunctata; antennæ piceæ, filiformes, apice fulvæ; scutellum inerme; metathorax flavescens; abdomen ovatum, acuminatum, subcompressum, petiolo longo flavescente; femora postica subdentata; alæ longiusculæ; anticæ cinereæ, margine exteriore subnigricante, vitta costali nigricante; posticæ subnigricantes, vitta discali cinerea.

Female. Tawny, smooth, shining. Head and thorax very minutely

punctured. Antennæ piceous, filiform, tawny at the tips. Scutellum unarmed. Metathorax pale yellowish, smooth, shining. Abdomen oval, acuminated, slightly compressed; petiole pale yellowish, a little more than half the length of the abdomen. Hind coxæ very long; hind femora incrassated, armed with many very minute teeth. Wings rather long; veins black; fore wings cinereous, with a blackish costal stripe which widens from the base to the cubitus, where it occupies half the breadth of the wing and there terminates; tips and hind border less blackish; ulna more than half the length of the humerus, a little longer than the radius; cubitus rather long for this family. Hind wings blackish, excepting the base and a discal stripe. Length of the body $2\frac{1}{2}$ lines; of the wings 5 lines.

Ega. Discovered by Mr. Bates. In the British Museum.

Smiera tenebrosa. *Mas.* Nigra, glabra, nitens; caput et thorax subpunctata; oculi flavo cincti; antennæ breves, robustæ, filiformes; thorax flavo quadrimaculatus, scutello inermi, metathorace scabro; abdomen parvum, gibbosum, petiolo brevissimo; pedes flavi, coxis posticis nigris, femoribus posticis subdentatis nigro notatis, tibiis posticis basi apiceque nigris; alæ nigricantes.

Male. Black, smooth, shining. Head and thorax minutely punctured. Eyes with yellow orbits, which are broadest on the face, and interrupted on each side of the vertex. Antennæ short, stout, compact, filiform. Thorax with a yellow spot on each side in front, and with another on each side of the scutellum, which is unarmed; metathorax roughly scabrous. Abdomen very small, gibbous, slightly compressed, less than half the length and not more than half the breadth of the thorax; petiole very short. Legs yellow; hind coxæ black, very long; hind femora much incrassated, armed beneath with many very minute teeth, with an angular black band which traverses the disk on each side and is connected on the inner side with an apical black spot; hind tibiæ black at the base and at the tips. Wings blackish, paler at the base and along the hind border; veins black. Fore wings with the ulna not more than one-fourth of the length of the humerus; radius as long as the ulna; cubitus short. Length of the body $2\frac{1}{2}$ lines; of the wings 6 lines.

Orizaba, Mexico. Discovered by M. Sallé. In the British Museum.

Smiera leucotelus. *Fœm.* Nigra, glabra, nitens; caput et thorax scite punctata; caput brevissimum; antennæ piceæ, filiformes, sat graciles; thorax brevis, fascia interrupta fulvescente, scutello inermi, metathorace scabro; abdomen ellipticum, stylo apicali filiformi longissimo, petiolo brevissimo; coxæ posticæ flavo bimaculatæ; femora postica dentata; alæ cinereæ, longæ.

Female. Black, smooth, shining. Head and thorax minutely punctured. Head very short. Antennæ piceous, filiform, rather slender, not longer than the thorax. Thorax short; scutum with an interrupted dull-tawny band on the hind border; scutellum unarmed:

metathorax roughly scabrous. Abdomen elliptical, terminating in a slender filiform compressed acute style which is as long as the preceding part, the latter not being longer than the thorax; petiole extremely short. Hind coxæ very long, with a yellow spot on each side; hind femora much incrassated, armed beneath with one large and several minute teeth. Wings cinereous, rather long; veins piceous; ulna about half the length of the humerus; radius longer than the ulna; cubitus less than one-fourth of the length of the ulna, but emitting a branch at its tip. Length of the body 4 lines; of the wings 8 lines.

Ega. Discovered by Mr. Bates. In the British Museum.

Smiera chrysomerus. *Fœm.* Nigra, nitens; antennæ subclavatæ, apice lanceolatæ, thorace paulo longiores, scapo subtus pallido; thorax punctatus, luteo sex-maculatus, scutello bispinoso; abdomen ovatum, subcompressum, apice acuminatum, petiolo longo; femora postica flava, basi nigra, subtus dentata; alæ cinereæ, venis ochraceis.

Female. Black, smooth, shining, slightly pubescent. Antennæ a little longer than the thorax; scape pale beneath; flagellum slightly thickening from the base outward, lanceolate towards the tip. Thorax roughly punctured, with a luteous spot on each humerus, and one by the base of each fore wing, and two on the hind border of the scutum; scutellum with two short spines. Abdomen oval, slightly compressed, acuminated towards the tip, narrower than the thorax; petiole full half the length of the hind coxæ. Hind femora yellow, very much incrassated, black towards the base, armed with several large teeth. Wings cinereous; veins ochraceous; humerus nearly twice the length of the ulna; radius not longer than the ulna; cubitus fully one-third of the length of the ulna. Length of the body $3\frac{1}{2}$ lines; of the wings $5\frac{1}{2}$ lines.

St. Paulo. Discovered by Mr. Bates. In the British Museum.

Smiera transversa. *Mas.* Nigra, glabra; antennæ filiformes, thorace non longiores, subtus ferrugineæ, scapo subtus flavescente; thorax scaber, scutello bispinoso; abdomen ovatum, flavo bifasciatum, petiolo longo; coxæ posticæ flavo vittatæ; femora postica flavo bistrigata; alæ cinereæ.

Fœm. Petiolus brevior; abdomen longi-ovatum.

Male. Black, smooth, shining, pubescent. Antennæ filiform, as long as the thorax, ferruginous beneath; scape yellowish beneath. Thorax roughly scabrous or punctured; scutellum with two short obtuse spines. Abdomen oval, shorter and narrower than the thorax, with short slender yellow bands; petiole cylindrical, about half the length of the hind coxæ, which are striped with yellow. Hind femora much incrassated, with a broad yellow streak on each side. Wings cinereous; veins piceous; humerus much more than twice the length of the ulna; radius a little longer than the ulna; cubitus less than one-third of the length of the ulna; spurious veins distinct.

Female. Petiole shorter than that of the male. Abdomen elongate-oval. Length of the body 3 lines; of the wings 5 lines.

Ega; Tapayos. Discovered by Mr. Bates. In the British Museum.

Chalcis compacta. *Mas.* Nigra, brevis, crassa, glabra, nitens; caput et thorax rude punctata; antennæ breves, robustæ; thorax flavo quadripunctatus; scutellum bidentatum; metathorax scaber; petiolus brevissimus; abdomen brevi-ellipticum, gibbosum, lateribus apicem versus cinereo-pubescentibus; pedes flavi, coxis femoribusque nigris, his apice flavis, tibiis anterioribus nigro strigatis, tibiis posticis basi intusque nigris; alæ obscure cinereæ.

Male. Black, short, thick, smooth, shining. Head and thorax roughly punctured. Antennæ short, stout. Thorax with a yellow callus at the base of each fore wing, and with a yellow dot on each of the paraptera; scutellum bidentate; metathorax largely scabrous. Petiole extremely short. Abdomen short, elliptical, somewhat gibbous, much shorter and narrower than the thorax, with cinereous down on each side towards the tip. Legs yellow; coxæ and femora black, the latter with yellow tips; hind femora much incrassated, with many very minute teeth; anterior tibiæ with a black streak on each side; hind tibiæ black at the base and on the inner side. Wings dark cinereous; veins black; ulna less than half the length of the humerus; radius hardly one-third of the length of the ulna; cubitus very short. Length of the body 3 lines; of the wings 7 lines.

Orizaba, Mexico. Discovered by M. Sallé. In the British Museum.

Chalcis vicaria. *Mas.* Nigra, glabra, nitens; caput et thorax rude punctata; antennæ filiformes; thorax callis duobus lateralibus flavis; scutellum inerme, apice cinereo-pubescens; petiolus brevissimus; abdomen longi-ovatum, apicem versus utrinque cinereo-tomentosum; pedes flavi, coxis femoribusque nigris, his apice flavis, tibiis subtus nigris; alæ cinereæ.

Male. Black, smooth, shining. Head and thorax roughly punctured. Head deeply excavated in front for the reception of the scape of the filiform antennæ. Thorax with a yellow callus at the base of each fore wing; scutellum unarmed, with cinereous down at the tip. Petiole extremely short. Abdomen elongate-oval, with cinereous down on each side towards the tip, a little narrower but not longer than the thorax. Legs yellow; coxæ and femora black, the latter with yellow tips; hind femora much incrassated, with many very minute teeth; tibiæ mostly black beneath. Wings cinereous; veins black; ulna about half the length of the humerus; radius less than half the length of the ulna; cubitus very short. Length of the body 3½ lines; of the wings 7 lines.

Ega. Discovered by Mr. Bates. In the British Museum.

Chalcis stylata. *Fem.* Nigra, glabra, nitens; caput et thorax scabra; caput breve, postice argenteo-pubescens, facie perobliqua; antennæ

filiformes, scapo subtus rufescente; scutellum bidentatum; abdomen ovatum, lineis tribus lateralibus argenteo-pubescentibus, apicem versus stylatum compressum, petiolo brevissimo; tarsi rufi; femora postica dentata; alæ cinereæ.

Female. Black, smooth, shining. Head and thorax scabrous. Head short, with shining slightly silvery pubescence behind; face very oblique. Antennæ filiform, stout, as long as the thorax; scape reddish beneath. Scutellum armed with two short teeth. Abdomen much longer than the thorax, ovate, except the apical third part, which is stylate, compressed, truncate at the tip; three lateral transverse lines of silvery pubescence; petiole very short. Tarsi red; hind coxæ very long; hind femora much incrassated, armed beneath with several small teeth. Wings cinereous; veins black. Fore wings with the cubitus and the tip of the humerus clouded with black; ulna stout, about half the length of the humerus; radius and cubitus equal in length, not more than one-fourth of the length of the ulna. Length of the body 5 lines; of the wings 7 lines.

Ega. Discovered by Mr. Bates. In the British Museum.

Chalcis aculeata. *Fœm.* Nigra, glabra, nitens; caput et thorax rude punctata; antennæ subclavatæ; thorax callis duobus flavis, scutello inermi; abdomen cinereo-pubescens, dimidio apicali compresso lanceolato; femora apice, tibiæ tarsique flava; femora postica dentata; tibiæ intermediæ subtus nigro uninotatæ, posticæ subtus nigræ; alæ cinereæ, breviusculæ.

Female. Black, smooth, shining. Head and thorax largely punctured. Antennæ subclavate, conical at the tips, shorter than the thorax. Thorax with a yellow callus at the base of each fore wing; scutellum unarmed. Abdomen with cinereous pubescence except towards the base, extending much beyond the fore wings, very much longer than the thorax; apical half compressed, attenuated and lanceolate. Tibiæ, tarsi, and tips of femora yellow; middle tibiæ with a black mark beneath; hind femora much incrassated, with several small teeth beneath; hind tibiæ black beneath. Wings cinereous, rather short; veins black; ulna full half the length of the humerus, longer than the radius; cubitus not more than one-sixth of the length of the ulna. Length of the body 4 lines; of the wings 5 lines.

Santarem. Discovered by Mr. Bates. In the British Museum.

Haltichella erythrotelus. *Fœm.* Nigra, glabra, nitens; caput antice scabrum; antennæ filiformes, apices versus rufæ; thorax rude punctatus, scutello bispinoso; abdomen dimidio apicali rufo lanceolato, petiolo brevi; femora anteriora intus apices versus rufescentia, postica dentata; alæ cinereæ, basi nigricantes.

Female. Black, smooth, shining, slightly pubescent. Head flat and scabrous in front. Antennæ filiform, a little longer than the thorax, red for more than one-third of the length from the tips. Thorax roughly punctured: scutellum with two short spines. Abdomen not

extending beyond the fore wings; apical half red, attenuated and lanceolate, pilose beneath; petiole short. Anterior femora reddish on the inner side towards the tips; hind femora much incrassated, armed beneath with several small teeth. Wings cinereous, blackish towards the base. Fore wings lurid about the middle part of the costa; humerus about twice the length of the ulna; radius and cubitus about equal in length, not more than one-fourth of the length of the ulna. Length of the body 4 lines; of the wings 6 lines.

Ega. Discovered by Mr. Bates. In the British Museum.

HALTICHELLA DORSALIS. *Fœm.* Rufa, glabra, nitens; caput et thorax punctata; caput, metathorax et pectus nigra; antennæ nigræ, longiusculæ, subfiliformes; petiolus brevissimus; abdomen lanceolatum, apice nigrum; pedes nigri, genubus albis, tibiis apice tarsisque rufescentibus; alæ cinereæ.

Female. Red, smooth, shining. Head and thorax thickly punctured. Head black, a little broader than the thorax. Antennæ black, rather long, hardly thicker towards the tips. Metathorax and pectus black. Petiole very short. Abdomen lanceolate, a little longer and narrower than the thorax, black towards the tip. Legs black; knees white; hind femora incrassated, minutely dentate; tarsi and tips of the tibiæ reddish. Wings cinereous; veins black; ulna less than half the length of the humerus; radius and cubitus very short. Length of the body 2½ lines; of the wings 5 lines.

Santarem. Discovered by Mr. Bates. In the British Museum.

XV.—*Réflexions et Notes synonymiques sur le Travail de* M. JAMES THOMSON *sur les Cérambycides*, avec descriptions de quelques nouvelles espèces.* Par A. CHEVROLAT.

POUR un travail tel que l'indique M. J. Thomson, il était nécessaire que l'auteur eut préalablement reconnu ou fit déterminer les espèces de sa collection, c'est ce qu'il n'a pas fait complètement, comme on le verra ci-après.

Ces recherches, en effet, prennent un temps infini; il faut en outre une certaine habitude, une certaine sagacité dans l'appréciation des termes dont quelques auteurs se sont servis pour décrire la forme des espèces, les couleurs, les ponctuations variées, etc.

Depuis plus de vingt ans que j'étudie plus particulièrement cette famille, je réunis des matériaux, afin d'éditer un catalogue des espèces décrites, quand la classification sera établie d'une manière à peu près définitive; bien que je reconnaisse chaque jour quelques unes de ces espèces, je suis loin de croire avoir déterminé toutes celles

* "Essai d'une classification de la famille des Cérambycides, et matériaux pour servir à une monographie de cette famille. Pars prima, Sur les *Lamiitæ*." Par M. James Thomson. Paris, 1860.

de ma collection, qui est l'une, sinon des plus riches en belles espèces, du moins l'une des plus nombreuses, puisqu'elle renferme au moins 5000 de ces Coléoptères.

Quant à la partie générique, M. Thomson me parait avoir été plus heureux et posséder un don particulier pour cette étude. Ses genres sont bons et assez bien groupés. Il est vrai que M. John Leconte, son compatriote, dont le coup d'œil et l'esprit méthodique avait déjà posé la base d'une classification rationnelle pour les Longicornes des Etats-Unis, lui avait ouvert une voie plus large pour l'application aux Cérambycides de tous pays. Il est regrettable que la collection de M. Thomson ne soit pas plus pourvue qu'elle ne l'est de ces insectes, et qu'il ait négligé de mentionner des genres bien connus, qui doivent faire partie de cette tribu, sur laquelle il reviendra sans doute plus tard.

Une critique que je me permettrai de lui adresser, c'est de n'avoir pas adopté certains genres par le seul motif qu'ils n'auraient pas été caractérisés d'une manière assez détaillée, ou parceque la consonnance du nom, bien qu'ayant une racine distincte*, pouvait donner lieu à confusion ; dans ce dernier cas l'auteur a appliqué des noms nouveaux, ce qui est certainement plus nuisible qu'utile à la science.

Page 6.—1. *Steirastoma larva*, Th. (non Dej.). Syn. *S. histrionica*, White, Cat. B. M. p. 354. 8.—M. Thomson a confondu sous ce nom deux espèces, l'une du Mexique, sur laquelle repose sa description, et l'autre de Venezuela qui reste inédite ; en voici la diagnose :—

Steirastoma larva, (Dej., nec Th.) Chevr. Nigrum, nitidum, indumento fusco vel brunneo indutum ; antennis, basi prætermissa, in thorace macula laterali ante medium, in elytris maculis duabus, 1ª infra humerum, 2ª in medio longitudinis et latitudinis, tribusque in singulo latere abdominis, albis ; elytris singulatim quinque-costatis, secunda interna, basi flexuosa, tuberculis aliquot externis seriatim dispositis, fasciolis tribus ochraceis, interrupte et flexuose dispositis.—Long. 18–19, lat. $7\frac{1}{2}$ mill.—*Hab.* Venezuela.

Contour des yeux jaunâtre avec un trait en avant de même couleur. Antennes d'un blanc soyeux, à 1er article noir, aplati en dessus, disposé en massue, et non anguleux (comme cela se voit chez l'*histrionica*) ; corselet ayant 3 côtes, 2 obliques, quelques points seulement, sur le disque, vers la base et le sommet. Corps en dessous d'un noir brillant.

Chez le *S. histrionica* les 2 carènes du corselet se trouvent interrompues et les élytres sont d'un gris rougeâtre, à pointillé noir.

* Exemple : *Cosmotoma*, Dej. (ornement, coupure) ; *Beltista*, Th. ; *Cosmisoma*, Serv. (ornement, corps).

Page 10.—6. *Alphus leuconotus*, Th. Syn. *A. sellatus*, Dej. Cat. iii. p. 363.

Page 13.—8. *Eutrypanus Venezuelensis*, Th. Syn. *E. nitidus*, White, Cat. B. M. p. 371. 3. pl. 9. f. 4, 1855.

Page 14.—G. 13. *Hetœmis*, Hald., Th. Syn. *Dorcaschema*, (Dej.) Lec. Type, *Saperda cinerea*, Ol., *Juglandis*, Hald. Le *Cer. 3-lineatus*, Linn., ne s'applique nullement à cette espèce, mais bien à un *Ptychoderes*, d'après mes notes et une citation même de M. Thomson, p. 105.

Page 14.—G. 14. *Canidia*, Th. Arch. i. pp. 193, 326, 1857. Syn. *Dectis*, Lec. A. N. S. iv. 2 Janv. 1852, p. 144 : *Hetœmis*, Dej. Cat. 3 éd. p. 374, 1837. Type : *D. spinosa*, Say, Journ. A. N. S. i. 271 : Syn. *H. cinerascens*, Dej.—Les genres *Hetœmis*, Hald., Th., et *Canidia*, Th., rentrent dans le 2e groupe de l'auteur, tandis que le genre *Dectis* (*Canidia*, syn.) est placé dans son 16e groupe. La manière de voir les cavités cotyloïdes du genre *Hetœmis*, entre MM. Leconte et Thomson, ne peut résulter que de l'examen de types différents.

Page 15.—15. *Taurolema*, Th., 1860. Quinze mois avant la publication du dit genre, j'avais remis à M. Thomson, pour paraître dans ses 'Arcana Naturæ,' la description d'un nouveau genre, *Megalopresthes*, qui est identique avec celui-ci. Au retour de divers voyage de cet entomologiste, cette description et celles des deux espèces qui s'y rapportaient, ne purent être retrouvées ; de plus, par une fatalité incroyable, le dessin qu'il avait fait exécuter et qui devait représenter la plus belle des deux, a subi le même sort !

Je ne pense pas que les deux cornes de la tête du ♂ de la *T. bellatrix*, Th., soit un caractère propre aux mâles de toutes les espèces de ce genre.

Taurolema pretiosa. Metallico-obscura, subcyanea, nitida; antennis dense pilosis, nigris, albido annulatis, 1° articulo 3°que basi rubidis; thorace transverso, pone angulos posticos tuberculato, basi apiceque transversim constricto, supra vage punctulato; elytris azureo, rubro, cupreo nigroque micantibus, singulatim striis tribus abbreviatis et punctatis : 1a stria, in medio basis, duplicata ovaliformi (spatio elevato) ; 2a et 3a ad marginem (interna postice sulcata), capite femoribusque subpiceis.—Long. 6½, lat. 3½ mill.

Lisse, d'un bleu noirâtre, plus brillant en dessous. *Tête* marquée d'un étroit sillon longitudinal, rougeâtre en avant. *Lèvre* et *chaperon* pâles. *Antennes* plus longues que le corps, à art. comme brisés et renflés au sommet des 3e et 4e ; le 5e et les deux précédents ont leur base rousse, puis ils sont annelés de blanchâtre. *Elytres* ornées de couleurs métalliques les plus vives, rouge, cuivreux, bleu azuré mélangé de

violet et de noir, et formant alors comme deux bandes transverses; l'une au-delà du milieu, l'autre entre cette dernière et le sommet: chaque étui présente quatre séries de points qui n'atteignent que le tiers ou le milieu antérieur; les deux premières partent du milieu de la base, et forment en se réunissant en arrière une sorte d'U alongé, avec l'intervalle convexe; la 3e et la 4e sont placées sur la marge, l'interne est plus étendue et profondement sillonnée sur sa limite. *Cuisses* rougeâtre.

J'ai acquis cette espèce d'un envoi de M. Justin Goudot, provenant de Honda dans l'Etat de Venezuela.

Taurolema hirsuticornis (Buquet). Cupreo-aurata; mandibulis, oculis, antennis in dimidio postico, tarsisque nigris; antennis leniter nigro fimbriatis, articulis 6–11 infra longe et dense hirsutis, 2–5 cupreo-ferrugineis.—Long. 6, lat. $1\frac{3}{4}$ mill.

D'un cuivreux doré. *Tête* vaguement ponctuée, marquée d'un sillon longitudinal et transversal. *Antennes* plus longues que le corps. *Prothorax* transverse, plus fortement ponctué, largement sillonné près des bords antérieur et postérieur, obtusement binoduleux de chaque côté. *Elytres* planes, sillonnées sur la marge et près de la suture, offrant chacune une côte médiane qui est interrompue vers le tiers antérieur. *Cuisses* lisses, jambes légèrement arquées et poilues.—Du Brésil, et de la collection de M. Buquet.

Page 16.—11. La *Beltista adjuncta*, Th., est synonyme de *Cosmotoma venustulum*, Dej. Cat. p. 364. Cette espèce est originaire, non de St. Domingue, mais bien de la Guyane Française.

Page 20.—14. *Carterica colobotheoides*, Th., 1860. Syn. *C. cinctipennis*, Pascoe, Trans. Ent. Soc. Lond. 1858, p. 28.—Cayenne; Para.

Page 23.—18. *Leprosoma asperatum*, (Dej.) Th., 1860. Syn. *Lamia gibba*, Brullé, H. N. des Canaries, 1839, p. 62. pl. 1. f. 5 (*Brullea*, Bld.). *Deucalion gibbus*, Woll. Journ. of Ent. 1860, p. 91.

Page 24.—24. *Moneilema carinatum*, Th. Arch. i. p. 189. Syn. *Collapteryx Blapsides*, Newm. Ent. Mag.—Mexique.

Page 25.—27. *Phryssoma crispum*, Fabr.?, Dej., Th.—Cap. Espèce plus petite que celle suivante No. 23.

Page 26.—21. *Phantasis terribilis*, Th., 1860. Syn. *Phryssoma amycteroides*, White, Ann. & Mag. Nat. Hist. ser. 3. ii. p. 264, 1858. —Natal.

Page 27.—23. *Phantasis denticulata*, (Dej.) Th., 1860. Syn. *Cerambyx crispus*, Linn., Ol.—Cap.

Page 33.—27. *Cyclopeplus cyaneus*, (Dej.) Th.—M. Thomson ne

possédant pas ce bel insecte, désirait l'avoir de moi en communication, pour le décrire ; comme j'ai payé 6000 francs la collection de Dejean, qui le renferme, je tenais à le publier, et je remis à cet auteur une description à cet effet ; grande fut ma surprise de voir son nom porté à la place du mien !

Page 37.—28. *Dichostates Natalensis,* Th., 1860. Syn. *Phymastema concreta,* Pascoe, Trans. Ent. Soc. Lond. 1856, p. 17.

Page 44.—29. *Amillarus apicalis,* Th., 1860. Syn. *Aphies Lebasii,* Dej. Cat. iii. p. 379.—L'*Aphies erythrodera,* Dej., que M. Thomson y rapporte comme variété, me parait être distincte ; en voici la description :—D'un noir plombé soyeux. Tête, antennes, moins le 1er article qui est noir, corselet, genou et jambe de la patte antérieure, d'un jaune ochracé soyeux. Elytres tronquées obliquement de l'angle externe à la suture, avec l'angle marginal un peu plus aigu, et un sillon sur le bord sutural ; à ponctuation fine, presque disposée en lignes ; corps en dessous d'un gris soyeux.—Long. 9–10, lat. $2\frac{1}{3}$–3 mill.—Nouvelle Granade et Venezuela.

Page 48.—30. *Glenea delia,* Th., 1860. Syn. *Stenochorus pictus,* Fabr. Syst. El. ii. p. 306, 1801.—Sumatra. Bien que la description ne se rapporte pas entièrement à cette dernière, c'est plutôt à cette espèce Indienne, qu'à la suivante, qui est de l'Océanie, qu'il convient d'appliquer la synonymie de Fabricius.

Page 59.—55. *Volumnia Westermanni,* Th., 1860.—Natal. La *Sphenura Westermanni,* Dej. Cat. iii. p. 376, de Guinée, en est voisine, mais elle me parait distincte ; son corps est plus étroit, ses antennes moins largement et plus obscurement annelées de blanchâtre ; l'écusson, au lieu d'être en totalité blanc, n'a que la bordure postérieure de cette couleur, et le sommet des élytres est d'un brun noirâtre ; nous lui donnons le nom de *V. Guineensis.*—Vieux Calabar.

La *Volumnia* (*Saperda*) *apicalis,* nob. (Revue et Mag. Zool. 1856), se rapproche beaucoup de cette dernière ; elle s'en distingue néanmoins par sa couleur de rouille et ses antennes entièrement brunâtres.

Page 61.—71. *Nyctimene agriloides,* Th., 1860. Syn. *Eusebis tæniolata,* Dej. Cat. iii. p. 376.—Mon exemplaire n'est pas noir, mais d'un brun clair ; son prothorax est marqué au milieu d'une 3e ligne longitudinale blanche, dont ne parle pas M. Thomson, et qui sans doute se trouvait usée chez l'individu décrit.

Page 61.—72. *Nitocris,* Th. Arch. 1858. *Dyrphia,* Pascoe, Trans. Ent. Soc. Lond. 1858. *Obercopsis,* Chevr. Revue et Mag. Zool. 1855,

no. 28.—Mes *Obereopsis*, espèces de l'Afrique équinoxiale, ressemblent aux *Oberea*, mais leurs antennes sont plus longues (de la longueur du corps ou le dépassant à peine) et plus grèles ; ils se rapprochent aussi des *Isosceles*, Newm., espèces des Indes orientales ; leurs élytres sont plus courtes, subcylindriques, parallèles, coupées obliquement de la marge à la suture ; leur prothorax n'est pas étranglé fortement près du bord antérieur et postérieur ainsi que chez les *Nitocris* ; enfin, les crochets des tarses sont plus courts et recourbés en dedans. Au reste, les *Nitocris* ont leurs antennes fort longues, d'égale et de moyenne grosseur avec les élytres aplaties, et souvent dilatées vers le sommet.

Page 65.—82. *Frixus*, Th. Arch. i. p. 313, 1857. *Evethis*, Dej. Cat. iii. p. 376, 1837. *Anomœsia*, Pascoe, Trans. Ent. Soc. Lond. 1858, p. 21.—Insectes originaires de l'Afrique australe et occidentale et non pas des Indes orientales, ainsi que le suppose M. Thomson.

Page 66.—86. *Tetraopes*. M. Thomson a confondu dans sa collection deux espèces de *Tetraopes* sous le nom de *undecimpunctatus* ; la description qu'il a donnée de cette espèce (Arch. Ent. i. p. 62) s'applique à une simple variété du *T. varicornis*, (Klug) Th., et en changeant son nom je vais donner la diagnose de la nouvelle espèce.

Tetraopes thermophilus, Chevr. Punctatus, ruber, pube brevi grisea vel nigra indutus ; mandibulis, oculis, antennis supra, genubus, tibiis, tarsis, scutello, in thorace punctis quatuor consuetis, tribusque in singulo elytro, nigris ; pectore, abdomine, antennisque infra griseis.—Long. 10–14, lat. 4–4¾ mill.

Tetraopes 11-*punctatus*, Chevr. Cat. Dej. 3 éd. p. 373. Ponctué, couvert d'une pubescence courte ou longue, raide ou molle, grise en général, noire et espacée sur la tête et sur les côtés des élytres. Rouge, avec les parties suivantes noires : mandibules, yeux, antennes en dessus (grises en dessous), genoux, jambes, tarses, écusson, 4 points ordinaires sur le disque du prothorax, et 3 par étuis :. (le 1er est placé au calus huméral, le 2e près de la suture au quart antérieur, et le 3e, qui est le plus grand et un peu transverse, au-delà du milieu, vers le centre). Poitrine et abdomen d'un gris plombé.

Cette espèce a été découverte par M. A. Sallé, aux environs de la Vera Cruz (terre chaude).

Page 67.—87. *Phœa*, Newm. Ent. p. 13. Syn. *Lamprocleptes*, Th. Arch. i. p. 64.—*Onchoderes*, Chevr., Cat. Dej. 3 éd. p. 377.

Page 73.—110. *Hebestola*, (Dej.) Th. Arch. i. p. 302.—*Cacoplia*, Lec. Journ. Acad. ii. p. 149.

Page 83.—68. *Lasiodactylus longimanus*, Th. Essai, 1860. Syn. *L. latimanus*, Dej. Cat. iii. p. 361. *Cer. sordidus*, Ol. Ent. iv. pp. 67, 124, & 168. pl. 1. f. 5 ?—Sénégal.

Page 83.—127. *Lasiodactylus**, (Dej. Cat.) Th. Arch. ii. p. 163. —*Lasiopezus,* (Bld.) Pascoe, Trans. Ent. Soc. Lond. v. p. 19.

Page 84.—130. *Apriona,* Chevr. J'ai eu déjà occasion de dire que l'*A. Germarii,* Hope, était si brièvement décrite par son auteur, que je n'aurais pu la reconnaître si je n'avais vu son type. Les *A. rugicollis* et *A. annulata,* nob., me paraissent en effet n'être que des variétés d'une espèce, mais les *A. cinerea* et *A. trilineata* sont à maintenir. Au reste, M. Thomson a réuni dans sa collection, sur une même ligne, plusieurs espèces, sans tenir aucun compte des patries et des différences qu'elles présentent entr'elles.

Page 86.—137. *Inesida,* Th. Essai, 1860. L'espèce type est *Lamia leprosa,* Fabr. Syst. El. ii. p. 304. 128. Syn. *Lamia brunnicornis,* Gn. I. R. An. iii. p. 239.—*Phryneta bisignata,* Dej. Cat. 3 éd. p. 168.—Cap.

Page 87.—142. *Freadelpha,* Th. Arch. ii. p. 175. Syn. *Sternotomis eremita,* (Dej.) Westw. Arcana, ii. p. 126. pl. 78. f. 3. *F. humeralis,* Th. *l. c.*—Sénégal, Gabon.

Page 88.—145. *Callimation callypigon,* Th. Arch. i. p. 36. Syn. *C. venustum,* Dej., Gn. I. R. An. iii. p. 238.

Page 90.—147. *Phosphorus.*

P. angolator, Ol. (*Cerambyx*) Ent. iv. 67. pp. 72, 92. pl. 22. f. 170. Ater, holosericeus, cæsio-sericans; elytris pallide flavis, fasciis duabus, macula apicali, limboque postico atris; fascia 1ª basali paululum angulata, 2ª ultra medium lata et recta, punctulis duobus albis ornatis; corpore subtus nigro; singulo segmento abdominis cum fascia flava in medio interrupta.—Long. 35, lat. 12 mill.

Hab. De la côte d'Angole et de la collection d'Olivier.

P. Jansoni, Chevr. Syn. *P. angolator,* Th. Arch. i. p. 27, ii. p. 170. Nigerrimus, holosericeus; elytris flavo-virentibus, fascia basali postice valde angulata, macula dorsali lata subcordiformi, ultra medium posita (sæpe includente punctulos duos) limboque postico, nigris; abdomine flavo-virenti, vitta media et singulo segmento basi anguste nigro-fasciato.—Long. 32, lat. 11¾ mill.

Hab. De la Côte d'Or; Sierra Leone.

Page 91.—151. *Eutœnia zonata,* Th. Arch. i. p. 183. Syn. *Ceroplesis Klugii,* Dej. Cat. 3 éd. p. 368.—Cap.

Page 100.—80. *Hammoderus spinipennis,* Th. Arch. i. p. 173. Syn. *H. thoracicus,* White, Ann. & Mag. Nat. Hist. ser. 3. ii. p. 275, 1858.—Mexique.

* Nom déjà employé.

Page 102.—81. *Imantocera plumosa,* Th., 1860. Assam.—Espèce distincte de l'*I. plumosa,* Ol., de Java ; c'est l'*I. penicillata* (White).

Page 102.—176. *Gerania,* Serv. Syn. *Cylindrepomus,* Pascoe, Trans. Ent. Soc. Lond. ser. 2. iv. pt. 6. p. 241.

Page 108.—177. *Dorcaschema,* (Dej.) Lec. Types : *D. alternatum,* Say : syn. *D. Leptocera,* Dej. Cat. iii. p. 375. *D. nigrum,* Say : syn. *D. nigricans,* Dej. Cat. iii. p. 375.—Amér. sept.

Page 113.—86. *Clytemnestra tumulosa,* (Dej.) Th., 1860. *Hypsolemus cristatus,* Perty, Del. An. p. 96. t. 19. f. 8.—Brésil.

Page 114.—87. *Clytemnestra adspersa,* (Dej.) Th., 1860. *Hypsioma adspersa,* Lap. Hist. Nat. ii. p. 482.—Brésil.

Page 115.—88. *Clytemnestra Bonariensis,* (Dej.) Th. *Lamia albisparsa,* Germ. Sp. pp. 477, 630.—Brésil mérid.

Page 116.—89. *Hypsioma gibbera,* (Dej.) Th., 1860. *H. gibbera,* Serv. Ann. Ent. Soc. France, sér. 1. iv. p. 39.—Brésil.

Page 118.—93. *Hypsioma subfasciata,* Th., 1860. Syn. *Hypsioma albilateralis,* var., Pascoe, Trans. Ent. Soc. Lond. v. p. 25.—Cayenne et Para.

Page 118.—94. *Hypsioma fasciata,* Th., 1860. Syn. *Hypsioma subcincta,* Dej. Cat. iii. p. 370.—Brésil.

Page 122.—98. *Ischioloncha Wollastoni,* Th. Syn. *Maschalodonta polygramma,* Lac., Dej. Cat. iii. p. 376.—Guyane. Et non pas *Megalodonta,* comme l'a imprimé M. Thomson.

Page 126.—201. *Clinia,* Th. Arch. i. p. 305, 1857. *Protocera,* Chevr. Rev. et Mag. Zool. 1855.—Quand il serait vrai que je n'aie pas établi d'une manière très-détaillée les caractères de mon genre, j'ai eu soin de signaler le sommet de l'abdomen fendu et bidenté chez les ♀, particularité jusqu'à présent unique dans cette famille.

Ce signalement, la racine du nom que j'ai employé, et enfin, l'antériorité de ma détermination, devaient faire conserver ce nom.

XVI.—*Descriptions of new Genera and Species of* Phytophaga. By J. S. Baly.

Fam. Sagridæ.

Genus Sagra, Fab.

Sagra Mouhoti.

S. elongato-ovata, læte purpurea, nitida; thorace fortiter punctato, subquadrato, apice modice producto, angulis anticis prominulis, obtusis; elytris basi elevato-marginatis, intra humeros late excavatis, infra basin leviter transversim depressis, subfortiter subcrebre irregulariter striato-punctatis, interspatiis irregulariter strigosis, læte cupreo-aureis, viridi-micantibus, limbo angusto (basi laterali excepta) suturaque (hac antice posticeque angustata) purpureis.

Mas. Femoribus posticis elytra paullo superantibus, validis, intus flavo-tomentosis, subtus ante apicem bidentatis, dente exteriore spinæformi, tibiis ejusdem paris curvatis, intus canaliculatis, flavo-tomentosis, apice mucronatis, extus pone medium in processum brevissimum obtusum productis, abdominis segmento primo remote punctato, parce flavo-tomentoso.

Fœm. Femoribus posticis elytra non superantibus, subtus creta denticulata instructis.

Var. A. *Mas.* Tibiis posticis simplicibus.

Long. 4–7 lin.

Hab. Cambogia. Collected by M. Mouhot.

Rather longer and less robust than *S. carbunculus*, Hope. Head deeply punctured on the vertex; antennæ robust, two-thirds the length of the body in the *male*; thorax (the produced apical border being taken away) almost transverse, apex of anterior angles very obtuse, centre of disk near its base impressed with a moderately deep fovea, above which is a more or less distinct longitudinal line, free from punctures; elytra covered with numerous rows of deeply impressed punctures, nearly regular near the suture, more confused on the sides.

Male. Hinder thighs ovate, their lower edge near the apex furnished with two teeth, the outer one stout, spiniform, and armed at the base behind with a sinuate tooth, the inner one small; intermediate tibiæ abruptly curved.

This lovely species is allied to *S. carbunculus*.

Fam. Crioceridæ.

Genus Stethopachys.

Corpus elongatum, subcylindricum. *Antennæ* filiformes, robustæ, articulis secundo et tertio brevibus, longitudine fere æqualibus, moniliformibus. *Thorax* cylindricus, lateribus valde constrictis. *Scutellum* subtrigonum,

apice obtuso. *Elytra* thorace multo latiora, parallela. *Pedes* mediocres; *coxis* anticis conicis, contiguis, intermediis cylindricis, metasterno incrassato separatis; *femoribus* (præsertim posticis) paullo incrassatis; *unguibus* elongatis, arcuatis, *unguiculis* basi coalescentibus. *Mesosternum* elongatum, perpendiculare, apice metasterni non occultato. *Metasternum* valde incrassatum, antice in processum validum obtusum inter coxas intermedias protensum.

Type, *Stethopachys formosa*, Baly.

Stethopachys represents, in Australia and the adjacent islands, *Plectonychis*, Lac., differing from that genus in possessing elongate claws, and in the different form of the mesosternum; this part, instead of being concealed by the projecting metasternum (as in *Plectonychis*), is in the present case elongate, and placed perpendicularly against the produced anterior surface of the latter, its truncate apex curving slightly forwards, and terminating on a level, or nearly so, with the lower surface of the metasternum.

Stethopachys formosa.

S. subelongata, subcylindrica, nitidissimo-fulva; antennis, oculis, macula verticali, scutello, plaga magna metapleurali utrinque, tibiis tarsisque nigris; thorace subconico, basi unifoveolato, lateribus medio valde constrictis; elytris punctato-striatis, punctis basi profunde impressis, striis ad apicem fere dilatatis, utrisque fasciis duabus latis, prima baseos, macula basali trigonata fulva includente, altera pone medium nigris.—Long. 4 lin.

Hab. Australia.

Lower portion of the face moderately produced; antennæ nearly two-thirds the length of the body, filiform, four basal joints nitidous, the others opake, second and third joints short, submoniliform, fourth rather longer than the third; thorax slightly transverse in front, rather broader at the base, sides deeply constricted in the middle, base above impressed with a small deep fovea, middle of the disk impressed by several irregular rows of fine but distinct punctures, which form together a broad longitudinal vitta; scutellum truncate; elytra much broader than the thorax, slightly narrowed towards their apex, each elytron impressed with ten rows of distinct punctures, their interstices plane, tenth row sulcate, the punctures on the basal half of the four or five inner rows large and deeply impressed, the puncturing of all the striæ very fine towards their apex; hinder thighs shorter than the abdomen; claws large, gradually increasing in length from the first pair backwards.

Stethopachys Javeti.

S. oblongo-elongata, picea, nitida; abdomine pallidiore; antennis nigris; elytris punctato-striatis, fulvis, limbo postico piceo.—Long. $3\frac{1}{2}$ lin.

Hab. New Caledonia.

Antennæ nearly equal to the body in length, moderately robust, filiform, four basal joints shining, the rest opake, second, third, and fourth joints short, gradually increasing in length: thorax subconic, subcylindrical, sides constricted, the constriction being scarcely visible from above, surface smooth and shining, remotely punctured, the punctures on the sides confused, those on the middle of the disk arranged in two or three longitudinal rows, base impressed with a deep fovea; scutellum elongate-trigonate, truncate; elytra much broader than the thorax, lateral margin slightly produced at the shoulder, concave below the latter, above convex, slightly flattened on the back, each elytron with ten regular rows of punctures, fulvous, the apical half of the outer limb broadly edged with piceous, beneath shining piceous; abdomen edged with obscure fulvous; hinder thighs shorter than the abdomen, moderately incrassate; metasternum more swollen than in the preceding species.

I owe the specimen from which the above description is taken to the kindness of M. Javet, after whom I have named the species.

Genus Crioceris, Fab.

Crioceris Salléi.

C. elongata, subcylindrica, viridi-metallica, subnitida, subtus nitida, pilis adpressis tenuibus obsita, æneo vix micans; antennis (basi excepta) nigris; thorace nitido, longitudine latitudini fere æquali, cylindrico, lateribus medio sat constrictis, fortiter transversim sulcato-strigoso, basi fovea parva impresso; elytris crebre fortiter subrugoso-punctatis, utrisque intra marginem unicarinatis, disco exteriore prope medium fovea magna ovato-rotundata impressis.—Long. 4–4½ lin.

Hab. Oaxaca. Collected by M. Sallé.

Antennæ four-fifths of the length of the body, slender, filiform, slightly increasing in thickness towards their apex, third and fourth joints short, equal, obconic, four basal joints shining metallic green, the rest black, opake; elytra parallel, much broader than the thorax, indistinctly impressed transversely below the basilar space (in their punctation they differ entirely from any of the similarly coloured known species, their surface somewhat resembling shagreen); legs slender, subelongate, thighs very slightly incrassate, the hinder pair scarcely reaching to the extremity of the elytra in the *male*, much shorter in the other sex.

Fam. **Eumolpidæ.**

Genus Trichochrysea.

Corpus oblongum, valde convexum, supra pube suberecta vestitum. *Caput* latum, thorace fere immersum; *faciei* margine inferiore valde emarginato, utrinque in dentem brevem robustum producto; *epistoma* parva.

fere obsoleta; *antennis* gracilibus, dimidio corporis longioribus, articulo primo incrassato, quinque sequentibus filiformibus, duobus basalibus brevibus, æqualibus, cæteris paullo longioribus, inter se æqualibus, quinque ultimis modice dilatatis, valde compressis; *mandibulis* robustis, apice dentatis; *labro* transverso-quadrato; *palparum* articulo ultimo oblongo-ovato, apice truncato. *Thorax* transversus, dorso subcylindricus, lateribus declivi-marginatis. *Elytra* thorace paullo latiora, breviter oblonga. *Pedes* robusti, *tibiis* intermediis extrorsum ante apicem emarginatis, *unguiculis* dentatis. *Prosternum* transverso-quadratum; *antepectoris* processu antero-laterali subcuneiformi.

Type, *Trichochrysea Mouhoti*, Baly.

Distinguished from *Calomorpha*, Stål, by the toothed clypeus, the more slender antennæ, the broader and more distinctly margined thorax, the more prominent jaws, &c.

Trichochrysea vestita.

T. oblonga, subcylindrica, cupreo-ænea, nitida, subrugoso-punctata, undique pilis griseis suberectis obsita; antennis gracilioribus, basi fulvis extrorsum nigris.—Long. 3½ lin.

Hab. Northern India.

Whole body clothed with long suberect silky pubescence; clypeus produced on either side into a stout tooth; labrum smooth, rufo-æneous; antennæ more slender than in the former species, the terminal joints less incrassate; thorax subglobose above, closely punctured, either side, just within the anterior angle, furnished with a slightly raised smooth tubercle.

Trichochrysea Mouhoti.

T. oblonga, subcylindrica, viridi-ænea, aureo-tincta, pube brevi suberecta sparse vestita, antennis extrorsum mandibulisque nigris, supra aurea, vertice thoracisque fascia lata baseos utrinque abbreviata antice emarginata viridi-metallicis; elytris breviter oblongis, fortiter subcrebre punctatis, viridi-limbatis, utrisque fascia ante, vittaque pone medium cæruleis, viridi marginatis.—Long. 4–5 lin.

Var. A. Cyanea, elytrorum vitta infra basin cærulea.

Hab. Cambogia.

Head broad, forehead impressed with a short longitudinal groove, lower portion of face coarsely punctured, irregularly longitudinally strigose-rugose, lower edge deeply excavated, concave, either extremity produced into a stout tooth, epistome very small, and forming only a small transverse lobe, which projects from the middle of the excavated margin; thorax deeply punctured; scutellum transverse, its apex obtuse; elytra more closely punctured, the puncturing on the inner disk indistinctly arranged in striæ.

Genus Meroda, Baly.

Meroda rufipennis.

M. oblongo-ovata, convexa, nitida, nigra; antennis basi fulvis; abdomine elytrisque rufis, his confuse punctato-striatis, striis prope suturam indistincte bifariam dispositis; tibiis posticis quatuor extus ad apicem in spinam brevem dilatatis; femoribus anticis valde incrassatis, subtus in dentem acutum productis.—Long. $2\frac{2}{3}$ lin.

Hab. Amazons.

Much smaller and more ovate than *Meroda costata*; shorter and more ovate than the following species; antennæ slender, two-thirds the length of the body, fourth joint shorter than the two preceding united, three basal joints, together with the labrum and trophi, pale fulvous; abdomen and elytra bright rufous, the puncturing on the latter distinct, deeply impressed.

Meroda fulva.

M. elongato-ovata, convexa, obscure fulva, nitida; elytris confuse punctato-striatis, striis prope suturam indistincte bifariam dispositis; femoribus anticis valde incrassatis, subtus in dentem acutum productis.—Long. $2\frac{3}{4}$ lin.

Hab. Amazons. Collected by H. W. Bates, Esq.

Obscure shining fulvous; antennæ slender, longer than the body, three or four terminal joints stained towards their apex with piceous, fourth joint nearly equal in length to the second and third united; thorax subremotely punctured, sides nearly straight and subparallel behind, rounded in front; elytra finely, but distinctly, punctured.

Genus Pseudocolaspis, Lap.

Pseudocolaspis Murrayi.

P. breviter subcuneiformis, nitido-viridi-ænea, parce tenuiter pubescens; pedibus viridi-aureis, elytris viridi-cæruleis, antennis (basi excepta) nigris.—Long. 6 lin.

Hab. Old Calabar.

Head deeply punctured, longitudinally strigose on the forehead, lower portion of face concave, bright golden, apex of jaws black; epistoma not separated from the face; thorax subconic, more quickly narrowed at the apex, subcylindrical above, lateral borders distinct, surface somewhat closely subaciculate punctate, brassy-green, with a slight golden reflexion on the sides of the disk; scutellum semiovate, its apex acute; elytra sparingly clothed with very fine and short erect hairs, broader than the thorax at the base, humeral callus prominent, sides narrowed from the base to the apex, the latter acutely rounded, surface sparingly covered with very short and fine subereet hairs, rather less closely but more deeply subaciculate punctate, interspaces obsoletely strigose:

body beneath covered with coarse adpressed hairs; anterior femora armed beneath with a stout spine.

Fam. **Chrysomelidæ.**

Genus Ceralces, Gerst.

Pseudomela, Baly.

Ceralces ornata.

C. ovata, valde convexa, fulva, nitida; parapleuris, pedibus, antennis (basi excepta), thoracis vitta lata antice posticeque abbreviata maculaque utrinque, elytrisque nigris, his subcrebre punctatis, utrisque margine exteriore apice valde dilatato, plagaque transversa magna discoidali margine plerumque adfixa, fulvis; scutello piceo.—Long. 3 lin.

Hab. Lake N'Gami.

Antennæ robust, shorter than half the body, subincrassate, three or four basal joints fulvous; head and thorax finely punctured; scutellum broad, more or less stained with piceous; elytra scarcely broader than the thorax, deeply punctured, the punctures on the inner disk indistinctly arranged in numerous longitudinal striæ.

Fam. **Gallerucidæ.**

Genus Diamphidia, Gerst.

Cladocera, Hope.

The insects known and described by Hope, Gerstaecker, and others, under the above generic names, appear to form a single natural genus, the species varying greatly in the degree of serration or even flabellation of the antennæ, but agreeing in all their other characters. I would divide the genus into three sections, formed on the degree of variation of those organs.

Sectio I. Antennis flabellatis in utroque sexu.
II. Antennis serratis aut subserratis in uno aut utroque sexu.
III. Antennis simplicibus.

Cladocera of Hope having been already used, Gerstaecker's name, *Diamphidia*, must be adopted; but from these authors having founded their genera on the extreme states of the antennæ, either term is characteristic only of a certain number of species in the genus.

Diamphidia Bohemani.

D. oblonga, convexa, fusco-alba; pedibus, antennis, verticis macula utrinque, thoracis maculis quinque scutelloque nigris; elytris subcrebre punctatis, utrisque margine apicali, macula humerali, altera subapicali fasciisque duabus maculæformibus (harum prima infra basin (maculis

4) flexuosa, secunda pone medium (maculis 5) arcuata, positis), nigris; subtus obscurior, abdominis segmentorum macula utrinque parapleurisque piceis.

Mas. Antennis valde flabellatis.

Fœm. Antennis modice flabellatis.

Long. 5–6½ lin.

Hab. Port Natal.

Thorax with its apical margin bisinuate, the side border rounded behind, narrowed and sinuate in front; the anterior angles produced, subacute; upper surface with five large black spots placed (2-3) on the disk, and in addition two or three others, smaller and punctiform (sometimes obsolete), on either side, close to the lateral and basal margins; the first of the maculæform fasciæ on the elytra is placed nearer the base than in *D. pectinicornis*, the second (situated immediately behind the middle) is regularly curved, instead of being flexuose as in the above-named insect, and the subapical and submarginal patch occupies the place of three much smaller spots, which form, in the old species, a transverse subapical band: legs entirely black, with the exception of a narrow space on the upper and lower edges of the hinder femora.

In addition to the different arrangement of the black markings on the elytra, as indicated above, this species may be separated from *D. pectinicornis* (Oliv.) by the form of its thorax; in *D. pectinicornis* the anterior margin is nearly truncate, the sides are more regularly rounded, and the anterior angles, although distinct, are not produced.

Diamphidia Bohemani belongs to the 1st section.

Diamphidia ornata. (Plate XII. fig. 3.)

D. oblonga, crassa, valde convexa, fulva, subnitida; capitis vertice vittaque inter oculos, antennis, scutello, parapleuris, abdominis segmenti penultimi macula utrinque pedibusque (femoribus basi exceptis) nigris; thorace transverso, utrinque foveolato, fascia lata pone medium, antice trilobata, maculisque rotundatis quatuor ante medium transversim positis, his singulis ramulo brevi ad fasciam connexis, nigris; elytris pallide fusco-violaceis, utrisque limbo laterali maculis duabus, prima basi prope scutellum, secunda infra humerum, fasciisque submaculariformibus duabus, una prope medium, altera ante apicem positis, flavis, nigro-marginatis.—Long. 5 lin.

Hab. Lake N'Gami.

Oblong, robust, slightly broader behind; antennæ serrate; eyes black; thorax twice broader than long, sides slightly rounded, posterior angles broadly rounded, surface irregularly punctured, the puncturing scattered on the disk, base impressed with a deep fovea, sides with a broad shallow excavation, in the middle of which is a deeper impression; scutellum trigonate, its apex truncate, surface smooth, impunc-

tate; elytra closely and deeply punctured; pygidium black, marked in the middle with a broad fulvous vitta; legs and under surface of the body clothed with adpressed hairs; abdominal segments thickened.

This species belongs to the 2nd section of the genus.

Genus Pseudodera.

Corpus elongatum, convexum. *Caput* exsertum, dorso pone oculos constrictum, *facie* sat declive, inter oculos in carinam latam dorso canaliculatam, cujus ad latera antennæ insertæ sunt, producto; *antennis* robustis, corporis longitudini fere æqualibus, apicem versus paullo angustatis, articulis 1mo curvato, basi ad apicem incrassato, 2do brevi, 3tio–10mo singulis ad apicem incrassatis; *labro* transverso; *mandibulis* arcuatis, apice dentatis; *mento* quadrato; *ligula* crassa, obtusa; *palpis maxillaribus* articulo primo parvo, secundo paullo elongato, subclavato, ultimo breviter ovato, acuto; *oculis* ovato-rotundatis, prominulis. *Thorax* transverso-quadratus, dorso valde convexus, ante basin transversim sulcatus, sulco utrinque linea impressa longitudinali brevi terminato. *Elytra* oblonga, bifariam striato-punctata. *Pedes* robusti, antici subelongati, cæteri longitudine perparum paullo decrescentes; *femoribus* paullo, posterioribus evidentius incrassatis; *tibiis* simplicibus, dorso noncanaliculatis, apice paullo incrassatis; *tarsis* tibiarum apici insertis, articulo basali duobus sequentibus longitudine fere æquali, *unguiculis* appendiculatis. *Prosternum* angustatum, distinctum.

Type *Pseudodera xanthospila*, Baly.

Very closely allied to *Crepidodera*, but divided from that genus by the tapering antennæ and by the constriction of the upper surface of its neck. The transverse groove also at the base of the thorax terminates just within the short longitudinal grooves, not being continuous with them as in *Crepidodera*.

Pseudodera xanthospila.

P. elongata, modice convexa, subparallela, postice attenuata, rufo-fulva, nitida; oculis, antennis, tibiis tarsisque nigris; elytris gemellato-punctato-striatis, utrisque plaga submarginali, ante apicem posita, pallide flava.—Long. $3\frac{1}{2}$–$4\frac{1}{2}$ lin.

Hab. Northern China.

Antennæ inserted between the eyes on an elevated space, the centre of which is traversed by a longitudinal groove: thorax smooth, impunctate, convex, basal groove deeply impressed, slightly angular, and having a shallow longitudinal impression running upwards on the disk from its apex; it is terminated at either end by a short deep longitudinal groove: elytra not wider than the thorax, parallel, narrowed near the apex, their surface smooth and shining; disk of each impressed with eleven rows of distinct punctures, the first abbreviated, the second

running parallel to the suture, the eleventh sulcate and placed on the lateral border, the others approximating in pairs, and obsolete towards the apex of the elytron; basilar space slightly raised, bounded by a shallow depression.

Genus Phrynocepha. (Plate XI. fig. 8*e*, side view of head, ♂.)

Corpus subelongatum, convexum; *antennis* robustis, apicem versus attenuatis, articulo primo incrassato, secundo brevi, obtrigono, tertio modice elongato, subclavato; *oculis* parvis, vix prominulis, ovatis; *labro* brevi transverso; *mandibulis* apice tridentatis; *mento* subquadrato; *ligula* apice angulato, obtuso; *palpis maxillaribus* articulo primo parvo, duobus sequentibus subclavatis, inter se æqualibus, ultimo subconico, *labialibus* articulo ultimo obovato, leniter curvato, apice subacuto. *Thorax* transversus. *Scutellum* trigonatum. *Elytra* oblonga, anguste marginata, apice rotundata. *Pedes* robusti, mediocres; *coxis* anticis non contiguis; *femoribus* (præsertim posticis) incrassatis, quatuor anticis paullo compressis; *tarsorum* articulo basali duobus sequentibus longitudine fere æquali, *unguiculis* basi appendiculatis. *Prosternum* integrum, retrorsum ad mesosternum productum.

Mas. Caput crassum, valde exsertum, porrectum, subquadratum, *facie* paullo declive; *antennis* incrassatis, articulis paullo compressis; *femoribus* magis incrassatis, *tarsorum* articulo basali dilatato, obovato, apice truncato.

Fœm. Caput minus exsertum, deflexum, subtrigonatum.

Type, *Phrynocepha pulchella*, Baly.

The present genus, which belongs to the Anisopodous section of the family, must be placed near *Crepidodera*,—the form of the antennæ, the peculiar shape of the head in the male, and the irregularly punctured elytra separating it from that genus.

Phrynocepha pulchella. (Plate XI. fig. 8.)

P. subelongata, testacea, nitida; mandibularum apice, antennis (basi fulva excepta), abdomine scutelloque nigris; tarsis piceis; elytris anguste marginatis, crebre tenuiter punctatis, cæruleis.—Long. 4–4½ lin.

Hab. Mexico.

Subelongate, convex; head porrect, the eyes being placed at a considerable distance from the edge of the thorax, subquadrate, face oblique; vertex irregularly punctured; epistome narrow, transverse, bounded above by a slightly curved elevated ridge, from the centre of which a perpendicular raised line runs upwards on the face, passing between the antennæ, and terminating a short distance above them in a slightly elevated, smooth and shining bilobed space; eyes black: thorax more than a third broader than long, sides narrowly margined, nearly straight and parallel behind, narrowed and obliquely rounded

in front; posterior angles produced into a small acute tooth; upper surface moderately convex, minutely punctured, base impressed by a broad ill-defined transverse groove, disk impressed on either side by a large shallow fovea: scutellum triangular, its apex obtuse: elytra broader than the thorax, oblong-ovate, their outer edge furnished with a distinct, slightly reflexed border; surface subnitidous, covered with minute punctures, their interspaces very finely rugose, giving the whole surface a granular appearance; on the disk of each elytron are three or four indistinct longitudinal costæ: abdomen black, covered with coarse adpressed pale-fulvous hairs.

Genus Doryxena.

(Plate XI. fig. 10, under surface of *D. grossa*, Hope.)

Corpus oblongum, convexum. *Caput* valde deflexum, *facie* fere perpendiculare; *antennis* robustis, filiformibus, articulo primo curvato, basi gracili, hinc ad apicem incrassato, secundo brevi, tertio illo duplo longiore, quarto tertio paullo longiore; *mandibulis* validis; *labro* transverso; *palpis maxillaribus* articulo ultimo obovato, apice conico; *mento* transverso-quadrato; *ligula* subquadrata, basi angustata; *oculis* prominulis, integris. *Thorax* transversus, dorso utrinque impressus, lateribus angulatis. *Elytra* thorace latiora, apicem versus paullo ampliata, apice rotundata, marginata. *Pedes* robusti, *coxis* anticis fere contiguis, *tarsorum* articulo basali duobus sequentibus longitudine fere æquali, *unguiculis* subtus prope medium dente valido armatis. *Prosternum* breve, inter coxas anticas ad medium extensum. *Metasternum* inter coxas intermedias in processum validum protensum.

Type, *Galleruca grossa*, Hope.

The produced metasternum separates this genus from *Galleruca* and its allies.

Genus Leptarthra.

Corpus oblongo-ovatum, postice ampliatum. *Caput* thoraci ad oculorum marginem posteriorem insertum; *antennis* gracilibus, corporis longitudine fere æqualibus, filiformibus, sæpe ad apicem angustatis, articulo primo curvato, a basi ad apicem incrassato, secundo brevi, tertio illo plus duplo longiore, quarto duobus præcedentibus æquali; *labro* transverso; *mandibulis* apice dentatis; *palpis maxillaribus* articulo primo parvo, secundo paullo elongato, subclavato, tertio paullo incrassato, subpyriformi, ultimo conico, obtuso; *mento* transverso; *oculis* prominulis, ovatis. *Thorax* transversus, a basi ad apicem angustatus, apice concavo, angulis anticis antrorsum productis. *Scutellum* subtrigonatum, apice rotundatum. *Elytra* oblonga, apicem versus perparum ampliata, apice conjunctim late rotundata, valde convexa. *Pedes* graciles, elongati; *procoxis* subcontiguis, prosterno angustatissimo divisis, *mesocoxis* magis separatis, *unguiculis* unidentatis.

Type, *Leptarthra abdominalis*, Baly.

The insects composing the genus *Leptarthra* have hitherto been placed in *Cœlomera*; the resemblance, however, is only external, the structure of their antennæ, together with all their other characters, differing so completely as to render it unnecessary to point out the distinctive marks here.

Leptarthra abdominalis.

L. ovata, postice paullo ampliata, convexa, nitida, obscure viridi-metallica, purpureo-micans; abdomine elytrisque rufo-testaceis, his fortiter subcrebre punctatis, antennis scutelloque nigris.—Long. $4\frac{1}{2}$–$5\frac{1}{2}$ lin.

Hab. Northern India.

Antennæ slender, equal in length to the body; thorax one-half broader than long, sides nearly straight and parallel, narrowed in front, anterior angles prominent, their apex obtuse, upper surface smooth and shining, grooved transversely just behind the anterior border, the hinder disk impressed with three large deep circular foveæ arranged transversely in a gentle curve; scutellum semiovate; elytra deeply punctured, the disk of each with two or more nearly obsolete longitudinal vittæ; anal segment of abdomen in the *male* impressed by a shallow fovea.

Leptarthra Dohrnii.

L. oblonga, postice paullo ampliata, convexa, nitida, obscure viridi-metallica; elytris subfortiter striato-punctatis, striis prope suturam et ad latera sæpe confusis, punctis in striis inordinatim dispositis.—Long. 6–7 lin.

Hab. Northern India.

Antennæ slender, equal in length to the body; thorax at the base nearly twice broader than long, sides nearly straight, narrowed from their base to the apex, the anterior angles prominent, their apex subacute, upper surface sculptured nearly as in the preceding species, the transverse groove in front more deeply impressed, strongly sinuate in the middle, and sending a short longitudinal groove backwards to the central fovea; scutellum rather narrower than in *Leptarthra abdominalis*; surface of the elytra punctate-striate, each stria being formed of several irregular rows of punctures, the outer striæ and those near the suture more confused and often quite lost, interspaces impressed with scattered punctures which vary both in number and depth, sometimes being as deep as those forming the striæ themselves; on the suture, a short distance below the scutellum, is a broad shallow depression; anal segment of abdomen in the *male* impressed by a deep semiovate fovea.

Genus Palpoxena.

Corpus subelongatum. *Caput* exsertum; *antennis* gracilibus, filiformibus, corporis longitudine, articulo primo a basi ad apicem breviter incrassato, secundo brevissimo, tertio primo paullo longiore; *labro* transverso;

mandibulis apice dentatis; *palpis maxillaribus* paullo elongatis, articulo primo brevi, secundo gracili, a basi ad apicem incrassato, tertio *mare* (Plate XI. fig. 7*f*) valde inflato, fere globoso, *fœmina* modice aut vix ampliato, obovato, ultimo *mare* apice articuli præcedentis immerso, obtuso, *fœmina* exserto; *mento* transverso-quadrato; *ligula* crassa, apice obtusa; *palpis labialibus* parvis, articulo ultimo subulato; *oculis* magnis, prominentibus, subrotundatis. *Thorax* transverso-quadratus. *Scutellum* subtrigonatum. *Elytra* oblonga, modice convexa. *Pedes* graciles, subelongati; *procoxis* perpendicularibus, contiguis; *mesocoxis* sat magnis, subcontiguis; *tarsis* gracilibus, articulo primo sequentibus longitudine fere æquali, *unguiculis* appendiculatis.

Type, *Palpoxena læta*, Baly.

The large prominent eyes and the dilated third joint of the maxillary palpi in the male sex will distinguish *Palpoxena* from any hitherto described genus of the family.

Palpoxena læta. (Plate XI. fig. 7.)

P. oblongo-elongata, modice convexa, fulva, nitida; elytris purpureis, apice anguste rufo-fulvis.

Mas. Œdeagus elongatus, acute angulatus, modice curvatus, ante apicem sinuatus, apice ipso deflexo, acuto, lateribus ultra medium paullo dilatatis, hinc ad apicem angustatis, leniter sinuatis.—Long. $4\frac{1}{2}$ lin.

Var. A. Corpore supra (antennis exceptis) purpureo.

Hab. Malacca, Borneo. Collected by Mr. Wallace.

Head smooth, face subquadrate, nearly the whole surface below the antennæ covered by a large, smooth, slightly depressed triangular space, bounded on the sides by a slightly raised margin, the lower portion of the space traversed by a deep transverse depression, whilst its apex extends upwards between the antennæ, terminating immediately above the latter in a deep fovea; clypeus nearly obsolete, its place being occupied by the thickened lower edge of the triangular space; antennæ slender, pale fulvous, terminal joint in the *male* flexuose, acute; thorax narrowly margined, sides slightly produced and rounded in front, narrowed and sinuate behind, anterior angles produced laterally into an obtuse tooth, the posterior slightly produced, subacute, above moderately convex, minutely but not closely punctured, impressed behind the middle of the disk by a broad transverse groove formed by two large transverse foveæ placed side by side; scutellum trigonate, its apex obtuse; elytra oblong, much broader than the thorax, convex, transversely depressed below the base, basilar space on each elytron distinctly elevated, the raised portion being bounded externally by a longitudinal depression within the humeral callus, and beneath by the transverse depression, surface finely and subremotely punctured, interspaces, together with the general surface of the thorax, minutely granulose-punctate.

Genus Metalepta.

Corpus elongatum. *Caput* exsertum, modice porrectum; *antennis* filiformibus, modice robustis, articulo basali curvato, a basi ad apicem incrassato, secundo primo dimidio breviore, tertio paullo elongato; *mandibulis* robustis, apice dentatis; *palpis maxillaribus* articulo ultimo conico; *mento* brevi; *ligula* trigona; *oculis* modice prominulis, subrotundatis, integris. *Thorax* transversus. *Scutellum* transversum, semirotundatum vel obsolete trigonatum. *Elytra fœminæ* abbreviata, apice divaricata. *Abdomen fœminæ* ultra elytra valde extensum. *Pedes* elongati, *unguiculis* ante apicem dentatis. *Prosternum* gracile, postice abbreviatum. *Metasternum* (Plate XI. fig. 9) brevissimum.

Type, *Metalepta tuberculata*, Baly.

Although unwilling to found a genus on a single sex (and that the female), I consider, in the present instance, the extremely short metasternum quite sufficient to separate *Metalepta* from all allied generic forms.

Metalepta tuberculata. (Plate XI. fig. 9.)

M. elongata, obscure cuprea, subnitida; antennis pedibusque piceis, cupreo vix micantibus; capite thoraceque rugosis, hoc quadrituberculato; elytris abbreviatis, concavis, apice divaricatis, utrisque extrorsum reflexo-marginatis margine exteriori bisinuatis; scutello late transverso, obtuse rotundato.—Long. 5–6 lin.

Hab. Peru.

Head rugose; antennæ moderately robust, filiform, six basal joints pale, the five others dark piceous; thorax nearly twice broader than long, sides rounded, armed at each angle with a smooth prominent round tubercle, upper surface transversely excavated across the middle, the surface rugose-punctate, transversely strigose, middle of the disk impressed at the base with a large shallow fovea; elytra granulose, their surface impressed with numerous shallow circular pits, which are more crowded towards the apex; legs pale piceous, third joint of tarsi and the claws darker.

Metalepta De Gandii.

M. elongata, obscure cuprea, nitida; abdominis inflati dorso, corporeque subtus, piceis, cupreo vix micantibus; capite thoraceque rugosis, hoc disco irregulariter excavato, lateribus a basin ad paullo ante medium ampliato-rotundatis, leniter reflexis, hinc ad apicem rotundato-emarginatis, angulis singulis in dentem brevem subacutum productis; elytris abbreviatis, concavis, reflexo-marginatis, rugosis, apice divaricatis, extus flexuosis; scutello lato, obsolete trigonato, lateribus rotundato, apice obtuso.—Long. 5½ lin.

Hab. Peru.

This species differs from the preceding in the absence of tubercles on

the thorax. Head rugose, vertex with two acute tubercles placed transversely above the eyes; antennæ about three-fourths the length of the body (including the dilated abdomen); thorax strongly rugose, deeply and irregularly excavated, and here and there impressed with deep punctures, dilated portions of the sides slightly sinuate at their base, basal margin notched in the middle, causing it to appear bilobed; elytra concave, rugose-punctate, their outer border sinuate; abdomen smooth, its sides non-tuberculate.

Genus Metacycla.

Corpus oblongum. *Caput* exsertum, *facie* trigona; *antennis* gracilibus, filiformibus, *maris* corporis longitudini æqualibus, articulo primo paullo incrassato, secundo brevi, tertio primi longitudini vix æquali, quarto longiore, reliquisque longioribus inter se æqualibus aut perparum leniter decrescentibus; *palpis maxillaribus* articulo ultimo conico; *mento* transverso. *Thorax* transversus, lateribus fere rectis. *Scutellum* trigonum. *Elytra* thorace latiora, oblonga aut ovata. *Pedes* subgraciles, subelongati; *coxis anticis* contiguis, *unguiculis* appendiculatis. *Abdomen fœminæ* inflatum, ultra elytrorum marginem valde distentum. *Metasternum* breve.

Type, *Metacycla Salléi*, Baly.

Closely allied to the preceding genus, but separated by the slender antennæ, the greater development of the metasternum in the *female* (this part, although short, being considerably longer than in *Metalepta*), and the appendiculated claws.

Metacycla Salléi.

M. (*mas*) subelongata, modice convexa, nigro-cærulea, nitida; elytris crebre punctatis, obscure cæruleis; thorace nitido.

M. (*fœm.*) abdomine ultra elytra valde superante, ovato-rotundato, lurido-marginato.—Long. *mas* $2\frac{3}{4}$, *fœm.* 4 lin.

Hab. Mexico.

Antennæ equal in length to the body in the *male*; thorax transversely convex, sides slightly rounded, narrowed from the middle to the base, anterior angles produced into an obtuse tooth, surface finely but not closely punctured; scutellum smooth, trigonate; elytra much broader than the thorax, oblong, obtusely rounded at the apex, the sutural angle rounded, convex, flattened and slightly depressed on the suture in front, surface less closely and coarsely punctured than in the following species; elytra in the *female* broader and shorter, each elytron being narrowly ovate, with the sutural margin rather straighter than the other; on the disk of each are four or five indistinct vittæ; abdomen very convex, impressed on either side within the lateral border with a row of large deep foveæ, the margin itself obscure rufo-fulvous.

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XVII.—*On certain Coleoptera from St. Helena.* By T. Vernon Wollaston, M.A., F.L.S.

Any material from so remote a spot as St. Helena, which is about 1200 miles from the nearest point of the African coast, must of necessity prove highly interesting,—more particularly to the geographical naturalist, for whom a more isolated field could scarcely perhaps be found. True it is that the island must have greatly deteriorated, in a scientific point of view, during the last 300 years, since but few traces of the forests now remain which are said to have clothed it at its discovery; nevertheless in the small parts which are still left untouched, and have escaped the ruthless hand of "civilization," some glimpses of its ancient glory may doubtless be discerned; and from the general character of these "fragmentary remains" we must needs build up our estimate, as correctly as we can, of the primeval forms with which this little oasis of the mid-Atlantic was originally stocked. In the present paper I do not intend to make any allusion to the stray insects which have been recorded, from time to time, by other naturalists from this distant rock,—most of which, like the *Calosoma Helenæ* (brought from thence by Mr. Darwin, and described by the Rev. F. W. Hope), are peculiar to it; but, having lately received from my friend Mr. Bewicke of Madeira a most important batch of 14 species, collected by himself (whilst touching there, *en route* from the Cape, on the 21st of July last), during two or three hours' research "amongst indigenous woods on the extreme summit* of the island," I propose merely to

* By reference to an encyclopædia, it would appear that St. Helena rises abruptly from the Atlantic, and attains an elevation (at its highest point) of about 2700 feet above the sea.

give a critical enumeration of them, and so add a mite to our small, but growing, knowledge of that curious eccentricity which is so frequently conspicuous amongst remote insular forms.

On glancing over the following catalogue, it will be perceived that, of Mr. Bewicke's fourteen species, two belong to the *Geodephaga*, eight to the *Rhynchophora*, and one to the *Lamellicornia*, *Phytophaga*, *Heteromera*, and *Pseudotrimera*, respectively,—indicating a marvellous majority for the weevils, which, if we remove from the list the *Pristonychus complanatus* (which is clearly an introduced insect, and one which has established itself in almost all the Atlantic islands), will number nearly two-thirds of the entire lot! And if we consider, further, that the six extra-Rhynchophorous forms belong to well-known genera (*Calosoma*, *Pristonychus*, *Heteronychus*, *Longitarsus*, *Opatrum*, and *Cydonia*), and that at least three of them are identical with widely-distributed *species*, whilst the eight *Rhynchophora* are *all of them endemic both in species and genus*—and not merely "endemic," but anomalous in structure in proportion to the remoteness of their *habitat*,—we shall scarcely fail to be struck by the conviction that the *Curculionidæ* will, in all probability, be found to play a most important part in the Coleopterous fauna of St. Helena. Indeed, in the remarks under *Microxylobius*, I have expressed my belief (from the mere diversity of configuration presented by the five exponents there described) that it is *almost certain* that the members of that abnormal little group are (in species) locally abundant, and that consequently many additional representatives may yet be looked for: and since the same might be urged, with no less force, for that extraordinary genus *Notioxenus*, there is every reason for suspecting that the *Rhynchophora* of this mountain-island are (in proportion to its size) both numerous and eccentric.

Fam. **Carabidæ.**

Genus Calosoma.

Weber, Observat. Entom. 20 (1801).

1. *Calosoma haligena*, n. sp.

C. supra obscure æneum, subtus nigrum; capite irregulariter punctato; prothorace parvo, transverso, ad latera valde et subæqualiter rotundato (postice vix angustiore), angulis posticis retrorsum productis sed rotundatis, densissime ruguloso-punctato; elytris crenato-striatis, interstitiis æqualibus transversim imbricato-rugatis, punctis æneis in triplici serie impressis; antennis pedibusque nigro-piceis et (in fœmina saltem) brevibus; tibiis intermediis (saltem in sexu fœmineo) leviter incurvis.

Long. corp. lin. 11.

A single specimen (a female) of this fine *Calosoma* was taken by Mr. Bewicke at St. Helena. In its obscurely brassy and rugulose upper-surface it belongs to the same type as the African species *C. Senegalense* and *rugosum*; nevertheless from the former of these it is abundantly distinct. With the latter, judging from the description, it is much more nearly allied; though I am informed by Mr. F. Smith, who has kindly compared it for me with examples in the British Museum, that it is not only more depressed and with the coppery punctures smaller, but that the prothorax is more deeply rugose in front and behind, and that the legs are slenderer and with the pile on the underside of the feet very much softer,—being, in fact, *fine hairs*, instead of *stiff bristles*. Apart from the characters, however, which separate it from the *C. rugosum* in particular, I may just add, that its very small and short prothorax (which is almost equally rounded before and behind, and has its posterior angles, although backwardly produced, very obtuse), in conjunction with its transversely-imbricated and *equally*-convex elytral interstices and its shortened limbs (at any rate in the female sex, of which I can alone speak), should be especially noticed.

Genus Pristonychus.

Dejean, Spec. des Col. iii. 43 (1828).

2. *Pristonychus complanatus*, Dej.

Pristonychus complanatus, Dej., Spec. des Col. iii. 58 (1828).
—— *alatus*, Woll., Ins. Mad. 27 (1854).
—— ——, id., Cat. Mad. Col. 11 (1857).

Three specimens of this insect were taken by Mr. Bewicke at St. Helena; and I have seen another, from the same locality, in the collection of Mr. Fry. It is a species of Mediterranean latitudes, occurring in Portugal, Spain, the south of France, Italy, Sicily, Egypt, and the coast of Barbary; and one which also abounds in most of the Atlantic islands. It is said to be common throughout the Azorean archipelago; and I have myself captured it in Madeira and Porto Santo, as well as in Lanzarote, Teneriffe, and Palma (of the Canaries). It is recorded by Dejean as having been found even in Chili.

Fam. **Oryclidæ.**

Genus Heteronychus.

(Dej.) Burm., Handb. der Entom. v. 90 (1847).

3. *Heteronychus arator*, Fab.

Scarabæus arator, Fab., Ent. Syst. i. 33 (1792).
Geotrupes arator, id., Syst. Eleu. i. 21 (1801).
Heteronychus arator, Burm., Handb. der Entom. v. 94.

A single specimen of this *Heteronychus*, taken by Mr. Bewicke at St. Helena, agrees precisely (so far as I can detect) with numerous examples of the same species which he captured at the Cape of Good Hope, from which locality it was originally described by Fabricius in 1792. It may possibly be identical with the *H. Sanctæ-Helenæ* of Hombron and Jacquinot, characterized in the Zoological portion of Dumont d'Urville's 'Voyage au Pole Sud sur les Corvettes l'Astrolabe et la Zélée' (p. 105. pl. 7. f. 6); but if such should be the case, the latter cannot be more than a variety (if indeed that) of the South African *arator*; and I may add, that my friend Dr. Schaum of Berlin, to whom I lately transmitted the St. Helena specimen for comparison, and who has paid great attention to this department of the Lamellicorns, at once identified it with the Fabrician species.

Fam. **Curculionidæ.**

Genus Microxylobius.

Chevrolat, Trans. Ent. Soc. Lond. (1st series) i. 98 (1836).

Having given a full diagnosis of this curious genus in my late enumeration of "the Atlantic *Cossonides*," published in the 'Transactions of the Entomological Society of London,' accompanied with lengthened observations on its structure and affinities, I will not repeat any of them in the present paper. The five exponents recorded below (and which were there characterized) appear to be congeneric with the minute *Curculio*, from St. Helena, described by M. Chevrolat under the title of *Microxylobius Westwoodii*; and, from the great diversity of their outward contour, it would seem far from improbable that many allied forms yet remain to be detected, and that, like the *Caulotrupides* in Madeira, they will be found to be an extensive insular assemblage. For all critical and diagnostic remarks I must refer to the above-mentioned memoir.

4. *Microxylobius lacertosus*, Woll.

Microxylobius lacertosus, Woll., Trans. Ent. Soc. Lond. (1861).

5. *Microxylobius lucifugus*, Woll.

Microxylobius lucifugus, Woll., Trans. Ent. Soc. Lond. (1861).

6. *Microxylobius terebrans*, Woll.

Microxylobius terebrans, Woll., Trans. Ent. Soc. Lond. (1861).

7. *Microxylobius Chevrolatii*, Woll.

Microxylobius Chevrolatii, Woll., Trans. Ent. Soc. Lond. (1861).

8. *Microxylobius conicollis*, Woll.

Microxylobius conicollis, Woll., Trans. Ent. Soc. Lond. (1861).

Genus Nesiotes, nov. gen. (Pl. XIV. fig. 3.)

Corpus fere ut in *Microxylobio*, sed dense squamosum, ovatum, genus *Acalles* (Cryptorhynchidum) omnino simulans, supra et infra grosse alutaceum (nec aliter sculpturatum), rostro apiceque ipso abdominis inferiore solis lævioribus et punctatis; *rostro* longiore graciliore, necnon ad basin (mox ante oculos) subito transversim constricto, quasi (prima facie) ibidem articulato; *scrobe* infra oculos desinente, et cæt. ut in genere præcedenti, sed elytris in medio prothorace multo latioribus. *Antennæ* ut in *Microxylobio*; sed *scapo* paulo longiore et ad apicem magis clavato; *funiculo* 5-articulato, art. 1mo secundo distincte latiore, 2do tertio multo (et etiam primo paulo) longiore. *Pedes* ut in genere præcedenti, sed dense squamosi, *antici* ad basin vix distantiores; *femoribus* muticis, paulo magis clavatis, et *unco tibiali* acutiore, magis incurvo.

A νησιώτης insulæ incola.

The remarkable little insect for which I have been compelled to erect the present genus has, at first sight, so much the appearance of a small *Acalles*, that (before critically overhauling it) I had placed it aside as a member of that group. On closer examination, however, its funiculus is composed of only five joints (instead of seven), whilst there is no trace of a pectoral groove for the reception of its rostrum. It is consequently excluded from the whole subfamily *Cryptorhynchides* by the latter circumstance alone; whilst from the *Cossonides*, with some of the genera of which it would agree as regards the former, it is altogether remote. Its affinities are indeed extremely doubtful; but, upon the whole, I should have been inclined to suspect that the *Cholides* would perhaps have received it more readily than any other of Schönherr's subfamilies, had not Prof. Lacordaire assured me that in his opinion it could not properly be associated with the exponents of that department. Nevertheless I may add that M. Jekel concurred with me in regarding the *Cholides* as its most probable location,—adding that, when thus situated, it would find a "somewhat allied neighbour, in general outline and many analogous characters, in the genus *Pylarus*, from the Cape of

Good Hope." Nevertheless it must be admitted that its real position, in a natural classification, is very questionable.

9. *Nesiotes squamosus*, n. sp. (Pl. XIV. fig. 3.)

N. ovatus, fusco-piceus, opacus et squamis fusco-brunneis crassis plus minus obsitus; prothorace convexo, mox ante medium rotundato-ampliato, postice angustiore subrecto; elytris convexis, ovatis antice truncatis et postice leviter acuminatis (*i. e.* mox intra apicem leviter constrictis); antennis (præsertim ad basin) tarsisque calvis rufescentibus.

Long. corp. lin. $1\frac{1}{3}$.

Two specimens only of this curious little weevil were amongst Mr. Bewicke's captures at St. Helena.

Fam. **Anthribidæ.**

Genus Notioxenus, nov. gen. (Pl. XIV. figs. 1, 2.)

Corpus sat parvum, oblongo-ovatum, vel pubescenti-variegatum vel subglabrum et pictum, quasi vere Curculionideum: *rostro* brevi, triangulari, apice rotundato-truncato; *oculis* lateralibus, rotundatis, demissis: *prothorace* subovato postice truncato, ante basin vel linea impressa vel striga elevata (plus minus arcuatis) transversim instructo: *scutello* minutissimo (ægre observando): *elytris* ovalibus basi truncatis, postice paulo abbreviatis (pygidium vix tegentibus), necnon ad apicem ipsum singulatim paulo rotundatis. *Antennæ* graciles, rectæ, in pagina superiore rostri (mox intra oculos in fovea) insertæ; articulis 1mo et 2do longiusculis (illo paulo robustiore curvato), 3tio ad 8vum longitudine subæqualibus, latitudine leviter crescentibus, reliquis clavam elongatam laxam 3-articulatam sat abruptam pilosam efficientibus (9no et 10mo intus obsolete productis, ultimo subgloboso). *Pedes* breviusculi, subgraciles; *tibiis* rectis, ad apicem muticis; *tarsis* pseudotetrameris, art. 1mo longiusculo, 2do paulo breviore latiore, ad apicem leviter emarginato, 3tium latiorem bilobum recipiente.

A νότιος austrinus, et ξένος hospes.

Regarding the affinities of this singular genus there cannot be much question,—its *straightened* antennæ, which are implanted on the upper surface of the rostrum, immediately within the eyes, in conjunction with their lax triarticulate club, its sub-basal prothoracic line, slightly abbreviated elytra, and the construction of its second and third tarsal joints at once assigning it to that small section of the *Anthribidæ* of which, I believe, the only recorded genera are *Caranistes* (from Madagascar), the partially saltatorial *Aræocerus* (from Java, India, &c.), and the saltatorial *Choragus* and *Xenorchestes* (from Europe and Madeira respectively). Nevertheless in

external contour it must be admitted that it is most anomalous, presenting such an exact resemblance to the ordinary *Curculionidæ* (as, for instance, some of the Atlantic *Cyclomides*, such as *Atlantis* and *Laparocerus*), that it is scarcely possible at first sight to help associating it with the members of that family. It is on this very account, however, peculiarly interesting; for, if there had been any doubt as to the real affinity of the Orthocerous and Gonatocerous divisions of the *Rhynchophora*, assuredly such a genus as *Notioxenus*, which combines the structural features of the former with the almost precise outward likeness of the latter, would have gone far to dispel it.

10. *Notioxenus Bewickii*, n. sp. (Pl. XIV. fig. 1.)

N. fusco-niger, subopacus, impunctatus, squamulis fuscis dense tectus et cinereis parce pictus; prothorace linea sub-basali impressa curvata notato et plagis tribus longitudinalibus cinereo-squamosis obscure picto; elytris impunctato-striatis, maculis minutis plurimis cinereo-squamosis irroratis; antennis fuscis, basi rufo-testaceis; pedibus fusco-piceis, genibus rufescentioribus, tarsis picescenti-testaceis.

Long. corp. lin. $2\frac{3}{4}$.

A single specimen of this extraordinary insect was taken by Mr. Bewicke; and I have much pleasure in dedicating it to its captor, to whose researches we are indebted for the several novelties described in the present paper. At first sight it has much the outline and colouring of a Madeiran or Canarian *Atlantis*,—its dark-brown, densely-clothed surface, relieved only by small and indistinct patches of dull cinereous scales, somewhat calling to mind certain members of that group. Not to mention many other characters, its almost impunctate, though rather alutaceous and subopake surface (which, however, can only be perceived when the pubescence is removed), in conjunction with its unpunctured elytral striæ, and its deeply-impressed and curved sub-basal prothoracic line, deserve to be especially noticed.

11. *Notioxenus rufopictus*, n. sp. (Pl. XIV. fig. 2.)

N. piceo-ater, nitidus, subglaber; prothorace striga sub-basali elevata minus curvata notato, profunde et dense punctato; elytris profunde crenato-striatis, interstitiis convexis, parce, minutissime et irregulariter punctulatis, maculis parvis plurimis (præsertim ad basin et versus latera) rufis vel rufo-testaceis (plus minus confluentibus) ornatis; antennis fuscis, basi rufo-testaceis; pedibus nigro-piceis, femoribus versus apicem genibusque rufescentioribus, tarsis picescenti-testaceis.

Long. corp. lin. vix $1\frac{2}{3}$.

The black, shining, and less pubescent surface of this beautiful

little *Notioxenus*, its strongly and closely punctured prothorax (the sub-basal line of which is *raised*, instead of impressed, and not much curved), added to the convex interstices, deeply-crenate striæ, and the numerous small and bright rufo-testaceous patches of its elytra, will at once abundantly distinguish it. Like the last species, a single specimen only was captured by Mr. Bewicke.

Fam. **Halticidæ.**

Genus Longitarsus.

Latreille, Fam. Nat. des Ins. 405 (1825).

12. *Longitarsus Helenæ*, n. sp.

L. oblongo-ovatus, subnitidus, obscure viridescenti-æneus, alutaceus; prothorace parce et leviter punctato, ante medium latiusculo, postice paulo angustiore, angulis posticis obtusis; elytris sat profunde punctatis; antennis pedibusque longissimis, rufo-testaceis, illis versus apicem femoribusque posticis paulo obscurioribus.

Mas, tarsis anterioribus articulo basilari valde elongato dilatato [secundo latiore].

Long. corp. lin. vix 1.

The greenish-brassy alutaceous surface and pale elongate limbs of this little *Longitarsus*, in conjunction with the broad, largely-developed basal joint of its four anterior male feet, will sufficiently characterize it. A single specimen only was taken by Mr. Bewicke. It is quite distinct from any species with which I am acquainted; and Mr. Waterhouse, who has been working lately at the *Halticidæ*, assures me that he knows nothing at all like it.

Fam. **Coccinellidæ.**

Genus Cydonia.

Mulsant, Spec. des Col. Trim. Sécurip. 430 (1851).

13. *Cydonia lunata*, Fab.

Coccinella lunata, Fab., Syst. Ent. 86 (1775).
—— ——, id., Syst. Eleu. i. 384 (1801).
Cydonia lunata, Muls., Col. Trim. Sécurip. 431 (1851).

An insect of a very wide geographical range,—being recorded from Senegal, the Cape of Good Hope, Caffraria, Madagascar, the islands of Bourbon and Mauritius, the East Indies, and Java. It is a most variable species; and whatever doubt may be entertained as to the claim for separation of some of the extreme states which have been ascribed to it, there can at least be no question about the St. Helena

form, which must be regarded as the typical one,—the specimens described originally by Fabricius (in 1775), in the Banksian collection, being from St. Helena. It is probably the common *Coccinella* of the island. Four examples were taken by Mr. Bewicke (who likewise captured it at the Cape of Good Hope); and I have seen others in the possession of Mr. Fry.

Fam. **Opatridæ.**

Genus Opatrum.

Fabricius, Syst. Ent. 76 (1775).

14. *Opatrum Hadroides*, n. sp.

O. latiusculum, nigrum, breviter fulvescenti-pubescens; capite lato, ad latera ante oculos rotundato-ampliato (nec angulato); prothorace brevi, ad latera vix rotundato, apice haud profunde emarginato, angulis anticis subrotundatis (nec longe porrectis acutis), angulis posticis acutis (sed haud longe retrorsum productis); elytris parallelis, punctato-striatis, ad humeros rectangulis.

Long. corp. lin. 4½.

Although unwilling to erect a new species in such an extensive and obscure genus as *Opatrum*, yet, after a careful comparison of the present insect with a long series of Atlantic forms (from Madeira, the Canaries, the Cape de Verdes, and the Cape of Good Hope,—two from each), I am induced to do so in this instance, since the remoteness of its island-*habitat* renders it *à priori* probable that it will be found to be peculiar to St. Helena. The whole of the winged *Opatra* (*i. e.* the *Gonocephala* of Solier) are moulded so nearly on the same type, that small differences which might be disregarded in many groups become important with them; and, after a close examination, I am convinced that there are no characters so much to be depended upon as the exact form of the dilated sides of the head (immediately in front of the eyes), and the relative depth of the emargination (accompanied with the greater or less prominence and acuteness of the anterior angles) of the prothorax. The *O. Hadroides* is very nearly akin to a species which was taken by Mr. Bewicke at the Cape of Good Hope; but is altogether rather larger, broader, and more parallel, its head is a little wider, with the lateral expansion, in front of the eyes, more rounded (or less angular at the extreme point of projection), its prothorax is less deeply scooped-out in front, with the anterior angles (consequently) less porrected and more obtuse; the hinder angles also are somewhat less produced, and its shoulders are more rectangular. Although narrower and on a smaller scale, it has

a slight *primâ facie* resemblance, in general contour, to the more parallel-sided *Hadri* (such as the *H. alpinus* and *Paivæ*),—a circumstance which has suggested its trivial name.

XVIII.—*Description and Figures of a new Genus and Species of* Gallerucidæ. By J. O. Westwood, Esq.

Genus Chalœnus.

Corpus oblongo-ovale, subconvexum, læve, nitidum; *capite* brevi, lato, supra transverso; *facie* verticali, magna; *prothorace* transverso, capite haud majore; *elytris* subovalibus. *Caput* transversum, breve, supra parum convexum; *oculis* rotundatis, angulos anticos laterales occupantibus, vertice in medio in tuberculum rotundatum (in cujus parte antica insident antennæ basi approximatæ) paullo elevatum. *Facies* magna, quadrata, verticalis, infra truncata; *clypeo* parvo, distincto, antice angustato; *labro* parvo, antice rotundato, margine setoso. *Mandibulæ* latæ, breves, extus rotundatæ, antice convexæ; *maxillæ* parvæ, lobo apicali tenui curvato, apice acuto; *palpi maxillares* parvi, tenues, articulo 1mo brevissimo, 2do et 3tio longioribus ad apicem sensim incrassatis, 4to minuto acuminato. *Mentum* parvum, breviter subcordatum, lateribus rotundatis. *Labium* ejusdem formæ et paullo majus. *Palpi labiales* parvi, articulo basali minuto, 2do majore sensim incrassato, 3tio parvo acuminato. *Antennæ* fere corporis longitudine, in medio paullo crassiores, apicem versus attenuatæ, articulo 1mo capite longiore, tenui, apice clavato, 2do minuto, 3tio longitudine dimidium articuli 1mi excedente, reliquis setosis et sensim longitudine decrescentibus, intermediis crassioribus, apicalibus attenuatis, ultimo appendicula minuta conica terminato. *Prothorax* brevis, transversus, capite paullo angustior, lateribus et margine postico margine tenui elevato instructis. *Scutellum* triangulare. *Elytra* ovata, convexa, lævia, tenue marginata. *Prosternum* simplex. *Pedes* mediocres, femoribus satis robustis; *tibiis* paullo incurvis; *tarsis* dilatatis, subtetrameris; *unguibus* basi appendiculatis.

Obs. The description and drawing of the parts of the mouth are not so complete as I could have wished, not having considered myself at liberty to dissect the specimens lent to me by the authorities of the Leyden Museum.

Chalœnus latifrons. (Pl. XII. fig. 1.)

C. luteus; antennis in medio, facie, mandibulis, tibiis tarsisque piceis; elytris læte purpureis; corpore supra lævi; elytrorum lateribus serie marginali punctorum impressis.

Long. corp. lin. $3\frac{1}{2}$.

Hab. Batang Singalang. In Mus. Lugdunensi.

Facies in medio parum concava, utrinque lineis duabus impressis

obliquis notata, intermediis ad basin antennarum supra extensis. Clypeus et labrum lutea. Mandibulæ nigræ, nitidæ. Caput infra, cum partibus inferioribus oris, luteum. Antennæ articulo basali luteo, apice cum articulis 2 et 3 piceis, articulis 4–8 nigris, reliquis luteis. Pars tota supera capitis, prothorax, scutellum et portio infera corporis cum femoribus lutea, fulvo tincta.

Note.—Mr. Westwood, being prevented by want of leisure from studying the affinities of *Chalœnus*, has requested me to do so, and assign the insect to its proper family in the great group of Phytophagous insects. This (although feeling far less adequate to the task than the author himself) I have endeavoured to do, placing the genus amongst the *Gallerucidæ*, as I consider that the structure of the mouth and tarsi, together with the approximation of the antennæ at their base, point out that family as its true position. In the form of the body it approaches somewhat to the *Gallerucidæ anisopodæ*, the broad, flattened, and perpendicular head in particular bearing a striking likeness to the same part in *Loxoprosopus*, a genus of *Halticidæ*; but, on the other hand, the slender hinder thighs, not fitted for leaping, and the extremely narrow and weak prosternum place it without doubt in the Isopodous section of the family. I think it ought to stand not far from *Cœlomera*, Erichs. In my own cabinet I possess a second species of the genus, collected by Mr. Wallace, which differs in many respects from Mr. Westwood's; of this I have ventured to give a description in the present note.—Joseph S. Baly.

Chalœnus suturalis. (Pl. XII. fig. 2.)

C. ovalis, convexus, fusco-fulvus, nitidus, oculis antennisque nigris, harum apice, tibiis tarsisque piceis; thorace transverso; elytris ovatis, reflexo-marginatis, lævibus, postice obsolete punctulatis, utroque infra basin lineis quatuor punctorum impressorum instructo, nigro, vitta lata suturali vix infra basin emarginata, postice angustata obscure fulva.

Long. $3\frac{1}{4}$ lin.

Hab. Amboyna.

Head scarcely narrower than the thorax, face flattened, broad and subquadrate, lower portion transversely concave, either side with an impressed line, which commencing near the base of the jaw runs obliquely upwards to join its fellow between the insertion of the antennæ, at its apex is a short ridge which extends upwards as far as the upper edge of the eyes, above this again but continued in the same line is a short groove; antennæ similar to those of *L. latifrons*, with the exception of the four last joints, which are much shorter: thorax twice as broad as long, sides narrowly margined, produced and rounded in front, narrowed and sinuate near the base, all the

angles distinct, the posterior slightly produced, surface smooth, impunctate; elytra ovate, slightly broader than the thorax, their outer border reflexed and impressed with a single row of distinct punctures, basal portion of each elytron impressed with four longitudinal rows of deeply impressed punctures, the outer one commencing at the base within the humeral callus and extending somewhat obliquely for about one-third the length of the elytron, the three others running parallel to the first but much shorter, commencing only below the basilar space, the inner two less distinct.

XIX.—*Contributions to an Insect Fauna of the Amazon Valley.*—Lepidoptera—Papilionidæ. By H. W. Bates.

In the two principal works on the Diurnal or Rhopalocerous Lepidoptera, viz. the 'Spécies Général' of Dr. Boisduval, and the 'Genera of Diurnal Lepidoptera' of Doubleday and Hewitson, the family Papilionidæ is made to consist of a limited number of genera, of which the restricted genus *Papilio* is considered the type. In the present treatise I propose to extend it so as to embrace also the family Pieridæ of the same authors, reducing the two groups to the rank of subfamilies. The Papilionidæ differ from the Pieridæ only in having the abdominal border of the hind wings excavated, and in the tarsal claws being simple instead of bifid—characters which, when the whole division Rhopalocera is carefully studied, I think will be found to be of subordinate rank. Both families agree in possessing six perfect legs in both sexes, in the pupa being secured by the tail and a silken girdle across the middle in an upright position, and in the wing-cells (at least of the hind wing) being always closed by perfect tubular nervules. The importance of these characters in distinguishing family groups becomes evident only when the whole division is studied; it will then appear also, I think, that the Papilionidæ have been erroneously placed at the head of the Rhopalocera, a position accorded to them by nearly all Lepidopterists. On this subject a few remarks will not be out of place as preliminary to a review of the Amazonian species. It may be of minor importance in what order a number of natural families are successively treated in a descriptive work; but it is necessary that clear and correct ideas, as far as possible, should be acquired of their true relations to each other.

All the Heterocerous Lepidoptera or Moths have six perfect legs in both sexes. This is the universal rule also in the orders allied to Lepidoptera, viz. Trichoptera and Hymenoptera; it cannot be with-

out significance, therefore, that several families of Butterflies or Rhopalocera have only four perfect legs, the first pair being more or less aborted or rudimentary. This character is not inconstant or intermittent; it is absolutely universal throughout an immense diversity of generic forms. The degree of abortion of the fore legs, moreover, is different in the sexes, the male taking the lead in the atrophy of the organs; the nature of the sexual difference also being constant and characteristic of large groups of genera constituting, as I believe, natural families. Thus, in this division of the order we have, first, two families in which the fore legs are perfect in both sexes, then, two in which they are imperfect in the male, but perfect in the female—in the one being slightly, in the other greatly aborted in the former sex; and, lastly, one in which they are imperfect in both sexes. The Papilionidæ and Pieridæ of authors possess six perfect legs; they are, with the Hesperidæ, the only groups of the division which are in this condition, and they should, I think, on this account occupy the lowest places in the series of families; whilst that group in which the atrophy of the fore legs is most complete should be placed at the head, as being the farthest removed from the Heterocera, and therefore the extreme development of the Rhopalocerous type.

A natural classification of the Rhopalocera, then, according to this view, would commence, in an ascending series, with the Hesperidæ. In this family all the legs are perfect, and the hind tibiæ, with only a few exceptions, have two pairs of spurs, as in nearly the whole of the Heterocera. Next to them would follow the Papilionidæ (and Pieridæ), which, although quite unconnected with the Hesperidæ, no connecting links between the two families being known, have like them six perfect legs. Then would succeed the groups with imperfect fore legs. The characters thus derived from the structure of the legs harmonize well with those furnished by the metamorphoses, and partly with those derivable from the wing-neuration, as will be seen in the following table, wherein I have attempted to establish five families, subordinating to them as subfamilies the greater part of those proposed by authors.

Family 1. *Hesperidæ.* Six perfect legs in ♂ ♀; hind tibiæ, with few exceptions, having two pairs of spurs. Larva inhabiting a rolled-up leaf; pupa secured by many threads, or enclosed in a slight cocoon.

Family 2. *Papilionidæ.* Six perfect legs in ♂ ♀. Wing-cells (at least of the hind wings) closed by perfect tubular ner-

vules. Pupa secured by the tail and a girdle across the middle in an upright position.

Subfam. 1. *Papilioninæ.*

Subfam. 2. *Pierinæ.*

Family 3. *Lycænidæ.* Six perfect legs in ♀; four in ♂, the fore tarsi wanting the tarsal claws, but densely spined beneath. Wing-cells (except in *Eumæus**) not closed by perfect nervules. Pupa secured by the tail and a girdle across the middle.

Family 4. *Erycinidæ.* Six perfect legs in ♀; four in ♂, the fore tarsi consisting only of one or two joints, and spineless.

Subfam. 1. *Erycininæ.* Pupa recumbent, flattened beneath, secured by the tail and a girdle across the middle.

Subfam. 2. *Stalachtinæ.* Pupa not flattened beneath, secured rigidly by the tail in an inclined position, without girdle†.

Subfam. 3. *Libytheinæ.* Pupa suspended freely by the tail.

Family 5. *Nymphalidæ.* Fore legs imperfect in both sexes: in the ♀ wanting the tarsal claws; in the ♂ the fore tarsi aborted, consisting only of one or two joints. Pupa suspended freely by the tail.

a. Lower disco-cellular nervule, especially of the hind wing, more or less atrophied.

Subfam. 1. *Nymphalinæ* (*Nymphalidæ*, *Ageronidæ*, *Eurytelidæ*, and *Morphidæ* (part.) of authors).

b. Lower disco-cellular nervule perfect.

Subfam. 2. *Brassolinæ.*

Subfam. 3. *Satyrinæ.*

Subfam. 4. *Danainæ.*

Subfam. 5. *Heliconinæ*‡.

Subfam. 6. *Acræinæ.*

* This genus constituted a distinct family in the system of Boisduval (Spec. Gén.); it was incorporated with the Lycænidæ by Westwood in Doubled. & Hew. Gen. Diurn. Lep. If the lower disco-cellular nervule prove to be aborted constantly in the numerous aberrant genera of Lycænidæ of Eastern Asia, the genus *Eumæus* might form a subfamily of Lycænidæ founded on the closure of the wing-cells.

† The transformations of *Stalachtis* have not yet been recorded. The statement here made is founded on unpublished observations of my own on *St. Calliope.*

‡ The constitution and affinities of the subfamilies *Danainæ*, *Heliconinæ*, and *Acræinæ* will be discussed in a paper on those groups which I shall publish shortly.

In the last of these families, the Nymphalidæ, there are certain genera and species which exhibit a still further degree of atrophy of the fore legs than that indicated in the description, and prevailing in the majority of the species; but this extreme point of imperfection is not common to definite series of genera, and therefore is not of any great systematic value. It shows, however, a tendency to further advance in the direction which we have seen indicated in the successive families; and the genera which furnish such instances must be considered as exhibiting the highest development of the type of the family, and as being the farthest removed from the division Heterocera. These genera, however, belong to subfamilies widely different in many respects, and placed far apart in the received classifications, but which agree in the wing-cells being closed by perfect nervules. The nature of the atrophy is not, however, the same in both. Thus, in the Heliconinæ several genera have in the ♂ the fore tibiæ rudimentary, the tarsi having entirely disappeared; in one genus (*Saïs*) the femora also are much reduced in size. The fore legs of the ♀ are in the same insects very slender and feeble, but exhibit all the articulations, except in some species where the fifth appears to be wanting; they cannot be said, however, to be more rudimentary than in the typical Nymphalidæ. On the other hand, in the Satyrinæ there are many species, but probably not whole genera, which have the fore legs extremely reduced in both sexes. In *Lymanopoda* they are very short, weak, and similar in appearance in the males and females; and in several species of *Satyrus* the tarsi in the female are jointed, but are deprived of spines at the end of the articulations, and are similar in clothing to those of the males. In *Cœroïs* the fore legs of the males are of the same rudimentary structure as that of the Heliconinæ above mentioned; thus, in the Satyridæ there are some species in which the females as well as the males show a great degree of atrophy of the organs in question, and in others the males only.

The atrophy of the fore legs in large numbers of the Diurna is no new fact in Lepidopterology; it was known to the earliest writers on the order; but the difference of structure according to sex remained long undiscovered. No application or mention is made of it, except with regard to the Erycinidæ by Dr. Boisduval in his 'Species Général,' published in 1836. The order, in fact, has not generally had the advantage of being studied in a scientific spirit. A preconceived notion seems to have prevailed that no important characters were to be derived from the structure of the adult insects. Latreille called the order "the stumbling-block of entomologists." The

difference in the sexes of the Lycænidæ with regard to the legs was not detected until 1843, when Drs. Adolf and Otto Speyer published a treatise on the subject. This, which was called by Erichson in his Annual Report "a beautiful discovery," aided very much to complete our knowledge of the different variations of structure*. Ten years afterwards, viz. in 1853, the legs were first employed as the leading feature in the classification of the Diurna by two authors, viz. Lederer in Austria, and Wallengren in Sweden. Both applied their system, however, only to the European species, and neither seemed to recognize the distinction between the Lycænidæ and Papilionidæ. Wallengren† divided the section into—1. Tetrapodes, 2. Hexapodes, and 3. Heteropodes. Lederer‡ also proposed three divisions (excluding the Hesperidæ), viz.: 1. All feet perfectly developed in both sexes—Equites (Papilionidæ), Pierides, Lycænides. 2. Fore legs in ♂ imperfect, in ♀ perfect—Erycinides and Libytheides. 3. Fore legs rudimentary in both sexes—Nymphalides, Danaides, and Satyroides. Of these two arrangements the latter appears to me the most natural, and is the one nearest approaching the classification I have here proposed.

The Papilionidæ are not represented in the Amazon region by a great diversity of forms. Of the nine described genera of the subfamily Papilioninæ only one is found, and of the sixteen genera of Pierinæ only four. The genera, however, are rather numerously represented in species, and most of the species in individuals. Of the genus *Papilio* there are found 35 species and subspecies, besides 8 well-marked local varieties—forming altogether about 28 true or good species; of *Leptalis* 13, of *Pieris* 11, of *Callidryas* 7, and of *Terias* 17. Many of them, however, are very closely allied to each other. I have, in the review of the species, adopted the principle of discriminating and

* Since writing the above, I have acquired a copy of Horsfield's "Catalogue of the Lepid. Ins. Mus. East India Company." I find therein that the discovery alluded to by Erichson had been made by Dr. Horsfield, and published in 1828. This author investigated thoroughly the structure of the fore legs, both male and female, in the Lycænidæ. He found a single claw at the tip of the male tarsi in some genera; in others the claws of the female were much reduced. The East Indian Archipelago contains a number of aberrant genera of this family, which are probably transition-forms to Pieridæ and Erycinidæ. It is remarkable that these important investigations of Dr. Horsfield should have remained so long inutilized by the leading authors of works on the Lepidoptera.

† Lepidoptera Scandinaviæ Rhopalocera. disposita et descripta. Auctore J. Wallengren. Malmoe, 1853.

‡ Versuch die Europaischen Lepidopteren in möglichst naturliche Reihenfolge zu stellen, &c. Verhandl. des zool.-bot. Ver. Wien.

naming every well-marked local variety, referring it, however, to its supposed parent form wherever the evidence was sufficient to warrant it. The same comparisons and inferences, however, which are usually applied to affiliate local forms and varieties, I consider it logical and necessary to apply to reputed species. Discussions upon the derivation and relationship of local varieties are of great scientific interest; but they only reach their true value when they are applied also to the apparently more distinct forms. It is not, I conceive, according to the spirit of inductive science that the method which is applied to prove the natural derivation of a semi-distinct form should be relinquished on the incorporation of the variety with the species.

Family **Papilionidæ.**

Subfamily Papilioninæ.

Genus Papilio, Authors*.

1. *P. Crassus,* Cramer.

P. Crassus, Cram. 112 c.

Upper Amazons and Pará. Found throughout Brazil and Guiana, as far south as Rio Janeiro, without modification; in Venezuela it presents a well-marked local form, *P. Lepidus,* Felder (Lep. Nov. Columbiæ, no. 1).

2. *P. Belus,* Cram.

♂. *P. Belus,* Cram. 112 a. b.

Upper Amazons; appears to be confined to this region and Guiana.

3. *P. Varus,* Kollar.

♀. *P. Varus,* Koll. Beitr. Ins. Fauna von N. Granada, t. 1. f. 3, 4.

Upper Amazons. Probably the ♀ of *P. Belus.*

4. *P. Numitor,* Cram.

P. Numitor, Cram. 113 b.

Pará; also Guiana and Venezuela. I consider it to be a local form of *P. Belus.*

5. *P. Lycidas,* Cram.

♀. *P. Lycidas,* Cram. 113 a.

♂. *P. Erymanthus,* Cram. 113 c.

Upper Amazons and Pará; also Guiana: not found, or any form nearly resembling it, in any other part of Tropical America, to my

* The natural history and synonymy of the Amazonian species of *Papilio* I have given in greater detail in the Trans. Ent. Soc. vol. v., n. s., "Contributions to an Insect Fauna of the Amazon Valley: genus *Papilio.*"

knowledge. This and the preceding species inhabit open sunny places in the forest or on its borders; they are bold and rapid fliers. The males resort to moist places on the banks of streams, the females frequent flowers. They resemble, in some features of structure and coloration, the Ornithopteræ of South-eastern Asia; and are connected by affinity, through *P. Philenor* of North America, with the *Machaon* group of Papiliones.

6. *P. Polydamas*, Linn.

P. Polydamas, Linn.; Cram. 211 D. E.

A widely distributed species; found throughout the Amazon region in cultivated places, frequenting flowers. In the West India Islands it is somewhat modified,—in Chili much more strongly so, the form from that country ranking as a distinct species, viz. *P. Archidamas*, Boisd.

7. *P. Pausanias*, Hewits.

P. Pausanias, Hewits. Trans. Ent. Soc. 1852, pl. 6. f. 2.

Upper Amazons, and descending the river as far down as Villa Nova. The male only has been found; the female probably is confined to the shades of the forest, where the species of *Heliconia*, which it mimics in colours, is also found: the male I have sometimes observed flying about the summits of the lower trees, although it is most frequently seen on the margins of streams, in company with *P. Belus* and allies.

8. *P. Ariarathes*, Esper.

♀. *P. Ariarathes*, Esper, Ausl. Schmett. t. 14. f. 2.
♂. *P. Ilus*, Boisd. Sp. Gén. Pap. no. 104 (as *Ilus*, Fab.).
Local var. (1) *Cyamon*, ♂, Gray, Cat. B.M. p. 60. pl. 7. f. 1.
———, ♀, Bates, Trans. Ent. Soc. n. s. v. p. 337.
Local var. (2) *Gayi*, ♂, Lucas, Rev. et Mag. Zool. 1852, p. 195.
Local var. (3) *Evagoras*, ♂ ♀, Gray, Cat. B.M. p. 61. pl. 9. f. 3, 4.

P. Ariarathes (type) is found at Pará; in ascending the river it becomes modified. On the Rio Negro the var. *Evagoras* prevails (as it seems to do also in Venezuela); it is also found at Ega, on the Upper Amazons. At the latter place *Cyamon* is the most prevalent form. *Gayi* is an extreme variety of the ♂ found at Ega, and near Cusco, between Peru and Bolivia. The true *Ilus* of Fabricius is quite a different species, inhabiting Venezuela, and probably identical with the one recently published by Dr. Felder as *P. Hostilius* (Lep. Nov. Columbiæ, no. 5).

9. *P. Hippason*, Cram. Local var. *Paraensis*.

P. Paraensis, Bates, Trans. Ent. Soc. n. s. v. p. 337.
Hippason, var. *b*, Gray, Cat. B.M. p. 58. pl. 10. f. 3.

P. Hippason is found at Pará only as a local var. of the Guianian species, figured by Cramer. The var. affects chiefly the ♀.

10. *P. Anchisiades*, Esper.

P. Anchisiades, Esp. Ausl. Schmett. t. 13. f. 1, 2.
♂ ♀. *P. Anchises*, Cram. 318 A. B. C. D. (as *Anchises*, Linn.).
Local var. (4) *Isidorus*, Dbld.; Gray, Cat. B.M. p. 64. pl. 5. f. 1.

Common throughout the Amazon region, chiefly in cultivated places, and inconstant in its specific characters. The larva feeds on the orange-tree (imported). The var. *Isidorus* is Bolivian; a near approach to it is found at Ega.

11. *P. Sesostris*, Cram.

♂. *P. Sesostris*, Cram. 211 F. G.
♀. *P. Tullus*, Cram. 277 C. D.

Found throughout the country in the forest. It is constant in its specific characters within this range, but near the Andes produces the magnificent form *P. Childrenæ*, Gray.

12. *P. Vertumnus*, Cram.

♂. *P. Vertumnus*, Cram. 211 A. B.
♀. —— ——, Bates, Trans. Ent. Soc. n.s. v. p. 340.
Var. ♀. *P. Diceros*, Gray, Cat. B.M. p. 48. pl. 11. f. 4.
———. *P. Cixius*, Gray, *l. c.* pl. 8. f. 6.
———. *P. Cœlus*, Bdv. Sp. Gén. Pap. no. 117.
———. *P. Phronius*, Lucas, Rev. et Mag. Zool. 1852, p. 489.
Local var. (5) *Cutora*, ♂, Gray, Cat. B.M. p. 58. pl. 10*. f. 6.
———, ♀, Bates, Trans. Ent. Soc. n. s. v. p. 341.

Found throughout the country. On the Lower Amazons it is constant to the type *Vertumnus*, but on the Upper gives rise to the var. *Cutora*.

13. *P. Hierocles*, Gray.

♂. *P. Hierocles*, Gray, Cat. B.M. p. 55. pl. 10. f. 2.
♀. —— ——, Gray, *l. c.* pl. 9. f. 9.
Var. ♀. Gray, *l. c.* pl. 10. f. 6 (as *Aglaope* ♀).
———. *P. Thelios*, Gray, *l. c.* pl. 10*. f. 7.
———. *P. Cyphotes*, Gray, *l. c.* p. 49.

Found only at Pará; flies in the forest in company with *P. Echelus*. It is the Pará representative of the series of forms of which *P. Proteus* of Rio Janeiro may be considered the type.

14. *P. Æneas*, Linn.

♂. *P. Æneas*, Linn.; Roesel, Ins. ix. t. 2. f. 2.
♀. *P. Marcius*, Hübn. Samml. Ex.

Pará and Guiana; within this range the species is constant in its specific characters in both sexes. On the Upper Amazons the following allied form occurs; I consider it to be a local modification of *Æneas*, although strongly marked. Neither form was found in intermediate districts, nor has any connecting link yet been seen.

15. *P. Bolivar*, Hewits.

♂. *P. Bolivar*, Hewits. Trans. Ent. Soc. 1851, p. 97. pl. 10. f. 2.
♀. —— ——, Gray, Cat. B.M. pl. 10. f. 7.

Upper Amazons: abundant.

16. *P. Triopas*, Godt.

P. Triopas, Godt. Enc. Méth. ix. 33. 23.

Lower Amazons and Pará. Like the five preceding species, this is an exclusive forest-dweller, but it is the weakest flier of its group; the ♀ especially flying feebly and low, in the manner of certain Heliconidæ. The ♂, however, flies higher and stronger. The following I consider a local modification of it, in the same way as *P. Bolivar* is of *P. Æneas*.

17. *P. Chabrias*, Hewits.

P. Chabrias, Hewits. Trans. Ent. Soc. 1852, pl. 6. f. 1.

Upper Amazons.

18. *P. Orellana*, Hewits.

P. Orellana, Hewits. Trans. Ent. Soc. 1852, pl. 5. f. 2.

I met with only one example of this very distinct species, at Ega.

19. *P. Aglaope*, Gray.

♂. *P. Aglaope*, Gray, Cat. B.M. p. 55. pl. 10. f. 5.

Pará: rare.

20. *P. Lysander*, Cram.

♂. *P. Lysander*, Cram. 29 C. D.
♀. *P. Arbates*, Cram. 386 C. D.
Local var. (6) *Parsodes*, Gray.
♂. *P. Parsodes*, Gray, Cat. B.M. p. 54. pl. 8. f. 3.
♀. —— ——, Gray, *l. c.* pl. 8. f. 4.
♀. *P. Sonoria*, Gray, *l. c.* p. 57. pl. 10. f. 1.

The typical form, as found in Guiana, and figured by Cramer, is

found in the Amazon region only on the upper river, and on the lower as far down as Villa Nova. In the humid forests of the Delta and at Pará it is entirely replaced by the local form *Parsodes*. At Cayenne intermediate varieties occur.

21. *P. Echelus*, Hübn.

♂. *P. Echelus*, Hübn. Samml.
♀. *P. Echemon*, ib.

Pará, and southern shore of the Amazons thence as far as Santarem. It appears not to be found in any other part of Tropical America, except in the condition of well-defined and fixed local forms or subspecies ranking as species, of which the following is one.

22. *P. Ergeteles*, Gray.

♂ ♀. *P. Ergeteles*, Gray, Cat. B.M. p. 52 (♂ ♀), pl. 8. f. 5 (♂).

On the northern or Guiana side of the Lower Amazon from Obydos to Barra on the Rio Negro.

23. *P. Æneides*, Esp.

♂. *P. Æneides*, Esper, Ausl. Schmett. t. 15. f. 3.
♀. —— ——, Gray, Cat. B.M. p. 51. pl. 9. f. 8.
Local var. (7) *Olivencius* ♂ ♀, Bates, Trans. Ent. Soc. n. s. v. p. 345.

The typical *Æneides* is found on the banks of the Tocantins and the Lower Amazons; also in Guiana; in other regions it exists only as more or less well-marked and fixed local forms, one of which is our *P. Olivencius*, which entirely replaces the type at S. Paulo de Olivencia on the Upper Amazons.

24. *P. Zacynthus*, Fab. Var. *Polymetus*, Godt.

♂. *P. Polymetus*, Godt. Enc. Méth. ix. 35. 28.

It is rather doubtful if this species really occurs in the Amazon region. It is a South Brazilian form. There is an example (♂), however, in the British Museum collection, ticketed as acquired from my Pará collections.

25. *P. Orsillus*, Gray.

♂ ♀. *P. Polymetus*, Swains. Zool. Illus. 1st ser. pl. 92 (as *Polymetus*, Godt.).
♂ ♀. *P. Orsillus*, Gray, Cat. B.M. p. 57.

This form, which is doubtless a local modification of *Zacynthus*, is found chiefly at Pernambuco; it extends to the hilly country of the Tapajos, where I captured examples, but does not reach the alluvial plains of the Amazon.

26. *P. Polycaon*, Cram.

♂. *P. Polycaon*, Cram. 203 A. B.
♀. *P. Androgeus*, Cram. 16 C. D.
♀. *P. Piranthus*, Cram. 204 A. B.

Common in open places throughout the Amazon region; the males frequent flowers, and resort also, to imbibe the moisture, on the margins of streams. The females are only seen at flowers on the borders of the forest.

27. *P. Lycophron*, Hübn.

♂. *P. Lycophron*, Hübn. Samml.
♀. *P. Pirithous*, Boisd. Sp. Gén. 358. 201.

A widely distributed Neotropical species. I met with it only at Cametá, on the Tocantins.

28. *P. Thoas*, Linn.

P. Thoas, Linn.; Cram. 167 A. B.

Also a widely distributed species, passing even beyond the tropics. In different parts of its range it gives rise to local forms more or less strongly modified from the type. The following is one of them, remarkable as being more distinct from the type than is the local form (*P. Cresphontes*) inhabiting the Southern States of North America.

29. *P. Cinyras*, Ménétr.

P. Cinyras, Ménétriés, Cat. de la Coll. Imp. Ac. &c. de St. Pétersbourg, p. 111. t. 7. f. 3.

Upper Amazons, entirely replacing *P. Thoas*. It is also found in the interior of the province of Bahia.

30. *P. Torquatus*, Cram.

♂. *P. Torquatus*, Cram. 177 A. B.
♀. *P. Caudius*, Hübn. Samml.
Local var. (8) *Patros*, ♀, Gray, Cat. B.M. p. 43. pl. 7. f. 5, 7, 8.

The type is very abundant at Pará and on the Lower Amazons. The var. *Patros*, which affects the ♀ only, is peculiar to the Upper Amazons. The ♂ inhabits open places in company with *P. Thoas* and allies, but sometimes descends into sunny breaks in the forest; the ♀ almost exclusively inhabits the forest, being found at flowers on its borders only in cloudy weather.

31. *P. Dolicaon*, Cram.

P. Dolicaon, Cram. 17 C. D.

Found throughout the Amazon region, sparingly.

32. *P. Columbus*, Hewits.

P. Columbus, Hewits. Trans. Ent. Soc. 1851, p. 98. pl. 10. f. 1.

Peculiar to the Upper Amazons, where it is found imbibing moisture at the edge of water in company with *P. Dolicaon.*

33. *P. Protesilaus*, Linn.

P. Protesilaus, Linn.; Cram. 202 A. B.

Found throughout the country, without modification; extremely abundant on the Upper Amazons.

34. *P. Autosilaus*, Bdv.

P. Autosilaus, (Bdv.) Bates, Trans. Ent. Soc. n. s. v. p. 348.

On the Upper Amazons in company with *P. Protesilaus*, but much rarer.

35. *P. Zagreus*, Dbld.

P. Zagreus, Dbld. & Hewits. Gen. D. L. pl. 1*. f. 1.

I met with one example only, on the Upper Amazons, of this most remarkable species. It has no near ally in its genus, and has the appearance of a *Heliconia*, especially of *Lycorea Atergatis*, rather than that of a *Papilio*.

Subfamily PIERINÆ.

This group, which forms so conspicuous a feature in the faunas of temperate latitudes and in the tropics of the Old World, is poorly represented in the forest plains of the Amazons. The genera and species seem to be most numerous in grassy, open and mountainous countries, or in districts where the forests are scanty; they abound in the varied mountainous regions of Columbia. Only four genera are found in the Amazon valley: viz. *Leptalis*, *Pieris*, *Callidryas*, and *Terias*; and of these, *Pieris* is represented by very few species. *Leptalis*, although numerous in species or subspecies, does not exhibit so great a diversity of forms as it does in the Andean valleys of Columbia; the species in the Amazon region are also extremely rare; they inhabit the shades of the forest, and mimic the different species of the dominant group Heliconinæ, in whose company they are always found, thus suggesting the idea that it is only by means of this close adaptive resemblance that they escape total extinction. The other four genera found in Tropical America are, *Euterpe*, *Nathalis*, *Colias*, and *Gonepteryx*. Of *Euterpe* 34 species have been described; but although one has been found in Guiana, none inhabit the Amazon region. *Nathalis* has one representative in Venezuela.

Colias in tropical America is confined to the highest plateaux of Columbia, reappearing in several specific forms in the plains of the southern temperate zone; no trace whatever of the genus being found in the Amazon valley. Lastly, *Gonepteryx*, although approaching nearer the equator than *Colias*—Venezuela on the north and Pernambuco on the south each furnishing a species—is also quite absent; *G. Leachiana*, included by authors in this genus, being undoubtedly a true *Callidryas*.

The genus *Leptalis* was supposed, both by Boisduval and Doubleday, to have a real affinity with the Heliconidæ, as the species not only resemble that family in shape, markings, and colours, but they also have, as Doubleday states, a structural similarity to species of *Ithomia* (a Heliconideous genus) in the neuration of the wings. The two groups furnish a most curious instance of deceptive analogical resemblance. There is, in truth, the widest possible difference between the two in all essential characters of affinity—a fact which a careful study of the legs in the Rhopalocera will satisfactorily prove. As to the resemblance in the wing-neuration, this character loses its importance on account of its adaptive nature, being dependent on the shape of the wings, habits, and strength of flight, and varying consequently in nearly allied genera.

Genus Leptalis.

Dalman, Anal. Ent. 39.

1. *L. Orise*, Bdv.

L. Orise, Bdv. Sp. Gén. p. 415. 3.
♂ ♀. ——, Hewits. Exot. Butt. Lept. 10. 11.

I found two examples (♂) of this singular and rare species on the banks of the Tapajos in 1852. They were flying in company with *Methona Psidii*, and their likeness to that species was so great that I could not distinguish the one from the other on the wing. The mimetic resemblance is carried to the smallest peculiarities—to the coloration of the antennæ and the white spotting of the abdomen.

2. *L. Egaena*, nob.

P. Amphione, Cram. 232 E. F., local var.

♂ ♀. Darker than the Surinam type as figured by Cramer, both as to the isabella ground-colour and the yellow belts. The inner belt of the fore wing is reduced in breadth, and the short, macular subapical belt is enlarged into a broad band; the hind wing beneath is suffused with fuscous, the isabella-colour existing only as narrow lines, and the paler yellowish part is restricted to two or three oval spots near the apex.

The true *Amphione* of Cramer I did not meet with on the Amazons; but at Ega, on the upper river, the present well-marked local form occurred. It is a species which offers, in other countries of Tropical America, several more or less strongly-marked varieties, many of which have been described, without mention of the relationship, as distinct species. The Ega form flies in company with the Ega var. of *Mechanitis Polymnia*, viz. *M. Egaensis*, and it is difficult to distinguish the two species on the wing. It is well worthy of remark that the S.E. Brazilian form, *L. Astyoche*, also adopts the livery of *Mechanitis Nisæa*, the local form of *M. Polymnia* of the same district.

3. *L. Tapajona*, nob.

P. Laia, Cram. 232 C. D., local var.

♀. Differs from *L. Laia* in having the costal stripe of the fore wing and the first macular belt attached thereto of the same yellow colour as the second or subapical macular belt.

I did not meet with the true *Laia* in the Amazon region. *L. Tapajona* occurred only on the banks of the Cupari, an affluent of the Tapajos, in 3° 40′ S. lat.

4. *L. Lysianax*, Hewits.

L. Lysianax, Hewits. Exot. Butt. Lept. f. 19 *.

This is another local form of *L. Laia*. In the colour of the costal stripe and the belt of the fore wing it resembles *L. Tapajona*, but the belt is not interrupted as in that subspecies: it wants, however, the yellow apical belt, at least on the upper side; beneath, it exists as "three small white spots." If this insect were taken really within the Amazon region, it must have been at Pebas or Nauta, on the upper river.

5. *L. Theonoë*, Hewits.

L. Theonoë, Hewits. Exot. Butt. Lept. 2. 5.

Found on the banks of the Cupari, an affluent of the Tapajos, in company with *Ithomia Flora*, with which it has a striking mimetic analogy; it was exceedingly rare, whilst the *Ithomia* was very abundant. On the Upper Amazons *Theonoë* did not occur, nor *Ithomia Flora*, but in their stead a number of species of *Ithomia*

* *L. Lycosura*, Hewits., represented on the same plate, f. 18, 20, I suspect does not belong to the Amazonian fauna. M. de Gand, who supplied these insects, collected more at Moyobamba, on the eastern chain of the Andes, than in the Amazon valley, but unfortunately his collections from different parts were mixed together.

allied to the latter, and a number of forms of *Leptalis*, of such a nature that they cannot be considered as specifically different, allied to the former. Most of these forms mimic in that region specifically the *Ithomiæ* alluded to; they seem to have become changed in colours and markings in strict relation to them; one or two of them, however, resembling in the same close manner species of *Stalachtis*, a genus belonging to a widely different family. Although no entomologist would consider these forms as entitled to specific rank, I think it better to distinguish them, in order to bring out in a clearer light the curious circumstances connected with them.

6. *L. Melanoë*, nob.

♂ ♀. Shape, general colour, and design of the wings as in *L. Theonoë*. It differs in the black lines and borders being much broader, less distinctly limited on their edges, and in the transparent spaces being suffused with dusky atoms. The orange submarginal stripe of the hind wing beneath is well defined, but less sharply so than in *L. Theonoë*, and less clear in colour, being sprinkled with dusky atoms.

Found on the Upper Amazons, at St. Paulo, in company with *Ithomia Onega*, which it closely resembles, and which I consider is in that locality a local modification of *Ithomia Flora* of the districts nearer the Atlantic seaboard. The *Leptalis*, as usual, was excessively rare, whilst the *Ithomia* abounded in individuals.

7. *L. Erythroë*, nob.

♂ ♀. Very similar to the preceding in shape and in the dusky suffusion of the transparent spaces. It differs conspicuously in the three spots of the apical part of the fore wing being of a vivid orange colour and opake; they are sometimes confluent, and then form a large elongate spot or belt. The submarginal orange-red stripe of the hind wing beneath is well defined and clear in colour; the black inner edging is narrower than in *L. Melanoë*.

Occurs at St. Paulo in company with the *Ithomiæ* of the locality, one of which, *I. Chrysodonia*, nob., it mimics specifically. The mimicry is more exact in some individuals than in others, producing the impression that there is a striving after close imitative adaptation. Neither the *Leptalis* nor the *Ithomia* occurred in any other part of the country, except the limited locality here mentioned.

8. *L. Leuconoë*, nob.

♂ ♀. Shape of wings same as the preceding. In the fore wing the basal stripe and the inner two of the subapical spots are transparent; the

third elongate spot is orange-red, opake. The hind wing has a very broad dusky-black margin, but the whole disk and the nervures are milky-white.

The white disk of the hind wing gives this form a peculiar facies. In this character, as well as in the colours of the fore wing, it resembles exactly another *Ithomia* abundant in its locality, viz. *I. Ilerdina*, Hewits. The two fly together, and cannot be distinguished when on the wing. *Ithomia Ilerdina* is closely allied to *I. Flora*.

9. *L. Argochloë*, nob.

♂. Outline of wings same as the preceding. In colours it is extremely like *L. Antherize* (Hewits. Exot. Butt. Lept. 12) and *L. Fortunata* (Lucas, Ann. Soc. Ent. Fr. 1854, p. 53. pl. 3), having near the apex of the fore wing a rather broad, oblique, semitransparent white belt; in all other respects it cannot be distinguished from *L. Melanoë*. It differs from *L. Antherize* (a Mexican species) in the nervures which cross the white belt being black instead of white. From *L. Fortunata* (also a Mexican species) it differs in the widely different direction of the red submarginal stripe of the hind wings beneath. In *L. Fortunata* the stripe is represented as terminating before the apex of the wing, whereas in *L. Argochloë*, as well as all its allied forms, it curves round within the apex, and nearly or quite meets a similar red subcostal stripe.

L. Argochloë mimics *Ithomia Virginia*, Hewits., a species inhabiting the same locality, viz. St. Paulo.

10. *L. Lysinoë*, Hewits.

L. Lysinoë, Hewits. Ex. Butt. Lept. 3, 4.—Ega.

Var. 1. *Ib.* f. 13.—Ega.

Var. 2. The basal stripe of the fore wing orange-red, opake. The hind wing orange, except the costal margin (which is white in ♂, black in ♀), the apex, a short stripe proceeding therefrom, and a narrow posterior border, which are black. (♀ ♂)—Ega.

Var. 3. Similar to var. 1; but the basal stripe of the fore wing is also orange-red, and the hind wing is dusky-black, leaving a rather narrow orange-red submarginal stripe. (♀)—St. Paulo.

Var. 4. Similar to the type; but the costal and apical spots of the fore wing are confluent, and the orange submarginal stripe of the hind wing is narrow and abbreviated. (♂)—St. Paulo.

The typical form is found only at Ega, where also are found vars. 1 & 2; vars. 3 & 4 occurring only at St. Paulo, in company with the more striking modifications, which I have described above (sp. 6-9) under separate names. The type does not mimic any species of *Ithomia* of its locality, but it has a most deceptive resemblance to

a species of the Erycinide genus *Stalachtis*, viz. *S. Phædusa*, var. *Egaensis*, nob.* Var. 2 is a doubtful mimetic analogue of *Ithomia Illinissa* of the same locality; and var. 3 resembles very much, on the wing, *Stalachtis Calliope*. It must be remarked that the species of *Stalachtis* are quite as abundant in individuals as the *Ithomiæ*, as this fact will probably tend to explain why the *Leptalides* mimic sometimes one and sometimes the other. The remaining varieties seem to be indeterminate in their analogies.

11. *L. Eumelia*, Cram.

♀. *P. Eumelia*, Cram. 280 D.
♂. *P. Vocula*, Cram. 353 C. D.

The commonest species of the genus. It is scarcely distinguishable from *Ithomia Eurimedia* on the wing. It is remarkable that both species exist in company in Guiana as well as in the Amazon region.

12. *L. Psamathe*, Fabr.

♀. *P. Psamathe*, Fabr. Ent. Syst. iii. i. 207. 647.

♂. Very much resembles the same sex of *L. Kollari*, Lucas, of Rio Janeiro; the wings, however, are longer and more pointed, the black apical portion of the fore wing has a similar central white spot, but the under surface of the hind wing beneath is pallid-yellow instead of ochreous.

I took both sexes of this species at Pará.

13. *L. Licinia*, Cram.

♀. *P. Licinia*, Cram. 153 E. F. (1779).
♀. *P. Phronima*, Fabr. Ent. Syst. iii. i. 206. 646 (1793).

♂. Fore wing long, narrow, lanceolate; the black apical part is continued as a narrow marginal line to the hind angle, and is destitute of white spot; the hind margin of the posterior wing has a short black border near the apex.

I think this is scarcely distinguishable from the preceding species; however, all the examples taken at Pará belong to *L. Psamathe*, whilst all found on the Upper Amazons are conformable to *L. Licinia*. The ♂ has a so much smaller portion of the hind border of the wings black than the ♀, according to Cramer's figure, that I at first considered it a distinct species under the name of *L. Galanthis*, as quoted

* This var. is distinguished by the great breadth of the orange-red belt of the hind wing; it entirely replaces, on the Upper Amazons, the true *Phædusa* of Pará. It is perhaps the *S. Duvalii* of Perty, Delectus An. Art. p. 153, t. 30. f. 1.

by Dr. Felder in his 'Lepid. Nov. Columbiæ.' I believe it, however, to be the opposite sex of Cramer's insect.

Genus Pieris.

Boisd. Sp. Gén. p. 434.

Section 1. *Fore-wing upper radial as a branch of the subcostal much beyond the cell.*

* *Fore-wing third subcostal branch wanting, or extremely short.*

To this division belong the European species, *P. Brassicæ, Rapæ*, &c.

1. *P. Demophile*, Linn.

♀. *P. Demophile*, Linn. Amœn. Acad. vi. 406. 66.
♀. *P. Molpea*, Cram. 116 c.
♂. *P. Amathonte*, Cram. 116 A. B.

Banks of the Tocantins, Tapajos, and the Upper Amazons; not found on the Lower Amazons, or in the Delta at Pará.

2. *P. Monuste*, Linn.

P. Monuste, Linn.; Cram. 141 F.

Cultivated places; general throughout the country.

3. *P. Ausia*, Bdv.

P. Ausia, Boisd. Sp. Gén. 531. 137.

Tapajos, in company with the following.

4. *P. Phaloë*, Godt.

P. Phaloë, Godt. Enc. Méth. ix. 156. 131.

Tocantins, Tapajos, and Upper Amazons. Inhabits the thinned parts of the forest. It is not found on the Lower Amazons or at Pará.

5. *P. Pyrrha*, Cram.

♂. *P. Pyrrha*, Cram. 63 A. B.
♀. *P. Pamela*, Cram. 319 A.

On the Amazons this species inhabits the same districts as *P. Phaloë*. It inhabits the shades of the forest; but the males are found also in open places, and resort to the moist margins of puddles and streams: the females I have never seen, except within the forest; they are much rarer than the males, and are coloured in imitation of certain Heliconidæ found in the same localities. The species has a

wide range; it is common at Rio Janeiro and Bahia: specimens from those localities I find do not differ from those taken by myself in the Amazon region.

6. *P. Lorena*, Hewits.

♂. *P. Lorena*, Hewits. Exot. Butt. Pi. 7.

♀. Size and shape of wings same as ♂. Fore wing black; a large triangular spot in the middle of the base prolonged externally towards the hind angle and a narrow stripe parallel to the hind margin orange; a short oblique belt between the end of the cell and the apex yellow; beneath the same. Hind wing black; a short stripe parallel and near to the costa and a broad stripe along the middle of the wing, very broad on the abdominal edge and narrowing towards the apex, orange: beneath black; a stripe parallel and near to the costa and a narrow one along the wing passing over the end of the cell and expanding into a patch near the apex reddish-yellow; between these a stripe from the abdominal edge to the end of the cell bright red. Antennæ black, whitish towards the tip; body above yellowish-brown, beneath light yellow.

This species has similar habits to *P. Pyrrha*; it is much more local; it occurs on the Upper Amazons from Ega to the head waters of the Napo, and also on the banks of the Cupari, an affluent of the Tapajos. The female resembles in shape and colours species of Heliconidæ; its habits also are very similar to those of the Heliconidæ.

7. *P. Leptalina*, n. s.

♂. Small, 1″ 10‴ in expanse; wings elongate. Fore wing with the costa strongly arched, apex obtuse, and outer margin bowed outwards; pure white, the costal border broadly dusky to the end of the cell; the apical third of the wing and a narrow outer border thence to the hind angle black; a white oblique belt crossing the black part from the costa to the third median branch, not reaching the outer margin, leaving a narrow black stripe on the inner side: beneath the same, except that there is a submarginal row of five white spots along the outer border; base sulphur-yellow. Hind wing short and rounded, white; a broad border from the anal angle to the costa, narrowest near the apex, black: beneath white; a stripe parallel to but distant from the costa, meeting at the apex a marginal border same in dimensions as that on the upper surface, black; in the middle of the black border is a stripe of orange-yellow extending from the anal angle to the apex; base sulphur-yellow. Body above blackish, beneath white; antennæ black.

This species resembles in colours, and in appearance on the wing, *Leptalis Eumelia*. Found at St. Paulo, in the forest. I did not meet with the female, which would doubtless be coloured like the same sex in the two preceding species.

** *Fore-wing third subcostal branch of considerable length.*

8. *P. Margarita,* Hübn.

♂. *P. Margarita,* Hübn. Samml. Ex. (1806–1827).
♂. *P. Ilaire,* Godt. Enc. Méth. ix. 142. 83 (1819).
♀. *P. Molpadia,* Hübn. Zutr. 259–60.
♀. *P. Mysia,* Godt. Enc. Méth. ix. 143. 87.

This species has a wide range in Tropical America, and does not become perceptibly modified. I found it everywhere common on the Amazons. It has a rapid and strong flight, and performs extensive migrations. The males assemble in great numbers with those of the *Callidryades* on the moist margins of rivers.

9. *P. Lycimnia,* Cram.

P. Lycimnia, Cram. 105 E.F.

Inhabits only the shades of the forest, and is of slow, feeble flight. Further south, at Bahia and Rio Janeiro, it becomes strongly modified, the modification ranking as a distinct species, viz. *P. Limnoria,* Godt.

Section 2. *Fore-wing upper radial connected with the cell by means of an upper discocellular.*

10. *P. Hirlanda,* Stoll.

P. Hirlanda, Stoll, 35. f. 1.

Ega and St. Paulo, Upper Amazons: very rare. Stoll gives Bengal erroneously as its habitat. It frequents the moist margins of waters. *P. Helvia,* Latr., taken by Humboldt and Bonpland in Columbia, is doubtless a local variety of this species.

11. *P. Nera,* Hewits.

♂. *P. Nera,* Hewits. Exot. Butt. Pi. 3, 4.

On the banks of the Cupari, Tapajos. It is found also in Venezuela.

Genus Callidryas, Boisd. and authors.

1. *C. Leachiana,* Godt.

♂. *C. Leachiana,* Godt. Enc. Méth. ix. 91. 7.
♂. *Gonepteryx Leachiana,* Doubld. & Hewits. Gen. D. L. pl. 8. f. 4.

♀. Differs from the ♂ in wanting entirely the orange apical spot, and in the ground-colour of the wings being pallid ochreous-white.

The species is generally distributed throughout the Amazon region;

it is not, however, abundant. The males resort to the moist margins of waters in company with other *Callidryades* of the same sex; but they are often seen also in the alleys of the forest. It is a remarkably rapid and strong flier. I do not know why authors have placed the species in the genus *Gonepteryx*; it does not consort at all well with the other species of that genus, and agrees in all generic characters with *Callidryas*.

2. *C. Philea*, Linn.

♂. *P. Philea*, Linn.; Cram. 173 E. F.
♀. *P. Aricia*, Cram. 94 A. B.
♀. *P. Melanippe*, Cram. 341 E. F.

The ♀ varies much in size and in the ground-colour of the wings, as it does in most species of *Callidryas*. The species is found in company with *Leachiana*, and is not much more abundant. The ♀ frequents flowers in open semicultivated places.

3. *C. Argante*, Fab.

♂. *P. Argante*, Fab. Syst. Ent. (1775).
♂. *P. Hersilia*, Cram. 173 C. D. (1779).
♀. *P. Cypris*, Cram. 99 E. F. (1779).

Found in company with *C. Philea* and the following species.

4. *C. Marcellina*, Cram.

♂. *P. Marcellina*, Cram. 163 A. B. (as ♀).

♀. Intermediate in colours and design between *Argante* ♀ and *Eubule* ♀. Above yellow, slightly tinged with orange; the brown margins similar to those of *Eubule* ♀, except that they are much broader at the apex of the fore wing; there is also a large brown spot between the 3rd and 2nd median branches, and another smaller between the 2nd and 1st, both disconnected with the outer margin. Beneath the markings are similar to those of *Eubule* ♀, but the whole surface is sprinkled with reddish specks almost as in *Argante* ♀; and the rufous margin at the apex is much broader.

Cramer figures the males of two distinct species as the sexes of one; and subsequent authors have quoted the figures without criticism. His figure C. pl. 163 is evidently the well-known ♂ *Eubule*. I find no example of the ♂ of the present species in my collection of the genus; but I have three ♀ agreeing with the description I have given above, which I strongly suspect to belong to the same species. They were taken in company with *Eubule* ♀, in open places at Pará.

5. *C. Eubule*, Linn.

♀. *P. Eubule*, Linn.; Cram. 120 E. F.
♂. *P. Marcellina*, Cram. 163 C.

It seems to be uncertain whether the description of Linnæus belongs to this species or to the nearly allied North American form. In a doubt of this kind we have no remedy but to be guided by the next subsequent author, who by a better description or figure fixes the name. Cramer's figure undoubtedly applies to the South American species. It is extremely abundant.

6. *C. Statira*, Cram.

♀. *P. Statira*, Cram. 120 C. D. (1779).
♂ ♀. *C. Evadne*, Boisd. Sp. Gén. 628. 22 (1836).

The ♀ varies extremely in size and colour, viz. from 1″ 8‴ to 2″ 8‴ in expanse, and from pallid white to a rich clear orange-yellow. Throughout all the variations the shape of the black border remains constant; it may also be known by the great length of the terminal joint of the palpi. The ♂ also varies considerably in the breadth of the pale powdery margins of the wings, and in the depth of the basal yellow colour. It is the most abundant species of the genus. The females are confined to the thinned parts of the forest and its margins, where they may be seen depositing their ova on low trees of species of *Mimosa*. The males congregate by myriads, in company with an almost equal number of *Eubule* and a few of all the other species of the genus, on the moist sands or mud on the banks of rivers. In the height of the dry season (October) very extensive migrations take place. I once travelled with a fair wind on the Lower Amazons about eighty miles between sunrise and sunset, and during the whole of the journey the air teemed with these butterflies, all crossing the river, there from three to five miles broad in one direction, viz. from north to south. On the Upper Amazons they settle on the moist sands in dense masses of many yards square, all with wings upright and closely packed together.

7. *C. Trite*, Linn.

P. Trite, Linn.; Cram. 141 C. D.

Generally distributed throughout the Amazon region.

Note.—It is worthy of remark, in connexion with the fact of the strong, sustained flight and migratory instincts of the species of this genus, that it is found throughout the tropical and subtropical zones of the whole world, and that the species of the two hemispheres

closely resemble each other; so much so, that one, *Alcmeone* of Bengal, was considered by Cramer to be identical with *Statira* ♂; the latter being, as we have seen, the most numerous and migratory of all the American species.

Genus Terias.

Swains. Zool. Illustr.

1. *T. Arbela*, Hübn.

♂. *Eurema Arbela*, Hübn. Zutr. 641, 642.

Ega and Pará.

2. *T. Paulina*, n. s.

♂. Expanse 2″. Wings elongate, somewhat narrow, their outer margins rounded, sulphur-yellow. *Above*: fore wing with an outer border, broadest at the apex, gradually narrowing and terminating before reaching the hind angle, slightly trisinuate on its inner edge, brown-black; hind wing spotless. *Beneath*: fore wing yellow as on the upper surface, the costal margin irrorated with red at the base, the termination of the nervures on the costa black, and three spots behind the apex rufous: hind wing yellow as on the upper surface, sprinkled with dusky atoms, four or five on the costa being much larger; a large transverse spot between the costa and subcostal nervure, and two near the abdominal edge, one being near the base, and the other towards the anal angle, also dusky. Antennæ black, head rufous-brown, palpi elongate.

♀. Larger, 2″ 2‴. Colour pure white, outer border as in the ♂. Beneath the same, except that the apex of the fore wings has larger rufous spots.

A distinct and elegant species, taken on flowers on the borders of the forest, St. Paulo.

3. *T. Deva*, Doubled.

♀. *P. Agave*, Fabr. Ent. Syst. iii. 1. 193. 599 (not *Agave*, Cram.).
♀. *T. Deva*, Dbld. & Hew. Gen. D. L. p. 78. 7.

♂. Expans. 1″ 8‴. *Above*: fore wing obtuse, gamboge-yellow; costal border dusky, an outer border broad at the apex of the costa, gradually narrowing to the hind angle, its inner edge with many shallow sinuations, silky violet-black; the base with two short dusky lines: hind wing rounded, white, slightly tinged with sulphur-yellow, the outer margin with a narrow border, sometimes reduced to a series of spots, blackish. *Beneath*: fore wing pale yellow, spotless, sometimes whitish on the disk; hind wing pale yellow, sometimes whitish on the disk, two small black spots at the end of the cell, and a waved dusky irregular belt across the wing, sometimes obliterated.

The description of Fabricius applies well to the ♀: it may be

known by having beneath a large orange-yellow spot at the apex of each wing: the colour above and beneath of all the wings is yellow; the fore wing has a broad black outer border; the hind wing is generally spotless, but it sometimes has a narrow dusky macular border. The orange spots beneath, however, in some specimens are faint, and in others quite disappear, when the insect becomes almost undistinguishable from certain ♀ examples of *Nise*, Cram. The two sexes differ so much, that I should not have supposed they belonged to the same species if I had not captured them *in copulâ*. It is a very common species in thinned parts of the forest and semicultivated places on its borders throughout the Amazon region. There is a nearly allied species found at Rio Janeiro.

4. *T. Flavilla*, n. s.

♀. Expans. 1″ 7‴–1″ 9‴. Size and shape of *T. Deva*. Wings rounded, clear yellow. *Above*: fore wing clear yellow, the extreme costal edge dusky; an outer border, broad on the costa, narrowed to the hind angle, multisinuate within, silky violet-black; the base with two short black streaks: hind wing clear yellow, spotless, or with a very slight dusky border. *Beneath* clear yellow, spotless, except that there are sometimes one or two minute black spots at the end of the hind wing-cell.

This species differs from all others known to me in the clear spotless yellow colour of the wings beneath. It is a very common species in the same localities as *T. Deva*. The description is drawn up from five examples.

5. *T. circumcincta*, n. s.

♂. Expans. 1″ 7‴–1″ 8‴. Wings rounded, yellow. *Above*: fore wing yellow, the costa narrowly bordered with dusky; an outer border, very broad on the costa, moderately broad at the hind angle, its inner edge with many very faint sinuations, silky violet-black: hind wing yellow, with a narrow border from the apex to the anal angle, somewhat regular in width, violet-black. *Beneath* paler yellow, spotless, except that there is one small black spot at the end of the cell.

Pará, and other localities. I strongly suspect it to be the ♂ of *T. Flavilla*. It is very near *T. tenella*. Bdv.; but his description better suits a nearly allied S. Brazilian form which has generally distinct undulated dusky marks across the hind wing beneath.

6. *T. Nise*, Cram.

♀. *P. Nise*, Cram. 20 K. L.

This species varies in colour, being sometimes uniformly ochreous-yellow, as represented in Cramer's figure, sometimes of a very pale

yellow; and sometimes the hind wing is much paler in tint than the fore wing. Although a very common species in open grassy, flowery places on the borders of the forest, I never detected it *in copulâ*. The male, however, I believe to be an insect scarcely distinguishable, except by its smaller size, from the same sex of *T. Deva*, as described above.

7. *T. venusta*, Boisd.

T. venusta, Bdv. Sp. Gén. 658. 8.

This species very much resembles *T. Nise* ♀, but is smaller in size. It is taken in company with that species, and is probably a mere variety of it.

8. *T. Elathea*, Cram.

♂. *P. Elathea*, Cram. 99 C. D.

♀. Wings rounded. *Above*: fore wing clear yellow, costal border sprinkled with dusky atoms; an outer border, beginning about the middle of the costa, and terminating in a point at the hind angle, multisinuate on the inner side, violet-black: hind wing white, with a yellowish tinge; outer margin near the apex broadly dusky, through which the nervures appear of a darker colour. *Beneath*: fore wing whitish, the costal border and apical third ochreous-red, disk yellow; hind wing ochreous-red, with an undulated line across the wing darker, and two spots at the end of the wing-cell black.

According to Cramer's figure of the ♂, the under surface of the wings is of an ochreous-red hue, with dusky marks, and the upper surface has an abbreviated posterior black stripe on the fore wing. I met with numerous ♂ individuals agreeing with this type, and in company with them numerous ♀ conformable to the description given above. Boisduval in his description (Sp. Gén. 664. 19) has mingled this form with one or two others, probably distinct species, and amongst them the following.

9. *T. Lydia*, Felder.

♂. *T. Lydia*, Felder, Lep. Nov. Columbiæ, no. 50.

♀. Very similar in size and shape to *Elathea* ♀. *Above*: fore wing very pale whitish-yellow, costal border broadly dusky; outer border very broad, especially on the costa, terminating rather broadly at the hind angle, multisinuate within, violet-black: hind wing white, outer border very broad, irregular, black, terminating long before reaching the anal angle. *Beneath*: white; fore wing with the fore part and apex bright yellow; hind wing sprinkled with dusky atoms.

The ♂ is distinguishable from the same sex of *Elathea* by the under-surface being pearly white, slightly sprinkled with dusky atoms, and by

the posterior black stripe of the fore wing above joining the outer border.

Common in grassy, flowery places at Santarem and other localities.

10. *T. albula*, Cram.

P. albula, Cram. 27 E.

This species is 1″ 6‴–1″ 7‴ in expanse. The two sexes are alike; I have taken many pairs *in copulâ*. It is known by its size, by the black outer border of the fore wing terminating obtusely before reaching the hind angle, and by the under-surface being spotless white, except a sulphur tinge at base of the fore wing. The hind wing is generally spotless above, but sometimes it has a narrow black border; the outer border of the fore wing sometimes terminates abruptly. The insect I have seen in collections generally under this name is not the *albula* of Cramer. It is a very common species in thinned parts of the forest, flying feebly and low over the herbage.

11. *T. marginella*, Felder.

T. marginella, Felder, Lep. Nov. Columbiæ, no. 53.

This, which appears to be a distinct species, resembles much *T. albula*: it differs in the black border of the fore wing reaching the hind angle, and in the existence of a black border of moderate width in the hind wing. Taken at Ega.

12. *T. clara*, n. s.

Expans. 1″ 3‴. Wings rounded. *Above*: fore wing white, the costa at the base dusky; an outer border of moderate breadth, slightly uneven on its inner edge, and terminating in an obtuse point before the hind angle, black: hind wing white, spotless. *Beneath*: spotless white, tinged with sulphur-yellow at the base of the fore wing.

This is the species which I have seen in most collections under the name of *albula*, Cram. It is, however, a much smaller insect, and the posterior termination of the outer black border of the fore wing is different. It was common in the same situations as *T. albula*.

13. *T. Mana*, Boisd.

T. Mana, Bdv. Sp. Gén. 681. 49.

Both sexes of this species are alike in colour and markings, according to individuals I have taken *in copulâ*. It is a rather smaller insect than *T. albula*, and the wings are rather shorter and broader. Above it has a broad costal dusky border, and the outer black border

terminates squarely before reaching the hind angle. Beneath it differs from *T. albula* in having a broad yellow margin to the fore wings, and in the hind wings being yellowish, with a black spot at the end of the cell, and a series of dusky marks across the wing behind the cell. It varies in size from 1″ to 1″ 5‴, and is closely allied to *T. Agave* of Cramer.

Pará, in open grassy places.

14. *T. Tapeina*, n. s.

Expans. 1″. Wings rounded. *Above*: fore wing white; a somewhat narrow outer margin, terminating obtusely much before reaching the hind angle, black; hind wing spotless white. *Beneath*: fore wing with the disk white, the apical and outer margin yellow, and the base sulphur-yellow; hind wing uniform ochreous-yellow, spotless.

Pará. It is distinguished from all the other species of the genus known to me by the peculiar uniform ochreous-yellow colour of the under-surface of the hind wings.

15. *T. Lirina*, n. s.

Expans. 1″. Wings slender, rounded. *Above*: fore wing somewhat elongate, subtriangular, obtusely pointed, white, the apex alone with a somewhat narrow black border; hind wing rounded, white, spotless. *Beneath*: all wings white, their bases tinged sulphur-yellow. Antennæ short, brown, ringed with white.

Pará.

16. *T. Leucoma*, n. s.

Expans. 1″. Fore wing elongate, apex obtuse, outer margin strongly bowed outwards; above white, with an outer border of variable breadth black. Hind wing with the costa at the base strongly dilated; above and beneath white, the posterior border sometimes narrowly edged with dusky.

This species very much resembles *T. Brephos* in shape; it is found in company with it on the Upper Amazons.

17. *T. Brephos*, Hübn.

Mancipium Brephos, Hübn. Samml. Ex. Schmett.
Terias Brephos, Boisd. Sp. Gén. 684. 53.

Some examples have the costa of the hind wing dilated at the base, others not; this may therefore be a sexual character. The wings are entirely spotless. The neuration of the fore wing in this and the preceding species does not differ from that of the larger species of the genus, although *T. Elvina*, a similar dwarf species inhabiting S.E. Brazil, differs considerably in this respect. In the

hind wing, however, all three differ from the rest of the genus in the upper radial being emitted as a branch of the subcostal after the cell, and not connected with the cell by means of an upper disco-cellular. *T. Brephos* is common in thinned parts of the forest throughout the country, hovering slowly over the carpet of Lycopodia which covers the ground in those localities.

Note.—The species of *Terias* are a most difficult study, and it is with some hesitation that I have described several as new. Their specific characters are not at all trenchant; the peculiar markings which may serve to distinguish well-characterized examples of a species are subject to become obsolete in other examples; the species, again, present many local varieties in different parts of their area of distribution. The genus is found in the tropical and subtropical zones of both hemispheres, including Australia, Madagascar, and other African Islands; eighty-six species having already been described. Although insects of feeble flight, they fly directly onwards like most of the Pierinæ; and this, together with the food-plants of the larvæ (Leguminosæ) being of general occurrence, may account for the singular fact of the very wide distribution of many of the species as well as of the genus. Several species allied to *T. Hecabe*, found in the island of St. Domingo, are not distinguishable from similar forms occurring in the Malay Archipelago. In describing the new Amazonian species I have only selected those which were illustrated by many examples, or were strikingly distinct, and have abstained from uselessly adding to the number of obscurely known forms by including many others in my collection which do not accord with any already described.

XX.—*Réflexions et Notes synonymiques sur le Travail de* M. James Thomson *sur les Cérambycides, avec descriptions de quelques nouvelles espèces.* Par M. A. Chevrolat.

[Second et dernier article.]

J'ai visité dernièrement la collection de Cérambycides (Longicornes, Latr.) de M. Thomson au point de vue du systême qu'il a adopté. Je dirai tout d'abord que cet Entomologiste ayant, depuis mon 1er article, acquis beaucoup de choses nouvelles dans cette famille, rectifié des erreurs et rappelé à leur place certains genres omis, cette classification générale me parait rationnelle, heureuse même et devoir mériter des éloges, mais l'ouvrage dans le désordre où il est publié avec les intercalations successives manque d'homogénéité.

En outre, la base, qui devait être la détermination rigoureuse des

espèces et leur synonymie, pèche, comme on a déjà pu le voir et comme on le verra encore ci-après ; puis les espèces décrites trop légèrement laissent souvent planer des doutes*.

Peut-être M. Thomson eut-il pu s'entendre avec moi pour me soumettre tout ce que renfermait sa collection, en ce qui concerne cette famille, j'étais disposé à lui venir en aide, et je lui aurais fourni les renseignements que l'expérience, mes relations, mes voyages et mes recherches assidues m'ont procurés.

Sachant les matériaux que j'ai réunis sur ces insectes, M. Thomson m'avait bien proposé d'imprimer en commun, un catalogue des espèces décrites. J'aurais accepté de grand cœur cette œuvre utile ; mais je connais ses idées préconcues relativement à certains noms qu'il veut abolir, et j'ai préféré m'abstenir ; je donnerai le mien quand mon ami et savant collègue M. le Professeur Th. Lacordaire aura revisé cette famille.

2e tribu, *Cérambycites.*

Page 146.—206. G. *Octavia*, Th. Syn. *Eroschema*, Pasc. Tr. Ent. Soc. v. p. 17. Ce dernier nom devra prévaloir comme étant le plus ancien.

Page 148.—209. *Tropis*, New. (voir la note s'appliquant à la page 367).

Page 171.—111. *Litopus dispar*, Th. L'auteur ayant décrit le ♂ comme étant la ♀, je vais signaler l'autre sexe.

Litopus dispar (Bhn.), ♀. Viridis ; antennis nigris cyaneo-micantibus ; pedibus rubris, geniculis violaceis, femoribus posticis in tertia parte apicali, tibiis tarsisque anticis cyaneis, tarsis intermediis et posticis nigris.—Long. 13, lat. 5 mil.—Patria P. Natal.

Page 171.—259. *Zonopterus*, Hope, Th. Ce genre me semble être le même que *Niræus*, New.

Page 182.—277. *Distenia nudata* lisez *D. undata.*

* J'ignore le motif de l'animosité passionnée de M. Thomson envers M. Pascoe, qui sans doute expose d'une manière souvent trop concise les genres et les espèces, sans indiquer leur place réelle, mais toujours est-il que j'ai reconnu la généralité des individus qu'il décrivait et qu'il n'en a pas été de même de ceux de M. Thomson, bien qu'ayant connu quelques uns de ces derniers d'avance, j'ai eu quelque fois peine à les retrouver aux portraits qu'il a voulu en faire. Ses phrases sont longues, d'une structure inusitée, surchargées de répétitions au fond réellement insuffisantes. Que M. Thomson prenne pour modèle Gyllenhal et surtout Erichson concernant les Staphyliniens et ses Malachiens, il verra que dans un cadre restreint ces auteurs ont décrit très minutieusement les espèces dont ils se sont occupés.

Page 183.—278. *Noemia.* Les *Phelocalocera* de M. Blanchard que M. Thomson y rapporte, avec doute, comme syn., sont des *Distenia* propres aux îles Maurice et Bourbon, les *D. filiformis* et *pulchella*, Dej. en font partie.

Page 196.—294. *Hamaticherus*, Serv., Th. Syn. *Plocœderus*, Dej. Cat. iii. p. 347.—Am. équat.

Page 197.—295. *Plocœderus*, Th. (nec Dej.). *Hamaticherus* (pars), Dej. Cat. 347.

Page 201.—301. *Ibidion*, Serv., Th. Syn. *Cosmius*, Perty (pars).

Page 203.—314. *Sternoplistes Temminckii*, Guér. ♂. Syn. *Purpuricenus Sinensis*, White, Cat. B. M. p. 139. 12. ♀.—China, Japonia.

Page 209.—325. *Ceragenia*, Serv. Le genre *Cosmocerus*, Dej. en est voisin, mais il en est réellement distinct. Le type de cette espèce a été décrit par M. Guérin sous le même nom de *C. strigosus*, Ic. Règ. An. de Cuv. iii. p. 219.—Brasilia.

Page 210.—326. *Lophonocerus*, Serv. Mêmes observations.

Page 211.—335. *Didymœus*, Th. Syn. *Desmoderus*, Serv. Je ne puis approuver ce changement de nom motivé, dit M. Thomson, par une consonnance trop voisine du genre *Desmocerus*, leur racine ayant une toute autre signification.

Page 212.—337. *Deltaspis*, Serv. Je possède le type même de la coll. Serville, dont les antennes grêles et la forme étroite du corps se rapprochent beaucoup des *Callichroma*. Dejean, puis MM. White et Thomson ont appliqué ce même nom de *Deltaspis* à d'autres espèces du Mexique qui ont les antennes épaisses, le corps large et aplani, devant constituer un genre nouveau.

Page 217.—346. *Cyllene*, New., nob. M. Thomson pense que les espèces à livrée noire, à bandes et points jaunes, propres à l'Amérique centrale et équinoxiale, que j'y ai fait entrer, doivent faire partie de son genre *Clytus*. Je ne suis pas de cet avis ; elles formeront peut-être, à cause des couleurs noire, jaune ou blanche, une division dans le genre *Cyllene*, et voici les motifs sur lesquels je m'appuie :—

Pièces sternales composées comme chez le type ; *antennes* munies au sommet de leurs articles de poils raides presque épineux. *Prothorax échancré sur le côté postérieur et anguleux en avant sur cette échancrure. Elytres* offrant une côte oblique *terminée par une épine aigue.* Rien de semblable aux caractères soulignés, si ce n'est la

robe du *Clytus Robiniæ* (*flexuosus*, F.). Ainsi, suivant M. Thomson, le grand genre *Clytus* des auteurs, qui, d'après un relevé récent que j'ai indiqué, contenait au moins 172 espèces, n'aurait plus aujourd'hui que ce seul représentant. Les auteurs en Europe n'admettront jamais ce changement. Si Fabricius a placé cette espèce en tête du genre, c'est qu'elle était alors l'une des plus grandes et des plus belles. Je doute qu'à cette époque, où elle devait être rare, il ait disséqué cette espèce pour caractériser son genre, tandisque tant d'autres communes du pays pouvaient remplir ce but.

Page 221.—352. 2e division des *Xylotrechus*. Je pense, avec Mulsant, que les *Clytus arietis*, *gazella* et autres pourraient plutôt former le vrai type du genre *Clytus* pour laquelle M. Thomson a proposé depuis le nom d'*Europa*.

Page 226.—357. *Demonax*, Th. Syn. *Acrocyrta*, Pasc. Tr. Ent. Soc. iv. p. 3. Ce dernier nom doit d'autant prévaloir que la Pl. 6. f. 1. pouvait facilement le faire reconnaître.

Page 229.—363. M. Thomson disant à propos de la *Tillomorpha spinicollis*, nob. (*Clytus* olim) et d'une autre espèce de Venezuela que le 3e article des antennes est fortement épineux, elles doivent constituer un nouveau genre. On pourrait leur donner le nom d'*Eplophorus* que j'ai proposé, dans un Catalogue imprimé, pour l'espèce mexicaine.

Page 235.—370. *Gnaphalodes* (Chevr.), Th. (syn. *Enaphalodes*, Dej. Cat. iii. p. 352 ; *Hoplopteryx*, Kg.); le *Cer. spinicornis*, Linn. (*Elaphidion pulverulentum*, Lec., Hald., *Enaph. Lecontei*, Dej., propre à l'Amérique septentrionale), fait aussi partie de ce genre.

Page 237.—370. *Phoracantha*, New., Th. Le genre *Callirhoë*, New., que M. Thomson y rattache comme syn., m'en parait distinct, et présenter les caractères généraux suivants :—*Corps* plus grêle, à couleurs plus vives ; *prothorax* subanguleux et non épineux latéralement, noduleux et unicosté en dessus ; *cuisses* réellement renflées, &c.

Page 244.—378. *Lampracantha*, Th. Syn. *Nyssicus*, Pasc. Tr. Ent. Soc. v. p. 17.

Page 245.—150. *Nephalius acuminatus*, Th. (nec Dej.). Syn. *Sphærion terminatum*, Dej. Cat. iii. p. 353, et non p. 347.—Brasilia.

Page 247.—383. *Eurysthea*, Th. Syn. *Mallocera obliqua*, (Dej.) Serv. Ann. vol. iii. p. 18.—Brasilia.

Page 250.—155. *Eurybatis hariolus*, (Dej.) Th., 1860. Syn. *Purpuricenus 10-punctatus*, Westw. Cab. Or. Ent. p. 59, ♀.—Assam.

Page 252.—393. *Unxia insignis*, (Dej.) Th., 1860. Syn. *Cosmisoma lætum*, Guér. Ic. Règ. An. iii. p. 232.—Brasilia.

Page 258.—403. *Dularius luscus*, Th. nec F. ?—Lap. Syn. *Physocnemum Andreæ*, (Dej. coll.) Hald., Lec.—Amér. sept. Voir la note se rapportant à la page 377.

3e *Livraison. Prionitæ.*

Page 298.—*Philus*, Saund. ; *P. inconspicuus*, Saund., Th. Syn. *Stenochorus antennatus*, Gyl. in Schönh. Syn. Ins. App. pp. 180, 250, ♂. *Stenochorus stuposus*, id. 251, ♀.—China bor.

Page 306.—171. *Selenoptera sulcicollis*, (Dej.) Th. Cette espèce est, non originaire de l'île de Cuba, mais bien de la Guadaloupe (Pointe à pitre).

Page 314.—477. *Prionibius*, lisez *Prionobius*, Muls.

Page 327.—505. *Prionomma orientalis* (White). Consultez la syn. du Cat. B. M., qui est exacte.

4e *Livraison et Suppléments.*

Page 335.—M. Thomson tout en me remerciant des communications que je lui ai faites dit aussitôt que je lui ai refusé, depuis, celle d'une quarantaine de genres appartenant aux *Lamiites* et aux *Cérambycites* vrais, ce qui n'est pas entièrement exact. Si je lui ai refusé de les lui laisser casser comme cela avait eu lieu pour quelques *Prionites* dont il est loin d'avoir eu tout le soin possible. Cet auteur m'envoya par la poste, une liste que je ne reçus qu'un soir à 8 heures. Il fallait *la lui renvoyer la lendemain matin même*, avec les espèces que je possédais. Je travaillai une partie de la nuit à annoter ces genres, et je lui écrivis ensuite que le lendemain devait être employé par moi à assister à la cérémonie funèbre d'un proche parent ; que je l'engageais à venir chez moi, où j'étais disposé à examiner avec lui les genres dont il s'agit ; ce n'était donc pas un refus de communication : M. Thomson s'étant bien dérangé pour voir au Muséum de Paris certains genres qui n'existent que là, pouvait, ce me semble, dans l'intérêt scientifique qu'il fait si souvent valoir, et s'il en sentait le besoin, faire ici une démarche analogue.

Il continue et *dit, pour la seconde fois*, que ma collection est dans un ordre tel, que les moindres recherches doivent se payer non par des minutes, mais bien par des heures !

La collection de Longicornes de Dejean se trouve à peu près dans l'ordre où il l'a laissée et telle que l'indique son Catalogue, les re-

cherches y sont donc faciles. Quant aux espèces que j'ai obtenues depuis, et dont le nombre est, à la vérité, assez considérable, je les ai intercalées dans des boîtes supplémentaires ou réparties à peu près à leur place et dans les endroits libres. Cela ne comporte pas le désordre qu' indique M. Thomson, et les entomologistes peuvent se rassurer sur les pertes de temps dont les menace M. Thomson.

Ce système de dénigrement aurait en effet pour résultat, si je n'y répondais, d'éloigner de moi nos confrères et de diminuer beaucoup le prix de ma collection dans le cas où je voudrais me dessaisir de quelques parties. Mr. Thomson a-t-il bien compris le tort moral et matériel que pourraient me causer ses attaques? j'aime à croire que non.

Ma collection renferme tant de types cités dans les divers ouvrages entomologiques qui se sont publiés depuis 25 ans, que les lecteurs apprécieront, je pense, les observations qui précèdent.

La collection de M. Thomson est classée d'après les inspirations *de sa nature pétulante*, c'est à dire d'une manière assez simple, mais peu scientifique. Il a adopté des étiquettes rondes de différentes couleurs qui sont percées par l'épingle d'une espèce pour désigner les différentes parties du monde; mais au lieu de prendre les couleurs géographiques comme Dejean l'avait fait et comme cela a été admis, il les a appliquées dans un sens opposé afin de n'être pas taxé de routine. Un seul nom d'espèce se trouve inscrit sur chacune, avec rappel à la page de son ouvrage propre. Cette disposition produit exactement, dans ses boîtes, l'effet d'une distribution de pains à cacheter montés sur épingles. Voici une note assez curieuse de l'auteur et qui donne une idée de sa modestie :—" Les entomologistes feront bien à l'avenir de venir étudier leurs Cérambycides sur ceux de ma collection, qui offrent à la fois ces trois immenses avantages : 1° d'être classés dans l'ordre le plus convenable; 2° de constituer l'une des plus grandes collections de Cérambycides qui existent (3500 espèces); 3° d'avoir servi de base au travail actuel, le plus important qu'on ait encore publié sur les insectes en question."

Page 338.—189. *Æthomerus filicornis*, Th. (nec Dej.).—Bahia.

Ma collection renferme 4 à 5 espèces assez voisines, mais cependant distinctes; j'en donnerai un jour la description.

Page 340.—190. *Trigonopeplus signatipennis*, Th. (nec Dej.). Je donne la description de l'espèce méconnue :—

Trigonopeplus binominis. Fuscus, nigropunctatus; in dorso antico prothoracis tantum tuberculis duobus; scutello flavo maculis duabus nigris; in singulo elytro, tuberculo nigro infra basin maculisque tri-

bus nigris : 1ª ultra medium transversa, abbreviata, obliqua, 2ª marginali elongata, flavo marginatis ; tertiaque punctiformi juxta suturam adversa secunda ; in abdomine seriebus duabus punctorum nigrorum.—Long. 17, lat. 7 mill.—Patria Rio Janeiro (Brasilia).

D'un fauve clair, couvert de petits points noirs ronds mais alongés et étroits sur les étuis. *Tête* en avant, plane, carrée, une bande jaune entre les antennnes et quatre lignes courtes, de même couleur, sur le vertex, les deux frontales forment un trait circonflexe. *Yeux* noirs, entourés de jaune. *Elytres* arrondies et saillantes sur l'épaule, cette dernière offre une ligne de petits tubercules noirs ; vers le milieu au dessous de la base se voit un tubercule noir ; trois taches noires par étui, 1re au delà du milieu, transverse, oblique entourée de jaune ; 2e au dessous, située le long de la marge, allongée, également jaune sur ses bords ; 3e ponctiforme, près de la suture et en regard de la seconde. *Abdomen* ayant deux séries de points noirs, le dernier segment en est privé. Sommet des jambes et les deux derniers articles des tarses noirs.

Page 341.—191. *Scleronotus scabrosus*, (Dej.) Th. Voici certes l'une des espèces les plus tranchées et dont la description devenait très facile. Cependant aux traits principaux ci-après énoncés par l'auteur on pourrait ne pas la reconnaître*.

D'abord M. Thomson a passé sous silence les *antennes*, qui sont brunes. Elles ont le sommet des 3e, 4e et 5e articles d'un brun noirâtre, avec le commencement de ces articles d'un gris rougeâtre. Les *élytres* offrent en travers de la base un trait gris cintré qui s'arrête à l'épaule, et vers les $\frac{2}{3}$ postérieurs se détache une bande étroite, blanche, qui est pointillée de noir ; l'espace qui existe entre cette bande et l'extrémité est d'un fauve clair cendré. De plus les tubercules noirs sont disposés en séries longitudinales au nombre de sept par étui, et la 2e série en partant de la suture, à sa naissance, est elevée, arquée avec les tubercules serrés, tandis qu'ils sont espacés ailleurs.

Page 342.—523. *Prioneta*, Bld., Th. Syn. *Praonetha*, Dej. Cat. iii. p. 370.

Page 344.—194. La *Golsinda tessellata*, Pasc. Tr. Ent. Soc. n.s. iv. Jan. 1857, p. 49, me parait devoir être rapportée à la *L. annulata*, Ol. Ent. 67, pp. 95, 125, pl. 20. f. 151, ♀ (*clathrata*, Bld. Mus. de Paris). —Ind. or.

Page 347.—197. *Ischnolea crinita*, Th. (nec Dej.).

Description de cette dernière et d'une 3e que j'y rapporte avec doute.

Ischnolea pallidipennis. Caput, 1us articulus antennarum atque thorax

* Fuscus. *Elytra antice* VAGE *albo pilosa huc et passim vage nigro tuberculata, postice* LATE *albo piloso maculata.*

(lineis tribus basalibus abbreviatis albis) nigra et pilosa; scutello albo; elytris pallide fuscis, basi et in medio marginis infuscatis, aliquot maculis punctiformibus fuscis juxta suturam, singulatim apice rotundatis; corpore infra pedibusque brunneis nitidis.—Long. 5, lat. 1½ mill.—Patria Brasilia.

Euchæstes crinitus, Dej. Cat. 3 éd. p. 366. Allongée, modérément convexe, couverte de longs poils pâles. *Tête,* 1er article des antennes et *corselet* noirs: ce dernier offre trois lignes blanches qui partent de la base et se limitent vers le milieu de la longueur. *Antennes* ferrugineuses, faiblement rembrunies au sommet des derniers articles. *Ecusson* blanc. *Elytres* arrondies chacune à l'extrémité, d'un fauve pâle, un peu obscures sur la base et sur les côtés, au-delà du milieu quelques guttules obscures le long de la suture dont la bordure est blanchâtre, ponctuation presque disposée en séries régulières, celle suturale est faiblement sillonnée. Pattes poilues assez épaisses, ferrugineuses en dessus, brunâtres et brillantes ainsi que le corps en dessous.

Ischnolea ? bimaculata. Punctata, nigro-pilosa, obscura; prothorace lateraliter anguste spinoso, linea media elevata alba, in disco foveis duabus; in elytris, ultra medium, macula laterali et fascia ante-apicali nigris albido fimbriatis.—Long. 13, lat. 2 mill.—Patria Brasilia. D. Sommer.

D'un brun noirâtre, ponctuée, hérissée de poils raides inclinés, la plupart noirs. *Tête* coupée anguleusement entre les antennes. *Antennes* avec le 1er article tiqueté de noir, suivants bruns cendrés à leur base. *Prothorax* allongé, offrant vers le milieu, sur chaque côté, une épine mince arquée; sur le milieu longitudinal existe une ligne blanche étroite élevée; sur le disque, en avant du milieu, sont deux impressions arrondies liées à chacune une petite carène blanchâtre sinueuse qui se dirige sur la base. *Ecusson* arrondi, brun. *Elytres* brunes, obtusément arrondies au sommet, marquées sur le côté, au-delà du milieu, d'une grande tache noire dont le bord interne et postérieur est blanc; une autre tache transverse, conique, s'appuie à la suture, est aussi entourée de blanc. *Pattes* et dessous du *corps* d'un brun grisâtre moucheté de noir.

Page 355.—543. *Dioxippe,* Th., 1860. *Auxa,* Pascoe, Journ. of Ent. 1860, p. 129. Le genre *Centrura,* Guérin, m'en parait distinct.

Page 364.—M. Thomson donne une liste de genres qu'il dit n'avoir pas vus en nature. Il en est deux de ma collection qu'il a eu entre les mains pendant plus d'un mois et sur lesquels il pouvait donner des renseignements *de visu.*

Megaproctus didelphus, Chev. Rev. Silb. 1837, 321. D'après le dire de M. Thomson, cet insecte doit être placé près du genre *Dorcasomus.*

Page 366.—Quant au *Thyrsia lateralis*, Dalm., c'est, ainsi que je le lui avais fait voir, un *Hétéromère* qui devait disparaître de cette liste, ou n'y figurer qu'avec ce renseignement.

Page 367.—653. *Chœropsis*, Th. 1860; *Ægorhinus*, Dejean, 1837; *Tropis*, New. Ent. p. 34*, ayant pour type le *dimidiatus* de ces trois auteurs, appartient au même genre.

Page 369.—208. *Chariergus tabidus*, (nec Kl.), White, Th. Syn. *Cosmisoma signaticorne* (Dej. in mus.), Lucas, Anim. rares, p. 112. pl. 12. f. 3.—Brasilia. MM. White (Cat. B.M. p. 216) et Thomson ont appliqué à tort ce nom d'espèce à ce genre : le *Cer. tabidus*, Kl., rentre dans le genre *Oregostoma*, Serv.

Page 371.—665. Je pense que l'*Œmona humilis*, New., est la même espèce que *Isodera villosa*, White, Ereb. et Terr.—Nova Zeland.

Page 371.—666. *Diatomocephala*, Bld., Th. Syn. *Hesperophanes* (pars, Dej.); *Nyctipates* (Eschs.); *Arhopalus*, *Œmona*, New.; *Callidium*, Gyll. Le type du genre est le *Call. simplex*, Gyll. in Schr. App. p. 178. Cet insecte a reçu depuis les noms suivants: *N. Luzonicus*, Eschs.; *Arh. ambiguus*, New.; *Œm. Philippensis*, New. Doivent aussi en faire partie l'*Hesp. guttaticollis*, F., de Taiti, et peut-être la *Sap. unicolor*, F. Ent. Syst. 309. 11, Ol. Ent., d'Australie.

Page 375.—682. *Callideriphus*, Bld., Th. Syn. *Eriphus* et *Chrysoprasis* (Dej. pars) pour les *E. thoracicus*, Dej. (*lætus*, Bld.), du Chili et *Chr. aculeatus*, Dej., du Brésil.

Page 377.—*Dularius*, Th. Syn. *Physocnemum*, Hald., Lec. (olim). La note insérée par M. Thomson et portant qu'une inadvertance très regrettable lui a fait dire que le type de ce genre était le *Clytus luscus*, F., au lieu du *Physocnemum Andreæ* (Dej.), Hald., Lec., est dûe entièrement à moi, qui ne ferais aucune remarque à ce sujet si, à chaque instant, quelques mots piquants contre moi ne sortaient de la plume de l'auteur. On ne conçoit guère, en effet, que ces insectes, propres tous deux à son pays et dont l'un est tellement remarquable par ses beaux dessins et sa forme* *Callidiite*, et dont l'autre, qui est figuré dans la monographie de MM. Laporte et Gory, aient pu donner lieu à une telle méprise. La manière si rapide et parfois irréfléchie de travailler de M. Thomson devrait le rendre pour autrui moins rigide qu'il ne l'a été jusqu'ici.

Page 382.—*Embryon*. C'est aussi par moi que M. Thomson se

* Th. Voir la citation de la page 148.

rectifie, comme il l'avoue à peu près, pour un genre du groupe Eumolpides, qu'il avait placé près des *Parménides*. La composition des antennes et la forme de la tête auraient dû ne pas lui laisser commettre cette grosse erreur.

On m'a appris dernièrement que, en traitant de mon genre *Agrius fallaciosus*, dans sa monographie des Cicindélides, il m'avait horriblement maltraité en raison de la place que j'avais assignée à ce genre. Il savait cependant que ce n'était pas *mon opinion personnelle* que j'émettais. La place que je lui avais d'abord assignée, *moi*, dans ma collection, et où il reste encore, était justement celle émise par notre fameux critique. Il résulte de cette explication que l'indulgence en relevant des erreurs doit toujours être gardée, puisque nous sommes tous exposés à nous tromper.

Je ne terminerai pas sans remercier MM. les fondateurs de ce Journal d'Entomologie de m'avoir permis de suivre sur ce terrain impartial, une polémique que j'aurais désiré pouvoir davantage abréger, mais qui pourtant à son utilité, puisqu'il en résulte des rectifications de synonymie.

Je remercie aussi M. Thomson de son ouvrage qu'il m'a donné; je regrette que cette obligeance de sa part ne m'ait pas permis de taire ce que j'ai cru devoir relever dans son travail.

Addenda.

Hetœmis, (Dej.) Hald., Th. Syn. *Dectis*, Lec., Th.; *Canidia*, Th.; *Ancistroderus* (Dej.Cat.). Types, 1° *Sap. spinosa*, Say; *H.cinerascens*, Dej., Amér. Sept. 2° *Canidia Mexicana*, Th., ♀; *Anc. hamaticollis*, Dej. Cat. 3 éd. p. 367, ♂.—Mexique.

Le *Dorcadion Fairmairei*, Th., de Grèce n'appartient pas à ce genre; c'est un *Morimus*, qui se placera près du *M. funestus*, les ♂ n'ayant pas les antennes beaucoup plus longues que celles des ♀.

Errata.

Page 189 de ce Journal: Retrancher l'indication de patrie, 'Vieux Calabar,' de la *Volumnia Westermanni*, et la reporter à la *Volumnia apicalis*.

Page 190 ditto. *Tetraopes thermophilus*, Chevr. Synon. *Tetr. undecimpunctatus*, Chevr. Cat. Dej., cité dessous avant la description en français, attendu que la disposition typographique pourrait faire croire à la description de deux espèces.

Pages 251 et 252 ditto. *Ischnolea pallidipennis*, Chevr. Synon. *Euchæstes crinitus*, Dej., pour la même raison.

XXI.—*Observations suggérées par les Notes de* M. Chevrolat *sur les Cérambycides de* M. Thomson. Par H. Jekel. (Premier Article : *Lamiadæ*).

1. Genre Clytus, Fabr.

Dans leurs louables efforts de chercher à retenir pour un groupe quelconque le nom des anciens grands genres linnéens ou fabriciens menacés de disparaître, quelques entomologistes péchent, à mon avis, contre la logique, lorsqu'ils proposent de regarder comme type la première espèce décrite dans l'ouvrage où ces genres ont été établis. Car, à ce principe, Fabricius, par exemple, aurait déjà commis la première infraction, non seulement relativement à Linné, mais à lui-même ! Le genre *Curculio* avait pour chef de file une grande espèce exotique introduite par Fabricius dans son genre *Calandra* !

On doit admettre que les créateurs de l'entomologie, tous nés en Europe, ont eu plus particulièrement en vue, comme types de leurs genres représentés sur ce continent (et c'est l'immense majorité), des espèces européennes. En effet, il est beaucoup plus naturel d'admettre qu'ils ont été plus à même de découvrir et de vérifier les caractères sur des espèces dont les individus ne leur faisaient jamais défaut, lorsqu'il s'agissait d'en sacrifier pour l'étude de leurs organes. Enfin, c'est par les espèces de leur pays, continuellement à leur portée, qu'ils ont dû être impressionnés plus profondément, sur les rapports ou différences génériques.

En placant leurs plus grandes espèces en tête de leurs genres, ils obéissaient tout simplement à ce sentiment de classification qui, sans tenir compte des analogies (conf. 'Fabricia Entomologica,' i. 1, 4), placait le tambour-major et les grenadiers en tête de la colonne, subissant, involontairement, l'influence de la force, ou du moins, de ce qui semble la représenter par la taille. Mais le plus souvent ce n'était pas sur ces espèces que les caractères génériques avaient été étudiés, comme il va être démontré tout à l'heure. Je reviendrai plus tard sur cette question qui, relativement aux *Curculio*, devra être prise en sérieuse considération, et j'aborde l'objet principal de cette note.

Dans le cas actuel du genre *Clytus*, Fabr., qu'il ne s'agit pas ici de rétablir, mais bien de démembrer, genre si richement représenté en Europe, il me semble que l'on ne doit pas chercher son type dans une espèce de l'Amérique du Nord, quand le créateur du genre (né sur le continent qui a le droit de revendiquer pour ses espèces le maintien des noms établis par ses enfans) avait sous sa main un si grand nombre d'espèces de son propre pays, et lorsqu'il indique lui-même son type par la description détaillée des organes buccaux du

Clytus arcuatus (Syst. Eleuth. ii. 347), qui cependant, dans cet ouvrage, n'est que la huitième espèce.

Comment recevrait-on maintenant la proposition—en conséquence de la doctrine de M. Thomson—qui condamnerait le genre *Carabus* à être réduit au *Car. gigas* (*Procerus*), Creutz., et quelques analogues, parceque cette espèce est la première dans le 'Syst. Eleuth.,' et qui descendrait l'immense nombre des espèces européennes à l'état de sous-type (sous un nom nouveau !), lorsque Fabricius a indiqué son type par la dissection et la soigneuse description des organes buccaux de son *Car. hortensis* (nec Linné !)? Et lorsque cet auteur lui-même a antérieurement et successivement placé en tête dudit genre, *coriaceus* (Syst. Entom. 1775), et *maxillosus* (Spec. Ins. 1781, et Entom. Syst. 1792), dont il forma plus tard (Syst. Eleuth. 1801) son genre *Manticora*, prouvant par là qu'il n'avait jamais regardé sa première espèce comme type ! Je pourrais augmenter les citations, mais je crois celles-ci suffisantes et concluantes, pour maintenir à nos *Clytus*, les plus vrais entre tous, le nom qui leur appartient. Qu'on les subdivise en autant de coupes qu'on le jugera nécessaire, mais que le groupe dont l'*arcuatus*, Linn., Fabr.*, fera partie conserve ce nom !

2. *Sur les Couleurs géographiques d'Etiquettes.*

M. Chevrolat, en faisant allusion aux couleurs géographiques d'étiquettes ou paillettes, me semble y attacher une importance qu'une tradition très limitée n'autorise pas. J'ai encore sous les yeux des étiquettes de diverses collections faites par des Français qui avaient adopté des couleurs différentes de celles de Dejean. Les entomologistes anglais emploient aussi d'autres couleurs. Je n'ai pas remarqué quelles sont celles adoptées par M. Thomson, mais s'il a suivi en cela les propositions publiées par Haldeman†, il a eu raison, car autant que je sache, c'est la seule proposition relative à l'arrangement des collections qui ait été faite d'une manière aussi complète et raisonnée. En présence d'un travail publié et soigneusement élaboré, toute tradition locale, à mon avis, devrait céder la place.

En résumé, les couleurs adoptées par ce savant sont :—

1. Amérique septentrionale . . . . . Bleu.
2. Amérique méridionale . . . . . Pourpre.
3. Europe . . . . . Vert.
4. Afrique . . . . . Rouge.

* M. Chevrolat observe avec raison, à cet égard, que le genre *Plagionotus*, Muls., doit disparaître et venir en synonymie.

† Zoological Contributions, No. 3, Jan. 1844, "On the Arrangement of Insect-cabinets," &c., with a Map of the World.

5. Asie et Archipel Indien . . . . . Jaune.
6. Australie et Polynésie . . . . . Brun.

Chacune de ces couleurs se subdivise en deux nuances, ou zônes de latitude.

Les couleurs sont en partie un peu trop dures, peut-être, pour des étiquettes de fonds, généralement assez grandes, et l'on sait combien cela nuit aux insectes. Dans ce cas, l'étiquette blanche à bordure de couleur est préférable, ou bien encore une paillette ou bande latérale de couleur à l'étiquette fonds blanc. Mais pour les étiquettes-paillettes (comme celles de M. Thomson) ou toute autre attachée à l'épingle, cet inconvénient disparait entièrement.

Il serait temps que les entomologistes s'entendissent à ce sujet, car ce langage muet, mais uniforme et expressif, rendrait de grands services dans les échanges et communications. J'ai quelquefois été bien embarrassé sur les provenances par des paillettes dont la couleur n'avait un sens que pour la personne qui l'avait accollée à l'insecte, bien qu'elle fut pénétrée de la suffisance de cette arbitraire indication de patrie. Et l'on sait de quelle importance est l'indication exacte de provenance pour la détermination d'espèces dans les groupes nombreux, sombres et unicolores, tels que les *Harpalides, Cryptorhynchides,* &c.

3. *Sur les Genres de* Dejean *caractérisés par* M. Blanchard.

Dans son 'Essai sur les Céramb.,' M. Thomson accompagne fréquemment son indication des genres Dejeaniens caractérisés par M. Blanchard dans son 'Hist. des Insectes,' de l'expression 'sans citation d'espèce.' Bien que M. Blanchard eut mieux fait sans doute, de citer une espèce décrite à l'appui de chacun de ses genres, il serait au moins spécieux de lui contester le droit de priorité à cause de cette lacune, car il est patent pour tous que toute espèce décrite faisant partie de ce genre Dejeanien s'indiquait naturellement comme type, par le simple renvoi au Catalogue Dejean, ainsi que le fait pressentir l'auteur dans sa préface (pag. v.). C'est plutôt sur le laconisme de M. Blanchard qu'on pourrait élever des objections. Mais si l'on considère qu'une quantité de genres établis isolément, parfois plus brièvement caractérisés—car il faut aussi tenir compte à M. Blanchard de ses subdivisions en tribus, familles et groupes *caractérisés* dans cet ouvrage d'ensemble, et qui réduisent de beaucoup le nombre de caractères exigibles pour la distinction du genre—ont été reconnus et acceptés, quoique n'ayant pas toujours pour aider à leur reconnaissance la grande tradition Dejeanienne; on ne peut consciencieusement pas lui refuser ce qu'on a accepté de tant d'autres! Combien de genres Erichson lui-même, dont on ne contestera

pas, j'espère, les soigneuses investigations et l'autorité, n'a-t-il pas caractérisés en quelques mots, également sans citation d'espèces décrites, et que bien des entomologistes ont su reconnaître?

Le mal des descriptions trop brèves a existé, existe, et existera probablement encore après nous. S'y opposer de tout son pouvoir pour l'avenir, est chose digne—un devoir même,—mais dans la distribution des parts d'honneur du passé, ne faisons pas usage de deux poids et deux mesures! Et puisque dans le cas actuel, M. Thomson a su reconnaître ces genres, qu'il rende franchement à César ce qui lui appartient!

4. Genre Atmodes, Thoms.

L'auteur a fait ici une grande confusion. Il donne d'abord comme synonyme de son genre (Archiv. Entom. i. 301) les *Milothris* de Dejean dont l'espèce typique *Saperda marmorea*, Sch. est connue de tous, mais qu'il ne cite pas. Mais il nous propose comme type de son genre une vraie *Lamia* de Fabr. à thorax épineux latéralement, qui n'a aucun rapport avec sa courte diagnose comparative, qui pourrait rehausser quelque peu la valeur de tradition, s'il citait le type de Dejean.

Ensuite (Essai Céramb. p. 71), il ajoute une autre synonymie à ce soi-disant type, celle de la *Saperda irrorata*, Fabr. du midi de l'Europe et de la Barbarie, espèce des plus connues. De sorte que son genre, en conséquence de ses trois citations, reposerait sur trois espèces appartenant à trois genres différents, et très éloignés les uns des autres dans la classification.

Bien que je ne prétende ici apprendre rien aux entomologistes versés dans la littérature et la synonymie, je ne crois pas inutile, néanmoins, de rappeler les trois espèces auxquelles les citations de M. Thomson nous renvoient:

1. *Lamia irrorata*, Fabr. (nec *irrorator*, Thoms. Arch.) Entom. Syst. ii. 270, espèce de Lamiaire pr. d. à thorax épineux latéralement, et qui n'a rien de commun avec les *Milothris* ni la diagnose de M. Thomson.

2. *Saperda irrorata*, Fabr. Mant. i. 147. 4, Syst. El. ii. 319. 8, qui est notre espèce de l'Europe méridionale et du nord de l'Afrique (*Agapanthia*), citée par M. Thomson, comme je viens de le dire, en synonymie de la *Lamia irrorata* ci-dessus, et qui, comme elle, n'a aucun rapport avec les *Milothris* ni la diagnose des *Atmodes*.

3. *Saperda irrorata*, Fabr. Syst. Eleuth. ii. 329. 65, dont le nom faisant double emploi dans le dit ouvrage, avec l'espèce plus anciennement connue du 'Mantissa,' fut changé par Schönherr (Synon. Insect. iii. 436. 105) en celui de *marmorea*, type du genre *Milothris*, Dej., mais que M. Thomson ne cite dans aucun de ses deux ouvrages!

5. Genre Hypsioma, Serv.

Du moment que l'on propose le démembrement de ce genre, je crois qu'il serait de toute justice de retenir le nom de *Hypselomus* de Perty pour les espèces réunies par M. Thomson sous le nom de *Clytemnestra* (Essai Céramb. 113), attendu que l'une de celles-ci, *Clyt. tumulosa* (Dej.) Thoms., n'est autre que *Hypsel. cristatus*, Perty (Delect. Anim. Art. p. 96, tab. 19. fig. 8), synonymie connue depuis longtemps des entomologistes. On pourrait, néanmoins, conserver le nom de *Clytemnestra* pour les espèces de la div. B. de M. Thomson.

Je possède de ce genre un bon nombre d'espèces inédites (notamment de Cayenne, localité qui m'a fourni tant de nouveautés, ainsi qu'à mes correspondants), malgré celles déjà nombreuses décrites dans les auteurs, Fabricius, Perty, Serville, Laporte, Blanchard, Erichson, Pascoe, et Thomson, dont plusieurs de ce dernier sont à retrancher.

Aux observations synonymiques de M. Chevrolat (*huj. op.*), j'ajouterai:

subfasciata, Thoms.* (*ligata*, Chevr. MSS.) est l'*Hypsel. crudus*, Erichs. Archiv, 1847, 148. Cette espèce, dont l'habitat est très étendu de l'est à l'ouest le long du fleuve des Amazones, de Cayenne et Para au Pérou, varie beaucoup pour la taille.

La seule espèce de Fabricius rentrant dans ce genre, signalée par Erichson dans 'Schomb. Reise n. Brit. Guiana,' est la *Lamia globifera* du Syst. Eleuth. ii. 284 (*Hypsioma tuberosa*, Dej.), espèce dont l'habitat est également assez étendu—les Guyanes, le Brésil septentrional, &c., et qui varie aussi beaucoup pour la taille. Elle est le type dans ce genre d'une division signalée par M. Thomson (Essai Céramb. 115), et qui porte dans ma collection le nom de *Jamesia*.

Sous-genre Jamesia, Jekel†.

Antennæ in ♂ corpore multo, in ♀ paulo longiores, articulo 1° elongato, recto, versus apicem modice ampliato, parum clavato; 3°‡ primo parum longiore, recto, cylindrico; 1–4 subtus sat dense, reliquis parum, pilosis. *Caput* valde reclinatum, elongatum, lateribus compresso-angustatum, facie evidenter longiore quam lata, anterius angustiore; fronte tertiam partem latitudinis haud superante; elevationibus antenniferis oblique emarginato-truncatis, intus

* M. Chevrolat, p. 192 de ce Journal, donne comme synonyme de cette espèce une *Hyps. albilateralis*, Pascoe, qui serait décrite 'Trans. Ent. Soc. Lond. vol. v. p. 25,' ce qui est une double erreur. Mr. Pascoe décrit, p. 36 dudit volume, une *Hesycha albilatera* à "élytres étroites, à épaules à peine proéminentes," caractères qui, ajoutés à ceux du genre auquel l'auteur la rapporte, ne permettent pas de lui supposer de l'analogie avec la courte et robuste espèce ci-dessus.

† Nom d'homme: dédié à M. James Thomson.

‡ À l'endroit ci-dessus cité, M. Thomson, par inadvertance, appelle *second* ce troisième article.

obtuse acutis (♀) aut plus minusve corniformibus (♂), apice divergentibus. *Oculi* magni, plus quam dimidiam partem longitudinis—singulusque fere tertiam partem latitudinis—faciei occupantes. *Thorax* brevis, valde transversus, utrinque ante basin tuberculatus. *Pedes* parum crassi; acetabulis extus valde angulatis; femoribus modice clavatis; tibiis tenuibus, anticis parum sinuatis, posticis apice parum ampliatis.

Parmi les espèces rentrant dans cette coupe, dont, ainsi que je l'ai dit ci-dessus, la *Lamia globifera*, Fabr., est le type, je décrirai seulement la suivante, que j'ai répandue sous le nom de—

Hypsioma bipunctata, Jekel. Oblongo-subparallela, parum convexa, picea, opaca, olivescente-brunneo tomentosa; lineis duabus faciei nonnullisque brevibus basi elytrorum flavis; thorace transversim plicato, utrinque unituberculato; elytris basi granulatis et rugosis, superficiei reliqua punctis impressis nigro-tomentosis irregulariter, punctoque albo medio dorsi, ornatis, humeris bituberculatis.—Long. corp. 18–22, elytr. 13–17, latit. humer. 6½–8½. mill.—Cayenna (*Dom. Bar.*).

Tête assez comprimée latéralement, à face s'élargissant visiblement vers l'ouverture buccale, où elle est largement tronquée; ayant une fine ligne longitudinale se continuant sur le vertex jusqu'au corselet; à tomentosité brune, souvent plus noirâtre sur la face, qui a de chaque côté, le long des yeux, une ligne fauve clair ou jaune se prolongeant jusqu'au labre; front à peine plus large que le tiers de la largeur de la tête, dont les yeux grands occupent chacun presque un tiers de la largeur, surtout chez la ♀; protubérances antennifères du front divergentes, obliquement tronquées-émarginées, à angle intérieur obtus chez la ♀, corniforme chez le ♂; mandibules noirâtres, striées longitudinalement; labre brunâtre, transversal. *Antennes* un quart plus longues que le corps chez la ♀, plus d'une fois et demie plus longues que ledit chez le ♂, dont le 1er article est plus claviforme que chez la ♀, plus court et plus robuste selon le sexe que dans la *H. globifera*, à peu près comme dans le *Hyps. cristatus*, Perty; articles 3 à 11 roussâtres. *Thorax* plus d'une fois et demie plus large que long, ayant trois plis transversaux (indépendamment des bordures marginales de la base et du sommet), s'affaiblissant vers le milieu qui a une élévation longitudinale faiblement cariniforme; les intervalles élevés entre ces plis sont sinueusement élevés, subtuberculiformes; un tubercule latéral à extrémité dénudée est placé entre le premier et le second pli à partir de la base. *Ecusson* transversal, subsemicirculaire. *Elytres* de moitié plus larges que le corselet à la base, où elles sont presque tronquées, et légèrement sinueuses, ainsi que la base du thorax; humérus anguleux, à deux tubercules, dont l'inférieur est le plus gros; insensiblement rétrécies vers l'extrémité qui est arrondie; relativement peu convexes, avec un tubercule assez ample mais peu élevé sur chacune près de la base au milieu de la largeur; le cinquième antérieur est chargé de granulations aciculaires

qui se transforment en fortes rugosités entre le tubercule et l'humérus; le reste de l'élytre est très irrégulièrement parsemé de points enfoncés de diverses grandeurs, remplis d'une tomentosité noire, et dont l'un d'eux, le plus apparent, placé vers le milieu de chaque élytre, est surmonté d'un point blanc non enfoncé. *Dessous* du corps et *pates*, de même que le thorax et les élytres, couverts d'une tomentosité d'un brun olivescent; ces dernières brunâtres, à tarses plus clairs, roussâtres.

Cette espèce est une des moins convexes et des moins élargies à l'humérus, en même temps qu'elle est une des plus allongées des élytres, qui sont moins convexes que chez les autres espèces.

L'*Hypsel. pupillatus*, Pasc. (Trans. Ent. Soc. Lond. sér. 3. vol. v. p. 35), qui parait être très voisin de notre espèce, mais qui, selon la description, en diffère essentiellement, appartient peut-être à la coupe actuelle.

Ce groupe a le plus grand besoin d'être revu synonymiquement et monographiquement.

6. Genre Hesycha, (Dej.) Fairm. et Germ.

Ce genre de Dejean, caractérisé par MM. Fairmaire et Germain dans leur intéressant travail sur les Coléoptères du Chili (Ann. Soc. Ent. Fr. sér. 3. vol. vii. p. 523), me parait avoir été omis par M. Thomson. A l'exception de l'espèce du Chili décrite par ces auteurs, et deux autres du Para par Mr. Pascoe, toutes les autres me paraissent inédites, et plusieurs de Cayenne et des Amazones (conf. Mus. Bates, Chevrolat et Jekel) sont à ajouter à celles du Brésil indiquées par Dejean. Leur nombre s'élève à près d'une vingtaine.

L'une d'elles, que j'ai reçue en nombre, et que j'ai répandue sous le nom de *Hesycha Jekelii*, Chevr. MSS., je me fais un plaisir de la dédier à M. Bar, résident à Cayenne, de qui je la tiens :—

Hesycha Barii, Jekel. Oblonga, fusco-picea, brunneo tomentosa, lineis duabus obliquis thoracis, alteraque singuli elytri pone medium versus suturam curvata albescentibus; thorace subconico, inermi, angulis posticis acutis, medio carinulato; elytris irregulariter seriatim punctatis, stria suturali obsoleta, carina laterali dimidiata.—Long. corp. 10–17, elytr. 7–12, latit. humer. $3\frac{3}{4}$–$6\frac{1}{2}$ mill.—Cayenna.

♂. Processu frontali antennifero intus subcorniformi; antennis corpore longioribus.

♀. Processu frontali antennifero intus obtuse acuto; antennis corpore paulo brevioribus.

Tête très inclinée, à face aplatie, parcourue par une très fine ligne longitudinale atteignant le thorax; tomentosité plus rembrunie que sur le reste du corps. *Yeux* assez grands, occupant chacun un peu plus d'un quart de la largeur de la tête, et plus de la moitié de la longueur de la face, laissant au front presque la moitié de la largeur, celui-ci peu excavé à son sommet entre les protubérances antennifères.

Labre brunâtre, arrondi, un peu convexe. *Mandibules* dépassant un peu ce dernier, noirâtres, très finement striées longitudinalement. *Palpes* bruns, à dernier article allongé, subfusiforme. *Thorax* peu transversal, à peine un tiers plus large que long, subconique, à angles postérieurs assez aigus, à marge basale sinuée, bordée; l'apicale tronquée, plus légèrement marginée; une impression transversale oblique partant un peu au-dessous du milieu des côtés, et se rapprochant de la base vers le milieu du disque où elle s'évanouit; une autre impression foveiforme de chaque côté du disque au-dessus du milieu de la longueur; carène médiane peu accentuée, un peu rembrunie; tomentosité d'un brun clair tirant sur le fauve; une ligne latérale oblique, jaunâtre et marginée de brun foncée intérieurement part des côtés du disque à la base et se dirige antérieurement sous le côté. *Ecusson* transversal, obtusément semi-ovalaire, brun au milieu, fauve de chaque côté. *Elytres* assez allongées, à base légèrement sinuée, en cet endroit une fois et demie aussi large que le corselet, à épaules assez anguleuses et saillantes, à carène humérale peu accentuée, se continuant sur les côtés jusqu'au milieu de la longueur en s'évanouissant; côtés insensiblement rétrécis jusqu'à l'extrémité qui est assez obtusément arrondie, surtout chez la ♀; disque faiblement atténué postérieurement, modérément convexe; ayant des lignes longitudinales irrégulières et très serrées de points peu profonds, formant des rugosités entre la carène latérale et la marge inférieure; la ligne de points le long de la suture est régulière et forme une strie très légère; couvertes d'une tomentosité d'un brun plus ou moins clair; ornées chacune d'une ligne longitudinale oblique, arquée, d'un blanc jaunâtre, partant de la base en dessous où elle se continue sous le prothorax, parallèlement à la bande latéro-dorsale de cet organe, et comme elle bordée de brun foncé en cet endroit; passant sous l'humérus elle se dirige obliquement vers la suture dont elle s'approche à son maximum aux deux tiers environ de la longueur, formant en cet endroit une courbe dont la partie convexe regarde la suture, puis ensuite elle s'en éloigne pour se terminer en se bifurquant vers la partie extérieure de l'extrémité; une autre ligne arquée occupe le tiers postérieur du côté et parallèlement à cette dernière; au milieu de la base de chaque élytre se voit également une petite ligne jaunâtre très courte continuant celle du thorax. *Poitrine* de chaque côté garnie d'une tomentosité jaunâtre, traversée d'une bande oblique brune, dont la courbe est parallèle à celle des lignes du thorax et de l'élytre. *Abdomen* brun, à extrémité plus densément couverte de tomentosité jaunâtre; segments ayant de chaque côté un point jaunâtre assez distant de la marge. *Pates* assez courtes, tomenteuses comme le reste du corps, à fémurs assez fortement claviformes, à tibias insensiblement élargis vers l'extrémité, les antérieurs un peu courbes, mais non sinués, chez les ♂, droits chez les ♀. *Hanches* antérieures distantes, avec leurs cavités cotyloides fortement anguleuses en dehors.

XXII.—*Tentamenta Entomologica.* By H. Jekel, M.E.S., &c.

Having been for some years engaged in the determination and classification of parts of Messrs. Bowring and Saunders's Coleoptera, the careful study of these extensive collections, in connexion with my own, together with access to other important cabinets in London and Paris, has enabled me to determine many unsettled cases of synonymy, and to unite many natural groups confounded or disconnected by various authors.

The important collections received by Mr. Saunders from different parts of Greece (Athens, Albania, and Crete) would, if consulted, greatly increase the amount of our knowledge of that fauna, showing a fair addition of species, not only to the lists of Brullé* and Lucas†, but also to the more recent and highly interesting works of Reiche‡, Schaum, Kraatz, and v. Kiesenwetter§.

Again, some important collections that I have received from Calabria, Sicily, Andalusia, Galicia, Portugal, and Algiers, have satisfied me of the absolute distinction and, on the other hand, the close affinity or even identity of numerous species with others collected in countries wide apart, viz. the south of France, Spain, and Portugal, with Greece, South Russia, Turkey, Anatolia, Caucasus, and Persia.

Calathus circumseptus, Germ., and *Calathus lateralis*, Küster.

Having received many specimens of *Calathus circumseptus*, Germ., from Sicily and Algiers, I have been enabled to ascertain that *Cal. lateralis*, Küst. (die Käfer Europa's, xii. 34, 1848), is a mere variety of that species. The specimens from the above localities are generally larger in size than those from the south of France; and it is only in specimens "nuper exclusis," or having a lighter coloration on the elytra, that these and the thorax seem to be proportionally broader and flatter, from the teguments not having acquired their entire solidity and fulness of convexity, characters known to be shared by all "nuper exclusæ" specimens. I have seen every intermediate in convexity and apparent breadth of thorax and elytra between the extreme *lateralis* and the normal *circumseptus*, there-

* Expéd. Scient. de Morée, 1832–35.

† Essai sur les Animaux Articulés qui habitent l'Ile de Crète, in Revue et Magasin de Zoologie, 1853.

‡ Coleopt. recueillis en Orient par M. F. de Saulcy, in Ann. Soc. Ent. de France, 1855–58.

§ Berliner Entomol. Zeitschrift, 1857–59 (in course of publication).

fore Herr Schaum's doubts on the value of Küster's species (cf. Catal. Coleopt. Eur. Berlin, 1859) were well founded.

Acupalpus longicornis, Schaum.

This little *Acupalpus* is one of the numerous instances of perplexity and trouble in which the conscientious study of authors may place you. After having spent much time without ascertaining the specific name of my *Consputus*-like specimens, I had therefore concluded that they represented an undescribed species, which, although evidently allied to Schaum's *longicornis* (Berlin. Entom. Zeitschr. i. 145), could not be identified with his description*. Having by mere chance read that acute author's new description of the same (Naturgesch. d. Insect. Deutschl. I. i. p. 622), (which is so different from the former, that, except the identity of the name, one would believe it quite another species,) I have just in time been enabled to withdraw my manuscript.

The specimens under my inspection were caught in Albania by S. S. Saunders, Esq., and belong to Mr. W. W. Saunders. They are a trifle smaller, reaching not above $3\frac{1}{4}$ millim. ($=1\frac{2}{5}$ lin. Par. mens. $=1\frac{1}{2}$ lin. Angl. mens.). Their labrum is of a reddish hue, like the sides of the thorax, of which the red margin is well circumscribed, with the disk quite black, as well as that of the elytra, in which the large triangular humeral patch is, together with the narrow limb, of a well-defined pale-yellow hue. They quite agree with Schaum's latter description, made upon mature specimens, and which alone applies to the species.

Microlarinus, Hochhuth, and *Rhinocyllus Lareynii*, Jacq. Duval.

It is evident to me that *Rhinoc. Lareynii*, Jacq. Duv. (Ann. Soc. Entom. France, 1852, p. 714), belongs to the genus *Microlarinus*, Hochh. (Bull. Soc. Imp. Nat. Moscou, 1847, ii. p. 540).

But the most interesting, as a geographical point, is its specific identity with Hochhuth's *Microl. rhinocylloides*, of which I have no doubt, having carefully compared several extreme specimens of *Rhin. Lareynii* with the excellent description of the Russian author.

This brings an addition to the genera of the European fauna; the valuable characters pointed out by Hochhuth are most clear, besides a difference of habit which would destroy the homogeneity of *Rhinocyllus*.

No doubt this species will be found along the zone extending between these two extreme points, viz. Caucasus and South France!

* That description was very likely made upon immature specimens.

A second species belonging to this little group has just been described by Mr. Wollaston (*Rhinocyllus lypriformis*) in his most valuable paper "On certain Coleoptera from the Island of St. Vincent," in Ann. & Mag. Nat. Hist. 1861.

This increases the interest of the new generic form; and if we add that the typical species is also found in Egypt, we ascertain the wide range of the genus.

BALANINUS, Germ., Sch.

This interesting and extensive genus, a great many of the exotic species of which are undescribed in collections, is principally composed of two very distinct forms, both represented in the European fauna.

§ I. (*Balaninus*, pr. d.)

The first, or Stirps I. (*Genuini*) of Sch.*, contains several types of large size, viz.:—

Sect. 1. *Elephas*, Sch., with aberrant species from Europe (*Pellitus*, Sch.; *Mastodon*, Jekel, *huj. op.*) and America, readily distinguished by their more elongate, less conic, and more convex elytra. Nearly all the large and middle-sized North American species belong to this type.

Sect. 2. *Glandium*, Marsh (= *Venosus*, Germ.), with the various forms and sizes of the continental specimens of the so-called *Venosus*, very likely forming two or three distinct species, forms an intermediate type in which the elytra, although much shorter and more conic, are still convex as in the preceding section. Some of the North American species belong to this group.

Sect. 3. *Nucum*, L., Sch., and *Turbatus*, Sch., represent another set of moderately large species, having broader, more conic and flattened elytra. This group, as regards its European species, must be entirely revised; for, amongst the so-called specimens of *Turbatus* from all parts of Europe, a good many have, in the construction of the external joints of the funiculus of the antennæ, a tendency towards the incrassate and shortened shape declared by Schönherr and all subsequent authors to be peculiar to *Nucum*. The rostrum, especially in the ♀, is also subject to great variations in length, curvature, thickness, and sculpture. These differences, as far as I can judge from the materials I have at hand or have seen—the abnormal specimens being seldom from countries or parts thoroughly and continually investigated by entomologists, but principally from remote

* To the characters given by Schönherr, add: Unguiculi tarsorum basi intus aut angulatim aut subdentatim incrassati.

spots, whence we so often receive new species—may at least indicate local and permanent varieties, if not really distinct species*. But the question concerning such polymorphous species can only be settled by the study of an immense number of specimens from all parts of Europe.

None of the North American species that I know of pertain to this group.

Sect. 4. *Villosus*, F., *Cerasorum*, Hb., and *Rubidus*, Sch., are European species representing a group of a smaller size, having elytra short, conic, and rather flattened as in Group III. To this set belong a great many exotic species from Africa, India, and Australia, amongst which *Melaleucus*, Sch., is remarkable for its beauty and size, some specimens being larger than our *Nucum*. If Schönherr's indication is not the result of an erroneous comparison, the species varies very much in size, for he says, "*Balanino villoso* dimidio major." This nevertheless would not be unlikely, for our European species present great differences in size.

This group might be subdivided into two sections according to the armature of the thighs; but *Rubidus* cannot be severed from *Cerasorum* in a natural distribution of the species, and some South African

* Although, in a philosophical point of view, an important biological result will be attained by the recent conscientious and most valuable observations of Mr. Darwin (On the Origin of Species, &c., 1859) on the successive modifications of species through the numberless influences acting upon successive generations of a given type, descriptive zoology, restricted to the registration of the *actual differences* between *actual species*, regardless of the possible, but unwarrantable, modifications of such species a century hence, will probably always see its worshippers divided as to the limits of species or varieties. The more I have studied the matter, the more I have been convinced that nature, in the groups that we—more or less arbitrarily—call genera or subgenera, proceeds by types, round which *actual types* (without regard to past or future modifications) gravitate the so-called *species*, *subspecies* (*incipient species*, Darwin), and *varieties*. It thus becomes every day more and more necessary for authors, monographers, or faunists to proceed, in their enumerations and descriptions, to philosophical and biological investigations of the *really natural groups of species* in each genus, and this is what I have always aimed at in my various enumerations of species in extensive groups. The continual and endless increase of materials in the collections makes it a duty to conscientious authors to follow such steps; for the use of dry, short, aphoristic, and absolute descriptions (easy work!), giving no idea of the aberrant constitution of a new species, are the plague of science, especially when made by authors who have an insufficient knowledge of the various types of a genus. The excellent application of this principle by Mr. H. W. Bates ("Contributions to an Insect Fauna of the Amazon Valley," in Trans. Entom. Soc. London, 1860 & 1861), enhanced by personal (*ad naturam*) investigations—increasing so highly the value of philosophical deductions—deserves the warmest thanks of all true entomologists.

present the same analogies*. The Catalogues of European Coleoptera would then arrange the species of this group as follows:—

Balan. villosus, Fabr.
—— *cerasorum*, Herbst.
—— *rubidus*, Sch.

§ II. (*Balanobius*, Jekel.)

The second large subdivision or Stirps II. (*Spurii*) of Schönherr should, according to the present ideas on generic characters, from the numerous and intrinsic differences it exhibits, be raised to the rank of a separate genus; and I wonder at its having been overlooked by Mr. C. G. Thomson†, whose acuteness has supplied us with many new generic names in this and other families. This gentleman, in the *Rhynchophori*, has made use of several new characters, some of which, although deemed by him as primordial, should rather have been used as secondary, as they very often, even in his limited fauna, break palpable natural affinities, and consequently could not be rigorously applied to a general classification.

This extensive subdivision of *Balaninus* may be distinguished as follows:—

Antennæ crassiusculæ: articulis funiculi 4–7 latitudine haud longioribus; clava crassa, breviter ovata. Scutellum pro ratione minus, præsertim brevius. Pygidium breve subtransversum, ab elytris conjunctim ad suturam parum emarginatis partim tectum. Unguiculi tarsorum angusti, basi non incrassati.—*Obs.* Corpus magis convexum, plerumque minoris magnitudinis.

Besides a few European, it contains a great number of exotic species, most of which are South African, and only a few North American; the exclusion of *Pistor*, Germ., rightly transferred by Schönherr to *Centrinus*, is, as regards its generic form, but one more instance of the necessity of reuniting all those *Mecorhynchi* having the pygidium partly or entirely exposed and more or less perpendicular. Regardless of the presence or absence of a tooth at the thighs (Manip. i. & ii. Sch.—a character of quite secondary value), it presents several natural types, of which two only occur in Europe: viz.—

Sect. I. Containing: *Crux*, Fabr.
Ochreatus, Sch.
Var. *Rufosignatus*, Fairm.

* It is a fact that, by according the presence or absence of a tooth on the femora a primordial rank in the subdivisions of extensive genera, one very frequently destroys the natural affinities of species.

† Skandinaviens Coleoptera, Lund, 1859.

Sect. II. Including: *Brassicæ*, Fabr. (= *Salicivorus*, Gyll.).
Pyrrhoceras, Msh.
Troglodytes, Jekel, huj. op.

The latter species, although only recorded from Anatolia, will probably be found on this side of the Bosphorus.

Balaninus mastodon, Jekel. Oblongo-ellipticus, rufo-piceus, supra dense flavo-subochraceo-subtus albescenti-squamosus; rostro longissimo antennisque longis parum tenuibus, rufis; thorace subtransverso, antice haud constricto, confertim punctato-ruguloso; elytris tenuiter confertimque punctato-striatis, interstitiis transversim rugulosis, femoribus acute dentatis.

Long. corp. (rostr. excl.) 9–10, rostri ♀ 9–10, ♂ 7–8, latit. humer. $3\frac{8}{10}$–4 millim.

Patria: Hispania (*Dom. Dupont*).—*Mus.* D. Bowring et Jekel.

Balan. elephanti, Sch., proximus, sed multo major, pro ratione brevior latior et crassior, et secundum sexus vero differt:

Caput magis conicum et minus convexum, inter oculos obsolete impresso-canaliculatum, profundius punctatum. *Antennæ* pro ratione crassiores, sed non breviores, articulis funiculi apice evidentius subclavato-incrassatis, 1° secundo dimidio longiori. *Rostrum* ut in illo formatum et elongatum, pro ratione certe crassius, apice tantum minus abrupte incurvum, basi utroque sexu evidentius punctatum, carinula basali elevatiore, præsertim in ♂; obscure rufum, apice nigro-piceum et punctulatum. *Thorax* latior, subtransversus, apice multo minus angustatus et constrictus, haud marginatus, basi etiam minus angustatus, ergo lateribus minus rotundatus, latius et non pulvinato-convexus, fortius et confertius ruguloso-granulatus. Scutellum ovatum, sat elevatum. *Elytra* basi conjunctim minus emarginata, lateribus versus apicem magis conico-angustata (potius ut in *Balan. pellito*, Sch., formata, etsi longiora), supra anterius minus planata, pone medium minus elevata, striis profundius crenato-punctatis, interstitiis evidenter transversim rugulosis. *Corpus* supra squamositate crassiore densiore obscure flavo-subochracea, infra pallidiore tenuioreque vestitum. *Pedes* rufo-picei, dense griseo-squamosi.

Balaninus troglodytes, Jekel. Anguste ovato-ellipticus, niger nitidiusculus; thorace subtus, lateribus pectoris abdomineque fere omnino tenuiter albo-squamosis; antennis flavis cum clava picea; thorace angusto subcylindrico, rude punctato-rugoso; elytris profunde punctato-striatis, interstitiis convexis punctis profundis distantibus pilis albidis biseriatis repletis; femoribus anticis obtusissime, posticis obtuse dentatis.

♂. Rostro fere longitudine capitis cum thorace, a medio ad apicem læte rufo-flavescenti.

♀. Rostro paulo longiori, a medio ad apicem obscure rufo aut piceo.

Long. (rostr. excl.) 1 $\frac{5}{10}$, latit. humer. $\frac{5}{10}$ mill.

Patria: Anatolia (*Dom. Dupont*).—*Mus.* Dom. Bowring, ♂ ♀. *Mus.* Jekel, ♀.

Minutissimus angustissimusque in hoc genere. Individuis minoribus *Balan. pyrrhoceratis,* cui propinquus multo minor et angustior, et in sequentibus differt:

Thorax longior, multo angustior, basin versus multo minus (certe parum) ampliatus, subcylindricus, multo profundius laxiusque punctato-rugosus. *Elytra* basi multo angustiora, apicem versus obtusius subtruncato-rotundatum multo minus angustata, ergo subparallela, profundius punctato-striata, interstitiis elevatioribus, profundius laxiusque transversim punctato-rugosis. *Femora* omnia obtusius dentata.

This lilliputian *Balaninus,* ranking amongst the smallest Curculionidæ, being only the size of *Apion aciculare*, Germ., is not yet recorded from Europe, although, as I have already said, it may be an inhabitant of South-eastern Europe (either Turkey or Greece). The three specimens upon which I found the species do not appreciably differ in size, while its congeners, *Brassicæ* and *Pyrrhoceras*, vary very much in this particular. The unusual coarseness of the rugosities of its thorax, compared with its small size, distinguish it at once from *Pyrrhoceras,* with which only it can be compared.

Genus Tychius, Sch.

The rings of the abdomen in the Curculionidæ are very seldom exactly truncate at their apex, the first being most often emarginate in the middle, and 2–4 generally sinuate, *i. e.* more or less roundly produced in the middle, apparently emarginate each side of the latter, then more or less abruptly and obliquely produced downwards to the sides, where they form an acute angle with the side itself. This last character (often little evident, by the elytra embracing more or less of the sides of the abdomen) is highly developed in some groups (*Cionina*, Thoms.: *Cionus* and *Nanophyes*), but presents an anomaly in some species of the artificial genus *Tychius* of Sch. (*Tychius pr. d.*, Stirps I., Sch., sp. 1–23), also in *Miccotrogus* and *Sibynes*, Sch.,= *Tychiina*, Thoms., *loc. cit.** In most of these the second ring is so much produced that it covers nearly the whole of the side of the third ring (*Tych. striatellus* and *Sibynes silenes*, &c.), and often even reaches the base of the fourth (*Tych. 5-punctatus, venustus*, &c., *Miccotr. cuprifer, picirostris*, &c., *Sibynes viscariæ*, &c.). In a few

* Mr. Thomson says of his *Tychiina*: "Abdomen segmento 2° ventrali lateribus dentato-producto, *basin* 4ⁱ *obtegente*," but this is exact for only a limited number of species.

others (*Tych. meliloti*, &c.) the fourth ring is also more produced downwards than usually.

This abnormal conformation of the second ring of the abdomen has led Mr. Thomson to the erection of a separate tribe as above recorded; but this character is only applicable to Schönherr's Stirps I., a few species of his Stirps II., and to *Miccotrogus* and *Sibynes*, which indeed, when reunited, form a very natural group. Schönherr's Stirps II., based on the normal shape of the rostrum, "*Rostrum subtenue sublineare*," in opposition to Stirps I., "*Rostrum basin versus crassius, apice attenuatum*," is heterogeneous, since it includes, as above said, some species (*trivialis*, Sch., *auricollis*, Sch., *tibialis*, Sch., also *amplicollis*, Aubé) closely allied by their general constitution, the subsericeous tomentosity of their body, the shape of the second abdominal ring and of the tibiæ, &c., to Stirps I., although their rostrum be not exactly "apice attenuatum" as in *Miccotrogus*. All the other species of Stirps II.—so far removed in their essential characters from Stirps I., and so wrongly intercalated by Schönherr and all subsequent authors between *tomentosus*, *canescens*, &c., and *cuprifer*, *picirostris*, &c., all closely allied species—have their abdominal rings constructed after the normal type, and most of them bear a greater likeness to other groups of Erirhinidæ. The analogy of most of them with some species of the artificial genus *Erirhinus* is so great, that Schönherr himself formerly ranked two South African species in that genus, retaining at the same time a variety of one of them with *Tychius**.

Entirely distinct from "*Tychiina*," as here restricted, the great majority of Stirps II. present the three following types:—

I. (*Typus* I.). Scutello mediocri, conspicuo; tibiis posticis (ut anticis) intus ad apicem aut angulato- aut spinoso-ampliatis, apice ipso unco horizontali aucto. Abdomen segmentibus ventralibus 2–4 utrinque paululum (*h. e.* normaliter) angulatim productis. Corpus squamis plus minusve crassis, brevibus tectum. *Notariformes*: (*Pachytychius*, Jekel) —Typus: *Tych. sparsutus*, Ol., Sch.

II. Scutello inconspicuo; tibiis posticis apice intus haud (extus plus minusve) ampliatis, amplitudine oblique truncata, apice ipso truncato, ecalcarato.

A. (*Typus* II.) Articulo 1° funiculi antennarum valde elongato, 3–7 brevibus, subæqualibus; thorace valde ampliato; elytris brevibus a basi ad apicem sensim angustatis; segmento secundo abdominis ad latera quam sequentibus paulo magis angulatim producto, sed medium 3i haud attingente. Corpus breviter ovatum, politum, squamis parvis

* Sch. Gen. et Sp. Curcul. iii. p. 308, 38 et 39; iii. 421, 33.; vii. ii. 309, 38 et 39.

brevibus adspersum.—*Baridiformes*: (*Barytychius*, Jekel)—Typus: *Tychius hordei*, Brullé (=*squamosus*, Sch.).

B. (Typus III.) Articulo 1° funiculi antennarum mediocri, 2–4° subconicis successive brevioribus, ultimis rotundatis; thorace subovato, modice ampliato; elytris ovatis medio latioribus; segmentis 2–4° abdominis normalibus. Corpus oblongo-ovatum aut oblongum, squamis elongatis setiformibus inclinatis, in elytris seriatis, adspersum.—*Styphliformes*: (*Styphlotychius*, Jekel)—Typus: *Tych. scabricollis*, Rosenh. (=*asperatus*, Dej. Catal.).

Obs. I.—The characters given by Mr. Thomson to each of his three genera of *Tychiina* apply only to a limited number of European species.

Obs. II.—According to the artificial system of Schönherr, *Tychius carinicollis*, Lucas (=*Aubeonymus pulchellus*, Jacq. Duv.), from Algeria, South Spain (Cadiz), and Sicily, by the longitudinal channel of its prothorax beneath not extending further than the somewhat distant anterior coxæ, strictly belongs to the second subdivision of the *Cryptorhynchides*, where it might be placed near *Ocladius*; but I cannot see that it has anything to do with *Hypsomus*, as M. Jacq. Duval states; it rather resembles *Pachytychius*, with a tendency towards some species of *Acalles*.

Pachytychius, Jekel.

1. *Femora dentata.*

Typus: *Tych. hæmatocephalus*, Sch. Alpes Galliæ et Helvetiæ.
Congener.: —— *rubriceps*, Rosenh. Andalusia.
—— *Lucasii*, Jekel, huj. op. Algeria.
=*elongatus*, Lucas (nec Sch.).
—— *leucoloma*, (Dj.) Jekel, huj. op. Senegal.
—— *elongatus*, Sch. Senegal, Guinea, Benguela.
—— *strumarius*, Sch. Lusitania.
—— *latus*, Jekel, huj. op. Corfu.
&c. &c.

2. *Femora mutica.*

Typus: *Tych. sparsutus*, Oliv., Sch. Gallia merid.
Congener.: —— *obesus*, Sch. Helvetia, Gall. merid. or.
—— *pernix*, Sch. Gallia mer., Hungar.
—— *trimacula*, Rosenh. Andalusia.
—— *scrobiculatus*, Rosenh. Andalusia.
—— *ancora*, Sch. Caucasus.
—— *robustus*, Woll. Madeira.
—— *squalidus*, Sch. Caffraria.
—— *maculatus*, Sch. Caffraria.
—— *squamifer*, Sch. Brasilia.
—— *sublineatus*, Sch. Amer. merid.
&c. &c.

Pachytychius elongatus, Sch.

♂. Rostro paulo breviore et crassiore, minus arcuato, lateribus magis ampliato.—Long. $5\frac{1}{2}$–7, latit. $2\frac{1}{3}$–$2\frac{1}{2}$ millim.

Pachytychius leucoloma, (Dej.) Jekel.

This is evidently distinct from *elongatus*, Sch.; and Dejean had separated them in his collection. It is more than twice smaller (long. $4\frac{1}{2}$–$4\frac{3}{4}$, latit. $1\frac{3}{10}$–$1\frac{4}{10}$ mill.). *Rostrum* proportionally longer and thicker, more arcuate. *Thorax* much less transverse, evidently much longer, less ampliate at the sides, nearly subquadrate, with the punctures deeper, broader, much less numerous. *Elytra* with deeper striæ, coarser rugosities on the interstices. *Body* underneath much more coarsely punctate-rugose.

The specimens from Algeria, which M. Lucas regards as belonging to *Tychius elongatus*, really constitute a distinct species, which I had long labelled in my collection under the name of

Pachytychius Lucasii, Jekel.

This species approaches nearer to *leucoloma* in size (although generally larger) and shape of thorax, but is readily distinguished from both species by having much shorter *elytra*; the *antennæ* are thinner, and of a light rufous colour. In the configuration of the *elytra* it stands nearer to *hæmatocephalus**, from which nevertheless it is distinct by its less convex thorax, the broadest portion of which, as in the above two species, is much nearer to its apex. Like the three species here mentioned its posterior thigh is dentate, but more obtusely.

I have seen fresh ♂ specimens of *Tych. hæmatocephalus* from the Basses Alpes which have the scutellum whitish squamose, like *rubriceps*, Rosenh. Are the two distinct?

Sibynes sellatus, Lucas, from Algiers, is another species of this group, nearly allied to the four preceding, and having, like them, the elytra *conjointly rounded* at the apex, *covering the pygidium entirely*†, and the posterior thighs obtusely dentate. It is a very pretty species, having the design of its elytra very similar to that of *Baridius sellatus*, Sch., from the same country.

* I have seen small specimens of this species confounded with *hæmatocephalus* in some collections.

† The variable shape of the body and of the joints of the antennæ in *Tychius pr. d.* (as I actually limit it) and in *Sibynes* reducing the number of their distinctive characters as established by Schönherr and subsequent authors, there remains only the difference in shape of the base of the thorax (sometimes very slight) and the more evident one of the apex of the elytra—viz. *singly rounded, leaving the pygidium evidently exposed*, in *Sibynes*—to distinguish the two groups.

Pachytychius latus, Jekel.

P. breviter ovatus, nigro-piceus, subopacus, capite cum rostro, tibiis tarsisque rufescentibus; antennis dilutioribus; linea media thoracis, plaga lata latero-dorsali elytrorum, corpore subtus pedibusque leviter griseo-albescente squamosis; rostro longo, lineari, arcuato, punctato-striato; thorace late transverso, subquadrato, punctato-rugoso; elytris breviusculis, tenuiter punctato-striatis, interstitiis rugulosis; femoribus anticis obtusissime, posticis acute dentatis; tibiis omnibus infra pone basin angulariter ampliatis.

Long. (rostr. excl.) 5, latit. med. thor. et bas. elytr. $2\frac{3}{10}$ mill., long. rostri $1\frac{7}{10}$, thor. $1\frac{6}{10}$, elytr. fere 3 mill.

Patria: Insula Corfu.—*Mus.* Bowring, Saunders, et Jekel.

Statura latiore magis parallela, thorace transversim subquadrato a reliquis distinctus. *Tych. sparsuto* Ol., Sch. duplo major, minus convexus. *Caput* breve, transversim rotundatum, convexum, punctato-rugulosum, fronte foveolata. *Oculi* laterales, perpendiculares, elongati. *Rostrum* deflexum, lineare, arcuatum, seriatim sulcato-punctatum, cum elevatione media longitudinali subcariniformi. *Thorax* apice late emarginatus, infra oculos lobatus; ab apice subito transversim ampliatus, dein lateribus paululum rotundatus (medio latitudine elytrorum), versus basin parum angustatus, quare subquadratus; transversim convexus, punctato-rugosus, lateribus subcarinato-compressis; fundo squamulis fuscis opacis adspersus, linea media basi ampliata, lateribus subtus parcissime griseo-albo squamosus. *Scutellum* parvum, transversim subquadratum. *Elytra* breviter ovata, basi late emarginato-truncata, cum humeris antrorsum acute productis, lateribus usque ultra medium fere parallela, dein versus apicem sensim angustata, apice ipso conjunctim rotundato; supra modice convexa, postice semicirculariter declivia, tenuiter punctato-striata, interstitiis latis, planis, rugulosis; fundo fusco-squamoso; plaga magna latero-dorsali utrinque a basi ultra medium apiceque irregulariter griseo-albo squamosis. Plaga interius ad basin lineolam densius squamosam inter strias 2 et 3 emittit et pone illam paulo emarginata est. *Corpus* subtus fortiter punctato-rugosum, squamulis griseo-albescentibus adspersum. *Pedes* parum elongati; femoribus valde clavatis; tibiis omnibus intus pone basin angulariter ampliatis, dein emarginatis et ciliatis, apice unco acuto parum obliquo armatis.

BARYTYCHIUS, Jekel.

The type of this little group, *hordei*, Brullé, varies considerably in size, coloration of the body, and density of squamulation; its synonymy is also rather intricate.

The normal colour of the body is black or pitchy, with rufous antennæ and legs; but the head and thorax are often more or less rufescent, being in some small specimens even of a bright ruby hue. In some of the specimens with a light thorax, the usually black or

pitchy parts (rostrum, elytra, and body underneath) are either dark or light brown.

The maximum amount of squamulation (which is whitish or flavescent) consists of two intra-lateral lines on the disk of the thorax, two entire longitudinal lines on each elytron (one dorsal, the other lateral), with the interspaces, especially at the base and apex, densely irrorate. But in many specimens the squamulation is reduced to a short basal line on either side of the thorax, and to two short basal and apical lines on the elytra. The lateral line is generally most persistent in intermediate specimens. Lastly, other individuals are quite destitute of squamosity.

The punctures of the thorax also vary extremely.

Its size varies between $2\frac{1}{5}$ and $3\frac{1}{3}$ millim., some being hardly longer (though broader) than *Tych. picirostris*; the largest equalling *Tych. venustus*. This variation of size occurs indiscriminately in every country in which it is found, viz. South France (Montpellier, Marseilles, &c.), Sardinia, Sicily, Crete, Anatolia, Syria, Caucasus, &c.

The synonymy stands as follows:—

Tychius hordei, Brullé, Expéd. Scient. Morée, Articulés, p. 246 (1832), 1834.
—— *squamosus*, Sch. Gen. et Sp. Curcul. iii. p. 419, 1836.
—— *alboguttatus*, Redtenb., Russegger, Reise, i. p. 988, 1843.
—— *intramarginalis*, Hochhuth, Bull. Soc. Imp. Nat. Mosc. 1847, ii. p. 549. Since recognized by the same as
—— *squamosus*, var. *Caucasicus*, Hochh. *loc. cit.* 1851, i. p. 94.

The correct and minute description by Hochhuth helps greatly in the recognition of the species, when found in our western countries.

Through its immersed scutellum, this group should be ranged near *Tanyrhynchus* and *Trachodes*, waiting the production of a general classification based upon natural affinities and embracing the various forms of the whole world. This gigantic work, undertaken by Prof. Lacordaire's master hand, we most anxiously expect.

Tychius amœnus, Say, Sch., possibly belongs to this group.

Styphlotychius, Jekel.

This group should also be transferred to the subdivision *Erirhinides exscutellati* of Schönherr. It bears a certain likeness to the *Styphlidæ* and to *Trachodes*.

Besides its type, *Tychius scabricollis*, Rosenh. (die Thiere Andalusiens, p. 280) = *asperatus*, Dej. Catal. = *nitidirostris*, Dufour in litt., which is widely distributed in South-western Europe, I have seen a few more species, which unfortunately are not at the present time within my reach.

XXIII.—*Descriptions of new Genera and Species of* Phytophaga. By J. S. Baly.

Fam. **Crioceridæ.**

Genus Macrolema.

Corpus oblongum. *Caput* exsertum, collo leniter constricto; *antennis* modice robustis, subelongatis, filiformibus, articulo primo incrassato, secundo brevi, tertio illo duplo longiore, quarto tertio paullo longiore, cæteris singulatim quarto fere æqualibus; *labro* transverso; *mandibulis* sat robustis, apice bifidis; *maxillis* bilobatis, lobo superiore palpiformi; *palparum maxillarum* articulo ultimo ovato, apice truncato; *mento* brevi, transverso, antice concavo; *ligula* semicornea, obtusa, integra; *oculis* prominulis, postice orbita male definita instructis, intus vix sinuatis. *Thorax* transversus, lateribus postice angustatis. *Scutellum* elongato-trigonatum. *Elytra* thorace multo latiora, parallela, dorso subcylindrica. *Pedes* modice robusti, subelongati, simplices; *coxis anticis* transversis; *femoribus posticis* non incrassatis, ungue articulo penultimo dimidio longiore, libero; *unguiculis* distantibus, basi non connexis. *Prosternum* distinctum. *Abdominis* segmento basali sequente paullo longiore.

Type, *Macrolema vittata*, Baly.

This striking genus stands in close proximity to *Brachydactyla*, Lac., agreeing in having a distinct prosternum and in not possessing conical anterior coxæ, but differing in the third and fourth joints of the tarsi being formed in accordance with the ordinary type of the family, and in the anterior coxæ being transverse instead of hemispherical. From all the remaining genera, the transverse anterior coxæ and (*Megascelis* and the first section of *Crioceris* excepted) the possession of a prosternum separate it.

The beautiful insect on which the genus is founded has been recently sent by Mr. Diggles from Dawson's River, a new settlement in the northern part of Queensland, Australia.

Macrolema vittata. (Plate XIII. fig. 1.)

M. subelongata, parallela, convexa, pallide fulvo-fusca, nitida; antennis supra, tibiis extrorsum tarsisque chalybeis; thorace transverso, lateribus postice angustato-sinuatis, disco utrinque unifoveolato, vitta mediali antice posticeque abbreviata et puncto utrinque ante apicem posito, nigro-piceis; elytris striato-punctatis, nigro-piceis, sordide albo-limbatis, utroque vitta lata a basi ad pone medium extensa, pallide fusca.—Long. 5½–6 lin.; lat. 3 lin.

Hab. Dawson's River, Moreton Bay.

Subelongate, parallel, convex, pale shining fulvo-fuscous. Head ex-

serted, narrowed behind the eyes, but not constricted into a regular neck; eyes slightly prominent; antennæ filiform, robust, equal in length to the body, third joint shorter than the fourth, all the joints steel-blue above, obscure fulvous beneath, five or six basal joints nitidous, the rest opake; face impressed with a deep triangular fovea, the apex of which extends upwards to the vertex, the latter marked with a short black vitta, apex of jaws black. Thorax transverse, sides rounded, narrowed and sinuate behind, anterior and posterior angles produced into a short obtuse tooth, disk impressed here and there with deep punctures. Elytra broader than the thorax, oblong, parallel, their apex regularly rounded, the entire lateral and the apical portion of the sutural borders thickened; surface of each elytron covered with rows of punctures, deeply impressed and regular at the base, less distinct and less regular towards the apex of the elytron.

Genus Megascelis, Latr.

Megascelis elegans.

M. elongata, subcylindrica, dorso vix depressa, flava, nitida, vix pubescens; antennis (medio excepto) albis; capite, antennarum articulis intermediis tibiisque posticis extus, nigris; pectore piceo-æneo; facie inter oculos scutelloque viridi-æneis; thorace vix elongato, basi et apice paullo angustato, dorso transversim depresso, utrinque sulcato; elytris subparallelis, apicem versus angustatis, singulatim apice concavis, angulo suturali in spinam brevem producto, obscure cæruleo-nigris, metallico violaceo micantibus, medio fascia lata flava instructis; facie inter oculos rugosa, longitudinaliter canaliculata.—Long. $3\frac{2}{3}$ lin.

Hab. Nauta, Upper Amazons.

Elongate, pale shining yellow. Head shining black; face between the eyes and a narrow space on either side the epistome running to the base of the jaws metallic green; face rugose, longitudinally grooved down the middle, clothed with adpressed silvery hairs; antennæ yellowish-white, basal joint above, the entire fifth and three following, together with the extreme apex of the eleventh joint black; eyes emarginate. Thorax scarcely longer than broad, narrowed in front and behind the middle; above smooth and shining, nearly impunctate, obsoletely clothed with fine hairs; disk transversely concave, the concavity impressed on either side near the middle with a moderately deep and transverse fossa. Scutellum broadly truncate, piceous at the base, bright metallic green towards its apex. Elytra much broader than the thorax, sides subparallel, obliquely narrowed at their posterior third, the apex of each elytron concavely excavated, sutural angle produced into a short spine, above subcylindrical, slightly flattened along the suture, impressed just below the scutellum with a shallow common fovea, sparingly clothed with short adpressed hairs, shoulders slightly prominent; each elytron with two rows of finely impressed punctures, the first abbreviated, all the rows less distinct towards the apex of the elytron; a thickened

ridge is continued from the humeral callus for some distance down the side just within the lateral border. Hinder thighs reaching the apex of the abdomen.

This lovely species belongs to the first subsection of the first division of the genus.

Genus Lema, Fabr.

Lema Parryi.

L. oblonga, parallela, pallide fulvo-fusca, nitida; antennis (articulo basali excepto) corporeque subtus nigris; thorace latitudine vix longiore, lateribus medio valde constrictis, dorso subplano, ante basin obsolete transversim canaliculato, disco lævi, medio tenuissime striato-punctato; elytris thorace multo latioribus, punctato-striatis, interspatiis lævibus; antennis mediocribus, filiformibus, articulis 3tio et 4to brevibus, æqualibus; femoribus posterioribus subtus ante apicem tuberculo brevi oblongo armatis.—Long. 6 lin.

Hab. West Coast of Africa (Dix Cove).

Face subtrigonate; antennæ three-fourths the length of the body, filiform, moderately robust. Thorax scarcely longer than broad, subquadrate, slightly broader at the base, sides deeply constricted in the middle; upper surface flattened in the centre, subcylindrical on the sides; disk smooth, impunctate, with the exception of two very faint irregular rows of minute punctures which run down its middle; the extreme base indistinctly impressed with a very slight transverse groove, in front of which is a round puncture; on either side the central line in front is a shallow fovea. Scutellum trigonate, its apex truncate. Elytra twice as broad as the thorax, sides parallel, above convex, slightly flattened down the middle, obsoletely impressed transversely below the basilar space; each elytron with two rows of distinct punctures, their interspaces plane, punctured here and there at the base. Posterior edge of abdominal segments fusco-fulvous, anal segments almost entirely of the same colour. Hinder thighs scarcely thicker than the others, much shorter than the abdomen.

This remarkable species ought to stand in Lacordaire's first subsection. I know only a single specimen, presented to me by Major Parry, after whom I have named it.

Lema Jansoni.

L. elongata, subcylindrica, fulva, nitida; thorace punctis quatuor, elytrorum plaga magna basali unguiculisque nigris; antennis gracilibus, filiformibus, articulo 4to 3tio dimidio longiore; thorace longitudine latitudini æquali, subcylindrico, lateribus medio valde constrictis, angulis anticis prominulis, dorso lævi, transversim sulcato; elytris medio infra basin depressis, basi ipsa vix elevata, punctato-striatis,

punctis prope basin fortiter impressis, interspatiis prope apicem elevatis. —Long. 3 lin.

Hab. India.

Elongate, subcylindrical; face subtrigonate; antennæ slender, longer than half the body, filiform. Thorax marked on the disk with four small black spots arranged in an irregular square. Scutellum small, trigonate. Elytra much broader than the thorax, broadly excavated below the basilar space, the latter indistinctly elevated, each elytron impressed with ten rows of deep punctures; at the base of the elytra is a large somewhat square-shaped shining black patch, which extends from the suture to the fourth stria and downwards nearly a third the length of the elytra. Hinder thigh slightly incrassate, much shorter than the abdomen, its outer surface beyond the middle stained with a fuscous spot; basal segment of abdomen also stained with fuscous.

Lema Bretinghami.

L. subelongata, parallela, subtus cum antennis nigris, pectore abdomineque fuscis, supra fusco-fulva; elytris infra basin non transversim depressis, fortiter punctato-striatis, vitta lata communi a paullo infra basin ad apicem extensa, antrorsum angustata, obscure cærulea; thorace lateribus medio valde coarctatis, supra transversim bisulcato, sulco anteriore medio interrupto.—Long. 3 lin.

Hab. India. Collected by Mr. Bretingham.

Subelongate, parallel; face trigonate; epistome and antennæ black, the latter moderately robust, nearly filiform, two-thirds the length of the body, third joint twice the length of the second, fourth nearly equal to the third; forehead impressed with an oblong fovea. Thorax quadrate, subcylindrical, sides deeply constricted in the middle; upper surface smooth, impunctate, impressed with two transverse grooves, the first short, shallow, interrupted in the middle, the second deeply sulcate, entire, and placed just behind the lateral constriction. Scutellum trigonate, its apex truncate. Elytra much broader than the thorax, more than three times its length, sides parallel above, convex, slightly flattened along the suture, transverse depression below the basilar space obsolete; each elytron with eleven rows of deep punctures, the first abbreviated, the outer one deeply sulcate, the puncturing of the inner striæ near their base somewhat coarser and deeper than on the rest of their extent, interspaces plane at the base, costate behind the middle of the elytron. Hinder thighs scarcely thickened, shorter than the abdomen.

Lema sellata.

L. elongata, subcylindrica, fulvo-fusca, nitida; unguiculis, metathorace, thoracis punctis duobus disco transversim positis, elytrorumque fascia lata communi prope medium, extrorsum abbreviata, nigris; antennis corporis dimidio longioribus, mediocribus, fere filiformibus, articulis

3tio 4toque brevibus, æqualibus, obconicis; thorace latitudine paullo longiore, subcylindrico, lateribus medio valde constrictis, dorso ante basin transversim sulcato, lævi, impunctato; elytris basi vix elevatis, infra basin vix transversim depressis, punctato-striatis, interspatiis planis, ante apicem subelevatis.—Long. $3\frac{1}{2}$ lin.

Hab. Sierra Leone. Collected by the late Mr. Foxcroft.

Face trigonate; antennæ moderately robust, nearly filiform. Thorax about one-fourth longer than broad, transverse groove at the base lightly impressed. Elytra each with ten rows of punctures, their interspaces impunctate; middle portion covered by a broad transverse black band, which terminates at the eighth stria from the suture. Hinder thighs slightly incrassate, much shorter than the abdomen.

Lema Jekelii.

L. elongata, convexa, nigra; antennis filiformibus, corporis longitudini æqualibus, articulis 1mo infra, 9o apice, 10mo 11moque totis flavo-albis; thorace vix pone medium valde strangulato, constrictionis medio unifoveolato, flavo-albo, nitido, plaga magna trigona baseos nigra; elytris fortiter punctato-striatis, limbo laterali basi apiceque dilatato, nitido-flavo-albo; subtus nigra; thorace plaga, metapleuris femoribusque (horum quatuor anticis dorso, posticis apice, exceptis) nitido-flavo-albis.—Long. 2 lin.

Hab. Ega, Upper Amazons.

Antennæ with the fourth joint slightly longer than the third, the latter obconic. Thorax scarcely longer than broad, cylindrical, its surface smooth, impunctate. Elytra each impressed with ten rows of deep punctures, the ninth entire; basilar space bounded by an obliquely curved depression; lateral edge of the elytra thickened; interspaces costate towards the apex. Hinder thighs thicker than the others, shorter than the elytra; abdomen covered with adpressed hairs.

Genus Crioceris, Linn.

Crioceris Dromedarius. (Plate XIII. fig. 2.)

C. breviter oblonga, parallela, pallide fulva, nitida; femoribus incrassatis (basi excepta), genibus abdominisque segmentorum singulorum maculis tribus nitido-piceis; antennis extrorsum fuscis, valde robustis, apicem versus perparum incrassatis, paullo compressis; thorace elongatulo, subcylindrico, lateribus medio constrictis, apice paullo producto, disco lævi, serie duplici punctorum parvorum impresso; elytris basi gibbosis, profunde striato-foveolatis, striis hic illic interruptis, disco exteriore piceo-maculatis, maculis impunctatis.—Long. $3\frac{1}{2}$ lin.

Hab. Cambogia. Collected by M. Mouhot.

Head stained with fuscous between the eyes; lower portion of face elongate; antennæ about equal to half the length of the body, very robust, second and third joints submoniliform, nearly equal, terminal

four joints fuscous. Thorax one-third longer than broad at the base, its apical border slightly produced, anterior angles obsolete; upper surface smooth, impressed at the base with a single fovea; middle of disk impressed with a double longitudinal row of very minute punctures, only visible with a lens. Elytra much broader than the thorax, not quite three times its length, sides parallel, above very convex, gibbous at the base; each elytron covered with about ten ill-defined interrupted rows of large deeply impressed punctures, the interspaces thickened; the piceous patches, the most considerable of which occupies the middle of the outer disk and is attached to the lateral border, form over the disk an ill-defined shining and impunctate network. Body beneath stained on the neck and sides of thorax and breast with fuscous; abdomen clothed with short adpressed silvery hairs; all the segments as far as the penultimate marked with three piceous spots, the anal segment having only a single patch. Thighs incrassate, narrowed at their base, hinder pair scarcely shorter than the abdomen; four anterior tibiæ annulated with fuscous below their middle.

Crioceris gibba. (Plate XIII. fig. 3.)

C. subelongata, parallela, nucea, nitida; antennis subfiliformibus, sat robustis, articulis cylindricis; thorace elongatulo, lateribus medio constrictis, apice producto, lævi, disci medio tenuissime biseriatim punctato; elytris oblongis, basi sat gibbosis, profunde substriato-punctatis, striis interruptis, iis prope suturam ab ante medium fere ad apicem omnino deletis; corpore subtus, femoribus incrassatis (basi excepta), tibiarum apice antennisque (his basi prætermissis) piceis.—Long. 4 lin.

Hab. China.

Very similar to the preceding species, but differing in the greater length and in the form of the antennæ, in the longer body, and in the entirely different arrangement of the punctation of the elytra. Head rather shorter than in *C. Dromedarius*; antennæ longer than half the body, robust, subfiliform, indistinctly incrassate towards the apex; four or five terminal joints slightly incrassate, second, third, and fourth joints short, submoniliform. Thorax equal in length, but more regularly constricted on the sides, the constriction commencing at the angles and extending the whole length of the side; in the other species the constriction commences a short distance from the angles, and is more abrupt; disk impunctate, with the exception of a double longitudinal row of very fine punctures down the middle. Elytra oblong, parallel; the gibbosity slightly less raised than in the former species; the punctures on the surface as large and as deeply impressed, but arranged in a different manner; the striæ from being more interrupted are less distinct, and in addition the whole inner disk, from the base of the gibbosity nearly to the apex of the elytra, is entirely free from punctures; the punctures here and there confluent. Thighs similar to those of *C. Dromedarius*; body beneath sparingly covered with pubescence.

Fam. **Megalopidæ.**

Genus Mastostethus, Lac.

Mastostethus lavatus. (Plate XIII. fig. 6.)

M. elongatus, parallelus, nitidus, supra subnitidus, pallide rufo-piceus, pilis brevibus sparse vestitus; antennis pedibusque nigro-piceis; femoribus flavis, dorso nigro-lineatis; abdominis segmentorum margine, thoracis angulis, epistomatis margine apicali oreque (mandibulis piceis exceptis), flavis; elytris fortiter crebre punctatis, fere rugosis, pallide fuscis, utroque (basi excepta) flavo-limbato.—Long. $3\frac{2}{3}$, lat. $1\frac{3}{4}$ lin.

Hab. Oaxaca, Mexico.

Narrow, elongate, parallel, pale rufo-piceous. Face triangular; jaws elongate, acute; epistome separated from the face by a deep transverse groove, from the middle of which a short perpendicular impression runs upwards on the latter; surface of face sparingly clothed with fine hairs, closely punctured between the eyes; a narrow longitudinal space in the middle smooth, impunctate; vertex remotely punctured; antennæ moderately robust, nearly half the length of the body. Thorax nearly twice as broad at the base as long, sides nearly straight, narrowed from the base to the apex, all the angles prominent; upper surface convex from side to side, bordered at the base and apex by a transverse groove; surface remotely punctured, anterior and posterior angles each marked with a yellow patch, which extends some distance along the anterior border in the one case, and along the posterior in the other. Scutellum trigonate, its apex obtuse. Elytra parallel, deeply and closely punctured, almost rugose towards the apex, clothed with very short indistinct suberect hairs. Posterior thighs shorter than the abdomen, slightly incrassate, unarmed beneath.

Mastostethus Dohrnii. (Plate XIII. fig. 5.)

M. elongatus, parallelus, nitidus, dorso subopacus, niger, pilis brevibus subdense vestitus; tibiis nigro-piceis; metapectore antice, abdomine (segmento anali excepto), thoracis lateribus elytrisque pallide flavis; his fortiter punctatis, utroque vitta suturali antice abbreviata vittaque submarginali a basi fere ad apicem extensa nigris; femoribus posticis subtus spina brevi armatis.—Long. $3\frac{3}{4}$, lat. 2 lin.

Hab. Oaxaca, Mexico.

Elongate, parallel. Head deeply but distantly punctured, rugose-punctate on the inner margin of the eyes; face subtrigonate, shorter than in the foregoing species; jaws subelongate; epistome separated from the face by a deep groove; mouth fulvous; antennæ incrassate, rather longer than the head and thorax. Thorax rather broader at the base than long, sides nearly straight, narrowed from base to apex, above subcylindrical, obsoletely grooved transversely at the base and also on either side in front; surface smooth, glabrous, very remotely punctured, the lateral border pale yellow. Scutellum trigonate, its apex

obtuse. Elytra sparingly clothed with very short suberect hairs, deeply but not very closely punctured, the punctures fusco-fulvous, placed in irregular rows, which, however, become lost towards the apex of the elytra. Body beneath clothed with fine silky hairs; hinder thighs shorter than the abdomen, moderately incrassate, armed beneath with a short tooth; tibiæ obscure piceous.

Mastostethus Stålii. (Plate XIII. fig. 4.)

M. subelongatus, niger, nitidus, subtus pilis adpressis vestitus, supra fere glaber; abdomine (segmenti analis plaga triangulari excepta), metasterni plagis duabus medio connexis, pygidii margine, thoracis lateribus, elytrisque pallide flavis; his punctatis, utroque plaga humerali trigonata, fascia lata communi prope medium, margine exteriore abbreviata, plagaque magna trigonata, ante apicem positis, nigris.—Long. $4\frac{3}{4}$, lat. $2\frac{1}{4}$ lin.

Hab. Mexico.

Subelongate; the elytra broader than in the two preceding species. Face trigonate, jaws elongate, epistome separated from the face by a deep transverse groove, face closely punctured on either side near the inner margin of the eyes; central space smooth, impunctate, punctured portion clothed with a few fine suberect hairs; antennæ moderately robust. Thorax one-fourth broader at the base than long, sides nearly straight, narrowed from base to apex, angles obsoletely produced, obtuse, upper surface moderately convex from side to side, obsoletely grooved on either side just within the apical margin, surface remotely punctured. Scutellum trigonate, its apex obtuse. Elytra much broader than the thorax, subremotely punctured; hinder thighs shorter than the abdomen, slightly thickened, unarmed beneath.

Fam. **Eumolpidæ.**

Genus Dermorhytis.

Corpus subelongatum aut elongatum, subcylindricum. *Caput* thoraci ad oculos insertum; *facie* perpendiculari; *epistoma* male definitum; *antennis* gracilibus, subfiliformibus, articulis secundo et tertio longitudine fere æqualibus; *labro* transverso; *mandibulis* apice dentatis; *labio* subconico, *mento* antice concavo, *ligula* basi obtuse angulata; *palparum* articulo ultimo ovato; *oculis* prominulis, intus vix emarginatis. *Thorax* subcylindricus, lateribus marginatis, sæpe angulatis. *Scutellum* semiovatum, obtusum. *Elytra* oblonga, parallela, punctata, interstitiis sæpe in strigas transversas elevatis. *Pedes* modice robusti, simplices, *tarsorum* articulo basali duobus sequentibus breviore, *unguiculis* appendiculatis. *Prosternum* subelongatum, lateribus concavis, medio dentatis; *antepectoris* processu antero-laterali cuneiformi, apice late truncato, angulo exteriore ad angulum anticum thoracis non producto.

Type, *Dermorhytis igneo-fasciata,* Baly.

Dermorhytis igneo-fasciata.

D. subelongata, convexa, cuprea, supra purpureo-cuprea, profunde punctata; thoracis limbo elytrorumque fasciis duabus, suturaque postice, igneis.—Long. $4\frac{1}{2}$ lin.

Hab. Ceylon.

Subelongate, convex. Head rugose, sides and lower portion of face dull igneous. Thorax twice as broad at the base as long, sides rotundate angustate, nearly parallel at the base, indistinctly bidentate, anterior angles slightly produced, their apex obtuse; surface closely covered with large deeply impressed punctures. Scutellum broadly semiovate, shining cupreo-violaceous. Elytra much broader than the thorax, sides parallel, the apex of each elytron acutely rounded; above convex, surface closely covered with round punctures, larger and more deeply impressed than those on the thorax, arranged in indistinct striæ, interstices elevated; on the hinder disk are several more or less distinct longitudinal costæ, most distinct near the suture and at the apex, where they become irregular; each elytron with the extreme basal and lateral borders, two broad transverse fasciæ, the one placed just before, the other immediately behind the middle, and a sutural stripe extending from the posterior band to the apex, where it becomes broadly dilated, bright igneous. Body beneath cupreous; outer edge of tibiæ with a violet reflexion; tarsi obscure.

Dermorhytis Fortunei.

D. elongata, subcylindrica, metallico-purpurea, nitida; capite thoraceque viridi-æneis, hoc aureo-tincto, dorso punctato, valde convexo; elytris irregulariter punctatis, interspatiis prope suturam planis, disco exteriore et ad latera transversim elevato-strigosis; antennis nigro-purpureis, basi fulvis.—Long. $4\frac{1}{2}$ lin.

Hab. Northern China. Collected by Mr. Fortune.

Elongate, subcylindrical, shining metallic purple. Head punctured; antennæ longer than half the body, subfiliform, the first four or five joints more or less pale fulvous, basal joint metallic green. Thorax very convex above, almost semiglobose, sides slightly rounded, somewhat narrowed and deflexed in front, anterior angles slightly produced anteriorly; surface deeply but not very closely punctured. Scutellum semiovate, bright metallic green. Elytra broader than the thorax, sides parallel, apex rounded, above convex, impressed just below the scutellum by a shallow fovea; surface punctured, interspaces near the suture nearly flat, the remainder of the surface covered with strongly elevated transverse and somewhat irregular ridges.

Genus Geloptera.

Corpus oblongum, convexum. *Caput* perpendiculare, thoraci ad marginem posteriorem oculorum immersum; *antennis* gracilibus, filiformibus aut subfiliformibus, articulo primo incrassato, secundo brevi, tertio illo fere

duplo longiore, quarto adhuc paullo longiore; *mandibulis* apice bifidis; *mento* transverso, apice concavo; *oculis* subprominulis, subreniformibus. *Thorax* transversus, marginatus. *Scutellum* transversum, subpentagonum. *Elytra* parallela, apice rotundata, dorso sæpe tuberculata. *Pedes* modice robusti, simplices, *unguiculis* appendiculatis. *Prosternum* latitudine longior; lateribus concavis, medio non aut vix dentatis; *antepectoris* processu antero-laterali subtrigonato, lateribus concavis, apice late truncato aut obtuso, angulo exteriore ad angulum anticum thoracis extenso. *Mesosternum* transversum, apice obsolete angulato.

Type, *Geloptera tuberculata*, Baly.

The form of the *antero-lateral plate of the antepectus*, together with that of the mentum, separate this and the preceding genus from *Colaspis*.

Geloptera tuberculata.

G. oblonga, convexa, cuprea, subnitida; labro fulvo; thorace transverso, lateribus rotundatis, dorso rugose punctato, medio longitudinaliter canaliculato, lateribus irregulariter excavatis, obsolete tuberculatis; elytris crebre rugoso-punctatis, subremote nitido-tuberculatis, tuberculis ante medium minus elevatis, hic illic rete male definita inter se connexis, iis apicem versus magis elevatis, distinctis.—Long. 5 lin.

Hab. Swan River, Australia.

Oblong, convex, cupreous, subnitidous. Head closely punctured, forehead impressed with an oblong fovea; antennæ filiform, four or five basal joints (with the exception of the first) more or less rufo-fulvous. Thorax more than one-half broader than long, sides rounded, sinuate at the base, narrowed in front, all the angles prominent; upper surface rugose-punctate, longitudinally grooved down the middle, sides obsoletely tuberculate and impressed with a large shallow irregular fovea. Elytra rather broader than the thorax, sides parallel, apex rounded; surface rugose-punctate, somewhat remotely covered with flattened, slightly elevated, shining irregular tubercles, those on the anterior two-thirds of the surface connected here and there by an ill-defined raised network, those towards the apex of the elytra distinct and more elevated than the rest.

Geloptera geniculata.

G. oblonga, convexa, æneo-cuprea, nitida, antennarum basi pedibusque (horum coxis genubus tarsisque exceptis) rufis; thorace transverso, lateribus rotundatis, vix pone medium obsolete angulatis, angulis posticis prominulis; dorso convexo, fortiter subcrebre punctato, lateribus subrugoso-punctatis; elytris profunde subcrebre punctatis, interspatiis transversim elevato-strigosis, apicem versus tuberculatis, strigis tuberculisque chalybeis.—Long. 3 lin.

Hab. Swan River, Australia.

Oblong, convex, shining æneo-cupreous; the base of the antennæ,

together with the legs (the coxæ, knees, and tarsi excepted), rufous. Head rugose-punctate, forehead impressed with a longitudinal fovea; antennæ subfiliform. Thorax transverse, sides rounded, narrowed in front, obsoletely angled just behind the middle, posterior angles prominent, disk convex, closely punctured, rugose-punctate on the sides. Elytra rather broader than the thorax, surface deeply and closely punctured; interspaces over the anterior two-thirds elevate-reticulate, transversely strigate, those towards the apex covered with short oblong longitudinal tubercles,—these latter, together with the transverse ridges, chalybeate.

Genus Endoxus, Kirby.

Endoxus gracilicornis.

E. oblonga, convexa, nigra, subnitida, crebre punctata, pilis subsquamæformibus adpressis fulvo-fuscis obtecta, punctis fortiter impressis; antennis gracilibus, piceis; thorace vitta utrinque elytrisque vittis septem e pilis similibus densius positis instructis, femoribus posticis subtus unidentatis.—Long. 2½ lin.

Hab. Hongkong. Collected by Mr. Bowring.

Oblong, convex, coarsely and closely punctured. Face broad and flattened, impressed in the middle with a longitudinal groove; antennæ equal in length to the body, slender, nearly filiform; eyes prominent, entire, surrounded by an imperfect orbit; labrum pale piceous, shining, impunctate. Thorax subcylindrical, scarcely longer than broad, slightly narrowed at the apex, surface closely punctured. Elytra more deeply punctured, and the squamæform pubescence on their surface coarser than that of the thorax; the longitudinal vittæ less distinct near the apex, and confounded with the hairs of the general surface, which are much denser there than on the basal half of the elytra.

Genus Callomorpha, Stål.

Callomorpha imperialis.

C. oblonga, valde convexa, læte purpurea, nitida, subcrebre punctata, pilis erectis nigris vestita; pedibus viridi-tinctis; antennis subincrassatis, extrorsum nigris; tibiis intermediis extrorsum ante apicem emarginatis. —Long. 5–5½ lin.

Hab. Northern China. Collected by Mr. Fortune.

Broadly oblong, shining purple, closely covered with erect black hairs. Head perpendicular, subrugose-punctate; face broad, apex of epistome with a small shining tubercle; antennæ longer than half the body, slender and more or less stained with metallic green on the basal half, their outer half subincrassate, black. Thorax subcylindrical, slightly broader than long, sides nearly straight and parallel, rounded at the extreme apex, lateral border visible on its posterior two-thirds,

obsolete from thence to the apex; upper surface somewhat closely and deeply punctured, disk impressed on either side with a distinct fovea. Elytra much broader than the thorax, sides parallel, apex broadly rounded; above very convex, somewhat closely punctured, humeral callus subprominent, basilar space in each elytron bounded beneath by a semicircular fossa.

Genus Rhyparida.

Corpus oblongum aut subelongatum, convexum. *Caput* perpendiculare; *mandibulis* apice emarginatis; *antennis* gracilibus, subfiliformibus, extrorsum vix incrassatis; *palpis* gracilibus; *oculis* oblongo-ovatis, intus emarginatis aut sinuatis; *epistoma* distinctum, antice emarginatum. *Thorax* transversus, superne convexus, lateribus marginatis. *Elytra* breviter *suboblonga* aut *oblonga*, superne convexa, punctato-striata, apice rotundata, lateribus parallelis aut apicem versus perparum angustatis. *Pedes* modice robusti, *femoribus* paullo incrassatis, subtus rarius dentatis; *tibiis* posterioribus extus ad apicem emarginatis; *unguiculis* unidentatis. *Prosternum* oblongum aut elongatum, *antepectoris* processu antero-laterali subtrigonato, margine antico obliquo, angulo exteriore ad angulum anticum thoracis extenso. *Mesosternum* subquadratum aut oblongum, apice paullo dilatatum, obtuse truncatum.

Type, *Rhyparida dimidiata*, Baly.

Rhyparida forms one of a group of genera (many as yet undescribed) possessing in common a notch on the outer edge of the four hinder tibiæ, near their apex. They may be divided into two sections, viz. one in which the claws are toothed, and a second in which they are simply appendiculated; of the first section, to which *Rhyparida* belongs, *Typophorus* is, I believe, hitherto the only characterized genus. *Rhyparida* (the species of which are natives of Australia and the Eastern Archipelago) differs from the above-named in the transverse thorax and in the different form of the antero-lateral plate of the antepectus: this part in the older genus has its anterior margin convex, and produced beyond the border of the thorax; in the present the same margin is oblique, and not anteriorly produced.

Rhyparida dimidiata.

R. oblonga, convexa, picea, subnitida; antennarum basi elytrisque obscure fulvis, his punctato-striatis, dimidio apicali nigro-piceis.—Long. 2–3 lin.

Hab. Moreton Bay.

Oblong, convex, subnitidous, piceous. Head obscure rufo-piceous, epistome transverse, middle of its apical margin produced upwards into an acute tooth, surface punctured; antennæ filiform, equal in length to the body in the *male*, shorter in the *female*, black, their base fulvous. Thorax nearly twice as broad as long, sides rounded, narrowed in

front, anterior angles armed with a short tooth; above transversely convex, subremotely punctured. Elytra broadly oblong, convex, disk transversely excavated below the basilar space; each elytron impressed with thirteen rows of punctures, distinct on the basal half of the surface, nearly obsolete behind the middle, the first and twelfth rows abbreviated posteriorly below the basilar space, the seventh, eighth, ninth, tenth and eleventh anteriorly, the seventh, eighth, and eleventh just below the humeral callus, the ninth and tenth a short distance in front of the middle of the elytron; interspaces smooth, impunctate. Sternum, mesopleuræ, coxæ, and the hinder margin of the abdominal rings obscure fulvous.

Rhyparida grandis.

R. subcuneiformis, valde convexa, nucea, nitida, subtus cum pedibus obscurior; elytris punctato-striatis, striis ad marginem exteriorem confusis; femoribus posterioribus quatuor subtus spina brevi armatis.—Long. $5\frac{1}{2}$ lin.

Hab. New Caledonia.

Subcuneiform, very convex, shining nuceous. Head deeply buried in the thorax, distinctly punctured; epistome somewhat wedge-shaped, concavely emarginate in front; eyes slightly notched on their inner edge; antennæ more than two-thirds the length of the body, subfiliform. Thorax nearly twice as broad as long at the base, sides narrowed from behind forwards, more quickly narrowed and slightly rounded near the apex, all the angles prominent; above transversely convex, nearly semicircular in front, surface covered with distinct but not crowded punctures, sides irregularly wrinkled. Scutellum semiovate. Elytra much broader at their base than the thorax, gradually narrowing towards the apex, the latter subacute; above very convex, humeral callus prominent; each elytron impressed with about thirteen or fourteen rows of punctures, those near the outer margin confused; along the outer margin of each elytron is a deep sulcus, the disk on the inner border of which is thickened and elevated; basilar space on each elytron bounded beneath by a shallow curved transverse depression. Body beneath pitchy.

Rhyparida pulchella.

R. anguste oblonga, convexa, pallide testacea, nitida; elytris obovatis, basi truncatis, punctato-striatis, striis apicem versus fere deletis, cyaneis; antennis gracilibus, filiformibus.—Long. 3 lin.

Hab. Dory, New Guinea. Collected by Mr. Wallace.

Narrowly oblong, convex, pale testaceous, nitidous; elytra bright metallic blue. Head smooth, remotely punctured, lower edge of face angulato-emarginate; epistome pentagonal, its anterior margin concave; surface concave, more coarsely punctured than the vertex; apex of jaws black; antennæ slender, equal in length to the body, seven terminal joints more or less stained towards the apex with fuscous; eyes deeply

emarginate on their inner edge. Thorax twice as broad as long, sides rounded, narrowed in front, anterior angles deflexed, all the angles produced into a short minute tooth; surface smooth, subremotely but finely punctured on the disk, sides nearly impunctate. Scutellum semiovate, obtuse. Elytra scarcely broader than the thorax, obovate, being distinctly narrowed from the shoulders towards their apex, the apex itself regularly rounded; each elytron with eleven rows of distinct, deeply impressed punctures, the first abbreviated, all the others, with the exception of two or three nearest the suture, nearly obliterated on the apical portion of the surface; the punctures are also much smaller at the extreme base; below the basilar space on each elytron is a large indistinct shallow fovea, the surface of which is slightly irregular.

Rhyparida geniculata.

R. anguste oblonga, convexa, nigra, subnitida; capite, scutello, corporeque subtus, obscure piceis; abdomine, antennis pedibusque fulvis, illis extrorsum fuscis, his genibus, tibiis anticis extus tarsisque piceis; elytris punctato-striatis, striis subsulcatis, interspatiis paullo convexis, femoribus simplicibus.—Long. $2\frac{1}{2}$ lin.

Hab. New Guinea.

Narrowly oblong, convex. Head finely subremotely punctured, lower edge of face deeply bilobed; epistome nigro-piceous, irregularly obcordate, its surface indistinctly concave, more deeply punctured than the upper portion of the face; antennæ slender, filiform, rather shorter than the body. Thorax nearly twice as broad as long at the base, sides rounded, narrowed in front, strongly deflexed at the anterior angles, all the angles armed with a minute tooth; above moderately convex, impressed on either side with a small but distinct fovea; rest of the surface smooth, impunctate. Scutellum semiovate. Elytra broader than the thorax, oblong, scarcely narrowed behind, apex acutely rounded; above convex, each elytron obsoletely excavated transversely below the basilar space, and impressed with about eleven rows of distinct punctures, the first abbreviated, those near the outer edge somewhat irregular; all the striæ distinctly sulcate, their interspaces slightly rounded. Legs fulvous, all the knees and the outer edge of the front pair of tibiæ dark piceous, hinder tibiæ stained with pale piceous, tarsi pale piceous.

Genus Chrysopida.

Corpus subelongatum aut elongatum, valde convexum. *Caput* exsertum; *facie* elongata, perpendiculari; *antennis* gracilibus, filiformibus; *oculis* subprominulis, intus emarginatis; *palpis* gracilibus, *mento* apice valde angulato-emarginato. *Thorax* ovalis, basi et apice truncatus, latitudine paullo longior, lateribus marginatis, dorso convexus. *Elytra* thorace multo latiora, obovata, basi truncata, fortiter punctato-striata. *Pedes* robusti, subelongati; *femoribus* (præsertim *anticis*) modice inflatis, elongato-ovatis, basi et apice angustatis, subtus spina brevi armatis;

tibiis posterioribus quatuor extus ante apicem emarginatis; *unguiculis* basi dentatis. *Prosternum* latum, lateribus medio paullo productis; *antepectoris* processu antero-laterali anguste cuneiformi, angulo exteriore extus non producto.

Type, *Chrysopida Adonis*, Baly.

The elongate exserted head, the wedge-shaped antero-lateral process of the prosternum, the different form of the thorax, the longer legs, incrassate thighs, and the claws toothed at the base, separate this remarkable genus from *Rhyparida*.

Chrysopida Adonis.

C. subelongata, viridi-æenea, nitida; thorace rufo-piceo, æneo tincto; elytris pedibusque rufis, illis fortiter punctato-striatis, striis postice sulcatis, callo humerali, maculis parvis nonnullis baseos et singulatim annulo apicali viridi-æneis his femoribus basi, genibus tarsisque violaceo-nigris.—Long. $4\frac{1}{2}$ lin.

Hab. Manilla.

Subelongate, very convex. Head deeply punctured; face elongate; clypeus subtrigonate, its apical border trisinuate; face bilobed between the eyes; antennæ fusco-æneous, clothed with adpressed fusco-fulvous pubescence, four basal joints rufous, nearly glabrous. Thorax oval, truncate at base and apex, slightly longer than broad, sides rounded, all the angles armed with a short obtuse tooth; above convex, subremotely punctured. Scutellum semiovate. Elytra much broader than the thorax, truncate at the base, thence gradually narrowed to the apex, the latter subacutely rounded, above convex; each elytron at its extreme base with thirteen, its disk with ten rows of large, deeply impressed punctures, the striæ deeply sulcate, their interspaces (the extreme base excepted) subcostate; humeral callus prominent, sometimes rufo-piceous, at others metallic green, basilar space bounded beneath by a short shallow transverse fossa; a small annulus at the apex (sometimes obsolete), and some indistinct markings at the base of each elytron, bright metallic green. Pleura covered with a patch of white silky adpressed hairs. Thighs narrowly ampullate, slender at their base, armed beneath just beyond the middle with an acute tooth.

Chrysopida festiva.

C. elongata, convexa, metallico-viridis, nitida; antennis nigris, basi rufo-fulvis; pedibus (femoribus basi exceptis), capite inter oculos, thoraceque nigro-violaceis, hoc punctato, basi et apice metallico-viridibus; elytris fortiter punctato-striatis, striis sulcatis, interspatiis postice subcostatis, utroque vitta suturali, callo humerali, maculis tribus, prima infra basin, secunda pone medium, tertiaque ante apicem positis, fasciaque lata ante medium, extrorsum abbreviata, nigro-violaceis.—Long. 4 lin.

Hab. Manilla.

Narrower and more elongate than the preceding species; in sculpture, form of head, &c., precisely similar. The colouring of the elytra appears to be very variable: the individual from which the above description is taken has the surface of the elytra glabrous; but a specimen in the possession of Mr. Janson has the green portion of the elytra sparingly covered with adpressed silvery hairs.

Fam. **Chrysomelidæ.**

Genus Phyllocharis, Dalm.

Phyllocharis ornata.

P. elongata, convexa, nigro-cærulea, nitida; capite (palpis antennisque exceptis), thoracis lateribus, prosterno, metasterno, abdominis margine elytrisque rufo-fulvis, his punctato-striatis, utroque vitta suturali apice dilatata maculisque tribus, harum prima basi, secunda vix ante, tertiaque pone medium longitudinaliter positis, nigro-cæruleis.—Long. 3 lin.

Hab. Moreton Bay.

Elongate, convex. Head punctured between the eyes, vertex smooth and shining; antennæ robust, longer than half the body. Thorax one-third broader than long, apex slightly concave, sides straight and parallel, slightly narrowed and rounded at their extreme apex; above moderately convex, thickened, finely punctured, disk impressed on either side with a distinct fovea; sides broadly edged with rufo-fulvous. Elytra broader than the thorax, elongate-ovate, each elytron with a shallow transverse depression below the shoulder; distinctly punctate, the punctures being arranged in eleven rows, the first abbreviated; the nigro-cæruleous patches on each elytron are placed as follows: the first, small, transversely ovate, basal, covering the humeral callus; the second, large, oblong, slightly emarginate on the outer edge, extending from the transverse depression as far as the middle of the elytron; the third, somewhat smaller than the last, transversely oblong, is placed immediately behind the middle, extending on its outer side nearly to the lateral margin.

In form nearly allied to *Ph. flexuosa*, which species it also most closely approaches in the coloration.

Phyllocharis melanospila.

P. elongata, convexa, nitida, subtus nigra; thoracis lateribus, sterno, postpectore abdominisque margine rufo-fulvis, pedibus nigro-piceis; supra rufo-fulva; antennis submoniliformibus, nigro-cæruleis, articulo ultimo fulvo; capitis macula frontali, thoracis maculis quatuor transversim positis, plagaque transversa basali, scutello, elytrorumque sutura postice maculisque duodecim 2·3·4·2·1 positis, nigris.—Long. 3 lin.

Hab. Moreton Bay.

Elongate, convex, nitidous. Face deeply impressed between the eyes, the latter, together with a patch on the front, black; antennæ moderately robust, rather longer than half the body. Thorax twice as broad as long, apex indistinctly concave, sides straight and nearly parallel at the extreme base, then moderately rotundate-ampliate; above thickened, smooth and shining; a large transverse patch at the base and four spots arranged transversely just within the anterior border, to which the two intermediate spots are attached by their apex, black; on either side the basal patch is placed an oblique row of deep punctures, a few being also visible along the basal margin. Scutellum semiovate. Elytra narrowly ovate, truncate at the base, humeral callus prominent; each elytron with eleven rows of distinct punctures, the first abbreviated, all the striæ nearly obsolete towards the apex of the elytron; basilar space bounded beneath by a transverse depression, which is interrupted below the humeral callus; the puncturing of the fossa coarser and more deeply impressed than that on the rest of the surface; the black spots on the elytra are arranged as follows:—two at the base; three placed transversely just before the middle, the centre one common; four immediately behind the middle, the two intermediate attached to the suture; and, lastly, two subapical, transverse; the sutural line, which commences at the termination of the anterior third of the suture, terminates at the sutural angle in a small black spot.

Closely allied to *Ph. cyanicornis*; rather more than half the size.

Phyllocharis acroleuca.

P. elongata, convexa, pallide rufo-fulva, nitida, corpore subtus obscuriore; antennis submoniliformibus, nigro-cæruleis, articulis ultimis duobus albis; fronte, thorace (lateribus exceptis) pectorisque lateribus pallide rufo-piceis; elytris punctato-striatis, infra basin transversim impressis, maculis duabus baseos, duabus ante apicem minus distinctis, fasciisque duabus sinuatis, prima ante, secunda pone medium positis, pallide rufo-piceis.—Long. $3\frac{1}{4}$ lin.

Hab. Moreton Bay.

Subelongate, convex, nitidous. Face deeply impressed between the eyes; antennæ moderately robust, longer than half the body. Thorax nearly twice as broad as long, slightly narrowed from base to apex, apical margin moderately concave, sides nearly straight, more quickly narrowed and slightly rounded at the apex, anterior angles acute; above smooth and shining, scarcely thickened, impressed with a few distant minute punctures, central portion pale rufo-piceous, sides broadly rufo-fulvous; on either side the disk at its base is a distinct fovea; along the basal margin are also a few deep punctures. Elytra broader than the thorax, oblong, convex, the sides indistinctly curved, humeral callus prominent; each elytron impressed with eleven rows of fine punctures, the first abbreviated, all the rows nearly obsolete towards the apex of the elytron; basilar space bounded beneath by a deep

transverse depression, which commencing just within the suture terminates close to the outer border in a large deep fovea; the puncturing on the transverse groove deeper and coarser than elsewhere.

Allied in form to *Ph. sinuata*, but much smaller, the bands on the elytra narrower and much more sinuous.

Phyllocharis violaceipennis.

P. subelongata, postice paullo angustata, rufo-testacea, nitida; elytris violaceo-cupreis, nitidissimis; antennis nigris.—Long. $2\frac{1}{4}$ lin.

Hab. Dorey, New Guinea.

Subelongate, slightly narrowed behind, shining rufo-testaceous; elytra violet-copper; antennæ black. Head shining, impunctate; clypeus separated from the face by an angular groove, the apex of which is rounded; antennæ two-thirds the length of the body, robust, four basal joints shining, pitchy beneath. Thorax twice as broad as long; apex slightly concave-emarginate; sides straight and subparallel, narrowed and rounded in front, apex of anterior angles subacute; above transversely convex, surface smooth and shining, very remotely punctured, sides near the base impressed with numerous large round punctures. Scutellum semiovate, rufo-piceous. Elytra broader than the thorax, narrowly subovate, slightly narrowed towards their apex, the apex itself subacutely rounded; above convex, sinuate on the sides below the shoulder; each elytron impressed with eleven rows of fine but deep punctures, the first row abbreviated; interspaces distantly impressed with fine but distinct punctures, which are often arranged in a single row down the centre of the interspaces. Beneath shining rufo-testaceous, palpi pale piceous.

Phyllocharis Wallacei.

P. subelongata, metallico-cærulea, nitida; thorace pedibusque chalybeis. —Long. $2\frac{1}{2}$ lin.

Hab. Batchian.

Subelongate, dark shining metallic blue, thorax and legs bright steel-blue. Head smooth and shining, impunctate; clypeus separated from the face by a deeply impressed angular groove, from the apex of which a shallow curved groove runs obliquely upwards on either side to the upper portion of the eyes; labrum piceous, its outer edge obscure fulvous, its surface sparingly covered with coarse white hairs; antennæ robust, scarcely more than half the length of the body, four basal joints glabrous, shining, the rest opake, covered with short black pubescence. Thorax twice as broad as long; apex slightly concave-emarginate; sides nearly straight and subparallel, narrowed and rounded in front, apex of anterior angles obtuse; above convex, smooth and shining, sparingly impressed here and there with a few deep punctures. Scutellum smooth and shining, semiovate. Elytra broader than the tho-

rax, oblong-ovate, sides slightly oval; apex subacutely rounded; above convex; each elytron with eleven rows of deeply impressed punctures, the first abbreviated, punctures regularly but somewhat distantly placed on the striæ; interspaces smooth and shining, impunctate.

Genus Æsernia, Stål.

Promechus, *Chevr. MSS.*

Æsernia Whitei.

Æ. elongata, convexa, subparallela, metallico-viridis, nitida; capite (plaga magna frontali excepta), thorace infra, mesocoxis, trochanteribus, femoribus infra abdominisque apice, rufo-fulvis; antennis nigro-cæruleis, articulo basali subtus fulvo; thorace læte viridi-æneo, apice lateribusque rufo-fulvo marginato; elytris sat fortiter punctato-striatis, striis apicem versus fere deletis, utroque infra basin transversim sulcato, foveisque nonnullis impresso, metallico-viridi, purpureo-micante, fascia transversa vix pone medium utrinque abbreviata fulva.—Long. 7–9 lin.

Hab. Waigiou, New Guinea. Collected by Mr. Wallace.

Elongate, subparallel, moderately convex. Head impressed between the eyes with a large triangular fovea; antennæ filiform, two-thirds the length of the body. Thorax about a third broader at the base than long, narrowed from base to apex, apical margin concave, sides straight, obliquely narrowed at the apex; above smooth and shining, middle of disk with a faint longitudinal line; along and just within the outer border are placed a number of deep irregular excavations, the surfaces of which are deeply punctured; the green colour of the disk varies greatly in extent in different individuals, in some covering nearly the whole thorax, in others occupying only the centre of the disk, the rest of the surface being rufo-fulvous. Elytra scarcely broader than the base of the thorax, sides subparallel, apex subacutely rounded; surface of each elytron impressed with eleven rows of punctures, the first abbreviated; on the basal half the striæ are well marked and deeply punctured, on the apical half they become faint, confused, and nearly obsolete.

Genus Australica, Baly.

Subgenus *Stethomela.*

Stethomela æneipennis.

S. oblonga, convexa, rufa, nitida; palpis antennisque flavis, his articulis intermediis nigris; elytris viridi-æneis, punctato-striatis, lateribus infra humeros trifoveolatis.—Long. 4 lin.

Hab. Batchian.

Oblong, convex, shining rufous; labrum, palpi and antennæ yellowish-white, the latter with the fifth and three following joints black; elytra punctate-striate, bright metallic green. Head shining impunctate; clypeus separated from the face by a very deeply impressed angular groove, from the apex of which a short deeply grooved line runs upwards

on the face; jaws deeply punctate, their apex black; antennæ slender, filiform. Thorax nearly three times as broad as long; apex slightly concave-emarginate; sides rotundate-angustate in front, more quickly narrowed at the apex, nearly straight and parallel behind, anterior and posterior angles slightly produced, acute; above moderately convex, smooth and shining, sparingly impressed with fine but distinct punctures; sides near the anterior angles obsoletely excavated; extreme lateral and basal margins indistinctly edged with piceous. Scutellum semiovate, smooth and shining. Elytra broader than the thorax, nearly twice as long as broad, nitidous, bright metallic green; sides subparallel, apex regularly rounded; above convex, each elytron with eleven rows of distinct punctures, the first abbreviated, outer row placed on the extreme lateral margin, subsulcate; striæ towards their apex much more finely impressed, nearly obsolete; interspaces smooth and shining, impunctate; each elytron also impressed with two deep foveæ placed transversely immediately below the shoulder, the outer one on the lateral border larger and deeper than the other, which is ovate and placed in the middle of the disk; on the outer margin beyond its middle are also several indistinct foveæ.

Stethomela scintillans.

S. oblonga, convexa, nitida, obscure rufo-picea, cupreo-micans; antennis extrorsum nigris; pedibus obscure rufis, genibus cupreis; supra cuprea, nitidissima; thorace transverso, disco subremote, lateribus subcrebre viridi-æneo punctato; elytris punctato-striatis, punctis viridi-æneis.—Long. 5 lin.

Hab. Dorey, New Guinea.

Oblong, convex. Face deeply impressed between the eyes, lower portion distinctly punctured, vertex remotely covered with minute punctures. Thorax more than twice as broad as long, apex deeply concave, sides nearly straight, narrowed from base to apex, rounded in front, posterior angles slightly produced; surface covered with moderate-sized but deep punctures, which have a strong brassy-green reflexion. Each elytron impressed with eleven rows of similar punctures, the first row abbreviated; the punctures on each stria irregularly arranged in a single line.

Genus Chalcomela, Baly.

Chalcomela ornatissima.

C. rotundata, valde convexa, nitido-cuprea; pedibus, ore antennisque rufo-fulvis, his extrorsum nigris; elytris punctato-striatis, albo-flavis, singulatim limbo basi angustato et ad angulum suturalem dilatato, maculis duabus, harum una humerali, altera pone medium, utraque limbo adfixa, plagaque magna irregulari communi prope medium posita nitido-cupreis.—Long. $2\frac{1}{2}$ lin.

Hab. Dawson's River, Queensland, Australia.

Rotundate, very convex, shining cupreous; lower portion of face,

basal half of antennæ and legs obscure rufo-fulvous, outer half of antennæ black. Thorax nearly three times as broad at the base as long, sides narrowly margined, narrowed and slightly rounded from the base to the apex, more quickly rounded near the anterior angles; upper surface smooth and shining, remotely covered with minute punctures only visible under a lens. Scutellum semiovate, chalybeate. Elytra broader than the thorax, their epipleural margin slightly produced; surface of each impressed with eleven regular rows of fine punctures, the first abbreviated; the interstices smooth, impunctate; the larger irregular cupreous patch covers nearly the whole of the inner disk.

Fam. **Gallerucidæ.**

Genus Adorium, Fabr.

Adorium collaris.

A. ovatum, convexum, nigrum, subnitidum; abdominis apice thoraceque pallide fulvo-flavis; antennis brevibus.—Long. 6 lin.

Hab. Lake N'Gami.

Regularly oval, black, subnitidous, nitidous beneath; apical segment of abdomen, together with the entire thorax, pale fulvous; sides of the latter margined and rounded, their anterior angles slightly produced; the upper surface excavated, finely but not closely punctured. Elytra ovate, acutely rounded at their apex; sides narrowly margined; upper surface closely covered with deeply impressed punctures.

Adorium ornatum.

A. oblongo-ovatum, convexum, nigrum, nitidum; thorace femorumque basi fulvo-flavis; abdomine elytrisque testaceis, his subcrebre punctatis, fascia lata basali et utriusque macula transversa pone medium nigris.—Long. 5 lin.

Hab. New Guinea.

Antennæ more than three-fourths the length of the body, moderately robust, gradually tapering towards their apex, the third and fourth joints slightly elongate, nearly equal, three basal joints fulvous beneath. Sides of thorax slightly rounded, somewhat narrowed and subsinuate in front, upper surface impressed with irregularly crowded punctures; pleuræ stained with fulvous; abdomen paler than the elytra, clothed with fine adpressed pubescence.

Nearly allied to *A. rubrum*, Blanch.; but in that insect the whole surface of the body (the fuscous outer half of the antennæ and the black markings of the elytra excepted) is a bright uniform testaceous red: the arrangement of the markings is similar to that of the present insect, with the exception that here the basal fascia is abbreviated on the extreme lateral border, and the spot on the hinder portion of each elytron is much larger, forming an irregular rotundate patch;

the thorax is broader, and its disk impressed on either side by a distinct fovea.

Adorium circumdatum.

A. late ovatum, postice paullo ampliatum, convexum, nitidum, fulvo-testaceum; antennis, tibiis (illis articulo basali, his basi exceptis) tarsisque nigris; elytris subcrebre tenuiter punctatis, olivaceis, anguste fulvo-testaceo limbatis; thoracis disco trifoveolato.—Long. 5 lin.

Hab. Moreton Bay.

Antennæ two-thirds the length of the body, second and third joints equal in length. Thorax finely but distinctly punctured, also impressed with three large shallow foveæ placed 2 · 1 on the disk; sides narrowly margined, rotundate behind the middle, thence rotundate-angustate to their apex. Tibiæ and tarsi covered with short adpressed hairs.

Genus Eustetha.

Corpus anguste oblongum, convexum. *Caput* deflexum; *antennis* modice robustis, filiformibus, interdum subfusiformibus, articulis secundo et tertio brevibus; *mandibulis* apice dentatis; *mento* transverso; *palparum maxillarum* articulis duobus ultimis conjunctim obovatis; *oculis* integris. *Thorax* transversus. *Elytra* oblonga, convexa, punctato-striata. *Pedes* simplices; *coxis anticis* distantibus, fere rotundatis; *unguiculis* appendiculatis. *Prosternum* elevatum, dorso canaliculatum. *Metasternum* inter coxas intermedias antrorsum protensum.

Type, *Eustetha flaviventris,* Baly.

This genus differs from *Doryxena* in the appendiculated claws, the short third joint of the antennæ, the broad, distinctly elevated prosternum, and the distant subrotundate anterior coxæ.

Eustetha flaviventris.

E. oblonga, convexa, purpureo-chalybea, nitida, subtus obscurior, abdomine pallide flavo; thorace hic illic sparse punctato, disco utrinque transversim sulcato; elytris subfortiter punctatis, punctis in striis numerosis confuse dispositis.—Long. 4 lin.

Hab. Northern China.

Antennæ robust, filiform, nearly two-thirds the length of the body; second and third joints very short, nearly equal; fourth longer than the two preceding, nearly equal to the fifth; fourth, fifth and sixth in the *male* compressed, slightly dilated. Thorax transverse, impressed here and there with a few scattered punctures; base with a single shallow fovea.

Eustetha gloriosa.

E. oblonga, convexa, purpurea, nitida; antennis (basi excepta) nigris, pleuris viridi-æneis, abdomine flavo-limbato; supra viridi-ænea, iridescens; thorace transverso, disco hic illic distincte punctato, utrinque

transversim sulcato, purpureo limbato, ante medium fascia lata transversa rubro-ignea instructo; scutello purpureo; elytris sat fortiter striato-punctatis, rubro-igneis, sutura margineque laterali anguste purpureis, vitta subsuturali, limbo sublaterali, vitta obliqua humerali maculaque vix pone medium margini adfixa viridi-æneis.—Long. $4\frac{1}{2}$ lin.

Hab. Northern China.

Antennæ scarcely half the length of the body, moderately robust, subfiliform, stouter, indistinctly thickened and subfusiform in the *male*; second and third joints short, the third twice the length of the second; first three joints glabrous, shining purple, the others closely covered with short adpressed fuscous hairs; face stained between the eyes with a rufo-igneous patch; forehead impressed with a deep fovea. Thorax rather more than twice as broad as long, sides margined, slightly rounded, obliquely narrowed in front, anterior angles thickened; upper surface remotely punctured, impressed on either side the disk by a deep, slightly curved transverse fossa. Elytra scarcely broader than the thorax, oblong, each elytron with about eleven rows of distinct deeply impressed punctures, placed at irregular intervals on the rows, interspaces finely punctured; basilar space bounded beneath by a shallow fovea.

Genus Melospila.

Antennæ compressæ, subserratæ, articulis secundo et tertio brevibus. *Coxæ anticæ* subcontiguæ, crassæ, perpendiculares. *Prosternum* angustatissimum, integrum. *Palparum maxillarum* articuli duo ultimi conjunctim ovati.

Characteres cæteri ut in *Eustetha* sunt.

Type, *Melospila nigromaculata*, Baly.

Very closely allied to *Eustetha*, but separated by the characters given above.

Melospila nigromaculata.

M. oblonga, convexa, nigra, nitida; antennis compressis, subserratis; thorace hic illic fortiter punctato; elytris fortiter striato-punctatis, flavis, vitta suturali, linea marginali antice abbreviata et apice dilatata, fascia lata vix ante medium, extrorsum abbreviata, maculisque 10, harum tribus baseos inter se confluentibus, quinque pone medium transversim positis, duabusque apicalibus, nigris.—Long. $3\frac{1}{4}$ lin.

Hab. Northern China.

Antennæ more than two-thirds the length of the body; second and third joints short, nearly equal, the remainder compressed and dilated on their inner edge from base to apex, the latter being slightly produced and acute. Thorax convex, its sides margined, rounded and entire. Punctures on the elytra deeply impressed, somewhat irregularly arranged in eleven longitudinal rows, the first abbreviated.

Genus Morphosphæra.

Corpus ovatum, valde convexum. *Caput* thoraci insertum; *facie* fere perpendiculari; *antennis* gracilibus, filiformibus, longitudini corporis æqualibus, articulo primo curvato, apicem versus incrassato, duobus proximis brevibus, æqualibus, cæteris longioribus, inter se fere æqualibus; *labro* semiovato; *mandibulis* apice dentatis; *palpis* robustis, articulo ultimo obtuso; *mento* latitudine vix longiore, a basi ad apicem angustato; *oculis* prominulis, integris. *Thorax* transversus. *Scutellum* trigonatum. *Elytra* breviter ovata, thorace paullo latiora, valde convexa, confuse punctata. *Pedes* graciles, simplices; *coxis anticis* contiguis; *femoribus posticis* non incrassatis; *unguiculis* appendiculatis.

In form *Morphosphæra* closely resembles *Adorium*; but the very slender filiform antennæ at once divide it from that genus.

Morphosphæra maculicollis.

M. ovalis, valde convexa, nitida, nigra; labro, abdominis margine thoraceque fulvis, hoc nigro 4-notato; elytris obscure cæruleis, subcrebre punctatis.—Long. $5\frac{1}{2}$ lin.

Hab. India.

Oval, very convex, shining black; labrum, margin of the abdomen, together with the thorax, fulvous, the latter marked with four black spots, placed transversely across the disk. Head short; epistome bounded on either side by an oblique groove which extends from the base of the antennæ to the angle of the jaw, and seems formed for the reception of the basal joint of the antenna. Thorax more than twice as broad as long, rounded at the base, sides slightly rounded, narrowed from the base to the apex, anterior angles slightly prominent, all the angles obtuse; upper surface finely punctured, impressed with three or four indistinct foveæ, lateral border slightly reflexed. Scutellum trigonate. Elytra ovate, rather broader at their base than the thorax, sides oval, apex regularly rounded; surface somewhat closely punctured, the punctures much deeper and coarser than those on the thorax.

Genus Xenarthra.

Corpus elongatum, angustatum, dorso paullo convexum. *Caput* exsertum; *antennis* difformibus, corpore longioribus, 12-articulatis, articulo primo incrassato, secundo brevissimo, subcylindrico, tertio primi longitudini fere æquali, compresso, sursum curvato, a basi ad apicem intus dilatato, angulo antico interiore in dentem acutum producto, quarto et quinto sextoque compressis, dilatatis, latitudine fere æqualibus, septimo difformi, basi compresso-dilatato, intus prope medium in processum validum flexuosum producto, octavo nonoque angustatis, basi intus in processum ligulæformem productis, decimo difformi, incrassato, basi angustato, extus et ad apicem emarginato, angulo antico interiore antrorsum pro-

ducto, ultimis duobus gracilibus, illo basi flexuoso, hoc curvato; *labro* transverso, antice emarginato; *mandibulis* apice dentatis; *palpis maxillaribus* articulo primo parvo, duorum sequentium utroque a basi ad apicem ampliato, illo paullo elongato, hoc dilatato, ultimo conico, subacuto; *mento* transverso-quadrato; *oculis* magnis, rotundatis, prominentibus. *Thorax* transversus, dorso bi-impressus. *Scutellum* trigonatum. *Elytra* thorace latiora, parallela, dorso subconvexa. *Pedes* graciles et (præsertim postici) elongati; *coxis anticis* contiguis, *intermediis* magnis, fere contiguis; *tarsis* tibiarum apici insertis; *unguiculis* appendiculatis.

Type, *Xenarthra cervicornis*, Baly.

This genus can be at once separated from congeneric forms by the remarkable 12-jointed antennæ, the joints themselves presenting such strange contortions that it is almost impossible to describe them. I must therefore refer to the figure in Plate XII. for a more correct idea of their form.

Xenarthra cervicornis. (Plate XII. fig. 4.)

X. elongata, sat angustata, pallide flava, nitida; antennis difformibus, nigris; capitis thoracisque lateribus, metasterno, abdomine (baseos medio excepto) tibiisque posticis (his basi exceptis) piceis; elytris obsolete costatis, fortiter subcrebre punctatis, viridi-æneis.—Long. 3 lin.

Hab. Ceylon.

Head strongly exserted; eyes prominent; face above the antennæ furnished with a triangular elevated space, divided longitudinally by a medial groove, the apex of which terminates in a deep fovea; antennæ rather longer than the body, 12-jointed, the twelfth articulation being formed, by the separation of the false joint visible in nearly all Phytophagous insects at the apex of the antennæ, into a distinct piece. Thorax one-third broader than long, narrowly margined, sides nearly parallel, slightly produced and angled in the middle; upper surface slightly convex, smooth, impunctate, impressed behind the middle with two large and deep parallel foveæ. Scutellum trigonate, its apex acute. Elytra rather broader than the thorax, parallel, moderately convex, deeply punctured, each elytron with five or six indistinct longitudinal costæ. Legs slender; tarsi stained with fuscous.

Genus Stenoplatys.

Corpus subelongatum. *Caput* exsertum; *antennis* gracillimis, filiformibus, corpore longioribus, articulo primo curvato, a basi ad apicem leniter incrassato, secundo brevi, tertio quarto vix longiore. *maris* articulis ultimis tribus compressis, paullo dilatatis, clavam angustam acutam formantibus; *epistomate* brevi, transverso, utrinque abbreviato; *labro* transverso; *mandibulis* crassis, obtusis, apice dentatis; *palpis maxillaribus* articulo primo parvo, duobus sequentibus crassiusculis, ultimo semiovato; *mento* transverso, angulis anticis obsoletis; *ligula* oblonga, obtusa,

basi paullo angustata; *palpis labialibus* articulo ultimo conico, acuto; *oculis* prominentibus. *Thorax* transversus. *Scutellum* subtrigonum, apice obtuso. *Elytra* oblonga, modice convexa, thorace latiora, parallela. *Pedes* graciles, simplices; *coxis anticis* contiguis, perpendicularibus; *unguiculis* appendiculatis.

Type, *Stenoplatys Pascoei*, Baly.

The general form of the body resembles *Aplosonyx*; but the entirely different antennæ at once separate *Stenoplatys* from that genus.

Stenoplatys Pascoei. (Plate XII. fig. 5.)

S. subelongata, modice convexa, pallide flavo-fulva, nitida; antennis (apice excepto) elytrisque fuscis, his æneo micantibus, tenuissime subcrebre punctatis, antice fossa communi cruciformi impressis; postpectore abdomineque piceis.—Long. 5–5½ lin.

Var. A. Corpore pallide piceo, pedibus flavis.

Mas. Abdominis segmento anali trilobato.

Hab. Old Calabar.

Subelongate, moderately convex. Head impressed on the vertex with a deep fovea; face oblong; apex of jaws black; antennæ slender, nearly equal in length to the body. Thorax twice as broad as long, sides narrowly margined, straight and nearly parallel, obtusely angled just before the middle, thence obliquely narrowed to the apex, all the angles prominent; disk minutely punctured, impressed with three large shallow foveæ. Elytra much broader than the thorax, oblong, parallel, their apex rounded, above moderately convex, impressed longitudinally along the suture, and transversely below the basilar space, the two depressions forming a large common cruciform fossa, the suture itself indistinctly costate; basilar space on each elytron obsoletely elevated; on the outer disk, a short distance below the transverse groove, is a large shallow fovea.

Genus Prasona.

Corpus elongatum, modice convexum. *Caput* porrectum; *antennis* filiformibus, apicem versus attenuatis, articulo primo incrassato, subclavato, secundo brevi, obovato, tertio duobusque proximis singulatim secundo triplo longioribus, inter se longitudine æqualibus, cæteris paullo brevioribus; *labro* transverso, margine rotundato; *mandibulis* curvatis, apice dentatis; *mento* transverso-quadrato; *palparum* articulo ultimo apice acuto; *oculis* prominulis, integris. *Thorax* transversus, lateribus fere parallelis, dorso ante basin transverso-sulcato. *Scutellum* subtrigonatum. *Elytra* thorace paullo latiora, parallela, apice rotundata, dorso modice convexa, confuse punctata. *Pedes* mediocres; *femoribus posticis* modice incrassatis, subtus ante apicem leviter sulcatis; *tibiis posticis* apice dentibus duobus brevibus armatis; *tarsis posticis* tibiarum apici insertis; *unguiculis* appendiculatis. *Prosternum* modice angustatum, distinctum, apice dilatatum.

Type, *Prasona prasina*, Baly.

Near *Crepidodera*, but separated by the different form of the antennæ and the irregularly punctured elytra.

Prasona viridis.

P. elongata, subparallela, pallide viridis, subnitida; antennis obscurioribus, piceo tinctis; femoribus anterioribus dorso lineatis nigro; elytris crebre punctatis, linea suturali male definita, vitta brevi leniter curvata intra humeros posita, macula prope medium disci vittaque submarginali a callo humerali ad paullo pone medium extensa piceis.—Long. $3\frac{2}{3}$ lin.

Var. A. Elytris immaculatis.

Hab. Mexico.

Elongate, moderately convex. Face trigonate, elevated between the eyes, upper portion of the raised space impressed by a longitudinal fovea; vertex finely but remotely punctured. Thorax nearly twice as broad as long, sides subparallel, sinuate at the base, slightly dilated and rounded before the middle; above closely punctured, a narrow longitudinal space down the middle impunctate; disk impressed on either side with shallow irregular excavations, base transversely sulcate, side border reflexed. Elytra broader than the thorax, sides subparallel, slightly ovate, upper surface closely punctured; on the disk of each elytron are seen (with difficulty in some specimens) five or six obsoletely elevated vittæ; one, rather more distinct, extends from the humeral callus down the side a short distance within the lateral border, the space between this latter and the vitta concave.

Notes.

Chrysomela Templetoni, ante, p. 93 (October 1860). *Chrysomela Iole*, Stål, Ofvers. af K. Vet. Akad. Förh. (November 1860) p. 463.

Chrysomela Fortunei, ante, p. 94 (October 1860). Count Motschulsky has indicated this beautiful species, but without giving a detailed description, under the name of *Ambrostoma Chinensis*, Motsch., in the 2nd part of the Entomological portion of Schrenck's 'Reisen im Amur-Lande,' published at St. Petersburg, December 1860.

Chrysomela Bowringii, ante, p. 96 (October 1860). *Chrysomela Niobe*, Stål, Ofvers. af K. Vet. Akad. Förh. (November 1860) p. 463.

Chrysomela cingulata, ante, p. 97. This insect was described some years since by the Rev. F. W. Hope, under the name of *Chrysomela Vishnu*, in his paper on Nepaulese Insects, published in Gray's 'Zoological Miscellany,' p. 30; my name must therefore fall. I unfortunately overlooked the type in the British Museum collection when I wrote my paper; and Hope's description is so short and im-

perfect, that it is impossible to recognize the species without a reference to the original specimen.

Crioceris Salléi, ante, p. 195. This species possesses a distinct prosternum, and therefore ought to be placed in the 1st section of the genus.

XXIV.—*Entomological Notes.* By Francis P. Pascoe, F.L.S.

1. Having recently seen a specimen of *Meryx rugosa*, Latr., in Melly's collection at Geneva, I at once identified it with my genus *Rhyssopera* (*ante*, p. 98), probably *R. illota*. The habitat given by Latreille, "in India orientali," is doubtless a mistake. In my description, the tarsi, by a *lapsus calami*, are described as five-jointed; they are, however, only four-jointed, as may be seen by the naked eye, and the genus must therefore be 'technically' referred to the Colydiidæ.

2. *Glœania ulomoides* (*ante*, p. 100) is an *Aulonium* belonging to a section of that genus, the species of which are found from Brazil to Mexico, and represented by *Colydium bidentatum**, Fab. The minute basal joint described by me appears to be only the deeply constricted portion of the articulation of the joint.

3. The genus *Althæsia* (*ante*, p. 117), Mr. Janson suggests, should probably be referred to the Endomychidæ. As in any case the genus approaches *Mycetæa*, which is referred to the Mycetophagidæ by Mr. Wollaston, and by M. Jacquelin Duval is made the type of a distinct family in immediate sequence to it, the position I have assigned it may be considered as dependent upon the views which may be ultimately taken of *Mycetæa*.

4. *Evethis* and *Anomœsia*, referred as synonyms to *Frixus*, Thoms., by M. Chevrolat, at p. 190 of this Journal, must all give way to *Eunidia*, Erichs., as I have already stated in the Proc. Ent. Soc. July 1859.

5. At p. 192 of this Journal, M. Chevrolat gives *Cylindrepomus*, Pascoe, as a synonym of *Gerania*, Serv. In the first place, *Cylindrepomus* is a genus of Blanchard's; and secondly, it is altogether very different from *Gerania*.

* I have nine species in my collection, to any of which the Fabrician description is applicable.

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XXV.—*Characters of undescribed Species of* Homoptera *in the Collection of* F. P. Pascoe, F.L.S. By F. Walker.

Genus Cicada, Linnæus.

Cicada abbreviata. *Mas.* Nigra, brevis, robusta; prothorax margine postico flavescente; pectus flavo bivittatum; opercula flava; abdomen lateribus, segmentorum marginibus posticis ventreque testaceis; pedes flavi nigro vittati; alæ vitreæ, breviusculæ, venis nigris basi flavescentibus.

Male. Black, short, stout. Prothorax with a slender yellowish hind border. Pectus with a yellow stripe on each side. Opercula yellow. Abdomen testaceous along each side and beneath; hind borders of the segments testaceous. Legs yellow, striped with black; fore legs black; fore femora incrassated, striped with yellow. Wings vitreous, rather short; veins black, pale yellowish at the base; 1st and 2nd transverse veinlets slightly curved and oblique; 1st parted by nearly thrice its length from the 2nd; 3rd and 4th oblique, nearly equal in length. Length of the body 5½ lines; of the wings 14 lines.

Adelaide.

This species forms part of the group to which *C. marginata*, *C. encaustica*, and several other nearly allied Australian species also belong.

Cicada congrua. *Fœm.* Viridis; caput brevi-conicum, fronte valde convexa; abdomen lateribus apicalibus flavescenti-albis; pedes tibiis apice tarsisque pallide fulvis; alæ vitreæ, venis nigris; anticæ longæ, costa alba nigro marginata.

Female. Grass-green. Head short, conical along the fore border; front very convex. Abdomen yellowish-white on each side of the oviduct, which is ferruginous. Tarsi, fore tibiæ, except the base, and tips of posterior tibiæ pale tawny; fore femora incrassated, with stout

oblique spines. Wings vitreous; veins black. Fore wings very long; costa white, bordered with black; 1st and 2nd transverse veins upright; 1st a little longer than the 2nd, from which it is parted by about four times its length; 3rd and 4th oblique. Length of the body 8 lines; of the wings 24 lines.

Moreton Bay.

This species has most affinity to *C. infans* of New Zealand.

Cicada dentivitta. *Mas.* Testacea; vertex nigro bivittatus et bimaculatus; prothorax vittis quatuor nigricantibus duabusque nigris; mesothorax vittis quatuor nigricantibus; alæ vitreæ, venis nigris basi testaceis; anticæ vitta lunulata nigra, costa testacea.

Male. Testaceous. Head nearly as broad as the thorax; vertex with two short black stripes, and with a black spot on each side hindward. Eyes very prominent. Prothorax well developed, with four blackish and with two exterior black stripes; middle pair of stripes slender, approximate; 2nd pair broad, irregular. Mesothorax with four blackish stripes; the outer pair abbreviated. Fore femora incrassated. Wings vitreous, very shining. Fore wings with a black lunulate stripe near the interior border; veins black, testaceous towards the base; costa testaceous; 1st transverse vein oblique, parted by about thrice its length from the 2nd, which is upright; 3rd and 4th oblique; 3rd rather shorter than the 4th. Length of the body 6 lines; of the wings 17 lines.

Siam.

Cicada sericeivitta. *Mas.* Pallide testaceo-flava; vertex nigro bipunctatus; mesothorax nigricante bivittatus; abdomen linea ventrali punctulari fuscescente; tibiæ anticæ apice tarsique antici nigra; alæ vitreæ, venis albidis apice nigris.

Male. Pale testaceous yellow. Head as broad as the thorax, with a black point on each side of the vertex. Prothorax with four furrows, which converge hindward. Mesothorax with a blackish stripe on each side. Abdomen beneath with a line of brownish points. Fore femora incrassated, with black spines; fore tarsi and tips of fore tibiæ black. Wings vitreous; veins whitish, black towards the tips and along the interior border; 1st and 2nd transverse veins upright; 1st parted by full thrice its length from the 2nd; 3rd and 4th oblique, about equal in length. Length of the body 6 lines; of the wings 15 lines.

Sydney.

Genus Zamila.

Mas. Corpus sat gracile. Caput lanceolatum, quadrilaterale, subascendens, apice acutum, thorace non brevius. Prothorax transversus, bicarinatus. Mesothorax parvus. Pedes breves, lati, subspinosi. Alæ anticæ opacæ, sat angustæ, apice rotundatæ.

Male. Body rather slender. Head slightly ascending, lanceolate, quadrilateral, deeper than broad, acute at the tip, deeply grooved

beneath, as long as the thorax. Prothorax transverse, short, with two keels. Mesothorax small. Legs short, broad; femora and tibiæ with a few spines. Fore wings opake, rather narrow, rounded at the tips, with numerous ramifying veins and with many transverse veinlets; costa very slightly convex; interior border straight.

Zamila is nearly allied to *Prolepta*, and has more affinity to *P. tuberculata* than to *P. apicalis*, which is the typical species of that genus. *P. obscurata* and *P. tuberculata* are sufficiently distinct from the type to form two new genera.

Zamila lycoides (Pl. XV. f. 3). *Mas.* Fulva, nitens, sublævis; caput piceum; alæ anticæ nigro punctatæ, costa apicibusque nigricantibus; posticæ obscure cinereæ.

Male. Tawny, shining, nearly smooth, paler beneath. Head piceous, except at the base. Fore wings with many minute black points, blackish along the costa and towards the tips. Hind wings dark cinereous. Length of the body 5 lines; of the wings 10 lines.

Siam.

Genus Poiocera, Laporte.

Poiocera fissiluna. *Mas.* Nigra; caput thorace angustius, vertice maculis quatuor flavescentibus, fronte transversa tricarinata subpunctata; thorax maculis plurimis flavescentibus; abdomen subtus ochraceum; alæ anticæ maculis tribus costalibus guttisque punctisque plurimis discalibus flavescentibus, spatio apicali sordide ochraceo punctis albidis; posticæ nigræ, lunula alba venis nigris intersecta.

Male. Black. Head narrower than the thorax; vertex with four yellowish spots; front about twice as broad as long, minutely punctured, with three slight keels; middle keel emitting a short branch on each side; lateral keels curved, very oblique. Thorax with numerous yellowish spots. Abdomen ochraceous beneath. Knees tawny. Fore wings with numerous yellowish dots and points, and with three yellowish nearly equal costal spots; apical part dull ochraceous, with several whitish points. Hind wings black, with an exterior discal lunulate white streak, which is intersected by the black veins. Length of the body 7 lines; of the wings 20 lines.

Rio Janeiro.

Genus Hesticus.

Mas. Caput thorace angustius; vertex carinatus, subquadratus, submarginatus; frons plana, supra carinata subconvexa. Antennæ longæ, lineares. Prothorax transversus, arcuatus, verticem ex parte obtegens. Mesothorax planus, tricarinatus, postice acutangulatus. Abdomen longiconicum. Pedes sat graciles, femoribus tibiisque appressis carinatis, femoribus tibiisque anticis dilatatis. Alæ hyalinæ; anticæ lineis duabus e venulis transversis.

Male. Head narrower than the thorax; vertex nearly square, with

a slight rim and with a middle ridge; front flat, a little longer than broad, slightly convex and with a middle ridge towards the vertex. Antennæ long, linear, terminating in a long slender bristle. Prothorax more than twice as broad as long, arched and vitreous in front, extending over part of the vertex, slightly concave behind. Mesothorax flat, with three slight ridges, forming a short spine hindward. Abdomen elongate conical, about half the length of the fore wing. Legs rather slender; femora and tibiæ flattened, ridged; fore femora and fore tibiæ dilated. Wings vitreous. Fore wings with the transverse veinlets forming two upright parallel lines; discal areolets very long; costal areolet extremely long, with two approximate oblique veinlets at its tip.

This genus may be distinguished from *Dichoptera* by the structure of the legs, wherein it has some affinity to *Poiocera obliqua*; and the latter should form a new genus.

Hesticus pictus (Pl. XV. f. 5). *Mas.* Rufescens; caput pallide viride, verticis disco luteo, fronte supra nigra lateribus albis, facie supra læte rufa; abdomen vittis duabus nigris viridi ex parte marginatis; pedes antici læte rufi, tibiis nigro marginatis; posteriores pallidi; alæ anticæ vitreæ, nitentes, fusco aut nigro-fusco semimarginatæ, stigmate fusco elongato, venis fulvis, venulis transversis nigris nebulosis.

Male. Reddish. Vertex pale green, mostly luteous in the disk; front pale green, black towards the vertex, white on each side; face bright red towards the base. Abdomen with two black stripes, partly green on each side. Posterior legs pale; fore legs bright red; fore tibiæ bordered with black. Fore wings vitreous, shining, brown or blackish brown along the exterior border and along the apical half of the interior border; stigma brown, elongated; veins tawny; transverse veinlets black, clouded. Length of the body $4\frac{1}{2}$ lines; of the wings 15 lines.

Rio Janeiro.

Genus Dictyophora, Germar.

Dictyophora sauropsis. *Mas.* Fulva; caput attenuatum, quadrangulatum valde productum, subtus rufescenti-ochraceum tricarinatum; prothorax carinatus; mesothorax bicarinatus; alæ cinereo-hyalinæ, venis nigris basi fulvis, venulis transversis incrassatis; anticæ stigmate elongato nigro.

Male. Tawny. Head forming a long quadrilateral, slightly tapering cone, which has a rim on each side above and beneath; underside reddish ochraceous, with three additional pale ridges. Prothorax arched, more than four times as broad as long, with a middle ridge. Mesothorax with two ridges. Wings cinereous hyaline; veins black, pale tawny towards the base; transverse veinlets incrassated. Fore wings with an elongated black stigma. Length of the body 5 lines; of the wings 10 lines.

Dacca.

Dictyophora semireticulata. *Mas.* Testacea, gracilis; caput lanceolatum, compressum, quadrilaterale, sulcatum, piceum; prothorax transversus, arcuatus; mesothorax apice albidus; alæ hyalinæ, venis pallidis; anticæ venulis transversis apicalibus stigmateque nigris.

Male. Testaceous; slender. Head porrect, lanceolate, compressed, grooved, quadrilateral, piceous above, except towards the base, as long as the thorax; its depth about twice its breadth. Prothorax arched, more than twice as broad as long. Mesothorax whitish at the tip. Wings hyaline; veins pale. Fore wings with a black stigma, and with numerous transverse black veinlets towards the tip. Length of the body 5 lines; of the wings 8 lines.

Natal.

Genus Thessitus.

Mas. Corpus latum. Caput thorace angustius; vertex transversus, marginatus, tricarinatus; frons lævis, plana, lateribus dilatatis. Prothorax brevis, antice convexus, postice rectus. Mesothorax trigonus. Abdomen apice dense lanuginosum. Pedes breviusculi, femoribus tibiisque dilatatis. Alæ anticæ latæ, opacæ, subrugulosæ, apice rotundatæ, costa margineque exteriore subconvexis, venis venulisque transversis plurimis.

Male. Body broad. Head narrower than the thorax; vertex transverse, with three slight ridges bordered by a rim, straight in front, concave along the hind border; front flat, smooth, transverse, forming a conical protuberance on each side. Prothorax short, convex in front, straight behind. Mesothorax triangular. Abdomen thickly floccose at the tip. Legs rather short; femora and tibiæ dilated. Fore wings broad, opake, slightly rugulose, rounded at the tips; costa and exterior border slightly convex, the former prominent towards the base; veins numerous, extremely numerous exteriorly, as are also the transverse veinlets.

Allied to *Elidiptera.*

Thessitus mortifolia (Pl. XV. f. 4). *Mas.* Fulva; alæ anticæ lituris transversis paucis nigris, extus albido-cinereæ punctis nonnullis transversis submarginalibus nigris, subtus basi læte virides vitta discali lata coccinea; posticæ albæ, fascia maculari nigra.

Male. Tawny. Fore wings with a few transverse black marks, dingy whitish exteriorly, with some transverse submarginal black points; under side bright green at the base, and with a broad bright-red discal stripe which proceeds from the green part. Hind wings white, with a black macular band beyond the middle. Length of the body 6 lines; of the wings 22 lines.

Siam.

Genus Elidiptera, Spinola.

Elidiptera alba. *Mas.* Alba; vertex sulcatus, bicarinatus, antice nigro marginatus; frons carinata, submarginata; prothorax nigro vittatus;

mesothorax planus, nigro bivittatus; alæ anticæ subrugulosæ, nigro punctatæ, striga obliqua fuscescente.

Male. White. Head above more than twice as broad as long, much rounded in front, furrowed in the middle, with two slight ridges; fore border mostly black; front longer than broad, with a middle ridge which is abbreviated in front, and with a slight rim on each side. Prothorax short, with a black stripe, dilated into a spine on each side. Mesothorax flat, with a black stripe on each side. Fore wings slightly rugulose, with some black points which are mostly along the borders; a brownish oblique streak extending from the hind part of the disk to a little in front of the tip; transverse veinlets irregular, very numerous; costal space especially broad towards the base, where it is very convex, undulating along the inner side, with numerous regular and parallel transverse veinlets. Length of the body 5 lines; of the wings 14 lines.

Rio Janeiro.

Genus Issus, Fabricius.

Issus lineolatus. Sordide fulvescens, nigro notatus; vertex minimus; frons longissima, marginata, tricarinata, faciem versus latior; thorax brevissimus; alæ anticæ luridæ, apice rotundatæ, striga obliqua albida, costa convexa pallido bimaculata, margine exteriore subobliquo, angulo interiore producto, venis nigris ex parte rufis.

Pale dingy tawny, marked with black. Vertex very small; front very long, widening towards the face, with a rim on each side, and with three ridges. Thorax very short. Fore border of the prothorax angular, extending over part of the vertex. Fore wings lurid, with two pale spots on the exterior part of the costa, and with a whitish discal streak which extends from the base to half the length of the interior border; costa convex; tips rounded; exterior border slightly oblique; interior angle prominent; veins black, irregular, partly red about the borders. Length of the body 3 lines; of the wings 8 lines.

Moreton Bay.

Genus Hemisphærius, Schaum.

Hemisphærius cassidoides. *Mas.* Fulvus, nitens; caput submarginatum; frons angusta, antice latior; prothorax parvus, lunulatus; alæ anticæ latæ, semihyalinæ, subpunctatæ, abdomen superantes.

Male. Tawny, shining. Head with a slight rim on each side; front longer than broad, widening towards the face. Prothorax small, lunulate, much narrower than the head. Mesothorax with a puncture on each side. Fore wings broad, semihyaline, minutely punctured, extending beyond the abdomen; exterior border convex. Length of the body 2½ lines; of the wings 6 lines.

Siam.

Hemisphærius chilocoroides. *Mas.* Niger, subtus testaceus; vertex albido marginatus; frons longissima, rufo vittata, albido marginata;

pedes ex parte testacei; alæ anticæ latæ, reticulato-punctatæ, apice rotundatæ.

Male. Black, testaceous beneath. Vertex whitish-bordered; front very long, widening towards the face, with a whitish rim on each side, and a red stripe. Legs partly testaceous. Fore wings broad, convex, reticulate-punctured, rounded at the tips; costa convex, prominent towards the base; interior border straight. Length of the body $2\frac{1}{4}$ lines; of the wings $5\frac{1}{2}$ lines.

Siam.

Hemisphærius scymnoides. *Mas.* Testaceus, nitens; vertex smaragdino quadripunctatus; frons nigro tripunctatus, lateribus subangulatis; prothorax smaragdino bimaculatus; mesothorax vitta maculisque duabus smaragdinis; alæ anticæ subpunctatæ, apice rotundatæ, guttis duabus posticis nigris.

Male. Testaceous, shining. Vertex with two emerald-green points on each side; front slightly angular on each side, widening towards the face, with three minute black points in front. Prothorax with two emerald-green spots. Mesothorax with a middle stripe and one spot on each side emerald-green. Fore wings moderately broad, minutely punctured, rounded at the tips, with a black dot on each side hindward, costa convex; interior border straight. Length of the body 2 lines; of the wings 5 lines.

Siam.

Genus Elasmoscelis, Spinola.

Caput parvum; vertex perangustus, margine alto erecto; frons longa, bicarinata, faciem versus latior. Antennæ articulo 3° longi-conico, seta longa. Thorax brevissimus. Pedes femoribus tibiisque appressis, anticis valde dilatatis. Alæ anticæ longæ, sublineares, apice acutæ, costa apicem versus subcontracta, margine exteriore subangulato, angulo interiore rotundato.

Head small; vertex very narrow, with a high upright rim on each side; front long, narrow towards the vertex, with two deep ridges. Third joint of the antenna elongate-conical; bristle longer than the antenna. Thorax very short. Posterior femora and posterior tibiæ flattened; fore femora and fore tibiæ much dilated. Fore wings long, nearly linear, mostly opake; costa slightly contracted towards the tip, which forms a prominent right angle; exterior border slightly angular in the middle; interior angle rounded.

Elasmoscelis perforata. *Mas.* Flavescenti-alba, nigro conferte punctata; alæ anticæ nigræ, macula discali alba, punctis nonnullis albidis, lituris marginalibus hyalinis transversis.

Male. Yellowish white. Body and legs with numerous black points. Abdomen with a thick white apical cottony mass. Fore wings black, with a white spot in the disk, and with several whitish

points; costa and exterior border with transverse irregular hyaline marks. Length of the body 4 lines; of the wings 10 lines.

Siam.

Genus Flatoides, Guérin.

Flatoides designata. *Mas.* Nigra, lævis, nitens, subtus fulva; alæ anticæ latæ, apice rotundatæ, costa basi dilatata convexa, extus albo binotata, gutta discali rotunda maculisque dentatis apud marginem interiorem albis.

Male. Black, smooth, shining, tawny beneath. Fore wings broad, rounded at the tips; costa dilated and convex towards the base; exterior border oblique; a white spot and a white dot on the exterior part of the costa, both elongated; a small round white dot in the disk; a row of irregular dentate white spots along the interior border. Length of the body 4 lines; of the wings 14 lines.

Siam.

Flatoides discigutta. *Fœm.* Nigra, lævis, nitens; frons transversa, tricarinata; pedes pallide testacei; alæ anticæ latæ, apice rotundatæ, costa margineque exteriore subconvexis, gutta discali rotunda alba.

Female. Black, smooth, shining. Front transverse, with three slight keels. Eyes white. Legs pale testaceous. Fore wings broad, very shining, rounded at the tips; costa and exterior border slightly convex, the latter oblique; a round white dot in the middle of the disk. Length of the body 3 lines; of the wings 9 lines.

Key Island, New Guinea.

Flatoides nivisignata. *Fœm.* Piceo-nigra, subtus fulva; frons transversa, tricarinata, submarginata; alæ anticæ latæ, apice rotundatæ, fasciis tribus incompletis margineque exteriore chalybeis, gutta costali subapicali maculaque discali albis, lineola interiore punctulari albida.

Female. Piceous black, tawny beneath. Front transverse, with three slight ridges and a slight rim. Fore wings broad, rounded at the tips, with three incomplete chalybeous bands; costa convex, with a white subapical dot, and with a row of whitish points from the base to the middle, where there is a white spot; exterior border chalybeous, slightly convex. Length of the body 2 lines; of the wings 6 lines.

Siam.

Flatoides puncticosta. *Fœm.* Nigra; frons transversa, submarginata, sulco tenui transverso; pedes ex parte fulvi; alæ anticæ luteæ, apice rotundatæ, fasciis indeterminatis margineque exteriore chalybeis, costa albo bipunctata.

Female. Black, closely allied to the preceding species. Front transverse, flat, with a slight rim and a slight transverse furrow. Legs partly tawny. Fore wings broad, rounded at the tips, with some irregular chalybeous bands; costa convex, with two white points, one

in the middle, the other subapical; exterior border oblique, chalybeous, hardly convex. Length of the body 3 lines; of the wings 8 lines.

Key Island, New Guinea.

Genus Dechitus.

Mas. et Fœm. Corpus robustum. Caput breve; vertex brevissimus; frons plana, transversa, subcarinata. Prothorax brevissimus, subcarinatus. Mesothorax latus, convexus. Abdomen conicum, thorace paullo longius. Pedes breves, robusti, femoribus tibiisque appressis carinatis. Alæ anticæ apice rotundatæ, costa recta basi arcuata, margine interiore recto, venis plurimis ramosis, venulis costalibus plurimis obliquis parallelis.

Male and Female. Body stout. Head short, nearly as broad as the thorax; vertex very short; front flat, much broader than long, with a slight rim and a slight middle keel. Prothorax very short, especially so on each side, with a slight keel. Mesothorax large, convex. Abdomen conical, a little longer than the thorax. Legs short, stout; femora and tibiæ flattened, ridged. Fore wings moderately broad, much rounded at the tips; costa straight, except towards the base, where it is much curved; exterior border very convex; interior border straight; veins numerous, ramifying; transverse veinlets forming two lines; costal space broad, with numerous regular oblique parallel veinlets. Hind wings much shorter than the fore wings.

This genus is allied to *Cotrades*, and also to *Serida*.

Dechitus aphrophoroides (Pl. XV. f. 7). *Fœm.* Obscure fulvescens; vertex et prothorax fusco subnotata; frons pallide flava; mesothorax piceo marginatus; abdomen basi sordide albidum; alæ anticæ cinereo-hyalinæ, costa fusca lituris albidis, punctis plurimis subapicalibus fuscis ex parte confusis; posticæ fuscescente marginatæ. *Mas.* Alæ anticæ fasciis indeterminatis fuscis, lituris costalibus cinereo-hyalinis non albidis.

Female. Dull pale tawny. Vertex and prothorax slightly marked with brown. Front pale yellow. Mesothorax darker tawny, piceous in front and on each side. Abdomen dingy whitish at the base. Fore wings cinereous hyaline; costal space brown (the brown hue extending partly to the disk), with transverse dingy whitish marks, of which one is quadrate and much larger and more distinct than the others; apical space with very numerous brown points, of which many are confluent. Hind wings cinereous hyaline, broadly but diffusedly bordered with brownish hyaline. *Male.* Fore wings wholly varied with brown, which forms irregular bands; costal marks cinereous hyaline, not whitish. Length of the body 3 lines; of the wings 8 lines.

Moreton Bay.

Dechitus? ptyeloides. *Mas.* Testaceus; frons nigro biguttata; thorax nigricante binotatus; alæ anticæ punctis paucis discalibus indistinctis

punctisque plurimis marginalibus distinctis pallidis, margine ex parte fuscescente, macula costali exteriore elongata albida; posticæ nigricanti-cinereæ.

Male. Testaceous. Front with two black dots. Thorax with a blackish mark on each side. Legs paler than the body. Fore wings with a few indistinct pale points in the disk, and with more numerous and distinct pale points along the border, which is partly brownish; costa convex towards the base, with a large elongate whitish spot towards the tip; interior border with two black points towards the tip. Hind wings blackish cinereous; veins black. Length of the body $2\frac{1}{2}$ lines; of the wings 7 lines.

Moreton Bay.

Genus Ricania, Germar.

Ricania chrysopoides. *Mas.* Viridis; vertex rufescens; frons carinata; thoracis discus rufescenti-fuscus; abdomen nigro late vittatum; alæ hyalinæ, venis nigris; anticæ stigmate fusco.

Male. Green. Head short, a little narrower than the thorax; vertex reddish, transverse quadrate; front quadrate, longer than broad, with a rim on each side and a middle keel. Disk of the thorax reddish brown. Abdomen with a broad black stripe. Wings hyaline; veins black. Fore wings with numerous transverse veinlets, some of which form a regular submarginal line; eleven regular parallel slightly oblique costal veinlets between the base and the stigma, which is brown. Length of the body $2\frac{1}{2}$ lines; of the wings 9 lines.

Sydney.

Genus Colobesthes, Amyot et Serville.

Colobesthes exaltata. *Mas.* Alba; caput conicum, subascendens; frons obliqua, submarginata, tricarinata; alæ anticæ apice subrotundatæ, costa subconvexa apicem versus subconcava, margine exteriore recto non obliquo, angulo interiore acuto valde producto.

Male. White. Head conical above, slightly ascending; front oblique, a little longer than broad, with three slight ridges, and with a slight rim on each side. Fore wings broad; costa and exterior border forming a slightly rounded right angle; costa very slightly convex from the base to beyond the middle, very slightly concave from thence towards the tip; exterior border quite straight, not oblique; interior angle acute, very much produced; veins ramifying; transverse veinlets very numerous, except towards the exterior border, where the areolets are very long; costal transverse veinlets regular, parallel, slightly oblique. Length of the body 4 lines; of the wings 16 lines.

Coupang, Timor.

Genus Pœciloptera, Latreille.

Pœciloptera bipunctata. *Fœm.* Pallide viridis; caput carina saturate viridi, frontis margine faciem versus dilatato; mesothorax carinis

tribus saturate viridibus; alæ anticæ linea flava nigro punctata semimarginatæ, apice rotundatæ, costa basi convexa, litura apud marginem interiorem e punctis tribus nigris, angulo interiore producto acuto.

Female. Pale green. Head and prothorax with a brighter-green ridged stripe. Head conical, acute; its length a little less than half its breadth; front much longer than broad, having on each side a rim which is dilated towards the face, and attenuated towards the vertex. Prothorax slightly concave behind, very convex in front, more than twice as broad as long. Mesothorax with three brighter-green ridges. Legs whitish green. Fore wings broad; costa and exterior border forming a rounded right angle; costa convex, straight along the exterior part, where it, like the exterior border and the apical part of the interior border, is yellow with black points; exterior border quite straight, not oblique; interior border tuberculate, except along the apical part, which commences with a cluster of three black points; interior angle prominent, acute; veins ramifying; transverse veinlets very numerous; costal transverse veinlets nearly regular and parallel from the base to the beginning of the apical part. Length of the body 3 lines; of the wings 10 lines.

Siam.

Pœciloptera roseicincta. *Fœm.* Viridis; caput et thorax roseo et ochraceo varia; vertex sulcatus; frons carinata, submarginata; mesothorax planus; pedes roseo-albidi; alæ anticæ nigro punctatæ, apice rotundatæ, roseo semimarginatæ, costa subconvexa basi albida, margine interiore tuberculato vix concavo, angulo interiore rotundato.

Female. Green. Head and thorax varied with rosy-red and with ochraceous. Head convex in front, full thrice as broad as long; vertex with a longitudinal furrow; front broader than long, with a longitudinal ridge, and with a slight rim on each side. Prothorax convex in front, more than twice as broad as long. Mesothorax flat. Legs whitish, tinged with rosy. Fore wings moderately broad, with several minute black points; costa and exterior border forming a rounded right angle; costa slightly convex, whitish towards the base, its apical part and the whole of the exterior and interior borders deep rosy-red; exterior border straight, not oblique; interior border tuberculate along most of the length, very slightly concave; interior angle rounded; veins slightly ramifying; transverse veinlets numerous; costal transverse veinlets regular, parallel, slightly oblique. Length of the body 3 lines; of the wings 9 lines.

Moreton Bay.

Pœciloptera erubescens. *Mas.* Pallide testacea; caput et thorax rufo punctato; vertex brevis, carinatus; frons marginata, tricarinata, nigro punctata; alæ anticæ subroseo-albidæ, roseo punctatæ, apice subrotundatæ, costa basi subconvexa, margine exteriore recto nigro, margine interiore lineola nigra basi tuberculato, angulo interiore producto acuto.

Male. Pale testaceous. Head above and prothorax with a few red points; vertex short, keeled, concave behind, equally convex in front; front with a few minute black points, not broader than long, with three ridges, and with a rim on each side; middle ridge more distinct than the lateral pair, which are curved and are abbreviated in front. Prothorax short, concave behind, equally convex in front. Mesothorax with three keels. Legs whitish. Fore wings broad, whitish, with a slight rosy tinge, and with many rosy-red points of various size; costa and exterior border forming a slightly rounded right angle; costa very slightly convex towards the base; exterior border quite straight, not oblique, with a black line, which is interrupted by the veins; interior border with a short black line, tuberculate towards the base; interior angle prominent, acute; veins ramifying; transverse veinlets numerous exteriorly; costal veinlets oblique, regular, very numerous. Length of the body 4 lines; of the wings 12 lines.

Batchian.

Pœciloptera consociata. *Mas.* Viridescenti-flava, rufo carinata; caput brevissimum, fronte marginata tricarinata; mesothorax rufo bivittatus; alæ anticæ apice rotundatæ, guttis punctisque exterioribus roseis, costa vix convexa, margine exteriore nigro recto, margine interiore basi tuberculato litura nigra furcata, angulo interiore producto acuto. *Fœm.?* Minor, magis viridescens; prothorax læte viridis; alæ anticæ guttis majoribus pallido pupillatis, fascia marginali nigra.

Male. Greenish yellow. Vertex and thorax with a red keel. Head very short; front a little longer than broad, with a curved rim on each side, and with three keels; middle keel more distinct than the others, which are curved and are abbreviated towards the face. Prothorax convex in front, equally concave behind, full thrice as broad as long. Mesothorax with a red stripe on each side. Legs whitish yellow. Fore wings broad, with several rosy-red dots, and with some exterior rosy-red points; costa and exterior border forming a rounded right angle; costa very slightly convex; exterior border black, straight, not oblique; interior border tuberculate towards the base, with a forked black mark at two-thirds of the length, beyond which it and the tips of the veins which join it are black; interior angle prominent, acute; veins ramifying; transverse veinlets numerous exteriorly; costal veinlets oblique, regular, very numerous. *Female?* Smaller and with a more greenish hue. Prothorax bright pale green. Fore wings with much larger dots, which have pale centres; a black marginal band which extends along the exterior border and along the adjoining part of the costa and of the interior border. Length of the body 3–4 lines; of the wings 11–13 lines.

Batchian.

Genus Massila.

Pœciloptera affinis. Alæ anticæ costa margineque exteriore excavatis.

This genus is nearly allied to *Pœciloptera,* but may be distinguished

by the contour and the colour of the species, and by the fore wings, in which the costa and the interior border are excavated or contracted.

Massila sicca (Pl. XV. f. 2). Cinerea; caput brevissimum, carinatum, frontis margine faciem versus dilatata; prothorax bisulcatus, antice truncato-conicus; alæ anticæ sat angustæ, apice rotundatæ, punctis nonnullis vittisque duabus obliquis indeterminatis connexis nigris aut fuscis, marginibus tuberculatis, costa margineque interiore basi convexis extus concavis, margine exteriore subconvexo.

Cinereous. Head very short; vertex keeled; front broader than long, keeled in the middle, the rim on each side dilated towards the face. Prothorax truncate-conical in front, slightly concave behind, with two furrows which are united hindward. Legs whitish. Fore wings rather narrow, with some black or brown points, and with two irregular oblique connected black or brown stripes; costa and exterior border forming a rounded right angle; costa convex towards the base, concave exteriorly; exterior border and interior border tuberculate, the former slightly convex; interior border dilated near the base, excavated in the middle part, slightly angular towards the tip; veins hardly ramifying; transverse veinlets numerous, irregular. Length of the body 1–2½ lines; of the wings 7–8 lines.

Sydney and Moreton Bay.

Massila unicolor. *Mas.* Viridescenti-alba; caput brevissimum; frons carinata, marginata, latitudine longior; prothorax antice convexus; alæ anticæ sat latæ, apice quadratæ, margine interiore basi tuberculato.

Male. Greenish white. Head very short; front longer than broad, keeled in the middle, the rim on each side dilated towards the face. Prothorax convex in front, straight behind. Fore wings moderately broad, quadrate at the tips; costa slightly convex towards the base, slightly concave exteriorly; interior border straight, tuberculate for more than half the length from the base. Length of the body 2½ lines; of the wings 8 lines.

Moreton Bay.

Genus Omolon.

Fœm. Corpus breve, latum, robustum. Caput transversum; vertex trigonus, sulco antice furcato; frons minima. Thorax altissimus, carinatus, spinis tribus posticis robustis acutis subarcuatis armatus. Alæ anticæ apice rotundatæ, costa subconvexa, venis venulisque paucis.

Female. Body short, broad, stout. Head transverse, a little narrower than the thorax; vertex triangular, acute in front, with a furrow which is forked in front; front oblique, very small. Mouth extending a little beyond the base of the fore legs. Thorax with a high punctured shield, forming an acute edge, but not extending to the tip of the abdomen, nor concealing the wings; its hind part terminating in three long stout acute slightly curved spines, of which the middle one is

longer than the lateral pair. Fore wings not angular, much rounded at the tips; costa slightly convex; veins and veinlets few.

This genus is most nearly allied to *Oxygonia*.

Omolon tridens (Pl. XV. f. 1). *Fœm.* Flavus; vertex nigro bivittatus; thorax vittis quinque, annulis duobus elongatis spinisque nigris; pedes fulvi; alæ anticæ vitreæ, venis nigris, margine exteriore ferrugineo.

Female. Yellow. Vertex with two black stripes. Thorax with five black stripes, of which two pair on each side are connected hindward; a looped black spot on each side hindward; spines black; middle spine yellow at the base. Legs tawny. Wings vitreous; veins black, thick. Fore wings ferruginous along the exterior border. Length of the body 3 lines; of the wings 7 lines.

Para.

Omolon varius. *Fœm.* Niger; vertex albidus, nigro bivittatus; thorax guttis plurimis maculisque sex posterioribus albidis, spina media albido fasciata; tarsi flavescentes; femora antica obscure fulva; alæ anticæ vitreæ, litura postica marginali nigricante, venis albidis.

Female. Black. Vertex whitish, with two black stripes. Thorax with numerous whitish dots, some of which are confluent in front; three large whitish spots on each side; middle spine with a broad whitish band. Knees and tarsi yellowish; fore femora dark tawny; hind femora minutely serrated. Wings vitreous. Fore wings with a blackish mark near the tip of the interior border; veins whitish. Length of the body 2½ lines; of the wings 6 lines.

Para.

Genus Pterygia, Laporte.

Pterygia subminax. *Mas.* Nigricanti-fusca; thoracis tectum altum, punctatum, cornibus duobus anticis lateralibus, postice in spinam subarcuatam productum; pedes fulvescentes, fusco notati, femoribus tibiisque subdilatatis; alæ anticæ lurido-hyalinæ, basi fusco punctatæ, fascia subapicali fusca.

Male. Blackish brown. Protuberance of the thorax forming a lofty punctured ridge whose fore part is somewhat higher than long, and which is armed in front with two short diverging horns, and extends hindward in a deep slightly curved spine to beyond half the length of the abdomen. Legs dull tawny, marked with brown; femora and tibiæ slightly dilated. Fore wings lurid hyaline, extending much beyond the abdomen, brown and punctured at the base, with a brown subapical band. Length of the body 3 lines; of the wings 8 lines.

Genus Oxyrhachis, Germar.

Oxyrhachis spinicornis. *Fœm.* Picea; thorax carinatus, cornibus duobus crassis ascendentibus subarcuatis apices versus reticulatis spinas duas emittentibus, spina postica elongata; pectoris latera albida; alæ cinereo-hyalinæ, venis piceis.

Female. Piceous. Thorax punctured, keeled, with two thick ascending, slightly inclined forward, and curved and diverging horns, which are thickly and rudely reticulated towards the tips, where they are armed with a spine on the outer side; hind part of the thorax forming a spine which extends to the tips of the fore wings and a little beyond the abdomen. Pectus whitish on each side. Wings cinereous hyaline; veins piceous. Length of the body 3½ lines; of the wings 8 lines.

Moreton Bay.

It is most nearly allied to *O. indicans.*

Oxyrhachis ponderifer. *Fœm.* Picea; thoracis cornu erectum, crassum, apice dilatatum, bispinosum; spina postica longa arcuata basi gibba flavoque fasciata; tibiæ apice tarsique pallida; alæ cinereo-hyalinæ; anticæ basi costaque fusco punctatis.

Female. Piceous. Thorax punctured, forming an erect thick horn whose summit is much dilated hindward and on each side, where it emits an acute horizontal spine, whose tip is tawny; hind part gibbous in front, ending in a long curved spine which has a pale-yellow band at its base. Tarsi and tips of the tibiæ pale. Wings cinereous hyaline. Fore wings brown, and punctured at the base and along the costa. Length of the body 2 lines; of the wings 5 lines.

Moreton Bay.

This species has most resemblance to *O. rudis.*

Genus Hoplophora, Germar.

Hoplophora cicadoides. *Fœm.* Nigra, brevis, lata, crassa, pubescens; caput brevissimum, fronte transversa trigona rugulosa; thorax pallide flavus, punctatus, subcarinatus, lituris duabus anticis punctisque duobus posticis nigris; scutellum nigro vittatum, basi convexum; pectus flavo bimaculatum; abdomen flavo bifasciatum; tibiæ tarsique flava, apice nigra; alæ hyalinæ, venis nigris.

Female. Black, short, broad, stout, pubescent. Head very short, as broad as the thorax; front rugulose, transverse, triangular. Eyes very prominent. Thorax pale yellow, transverse, minutely punctured, with a slight middle ridge, with an angular black mark on each side in front, and with a black point on each side hindward; scutellum elongate conical, slightly truncated, with a black stripe which does not extend to the tip, and with a convex protuberance at the base. Pectus with a pale-yellow spot on each side in front. Abdomen with a pale-yellow band at the base. Legs pale yellow; femora and tips of the tibiæ and of the tarsi black. Wings hyaline, extending somewhat beyond the abdomen; veins black, stout. Length of the body 3½ lines; of the wings 7 lines.

Rio Janeiro.

Genus Oxygonia, Fairmaire.

Oxygonia lineosa. *Mas.* Obscure fulva, robusta, subtus nigricans; vertex acutus, carinis duabus obliquis nigricantibus; thorax punctatus, abdomen longe superans, antice bispinosus, lineis plurimis flavis furcatis; alæ anticæ nigricanti-cinereæ, venis nigris.

Male. Dull tawny, stout, blackish beneath. Vertex somewhat depressed, very acute in front, with an oblique ridge on each side. Thorax convex, minutely punctured, slightly ridged above, extending much beyond the abdomen and concealing the wings, with numerous slender yellow vein-like forked lines; a short spine in front of each side, which is convex. Fore wings blackish cinereous; veins black. Length of the body 4 lines; of the wings 7 lines.

Rio Janeiro.

Genus Horiola, Fairmaire.

Horiola biplaga. *Fœm.* Nigra, brevis, robusta; caput linea abbreviata fulva; thorax fulvus, lituris lateralibus posticis duabusque anticis nigris; pectus fulvo notatum; tarsi fulvi; alæ anticæ nigræ, apices versus hyalinæ, macula magna discali pallide flava.

Female. Black, short, stout. Head triangular, acute in front, slightly rugulose, with a slender tawny line which is abbreviated in front. Thorax tawny, punctured, ridged, extending to the tip of the abdomen, with a black mark on each side of the disk in front, and with black marks along each side hindward. Pectus with tawny marks. Knees and tarsi tawny. Fore wings black, hyaline towards the tips; veins very thick; a large pale-yellow spot in the disk, where the veins are also pale yellow. Length of the body $2\frac{1}{2}$ lines; of the wings 6 lines.

Rio Janeiro.

Genus Tettigonia, Latreille.

Tettigonia caicus. *Fœm.* Læte flava, subtus pallida; vertex truncato-conicus, frontis disco subconvexo; thorax luteo punctatus; alæ anticæ e punctis luteis quinque aut sex lineatæ; posticæ albæ.

Female. Bright yellow. Head beneath, pectus, abdomen and legs whitish yellow. Vertex truncate conical; front with a prominent and slightly convex disk. Thorax with several luteous points. Fore wings with five or six rows of luteous points. Hind wings white. Length of the body 5 lines; of the wings 12 lines.

Rio Janeiro.

Genus Rhotidus.

Fœm. Corpus longum, sat angustum. Caput depressum, longi-conicum, postice concavum, fronte convexa. Scutum antice convexum, postice rectum. Scutellum parvum. Abdomen lanceolatum, alas paullo superans. Pedes sat graciles; tibiæ spinosæ. Alæ anticæ opacæ, elongatæ, sat angustæ, apicæ conicæ; costa subconvexa.

Female. Body long, rather narrow. Head very thin, elongate conical or trowel-shaped, very concave behind; front convex in the

middle, flat on each side. Eyes not prominent. Scutum very convex in front, straight behind; scutellum small. Abdomen lanceolate, extending a little beyond the wings. Legs rather slender; tibiæ spinose. Fore wings opake, elongate, rather narrow, conical at the tips; costa very slightly convex.

This genus is allied to *Ledra*.

Rhotidus cuneatus (Pl. XV. f. 6). *Fœm.* Fulvus, subpunctatus, subtus testaceus; capitis margo anticus nigro lineatus; pedes pallide testacei; alæ posticæ cinereo-hyalinæ.

Female. Tawny, minutely punctured, testaceous beneath. Head with a black line across the fore border. Legs pale testaceous. Hind wings cinereous hyaline. Length of the body 6 lines; of the wings 9 lines.

Moreton Bay.

Genus Gypona, Germar.

Gypona nigra. *Fœm.* Nigra, subpunctata, subtus ex parte sordide testacea; caput thorace paullo latius, vertice arcuato brevissimo, fronte facieque planis; femora basi sordide testacea; alæ anticæ costam versus testaceo punctatæ.

Female. Black, minutely punctured, partly dingy testaceous beneath. Head a little broader than the thorax; vertex arched, extremely short, not longer in the middle than on each side; front and face flat. Mouth pale testaceous, extending to the middle coxæ. Femora dingy testaceous towards the base. Fore wings with minute testaceous points, which are mostly along the costa. Length of the body 5 lines; of the wings 9 lines.

Moreton Bay.

XXVI.—*Notices of new or little-known Genera and Species of* Coleoptera. By Francis P. Pascoe, F.L.S., &c.

[Continued from p. 132.]

Part III.

Melambia [Trogositidæ].

Erichson, in Germar, Zeitsch. v. p. 451.

Melambia maura.

M. elongata, atra; prothorace vix transverso, lateribus basin versus rotundatis.

Hab. South Africa (N'Gami).

Elongate, black; head dull black, closely covered with oblong punctures having the appearance of a small granule in the centre of each, mandibles also covered with oblong punctures except at the bifid

apex; antennæ as long as the breadth of the head behind, the first joint punctured, the rest glabrous with a few hairs only on the club; prothorax shining black with the anterior angles obtuse, the sides rounded rapidly to the base, the posterior angle nearly obsolete, covered with oblong punctures, those at the side only granulated; scutellum transverse, with 6–8 punctures in two rows; elytra dull black, seriate-punctate, the punctures coarse, oblong, and in double lines, the intervals smooth, and slightly elevated; femora and tibiæ simply punctured; body beneath pitchy black with granulated punctures. Length 7 lines.

Melambia memnonia.

M. subelongata, atra; prothorace transverso, disco subplanato, antice incrassato, basi lata, angulis posticis acutis; elytris obscure fuscis.

Hab. Ceylon.

Subelongate, black; head covered with rather closely set, oblong, granulated punctures, mandibles with small simple punctures extending to the bifid apex; prothorax black, slightly shining, punctured as on the head, but less closely, and the punctures with granulated bases confined to the sides, anterior margin thickened immediately above the vertex, the disk flattened behind the thickened parts, side slightly rounded, then shortly curving inwards, and terminating at a sharp angle in a broad base; scutellum transverse, with eight or ten scattered punctures; elytra opake, nearly black, with a slight chestnut-brown tinge, punctured in double rows, the outer row with its punctures about a third or a fourth of the size of the inner, which latter are more or less impressed on the side of the raised lines between the rows; legs pitchy, the femora and tibiæ punctured; body beneath, under side of the mandibles, and palpi reddish-pitchy, the former with scattered punctures, each nearly entirely occupied by a smooth granule. Length 6 lines.

In the form of the prothorax this species approaches *M. gigas*, Fab., and apparently also *M. striata*, Or., both from Senegal; but the former is larger and more robust, with bluish-black elytra, &c., and the second is distinguished by its more punctured and remarkably transverse scutellum, &c. *M. crenicollis*, Guér., from India, seems to be a smaller species with a differently shaped prothorax, with its sides sufficiently crenated to suggest the specific name.

Melambia funebris.

M. subelongata, obscure atra; prothorace transverso, disco leviter convexo, basi sublata, angulis posticis acutis.

Hab. Cambodia.

Very like the last, but differs in the following particulars: prothorax longer, more rounded at the sides, and more contracted at the base, slightly but regularly concave over the whole disk, the anterior margin

not in the least thickened; elytra with the lines between each double row of punctures more raised, the punctures (more nearly equal in size) and the lines themselves gradually disappearing towards the shoulder; colour a dull black, without any tinge of brown.

It is quite possible that this may be only a local variety; but, with the members of a genus so closely allied as they are in *Melambia*, this cannot be assumed until we obtain intermediate forms.

BRONTES [Cucujidæ].

Fabricius, Syst. Eleuth. ii. p. 97.

Brontes lucius.

B. ferrugineus, setulosus; prothorace lateribus denticulatis, dente antico incrassato; elytris striato-punctatis, marginibus infuscatis.

Hab. Sydney.

Ferruginous brown, covered with short, dark, setulose hairs; head rather exserted, the vertex somewhat depressed; eyes dark brown; antennæ longer than the body, with a slight greyish pubescence, the first joint nearly as long as the four next together; prothorax rather broadly elongate, covered with numerous large shallow punctures, the sides denticulate, the anterior angle occupied by a strong triangular tooth; scutellum transversely pentagonal; elytra closely punctate-striate, becoming gradually darker towards the sides; legs pale ferruginous; body beneath dull ferruginous, closely punctured. Length 4 lines.

Brontes nigricans.

B. fuscus; prothorace lateribus denticulatis, dente antico incrassato; elytris striato-punctatis, nigricantibus.

Hab. Queensland (Moreton Bay).

Dark ferruginous brown, covered with short, black, setulose hairs; head slightly exserted; eyes dark brown; antennæ longer than the body, the first joint shorter than the four next together; prothorax broadly elongate, rugose, slightly punctated, the sides equally denticulate, the anterior angle occupied by a moderately thickened tooth; scutellum transversely pentagonal; elytra punctate-striate, of a uniform dark brown; legs ferruginous; body beneath dull ferruginous, closely punctured. Length 4 lines.

From *Brontes denticulatus*, F. Smith (also from Australia), the two species described above differ in the comparatively elongate, not transverse, prothorax and other characters. *Brontes militaris*, Er., is smaller and less robust, narrower prothorax, differently coloured, differently punctured, &c.

Ino [Cucujidæ].

Laporte de Castelnau, Etud. Entom. p. 135.

Ino ephippiata. (Pl. XVI. fig. 9.)

I. nigra, nitida; elytris disco pallide flavescente, abdominis segmenta tria ultima haud obtegentibus.

Hab. Dorey (New Guinea).

Deep glossy black; head and prothorax about equal in breadth, finely punctured, the latter very much contracted at the base; antennæ half as long as the body, black, the basal joints paler; palpi pale brown; scutellum black, transversely ovate; elytra narrowed at the base, gradually widening posteriorly, where they are as broad as long, the sides straight, the disk with a large pale-yellow spot occupying nearly the whole of the base, except the shoulder, and expanding below the middle towards the side; part of the third and fourth and fifth abdominal segments dull black, not covered by the elytra; legs light glossy-brown, tarsi testaceous; body beneath paler. Length $1\frac{1}{2}$ line.

Ino trepida.

I. fusca, nitida; elytris singulis flavescente unimaculatis, abdominis segmenta quatuor ultima haud obtegentibus.

Hab. Dorey (New Guinea).

Dark olivaceous brown, shining; head and prothorax equal in breadth, finely punctured; antennæ about one-third the length of the body, the two basal joints yellow, the remainder black; scutellum and elytra as in the last, but the yellow spot on the latter is smaller, nearly round, and situated below the middle and towards the outer margin; abdomen dark brown, shining, the last four segments not covered by the elytra; legs olivaceous brown, the tarsi paler, inclining to testaceous. Length $1\frac{1}{2}$ line.

Ino is a very singular genus, and was placed by M. de Castelnau among the Staphylinidæ, after *Anthobium*. The species described by him (*I. picta*) from Madagascar has slightly elevated lines on the elytra, and it is possible that the two described above may hereafter form another genus.

Phenace [Dasytidæ].

Head short, rounded in front, the epistome and lip concealed beneath its margin. Eyes large, prominent, entire. Antennæ filiform, distant, arising below the eyes, the first joint rather short, obconic, the second very short, the remainder to the tenth longer and subequal, the last longest of all. Maxillary palpi long, the terminal joint fusiform. Mandibles long, slender. Prothorax rounded at the sides. Elytra broader than the prothorax, elongate. Legs slender; tibiæ spurred; tarsi very long, the basal joint longer than the second.

In general appearance this genus has a wonderfully striking re-

semblance to some of the Œdemeridæ; its very distinctly five-jointed tarsi, however, independently of other characters, show at once that it can have nothing to do with that family. But there can be no hesitation, I think, in referring it to the Dasytidæ, notwithstanding the structure of the mouth and the presence of two well-marked spurs to the tibiæ: in regard to the first, the lip and epistome are so completely hidden by the scarcely prolonged anterior margin of the head, that, without dissection, their existence can only be assumed; between this margin and the mandibles there intervenes a sort of cavity, and the latter, not being covered in the usual way by the lip, are fully exposed almost to their base. My specimen, which is unfortunately, I believe, unique, was taken by the well-known traveller Anderson, in Southern Africa, in the country near Lake N'Gami.

Phenace œdemerina. (Pl. XVI. fig. 6.)

P. gracilis, fuscescens, parce pilosa; scutello elytrisque pallidioribus.
Hab. N'Gami.

Slender, dark olivaceous brown, sparsely clothed with rather long, pale-greyish hairs; head and prothorax shining, dark brown; scutellum elongate, rounded below, a depressed longitudinal line in the middle; elytra narrow, elongate, nearly parallel, the shoulders rather prominent, substriate, olive-brown, paler as it recedes from the base; mandibles bright ferruginous; legs reddish brown; body beneath dark brown, hairy. Length $3\frac{1}{2}$ lines.

Ochotyra [Lampyridæ].

Head partially exposed, short, broad in front. Eyes very large, contiguous beneath, constricted behind. Antennæ very short, 12-jointed, the two basal thickened, the rest serrated. Prothorax transverse, narrower than the head. Elytra broader than the prothorax, subparallel, shorter than the abdomen. Legs moderately short, all the coxæ nearly contiguous; tarsi slender. Abdomen eight-jointed in the male, the joints gradually decreasing in breadth to the apex.

This genus is allied to *Dioptoma* (ante, p. 118), and the nearest affinity of the two is apparently with *Luciola*, Lap. (*Colophotia*, Dej.). In the only example I have seen of the former the abdomen has been removed, but, judging it from what we now see of this, it is probably also exserted, with the same number of segments—the normal number, in fact, in the males. The females of both are unknown.

Ochotyra semiusta. (Pl. XVI. fig. 7.)

O. pallide fulva; capite prothoraceque piceo-fuscescentibus.
Hab. India (Malabar).

Pale fulvous yellow, very sparsely covered with greyish appressed hairs; head pitchy-brown, concave between the eyes, epistome with

stiff greyish hairs; antennæ not extending beyond the eyes, pale yellow, strongly serrated, broadest in the middle; eyes dark brown, shining; prothorax light pitchy brown, darker on the disk; scutellum rather large, triangular; elytra about twice the length of the head and body together, depressed, and almost concave posteriorly, with elevated nervures in the middle, *i. e.* not extending to the base or apex; legs clothed with stiff hairs, particularly on the tibiæ; abdomen dull whitish yellow. Length 4 lines.

In the Plate the figure of this species is longer than it ought to be.

ETHAS [Tenebrionidæ].

Head elongate, broader than the prothorax, rounded and dilated anteriorly, narrowed into a neck behind. Eyes remote from the prothorax, lateral, partially divided posteriorly. Mentum somewhat pentagonal, narrow at the base, concealing the labium. Maxillary palpi robust, the terminal joint subcylindric, of the labial ovular. Antennæ stout, eleven-jointed, the first largest, the second shorter than the third, which, with the remainder to the tenth inclusive, are transverse and cup-shaped, the eleventh small, shortly cylindric. Prothorax sulcated, subquadrangular, broadest in front, the anterior angles rounded, the sides keeled. Elytra elongate-ovate, wider than the prothorax, ribbed. Legs robust; femora slightly clavate; tibiæ not spurred; tarsi ciliated beneath; prosternum produced, rounded anteriorly.

The ribbed prothorax and elytra will at once distinguish this genus from *Stenosis*, which has exactly the same habit. The structure of the mouth varies a little from that genus, in *Ethas* the large angular mentum filling up more of the oral cavity, and entirely concealing the labium.

Ethas carbonarius. (Pl. XVI. fig. 2.)

E. niger, subnitidus; prothorace leviter trisulcato; elytris singulis lineis quinque elevatis instructis.

Hab. Malabar.

Punctured, black, slightly shining; head convex between the eyes, with three rather shallow grooves, and on each side a somewhat deeper groove in which the eye is placed; prothorax a little narrower than the head, marked with three lightly impressed lines or grooves, the spaces between, especially the two middle, slightly elevated and convex; scutellum punctiform; elytra scarcely wider than the prothorax at its base, each with five narrow elevated lines rather thickened at the suture, but scarcely forming another; legs slightly pitchy; palpi ferruginous; body beneath black, shining, sparingly punctured. Length 4 lines.

Ethas stenosides.

E. niger, subnitidus; prothorace profunde trisulcato; elytris singulis lineis quatuor elevatis instructis.

Hab. Siam.

Punctured, black, slightly shining; head very convex between the eyes, not sulcated; prothorax much narrower than the head, only slightly dilated anteriorly, with three broad and deep longitudinal grooves, the spaces between sharply elevated (with the keeled sides forming altogether four narrow but prominent costæ); scutellum small, triangular; elytra broader than the prothorax at the base, each with four raised lines, the two central abbreviated towards the apex, the suture not thickened; legs pitchy; body beneath black, sparingly punctured; antennæ, especially towards the apex, sparsely clothed with rich golden-brown hairs. Length $2\frac{2}{3}$ lines.

Smaller and proportionably narrower than the last, and readily distinguished by a multitude of characters, although the habit is nearly the same.

Aposyla [Tenebrionidæ.]

Head convex and subtriangular in front, slightly elongated behind the eyes. Antennæ short, eleven-jointed, gradually increasing from the base, the first joint partially concealed by the antennary orbit. Eyes large, round, entire. Epistome and lip short, very transverse. Palpi with the terminal joint narrowly triangular. Mentum transverse. Prothorax subcordate, scarcely longer than broad. Elytra narrow, subparallel. Legs moderate; anterior coxæ large, subcylindrical, greatly exserted; tibiæ spined; tarsi slender.

But for the large and greatly exserted anterior coxæ, I should not hesitate to place this genus near *Calcar*, although the antennary orbit is so contracted as to leave the eye perfectly free, and the epistome, although short, is of great breadth and apparently distinct from the front. Whatever its affinities may be, I cannot myself see, at present, that it can be better placed than near *Calcar* and *Boros*.

Aposyla picea. (Pl. XVI. fig. 4.)

A. subelongata, rufo-fusca, nitida, punctata; antennis ferrugineis.
Hab. Queensland.

Rather elongate, subdepressed, shining, reddish brown; head convex between the eyes, and slightly constricted behind them, irregularly punctured; antennæ ferruginous; lip with stiff greyish hairs; prothorax with numerous somewhat coarse punctures; scutellum broadly triangular; elytra scarcely wider than the prothorax, punctured in rather irregular rows; body beneath and legs reddish-brown. Length $3\frac{1}{2}$ lines.

Rhypasma [Tenebrionidæ].

Head rather broad, convex in front, truncate anteriorly, the epistome and lip inserted beneath. Eyes small, oblong, entire. Antennæ 11-jointed, inserted beneath the broad antennary orbit, half the length of the body, the first three joints longer, the next five submoniliform, the last three

forming a narrow club. Mentum large, transverse. Prothorax longer than broad, subquadrangular, narrowed behind, sinuated in front, longitudinally sulcated. Elytra subdepressed, carinated, scarcely broader than the prothorax, and slightly rounded at the side. Legs rough, moderately robust; tibiæ fusiform; tarsi narrow; the claw-joint as long as the rest together; pro- and mesosterna simple; post-intercoxal plate broadly truncate anteriorly.

Notwithstanding the small size of this insect compared with *Zopherus* and *Nosoderma*, there can be little hesitation, I think, in placing it near those anomalous genera. Judging from the examination of the oral organs made *in situ*, they appear to offer only a slight modification of those of *Nosoderma*, the mentum, however, being considerably larger and in great measure hiding the palpi and base of the maxillæ, the part between its lateral margin and the insertion of the antenna offering a deep cavity, as in that genus, for the reception of its basal joints when that organ is in repose. The propectus has no antennary canal at its side as in *Zopherus*, in this respect agreeing better with *Nosoderma*; on the other hand, the latter has only a ten-jointed antenna, but this is again modified by the fact that *N. obcordatum*, Kirby, has eleven.

Rhypasma pusillum. (Pl. XVI. fig. 3.)

R. obscure testaceo-brunneum; prothorace trisulcato; elytris disco tricostatis, costa intermedia abbreviata.

Hab. Para.

Dull testaceous brown, more or less sprinkled with a semicrystalline exudation? head with numerous small granules, and having the appearance of being originally covered with an earthy crust; antennæ covered with granulations, each tipped with a fine hair; prothorax with two curved longitudinal costæ on the disk, nearly meeting anteriorly, the lateral margins flattened and resembling the costæ, and like them crested with a number of small closely set granules, the spaces between the costæ and the margins respectively forming three broad shallow grooves; scutellum transverse, subquadrate; elytra rounded at the shoulder and at the apex, the disk with three strongly crenulated costæ, the outer and inner united near the apex, the intermediate ceasing at two-thirds the length of the others, the external margin also forming a crenulated border, resembling the costæ, the spaces between deeply and coarsely punctured; legs covered with small asperities and cilia; body beneath rufous-brown, covered with numerous granulations. Length 2 lines.

With reference to what is probably an exudation (renewable perhaps at the pleasure of the animal), it has the appearance under the microscope of small particles of brown sugar.

Chartopteryx [Helopidæ].

Westwood, Arc. Entom. i. p. 43.

Chartopteryx binodosus.

C. obovatus, fusco-cupreus; elytris basi bigibberis.
Hab. Queensland.

Obovate dark copper-brown, irregularly punctured with numerous nearly erect hairs arising from the punctures; head with a transverse impression above the epistome, roughly but rather sparingly punctured; antennæ black, not reaching beyond the base of the prothorax, the four terminal joints dilated; prothorax transverse, sinuate in front, anterior angles produced, the posterior rather acute, with shallow scattered punctures; scutellum subtriangular; elytra very convex, a large compressed elevated protuberance near the base of each, rather dilated, posteriorly covered with large rough punctures; legs hairy; body beneath less coppery and more slightly punctured, with fewer hairs. Length 5 lines.

This species differs considerably in habit from *C. Childrenii*, West., and in that respect bears a marked resemblance to *Thecacerus binodosus*, Lap., belonging to the same family. It may be necessary eventually to propose a new genus for its reception.

Cyphaleus [Helopidæ].

Westwood, Arc. Entom. i. p. 43.

Cyphaleus insignitus.

C. ovatus, niger, subnitidus; elytris viridi-metallicis, nitidissimis.
Hab. Queensland.

Ovate, everywhere black except the elytra, slightly shining on the prothorax and beneath, the upper surface irregularly covered with deep round punctures, most numerous on the sides of the prothorax posteriorly and base of the elytra, but which gradually disappear towards the apex, the punctures small on the head, prothorax, and scutellum, but nearly all with a stiff setose hair arising from the interior of each; elytra very convex, dark metallic green with purple and violet reflections; legs bluish black, finely punctured. Length 9 lines.

Probably most akin to *C. iopterus*, Westw., but is narrower, with the prothorax more convex, &c. In *C. iopterus*, too, the prothorax is a dark metallic green, and the elytra a very deep purple with violet reflections, particularly at the sides. The figure of Professor Westwood in the 'Arcana,' at pl. 12. f. 1 (not referred to in the text), somewhat resembles the present, but is certainly not applicable to either of the three species there enumerated.

Osdara [Helopidæ].

Walker in Annals and Mag. Nat. Hist., 3 ser. ii. p. 284.

Osdara lævicollis.

O. capite prothoraceque nigris, lævibus; elytris subferrugineis, nigro tuberculatis; pedibus rufo-ferrugineis.

Hab. Ceylon.

Ovate, convex; head and prothorax smooth, glossy black, very finely punctured; scutellum small, triangular; elytra pale ferruginous with a tinge of grey, covered with irregular lines of black tubercles which, under the lens, are seen to be composed of smaller ones (from 2–10); amongst these, in the intervals, a few deeply impressed punctures; legs bright reddish-ferruginous, anterior and intermediate tibiæ with a small rounded tooth near the extremity internally; antennæ at the base and palpi ferruginous; body beneath dark brown, coarsely punctured. Length 4 lines.

This very interesting and distinct species agrees generically, except as regards the mouth, which has not been examined, with *O. picipes*, save in the toothed tibiæ, which in this instance can only be considered of secondary importance. Both species have more or less of a gloss, which has the appearance of being due to varnish; the black shining prothorax of the present, however, contrasted with the elytra, is very marked, and recalls many *Adesmiæ*, to which also it is very similar in form. A single specimen sent by Mr. Thwaites from Ceylon is in my collection.

Ozotypus [Helopidæ].

Characters nearly as in *Osdara*, Walker*, but differs in the epistome not being separated from the front by any groove, by the absence of the scutellum, by the form of the tibiæ, which are fusiform and attenuated most at the extremity, and by the shortness of the tarsi, the claw-joint being as long as the rest together. As secondary characters, the form is narrower and more convex, the antennæ shorter, and the prothorax gibbous anteriorly. As in *Osdara*, the prosternum has a sharp-keeled process which is received into a corresponding notch of the mesosternum, and the intercoxal plate is broad and rounded anteriorly. The same varnished appearance is also as noticeable, but only on the elytra. In *Ozotypus* the tubercles which cover the upper surface are smaller, more regularly arranged, and each tipped with a short curved hair, which is not the case in *Osdara*. In both genera the tarsi are all nearly of equal

* For a more detailed description of *Osdara*, see Lacordaire, Gen. de Coléopt. v. p. 455.

length, and the penultimate joint is shorter and narrower than the preceding ones.

Ozotypus setosus.

O. ferrugineus, tuberculatus, tuberculis setigeris.

Hab. Ceylon.

Subovate, ferruginous, almost everywhere covered with setigerous tubercles, except the epistome and antennæ; head rather small, slightly concave in front; prothorax transverse, rounded at the sides, produced into an angle anteriorly, a prominent gibbosity in front partially overhanging the head, and irregularly studded with granular tubercles; elytra nearly ovate, wider than the prothorax at the base, the tubercles closely and regularly arranged in lines (nine or ten on each); legs reddish-ferruginous, rather short, slender, closely covered with small tubercles bearing rather longish setæ; tarsi very short, the basal joint shortly triangular, the rest, except the last, very transverse and clothed with sparse stiff hairs; antennæ rather more than a fourth as long as the body, more claviform than in *Osdara picipes*; eyes brown; mandibles dusky; body beneath dull ferruginous. Length 4 lines.

APOLECTA [Anthribidæ].

Pascoe, Ann. and Mag. Nat. Hist. 3 ser. iv. p. 431.

Apolecta fucata.

A. pallide grisea, nigro varia; capite prothoraceque griseo bivittatis; elytris maculis approximatis; tarsorum articulo primo basi cinerascente.

Hab. Ceram.

Narrowly oblong, with a short pale-greyish pile varied with black; head and prothorax black, with two greyish or dull-white stripes from between the antennæ and eyes, and terminating at the posterior border of the latter; antennæ three to four times as long as the body, black, the last three joints white; eyes dark horn-colour; prothorax longer than broad, narrowed in front; scutellum small, transversely oblong; elytra subovate, dull greyish, with large black approximate or confluent patches; legs black, the first joint of all the tarsi ashy above at the base; body beneath dark brown, slightly shining, margin of the metasternum and of all the abdominal segments greyish. Length 7–8 lines.

This is the largest and most robust of all the described species, and nearest in colour to *A. parvula*, Thoms. The spots on the elytra are more or less confluent according to the individual.

MECOCERUS [Anthribidæ].

Schönherr, Gen. et Sp. Curcul. i. p. 115.

Mecocerus insignis.

M. robustus, griseo-ochraceus, atro maculatus; prothorace paullo longiore quam latiore; antennis pedibusque atris.

Hab. Ceram.

Robust, with a pale-greyish ochraceous pile spotted with black; head with two hairy ochraceous stripes in front, the sides below with deep, coarse punctures; prothorax a little longer than broad, slightly narrowed behind, ochraceous, with more or less confluent black spots; scutellum obscure ochraceous; elytra subparallel, convex, ochraceous, with small black spots, seriate-punctate; legs black, robust, and elongate in ♂, with the basal anterior tarsal joint longer than the succeeding ones (of equal length in ♀, with the two intermediate joints not longer than the claw-joint); body beneath black, the sides of the metasternum and abdomen with a double row of dull ochraceous spots; antennæ black, robust, and three times as long as the body in ♂ (not reaching to the base of the prothorax in ♀). Length 12 lines.

M. variegatus, Ol., is distinguished from this by its pale-ashy pubescence, narrower form, antennæ scarcely twice the length of the body, and larger spots. It is not impossible, however, that this may turn out to be only a strongly marked local sub-species.

Mecocerus maculosus.

M. subelongatus, griseo-ochraceus, atro maculatus; prothorace longiore quam latiore, postice attenuato; antennis pedibusque atris.

Hab. Ceram.

Rather elongate, pale greyish, slightly tinted with ochraceous, and spotted with black; head with two hairy, greyish stripes between the eyes, the sides below obscurely punctured; prothorax much longer than broad, narrowed behind, black, a central stripe and two spots on each side greyish; scutellum black; elytra subparallel, slightly depressed, ochraceous with large black spots, seriate-punctate; legs black, in ♂, moderately elongate, slender, the first anterior tarsal joint not longer than the succeeding ones together (in ♀ the two intermediate tarsal joints longer than the claw-joint); body beneath black, the sides of the metasternum and abdomen with a double row of dull ochraceous spots; antennæ black, robust, nearly three times as long as the body (in ♀ extending beyond the base of the prothorax). Length 8 lines.

On a superficial examination this might be taken for a small variety of the above; but in addition to the distinctions noted in the description, it may also be observed that the spots in this species are much larger and form a less numerous series along the suture. Mere colour, in the Anthribidæ, is not to be depended on unless accompanied by a certain variation of pattern, as is the case in this instance.

Mecocerus allectus.

M. subbrevis, griseo-fulvus nigroque varius; antennis pedibusque nigris, his griseo annulatis.

Hab. Cambodia.

Rather short, with a greyish-yellow pile; head black, an elongate-

obcordate yellowish spot on the vertex, descending between the eyes but not passing beyond them; antennæ nearly three times as long as the body in ♂, black, the intermediate joints greyish at the apex; prothorax as long as broad, an irregular patch on the disk, apparently made up of smaller spots, and occupying its whole length, occasionally two or three smaller spots at the side; scutellum small, triangular, black; elytra short, broadly ovate, greyish yellow, with four principal spots on the disk, the shoulder, a few smaller spots at the sides (sometimes nearly obsolete), and several at the apex black; legs of moderate length, the anterior but little produced in ♂, femora and tibiæ obscurely ringed with grey, the basal and claw-joints of the tarsi ashy, except at the apex; side of the propectus, metasternum, and abdomen closely covered with a yellow pile, a spot on each side of the segments and the middle of the apical one black. Length 9 lines.

In none of the species described above have the males a spined propectus.

Dœothena [Anthribidæ].

Head small, not contracted below the eyes, rostrum very short. Antennæ 12-jointed, very slender, much longer than the body, arising from a cavity beneath and a little in front of the eye, the first joint swollen at the base, gradually diminishing upwards, and terminated in a truncated apex, the second as long as the first, but slenderer and obconic, the remainder to the eighth inclusive subequal, filiform, their apices more or less tumid, the apical third of the ninth and three terminal joints forming an oblong slender club. Eyes large, lateral, deeply emarginate beneath. Antennary cavity grooved above. Epistome and lip forming together a small triangle covering the centre of the mandibles. Palpi filiform. Prothorax convex, rounded anteriorly, as wide as the elytra at the base, the carina immediately in contact with the base at the middle, but slightly and gradually diverging towards the side, forming a sharp angle at its flexure, then continued to half the length of the prothorax, where it suddenly ceases. Elytra convex, not gibbous at the base. Legs of moderate length, first tarsal joint elongate.

The insect which has served for the above generic description is exceedingly like *Protœdus mœrens*, Pasc.* On examination, however, they will be found to be not even generically identical, the twelve-jointed antennæ and its club, composed not of three only but also by part of a fourth joint, being, I believe, unparalleled among the Anthribidæ, and the emarginate eye and the position of the abbreviated carina being quite different in *Protœdus*. I do not here more than allude to the enormous size of the two intermediate tarsal joints, as it is just possible that that may be only a sexual character. The

* Ann. and Mag. Nat. Hist. 3rd series, v. p. 39.

emargination of the eye corresponds to a kind of groove in the upper portion of the antennary cavity, and is obviously intended to allow the antennæ to be thrown well back; this structure does not exist in *Protœdus*. Another peculiarity is the form of the basal antennary joint, which has a pyriform shape, but with the small end at the apex, which is the reverse of what generally occurs; but some slight approach to this is made in *Protœdus*, where the greatest diameter is in the middle.

Dœothena platypoda. (Pl. XVI. fig. 1.)

D. elongato-ovata, nigro-pubescens, albo varia; tarsorum articulis duobus intermediis peramplis.

Hab. New Guinea (Mysol).

Elongate-ovate, somewhat sparsely covered with dull black, varied with white, coarsish, slightly curved hairs; head with the pubescence nearly entirely white; prothorax with two large black patches on the disk, divided by a very narrow median line, and two smaller ones on each side; scutellum rounded below, very indistinct; elytra obsoletely punctate-striate, the sides and middle black, the basal and apical portions white with a few oblong black spots; pygidium white; antennæ dark brown, paler at the base; eyes and mandibles black; maxillæ, palpi, and labrum rufous; body beneath and legs white. Length $2\frac{1}{2}$ lines.

Owing to the somewhat sparse pubescence, the darker ground is seen beneath the white hairs, thus giving them a pale-ashy hue. The appearance of the markings seems to show that the proportion of the two colours may vary.

PIŒNIA [Anthribidæ].

Head rather broad in front, the rostrum very short, slightly emarginate at the apex for the insertion of the small epistome and lip. Antennæ short, eleven-jointed, arising from a cavity beneath the rostrum and close to the eye, the first two joints ovate, thickened, the remainder to the eighth inclusive more or less conic, the last three forming an ovate, compact, depressed club. Eyes large, round, nearly entire. Palpi slender, hairy, the last joint of the maxillary fusiform. Prothorax transverse, rounded in front and at the sides, the carina basal, and terminating close to the anterior border of the prothorax. Elytra short, convex, parallel to the base of the prothorax. Pygidium small, narrow. Legs rather short. Tarsi short, the basal joint scarcely larger than the intermediate two. Claws strongly toothed at the base.

A short convex form, very much resembling *Misthosima* in appearance, but differing in the subrostral insertion of the antennæ, the ovate compact club, short tarsi, and other characters. The short, or

rather, perhaps, the entire absence of rostrum will at once prevent its being confounded with any genus having its attenuated club of the same form, such as *Ethneca*, *Penestica*, or the females of *Anthribus*.

Piœnia saginata. (Pl. XVI. fig. 8.)

P. breviter ovata, pube nigra albo maculata vestita; elytris vage seriatim punctatis.

Hab. Borneo.

Shortly ovate, covered with a close black pile with white spots; head nearly circular in front, but a little narrowed below the eyes, no raised line, a few white hairs mixed with the black; antennæ not longer than the breadth of the head, black, the club occupying rather more than a third of the total length; prothorax as broad as the elytra, black, passing into white at the sides, with a few white spots on the disk; scutellum transverse, white; elytra black, irregularly spotted with white, especially near the base and apex; body beneath and legs with a close greyish-white pile. Length 2 lines.

ZYGÆNODES [Anthribidæ].

Pascoe, Ann. and Mag. Nat. Hist. 3 ser. iv. p. 328.

Zygænodes monstrosus. (Pl. XVI. fig. 5.)

Z. fuscus, sparse griseo pubescens; elytris singulis fasciculis tribus prope suturam sitis.

Hab. Natal.

Dark brown, with a sparse greyish pile obscurely clouded with dull fulvous; head a little broader than the prothorax, flat and triangular in front, uniformly of an obscure grey; prothorax nearly twice as broad as long, the disk irregular, subquadrituberculate; the carina prominent; scutellum triangular, pale grey; elytra not broader than the prothorax, irregular, punctate-striate, on the disk a few raised points, which are rather darker than the rest, and on a line parallel to the suture three dense fascicles of pale-greyish hairs, the first and largest near the base, the other two towards the apex; body beneath brown, with greyish hairs; legs dull testaceous, with darker rings; antennæ pale greyish yellow, the third joint, upper part of the fourth, and fifth near the apex, and the last three forming the club, black; eyes dark brown. Length $1\frac{1}{2}$ line.

This curious Anthribid, agreeing generically with *Zygænodes*, differs remarkably in colour as well as in the irregularity of its surface from *Z. Wollastoni*; but that a genus so peculiar should be represented in countries so far apart, although by no means singular, is a fact well worthy of note. It is probable that hereafter the genus may be found to be rich in species; there are two new ones in Mr. Bowring's extensive Asiatic collections, as well as numerous others belonging to genera which I have proposed in this Journal

and elsewhere, and which now contain each but a single representative.

Nessiara.

Pascoe, *ante*, p. 60.

Nessiara scelesta.

N. fusca, pubescens; prothorace elytrisque planatis, his singulis bituberculatis, macula magna communi nigra.

Hab. Island of Mysol (New Guinea).

Clothed with very short, dark-tawny-brown hairs; head finely punctured, a single short central carina on the rostrum, dark brown passing into black at the mouth and mandibles; antennæ not longer than the rostrum, brown, the two basal joints yellow; prothorax flattened above, the depressed portion at its junction with the side forming a sharp, irregular, dark-brown or black line; scutellum small, transverse; elytra short, seriate-punctate, the disk depressed, somewhat concave, having an obtuse spreading tubercle at each angle, the middle of the depression with a large subquadrate black patch; legs dark brown, the tibiæ and tarsi ringed with grey; body beneath brownish black, with a very thin greyish pubescence. Length 4 lines.

Not quite so much depressed as *N. planata* (*ante* p. 60), with the median patch of *Nessa centralis* (Ann. and Mag. Nat. Hist. 3 ser. iv. p. 329), and much darker than either of them. Among the undescribed species in Mr. Bowring's collections, there is one with the sides of the rostrum dilated in a most extraordinary manner.

Goëphanes [Lamiidæ].

Head quadrate in front. Eyes small, lateral, reniform. Antennæ setaceous, longer than the body, arising from short, moderately distant tubercles, the basal joint rather elongate, subcylindrical, the third longest, the remainder gradually shorter. Epistome and lip very short, transverse. Mandibles entire at the apex. External maxillary lobe elongate. Prothorax subovate, unarmed. Elytra rather depressed, broadest at the base, the sides rounded, the apex oblique. Legs moderate, femora clavate, tarsi slender, the basal joint of the four posterior elongate. Pro- and mesosterna simple.

In habit this insect resembles *Glaucytes*, but is a true Lamiid, although its exact affinity is not very obvious; for the present, however, I am disposed to place it among the Acanthocinæ, perhaps near *Liopus* or *Œdopeza*.

Goëphanes luctuosus. (Pl. XVII. fig. 2.)

G. ater, albo variegatus; antennis atris; articulis quarto, apice excepta, et ultimis quatuor albis.

Hab. Madagascar.

Pubescent, deep black, varied with a nearly pure white (the figure will give a better idea than any description), a few bristly hairs fringing the sides of the elytra; tarsi brownish, and the terminal joint yellowish white; antennæ slightly ciliated beneath, black, the fourth joint, except at the apex, and last four joints white; body beneath pitchy, with a sparse silvery pile. Length 4 lines.

Agelasta [Lamiidæ].

Newman, Entomologist, p. 288.

Agelasta Mouhotii.

A. cinereo fulvoque pubescens, nigro maculata; elytris fasciis duabus fuscis ornatis; tibiarum apice tarsisque nigris.

Hab. Cambodia.

Sparingly pubescent, the dark shining epiderm everywhere more or less visible; head and prothorax with a thin fulvous pile, spotted with dark brown on the latter; the fulvous passes into ashy posteriorly, and is continued on to the scutellum and base of the elytra, where it is limited by a broad band of dark brown, having its posterior border very irregular; the rest of the elytra is fulvous with a denticulate band towards the apex; and the whole, not occupied by the two bands, is dotted with small brown or nearly black spots, the centres of each being occupied by a shallow puncture; legs ashy, the lower half of the tibiæ and the tarsi black; antennæ scarcely longer than the body, black, the first three, base of the fourth, and the fifth joints ashy; body beneath with a thin ashy pile. Length 5–6 lines.

This very distinct species, which is perhaps most nearly connected with *A. amicus*, Wh., may be recognized by the clear ashy-grey at the base of the elytra, contrasted with the rich-dark-brown band which succeeds. I have dedicated it to M. Mouhot, who, as is well known is now, and has been for some years, investigating the Zoology of Cambodia and Siam.

Agelasta rupta.

A. obscure-griseo pubescens, nigro maculata; elytris fasciis duabus dentatis nigris; tibiis annulatis tarsisque nigris.

Hab. Cambodia.

Sparingly pubescent, dull greyish, spotted and banded with black; head yellowish grey, obscurely spotted; antennæ longer than the body, the first two and basal half of the third joint grey, the remainder black, with the fourth, sixth, eight, tenth, and eleventh at their bases more or less ashy; prothorax very short and transverse, yellowish grey, spotted with black; scutellum nearly quadrate, the apex slightly rounded; elytra short, subparallel, irregularly punctured, greyish, a toothed band between the base and middle, and a narrower waved in-

terrupted one towards the apex, with several spots, black, each band bordered with dull fulvous; femora and tibiæ greyish, ringed with black, tarsi black, base of the claw-joint only grey; body beneath dull brown, with a very thin greyish pile. Length 5 lines.

Resembles the last in colour, only it is much less pure, and the elytra has not the ashy base of that species. The prothorax is unusually short for an *Agelasta*.

Agelasta catenata.

A. piceo-fusca, pilosa, atra, murino alboque lineata; antennis pedibusque annulatis, illarum articulis terminalibus brevibus, ciliatis.

Hab. Cambodia.

Pitchy brown verging to black, with a short close pile, running in narrow, longitudinal, irregular and partially interrupted lines of brownish grey and white, bearing similar lines, or here and there on the elytra spots, of the black epiderm between them; antennæ scarcely longer than the body, more or less brown and black, the fourth to the seventh joints inclusive white at the base, the apex of the latter and the remainder (which are much shorter) densely ciliated beneath; legs greyish white varied with brown; tarsi greyish white, the apex of the fourth joint and claws black; body beneath pitchy black, with a greyish-white pubescence. Length $7\frac{1}{2}$ lines.

The specimen described above is probably, from the structure of the antennæ, a female; the same crowding together of the terminal joints is seen also, and in the same sex, in *A. polynesus*, White. Like the last, it was sent from Cambodia by M. Mouhot.

NIPHONA [Lamiidæ].

Mulsant, Longic. de France, p. 169.

Niphona suffusa.

N. fusca, undique pubescens, supra variegata; prothorace irregulari, lateribus tuberculis duobus distantibus; elytris basi tuberculo parvo instructis, humeris elevatis.

Hab. Cambodia.

Robust, dark brown, covered with short closely set hairs; head slightly gibbous between the eyes, with an impressed longitudinal line, rusty yellow, more or less varied with dark brown; prothorax transverse, narrow anteriorly, the disk irregular, bituberculate at the side; an impressed line posteriorly, rusty yellow, with three longitudinal bands on the disk; scutellum transverse, rounded below, black, the sides paler; elytra much broader than the prothorax, gradually narrowing from the shoulders, which are very prominent and produced anteriorly, a small tubercle at the base, covered with pale-yellowish hairs, and irregularly spotted with black, particularly at the base, where they

become more or less confluent, more crowded also towards the apex and at the sides, bordered, particularly on the suture, by a rose-red line, three longitudinal lines of the same colour on each, the middle and exterior extending nearly to the apex; legs rose-red, annulated with black, the last two tarsal joints black; body beneath rose-red, the centre of each abdominal segment black at the base; antennæ with the basal joint shorter than the third, black, the two first and base of the remainder rose-red. Length 11 lines.

Rather larger than *N. thoracica*, Wh., to which it bears a general resemblance, but distinguished by the comparative regularity of the disk, and the absence of the peculiar medio-basal fissure of the prothorax.

Niphona pannosa.

N. subangustata, grisescente tomentosa, variegata; prothoracis lateribus tuberculiferis; elytris basi piloso-cristatis; tibiis anticis rectis.
Hab. Cambodia.

Rather narrow, the male broader, covered with a dense, very pale-greyish tomentum, spotted with a darker or mouse-coloured grey; head rather small; eyes and lip black; antennæ rather more than two-thirds the length of the body, dark grey with very pale spots; prothorax narrower than the elytra, subtransverse, irregularly tuberculate, especially towards the base, the side with a few short tubercles, partially disposed in two rows; scutellum transverse; elytra broadest at the shoulders, gradually narrowing towards the apex, irregularly costulate especially towards the apex, coarsely punctured, the base on each side with a short, narrow, erect tuft of hair, the apex subtruncate, pale greyish, darker posteriorly, so as to appear as a band, the shoulder sometimes dark brown; legs closely covered with short hairs, pale, spotted with darker grey; abdomen hairy at the sides, with dark-grey spots, the sterna reddish brown with paler spots. Length 8 lines.

N. cylindrica, White, differs in its extraordinary fore tibiæ, and in its greatly developed lateral tubercle; and *N. Ferdinandi*, Paiva, in the absence of the basal crest of the elytra, &c. In the latter species the claw-joint is scarcely half the length of the three preceding, while in others it is as long as the rest together,—another instance of the shifting characters of the Longicorns, and so far of greater importance as the large claw-joint generally marks its possessor to be a "twig-climber," in distinction to the short-clawed species, which are principally found on the *trunks* of trees.

Niphona excisa.

N. angustata, nigra, pube grisea tecta; prothorace profunde trisulcato; elytris postice attenuatis, apice divaricatis, singulis fortiter emarginatis.
Hab. Cambodia.

Narrow, subcylindrical, black, covered with a short, thin, greyish pile; head rather short, narrowed below the eyes, the vertex lengthened; lip and epistome small; mandibles black, palpi ferruginous; eyes (for *Niphona*) large, black; antennæ shorter than the body; prothorax about equal in length and breadth, constricted anteriorly, the lateral tubercle obtuse, with an indeterminate base; the disk deeply trisulcate, with three or four shorter sulci on each side; scutellum very transverse; elytra coarsely and remotely punctured, a little broader than the prothorax at the base, gradually tapering in nearly a straight line to the apex, which is shortly divaricate and very deeply emarginate, with the two apiculi formed by the emargination nearly equal in size and much produced, the base with two short crests, the inner pilose, at the apical third an oblique indistinct buffish patch; legs and body beneath covered with long greyish hairs. Length 8 lines.

At first sight this species might be readily taken for *N. Ferdinandi*, Paiva; they are, however, abundantly distinct. Touching only a few characters, it may be remarked that the shorter head and larger eye brings this latter organ in pretty close approximation to the base of the mandibles; the palpi ferruginous, not pitchy black; on the prothorax the sulcations are deeper, and the two central elevated lines are entire; the elytra are longer and narrower, the apex shortly divaricate, the emargination very considerably broader and deeper, and the inner as well as the outer apiculus equally prominent and pronounced (in *N. Ferdinandi*, the inner apiculus is sloped away obliquely); there are also the two crests at the base, and the patch posteriorly on the elytra, no trace of either of which exists in *N. Ferdinandi*. Numerous specimens of both species have been received from M. Mouhot.

Niphona arrogans.

N. fusca, griseo pubescente varia; prothorace transverse sexcristato; elytris rude punctatis, basi latis, apice sinuatis.

Hab. Borneo.

Robust, dark brown, with a short, varied, greyish pile; head greyish, with a few scattered punctures; antennæ shorter than the body, brown varied with grey, particularly at the bases of the third and succeeding joints; prothorax transverse, narrower anteriorly, bituberculate at the side, the disk with a series of six short, longitudinal crests, forming a curved line sweeping round from the two lateral tubercles to near the base, greyish, darker or more fulvous posteriorly; scutellum small, very transverse; elytra rugosely subplicate longitudinally, with numerous coarse crowded punctures, broad at the base, tapering gradually behind, the apex sinuate; legs short, varied with grey and brown, the intermediate and posterior tibiæ black at the apex externally, claw-

joint as long as the rest together; body beneath with a pale-greyish pile. Length 10 lines.

The crescent-shaped series of short crests on the prothorax will readily distinguish this species; the hairs on the elytra appear to be very deciduous, and are generally rubbed off the more prominent portions.

SYMPHYLETES [Lamiidæ].
Newman, Entomol. p. 362.

Symphyletes pubiventris.

S. subcylindricus, pube cinerascente fulvaque varius; elytrorum lateribus maculis duabus albis; maris abdominis segmento secundo ampliato, densissime hirsuto.

Hab. Australia (Kangaroo Island).

Subcylindrical, black, covered with a short, very pale ashy pile, varied with light fulvous, and spotted with coarse black punctures; head rather narrow, the vertex very convex; antennæ nearly equal in both sexes, not so long as the body, dark brown, not spotted, and very slightly ciliated beneath; prothorax nearly equal in length and breadth, the anterior margin scarcely narrower than the posterior, the side a little rounded, although irregularly, the disk with the two usual shallow transverse depressions; scutellum subtriangular, rounded posteriorly; elytra subparallel, the apex entire, several black shining granules arranged in irregular rows, and extending to near the apex, two white irregular spots on each side partially margined with dark brown; legs and body beneath covered with a similar varied pile; the second abdominal segment in the male larger than in the female, and densely covered with short erect hairs. Length 8 lines.

A more cylindrical species than most others of this genus, in general colour approaching *S. fronticornis*, Fab.; but the two white spots on the sides of the elytra will readily distinguish it. The peculiar structure of the second abdominal segment is very rarely met with among the Longicorns, and appears to be confined to the males. There is nothing to distinguish *Symphyletes* from *Rhytiphora*, Serv., except that the latter has not the lateral tooth on the prothorax, which generally characterizes the former; the last joint of the antennæ, "*apice repente curvato*," which Newman gives as a character, is only found in two or three species. How *Penthea*, Lap., is to be distinguished I don't know; it is a stouter form, with shorter and more robust legs, than either *Symphyletes* or *Rhytiphora*. My *Penthea conferta* (Aru), from its toothed mesosternum and absence of antennary tubercles, must be excluded from the genus. Perhaps it should be placed near *Coptops*, Serv. The spine on the anterior coxæ of the

males is confined to *S. pedicornis*, Fab., and *S. metutus*, Pasc., and is absent in *S. nodosus*, Newm. (the type of *Symphyletes*); and any reliance on it as a generic character would only tend to separate species which ought to be kept together.

Symphyletes variolosus.

S. subangustatus, fusco-olivaceus, leviter pubescens; elytris apice sinuatis, bidentatis, fulvo maculatis.

Hab. Australia (Melbourne, Moreton Bay, &c.).

Rather narrow, dark olive, shining, with a very thin, scarcely noticeable pubescence, irregularly and coarsely punctured; head rather small, a deeply impressed line between the eyes; antennæ longer than the body, a little shorter in the female, brown, ciliated beneath; prothorax nearly as broad as long, the anterior margin narrower than the posterior, the sides scarcely rounded, the disk slightly sulcated with three indistinct, interrupted, yellowish bands; scutellum transverse, rounded posteriorly; elytra broadest at the shoulder, gradually tapering to the apex, which is sinuated with a short process on each side, almost free from pubescence, except the small yellowish tufts which dot their surface; legs dark olive; body beneath with the pile pale greyish, slightly clouded with buff. Length 6 lines.

A rather common species in collections, and having apparently a wide geographic range. Its nearest affinity is with *S. albo-cinctus*, Don.; but, in addition to other characters, it wants the white band at the sides of the elytra. The females of *Symphyletes* appear to have a longitudinal impressed line in the middle of the last abdominal segment.

ABRYNA [Lamiidæ].

Newman, Entomologist, p. 289.

Abryna pardalis.

A. robusta, grisescente pilosa, maculis plagisque nigris ornata; scutello tarsisque nigris.

Hab. Ceram.

Pitchy-black, with a short, close, pale-greyish pile, and spots and patches of black; head mostly black, the cheeks and vertex spotted with greyish, the epistome clothed with rusty hairs; prothorax subtransverse, with four obtuse tubercles on the disk (1.2.1), the two lateral teeth distinct; scutellum black; elytra rather short, broadest at the shoulders, slightly depressed behind the scutellum, a large black patch externally, a little distance from the shoulder, and rather behind the middle another; antennæ scarcely longer than the body, all the joints from the third to the seventh inclusive ashy-white at the base, the basal joint nearly black; legs with a greyish pile tinged with black, the tarsi entirely black; eyes and mandibles dark brown; body beneath with a sparse dull-ashy pile mottled with black. Length 9 lines.

Some individuals of this species are much darker than others, and the spots more confluent.

Abryna vomicosa.

A. robusta, grisescente pilosa, maculis nigris irrorata; scutello grisescente; tarsorum articulis duobus basalibus albis.

Hab. Cambodia.

Pitchy-black, with a short pale-greyish (or inclining to yellow) pile sprinkled with numerous small black spots; head rather broad in front, the spots irregular and confused; prothorax subtransverse, with three obtuse tubercles on the disk (2.1), the posterior divided by a deeply impressed longitudinal line, the two lateral teeth very distinct; scutellum greyish; elytra rather short, broadest at the shoulders, slightly depressed behind the scutellum, clothed with a pale-greyish pile, slightly mottled with a darker grey, and thickly sprinkled with small black spots, which are formed almost entirely by the punctures; antennæ scarcely longer than the body, the basal joint greyish, spotted with black, the rest black, except the second and bases of the succeeding ones to the ninth inclusive which are ashy-white; eyes and mandibles dark brown; legs greyish, spotted with black, the tarsi black, the two basal joints white; body beneath covered with a coarse greyish pile, the sides of the abdomen spotted with black. Length 10 lines.

The difference between this species and the last is greater than might be imagined from a comparison of the two descriptions, but it may be rendered more obvious by remarking that, while the spots are larger in *A. pardalis*, they have invariably around the puncture, which forms the centre of each, a circle of black pile, and that these spots often become confluent, having a more or less patchy appearance; but in *A. vomicosa* the spots are confined chiefly to the punctures, which then almost entirely constitute the spots; the two basal joints of the tarsi, nearly of a pure white, offer a remarkable contrast to the deep black of the remainder.

From *Abryna*, as originally proposed by Mr. Newman, I think it will be necessary to separate those species which approach *Dorcadion* in form and, except very partially in one or two of them, in the total absence of pubescence. For these I propose the term "*Aprophata*," with the following characters:—

APROPHATA.

Head rounded, not dilated below the eyes in the male, the vertex and front very convex. Eyes deeply emarginate. Antennæ scarcely longer than the body, not arising from tubercles, the basal joint short, slightly incrassated upwards, the third joint longest, the fourth nearly as long, the remainder shorter and subequal. Prothorax more or less quadrate.

Elytra short, ovate. Legs short, robust. Prosternum slightly produced posteriorly; mesosternum with a corresponding process anteriorly. External angle of the anterior cotyloid cavities very large.

The principal points which distinguish *Abryna* from *Aprophata* are the rounded head, especially convex in front and on the vertex, the ovate elytra, and the large angulation of the anterior cotyloid cavities; but the habit is so very distinct that it would be doing violence to all our ordinary notions of generic identity to keep them together, although, it must be confessed, the technical characters are not very important, and perhaps rather questions of degree. I have, however, repeatedly compared all the species one with another, and I find every character, so far as they can be ascertained without dissection, usually considered of generic importance, and not mentioned above, more or less variable. The species of *Aprophata* are excessively rare in collections, very little known, are natives of the Philippine Islands, and have all been described by Mr. Newman in a work which is now very scarce (the 'Entomologist'). The following dignoses of the three species may therefore be useful:—

Aprophata eximia. *A.* viridi-metallica, nitidissima; prothorace elytrisque maculis piligeris griseis ornatis.

Aprophata fausta. *A.* nigro-chalybeata, nitidissima; elytris cyaneo-metallicis, immaculatis.

Aprophata notha. *A.* nigra, subnitida; sternorum lateribus abdominisque segmento basali margine hirsutis, ferrugineo-fulvis.

The last species has sometimes a slightly purplish tint, and has been recently received from Manilla (*viâ* Germany), ticketed "*Doliops*, n. s." In this species, too, the two prothoracic tubercles are wanting.

Meton [Lamiidæ].

Head subquadrate in front. Antennæ setaceous, longer than the body, arising from two diverging tubercles, the basal joint rather short, gradually thicker towards the apex, the third and fourth equal and longest, the rest more or less equal. Eyes small, deeply emarginate. Lip narrower than the epistome. Palpi small, slender, the terminal joint elongate-ovate. Prothorax nearly equal in length and breadth; a short, strong tooth at the side, with small tubercles above. Elytra wider than the prothorax, the sides subparallel, the base more or less crested. Legs robust; tibiæ clavate; tarsi straight, the distal end thickened and covered with short hairs; tarsi narrow, the joints transverse, except the basal of the intermediate and posterior, which are triangular; claw-joint moderate; pro- and mesosterna simple.

I described two species of this genus (but without characterizing the genus itself) in the 'Trans. Ent. Soc.,' 2nd ser. v. p. 42 (July

1859). It seems to be most allied to *Monohammus* and *Dysthæta*; from the former it is distinguished by the terminal antennary joint not being longer than the one preceding (in ♂), as well as by difference of habit, while *Dysthæta*, Pasc., differs from both in the form of the basal joint of the antennæ.

Monohammus.

Serville, Ann. de Soc. Ent. de Fr. iv. p. 91.

Sect. 1. Pedes anteriores maris elongatæ.

Monohammus Hector.

M. fuscus, griseo-pubescens, fulvo varius; prothorace lateribus tumido, tuberculo minuto instructo; elytris fulvo irroratis, singulis macula nigra pone medio.

Hab. Ceram.

Dark brown, covered with a fine greyish pile, varied with fulvous; head narrow, elongate, with a deeply impressed longitudinal line extending from the epistome to the prothorax; eyes large; antennæ more than three times as long as the body, arising from two approximate nearly erect tubercles; lip and epistome short; prothorax about equal in length and breadth, narrowed anteriorly, swelling out considerably at the side, and armed with a small but very distinct tubercle, the disk with a slightly impressed longitudinal line; scutellum rounded posteriorly, hairy, the centre glabrous; elytra rather elongate, subtrigonate, rounded at the apex, granulated at the base, indistinctly punctured, sprinkled with fulvous, behind the middle a small black spot on each; body beneath dull brown; legs elongate, especially the anterior pair, which have also their tibiæ serrated internally, and armed near the extremity with a short spine, the two basal joints of the tarsi of the same pair dilated at the sides. Length 17 lines.

The above description is drawn up from a remarkably fine male, with the antennæ alone four and a quarter inches long. The female has a smaller prothorax, nearly parallel elytra, shorter legs, and antennæ not more than half as long again as the body. It is allied to *M. Alcanor*, Newm., *bipunctatus*, Schön., and *fulvo-irroratus*, Blount, all of which are referable to M. J. Thomson's *Rhamses*, a genus which I have not adopted, inasmuch as the single character which separates it from *Monohammus*—the spined protibiæ of the male—is so graduated that in some species, *plorator*, *Antenor*, &c. for example, it is difficult to decide if the little callus, which represents the spine, is sufficient to constitute it a *Rhamses*. The habit, too, is just as variable as in *Monohammus*.

Cereopsius [Lamiidæ].

Head narrow, quadrate in front. Antennæ longer than the body, setaceous, arising from two approximate tubercles, the basal joint elongate, nearly cylindrical, the third longest, the remainder gradually decreasing to the tenth, the eleventh as long, or a little longer. Eyes deeply emarginate. palpi slender, the last joint elongate, ovate. Prothorax small, transverse, narrow in front, gradually expanding into a strong spine, at the side, near the base; the spines more or less connected by a transverse ridge, contracted at the base. Elytra trigonate, convex. Legs short; tarsi narrow, the basal joint scarcely longer than the second, claw-joint elongate. Prosternum simple, slightly compressed; mesosternum produced anteriorly.

Cereopsius was a MS. name in use at the British Museum, and adopted by me a few years ago, but has not been published to the present time. The genus is allied to *Monohammus*, differing from it, however, in many characters, as the approximate antennæ, elongate and nearly cylindrical basal joint, the terminal joint also scarcely longer than the preceding one, in the form of the prothorax the whole side swelling out to form the spine, which is placed behind the middle, the trigonate elytra broadest at the base and rapidly receding towards the apex, and, lastly, the shorter legs.

To *Cereopsius* must be referred the following *Monohammi* of Newm.: *M. Elpenor*, *M. Quæstor*, and *M. Lictor*. The first of these is a nearly unicolorous form of *M. Prætorius*, Erich. One of the handsomest of the species has been figured by Mr. White, in the 'Proc. Zool. Soc.' for 1858 (pl. 53. f. 7), under the name of *Cereopsius Helena*. *C. exoletus*, *C. marmoreus*, *C. patronus*, and *C. histrio* have been described by me in the 'Trans. Ent. Soc.' (2nd ser. iv. and v.). It will be necessary, however, to form a new genus for the latter.

Imantocera [Lamiidæ].

J. Thomson, Arch. Entom. i. p. 188.

Imantocera arenosa.

I. fusca, fulvescente adspersa; prothorace subtransverso; antennarum articulis septem ultimis unicoloribus.

Hab. Cambodia.

Pubescent, dark brown, sprinkled above with pale-fulvous more or less confluent spots; head with a deeply impressed line between the eyes; antennæ about one-third longer than the body in ♂, shorter in ♀, the basal joint naked, robust, roughly punctured, the rest with a pale-fulvous pubescence, the third and fourth joints in both sexes dilated at the apex, with a thick tuft of hairs, confined to the upper

(*i. e.* when the antennæ are projected forward) and apical half of the latter; prothorax scarcely as long as broad, with three or four short irregular transverse grooves, and strongly spined at the side; scutellum triangular, rounded at the sides; elytra not broader than the prothorax (including the spines), slightly round at the side, a large fulvescent patch at the apex, the crest at the base with a row of closely set black granules; legs with a pale pubescence, femora dark brown, tibiæ reddish brown; tarsi covered with a short pale-yellowish pile; body beneath dark pitchy-brown, almost naked, with fulvous spots on the metasternum, and a double row on the abdominal segments. Length 7 lines.

The three species of *Imantocera* known to me have a strong general resemblance, but, I think, may be easily distinguished by the following characters, which I have tabled together:—

Prothorax short, rather broader than long; basal joint of antennæ naked, or nearly so, rugosely punctate.
Last seven joints of antennæ annulated with black and grey.
I. penicillata, Hope.
Last seven joints of antennæ entirely pale fulvous.
I. arenosa, Pasc.
Prothorax very decidedly longer than broad; basal joint of antennæ pubescent. *I. plumosa*, Ol.

M. J. Thomson's "*Imantocera plumosa*, Hope? (*penicillata*, White?)," may be, from the "*elytra paulum abbreviata*," *I. penicillata*, Hope, only that the body beneath is not pilose.

A genus of the Baron Dejean's allied to *Gnoma*, Fab., but I believe not yet described, is *Psectrocera*, the type of which, under the name of *Gnoma? plumigera*, has been figured by Professor Westwood in his 'Oriental Entomology' (pl. 5. fig. 3). It has the following characters:—

PSECTROCERA [Lamiidæ].

Head not broader than the prothorax, elongate behind the eyes. Antennæ longer than the body, the basal joint pyriform, the third, fourth, and fifth elongate, each bearing a tuft of hairs at the apex. Eyes widely emarginate. Prothorax narrowly elongate, the sides subparallel, unarmed. Elytra short, depressed, slightly crested at the base, the crest granuliferous, the apex rounded, entire. Anterior legs longer than the others; tibiæ of the intermediate pair toothed externally; pro- and mesosterna simple.

There is a second species in Mr. Bowring's collection.

PALIMNA [Lamiidæ].

Head moderately broad, quadrate in front. Eyes widely emarginate. Antennæ in ♂ twice as long as the body, distant at the base, arising from two short tubercles, eleven-jointed, the basal joint short, subconical, the third twice as long, straight, the fourth shorter, and with the remainder, except the eleventh, subequal. Palpi slender. Prothorax irregular, subquadrate, not broader than the head. Elytra more or less subtrigonate, convex, irregular, much broader than the prothorax. Legs robust, the anterior pair in ♂ elongate, and protibiæ curved; tarsi short, the two intermediate joints dilated, the claw-joint large; pro- and mesosterna simple, the latter dilated posteriorly.

The type of this genus is *Golsinda tessellata*, Pasc. (Trans. Ent. Soc. 1857, p. 49). At that time *Golsinda* was a MS. name of M. Blanchard's, but recently M. J. Thomson ('Essai Ceramb.' p. 341) has published it with *Golsinda corallina* (White) as the type. But the latter is not congeneric with the species described by me, and hence it becomes necessary to give the former a new generic name. The differences between the two genera are, that in *Golsinda*, Thoms., the basal joint of the antennæ is elongate—as long as the third, in fact—and club-shaped, while in this it is short—not more than half the length of the third—and subconical; the mesosternum in the former is produced anteriorly and bilobed behind, in the latter it is dilated behind, and not produced anteriorly; there are also secondary characters in connexion with the antennæ, prothorax, habit, and coloration. Olivier has given a figure of a female of a species of this genus (*Cerambyx annulatus*, 67, t. 20. f. 151), and described the male, which M. Chevrolat is disposed to think may be identical with *P. tessellata*. I have, however, long been of opinion that Olivier's insect represented another species more nearly allied to, or perhaps identical with, one in the British Museum labelled "*Golsinda reticulata*," White: this agrees in some respects better with the figure; and both are from India, while the species described by me has only been received from Borneo. Another species is described in the Entomological Society's 'Transactions,' v. p. 41 (*P. infausta*).

CACIA [Lamiidæ].

Newman, The Entomologist, p. 290.

Cacia histrionica.

C. atra, pubescens; capite prothoraceque lineis tribus, elytris scutellum versus, et fasciis duabus apicalibus albis.

Hab. Ceram.

Black, sparsely pubescent, punctured; head with an elevated line

from the inner angle of the eye to the epistome, cheeks, front, and vertex white; prothorax nearly quadrate, scarcely wider than the head, white, with two black stripes on each side; scutellum transverse, rounded behind; elytra rather short, a large trilobed patch common to both at the base, an irregular band at the middle, and two others at the apex, which are more or less connected, white; legs black, the tibiæ obscurely ringed with white in the middle, tarsi with the two basal joints white; antennæ hairy beneath to the fourth joint, the fifth very slightly so, black, the second and third joints at the base and nearly the whole of the fourth white; sterna white; abdomen black beneath. Length 6 lines.

This, so far as the proportions between the two colours are concerned, is a very variable species; it is allied to *C. anthriboides* (see *ante*, p. 130).

ERIS [Lamiidæ].

Pascoe, Trans. Ent. Soc. 2 ser. iv. p. 110.

Eris annulicornis.

E. brunnea, griseo pubescens, nigro variegatus; elytris sublatis, griseis, antice maculatis, postice subreticulatis; antennis, basi excepta, totis annulatis.

Hab. Cambodia.

Light brown, covered with a short, close, pale-greyish pile, varied with black; head nearly quadrate in front, pale grey with three glabrous vertical lines, the central one becoming impressed between the eyes, two black spots above the epistome; eyes black, reniform; antennæ longer than the body, black, all the joints except the two basal pale ashy at the base; mandibles black; palpi reddish at the tips; prothorax scarcely transverse, a little narrowed anteriorly, the sides smoky-black, continuous with a black patch behind the eye; scutellum transversely triangular, black, the centre and apex pale grey; elytra moderately wide, subbicostate, indistinctly punctured, pale greyish, towards the base a few black spots, behind the middle a subreticulate black band, and near the apex an irregular transverse line, also black, more or less connected with small spots behind it, faint spots or mark of a pale leaden grey are also more or less mixed with the black; legs rather robust, femora greyish, with a black band near the apex, tibiæ black, the proximal end and middle grey, tarsi black, with the two basal joints more or less white; body beneath grey, the sides with a few black spots, middle of the abdominal segments glabrous, shining black. Length 7 lines.

Broader and generally more robust than *E. anthriboides*, the colours clearer and more defined, the elytra varied with black, and all the joints of the antennæ, except the two basal, ringed with ashy at the base.

PRAONETHA [Lamiidæ].

Blanchard, Voy. au Pôle Sud, iv. p. 292 (*Prioneta*).

Praonetha subfasciata.

P. breviter subcylindrica, fusca, sparse fulvo pubescens; prothorace subtransverso; elytris medio fascia lata grisea (fere obsoleta) instructis.

Hab. Cambodia.

Shortly subcylindrical, brown, thinly covered with short fulvous hairs; head convex in front, scarcely as broad as the prothorax; prothorax subtransverse, the anterior and posterior margins nearly equal, the sides rounded, sparingly punctured; scutellum rather broad, rounded behind; elytra short, subparallel, irregularly punctured, with a few black shining granules, principally at the base and along the suture, a broad but obscurely defined greyish band occupying the middle third; legs robust; antennæ longer than the body, pubescent, the basal joint opaque brown, nearly glabrous; body beneath reddish brown, slightly pubescent, second abdominal segment densely covered with short hairs at the sides. Length 5 lines.

In many species of this genus the pile is so thin that the derm is seen beneath, thus producing an obscureness and intermixture of colours very difficult to define; the broad although somewhat indistinct band, however, occupying just the middle third of the elytra, in conjunction with its subtransverse prothorax and more cylindrical form, will readily distinguish this species. As in *Symphyletes pubiventris* (ante, p. 339), one of the sexes—probably the male—has the second abdominal segment densely covered with short hairs. *Praonetha*, Blanch., is only distinguished from *Pterolophia*, Newm., by the absence of the crest at the base of the elytra—a very slight character, which, as is expressly stated by Newman, "is sometimes scarcely apparent." *Pterolophia*, however, appears to me to embrace two forms:—the typical one, including *bigibbera, varia, dispersa**, &c., which are robust, middle-sized insects (5–9 lines), somewhat cylindrical or even compressed; and less robust and smaller species (2–2½ lines) and as decidedly depressed. For the latter I have already proposed the genus *Ropica*. Of course there is nothing satisfactory in such characters when used for the purpose of generic distinction; but in this and in many other cases it is doubtful if any more important ones can be found, capable of embracing a large, or even moderate, number of species. With regard to those names I do not propose any change here: *Pterolo-*

* The two latter were described by me in the 'Ent. Trans.,' under the generic name of *Notolophia*. I believe there is no such genus: it seems to have been a slip of the pen for *Pterolophia*. *Prioneta* is probably a typographical error.

phia, although the oldest (1842), is almost unknown to continental entomologists, while *Praonetha* (1853) seems to be generally adopted, nor am I sure that *Pterolophia* has not been already used. It is always more difficult to suppress an old genus than to establish a new one.

Praonetha undulata.

P. olivaceo-brunnea; capite prothoraceque griseo pubescentibus; elytris subunicostatis, apice truncatis, plaga magna ante medium fasciaque dentata apicem versus albescentibus.

Hab. Moluccas (Batchian).

Pale olive-brown; the head and prothorax sparingly punctured, and covered with a short thin greyish pubescence, the latter about equal in length and breadth; scutellum transversely subcordate; elytra slightly compressed posteriorly, a broad but slightly elevated carina near the shoulder, with a very thin greyish pile principally at the base and sides, a large oblique patch before the middle and a very irregular zigzag band behind it white; mandibles glossy black; eyes brown; antennæ scarcely so long as the body. Length 8 lines.

Near *P. albosignata*, Bl., and, after that, the largest of the genus.

Praonetha costalis.

P. rufo-brunnea, pube grisescente varia; elytris tricostatis, costa interiore basi elevata, apice truncatis.

Hab. Batchian.

Pale reddish brown, varied with a greyish pubescence; head and prothorax yellowish grey, with small punctures and patches of brown, the latter nearly quadrate, with the sides slightly rounded; scutellum transverse, rounded behind; elytra subtrigonate, irregularly and rather sparingly punctured, tricostate, the innermost costa elevated or forming a slight crest at the base, the intermediate one less prominent than the inner or outer, the apex truncate, greyish, a broad but indistinct rufous brown band in the middle; antennæ longer than the body, rufous brown; eyes brown; legs obscurely varied with greyish; body beneath dull rufous brown. Length 5 lines.

The abdomen, in my example, is exceedingly small and contracted.

Praonetha penicillata.

P. pallide brunnea, obscure griseo varia; elytris basi subcristatis, postice fasciculatis, apice rotundatis.

Hab. Cambodia.

Pale brown, obscurely varied or clouded with grey; head and prothorax of a nearly uniform grey, finely punctured, the latter subquadrate; scutellum slightly transverse, rounded behind; elytra subtrigonate, seriate-punctate, slightly crested at the base, the apex rounded,

obscurely clouded with greyish, the suture pitchy-brown, a short horizontal tuft of palish hairs posteriorly at the point where the declivity towards the apex commences, and below this tuft a short curved pilose line; antennæ a little longer than the body, obscurely ringed with grey; legs and body beneath indefinitely grey. Length 5 lines.

One of M. Mouhot's discoveries, easily distinguishable by the little horizontal tuft on each of its elytra; in some specimens the suture is unicolorous, or there is a dark-coloured patch at the side of the elytra.

Praonetha ligata.

P. fusca, pubescens; prothorace subelongato, antice angustiore; elytris confertim punctatis, apice rotundatis, postice obscure griseo subfasciatis.

Hab. Java.

Dark brown, with a scanty greyish pubescence; head rather narrow; eyes dark brown; antennæ not so long as the body, obscurely ringed with grey; prothorax longer than broad, the anterior border much narrower than the posterior, brown, with two greyish stripes on the disk; scutellum transversely triangular; elytra slightly narrowing from the base, covered with large, deep, irregular punctures, a triangular greyish patch indistinct anteriorly, its posterior edge marking the flexure of the declivity towards the apex, and barely meeting at the suture, the two together forming an imperfect band; legs and body beneath pale pitchy-brown, covered with a close grey pile. Length 6 lines.

I received this species from M. Deyrolle under the above MS. name, by which, I believe, it is known in the Paris collections.

TRACHYSTOLA [Lamiidæ].

(Dejean), Cat. de Coléoptères.

Head moderate, slightly dilated below the eyes. Antennæ not longer than the body, arising from two short remote tubercles, the basal joint massive, gradually thickened upwards, the rest slender terete, the third longer. Eyes deeply emarginate, approximating on the vertex. Labrum and epistome very short, transverse. Palpi slender. Prothorax transverse, irregular, spined at the side. Elytra rugose, broader than the prothorax, sloping posteriorly. Winged. Legs rather slender, tarsi slightly dilated, the basal joint short. Prosternum simple. Mesosternum with a vertical tooth.

Dejean places this genus between his *Chæromorpha* and *Penthea*; the former I do not know, nor has it been published, so far as I am aware: but its affinity to *Penthea* is by no means evident; it seems to me better placed near *Dorcadida* and *Microtragus*.

Trachystola granulata.

T. nigra, tota pube fusco-ferruginea induta; elytris seriato-granulatis, seriebus duabus regione scutellari abbreviatis.

Hab. Borneo.

Black, opake, everywhere covered with a short, dense, brownish-ferruginous pubescence; head neither punctured nor sulcated in front; prothorax transversely channeled anteriorly, five flattish tubercles on the disc, arranged ∴, a stout spine at the side; scutellum transversely subcordate; elytra a little depressed on the basal two-thirds of their length, rapidly sloping beyond to the apex, on each nine rows of shining black granules, the inner row distant from the suture, and its granules oblong or almost linear, near the scutellum six granules in pairs, the second row of granules from the suture extending to half the length of the elytra, space between the suture and inner row with two irregular lines of impressed punctures, nearly all the granules with a deep puncture behind. Length 11 lines.

This species differs from a Java congener in the British Museum, labelled *Trachystola scabripennis* (Dej.), in the smaller punctures along the sutural margin, in the second row of granules extending to at least half the length of the elytra, instead of only a quarter, and the double row near the scutellum, whilst there are only two or three altogether in *T. scabripennis.* A third species from Borneo, also closely allied, is in the same museum.

BRIMUS [Lamiidæ].

Head nearly as broad as the prothorax, quadrate in front. Antennæ longer than the body, setaceous, arising from short tubercles, distant at the base, the first joint massive, subcylindrical, the third as long as the first, the rest subequal. Eyes lateral, widely emarginate. Palpi slender, the terminal joint ovate. Prothorax subquadrate, strongly spined at the side. Elytra connate, tapering towards the apex in the male, ovate in the female, the base spined. Legs moderately long, anterior and intermediate coxæ remote, femora subclavate, tibiæ spined, tarsi short. Prosternum simple, mesosternum truncate posteriorly.

Proposed for the reception of *Dorcadion? spinipenne* (Trans. Ent. Soc. 2 ser. iv. p. 252), which I described from a female specimen in the collection of W. W. Saunders, Esq. There are now five examples in the British Museum, and from one of them, a male, I have drawn up the above characters. *Brimus* differs from *Dorcadion* (to which I doubtfully referred it) in the presence of antennary tubercles and the greater length of the mesothorax, so that the anterior and middle coxæ (as well also the posterior) are separated from each other by a considerable interval, not crowded together so as to be almost in con-

tact: the latter character separates it from *Phrissoma*, from which it is also distinguished by its non-ventricose elytra and the absence of all irregularities of surface, except at the base. *Aconodes*, Pasc., to which it is nearly allied, has the basal joint of its antennæ short and fusiform, and scarcely more than half as long as the third. Lastly, *Brimus* has a habit of its own distinct from all the rest of the *Dorcadioninæ*, although the female has a certain resemblance to Mr. White's genus *Dorcadida*.

Brimus spinipennis. (Pl. XVII. fig. 5.)

ATHEMISTUS [Lamiidæ].

Pascoe, Trans. Ent. Soc., 2 ser. v. p. 49.

Athemistus pubescens.

A. tuberculatus, pubescens, rufo-fuscus, setosus; elytris pone humeros incurvatis.

Hab. Australia (Port Philip).

Rather narrower than *A. rugosula*, covered above with a dense reddish-brown pubescence, and with longer slender erect hairs interspersed; head very convex in front; prothorax nearly round, coarsely punctured, a small tooth at the side, and a tubercle above it; scutellum very small, triangular; elytra covered with numerous irregular granulations, narrowly ovate, very slightly prominent at the shoulder, and rather concave behind it, the apex entire; legs moderately robust; body beneath reddish brown, slightly pubescent. Length 5 lines.

Resembles *A. rugosulus*, Guér. (Parmena), but is at once distinguished by its pubescence. In Major Parry's collection.

ECHTHISTATUS [Lamiidæ].

Head convex in front; eyes oblong, scarcely emarginate. Antennæ setaceous, longer than the body, arising from two diverging tubercles, the basal joint robust and longest, the third with the remainder subequal. Epistome and labrum small, narrow. Palpi slender, the last joint obliquely truncate. Prothorax transverse, strongly spined at the side. Elytra short, ovato-conical, each with a nearly central elevated spine, the humeral angle extending beyond the base of the prothorax. Legs long, robust, femora not clavate. Tarsi with the basal joint nearly as long as the two next together. Prosternum toothed.

The characters which distinguish this genus from *Cerægidion* consist principally in the diverging antenniferous tubercles contrasted with the remarkably erect and nearly contiguous ones of the latter, in the toothed prosternum, and the long antennæ, all the joints of which, except the second, are nearly of equal length; while in *Ceræ-*

gidion they are scarcely longer than the body, the basal joint being shorter than the third and fourth, which are nearly equal, and the remainder rapidly diminishing. The habit, however, is so similar to *Cerægidion*, and is in itself so remarkable, that it would be naturally inferred that they were not only nearly allied—as in truth they are—but that they were also natives of the same regions. This supposition is, however, doubtful,—Major Parry, to whom this, I believe, unique Longicorn belongs, having a note to the effect that it was taken from a box of Mexican insects. Notwithstanding, I cannot help thinking that, like *Cerægidion*, it is a native of Australia.

Echthistatus spinosus. (Pl. XVII. fig. 8.)

E. fusco-piceus, sparse pilosus; prothorace disco subquinquespinoso.

Hab. Australia?

Dark pitchy brown, roughly tuberculate above the interstices, with small patches of short fulvous hairs; head with a V-shaped impression above the epistome; prothorax wider than long, the posterior margin narrowest, the side with a strong median spine, surrounded with tubercles at its base, the disk with short spines, three of which only are at all prominent, two anterior and one posterior, and behind each of the anterior ones two smaller tubercles; scutellum quadrate-cordate, convex, hairy; elytra short, broader than the prothorax at its base, prominent at the shoulder, thence slightly dilating to one-third its length, and gradually rising above into a large somewhat curved spine, then narrowing rapidly to the apex, which is truncate, with the external angle pointed: legs slightly pubescent, the thighs pitchy, tibiæ obscurely ringed with white, tarsi brown: antennæ twice as long as the body; beneath pitchy, with a few dull fulvous hairs. Length 6 lines.

SERIXIA [Lamiidæ].

Pascoe, Trans. Ent. Soc. 2 ser. iv. p. 45.

Serixia ornata. (Pl. XVII. fig. 9.)

S. rufo-testacea, sat lata; elytris griseo-cervinis, macula communi basali alteraque pone medium albis.

Hab. Moluccas (Batchian).

Rather broad: head reddish testaceous, sparingly pubescent; eyes and mandibles black; prothorax greyish brown, the sides varied with rufous: scutellum transverse; elytra remotely seriate-punctate, pale greyish brown, with a fine silky pubescence, a large and very distinct spot at the base, common to both, and another, on each, behind the middle and towards the side, pure white: antennæ brownish, the third and fourth joints pale at the base: body beneath and legs pale rufous testaceous. Length 4 lines.

This pretty Longicorn connects my *Iolea histrio* with the more

uniformly coloured species represented by *Iolea prolata*, *longicornis*, and others; and at the same time it is so evidently allied to *Serixia*, that I do not see any characters by which they can be kept apart. *Serixia*, as the oldest name, must therefore be adopted. In addition to the characters previously given (Trans. Ent. Soc. 2 ser. iv. p. 45), the genus may also be recognized by the little narrow lobe on the disk of the prothorax posteriorly, but which never attains to its margin.

Serixia cephalotes.

S. rufo-testacea; elytris, basi excepta, infuscatis, griseo pubescentibus.
Hab. Batchian.

Moderately narrow, pale reddish testaceous; head and prothorax obsoletely punctured, finely pubescent; scutellum small, triangular; elytra remotely seriate-punctate, very dark ashy, and, from the varying light of the somewhat silky pubescence, much paler in certain positions, especially towards the apex; antennæ two or three times as long as the body, brownish, base of the first and fourth joints testaceous; legs and body beneath pale testaceous; eyes and mandibles black. Length $3\frac{1}{2}$–4 lines.

In one of my specimens the breadth of the head is nearly twice that of the prothorax; in two others it is considerably less, although still exceeding the ordinary size; the antennæ, also, are of variable length.

Serixia sedata.

S. rufo-testacea, sat lata; elytris grisescente pubescentibus, apice aliquando infuscatis; oculis, antennis, mandibulisque nigris.
Hab. Siam.

Reddish testaceous, inclining to ferruginous, with a thin greyish pubescence; head and prothorax with shallow scattered punctures, the latter transverse and narrower than the former; scutellum broadly triangular; elytra seriate-punctate, the apex in some individuals black, more or less brown or entirely concolorous in others; eyes and mandibles black; antennæ greyish brown, pubescent, half as long again as the body, rather stout, the fourth joint with the basal half, and occasionally the bases of the sixth and eighth also, reddish ferruginous. Length $3\frac{1}{2}$ lines.

The rings on the antennæ are in some examples scarcely apparent.

EUMATHES [Lamiidæ].
(Dejean, Cat. de Coléop.)

Head short, narrower below the eyes. Antennæ setaceous, longer than the body, distant at the base, the first joint of moderate length and thickness, the third longest of all, the remainder gradually decreasing

in size. Eyes large, deeply emarginate. Epistome and lip short, the former scarcely broader than the latter; terminal joint of the palpi ovate, pointed. Mandibles entire at the apex. Prothorax subquadrate, slightly toothed at the side. Elytra subdepressed, wider than the prothorax, the sides gradually rounded to the apex. Legs rather short, anterior cotyloid cavity slightly angulated externally, femora subclavate; tibiæ straight; tarsi narrow, the basal joint of the posterior as long as the rest together, the claw-joint short, claws strongly toothed. Prosternum simple, mesosternum keeled.

The toothed claws, combined with the keeled mesosternum, will distinguish this genus from *Hebestola*, which appears to me to be its nearest ally. *Eumathes undatus*, published by me in the Entomological Society's 'Transactions,' 2 ser. iv. p. 251, I believe to be congeneric with *E. jaspidea* (Dej.).

STERNACANTHUS [Cerambycidæ].
Serville, Ann. de Soc. Ent. de Fr. i. p. 172.

Sternacanthus Batesii.

S. ater, nitidus; elytris fasciis subintegris tribus rubris.
Hab. Para.

This insect has long stood in my cabinet as *S. undatus*, Ol. Mr. Bates, however, has recently called my attention to the differences between the two; and since that I have seen two specimens of the true *undatus* in the extensive collection of Wm. Jeakes, Esq., and which were formerly in the possession of the Marquis de la Ferté. In the true *undatus* the bands have precisely the undulating character represented in Olivier's figure, and are very different from the nearly straight, although slightly toothed bands of the *Batesii*; the habit is also different; and were the two insects compared, other characters would doubtless be found to distinguish them.

STENYGRA [Cerambycidæ].
Serville, Ann. de Soc. Ent. de Fr. iii. p. 95.

Stenygra contracta.

S. fusca, nitida; prothorace ampliato, longitudinaliter plicato; elytris medio coarctatis.
Hab. Amazons (Napo).

Dark glossy brown, very sparingly furnished with long pale-yellowish hairs; head moderately elongate, roughly punctured; prothorax subglobose, broader than the elytra, marked longitudinally with numerous fine lines or plaits; scutellum triangular, with a greyish-white pile; elytra elongate, narrowed in the middle, prominent at the shoulders,

and raised at the base, the apex rounded and swollen, an oblique narrow yellow basal line, and at about the middle another, but dilated outwardly, the two forming together an interrupted × mark; femora moderately clavate, the posterior with a spine at its extremity, tarsi slightly curved, densely clothed with golden-yellow hairs internally on its lower half, tarsi rather short; antennæ with a silvery pubescence, the terminal joints very strongly dilated. Length 11 lines.

Near *S. coarctata*, Fab., but with the prothorax shorter and more rounded at the sides, its surface longitudinally marked with fine, wavy, more or less connected lines; the elytra much longer and narrower, and more decidedly contracted in the middle, &c. &c.

STHELENUS [Cerambycidæ].
Buquet, Ann. Soc. Ent. de France, 1859, p. 621.

Sthelenus morosus.

S. fuscus, opacus; elytris abbreviatis, singulis maculis elongatis tribus flavis; antennis articulo secundo longiore, incrassato, piloso.
Hab. Caraccas.

Dark brown, opake, with a few stiff black hairs; head wider than the prothorax, and about one-half its length, covered with large, coarse, often confluent punctures, somewhat transversely arranged, especially on the vertex, front slightly concave; lip small, ferruginous; palpi of nearly equal length, pale ferruginous; prothorax nearly cylindrical, a little constricted towards the base, the disk with numerous fine transverse irregular plaits; scutellum rather elongate, rounded behind, somewhat concave; elytra coarsely punctured, much wider than the prothorax, nearly flat above, curved slightly inwards at the side, not extending beyond the base of the fourth abdominal segment, each having three oblong longitudinal patches (the last two nearly continuous) of bright-yellow, curved, appressed hairs; legs rather short, tibiæ and tarsi slender; body beneath pitchy brown; antennæ scarcely longer than the body, the third joint thicker than the basal, and largest of all, hairy, the seventh to the eleventh inclusive short and a little dilated. Length 8 lines.

The above applies exclusively to the male; the female is smaller, more ferruginous, with *longer* antennæ, the terminal joints not dilated, but the third as thick in proportion as in the male. Instead of referring this species to the genus *Sthelenus* of M. Buquet, it will perhaps be thought that it would have been more advisable to have considered it as the type of a new one. I regard *Sthelenus*, however, as very closely connected with *Ozodes*, Lew.; and as in that genus we find the prothorax more or less nodose, and the third (and sometimes the fourth and fifth) joints of the antennæ considerably incrassated,

so we may expect to find the same variations in the present. Beyond this, I see nothing to justify its separation from that genus. My example of *Sthelenus ichneumoneus*, Buq., is from the Amazon Valley, and differs in this respect, that the legs are concolorous, except the posterior, which are somewhat darker.

PHORACANTHA [Cerambycidæ].
Newman, Ann. and Mag. Nat. Hist. v. p. 19 (1840).

Phoracantha superans.

P. fuscus; prothorace parvo, subæquali, leviter rugoso, spina laterali elongata recta; elytris elongatis parallelis, pallide fulvis, basi marginibusque castaneis, apice bispinosis.

Hab. Tasmania.

Dark brown; head small, with shallow confluent punctures, an impressed line between the eyes; prothorax small, subequal, covered with coarse confluent punctures, an elliptical space, on the median line near the base, smooth and shining, the side with a slender, elongate, straight spine; scutellum small, triangular; elytra broad, a little depressed, five times as long as the prothorax, pale fulvous yellow, the base and margins dark chestnut-brown, thickly and deeply punctured, gradually decreasing in size and proximity as they approach the apex, each elytron with two smooth elevated lines, not extending to the apex, and terminating in two long acute spines; legs ferruginous, with yellow silky hairs on the tibiæ and tarsi; antennæ ferruginous, covered with a close greyish pubescence, except the basal and second joints, the third to the seventh inclusive armed with a spine at the apex; body beneath pitchy, pubescent. Length 10 lines.

Very distinct, and not to be compared with any other *Phoracantha* that I am acquainted with. The amount of chestnut-brown on the elytra varies.

CERESIUM [Cerambycidæ].
Newman, Entom. p. 322.

Ceresium apiculatum.

C. luteum, subnitidum, punctulatum; elytris lateribus piceis, apice singulatim acuminatis.

Hab. Moluccas (Batchian).

Reddish yellow, shining, nearly free from pubescence, covered with numerous small punctures; head not prolonged in front, a short impressed line between the antennæ; prothorax subparallel, darker at the sides, rather longer than broad; scutellum subcordate; elytra slightly lobed at the shoulder, rather depressed, parallel, the apex of each terminating in a sharp submedian point, irregularly punctured, the sides

darker, inclining to pitchy; antennæ, except the basal joint, lower part of the tibiæ and tarsi pubescent; mandibles black at the apex; terminal joint of the maxillary palpi elongate, scarcely triangular, of the labial narrowly triangular; abdomen impunctate, pale luteous. Length 4 lines.

CLYTUS [Cerambycidæ].

Fabricius, Syst. Eleuth. tom. ii. p. 345 (1801).

Sect. Antennæ setaceæ, corpore vix longiores. Prothorax ovatus. Femora vix clavata.

Clytus patronus.

C. elongatus, subcylindricus, flavo-aurantiacus; prothorace elliptico-ovato; elytris apice truncatis, externe spinosis, maculis duabus marginalibus obliquis fasciaque postica atris.

Hab. Batchian.

Elongate, subcylindrical, pubescent, yellowish-orange, light on the elytra; head nearly vertical, quadrate in front, with a semilunar impression on each side between the eye and epistome; eyes dark brown, tips of the mandibles black; antennæ setaceous, rather longer than the body, a little hairy beneath, the fourth joint shorter than either the third or fifth; prothorax elliptic-ovate, with narrow anterior and posterior margins; scutellum subtriangular, rounded below; elytra rather wider than the prothorax, gradually tapering to the apex, which is truncate, with the outer angle terminating in a spine; each elytron with three equidistant, black spots, the two first oblique (downwards and outwards), not connected at the suture, the third forming a continuous band near the apex; legs rather long, slender; body beneath rather glossy, slightly pubescent. Length 7 lines.

C. Balyi, Pasc., is the nearest ally of this handsome species.

Sect. Antennæ sublineares, compressæ, corpore vix longiores. Prothorax globosus, postice constrictus. Femora haud clavata.

Clytus diophthalmus.

C. rufo-castaneus, sericeus; prothorace maculis duabus nigris; elytris brevibus, parallelis, integris, dimidio apicali nigris, valde sericeis.

Hab. Queensland (Moreton Bay).

Reddish-chestnut, silky, covered with numerous very fine, erect hairs; head subtriangular in front; eyes reddish brown, tips of the mandibles black; antennæ rather long, sublinear, compressed, especially the terminal joints, the third and fifth of equal length, the fourth much shorter; prothorax nearly globose, except at the base, where it is strongly constricted, the disk with a large black spot on each side; scutellum nearly triangular; elytra rather short, somewhat depressed, the sides parallel, the humeral angle produced, the apex entire, rounded, and very convex, posteriorly (but rather less than the half) black, very

silky, the colour varying according to the light, but bordered obliquely in front by a narrow line of straw-yellow, which ascends parallel to the suture for a short distance towards the scutellum; legs long, slender, compressed; body beneath reddish brown, the abdomen black. Length 7 lines.

A handsome and remarkable species, and not to be assimilated to any other known to me. In outline only it may be compared to *C. thoracicus*; but there the femora are clavate.

Sect. Antennæ subclavæformes, breves. Prothorax globosus. Femora clavata.

Clytus stenothyreus.

C. niger; prothorace albo maculato; scutello angustato, albo piloso; elytris planatis, pubescentibus, marginibus apiceque infuscatis; femoribus rufis.

Hab. Batchian.

Head short, subtriangular in front, roughly punctured, black, with two white hairy stripes between the eyes and antennæ; eyes rather large, pale fulvous; antennæ black, subclaviform, half the length of the body; prothorax nearly globose, wider than the head, roughly punctured, black, a line at the side and eleven spots on the disk composed of white hairs; scutellum elongate, narrowly triangular, densely covered with white hairs; elytra scarcely as broad at the base as the prothorax, then gradually narrowing to the apex, which is truncate, with the outer angle acute, nearly flat above, and, but slightly, bent in at the sides, pale fulvous, darker towards the apex and along the exterior margin, and very sparsely pubescent; femora short, moderately clavate, yellowish red, tibiæ and tarsi dark brown; body beneath black, the abdomen glossy, with the two basal segments and sides of the metasternum bordered with white. Length 4 lines.

I am unable to compare this well-marked species with any other known to me. The flat elytra very imperfectly covering the abdomen, and in some degree the habit, suggest an affinity, or rather an analogy, with *Stenopterus*, *Thranius*, &c.

Sect. Antennæ lineares, breves. Prothorax globosus vel subglobosus.

Clytus deterrens.

C. niger; prothorace brunneo-rufo; elytris macula subbasali fasciisque duabus, una pone medium, altera apicali, albis.

Hab. South Africa (N'Gami).

Head short, transverse in front, black, rather sparsely covered with short white hairs; prothorax globoso-ovate, brownish red, with scattered white hairs; scutellum small, transverse, rounded behind; elytra subtruncate at the apex, black, closely covered with short hairs, a round

spot at some distance from the shoulders and towards the side, a band behind the middle, and another at the apex white; antennæ short, linear, unarmed; legs of moderate length, femora not clavate; body beneath black, nearly glabrous, the two basal segments of the abdomen with a white silky fringe. Length 4 lines.

This species will rank with the common European forms, particularly such as *C. trifasciatus, ruficornis,* &c. It is one of Mr. Anderson the African traveller's captures.

Sect. Antennæ breves, setaceæ. Prothorax ovatus vel globoso-ovatus. Femora haud clavata.

Clytus notabilis.

C. elongatus, viridi-flavus; prothorace nigro bimaculato; elytris apice truncatis, fascia basali literam W simulante, altera media angulata maculisque posticis duabus ornatis.

Hab. Japan.

Elongate, densely covered with pale-greenish-yellow hairs, and spotted or marked with black; head small, quadrate in front; eyes, mandibles, and palpi horn-colour; prothorax ovate, with two black spots on the disk; scutellum transverse, rounded behind; elytra subparallel, obliquely truncate at the apex, a black V-shaped mark at the base of each, which, barely meeting below the scutellum, form together a rude resemblance to the letter W, behind this there is another band or blotch, zigzag or very strongly toothed, not extending to the side or meeting at the suture, and midway between the latter and the apex is a black irregular patch; antennæ setaceous, unarmed, shorter than the body, black, sparsely clothed with yellowish hairs; legs slender, elongate, black, with a thin yellowish pubescence, femora not clavate; body beneath covered with greenish-yellow hairs. Length 8 lines.

This fine *Clytus* will come into the section that should also contain such species as *annularis, signaticollis,* &c. I have not adopted any of the genera of MM. Leconte, Chevrolat, and Thomson, which they have proposed for comparatively a few of the members of the old genus *Clytus.* The species generally comprised under this name, although remarkably heterogeneous in many respects, are connected by characters so intermediate, that it appears to me to be impossible to fix any satisfactory limits to many of these groups. As an example, the genus *Cyllene,* Newm., confined by M. Thomson, as I think it should be, to *C. nebulosus,* is by M. Chevrolat (no mean authority) made to include a number of North American species also. Like *Feronia,* which, after having been divided into some thirty or forty genera by the Baron de Chaudoir, left a large surplusage which could not be placed in any of them, so I believe it

would be with *Clytus*. The genus must be worked out in its entirety, if it is to be divided satisfactorily. Among the *Clyti*, however, there seems to me to be two groups which, by their habit principally, deserve to be distinguished—one *Rhaphuma*, Thoms., including *C. quadricolor*, Lap., *C. leucoscutellatus*, Hope, and *C. placidus*, Pasc., the other, unnamed, comprising *C. lunatus*, Newm., *C. Hardwickii*, White, and *C. cruentatus*, Pasc. Both these groups appear to be well limited and well marked; but their technical characters, I fear, will not be very valuable.

Zoëdia [Cerambycidæ].

Head subquadrate in front, constricted into a neck behind. Eyes narrow, elongate, deeply emarginated. Antennæ eleven-jointed, filiform, as long as the body; all the joints, except the second, nearly equal in length, the basal thickened, obconic. Palpi with the last joint narrowly triangular, obliquely truncate. Prothorax nearly as broad as long, narrow anteriorly, a stout tubercle at the side. Elytra broader than the prothorax, subparallel, rounded at the apex. Legs slender; tarsi nearly linear, the basal joint elongate. Pro- and mesosterna simple.

Near *Tillomorpha* and *Euderces*, but differing completely in the form of the head, the prothorax, &c. With *Attodera** it agrees in having the prothorax of a similar character, although more robust, and in its neck; but the peculiar round, ant-like head of the latter, and its perfectly entire eyes, place it in a different subfamily. Of the two species described below, I have only seen one individual of each.

Zoëdia triangularis. (Pl. XVII. f. 3.)

A. niger, sericeo-pubescens; capite, prothorace elytrisque macula magna triangulari rufis; antennis rufis, articulo basali infuscato.

Hab. Australia (Melbourne).

Head canaliculate in front, finely punctured, and with the prothorax brownish red, inclining to ferruginous; eyes narrow, oblique, slightly emarginate, pale red; antennæ rather shorter than the body, red, the basal joint clouded with brown; palpi and mandibles red; prothorax longer than broad, swelling out considerably at the side behind the middle, where it is as wide as the head, very narrow and produced anteriorly; scutellum triangular, dull brown; elytra wider than the prothorax, especially at the base, the sides parallel, abruptly deflexed and rounded posteriorly, brownish black, with silky and somewhat silvery pubescence, a large triangular reddish patch, the apex com-

* *Pseudocephala*, Newm. This name being preoccupied, as well as a more recent one, *Orthocephalus*, Mr. Thomson informs me (*in litt.*) that he intends to propose *Attodera* in his forthcoming work on the Longicorns.

mencing at the scutellum, and extending downwards and outwards to the side as far as the middle, but drawing up a little as it approaches the suture; legs slender, sparsely clothed with long stiffish hairs, tarsi and lower part of the tibiæ pale ferruginous; sterna and abdomen pitchy black; anterior coxæ very large, contiguous, and greatly exserted. Length $3\frac{1}{2}$ lines.

A single specimen in Mr. Waterhouse's collection.

Zoëdia divisa. (Pl. XVII. f. 1.)

A. rufo-fulva, sericeo-pubescens; elytris pone medium, femoribusque, basi exceptis, infuscatis, illis medio litura curvata pilosa instructis.

Hab. Australia (Kangaroo Island).

Reddish fulvous, covered with a pale silky or silvery pile; head rather expanded below the eye, canaliculate between the antennæ, which are unicolorous and about as long as the body; eyes slightly emarginate, dark brown; mandibles black at the apex; prothorax scarcely longer than broad, swelling out at the middle into an obtuse knob; scutellum small, triangular, brown; elytra wider than the prothorax, slightly incurved at the side, the apical third brownish grey or pale fuliginous, above which is a darker patch or band, which becomes gradually paler towards the suture, from the side at about the middle a curved line of dark thickly set hairs ascends inwards and upwards, terminating at a distance from the base equalling its own length, and bordered posteriorly by another line of pale yellow; legs dull fulvous, the femora brownish grey, except at the base; body beneath black. Length 4 lines.

A single specimen in Mr. Bakewell's collection.

Mesolita [Cerambycidæ].

Head quadrate. Antennæ setaceous, longer than the body, distant at the base, the first joint short, clavate, the third longest, the rest gradually shorter. Palpi slender, terminal joint of the maxillary ovate. Eyes small, lateral, reniform, widely apart in front. Prothorax ovate, convex. Elytra obovate, swelling out posteriorly, without humeral angles, not larger than the prothorax at the base, the apex divaricate, acute. Pro- and mesosterna simple, continuous (*i. e.* without opposing faces). Legs of moderate length; femora clavate; tarsi gradually dilated to the third joint, the basal as long as the two following, except in the anterior pair.

The absence of humeral angles and the exact apposition of the prothorax to the elytra are the most striking characters of this genus. In these respects it resembles the Dorcadion group among the Lamiidæ; but its affinity appears to be with *Tillomorpha*, *Euderces*, &c., and therefore allied to *Clytus*.

Mesolita transversa. (Pl. XVII. f. 7.)

M. pubescens, fuliginosa, scutello elytrisque basi cinereis, his fascia transversa lunata apicem versus alba.

Hab. Queensland.

Pubescent, smoky brown; head nearly quadrate in front; prothorax broadly ovate, its posterior margin narrowest; scutellum rather large, triangular, cinereous; elytra contracted at the base, gradually swelling out above and at the sides, attaining its greatest size at rather within two-thirds their length, the basal portion dull cinereous, separated from the rest by a sharply angled or zigzag line, a crescent-shaped white band on the posterior third, the apex simply acuminate; legs rather robust; femora slender at the base; the tibiæ slightly ciliated internally, the intermediate and posterior tibiæ also ciliated externally at the apex; body beneath pitchy, with a greyish pubescence; antennæ with the fourth to the seventh joints inclusive cinereous at the base. Length $2\frac{1}{2}$ lines.

Mesolita lineolata.

M. pubescens, fusca, auro lineolata; elytris basi granulatis; antennis ferrugineis.

Hab. Queensland.

Dark brown, pubescent; head in front somewhat transverse, epistome and lip rusty brown, eye bordered with pale-yellowish hairs; prothorax very slightly contracted at the base and anteriorly, its disk with four yellow linear spots (placed ∴), and another on each side; scutellum triangular, dull yellow; elytra contracted at the base, the largest portion at about two-thirds the length, with several fine, golden-yellow, interrupted lines, the apex spined; legs rather robust, femora less clavate, but the tibiæ ciliated as in the last; body beneath pitchy; antennæ and palpi ferruginous. Length 5 lines.

Callidium [Cerambycidæ].
Fabricius, Syst. Entom. p. 187 (1775).

Callidium inscriptum.

C. testaceum nigro pictum, parce pilosum; prothorace breviter ovato, postice constricto; elytris dense punctatis, nigro fasciatis; femoribus clavatis, ferrugineis, basi pallidis.

Hab. Queensland.

Testaceous, varied with black, with long, scattered, very pale hairs; head short, slightly ferruginous, a darker patch on the vertex; eyes large, black; palpi ferruginous; tips of the mandibles black; antennæ longer than the body, the two basal joints entirely, the remainder at the apex, ferruginous; prothorax shortly ovate, contracted behind, very minutely punctured, a short black dash on each side at the base; scu-

tellum long, subtriangular, black; elytra wider than the prothorax, the sides nearly parallel, coarsely and closely punctured, a semicircular band at the base enclosing the shoulder, a zigzag at the middle, and a straight narrow band towards the apex black; legs pale testaceous, the femora clavate, shining, ferruginous, the base pale; body beneath nearly glabrous, brown, darker on the throat and breast. Length $3\frac{1}{2}$ lines.

The nearest ally of this species appears to be —— *signiferum*, Newm., a much darker and differently marked insect. The latter, together with *C. scutellare*, Fab. (—— *piceum*, Newm.), is referred to a genus neither named nor described by that author, but for which Mr. White has adopted, also without description, the name of *Callidiopis* (Blanch.). I don't know what the characters may be which are to distinguish it from the polymorphous *Callidium*. The antennæ and prothorax are as variable as the coloration.

TMESISTERNUS [Cerambycidæ].

Latreille, Reg. An. v. p. 121 (1829), non Serville (1833).

Tmesisternus exaratus.

T. chalceo-fuscus, griseo maculatus; prothorace valde transverso; elytris fortiter sulcatis, interstitiis elevatis, fasciis griseis interruptis ornatis, apice extus spinosis.

Hab. Aru.

Robust, dark bronze-brown, more or less spotted with patches of greyish hairs; head broad in front, narrowed behind the eyes, two slightly raised lines forming a ∧ above the epistome, the vertex canaliculate, four to six spots in a line beneath the eyes, two between and four behind them; prothorax very transverse, rounded and narrowed anteriorly in the male, the border in front nearly straight, dilated anteriorly in the female, and the border broadly emarginate for the reception of the head, dull bronze, coarsely punctured at the side, leaving a broad, smooth, shining line in the middle; scutellum transverse, rounded behind; elytra strongly sulcated, the interstices forming broad, raised lines, the central ones more or less united posteriorly and not reaching the apex, the sulcated lines filled in here and there with a greyish pile, forming partial spots which assume the appearance of interrupted bands (two or three—in some individuals scarcely apparent), apex strongly spined externally; legs and antennæ sparsely pubescent; body beneath glossy chestnut-brown, a single white spot on each side of each abdominal segment. Length 9 lines.

The nearest affinity of this well-marked species is with *S. sulcatipennis*, Blanch., from which, amongst other characters, it is distinguished by its metallic colour and apiculate elytra.

Tmesisternus tersus.

T. niger, nitidus, pube subtilissima grisea tectus; elytris disperse punctatis, apice subsinuatis, muticis, fasciis duabus albis ornatis; antennis, tibiis tarsisque rufo-fulvis.

Hab. Goram (Moluccas).

Rather robust, black, shining, the upper surface covered with a uniform, very fine greyish pile, the two bands on the elytra alone have the hairs of a coarser texture; head deeply channeled in front, a nearly straight raised line at the root of the antenna, between them a few punctures only, the vertex scarcely punctured; prothorax transverse, narrowed in front, coarsely punctured on each side, leaving a smooth space in the middle; scutellum nearly round; elytra irregularly punctured, rather convex at the base, the apex subsinuate, unarmed, a pale-greyish or nearly white band at one-third the length of the elytra from the base, another, but curved forwards and narrower, at about the same distance from the apex; antennæ, tibiæ, and tarsi reddish fulvous, sparingly pubescent; body beneath glossy black, the sides covered with a glaucous pubescence. Length 8 lines.

So very closely allied to *T. trivittatus*, Guér., as, except on comparing them side by side, to be readily mistaken for it; besides certain differences of colour, however, *T. tersus* has the punctures on the elytra irregularly dispersed, not forming two or three rows near the suture, and the apex is entirely unarmed; the vertex and front are also very slightly punctured; the clear reddish-yellow colour of the antennæ, tibiæ, and tarsi, and the leaden tint of the rest, contrast strongly with the general olive hue of *T. trivittatus*. I may observe here that Guérin's name is singularly inappropriate; the animal has not *three stripes*, but *two bands*. Boisduval has proposed to remedy this by substituting "*bicinctus*;" but the law of priority, I fear, cannot admit the alteration. Another *Tmesisternus*, from Ceram, although sufficiently distinct at the first glance, appears to me to be only a local subspecies of the present: there is the same general disposition of colours; but the two bands are very indistinct, and the spaces between them and the apex respectively occupied by a series of closely arranged stripes of a pale leaden hue. I have seen a number of both forms, but nothing intermediate. There is still another form, from Makian (a small island near Batchian), so nearly concolorous that, except at the apex, no markings are visible without the aid of a lens.

Tmesisternus herbaceus.

T. fusco-viridis, fusco variegatus; elytris subseriato-punctatis, apice oblique truncatis, singulo macula griseo-alba pone medium externe notato: femoribus tibiisque flavo-viridibus, tarsis rufo-testaceis.

Hab. Mysol.

Rather narrow, shining, dark brownish green varied with brown, with a thin, sparse, greyish pile; head grey, with an impressed line in the middle, and very few punctures on the vertex and front; eyes pale brown; antennæ slender, longer than the body, the basal half pale green, the apices reddish yellow, the remainder darker, brownish, or brownish yellow; prothorax dark green, as long as broad, coarsely punctured, with a smooth median line; scutellum subquadrate; elytra subseriate punctate, one or two faintly raised lines on each, but more strongly marked at the base, the apex obliquely truncate, dark green, behind the middle and close to the external margin a large greyish-white spot, surrounded, but particularly along the side, by dark brown, towards the apex paler, with a brownish indefinite patch; femora and tibiæ pale yellowish green, tarsi reddish testaceous; body beneath glossy chestnut-brown, the sides with a reddish pile. Length 5 lines.

A very distinct species.

SYLLITUS [Cerambycidæ].
Pascoe, Trans. Ent. Soc. Lond. 2 ser. v. p. 24.

Syllitus Parryi.

S. fusco-niger, obscurus; prothorace antice posticeque rufo; elytris singulis fulvo quadrilineatis, lineis duabus prope suturam conjunctis.
Hab. Australia.

Dull brownish black; head subtriangular, vertex and space between the antennæ black, stripe over the eyes and rest of the head pale reddish, behind the insertion of each antenna a small tubercle; prothorax finely punctured, about half as long again as broad, the anterior half cylindrical, the posterior expanding into a mammiform tuber, and there nearly as wide as the elytra, the base contracted, the disk with four tubercles, the two posterior largest, the anterior and posterior margins pale red; scutellum convex, rounded, brown; elytra narrow, parallel, each with four pale-yellow, raised, smooth, longitudinal lines, the two towards the suture united near the apex, the third about two-thirds the length of the first, the fourth marginal, the spaces between the lines punctured; legs black; pro- and mesosterna and four anterior coxæ red, metasternum and abdomen black, the latter with a silvery pubescence. Length 6 lines.

This species will be at once distinguished from *S. rectus*, *grammicus*, and *deustus*, not only by its greater size and more robust form, but by its quadrilineated elytra and dark-brown nearly black prothorax. In the fifth volume of the 'Transactions of the Entomological Society,' n. s., I proposed to separate, under the name of *Syllitus*, those species of *Stenoderus* with elevated longitudinal lines on the elytra, from the ordinary red and black ones which constituted the genus originally. The technical characters which distinguish it are perhaps only of secondary importance, as is the case

with many others in the Longicorn families, yet taken in connexion with the fact that one has a type of coloration different from the other, will, I think, justify its adoption.

Dœsus [Cerambycidæ].

Head rounded, slightly contracted behind the eyes. Antennæ setaceous, distant at the base, longer than the body, the first joint short tumid, the second very short, the remainder subequal. Eyes very large, oblong, nearly entire. Lip very small, rounded anteriorly. Palpi growing gradually thicker, the last joint subtriangular. Prothorax nearly equal in length and breadth, narrower in front, rounded behind, the sides carinated. Elytra wider than the prothorax, parallel, the humeral angle produced. Legs moderate, tibiæ slightly curved externally, their margins tuberculate and fringed with short hairs, the first tarsal joint shorter than the two next together. Abdomen soft.

The above description is drawn up from what appears to be a male, in the collection of Major Parry. It has a striking resemblance to a *Telephorus*, but is related to *Vesperus*, although the form of the head and prothorax is so far different that we miss the slenderness which gives such a remarkable contour to the species of that genus; the presence also of a well-marked carina along the side of the prothorax, which, however, does not extend its whole length, would alone suffice to distinguish it. It may also be noted that whilst in *Vesperus* the tibiæ are slender and perfectly straight, in *Dœsus* they are tolerably robust and curved externally, and the basal joint of the tarsi is shorter than the two next together, which is not the case in *Vesperus*. The form and position of the coxæ, palpi, and antennæ, except that the latter are more distant at their insertion, are so far identical as to call for no further notice.

Dœsus telephoroides. (Pl. XVII. fig. 4.)

D. testaceo-ferrugineus, subnitidus; elytris breviter pilosis; oculis nigris.
Hab. India.

Testaceous inclining to ferruginous; head, prothorax, femora, except beneath, and basal joint of the antennæ smooth, somewhat shining; elytra covered with very short greyish hairs, and each with three slightly raised lines; body beneath paler, with a very sparse pubescence; eyes black; tips of the mandibles dark brown; head slightly broader than the prothorax, rather convex in front; eyes prominent; prothorax but slightly convex; elytra considerably wider than the prothorax, rather elongate. Length $7\frac{1}{2}$ lines.

AMIMES [Cerambycidæ].

Head very short and rounded in front, narrowed behind the eyes. Antennæ eleven-jointed, arising between the eyes from short divaricate tubercles, two or three times as long as the body, setaceous, the basal joint short, narrowly subpyriform, the third twice its length, the remainder gradually longer. Eyes large, prominent, reniform. Palpi slender, pointed. Lip and epistome very short and transverse. Mandibles entire at the apex. Prothorax elongate, irregularly subcylindrical, narrower than the head and elytra, unarmed. Elytra subparallel. Legs slender, basal joint of the tarsi elongate. Anterior cotyloid cavity widely angulated externally, open behind; its coxæ conical, approximate. Pro- and mesosterna simple.

The specimen from which the above generic details have been drawn up was originally described by me in the 'Trans. Ent. Society,' 2nd ser. iv. p. 238, as *Psilomerus? macilentus*. The generic name was a MS. one used for a congener at the British Museum, but, as I afterwards found from an inspection of the true *Psilomerus* at Paris (Jardin des Plantes), had nothing whatever to do with my species. As I cannot refer it to any published genus, a new name has therefore become necessary. With regard to its affinities, I have with some hesitation placed it near *Methia*, Newm., hitherto forming with *Dysphaga*, Hald., a small group, originally proposed by Leconte, and principally characterized by its anterior cotyloid cavities open behind. M. James Thomson in his 'Essai,' p. 128, combines *Dectes*, Leconte, with them; but this and *Dysphaga* I have not seen.

Amimes macilentus. (Pl. XVII. fig. 6.)

MACRONES [Cerambycidæ].
Newman, The Entomologist, p. 33.

Macrones acicularis.

M. angustissimus, ferrugineus; elytris rufo-testaceis, unicostatis; tarsis posticis albis.

Hab. Australia (Adelaide).

Very narrow and elongate, ferruginous; head punctured in front, deeply impressed between the antennæ, the vertex dark brown; prothorax punctato-granulate, very irregular, with a protuberance at the side near the base, and another on the disk above it; scutellum small, bluish-black; elytra terminating at the end of the third abdominal segment, reddish testaceous, with a strongly raised longitudinal line on each; abdomen above dark brown; legs slender, posterior tarsi yellowish white; body beneath brown, abdomen at the base ferruginous; antennæ not reaching to the end of the elytra, dull brown, the basal joint ferruginous, the three apical yellowish white. Length 8½ lines.

ACYPHODERES [Cerambycidæ].

Serville, Ann. de la Soc. Ent. de France, ii. p. 549.

Acyphoderes brachialis.

A. fuscus; capite prothoraceque sericeis, fulvo variis; elytris vitta flavescenti; femoribus intermediis posticisque, basin versus, flavo annulatis, tibiis anticis intus dentatis; abdominis segmento penultimo dente bifido instructo.

Hab. Brazil.

Dark brown; head narrow and elongate, a patch of yellow silky hairs between the eyes, dividing into angular branches below them; prothorax ovate, narrower than the elytra at the base, covered with a silky pubescence varied with four rather indistinct yellow stripes; scutellum narrowly triangular, pale yellow; elytra extending to the middle of the third abdominal segment, punctured at the base, a yellow vitreous stripe from near the base to the apex; legs more or less hairy, especially on the inner side of the intermediate and posterior tibiæ; anterior tibiæ with a strong tooth beneath, near the middle; intermediate and posterior femora annulated with yellow towards the base; body beneath dark brown shining, the metasternum varied with indistinct patches of yellow silky hairs, abdomen elongate, very slender, the basal segment narrowest, the penultimate furnished with a broad bifid tooth at its apical margin. Length 9 lines.

The curious bilobed tooth beneath the abdomen is not, I think, a sexual character, as might be supposed, as it also occurs in what appear to be both sexes in one or two other species of this genus. The abdomen is very much attenuated at the base—a character which, in the group to which it belongs, appears to be only of specific importance. I have not seen any other species having the protibiæ toothed.

HESTHESIS [Cerambycidæ].

Newman, Ann. Nat. Hist. v. p. 17 (1840).

Hesthesis plorator.

H. niger; prothorace margine antica, elytrisque macula apicali flavidis; abdomine supra, segmento primo basi tertioque apice, et infra tribus primis flavo marginatis; femoribus rufo-ferrugineis.

Hab. Melbourne.

Black, with patches or lines of pale-yellow hairs; a patch of yellow hairs in the concavity between the eyes; prothorax subtransverse, tumid at the side, closely punctured, the anterior margin bordered with yellow hairs; scutellum black, triangular; elytra greyish brown, lighter at the base, shoulder and an oblique line at the apex covered with yellow hairs; abdomen above with the first segment at the base, margin of the third, and beneath the first three at the apices bordered

with yellow hair; legs reddish ferruginous; antennæ black; posterior angle of the metathorax yellow. Length 7 lines.

Differs from *H. mœrens*, Pasc., in the narrower prothorax, longer elytra, the absence of the yellow border at the apex of the first abdominal segment above, and in the first three segments beneath margined with yellow.

DISTICHOCERA [Cerambycidæ ?].
Kirby, Trans. Lin. Soc. xii. p. 471.

Distichocera mutator.

D. ater; prothorace vittis duabus elytrisque rubro-aurantiacis.
Hab. Queensland.

Deep black; two broad lateral stripes on the prothorax, and the elytra, reddish-orange; head produced anteriorly, deeply grooved between the antennæ, a broad longitudinal excavation on each side in front, a silvery pubescence beneath the eyes, which are of a pale horn-colour; prothorax rather broader than long, black, a wide orange stripe on the disk on each side; scutellum triangular, black, bordered with orange; elytra slightly narrowing from the shoulders, the apex subtruncate, the outer angle toothed, each with five elevated lines, the intervals closely and finely punctured; antennæ about two-thirds the length of the body; legs slender, the tarsi fringed with silvery hairs. Length 9 lines.

This is so exceedingly like the female of *Distichocera maculicollis*, Kirby, that it might be very readily taken to be the male if we had not been already well acquainted with the sex of that species.

EXPLANATION OF THE PLATES.

PLATE XVI.

Fig. 1. *Dœothena platypoda.*
„ 2. *Ethas carbonarius.*
„ 3. *Rhypasma pusillum.*
„ 4. *Aposyla picea.*
„ 5. *Zygænodes monstrosus.*
„ 6. *Phenace œdemerina.*
„ 7. *Ochotyra semiusta.*
„ 8. *Piœnia saginata.*
„ 9. *Ino ephippiata.*

PLATE XVII.

Fig. 1. *Zoëdia divisa.*
„ 2. *Goëphanes luctuosus.*
„ 3. *Zoëdia triangularis.*
„ 4. *Dœsus telephoroides.*
„ 5. *Brimus spinipennis.*
„ 6. *Amimes macilentus.*
„ 7. *Mesolita transversa.*
„ 8. *Echthistatus spinosus.*
„ 9. *Serixia ornata.*

XXVII.—*Notes on* Tarphii; *with the Description of an allied Genus.* By T. Vernon Wollaston, M.A., F.L.S.

Whilst preparing for the following Memoir on the various *Tarphii* (nine in number) which have hitherto been discovered in the Canary Islands, my attention was directed (in March of last year) by Mr. Adam White, of the British Museum, to what seemed *primâ facie* to be a new species from Southern India, obtained by M. J. Walhouse, Esq., at Coimbatoor; and finding, after a careful dissection of it, that its oral organs were almost identical with those of *Tarphius* proper, I characterized it under the title of *T. indicus*, and appended it to my paper,—at the same time pointing out certain structural peculiarities, of minor signification, in which it receded from the typical members of the group. But on inspecting a box of various Coleoptera, six months afterwards, which were collected by Mr. Bowring at Poulo Penang (on the opposite side of the Bay of Bengal, in the Malay Peninsula), a much larger representative—apparently congeneric with the one from Malabar, but diverging considerably more than it did from the normal *Tarphii*—induced me to look more critically into the generic details of these two insects, and to compare them not only *inter se*, but also with those of their Atlantic allies. The result has been that I cannot but regard them as entirely distinct from *Tarphius*,—the main question being, whether they can *themselves* be generically associated. After fairly considering this point, I believe that such should be the case; for, although they present the radical difference of one of them having powerful wings, a conspicuous scutellum, and setose eyes, whilst the other is apterous, with the scutellum but just perceptible, and the eyes naked, still in all their other minutiæ (both external and structural) they have so very much in common that I am inclined to use these discrepancies for a no higher purpose than a mere sectional one,—though, at the same time, I have thought it better to give the second group a provisional name, in the event of its being considered desirable hereafter to detach it *in toto* from the first.

From *Tarphius* proper *both* of these beetles (though more especially one of them) differ in their larger eyes and developed scutellum, in their less abbreviated metasternum and setose legs (the hinder pair of which have their coxæ considerably more approximated), in the expanded edges of their prothorax having no trace of a hollowing-out beneath for the reception of the antennæ when thrown backward in a state of repose, and in the terminal joint of their palpi being

more elongate and fusiform. And they recede from the *Tarphii* still further in having no nodules and interrupted ridges on their elytra, and in their pronotum being impressed along the centre of its base with a deep transverse line.

On the other hand, in their general facies and setose surface, no less than in the construction of their antennæ and 4-jointed feet, and in the shape of their upper lip, and of their quadrate, corneous ligula and mentum, these insects are alike coincident with *Tarphius*, which is, I believe, their nearest known ally.

After these few remarks, therefore, I think that the following short *comparative* diagnosis will be sufficient to indicate the group (for which I would propose the name of *Tarphiodes*), both absolutely and with reference to the exact points in which it differs from *Tarphius*.

Genus Tarphiodes (nov. gen.).

Corpus ut in *Tarphio*, sed majus, interdum alatum; *oculis* majoribus, magis prominentibus necnon interdum (una cum pedibus) setosis; *prothorace* ad basin in medio linea transversa profunda impresso, *subtus* simplici (nec pro antennarum receptione utrinque excavato); *scutello* scutiformi, plus minus distincto; *metasterno* longiore, postice in medio (inter coxas posticas) plus minus inciso vel emarginato (nec recte truncato); *elytris* simplicibus (nec nodosis nec costatis). *Antennæ* (Pl. XVIII. 1 *a*) et *instrumenta cibaria* fere ut in *Tarphio*; sed *mandibulis* (1 *c*) paulo minus acutis, subtriangularibus; *palpis* longioribus, *maxillarium* (1 *d*) articulo secundo paulo magis inflato, ultimo longiusculo apice oblique truncato; *labialium* (1 *e*) articulo ultimo multo longiore ac magis fusiformi. *Pedes* ut in *Tarphio*, sed setosi et *postici* ad basin minus distantes.

A *Tarphius*, et εἶδος, forma.

[Typus *Tarphiodes Bowringii*.]

§ I. *Corpus sat magnum; oculis magnis, setosis; scutello distincto, scutiformi; alis sat magnis.*

Tarphiodes Bowringii, n. sp.

T. parallelo-oblongus, niger, vix subnitidus, setis robustis erectis fulvescentibus parce tectus; prothorace brevi, in disco tuberculis maximis valde depressis sed versus latera tuberculis minoribus elevatioribus distantioribus obsito, ad latera paulo sed æqualiter rotundato; elytris seriatim tuberculatis; antennis piceo-ferrugineis; pedibus piceis, valde setosis.

Long. corp. lin. $2\frac{1}{3}$–$3\frac{1}{3}$.

Habitat ad Poulo Penang, a Dom. J. C. Bowring captus.

In its setose eyes this curious beetle recedes from almost every

Coleopterous insect with which I am acquainted,—the only instance that I can now recall in which the organs of sight are thus furnished (and even there in only a very slight degree) being the *Acritus littoralis* (a minute member of the *Histeridæ*), which I have captured from beneath sea-weed in the Canary Islands, on the sandy shores of Lanzarote.

I have much pleasure in dedicating it to its captor.

§ II. *Corpus minoris magnitudinis; oculis minoribus, nudis; scutello minuto, ægre observando; alis obsoletis.*

(Subgenus *Tarphiosoma.*)

Tarphiodes indicus, n. sp. (Pl. XVIII. fig. 1.)

T. oblongo-obovatus, niger, vix subnitidus, setis robustis erectis fulvescentibus parce tectus; prothorace brevi, in disco profunde punctato, ad latera valde et subæqualiter rotundato; elytris convexis, seriatim tuberculatis; antennis ferrugineis, clava dilutiore; pedibus piceo-ferrugineis, tibiis valde setosis.

Long. corp. lin. 2–2¼.

Habitat ad Coimbatoor, in India australi, a Dom. M. J. Walhouse repertus.

In its apterous body and but very slightly developed scutellum, no less than in its diminished bulk, more ovate outline, and smaller, *un*setose eyes, the present beetle approaches the normal *Tarphii* far more closely than the preceding one does; nevertheless the many and important characters which separate it entirely from that genus have already been pointed out. In external *facies*, however, it bears so strong a resemblance to those insects that I have thought it worth while to give a figure of it; and I have added on the same plate a *Tarphius** proper, from each of the three countries in which

* Fig. 2 is the *T. gibbulus*, Germ., from Sicily; fig. 3 the *T. Lowei*, from Madeira; and *fig.* 4 the Palman variety of the *T. canariensis*. As regards the first of these, the Sicilian *T. gibbulus*, although it has been twice drawn already (namely, in the 24th fasciculus of Germar's 'Fauna Ins. Europæ,' and more recently, though less precisely, in the 2nd vol. of M. Duval's excellent 'Genera des Col. d'Europe'), and although I gave a diagnosis of it, in a foot-note, at p. 132 of my 'Ins. Mad.,' I have nevertheless thought it worthy, from the important position which it occupies in having to be accepted as the type of the whole genus, of a place in the present paper. I would therefore re-characterize it thus:—

Tarphius gibbulus.

T. cylindrico-oblongus, piceus, granulis squamisque parvis fuscescentibus parce vestitus et pilis (nec setis) longiusculis subercetis cinereis parce tectus; pro-

the group has hitherto been detected,—preserving also similar letters for their corresponding parts, in order to show at a glance that this analogy, which has been so much insisted upon, is not an imaginary one.

Of the Sicilian *T. gibbulus*, however (fig. 2), I regret that I have been unable to supply the oral organs; for the example communicated by Professor Westwood is unique in his collection, and I consequently did not feel at liberty to dissect it. Of that species, therefore, I have been obliged to content myself with merely the general figure.

thorace breviusculo, convexo, integro (i. e. vix canaliculato), ad latera leviter rotundato, ad basin utrinque (mox intra angulum) excavato; elytris convexis, integris (nec nodosis nec costatis), transversim subtuberculato-rugosis (vix punctatis), versus basin et apicem obscure subrufescentioribus; antennis pedibusque rufo-ferrugineis.

Long. corp. lin. $1\frac{1}{8}$.

Tarphius gibbulus, Germ., Fna. Ins. Europ. fasc. xxiv. tab. 4.
—— ——, Erich., Nat. der Ins. Deutsch. iii. 256, note 4 (1848).
—— ——, Woll., Ins. Mad. 132 (1854).
—— ——, J. Duval, Gen. des. Col. d'Eur. ii. 170, pl. 44. f. 216 (1858).

This little *Tarphius* is smaller than any of the twenty-nine species as yet detected elsewhere, except the *T. Lowei* (from Madeira and Porto Santo),—the smaller examples of which descend to the size of the Sicilian specimen now before me, for the opportunity of re-examining which I am indebted to the kindness of Professor Westwood. It is also remarkable for being sparingly clothed with rather long and fine suberect *hairs*, instead of the strong bristles which are more or less present in most of its Atlantic allies, and which are exceedingly robust in the *Tarphiodes* from Southern India; and it has another peculiarity (which I had failed to observe until now, and which I can scarcely believe to be accidental), namely, that the base of its prothorax has a small *excavation* (which I had regarded as a mere impression in my diagnosis given in the 'Ins. Mad.') on either side, just within the hinder angle. Its other characters consist in its oblong, subcylindrical, and convex body (its prothorax being particularly convex, and with only faint traces of a narrow central channel), in its fusco-piceous hue (there being merely a slight indication of suffused, ill-defined, subrufescent, cloudy blotches just perceptible towards the base and apex of its elytra), and in its elytra (which are quite parallel at the sides) being free from any indication of either nodules or ridges. In the figure given by M. Duval, in his excellent 'Gen. des Col. d'Europe,' the elytra are not made sufficiently parallel; the ground-colour, also, of the entire insect is much too black, and the rufescent patches are immensely too red and defined. Germar's admirable plate portrays all the characters of the species far more accurately. Even that, however, does not indicate the elytral sculpture with sufficient precision; nor does it notice the basal excavations (if indeed they be not accidental in the example now before me) within either hinder prothoracic angle. Prof. Westwood's type is from the collection of the late Mr. Melly, of Liverpool.

In the remaining portion of this paper I propose to describe the nine *Tarphii* which have hitherto been observed at the Canaries. On the special interest which attaches to that curious genus it is needless for me here to dilate; for, so far as the Madeiran and Canarian archipelagoes are concerned, it is not too much to say that there is *no* Coleopterous form more important geographically than *Tarphius*. Confined almost exclusively to the damp laurel-groves of intermediate and lofty elevations, where they may be found adhering to sticks and pieces of rotten wood, the members of it are no less remarkable for their numbers than they are for their inactive or sedentary modes of life; and I think I may safely add that I have never examined a *single* laurel-region in any of those islands without detecting one or more of the exponents of this anomalous group.

Yet, though the head-quarters of *Tarphius* seem to be, unmistakeably, in the intermediate zones of these mountainous sub-African islands, like most other forms topographically circumscribed, it would appear to be not altogether destitute of an outlying member or two in regions far removed from that which must be regarded as *par excellence* its own; and, accordingly, until I commenced collecting in Madeira, in 1847, it was known to science by merely a solitary beetle of the utmost rarity—the *T. gibbulus* from Sicily. While concentrated, therefore, to such an extent in the Atlantic islands, that, up to the present date, as many as nineteen well-defined representatives have been discovered at the Madeiras and nine in the Canaries, we have the above-mentioned Sicilian one to account for: and I would wish here to state that it is these "outlying members" of apterous, phlegmatic groups like *Tarphius* (totally removed, as they are, from all the contingencies of accidental diffusion) which offer the greatest difficulty to the hypothesis of those naturalists who believe that all species have been produced by an imaginary process of evolution, or the branching-off of erratic races in different (though each of them undeviating) directions from a parent stock.

However optional this fancy may be, there would be at least nothing, *so far*, absolutely *against* it (but rather the reverse) if the species of all known genera on the earth's surface were topographically associated; for it is clear that where the ancestors have flourished, there for the most part will be found their descendants. Nor would I desire to ignore the fact, that *on a broad scale* this geographical grouping *is* pretty clearly indicated. But, unfortunately for the theory, there are just enough of *insuperable exceptions* to the rule to convince us that it is *not* universally applicable; or, in other words, while most species which are nearly allied *inter se* range over the

same or contiguous tracts, almost every extensive assemblage has a few exponents which are apparently *quite indigenous* in regions exceedingly remote from that which sustains the major part or nucleus.

Now *Tarphius* is exactly in this predicament. Centred in the damp and often almost inaccessible forests and elevated Serras of the Atlantic islands, off the north-western coast of Africa, the various species are so sluggish in their habits, and so locally restricted, that but few of them have succeeded in tenanting more than a very small area—being frequently confined to a single ravine, or an isolated mountain-slope. And so adapted do they seem to be to those dense humid regions (where, as just stated, they may be found attached to the sticks and fragments of wet, decaying wood which strew the ground beneath trees of a fabulous age), and so unable to exist in arid spots of a lower altitude, that it is impossible to resist the conviction that no process of ordinary *migration* can have ever brought them to where they now are, and that they consequently occupy, even to this day, their actual primeval sites. As might be expected from this epitome of their *modus vivendi*, nearly every one of these islands in which the laurels still remain has its own *Tarphii*,—merely two species out of the twenty-eight hitherto discovered (namely, the *T. Lowei*, at the Madeiras, and the *T. canariensis*, at the Canaries) having apparently colonized more than a small portion of even *their respective groups*. If, then, these insects are so circumscribed in their several ranges, and so difficult of dispersion (whether by their own means or casual ones) that they have not only failed to establish themselves in the various parts of their little archipelagoes, but have not extended over even their peculiar *islands*—where, in both instances, all the conditions are present, and comparatively close at hand, which their necessities require,—it seems preposterous to conclude that the representative from so distant a country as Sicily can have belonged to the same community as its Atlantic allies. Yet, if the desire of naturalists to maintain a hopeless thesis should drive them still to that almost incomprehensible conclusion, I may add that, despite the close resemblance of this Sicilian *Tarphius* to the Madeiran and Canarian ones—so close that they must needs be regarded as undoubted members of the same genus,—there is nevertheless *sufficient* difference between them to warrant the conviction (even in those who *believe* in the possible existence, within reasonable limits, of geographical sub-species, occasioned by the long-sustained action of surrounding influences) that they *cannot* have proceeded from the same stock. So that, whether viewed geo-

graphically or structurally, we may feel virtually certain that the two *nuclei*, although cast (so to speak) in the same mould, were aboriginally distinct. Taking this therefore for granted (which I am satisfied that all candid observers who are acquainted practically with these creatures and their life-histories would do), I leave it to the advocates of the new hypothesis to decide how it is that in, at any rate, two remote parts of the world (Sicily and the sub-African islands of the northern Atlantic) independent organisms should have been slowly and systematically modifying themselves, through countless ages and under totally different circumstances, *in so precisely the same undeviating direction* that they have arrived ultimately at structures, complex and most peculiar, which are so nearly the same that they must now be treated as generically identical. If this can be conceived possible through the operation of any mere "selecting power of nature," guided by chance agencies from without, it will be useless in future to bring forward any *facts* to confront the theory at all; and we must leave it to be "demonstrated" by the less tedious and more poetical method of *pure imagination.*

Having been induced to touch upon this question of specific distribution, as instanced by *Tarphius* and its outlying Sicilian member, I have taken the opportunity of dwelling upon it thus at length, *not* on account of any peculiarity in the example selected (which is but *one* out of hundreds of a similar kind, as every practical naturalist is aware), but simply for the sake of recording the particular considerations bearing upon a certain newly-revived (but by no means modern) doctrine, which one of the commonest classes of facts in geographical zoology has always seemed to me to be capable of directly engendering. And although I have purposely confined my remarks to members of the same actual *genus*—for I have desired to limit the problem to creatures which everybody will spontaneously acknowledge to be what, through the poverty of language, we conventially term "nearly allied,"—I would nevertheless beg the reader to observe that they are equally applicable to all organisms which possess (*inter se*) *great structural resemblance*, whether *or not* they be *so* similarly constituted as to require a positive admission into what we call (often without much real precision, and very gratuitously) the same "genus." So that if the above suggestions should carry with them any weight when applied to the *absolute Tarphii* of the Atlantic islands as compared with the representative from Sicily, the enormous interval between *both* of those regions and Southern India will *à fortiori* impart to the *pseudo-Tarphii* of the latter a

right to elicit the same kind of reflections (bearing upon the *absolute* ones) with tenfold force.

I would wish it to be particularly borne in mind that the foregoing remarks apply only to creatures which bear a close structural resemblance to each other in countries far removed *inter se*, and have no reference whatever to the question as to whether *or not* any of the more nearly allied Madeiran and Canarian *Tarphii* may have been *in their own respective provinces* slowly brought about by some (so-called) "selective" process acting uninterruptedly upon erratic races (albeit in a manner strangely unintelligible to us) so as gradually to intensify them. Although the lately revived hypothesis which would at once reply to the latter in the affirmative might be appropriately touched upon here, and although I might adduce, did space permit, the strongest reasons against the *unqualified* acceptance of it, I nevertheless will not do so now: for such considerations come rather within the province of poetical speculation than of sober induction; and it is hopeless to discuss them, seeing that we have not so much as a fragment of evidence to lead to their practical solution. Nevertheless if it will afford any comfort to those who may perhaps differ from us, let us candidly admit that *within narrow limits* there seems nothing *à priori* unreasonable in the supposition that such may *possibly* have been the case; and moreover we can do this conscientiously, without compromising in the slightest degree the far higher doctrine (which, on other grounds, we accept as absolutely true) of special creation. For to suppose that there are no modifying influences at work (and often exceedingly subtle ones) in nature, would be almost as illogical as to assume that, *because* such exist, *therefore they are all-efficient*, and that no other "evolving [or creative] power" has ever acted, or can act, simultaneously with them. Such a conclusion as this latter one may suit the growing materialism of some of our modern "philosophers," the sum-total of whose belief is based in reality upon truths of sense, but it will not satisfy the craving after knowledge of those minds which are able to discern *another class* of truths in the world around us (and the most certain with which we are acquainted), for which mere "science" can afford no explanation. Truths such as these are called, by way of distinction, "truths of reason;" and (amongst others) it is a truth of the highest reason, that a natural law *without a limit to its operation* is an absurdity. And therefore to argue that limits *do not exist* simply because (by the nature of the case) we cannot define them, is to confound two distinct classes of truth, and to treat a truth of reason as though it appealed directly to the understanding like a

truth of sense. But those who already acknowledge this twofold aspect of truth will accept the doctrine of limits, *in a general signification*, as embodying a principle not the less certain because incapable of actual demonstration; and, *accepting it generally*, they will not feel themselves compelled to admit that all life has sprung from a single germ (the only *logical* conclusion of the transmutationists, and not the "analogical" one, as has been asserted), through the mere fact that a truth of pure reason is discovered to be, in its entirety, unproveable.

I do not apologize for this slight apparent digression, as the reader will immediately perceive why I have been led into it. If we can establish the conviction that the doctrine of limits is (in the nature of things) essentially a *reasonable* one, we shall not be regarded as "inconsistent" for holding variability to be an inherent principle (more or less expressed according to the elasticity of each individual species, and therefore strongly so in some, whilst it is scarcely traceable in others*), and yet denying its existence, in all instances, *except to a certain* (*à priori* undefinable) *extent*—an extent, however, which we may ascertain *approximately* by observation, leaving our reason to supply, from analogy, what sense (not being omniscient) is of course unable, at a single glance, to take in.

But lest I should be accused of merely theorizing, and of insisting upon old scholastic definitions which it is the fashion now-a-days (at least in those who have not studied them) to regard as obsolete, and since, if there be any reality in the distinctions which I have dwelt upon, they ought to bear the strictest analysis, it will not be considered irrelevant, even in the present paper, if we test them by the most common-place example we can select. Let us take, then, the genus *Homo*. It is quite impossible to define *rigidly* the exact growth of the human species. No amount of observation will tell us either its *maximum* or its *minimum*. Nevertheless, in spite of this, we are perfectly certain that its bounds are strictly circumscribed; for it is a matter of *plain reason* (of which we are as sure as we are of our own existence) that no man will ever attain the height of the monument, and likewise that no one was ever so small as the fabled denizens of Lilliput. *Yet we cannot prove this.* And why? Because it is merely a "truth of reason." We can take a

* The domestic pigeon, in its various artificial phases, may be cited as a good instance (not entirely, perhaps, an *original* one) of the former category; whilst the common Lady-bird (*Coccinella 7-punctata*), which occurs in nearly every country of the Old World, and at all elevations, without the slightest appreciable change in its specific characteristics, will suffice as an instance of the latter.

number of men and measure them (say by hundreds or thousands), and we can then *prove*, to an ocular demonstration, the precise limits between which they have varied in their stature; for this is a "truth of sense." But is it, on that account, one jot more certain than the other? Most decidedly not. And hence we arrive at the conviction that the limits are not the less real because (by the nature of the case) *we cannot prove them*, and that to dispute their existence *merely on the latter account*, so far from being "philosophical," is simply foolish. If they are to be objected to at all, our philosophers must entrench themselves on more logical ground than this. But there is a point yet to be noted. A mathematician, in ascertaining the limit of a "variable," treats it as a single function. Not so, however, the physiologist; for *his* "variable" is an *organism*, which itself consists of *many* variables. The "growth," to which we have just alluded, is only one of them. But, nevertheless, precisely the same reasoning *will apply to each one separately*; and after having reasoned them out in a similar manner, if we *add up* the several results we have arrived at, we may assert broadly, without fear of refutation, that the same *reason* which assures us that the growth of the human species is limited, assures us also that his other functions have likewise their respective limits (even though we cannot define them), and that, consequently, (to take no wider margin) he neither sprang from an ape, nor will be *developed* into an angel.

Now these considerations will illustrate our meaning (albeit perhaps somewhat grotesquely) when we insist on the reality of limits, as an abstract *truth*. And let it be well noted that the admission does *not* imply any verdict against specific variation; it merely affirms that the limits of that variation are prescribed, and that it is illogical to argue that they do not exist, because (in the nature of things) we are of course unable to trace them rigidly out. No doubt in some instances the range for permitted variation may be, as lately stated, very great, whilst in others it may be reduced almost to zero—depending, in every case (as practical naturalists are well aware) on the inherent pliability of the particular species. But these are points which, even allowing for our imperfect judgment, may usually be *determined approximately* by patient observation; and we should remember that when we have done this *we have done all that it is possible to do* with our limited faculties,—the *approximate* result being, *for us*, to all intents and purposes, the *actual* one.

In the above illustration, borrowed from the growth of the human species, it is needless to remark that we might have reduced the distance between the supposed limits very considerably, and yet

have treated them equally as a truth of reason. But this was unnecessary, for I am not now discussing the question as to where the several lines of demarcation are to be drawn, but am simply asserting the broad fact that they have an abstract existence *somewhere*, rigidly and positively defined. For, in arguing the reality of limits, it must not be supposed that it is with any hope of making it easier to define practically where the boundary lines are to be placed. That is altogether another matter, and one which must be solved approximately by a careful and laborious investigation, for it cannot be arrived at by dialectics; and we must be content therefore, generally, to leave it in the hands of those naturalists who have devoted their lives to the investigation of the particular groups. With our short-sighted faculties, indeed, the limitation of species always will and *must* be, in a great measure, subject to dispute; for our powers of judgment differ, and are not stereotyped: but to use that fact as an argument against the existence of limits altogether is in the highest degree unphilosophical, and can only result from a misapprehension of the class of truth to which they necessarily belong.

If, then, I had to sum up in a few words what has been said, it would be to the effect, that these Atlantic and Sicilian *Tarphii*, with their "nearly allied" Indian representatives, were, and must have been, as *nuclei*, aboriginally distinct. Whether we view them structurally or geographically, this conclusion is alike forced upon us by evidence which it seems impossible to resist,—whilst there are the strongest reasons for suspecting that the modern theory which would pretend to derive them all from a common ancestor, so far from being a philosophical one, is based upon a fallacy and an ignoring of the distinction between two opposite classes of truth. To render this latter fact the more obvious, I have endeavoured to show that the doctrine of limits is not a mere concoction of the brain, but that it embodies a reality which no amount of sophistry or ingenious special pleading can set aside, and that it is not the less to be believed because, like half the truths of which the human mind is cognizant, it is a "truth of reason," and therefore not proveable, in its entirety, to our imperfect understanding, like a truth of sense. As for the question (and it is an exceedingly interesting one) of *limited modification* from external influences of every kind, we may safely leave it to be decided on its own merits; but let us be very cautious how we employ the results arrived at in this restricted field of research to subvert fundamental principles, which, if they are to be assailed at all, must be approached in a different manner and from a totally different direction, and which would

probably require an *à priori* treatment rather than an *à posteriori* one. Principles such as these, which have been regarded hitherto as axioms, are strictly "truths of reason," and rest upon too broad a basis to be affected by our deductions (often very equivocal ones) from a few isolated facts which may *appear* at first sight to contradict them, and which may generally be met by an equal number of "facts" (so-called) telling, or seeming to tell, a precisely opposite tale. They belong rather to the very foundations of our belief, and must be examined by analyzing our own minds. So that, if we would sift this problem satisfactorily, we must needs begin with the most elementary considerations; for otherwise all subsequent arguments, however carefully conducted, will only lead us deeper into error, since it is clear that, if we set out with our *backs* upon the truth, the further we go the more we shall recede from it.

The following nine *Tarphii* (which I propose now to describe) are peculiar to the Canaries, and were detected during my explorations, in company with the Rev. R. T. Lowe, in those islands. Probably there are many species yet to be discovered; for the extensive sylvan range on the western side of Hierro I have but just glanced at, whilst the laurel-districts of Gomera and the remains of the ancient forest of El Dorames in Grand Canary are *totally* unexamined.

§ I. *Corpus plus minus distincte setosum.*

1. *Tarphius simplex*, n. sp. (Pl. XIX. fig. 1.)

T. angustulo-oblongus, granulis squamisque parvis fuscis parce vestitus et setulis brevibus suberectis paulo pallidioribus tectus; prothorace longiusculo, angustulo, subparallelo (*i. e.* antice et postice vix angustiore); elytris vix nodosis (nodis subobsoletis sed plerumque paulo rufescentioribus) et tuberculis in seriebus longitudinalibus distinctius positis; antennis pedibusque rufo-ferrugineis.

Long. corp. lin. $1\frac{1}{4}$–2.

Habitat in sylvaticis editioribus Teneriffæ, sub truncis ramulisque laurorum prolapsis, haud infrequens.

The rather narrower and more strictly oblong outline of the present *Tarphius*, in conjunction with its somewhat long and narrow prothorax (which is scarcely at all expanded in the middle or constricted behind), and its comparatively undeveloped and *usually* more or less obscurely subrufescent elytral nodules, and the tendency of its elytral tubercles to be more decidedly arranged in longitudinal rows, will at once separate it from the other species here described. It is not uncommon within the laurel-districts of Teneriffe; I have taken it at

the Agua Mansa, Yeod el Alto, the Agua Garcia, and at Las Mercedes, as well as in the woods above Taganana, and on the Cumbre towards Point Anaga.

2. *Tarphius camelus*, n. sp. (Pl. XIX. fig. 2.)

T. subovato-oblongus, granulis squamisque nigro-fuscis dense vestitus et setulis brevibus subdemissis flavescentibus parce tectus; prothorace longiusculo, vix ante medium lato, postice gradatim angustiore; elytris valde nodosis (nodis obtusis); antennis subrobustis pedibusque rufo-piceis.

Long. corp. lin. 2–2$\frac{1}{3}$.

Habitat ins. Hierro, in editioribus sylvaticis regionis "El Golfo" dictæ a meipso mense Februario A.D. 1858, detectus.

Only two specimens of this *Tarphius*, taken by myself in the laurel-woods of El Golfo, on the west of Hierro (during February 1858), have come hitherto beneath my notice. Its large size and obtuse though much developed nodules, in conjunction with its rather long prothorax (which is wide in the middle and *gradually* narrowed behind) and its short and almost decumbent setæ, will sufficiently characterize it. It is more akin to the *T. canariensis* than to any other species here enumerated; but it is distinctly larger, its prothorax is more developed and *less suddenly* narrowed posteriorly, its colour is altogether darker, its nodules are more prominent, its antennæ are a little more robust, and its setæ (instead of being erect) are nearly decumbent.

3. *Tarphius canariensis*, n. sp. (Pl. XIX. fig. 3.)

T. oblongus, granulis squamisque fuscis dense vestitus et setulis brevibus suberectis paulo pallidioribus tectus; prothorace in medio latiusculo, postice sat abrupte angustiore; elytris nodosis (nodis obtusis et minus exstantibus sed interdum subrufescentibus); antennis pedibusque rufo-ferrugineis.

Var. β. *affinis* [an species distincta?]. (Pl. XIX. fig. 4.) Vix angustior, convexior, setulis paulo longioribus gracilioribus; prothorace ad basin leviter angustiore, angulis posticis plerumque paulo magis productis, nodis rarius dilutioribus; antennis vix brevioribus.

Long. corp. lin. 1$\frac{1}{2}$–vix 2.

Habitat in sylvaticis Canariæ, Teneriffæ, et Palmæ, vulgaris; var. β ad ins. Palmam solam pertinet.

The present species appears to be the most universal of the Canarian *Tarphii*, occurring in nearly all the laurel-woods which I have yet explored in the various islands. It abounds at Las Mercedes, and in the region above Taganana and Point Anaga, as well as at the

Agua Garcia, the Agua Mansa, Yeod el Alto, &c., of Teneriffe; and I have also taken it, though sparingly, at Osorio in Grand Canary, and in profusion throughout the sylvan districts of Palma. It may be known by its prothorax being more or less suddenly narrowed behind, by its nodules being tolerably developed and at times obscurely rufescent, and by its setæ being short and suberect. The Palma specimens (var. *β. affinis*) are just perceptibly narrower and less flattened than those from Teneriffe and Grand Canary, and have their setæ a trifle longer, darker, and less thickened, their prothorax a little more scooped-out behind (and with the posterior angles usually rather more prominent), their elytral nodules rarely diluted in colouring, and their antennæ perhaps, if anything, somewhat shorter; but I do not think that they can be regarded as more than a mere phasis of the *T. canariensis*.

4. *Tarphius erosus*, n. sp. (Pl. XIX. fig. 4.)

T. oblongus, subdepressus, granulis squamisque parvis fuscis vestitus et setulis sat brevibus suberectis paulo pallidioribus tectus; prothorace in medio latiusculo, postice abrupte angustiore (quasi eroso); elytris leviter nodosis (nodis obtusis vix exstantibus et plerumque sat distincte rufescentioribus); antennis pedibusque longiusculis, læte rufo-ferrugineis.

Long. corp. lin. 1–2⅔.

Habitat Teneriffam, in iisdem locis ac præcedens sed illo rarior.

Did not the present *Tarphius* occur in company with the *T. canariensis*, I might have almost supposed it to be but a local state of that insect; nevertheless, since the two are found absolutely together, and exposed therefore to the same influences, I think that the *T. erosus* must be properly regarded as distinct. Nor can the slight constant differences which characterize it be looked upon as sexual ones, seeing that in Palma, where the *T. canariensis* actually abounds, the *erosus* has not yet been observed even to exist. It may be known from its ally by being, on the average, a trifle smaller and more depressed, by its prothorax being *still more* suddenly constricted behind, by its elytral nodules being slightly less developed and *usually* much more decidedly rufescent, and by its limbs being generally just perceptibly longer and paler. It is not uncommon in the laurel-woods of the north-eastern district of Teneriffe, where I have taken it, in company with the *T. canariensis* and *simplex*, at Las Mercedes and above Taganana.

5. *Tarphius quadratus*, n. sp. (Pl. XIX. fig. 5.)

T. latus, subquadratus, granulis squamisque fuscis vestitus et setulis longiusculis suberectis pallidioribus parce tectus; prothorace antice et

postice subæqualiter et valde rotundato; elytris nodosis (nodis sat obtusis et plerumque subrufescentioribus), apice truncato-incurvis; antennis pedibusque rufo-ferrugineis.

Long. corp. lin. $1\frac{1}{2}$–2.

Habitat in sylvaticis editioribus Palmæ, rarissimus.

The nearly square outline and rather elongate suberect setæ of this broad *Tarphius*, added to the usually brown scales with which it is clothed, its laterally (and *equally*) rounded prothorax, and the tolerably large and slightly rufescent nodules of its *apically incurved* (or suddenly truncate) elytra, will at once characterize it. So far as I have observed hitherto, it is peculiar to Palma,—where in May and June of 1858 I took it sparingly, beneath sticks and pieces of rotten wood, in the laurel-district above Buenavista, on the ascent to the Cumbre, as well as towards the upper region of the Barranco de Galga.

§ II. *Corpus minus setosum* (*plerumque fere setis carens*).

6. *Tarphius congestus*, n. sp. (Pl. XIX. fig. 6.)

T. quadrato-ovatus, granulis squamisque nigrescentibus dense vestitus et setulis brevibus demissis flavescentibus parce tectus; prothorace brevi, parvo, subsemicirculari (*i. e.* a basi ipsa usque ad apicem gradatim et facile angustiore), angulis anticis acutis sed emarginatione antica minus profunda; elytris valde nodosis (nodis suturalibus posticis subcariniformibus), apice truncato-incurvis; antennis brevissimis pedibusque obscure rufo-ferrugineis.

Long. corp. lin. $1\frac{1}{3}$–$1\frac{2}{3}$.

Habitat in sylvaticis Teneriffæ, rarissimus; ad "Agua Mansa" a meipso repertus.

The present and three following *Tarphii* differ from the preceding five in being less evidently setose; though the *T. congestus* has a coarse, but sparing, *decumbent* golden pile, which is rather conspicuous on its remarkably dark surface. The present species is one of the most distinct of the whole,—its short, compact body, and small, abbreviated prothorax (which, although narrower there than the elytra, is broadest *at the extreme base*, and from thence gradually contracted to the apex, like the arc of a circle), in conjunction with its very short antennæ and *posteriorly incurved*, or shortened, elytra (as in the *T. quadratus*), giving it a character quite its own. As in the *T. gigas* and *caudatus*, its anterior prothoracic angles are more acute than in the other Canarian *Tarphii* here described; and yet, in spite of this, the front emargination of these three species (particularly, however, of the present one and the *T. caudatus*) is considerably *shallower* than is ordinarily the case. The *T. congestus*

is both exceedingly rare and local,—the only specimens of it (24 in number) which have as yet come beneath my notice having been captured by myself, during May of 1858 and the following year, in the woods of the Agua Mansa of Teneriffe.

7. *Tarphius gigas*, n. sp. (Pl. XIX. fig. 7.)

T. latus, oblongo-quadratus, crassus, granulis squamisque fusco-piceis parce vestitus et fere setis carens; prothorace in medio latiusculo, postice vix sed antice gradatim angustiore, angulis anticis acutis sed emarginatione antica haud profunda; elytris in disco subhorizontalibus, sat distincte (præsertim ad latera et postice) nodosis (nodis obtusis subpicescentioribus); antennis pedibusque rufo-ferrugineis.

Long. corp. lin. $2\frac{1}{4}$–$2\frac{1}{2}$.

Habitat in sylvaticis Teneriffæ, rarissimus; duo specimina, in montibus supra "Ponta Anaga" detecta, sola possedi.

This is the largest species of *Tarphius* which has as yet come under my observation; and, apart from its comparatively gigantic bulk, it may be recognized by its broad, thick, squarish-oblong form, by its rather piceous and obtusely-nodose surface, as well as by its elytra having their disk somewhat horizontal (though less so than in the *T. caudatus*), and their *extreme* apex rather drawn out or acuminate. Its prothorax is subsemicircular in outline, being broadest about the middle, and but *very* slightly narrowed behind. It is apparently of the greatest rarity,—the only two specimens which I possess having been captured in the dense and elevated laurel-region between Taganana and Point Anaga, of Teneriffe, during May of 1859.

8. *Tarphius caudatus*, n. sp. (Pl. XIX. fig. 8.)

T. quadrato-oblongus, subnitidus, granulis squamisque magis nigrescentibus parce vestitus et fere setis carens; prothorace mox ante medium latiusculo, postice vix sed antice sat subito angustiore, angulis anticis acutis sed emarginatione antica minus profunda; elytris valde subpunctato-rugosis, in disco horizontalibus, ad latera et postice valde subnodoso-carinatis (carinis ad apicem in lobum subquadratum productis, caudam obtusam apice excavatam efficientibus); antennis pedibusque obscure rufo-ferrugineis.

Long. corp. lin. $1\frac{1}{3}$–2.

Habitat Teneriffam, in sylvis editioribus ad "Las Mercedes" et supra Taganana, æstate haud infrequens.

This most remarkable *Tarphius* may be instantly known by the broad (though posteriorly emarginate) lobe into which the extreme apex of its elytra is produced,—forming a kind of blunt, squarish tail. Its surface, also, is rather darker than that of any of the other Canarian *Tarphii*, except the *T. congestus*; and it is likewise

somewhat less clothed with scales (being even a little shining), and almost free from any appearance of setæ. Its elytra, however, are greatly roughened (as it were with immense subconfluent punctures), with their disk very horizontal, but with the lateral and posterior nodules and costæ (particularly the latter) greatly developed. Indeed the tail-like process is absolutely formed by the enlargement of the two hinder subsutural ridges, which (projecting entirely to the apex) are lengthened outwards, thus not only elongating the apex itself, but causing it also to terminate in this bipartite lobe. Its prothorax is of a rather peculiar shape—the widest portion being a *little before* the middle, whilst it is nearly straight behind, but suddenly incurved in front. I did not observe this *Tarphius* during my first visit to the Canaries; but in June 1859 I took it rather abundantly beneath sticks and pieces of rotten wood in the laurel-regions from Las Mercedes to the Cumbre above Point Anaga, especially in the thickest parts of the forest on the descent by the Vueltas to Taganana.

9. *Tarphius deformis*, n. sp. (Pl. XIX. fig. 9.)

T. oblongus, postice vix subattenuatus, granulis squamisque maximis subcinereo-brunneis densissime vestitus et plus minus asperatus sed setis fere carens; prothorace antice latissimo, postice gradatim angustiore, angulis anticis obtusis; elytris valde carinato-nodosis (nodis posticis maximis et longissime exstantibus); antennis brevibus pedibusque rufo-ferrugineis.

Long. corp. lin. $1\frac{1}{2}$–2.

Habitat in sylvaticis editioribus Teneriffæ, late diffusus sed rarissimus.

The *T. deformis* is not only remarkable for the extraordinary development of its nodules and ridges (the latter of which project enormously on the hinder region of the elytra), but it may likewise be known by its large prothorax (which is very wide, and obtusely rounded, in front, but gradually narrowed to the base), by the immense, brownish (and sometimes *cinereous*) scales with which it is densely clothed, as well as by its much porrected shoulders, freedom from setæ, and by its rather abbreviated antennæ. Its elytra, too, are generally just perceptibly narrowed from the base to the apex, which is not the case in the other Canarian *Tarphii* here enumerated. It is decidedly rare, and apparently peculiar to Teneriffe,—the only specimens which I have seen (16 in number) having been captured by myself, during 1859 and the following year, in the laurel-woods of the Agua Mansa and the Agua Garcia, as well as in those above Taganana and Point Anaga.

XXVIII.—*Notes on the* Brenthidæ.

By Francis P. Pascoe, F.L.S., &c.

Most of the Brenthidæ described in these notes are due to Mr. Wallace's indefatigable researches in the Indian Islands, where they seem to abound. There are still materials, however, for a very considerable addition to our knowledge of this family; and, considering their bizarre forms and the doubtful place which they occupy in classification (evidently, however, a transition group), it is somewhat remarkable that so little should have been written concerning them. It is not my intention just now to do more than indicate some of these novelties; but, to those which we owe to Mr. Wallace, I have added another form from South Africa, which bears such an evident, although perhaps somewhat distant, resemblance to *Hypocephalus*, that I cannot help regarding Mr. Curtis's idea* that the latter is a gigantic *Brenthus* as much nearer the mark than his latest opinion, which refers it to the *Lamellicornia*! In the following pages the descriptions only apply to the males,—the females, as is well known, differing principally in the simple terete rostrum and basal insertion of the antennæ.

Ectocemus.

Caput parvum, postice sublobatum, collo brevissimo, oculis subbasalibus. *Rostrum* elongatum, canaliculatum, basi rugosum, apice abrupte alatum, mandibulis parvis exsertis. *Antennæ* longiusculæ, teretes, articulis secundis tertiisque subequalibus. *Prothorax* subovato-ampliatus, lævis. *Elytra* breves, subtriangulares, apice quadricallosa. *Pedes* mediocres, antici elongati, femoribus dentatis, tibiis anticis subcurvatis, apice spinosis, tarsis brevibus.

In some respects this genus approaches *Arrhenodes*, although in habit it is more like *Rhaphirhynchus*; but the form of the head, the smallness of the mandibles, and, above all, the peculiar rostrum are sufficiently distinctive.

Ectocemus Wallacei.

E. rufo-ferrugineus; elytris nigris, flavo lineatis, fortiter punctato-striatis, apice angulatis.

Hab. Batchian.

Head and rostrum about one-third the total length, the former somewhat bilobed and smooth behind the eyes, black, the neck indistinct, rostrum slightly narrowing to the middle, where it receives the antennæ, black, and rugosely punctate, beyond the antennæ gradually

* See Trans. Linnean Soc. 1854, p. 227.

rising on each side into a short, vertical tooth, the apex, including one-third the rostrum, ferruginous, gradually expanding at the side, and terminating in a horizontal triangular wing, within the margin on each side, but not continued to the apex, an elevated line crowned with five teeth; antennæ ferruginous, about two-thirds the length of the body, the joints, except at the base, nearly terete, and longitudinally corrugated; eyes small, round; prothorax impunctate, yellowish ferruginous, shining; elytra black, roughly punctate-striate, with an interrupted yellow line near the suture, another line sometimes externally, the apex slightly divaricate, then truncate, each angle of the truncated portion furnished with a small callosity; legs ferruginous, nearly smooth, shining, all the femora clavate, the anterior longest, beneath and towards the apex an oblique acute spine, anterior tibiæ dilated beneath, the apex with a strong exterior spine; body beneath yellowish ferruginous, smooth, shining. Length (with rostrum) 12 lines.

The female has the antennæ shorter and inserted near the base of the rostrum, which, from that point, is round, smooth, and nearly linear.

It seems to me desirable to separate from the great genus *Arrhenodes* those species with a slender, comparatively elongated rostrum, head abruptly excised almost directly behind the eyes, and very small mandibles; the latter organs, indeed, if contrasted with those of *Arrhenodes*, seem to indicate a very considerable difference in their economy. I have named this group *Orychodes*; and it will include *Brentus serrirostris*, Fab., *Arrhenodes digramma*, Bois., and some new species, one of which I have described below.

Orychodes.

Caput breve, pone oculos excisum, collo brevissimo. *Rostrum* mediocre, tenue, apicem versus dilatatum, angulatum, subtus costatum; mandibulis parvis. *Antennæ* mediocres, articulis inferioribus obconicis, exterioribus subcylindricis, prope medium rostri insertæ. *Prothorax* elongato-ovatus, haud canaliculatus. *Elytra* subcylindrica. *Pedes* robusti, antici longiores; femora dentata; tibiæ curvatæ; tarsi breviusculi.

Orychodes pictus.

O. nigro-piceus, nitidissimus; capite postice mutico; prothorace valde elongato; elytris luteo maculatis; femoribus medio læte luteis.

Hab. Batchian.

Subdepressed, pitchy black, very smooth and glossy; head very short, abruptly excised directly behind the eyes, without any spine; rostrum shorter than the prothorax, thickish and smooth at the base, canaliculate above to nearly the insertion of the antennæ, where it has a

rounded impression, beyond this it becomes quadrangular, and widens gradually to the apex, with the upper angles serrated, and the space between sprinkled with oblong granules, beneath the rostrum a longitudinal costa; antennæ as long as the prothorax, inserted behind the middle of the rostrum, the four basal joints obconic, the remainder subcylindrical; prothorax elongate-ovate, nearly as long as the elytra; elytra short, parallel, with three longitudinal bright-luteous spots on each, the apex entire; legs rather robust, the anterior largest, femora clavate and toothed beneath, bright-luteous yellow, except at the extremities, tibiæ short, curved, spined at the apex, the anterior hollowed out internally towards the apex, and clothed with golden-yellow hairs, tarsi rather short, stout; the last three abdominal segments clothed with golden hairs at the side. Length 10 lines.

Ithystenus.

Leptorhynchus, Guérin (1830), non Clift (1829).

The species of this genus are among the longest and narrowest of the *Brenthidæ*, and have all so much in common, that a minute description of each would be little more than a repetition; at the same time it is only by comparison that they can be, with any degree of certainty, understood. They have all the same dark-brown colour, varied in some by a yellow line on each elytron, and the base of the femora paler than the clavate portion, but this is not always even specifically constant. Individually they vary remarkably in size (6 to 20 lines), and in some instances in the proportional length of their parts. Except the original *I. angustatus*, none of them have the beautiful fringe of hairs beneath the four posterior tarsi which characterizes that species; or rather it is so much reduced as to cease to be remarkable. In *I. ophiopsis* only the prothorax is bent down, almost as if broken. Of the remainder, *I. angustatus*, *I. Wallacei*, and *I. frontalis* have a yellow stripe on each elytron, which does not, however, quite attain to the apex. *I. linearis* has a red spot at the base of each, while *I. fumosus* is entirely unicolorous, at least as to the elytra.

Ithystenus Wallacei.

I. nigro-fuscus; capitis fronte integra, rostro elongato tenui canaliculo; elytris luteo bivittatis, spina exteriore crassa, conica, paulo curvata.
Hab. Mysol.

Differs principally from *I. angustatus* in the elytra not dilated at the external angle of the apex, but prolonged into a short, thick, conic process slightly curved externally.

Ithystenus frontalis.

I. nigro-fuscus; capitis fronte canaliculata; rostro basi profunde canaliculato; elytris late bivittatis, spina exteriore cylindrica, apicem versus acuta.

Hab. Aru.

Very like the last, but less elongate. The narrow groove extending the whole length of the head and running into the broad canal at the base of the rostrum, where it gradually spreads out and is obliterated at about a quarter of its length, affords good diagnostic characters when compared with the same parts in *I. Wallacei*, where the head is entire, and the rostral canal is uniformly narrow, and continued as far as the insertion of the antennæ. The apical spine in this species is cylindrical, except at the tip, where it suddenly becomes conic and pointed.

Ithystenus fumosus.

I. nigro-fuscus; capitis fronte late canaliculata, transversim corrugata; elytris concoloribus, spina exteriore filiformi, elongata.

Hab. Batchian.

In some individuals of this species the posterior margin of the prothorax is of a deep blood-red, or the bases of the femora are nearly of the same colour; but it is well distinguished by having on each side of its frontal canal a finely sculptured series of transverse hair-like plaits. The elytra are entirely dark brown, and the apical spine is unusually long for this genus, its length being about twice the breadth of the elytra.

Ithystenus linearis.

I. nigro-fuscus; capitis fronte tenuiter canaliculata; elytris basi rubro maculatis, spina exteriore brevi, subconica.

Hab. Batchian.

The short, conic, apical spine and the clear blood-red spot at the base of each elytron, almost confined, however, to the base of the third of the raised lines, where it seems to replace the longer yellow line of *I. angustatus*, &c., will readily distinguish this species from any here destribed.

Ithystenus ophiopsis.

I. nigro-fuscus; prothorace antice curvato; elytrorum spina exteriore brevi, incrassata, compressa.

Hab. New Guinea (Dorey).

The curved prothorax, presenting a sort of gibbosity above, and the short, stout, deeply compressed spine of the elytra, are characters

confined to this species. It is uniform in its colour, and, after *I. angustatus*, is the largest and proportionally the most attenuated of the genus.

PRODECTOR.

Caput quadratum, collo brevissimo. *Rostrum* elongatum, vix canaliculatum, basi dilatatum. *Antennæ* mediocres, subfiliformes, versus apicem rostri insertæ, articulo secundo primo longiore. *Prothorax* subdepressus, canaliculatus, antice angustus, lateribus ampliatus. *Elytra* lineares, appendiculata. *Pedes* tenues, femora haud clavata, mutica, tibiæ sublineares, tarsi angusti, articulo basali elongato.

Nearly allied to *Diurus*, from which it is well distinguished by the dilated apex of the rostrum, the length of the second joint of the antennæ, and the canaliculate prothorax.

Prodector laminatus.

P. niger, opacus, sparse albo hirtus; elytris seriatim punctatis, lineis duabus albis ornatis, apice productis, appendiculo longo laminato obtuso.

Hab. Menado.

Elongate, black, opake, with scattered, white, short, scaly hairs; head narrowly quadrate, rostrum about five times its length, very slender, obsoletely canaliculate, the apex dilated, shining, and coarsely punctured; eyes small, black; antennæ not so long as the rostrum, nearly filiform, inserted near the apex, the second joint longer than the first; prothorax less than half the length of the elytra, depressed, narrow in front, enlarged at the sides, broadly canaliculate above; elytra parallel, regularly seriate-punctate, a line of white hairs on each, near the suture, the apex produced into a long, lanceolate, obtuse lamina; legs slender, of moderate length, tibiæ nearly straight, shortly spined at the apex, tarsi narrow, the basal joint elongate. Length 21 lines.

Varies in the length of the caudal appendage (which, in the specimen from which the above description was made, was nearly as long as the elytra), as well as in size and relative proportions.

Diurus of Dejean still remains, I believe, a mere catalogue name, although it has been many years proposed, and is well known as designating one of the most extraordinary of this extraordinary family; the following are the principal characters of the genus:—

DIURUS.

Caput tenuissimum, vix rostro crassius. *Rostrum* elongatum, subcylindricum, apice haud dilatato. *Antennæ* mediocres, subfiliformes, articulo secundo parvo, versus apicem rostri insertæ. *Prothorax* supra convexus, antice angustior, haud canaliculatus. *Elytra* linearia, appendiculata.

Pedes tenues; femora haud clavata, mutica; tibiæ graciles, breviusculæ: tarsi mediocres, articulo basali subelongato.

Type *Ceocephalus furcillatus*, Schön. Gen. et Spec. Curcul. i. p. 359 (*Diurus forcipatus*, Westw.). There is a second species for which I cannot find any *satisfactory* character that will distinguish the male, but whose female is decidedly different from the female of *D. furcillatus*. As neither of these have been described, I have placed the differential characters side by side, so that the peculiarities of each will be seen at once. I have applied the name of *dispar* to this species, which is from Borneo.

Diurus furcillatus (♀).

Head moderately long, eyes two or three times its diameter from the posterior angle; antennæ inserted between the middle of the rostrum and its base; rostrum subelongate, gradually tapering to the apex, the part beyond the insertion of the antennæ smooth and glossy; elytra at the apex narrowed and abruptly depressed, each terminating in a stout, subcylindrical process.

Diurus dispar (♀).

Head short, eye only once its diameter from the posterior angle; antennæ inserted near the apex of the rostrum; rostrum short, thick at the base, abruptly narrowed beyond the insertion of the antennæ, from thence to the apex rough (comparatively) and opake; elytra scarcely narrowed at, but sloping rapidly to the apex, which is truncate, with a short slender spine at each outer angle.

Miolispa.

Caput subquadratum, basi truncatum, collo brevi. *Rostrum* breve, arcuatum, basi trisulcatum, apice dilatatum; mandibulis exsertis. *Antennæ* breviusculæ, incrassatæ, versus medium rostri insertæ; articulis exterioribus transversis, secundo unilaterali, basi constricto, tribus ultimis majoribus perfoliatis. *Prothorax* oblongo-ovatus, anterius angustior, convexus, lævis. *Elytra* subbrevia, subcylindrica, apice mutica. *Pedes* breviusculi, antice longiores; femoribus tibiisque muticis; tarsis brevibus.

Trachelizus appears to be the nearest ally of this genus, from which it differs principally in the form of the head, in the rostrum, antennæ, and the non-canaliculate prothorax.

Miolispa suturalis.

M. fulva, nitida; elytris prope suturam simpliciter striatis, ferrugineis, striis exterioribus fortiter punctatis.

Hab. Amboyna, Batchian, &c.

Fulvous yellow generally, but varying in intensity and amount; the head, rostrum, antennæ, and anterior margin of the prothorax black, or

the antennæ only black, or pale brown; the legs fulvous, with the tibio-femoral articulation black or dusky brown, the tibiæ and tarsi more or less ringed with black or dusky, the sutural region dark ferruginous, the sides also sometimes ferruginous; head subquadrate, smooth, convex, rostrum less than twice the length of the head, curved, the basal half trisulcate, the intermediate sulcation extending to the apex, which is triangularly dilated, mandibles small, exserted; eyes round, situated near the base of the rostrum; antennæ short, thick, inserted at the middle of the rostrum, the second joint curved externally, the inner side near the base deeply constricted, the rest to the eighth inclusive shortly triangular, the last three joints larger and perfoliate; prothorax oblong-ovate, smooth; elytra rather short, subcylindrical, the apex entire, deeply punctate-striate, the inner stria without punctures; legs short, anterior pair longer, femora and tibiæ unarmed, tarsi short, robust. Length $3\frac{1}{2}$ lines.

Zemioses.

Caput quadratum, convexum, collo bulbiformi. *Rostrum* crassum, brevissimum, apice emarginatum. *Antennæ* incrassatæ; articulis transversis, perfoliatis, ultimis tribus majoribus. *Prothorax* subelongatus, antice angustior, utrinque profunde impressus. *Elytra* oblongo-ovata, compressa. *Pedes* mediocres; tibiæ brevissimæ, apice spinosæ, anticæ intus dentatæ; tarsi breves, compressi, subtus ciliati.

Evidently allied to *Taphroderes* and *Cyphagogus*, from which it will be at once distinguished by the short, thick rostrum; from *Calodromus** it differs principally in its short and differently formed posterior legs.

Zemioses porcatus.

Z. piceus; elytris striis elevatis, interstitiis transversim costatis.

Hab. Natal.

Pitchy; head reddish ferruginous, short, quadrate, convex in front; neck bulbiform; eyes round, moderately prominent, basal; rostrum short, thick, deeply emarginate or excavated at the apex; mandibles small, transverse; antennæ about as long as the prothorax, thickened, perfoliate, arising from a deep sinus below the eyes, the two basal joints shortly obconic, the remainder to the eighth inclusive shortly transverse, the last three forming a pointed club; prothorax smooth, shining, ventricose at the base, compressed and narrowed anteriorly, a deep impression at the side, apparently for the reception of the femur and tibia; elytra narrowly oblong-ovate, compressed, with several strongly elevated lines, the interstices, except near the suture, transversely ribbed; legs reddish ferruginous, femora clavate, unarmed, tibiæ very short, spined at the apex, the anterior dilated and spined also in the middle beneath; tarsi short, compressed, slightly ciliated beneath. Length $3\frac{1}{2}$ lines.

* *Caladromus cyrtotrachelus*, Thoms. (Arch. i. p. 119), is *Cyphagogus Westwoodii*, Parry.

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XXIX.—*Descriptions of new Species of Mexican* Pompilidæ, *belonging to the Genera* Pompilus, Agenia, Priocnemis, Notocyphus, *and* Ferreola. By Frederick Smith.

In the tribe of fossorial Hymenoptera there is no family that contains species so elegant in their forms, or that are more splendidly adorned than are to be found in that of the Pompilidæ. These insects have an almost universal geographical range; but it is in Mexico and Brazil that the most beautiful species are found: every variety of colour, combined frequently with the brilliant effulgence of gold and silver adornment, are there to be met with. The species described in the present paper constitute an important addition to our knowledge of the group, as not more than six or eight species have, to my knowledge, been previously described from Mexico.

Family **Pompilidæ**, *Leach.*

Genus Pompilus, *Fabr.*

1. *Pompilus marcidus.*

P. fusco-ferrugineus, facie pilis argentatis ornata; alis fuscis, marginibus apicalibus subhyalinis.

Female. Length 8 lines. Fusco-ferruginous, covered with a fine changeable silky pile, that on the face is silvery; the clypeus rounded and margined anteriorly; the seven apical joints of the antennæ black; the cheeks with a thin cinereous pubescence. The legs of a clearer red than the thorax; the tibiæ and tarsi armed with stout spines; the extreme apex of the joints of the tarsi of the intermediate and posterior legs black; the wings of a dark-reddish brown, gradually blending into a pale or subhyaline margin posteriorly. The abdomen palest at

the base, with its extreme base black, the apical margins of the segments very narrowly black or fuscous.

Hab. Orizaba (Mexico). In the National Collection.

2. *Pompilus torridus.*

P. ferrugineus, alis subhyalinis.

Female. Length 6½ lines. Ferruginous, inclining to a tile-coloured red; the antennæ red at their base, becoming black towards their apex; the face with a slight silky cinereous pile. Thorax: the metathorax, coxæ, and femora with a slight cinereous pile; the wings fusco-hyaline, with a faint violet iridescence; the apical joints of the tarsi dusky; the abdomen smooth and shining.

Hab. Mexico. In F. Smith's Collection.

3. *Pompilus regalis.*

P. formose purpureus, alis purpureis violaceo tinctis.

Female. Length 10 lines. Purple-blue, changing in brilliancy in different lights; the clypeus and mandibles smooth, shining black; the antennæ black. The metathorax truncate, transversely grooved at the verge of the truncation, and with some longitudinal divergent striæ at the base; wings ample, dark purple, with brilliant shades of violet in different lights. Abdomen slightly compressed, gradually tapering from the base to the apex.

Hab. Mexico. In F. Smith's Collection.

4. *Pompilus flavopictus.*

P. niger, flavo striatus et guttatus.

Female. Length 5 lines. Black; the face yellow, with two longitudinal black stripes running from the ocelli to the insertion of the antennæ, and a transverse waved black line at the base of the clypeus; a broad yellow stripe behind the eyes; the scape of the antennæ yellow in front; the flagellum ferruginous, with the base and apex black; the mandibles yellow, with their tips black. Thorax: the posterior margin of the prothorax, two longitudinal stripes on the mesothorax above, an ovate spot on each side of the scutellum, the post-scutellum, a large macula on each side of the metathorax, and its posterior margin yellow; the sides of the thorax with several large yellow spots beneath the wings; the legs yellow, with longitudinal black stripes on the femora and tibiæ; the wings subhyaline, with the anterior margin of the superior pair fuscous. Abdomen: the base yellow, and the apical margins of the segments with yellow bands.

Hab. Mexico. In F. Smith's Collection.

This species very closely resembles species of the parasitic genus *Ichneumon.*

Genus Agenia, *Schiödte.*

1. *Agenia Montezumia.*

A. nigra, pubescens; alis flavo-hyalinis, anticis fascia fusca transversa; abdomine obscure cyaneo-nigro.

Male. Length $4\frac{1}{2}$ lines. Black; the face with a dense golden pubescence, the clypeus transverse, widely emarginate in front; the head with a long, thin, black pubescence. Thorax thinly covered with long black pubescence; the tips of the anterior femora in front, the tibiæ in front and their apex, rufo-testaceous; wings ample, flavo-hyaline, their apical margins faintly clouded, and with a fuscous fascia crossing the superior pair at the base of the marginal cell. Abdomen subpetiolate, black, with an obscure blue tinge; the apex with a short black pubescence.

Hab. Oajaca (Mexico). In the National Collection.

2. *Agenia orbiculata.*

A. capite thoraceque nigris, abdomine obscure ferrugineo, pedibus rubris, capite abdomineque flavo maculatis, antennis albo annulatis.

Female. Length 6 lines. Head and thorax black, and adorned with golden pile; the inner orbits of the eyes, a spot behind them, two spots on the clypeus, the mandibles, and third and fourth joints of the flagellum yellow. The wings flavo-hyaline, the nervures testaceous; the legs and abdomen ferruginous, the coxæ black; the apical joints of tarsi fuscous; the basal margins of the segments of the abdomen fuscous.

Male. Length $4\frac{1}{2}$ lines. Closely resembles the female, but has the coxæ yellow beneath; the abdomen fuscous, the apex of the basal segment yellowish, the second and third segments with a large yellow spot on each side, the extreme apex reddish-yellow.

Hab. Mexico. In the National Collection.

3. *Agenia cærulipes.*

A. nigro-ænea, antennis apice flavis, pedibus cyaneis, abdomine aurato pubescente, alis flavo-hyalinis fasciis duabus fuscis.

Female. Length $5\frac{1}{2}$ lines. Nigro-æneous, the legs steel-blue; the five apical joints of the antennæ yellow; the clypeus transverse, margined anteriorly, and widely emarginate. Thorax: the posterior margin of the prothorax curved; the metathorax with bright silvery pile at its apex; the wings flavo-hyaline; the anterior pair with two narrow brown fasciæ, the basal one crossing at the apex of the externo-medial cell, the second at the base of the marginal cell; the apex of the wings with a pale-fuscous margin. Abdomen subpetiolate and clothed with golden pubescence.

Hab. Orizaba (Mexico). In the National Collection.

This species, when recently disclosed, would probably have the head and thorax clothed with shining yellowish-white pile.

Genus Priocnemis, *Schiödte.*

1. *Priocnemis velox.*

P. ferrugineus, alis flavo-hyalinis fasciis duabus fuscis.

Female. Length 5 lines. Ferruginous, inclining to a brick-red; the head black, with the clypeus, mandibles, and antennæ ferruginous, the six apical joints of the latter black, the tips of the mandibles black. The sutures of the base of the metathorax and post-scutellum black; the pectus and the coxæ behind black; the trochanters and extreme base of the femora black; the wings flavo-hyaline, the anterior pair with two fuscous fasciæ and the tips fuscous, the nervures testaceous. The extreme base of the abdomen black, and its apex with a little fulvous pubescence.

Hab. Oajaca (Mexico). In the National Collection.

Genus Notocyphus, *Smith.*

1. *Notocyphus plagiatus.*

N. niger, vertice vittaque thoracis lata longitudinali rubris, alis nigro-fuscis violaceo submicantibus.

Female. Length 1 inch. Black; the abdomen with a fine changeable silky lustre; the head above the insertion of the antennæ and a broad longitudinal stripe on the pro- and mesothorax, the scutellum, and post-scutellum blood-red; the labrum oblong, narrowed towards its anterior margin, which is transverse; the wings very dark brown, with a slight violet iridescence; the legs elongate, very slightly spinose; the claws bifid.

Hab. Mexico. In the National Collection.

2. *Notocyphus albopictus.*

N. niger, clypei prothoracis margine postico, scutello, postscutello, metathoracis angulis abdominisque fascia albis.

Male. Length $4\frac{1}{2}$ lines. Black; the inner orbits of the eyes, not extending to their summit, the posterior margin of the prothorax, a spot on the scutellum and another on the post-scutellum, the apical angles of the metathorax, and the basal half of the third segment of the abdomen white; the anterior tarsi rufo-testaceous; the body covered with a thin cinereous pile; the wings hyaline, the apical portion of the superior pair beyond the second submarginal cell fuscous.

Hab. Mexico. In the National Collection.

Genus Ferreola, *St. Farg.*

1. *Ferreola variegata.*

F. nigra, metathorace abdominisque basi pube argentata vestitis, segmento tertio abdominis ferrugineo, alis nigro-fusco fasciatis.

Female. Length 5 lines. Black; the head smooth and shining; the apex of the scape, the basal joint of the flagellum, and the tips of the mandibles rufo-piceous. Thorax: the metathorax clothed above and at the sides with silvery-white pubescence; the coxæ and femora beneath with a thin ashy pile; the wings subhyaline, the base of the superior pair, a fascia in the middle, and a second and broader one crossing at the marginal cell dark fuscous. Abdomen: the first segment with silvery pubescence above; the third of a pale dull ferruginous colour; beneath, thinly covered with ashy pile.

Hab. Mexico. In the National Collection.

2. *Ferreola formosa.*

F. nigra, pubescens, vertice, prothorace, mesothorace abdominisque segmentis tertio et quarto pube rufo-ferruginea vestitis; metathorace pedibusque pube alba ornatis; alis fusco variegatis.

Female. Length 7½ lines. Black; the head above the insertion of the antennæ and the pro- and mesothorax above clothed with rich fulvo-ferruginous pubescence; the metathorax with silvery-white pubescence, the base and apex black; the thorax beneath and the legs with a silvery-white pubescence; the tibiæ and tarsi spinose; wings subhyaline, mottled and clouded with smoky stains, the apex of the superior wings pale, as well as the base of the posterior pair; a slightly yellowish subhyaline band crosses the anterior pair at the first submarginal cell. Abdomen: the first segment, the base of the second laterally, and the entire under surface with a fine, thin, silvery-white pubescent pile; the second and sixth segments with an obscure-purple lustre, the third and fourth with a rich rufo-fulvous pubescence.

Hab. Mexico (Oajaca). In the National Collection.

This is one of the most beautiful species of the family Pompilidæ. The variety of its colouring, the brightness of the silvery pile that covers the legs and other portions of the body, and its mottled wings readily distinguish it from every known species of the genus.

XXX.—*Catalogue of the* Dytiscidæ *and* Gyrinidæ *of Australasia, with Descriptions of new Species.* By the Rev. Hamlet Clark, M.A., F.L.S.

I propose, in this and a subsequent paper, to notice the genera and species of the Dytiscidæ and Gyrinidæ that are at present known to us as inhabitants of Australasia—bringing together the few species that have been described already by authors, and adding descriptions of such new species as I have been able to examine, through the kindness of Dr. Gray of the British Museum, Mr. Bowring, Mr. Waterhouse,

and, especially, Mr. Bakewell. The following pages will include, probably, nearly every species that has as yet been brought in collections to this country. It will be seen that nearly all that we know as yet of the fauna of that vast continent is furnished by the neighbourhood of Melbourne, which has been so carefully examined by Dr. Howitt and Mr. Bakewell.

Family **Dytiscidæ.**

Tribe I. Haliplidæ.

Genus Haliplus, Latr.

1. *H. testudo*, n. sp.

H. ovatus, subelongatus, pallide ferrugineis; thorace antice constricto, ad basin et antice fortiter nigro punctato; elytris nigro striatis; antennis pedibusque pallide furrugineis.

Long. corp. 2 lin., lat. 1 lin.

Ovate, somewhat elongate, convex, of a pale-ferruginous colour: *head* narrow, subelongate, impunctate; eyes large: *thorax* transverse, at the base nearly twice the breadth of the medial length, the sides are very slightly rounded, and very much constricted towards the front; the surface at the base is medially somewhat depressed, and impressed with two or three irregular rows of coarse black punctures; the anterior margin is also medially more or less distinctly punctured: *elytra* ovate, the outline being broadly dilated near to the thoracic angle (the greatest breadth being in front of the middle of the insect); the surface is marked by ten deeply punctured striæ, of which eight are perceptibly marked by dark lines from the apex to the base (the two lateral striæ being uncoloured): *legs* and *antennæ* pale ferruginous.

H. testudo may be separated from *H. australis* by the manifest coloration of the thoracic punctures and also of the striæ of the elytra; in *H. testudo* the interstices between the striæ are lævigate, and not sparingly punctate as in *H. australis.*

This species does not appear to be abundant. The four examples before me (all fairly uniform in colour and striation) are from the neighbourhood of Moreton Bay.

In the collections of the British Museum, Mr. Bakewell, Mr. Waterhouse, and the Rev. Hamlet Clark.

2. *H. australis*, n. sp.

H. ovatus, convexus, subelongatus, pallide flavus; thorace antice constricto, ad basin et antice punctato; elytris punctato-striatis et inter strias punctatis; antennis pedibusque flavis.

Long. corp. $1\frac{4}{5}$–2 lin., lat. 1 lin.

Ovate, convex, somewhat elongate, of a pale-flavous colour: *head* subelongate: *thorax* considerably constricted in front, more so than in *H. testudo*; at the base the breadth is twice the medial length, the surface is subglobose, and thickly punctate both in front and along the line of the base (the punctures being very slightly darker in colour than the surface, and not decidedly fuscous as in *H. testudo*): *elytra* convex, considerably broader in front than the base of the thorax, the shoulders being somewhat more prominent than in the preceding species; from the base to the apex are eleven coarsely punctate striæ (the eleventh being in one example almost obsolete); the punctures are in colour very slightly fuscous, while between the striæ are distinctly apparent irregularly arranged punctures: *legs* and *antennæ* flavous.

This pretty species approaches nearly to *H. testudo*: it is manifestly separated by its form (the humeral angles being more distinct) and by the character of the punctuation of the thorax and elytra. Both species entirely differ from species known to me from other continents.

Of the three examples before me of this species, one is from the collection of the British Museum (the precise locality being unrecorded), and two I received some years ago from Mr. Stevens, the locality being "South Australia."

3. *H. fuscatus*, n. sp.

H. ovatus, subcylindricus, rufo-fuscus: thorace ad basin fortiter depresso, punctato; elytris ad humeros latis, leviter punctato-striatis, punctis rufo-fuscis (haud ut in *H. gibbo* nigro coloratis); antennis pedibusque rufo-fuscis.

Long. corp. $1\frac{1}{2}$ lin., lat. $\frac{3}{4}$ lin.

Ovate, broad, somewhat cylindrical, attenuated towards the apex, of a rufo-fuscous colour: *head*, when seen under a high power, finely punctate towards the base: *thorax* transverse, considerably constricted towards the apex, the sides being in outline rectilinear, the surface along the line of the base is considerably depressed, which gives to the disk (when viewed laterally) a distinctly globular form; this lateral depression of the base is even more apparent when viewed in front; the surface is coarsely and sparingly punctate throughout: the *elytra*, broad, somewhat parallel, when viewed from above the line of the shoulder, form a distinct angle with that of the thorax (the thorax at its base appearing somewhat constricted); ten striæ, consisting of small and evenly arranged punctures, are faintly coloured with fuscous, the lateral striæ being in punctation and colouring more irregular: *legs* and *antennæ* rufo-fuscous.

This and the following species present a peculiarity of form in the striking basal depression of the thorax. The species before us differs

from *H. gibbus* in its almost concolorous elytra, in the punctation of the thorax, and in its larger size.

A single example is in the cabinet of Mr. Bakewell, received by him from Adelaide.

4. *H. gibbus*, n. sp.

H. latus, ad medium subparallelus, punctato-striatus, fuscus aut fusco umbratus aut flavus; thorace transverse ad basin fortiter depresso et punctato; elytris ad humeros latis et rotundatis, punctato-striatis, striis vel tenuiter vel late fuscatis; pedibus antennisque flavis.

Long. corp. $1\frac{1}{3}$ lin., lat. $\frac{4}{7}$ lin.

Broad, robust, subparallel, in colour varying from pale flavous to fuscous: *head* elongate in front, at the base obscurely punctate: *thorax* transverse, the sides being rectilinear, and considerably constricted in front; the surface at the base is broadly and deeply marked by a transverse depression, which, when viewed laterally, gives prominence to the anterior disk; the surface is sparingly punctate, more distinctly near the line of the base; this punctation varies in different examples, as does also the coloration, which sometimes is pale flavous, sometimes clouded with fulvous, and sometimes dark fuscous: *elytra* robust, the shoulders being broader than, and forming a distinct angle with, the sides of the thorax; ten striæ are formed by fuscous lines, in the midst of these lines are series of regular punctures; these lines of fuscous colour vary in breadth, in some examples being hardly broader than the punctures, in others obfuscating almost the whole surface, thus causing the colouring of the elytra to vary in different examples, sometimes being flavous with narrow fuscous lines, and sometimes entirely fuscous: *legs* and *antennæ* flavous.

The remarkable thoracic depression in this species separates it from all other species of the genus with which I am acquainted, except the preceding: from *H. fuscatus* the species may be distinguished by its smaller size, as well as by the greater depth and breadth of the punctures of the elytra.

This variable species is found in the neighbourhood of Moreton Bay. In the cabinets of the British Museum, Mr. Bakewell, and the Rev. H. Clark.

Tribe II. Pelobiidæ.

Genus Pelobius, Schönherr.

1. *P. Australasiæ*, n. sp.

P. ovatus, tenuiter et crebre punctatus, flavo-ferrugineus, infra niger, capite nigro; thorace lato; elytris latis, confertim subfusco punctatis; pedibus antennisque flavis.

Long. corp. 5 lin., lat. $2\frac{3}{4}$ lin.

Ovate, broad, covered throughout with small closely arranged punctures, much more minute than in the European species *P. Hermanni*, of a flavous or rufo-flavous colour: *head* very finely punctate, black: *thorax* broadly transverse, larger than and not so constricted in front as *P. Hermanni*; the surface is subdepressed at the base: *elytra* broad, finely punctate throughout; under a high power, traces may be seen of three stria-like lines of paler flavous colour: *abdomen* and *underside* black: *legs* and *antennæ* flavous.

P. Australasiæ is somewhat larger than the common European representative of this genus; the thorax is broader, the punctures more minute, and the colour uniformly and much paler: the species apparently is not uncommon in the neighbourhood of Adelaide. In the collections of the British Museum, of Mr. Bakewell, Mr. Waterhouse, and the Rev. H. Clark.

2. *P. niger*, n. sp.

P. niger, statura minore, elytris confertim punctatis, antennis pedibusque flavis.

Long. corp. 4 lin., lat. 2 lin.

Oval, broad, considerably smaller than *P. Australasiæ*; the surface throughout is covered with thickly disposed punctures, the colour black: *head* somewhat more sparingly punctate and glabrous: *thorax* broadly transverse, the base being transversely subdepressed: *elytra* broad, somewhat flattened in form; the surface (as that of the thorax) is thickly punctate throughout, more closely and coarsely than in *P. Australasiæ*: *abdomen* and *underside* black: *legs* and *antennæ* rufo-flavous.

From the district of Moreton Bay. In the cabinet of Mr. Bakewell.

Tribe III. Hydroporidæ.

Genus 1. Hyphydrus, Ill.

1. *H. humeralis*, n. sp.

H. ovatus, brevis, crassus, subpubescens, punctatus, niger; capite flavo-rufo, ad basin nigro maculato; thorace nigro, ad latera flavo; elytris nigris, ad humeros usque ad suturam et ad latera plus minus flavis, apice fusco; pedibus antennisque rufo-testaceis.

Long. corp. 4 lin., lat. $1\frac{3}{4}$ lin.

Broad, subglobular, somewhat depressed, subpubescent, punctate, black: *head* broad, with two obliquely transverse depressions, one on either side; at the inner margin of the eyes the surface is finely and thickly punctate, more distinctly near the base; in colour flavo-rufous, with two basal triangular fuscous markings: *thorax* broad, much constricted towards the front, the anterior margin is slightly excavated, the surface thickly and somewhat coarsely punctate; in colour black,

the margins being more or less broadly flavous: *elytra* broad, subglobular; the surface is finely pubescent, thickly and deeply punctate; in colour black or fuscous black; at the shoulders transversely and also along the line of margin are distributed several rufo-flavous markings more or less broad and distinct in different examples; at the shoulders the marking is broad, does not reach the suture, and extends somewhat beyond the humeral angle for a short distance down the side; along the lateral margin are other markings, sometimes almost continuous, sometimes consisting of two isolated spots (one medial and the other near the apex); the apex itself is in all cases flavous: *abdomen* and *underside* thickly punctate, rufo-testaceous, the apex of the abdomen being fuscous: *legs* and *antennæ* rufo-testaceous.

H. humeralis is abundantly distinct from all its congeners with which I am acquainted: its large size separates it from other Australian species; from *H. Senegalensis* and Madagascar representatives it may readily be distinguished.

From the district of Victoria; it has frequently been taken in the neighbourhood of Melbourne, where it is evidently a common species. In the cabinets of the British Museum, Mr. Bakewell, and the Rev. H. Clark.

2. *H. Blanchardii*, n. sp.

H. ovatus, brevis, supra convexus, punctatus, rufo-ferrugineus, capite ad basin fusco; thorace ad latera rotundato, antice constricto, ad basin late fusco aut fusco bimaculato; elytris obsolete unistriatis, sutura, maculis duabus inæqualibus tertiaque transversa juxta suturam nigris; pedibus rufo-fuscis; antennis pallide rufis.

Long. corp. $2\frac{1}{2}$ lin., lat. $1\frac{1}{3}$ lin.

Broadly ovate, short, punctate throughout, rufo-ferruginous: *head* large, finely and thickly punctate, rufo-ferruginous, the base being somewhat suffused with fuscous: *thorax* transverse, the anterior margin emarginate, the sides much constricted in front, and rounded in form; the surface is thickly punctate; in colour rufo-ferruginous, the base being broadly fuscous (occasionally the fuscous marking at the base consists only of two large suffused fuscous spots, one on either side of the middle): *elytra* broad, thickly and coarsely punctate throughout; when viewed obliquely, an obsolete stria may be detected on either side at some distance from the suture; in colour rufo-ferruginous, with the suture and also two medial longitudinal markings and a third near the apex (irregular and broad) being black; these markings vary considerably in size: the *underside* is thickly punctate and fuscous: *abdomen* rufo-fuscous: *legs* rufo-fuscous, the tarsi being frequently nigro-fuscous: *antennæ* pale fuscous.

The only species before me with which *H. Blanchardii* may be confounded are *H. Caledoniæ* and *H. australis*: it is larger and rela-

tively much broader than the former; it is larger but more elongate proportionally than the latter: the coloration also separates it from either species.

The two examples of *H. Blanchardii* that I know of were received by Mr. Bakewell from Victoria; one, through this gentleman's kindness, is now in my collection.

3. *H. Johnsonii*, n. sp.

H. ovatus, brevis, punctatus, testaceus; thorace ad medium nigro-fusco, ad latera testaceo; elytris quatuor aut quinque lineis inæqualibus fuscis a medio ad apicem, pedibus antennisque flavis.

Long. corp. 2 lin., lat. 1 lin.

Broadly ovate, somewhat depressed, thickly punctate, of a testaceous or flavo-testaceous colour: *head* with two oblique medial foveæ, in colour testaceous: *thorax* broad, transverse, in colour dark fuscous, the margins being testaceous: *elytra* broad, thickly and finely punctate; near the shoulders are traces of pubescence; in colour pale flavous, with four or five longitudinal lines of fuscous extending from the middle to the apex; these lines are frequently interrupted and irregularly suffused: *abdomen* and *underside* thickly punctate, rufo-fuscous: *legs* and *antennæ* flavous.

Separated from other species at once by the pale-testaceous colour of its elytra and black thorax, as well as by its smaller size. From the district of Victoria.

4. *H. australis*, n. sp.

H. ovatus, latus, brevis, dense et minute punctatus, rufo-testaceus, thorace ad basin aliquando subobfuscato; elytris obsolete unistriatis, apicem versus obfuscatis.

Long. corp. 2 lin., lat. $1\frac{1}{3}$ lin.

Ovate, short, broad, finely punctate throughout, of a rufo-testaceous colour: *head* very finely and obsoletely punctate: at the base of the *thorax* are, in the two examples before me, traces of fuscous marking: *elytra* broad, thickly punctate throughout; on either side of the suture is an obsolete stria, more distinct towards the base, but vanishing as it approaches the apex: irregularly shaped and indistinct fuscous markings are apparent on either elytron near the apex: *legs* and *antennæ* pale rufous.

H. australis closely resembles *H. Blanchardii*, from which it is indeed only to be separated at first sight by its distinctly smaller size; a little examination will, however, show that the thorax is relatively somewhat narrower, and the markings on the thorax and elytra much less pronounced and well defined. From *H. Caledonia*

this species differs by its greater breadth and less elongate form, as well as by the absence of markings on the elytra.

I have seen but two examples of this species, one from "Australia," in the cabinet of the British Museum, and a second in my own collection, supplied to me by Mr. Cumming, from South Australia.

5. *H. Caledoniæ*, n. sp.

H. ovatus, convexus, punctatus, rufus, capite rufo-flavo; thorace rufo, ad basin transverse fusco; elytris maculis transversis irregularibus, hac ad medium, hac apicem juxta, nigris; pedibus antennisque rufo-fuscis.

Long. corp. 2 lin., lat. $1\frac{1}{3}$ lin.

Ovate, convex, thickly punctate throughout, of a rufous colour: *head* broad, rufo-flavous, the base being narrowly fuscous: *thorax* broad, very thickly punctate, in colour rufous, the basal margin being broadly fuscous: *elytra* broad, punctate, rufo-fuscous, with two irregularly formed markings, the one medial, the other near the apex; but the two on either elytron are for the most part, apparently, not always united together, but broadly separated at the suture from those on the other elytron; the form of these maculations varies in different examples; in one example they take the form of broad, almost unbroken, transverse bands, in others of smaller isolated spots: *legs* and *antennæ* rufo-fuscous.

H. Caledoniæ is narrower somewhat, and more elongate, than other species known to me of this continent.

Two examples of this species are in the British Museum, from New Caledonia. I have received the species from Mr. Cumming, from the same locality.

Genus 2. Hydroporus, Clairv.

A. Thorace haud striolato.

1. Oblongi: thorax angulis posticis cum elytris vix angulum formans.

1. *H. Howittii*, n. sp.

H. latus, robustus, punctatus, rufo-ferrugineus, elytris rufis, fusco-notatis, vel fuscis flavo-lineatis.

Long. corp. 3 lin., lat. $1\frac{1}{2}$ lin.

Ovate, broad, robust, punctate, rufo-ferruginous: *head* with two minute depressions near the anterior margin; surface almost imperceptibly punctate: *thorax* transverse, the anterior margin emarginate, the sides constricted in front so as to form a continuous line with those of the elytra and head; the surface is thickly punctate, near the anterior margin is a row of minute punctures; in colour rufo-ferruginous, the base being more or less broadly marked with fuscous: *elytra* robust, thickly punctate, and at the sides pubescent; at some distance from the suture on either side is an obsolete stria, which vanishes near

the apex; the colour is ferruginous, with very irregularly formed dark-fuscous markings, so irregular that, of the large series before me, hardly two examples entirely agree with each other; the ordinary typical pattern would seem to be two large medial irregular markings of black, occupying nearly the whole breadth of the elytra, and a transverse fascia below them, close to the apex; in some examples these two medial markings become a transverse band hardly interrupted at the suture, in others they are (more or less broadly) connected with the apical fascia; in other examples the whole posterior part of the elytra is (with the exception of the extreme apex) fuscous black, while (that no form of marking might be absent from the species) one example has, from the apex to the base, longitudinal instead of transverse markings; in most instances the anterior surface (with the exception of the suture) and the apex are rufo-ferruginous: *abdomen* and *underside* thickly punctate, in colour rufo-ferruginous: *legs* and *antennæ* rufous.

Apparently as abundant as it is a variable species in the south of Australia. Taken near Adelaide and at Melbourne. In the collections of the British Museum, Mr. Bakewell, Mr. Waterhouse, and the Rev. Hamlet Clark.

2. *H. hamatus*, n. sp.

H. ovatus, latus, glaber, punctatus, rufo-fuscus; thorace rufo, ad basin fusco; elytris obsolete unistriatis, ad latera et suturam (et apud medium plerumque obsolete) longitudinaliter flavo notatis; pedibus et antennis rufo-testaceis.

Var. A. Elytris omnino fuscis aut rufo-fuscis.

Long. corp. $2\frac{3}{4}$–3 lin., lat. $1\frac{1}{2}$–$1\frac{3}{4}$ lin.

Ovate, broad, impubescent, thickly punctate, or rufo-fuscous: *head* large, at the inner and lower margin of the eyes is an obsolete circular depression, the surface is very sparingly punctate and rufous: *thorax* broadly transverse, the lateral margins are constricted in front, the anterior margin somewhat excavated, the surface is thickly punctate (more distinctly towards the base), in colour rufous, the posterior margin (and also more narrowly the anterior) being fuscous: *elytra* ovate, somewhat narrowed near the shoulders, thickly punctate throughout, less distinctly so near the margins; an obsolete but well-defined longitudinal stria may be discerned (when viewed obliquely) at some distance from the suture; the surface is sparingly pubescent towards the sides and base; along the line of the margin is a broad suffused rufous marking, extending longitudinally in some examples nearly to the apex; near the suture is another longitudinal flavous marking, which in most instances does not extend from the anterior margin beyond the middle; between these two a third marking may occasionally be traced, narrower and less distinctly defined: *abdomen* and *underside* fuscous, the apex being rufous: *legs* and *antennæ* rufo-testaceous.

Var. A with the longitudinal markings on the elytra entirely obliterated, at the shoulders and on the apex alone being found any trace of flavo-testaceous.

H. hamatus at first sight abundantly differs from *H. Howittii*: the broad transverse markings of the latter contrast evidently with the longitudinal bands of the former; there are, however, examples before me which show that these differences of colour must not be regarded as constant. I think that *H. hamatus* will always be found to be perceptibly broader in form, not quite so parallel, and that the punctures on the elytra are more distinct and not so closely arranged. The two species may be separated from *H. Gardnerii* by the presence of a medial obsolete stria on the elytra, which in the latter species is entirely wanting.

A common insect in the neighbourhood of Melbourne. In the collections of the British Museum, Mr. Bakewell, Mr. Waterhouse, and the Rev. H. Clark.

3. *H. Gardnerii*, n. sp.

H. ovatus, latus, impubescens, punctatus, rufo-fuscus; thorace rufo-flavo, ad basin fusco; elytris latis, punctatis, haud unistriatis, rufo-fuscis; pedibus et antennis rufo-flavis.

Long. corp. $2\frac{3}{4}$ lin., lat. $1\frac{1}{2}$ lin.

Ovate, broad, impubescent, punctate, rufo-fuscous: *head* large; near the lower and inner margin of the eyes is an obsolete circular depression; the surface is impunctate and rufo-flavous, the margins of the eyes being fuscous: *thorax* transverse, the lateral margins gradually constricted in front; the surface is thickly punctate, more especially near the anterior and posterior margins; in colour rufo-flavous, the base and front being fuscous: *elytra* ovate, thickly punctate throughout, in colour dark fuscous, slightly suffused towards the shoulders with flavo-fuscous: *abdomen* and *underside* rufo-fuscous: *legs* and *antennæ* flavous or rufo-flavous.

H. Gardnerii at first sight closely resembles var. A of *H. hamatus*; it is, however, *decidedly a shorter insect*, and the elytra are unmarked, as in that species, by any medial stria.

From the neighbourhood of Melbourne.

4. *H. interrogationis*, n. sp.

H. ovatus, depressus, punctatus, nigro-ferrugineus; thorace fusco, lateribus rufo-flavis; elytris flavo notatis.

Long. corp. 2 lin., lat. 1 lin.

Ovate, somewhat depressed, finely and thickly punctate, black, more or less marked with ferruginous: *head* impunctate, black, the anterior part flavo-ferruginous: *thorax* subdepressed at the base, where

the surface is more distinctly punctate, in colour flavo-rufous, the medial posterior disk being black; this medial marking varies in extent in different examples, and sometimes contains within itself a basal circular flavous patch: *elytra* very finely and thickly punctate, in colour black; from the humeral angle proceeds an irregular flavous marking obliquely towards the suture, behind which also is another irregular transverse flavous marking; the margin is also more or less distinctly flavous; in some examples these markings are severally absent, and in some few examples they are all entirely absent, the elytra being wholly black: *legs* and *antennæ* rufo-flavous.

This pretty species is subject to considerable variation in colour: it appears to be a very common species near Adelaide. In the collections of the British Museum, R. Bakewell, Esq., and the Rev. H. Clark.

5. *H. Thorei*, n. sp.

H. ovatus, valde punctatus, rufo-flavus; thorace punctulato, nigro marginato; elytris rufo-fuscis, quinque flavis striis undique ornatis, subpubescentibus.

Long. corp. $1\frac{1}{2}$ lin., lat. $\frac{2}{3}$ lin.

Ovate, broad, thickly punctate throughout, rufo-flavous: *head* impunctate: *thorax* very finely punctate; when seen through a fine lens, somewhat more distinctly punctate at the base, narrowly margined with black: *elytra* very finely punctate, in colour rufo-fuscous, with five parallel longitudinal flavous lines extending from the apex to the base; the surface, when viewed obliquely, is seen to be finely clothed with pubescence: *legs* and *antennæ* flavous.

A single specimen has been forwarded to me by M. Thorey, of Hamburg, to whom I am indebted for several interesting species of this group, with the locality "Tarangoo, Nov. Holland."

6. *H. gigas*, Boheman ('Eugenies, Resa, &c.,' Stockholm, 1858, p. 18).

H. oblongo-ovalis, modice convexus, supra niger, subnitidus, creberrime punctulatus; capite medio, palpis, antennis, corpore subtus pedibusque testaceis; prothorace lateribus anguste ferrugineo-marginatis; elytris breviter cinereo pubescentibus, fascia inæquali basali maculisque quatuor pone medium flavo-testaceis ornatis.

Long. $6\frac{1}{2}$, lat. $3\frac{1}{4}$ mill.

Patria Nova Hollandia (*Sydney*).

Caput superne parum convexum; prothorax longitudine duplo et dimidio latior, apice subtruncatus, utrinque leviter sinuatus, lateribus tenuiter reflexo-marginatis, angulis anticis prominulis acutis, posticis rectis, superne parum convexus, niger, nitidus, extrorsum anguste rufo-

testaceo marginatus, creberrime punctulatus; elytra prothorace non latiora, quam lata plus duplo longiora, pone basin sensim ampliata, infra medium angustata, nigra, utroque præterea seriebus tribus e punctis nonnihil evidentioribus formatis, basi fascia inæquali, extrorsum latiore, non usque ad suturam continuata, maculisque pone medium quatuor flavo-testaceis ornata, tribus prope marginem lateralem, quarum prima mox pone medium, subrotunda, reliquis majore, secunda inter medium et apicem, tertiaque prope apicem, parvis, illa subovata, hac triangulari et quarta inter medium et apicem, itidem parva, ovata, prope suturam locata.

The above is a transcript of Boheman's description, in his work on new species of insects discovered during the voyage of the Swedish frigate 'Eugenies,' 1851–1853. I am indebted to Mr. Janson for a reference to this work. The species is unknown to me.

7. *H. femoralis*, Boheman ('Eugenies, Resa, &c.,' Stockholm, 1858, p. 19).

H. oblongo-ovalis, leviter convexus, niger, parum nitidus; capite antice, palpis, antennis, abdomine pedibusque testaceis; prothorace subtilissime crebre punctulato, utrinque late flavo-testaceo marginato; elytris subtiliter creberrime punctulatis, margine laterali maculaque disci exterioris intra basin et medium lutescentibus; femoribus posticis apicem versus valde dilatatis, valide dentatis.

Long. $4\frac{1}{2}$, lat. $2\frac{1}{4}$ millim.

Patria Nova Hollandia (*Sydney*).

Caput parum convexum, inter oculos utrinque leviter impressum, antice rufo-testaceum, rotundatum: prothorax longitudine duplo et dimidio latior, apice late leviter rotundo emarginatus, lateribus pone apicem leviter rotundo-ampliatis, dein basin versus oblique dilatatis, angulis anticis antrorsum prominulis acuminatis, posticis retrorsum nonnihil productis; superne paulo convexus, extrorsum late flavo-testaceo marginatus: elytra prothorace parum latiora, quam lata duplo longiora, margine laterali maculaque ante medium disci exterioris parva subrotunda lutescentibus, femoribus posticis extrorsum angulariter valde ampliatis, ante apicem dente magno, lato, triangulari armatis.

The above is condensed from Boheman's description. I do not know the species.

8. *H. nigro-adumbratus*, n. sp.

H. subparallelus punctatus, rufo-fuscus, capite flavo, thorace rufo-fusco, lateribus flavis; elytris fuscis vel rufo-fuscis, lateribus et sutura pallide flavis.

Long. corp. $1\frac{1}{2}$ lin., lat. $\frac{2}{3}$ lin.

Subovate, somewhat parallel, punctate, rufo-fuscous: *head* very sparingly and finely punctate, with two distinct anterior depressions,

one on either side, near the inner margin of the eyes, in colour palely flavous: *thorax* sparingly punctate, more distinctly so near the posterior margin; a narrow anterior depression also is rendered more apparent by deeper punctations; in colour rufo-flavous, the lateral margins being more pale: *elytra* very finely punctate throughout, with two striæ of deeper but sparingly distributed punctures; in colour rufo-fuscous or fuscous, the suture and the margins being more palely flavous: *legs* and *antennæ* flavous.

I have received a single example of the above species from Mr. S. Stevens, from "South Australia."

9. *H. insculptilis*, n. sp.

H. ovatus, latus, punctatus, niger; thorace fusco-nigro; elytris punctato-striatis.

Long. corp. 1 lin., lat. $\frac{1}{2}$ lin.

Ovate, broad, impubescent, punctate, black, shining: *head* impunctate, except under a high power, when faint punctures are discernible; in front are two well-marked depressions near the inner margins of the eyes; in colour rufous: *thorax* punctate, more deeply and coarsely towards the posterior margin; sometimes the anterior disk is almost impunctate; the anterior margin is narrowly impressed with more distinct punctations; colour fuscous: *elytra* punctate, a single stria formed of somewhat deeper punctures is tolerably distinct in some examples, colour fuscous black: *legs* rufo-flavous: *antennæ* fuscous, the base being flavous.

In the collections of the British Museum, Mr. Bakewell, and the Rev. Hamlet Clark.

From the neighbourhood of Adelaide.

2. Oblongi: thorax angulis posticis cum elytris angulum obtusum sæpe formans.

10. *H. Blakeii*, n. sp.

H. breviter oblongus, latus, crebre punctatus, fusco- vel flavo-ferrugineus.

Long. corp. $1\frac{3}{4}$–2 lin., lat. $\frac{3}{4}$–1 lin.

Broad, subdepressed, impubescent, thickly punctate, of a dull ferruginous colour, varying in different examples in degree, in some almost flavous, in others nearly fuscous: *head* broad, with two indistinct depressions between the eyes; the surface is very finely punctate, more distinctly so near the base: *thorax* broad; the sides subparallel, and rounded towards the front; the surface thickly punctate; when seen from behind, a narrow obsolete transverse basal depression is apparent in some examples; the basal line is very *narrowly* black in three or four of the sixteen examples before me: the *elytra* are broad, generally concolorous, and thickly and distinctly punctate; in the more immature

examples a faint line-like longitudinal marking is apparent on each elytron: *legs* and *antennæ* fusco-flavous.

H. Blakeii may be separated from other species of this section by its concolorous elytra.

3. Breviter ovati: thorax angulis posticis cum elytris angulum ortusum sæpe formans.

11. *H. collaris*, Hope (Proc. Ent. Soc. Lond. 1841, p. 48).

I do not know this species, which is not in the British Museum or any London collection: according to Mr. Hope's brief diagnosis it is piceous in colour throughout, and very finely punctate: in length it is $1\frac{3}{4}$, in breadth $\frac{3}{4}$ line.

In the Catalogue of Hydrocantharidæ of the British Museum (1847), the name under which this species was described by Mr. Hope is sunk *as a synonym*, and in its stead is proposed the specific name of "*thoracicus*": this alteration was proposed probably from the fact that there was already a *Hygrotus collaris* (*D. collaris* of Panzer), and that *Hygrotus* had been merged as a subdivision of the genus *Hydroporus*. But *D. collaris* of Panz. is nothing more than *H. reticulatus* of Fab. and other writers; it is itself merely a synonym (see Brit. Mus. Cat. p. 31); and thus the name is at the service of any subsequent writer who may select it, wherewith to designate any other species of the genus. This accidental oversight is the more unfortunate because since the date of this catalogue Boheman has described an *African Hydroporus* (Ins. Caffr. i. 1848) under this same name of *collaris*, which must now (by reason of the restoration of Hope's original name to this Australian species) be changed for some other name.

The species was found near Port Essington.

Professor Westwood has been so good as to examine for me the original typical example of this species, which is in the Oxford University Museum: by his description of it, as well as by a drawing which he has very kindly made of the insect, it is apparent that *H. collaris* must be referred to this subsection. Mr. Westwood notices four abbreviated striæ-like lines on the elytra, very faintly impressed, extending from the base a little beyond the middle. No notice of these striæ is found in Mr. Hope's concise description.

12. *H. undecim-maculatus*, n. sp.

H. ovatus, latus, subdepressus, crebre punctatus, niger vel fusco-niger, rufo-fusco maculatus.

Long. corp. vix $1\frac{4}{8}$ lin., lat. vix $\frac{4}{8}$ lin.

Ovate, broad, of greatest breadth behind the middle, subattenuated towards the apex; very thickly punctate, of a reddish dull black colour, with rufous maculations: *head* short, broad; near the inner margins of the eyes are two shallow depressions: *thorax* broad, subparallel, the anterior angles largely rounded; the surface in front of the middle is laterally subdepressed; the sides are broadly marginate, the marginations being defined by a sharp deeply-cut fovea extending from the front to the line of the base; at the basal line are three suffused circular markings of fusco-rufous, one on either side, and a third medial: *elytra* broad, with four lateral subcircular fusco-rufous markings, three lateral at the emargination, and a fourth opposite the one nearest the base: *legs* and *antennæ* rufo-fuscous.

Somewhat smaller than *H. gravidus*, and distinguishable also from it by its colour, its maculations, and its thoracic margination.

Two examples are in the collection of the British Museum, labelled "New Holland."

13. *H. gravidus*, n. sp.

H. ovatus, latus, subdepressus, crebre punctatus, ater.
Long. corp. $1\frac{4}{5}$ lin., lat. $\frac{4}{5}$ lin.

Broad, depressed, the surface is very thickly and coarsely punctured throughout, in colour black: *head* broad, punctate; the surface is unmarked by any fovea or depression: *thorax* broad, the anterior angles rounded, the sides broadly marginate; in colour black, the marginations being obscurely tinged with rufous, more distinctly near the basal angles: *elytra* unmarked by any depression; longitudinal line or stria pitchy black; near the apex and also medially (at the extreme edge of the margination) is an obscure rufous marking: *antennæ* fuscous, the basal joints being rufo-fuscous: *legs* fuscous.

This species is closely allied to *H. undecim-maculatus*; but, after careful comparison, I feel convinced that it is distinct. It is a trifle larger in size; the colour is pitchy black, not rufo- pitchy black; the head has no foveæ, there are no traces of any maculations, except such as have no affinity with this latter species; and, especially, the hollowing-out of the thoracic margination (when seen obliquely from in front) is bevelled off as a shallow depression—not sharply cut, so as to form a deep angular fovea.

I received some years ago a single example of this species from Mr. Stevens, from Port Essington.

14. *H. Bakewellii*, n. sp.

H. ovatus, latus, depressus, crebre punctatus, flavus; elytris flavis, nigro notatis.
Long. corp. $1\frac{3}{4}$ lin., lat. $\frac{4}{5}$–1 lin.

Ovate, broad, somewhat depressed, attenuated towards the apex, flavous: *head* short, broad; on either side within the margins of the eyes is a narrow depression; the surface is finely punctate: *thorax* broad, rounded in front, the sides marginate, in front and near the base transversely subdepressed; the surface is finely punctate, flavous, the anterior and posterior margins being narrowly and evenly fuscous black: *elytra* thickly and finely punctate, flavous, with two, three, or four longitudinal markings of fuscous black; in one of the two examples before me the colour is rather fuscous black, with two interrupted and irregular medial bands of flavous. The great dissimilarity of pattern between these two examples plainly shows that the species is subject to much variety; it may readily be distinguished from all others by its sectional characters, the absence of any thoracic fovea, the angle formed by the sides of the elytra and the thorax, and by its smaller size.

I know of but two examples of this pretty and very distinct little species, which I have pleasure in dedicating to R. Bakewell, Esq., whose fine collection has formed the basis of my catalogue of the species of these genera.

Moreton Bay. In the cabinets of R. Bakewell, Esq., and the Rev. Hamlet Clark.

B. Thorax striola utrinque basali.

1. Striola in elytris haud continuata.

In this section, the first four species, *H. Gilbertii*, *H. penicillatus*, *H. Wollastonii*, and *H. dispar*, have the thoracic fovea not so sharply defined; it is rather one of a small basal group of *two, three, or more* longitudinal striæ.

15. *H. Gilbertii*, n. sp.

H. oblongo-ovalis, subtiliter punctatus, flavus, nigro lineatus.
Long. corp. $2\frac{1}{4}$–$2\frac{3}{4}$ lin., lat. 1–$1\frac{1}{4}$ lin.

Ovate, broad, depressed, thickly punctate, subpubescent, flavo- or rufo-ferruginous: *head* finely and thickly punctate, in colour flavo-testaceous: *thorax* broad, in front distinctly excavated, the sides somewhat rounded and constricted towards the front; at the base are two short well-defined longitudinal foveæ, which extend parallel to and at a slight distance from the lateral margins; the surface is thickly punctate, in colour rufo-flavous or testaceous; in the darker examples the anterior and posterior margins are suffused with fuscous: *elytra* broad and somewhat rounded at the sides, depressed; the surface is thickly and finely punctate, the punctures being to some extent in many examples concealed by very fine pubescence; obsoletely punctate striæ are to be discerned, one closely adjoining another at some distance from the suture; in colour varying from rufous to fusco-flavous, with longitudinal

evenly arranged markings of fuscous: these markings vary in different examples, in number for the most part three or four (in some instances they are separated by narrow well-defined pale striæ-like lines, while in other instances these striæ are wanting); they extend from a short distance from the shoulders to the apex; sometimes these fuscous markings are obliquely interrupted, sometimes the whole surface of the elytra is overspread with fuscous: *abdomen* rufo-fuscous: *legs* and *antennæ* rufo-ferruginous.

I confess that it is not without much hesitation and doubt that I have thus characterized the species: the examples before me seem to vary not only in size and in coloration, and in character of markings, but slightly even in form: undoubtedly from the series individuals might be selected which would appear to represent two abundantly separate species; but inasmuch as no distinguishing characters seem to be constant, and intermediate forms are found, I have at last determined on characterizing the whole, *pro tempore* at least, as one species.

A common species near Melbourne. In the cabinets of the British Museum, Mr. Bakewell, Mr. Waterhouse, and the Rev. Hamlet Clark.

16. *H. penicillatus*, n. sp.

H. oblongus, ovatus, sat latus, punctatus, flavo-fuscus vel flavo-ferrugineus; elytris subcarinatis, thorace anteriore, posteriore maculis duabus, elytrisque fusco maculatis; pedibus antennisque rufo-flavis.

Long. corp. $1\frac{3}{4}$–2 lin., lat. 1 lin.

Ovate, broad, subdepressed, finely punctate, flavo-rufous: *head* with a distinct depression on either side near the inner margin of the eyes, the surface is obsoletely punctate, in colour flavo-rufous: *thorax* sufficiently broad, the sides rounded in front and distinctly marginate; at the base are two short foveæ (sometimes almost imperceptible, except under a high power) situated at equal distance between the middle of the line of the base and the margins; the surface is finely punctate, flavo-rufous, the anterior and posterior margins, and also two subcircular markings, one on the inner side of each basal fovea, being fuscous; these subcircular markings are in many examples almost continuous: *elytra* broad, subdepressed; on either side of the suture is an obsolete carination (plainly perceptible when the insect is viewed from the front) extending from the base to the apex; the surface is finely punctate and fuscous, with longitudinal linear markings of flavous; in some examples these markings are continuous and evenly defined, in others they are nearly obsolete, in others, again, they are interrupted, especially near the suture and margination: *abdomen* and *underside* dark fuscous: *legs* and *antennæ* rufous.

This species is very variable in the markings of the elytra: but the

examples of it cannot be confounded with those of other allied species, in which no carinations on the elytra are perceptible.

Apparently a common species near Melbourne. In the cabinets of the British Museum, Mr. Bakewell, Mr. Waterhouse, and the Rev. Hamlet Clark.

17. *H. Wollastonii*, n. sp.

H. ovatus, sat latus, subdepressus, punctatus, rufo- vel flavo-ferrugineus; elytris fusco lineatis.

Long. corp. 2 lin., lat. 1 lin.

Ovate, broad, depressed, thickly punctate, impubescent, rufo- or flavo-ferruginous: *head* obsoletely punctate, rufo-testaceous: *thorax* broad, subparallel, the sides marginate, the anterior angles well rounded; the surface is obsoletely punctate, more distinctly so near the anterior and posterior margins; at the base are two short longitudinal foveæ, in some examples these foveæ are only part of a short series of corrugations: *elytra* broad, somewhat rounded at the sides, thickly punctate, with 6 or 8 longitudinal lines of fuscous; in most examples these lines are regular, uninterrupted, parallel, and for the most part of the same breadth as the spaces between them; in some examples the lines are interrupted more frequently near the suture medially and apically.—The varieties of this species may be grouped under two sections, of which the former predominate numerically: A. Colour flavous; the fuscous lines on the elytra are more sharply defined, and generally uninterrupted; the apex of the elytra is slightly attenuated. B. Colour rufo-flavous; the fuscous linear markings on the elytra are somewhat suffused; in most examples the apex of the elytra is less attenuated.

I name this species after my friend Mr. Vernon Wollaston, who, by his researches in Teneriffe and Madeira, has added several very interesting species to our lists of the Hydradephaga.

From the neighbourhood of Melbourne. In the collections of the British Museum, Mr. Bakewell, and the Rev. Hamlet Clark. An example of this species in the British Museum is from "Hobart Town, Van Diemen's Land."

18. *H. dispar*, Germ. (Linn. Ent. 1848).

Long. corp. $2\frac{1}{5}$ lin., lat. 1 lin.

H. dispar is at once separated from *H. Wollastonii* by its longer form, black thorax (the marginations being flavous), interrupted and constricted narrow flavous lines on the elytra, and an *obsolete tooth* near the apex of the elytra.

This specific name has since been adopted by Le Conte to designate a North American species found near Lake Superior.

I am indebted to Dr. Schaum for a typical example of this species from the cabinet of Germar.

Adelaide.

19. *H. multimaculatus*, n. sp.

H. ovatus, subparallelus, sat latus, valde punctatus, flavo-ferrugineus, elytris nigro maculatis.

Long. corp. 1 lin., lat. $\frac{2}{3}$ lin.

Subparallel, thickly and coarsely punctate throughout, impubescent, in colour flavo-ferruginous: *head* finely punctate, rufo-flavous, the basal line being fuscous: the sides of the *thorax* are parallel, the surface thickly punctate; between and connecting the foveæ, near the basal line, is a well-defined *transverse* fovea; the surface in colour is flavo-ferruginous, the margination and anterior margin being narrowly fuscous, and the basal line more broadly so, with a dark conspicuous cloud of fuscous situated medially and extending to the anterior margin; the black basal marking extends on either side only to the lateral fovea: *elytra* subparallel, thickly and coarsely punctate, in colour flavo-ferruginous, with thickly scattered fuscous markings; these markings are sometimes isolated, subcircular in form, and minute; sometimes, especially transversely, post-medially, they are confluent, and give an appearance of a transverse band; they present also the appearance of a longitudinal marking near to and parallel to the suture, and it is probable that in different examples the degree of these markings may differ: *legs* and *antennæ* flavous.

H. multimaculatus is closely allied to *H. sinuatocollis*; the maculations on the elytra are more numerous, and the sides of the thorax are parallel. It corresponds more closely still to pale examples of *H. Meadfootii*; it is longer in form, the transverse thoracic fovea is much more abrupt and distinct, the punctations of the surface are deeper, and the maculations of the elytra are smaller, more numerous, and less confluent.

I possess a single example of this species, received some years ago from Mr. Stevens: locality "South Australia."

20. *H. Hansardii*, n. sp.

H. oblongo-ovatus, postice attenuatus, crebre punctatus, niger, flavo maculatus.

Long. corp. $1\frac{1}{2}$ lin., lat. $\frac{1}{2}$–$\frac{3}{4}$ lin.

Oblong-ovate, parallel, somewhat attenuated at the apex, thickly and deeply punctate, black: *head* with two small punctations between the eyes, black, with a medial longitudinal line of dark rufous: *thorax* broad, subparallel, in front the anterior angles rounded; the surface is

thickly punctate throughout, in colour rufo-flavous, the anterior and posterior margins being narrowly fuscous black; the posterior marking consists sometimes of two submedial spots: *elytra* subdepressed, thickly punctate, of a dull black colour, with the lateral margins and also six small longitudinal markings (three on either side of the suture) flavous; the lateral margins, narrowly flavous continuously, are more broadly marked by three longitudinal flavous maculæ: *legs* and *antennæ* flavous.

Of *H. Hansardii* I have seen only two examples, from the neighbourhood of Moreton Bay. The small size of the species, with the regularity of its pattern, sufficiently distinguishes it from those species the pattern of which it approaches.

21. *H. Darwinii*, Bab. (Trans. Ent. Soc. Lond. 1843, p. 13).

H. oblong-ovate, punctate, ferruginous: *thorax* testaceous, with two medial spots of fuscous: *elytra with a minute tooth near the apex*, black, with four slender and interrupted testaceous lines on each elytron.
Long. corp. 2 lin., lat. 1 lin.

The type of this species is in the cabinet of the Entomological Society of London. Originally taken by Mr. Darwin at King George's Sound, during the voyage of H.M. Ship Beagle.

22. *H. sinuatocollis*, n. sp.

H. ovatus, sat latus, haud parallelus, crebre punctatus, flavo-ferrugineus; thoracis lateribus marginatis, sinuatis; elytris crebre fusco maculatis.
Long. corp. 1–1$\frac{1}{5}$ lin., lat. $\frac{4}{5}$ lin.

Ovate, somewhat rounded at the sides; subpubescent, thickly and coarsely punctate, rufo-fuscous: *head* finely punctate, rufo-flavous, the base and in some examples the margins of the eyes being fuscous: the sides of the *thorax* have a remarkable sinuation, being excavated medially or post-medially; between the basal foveæ is a well-defined transverse channel, as in *H. multimaculatus*; the surface is fusco-flavous, the anterior margin, and more broadly the posterior margin, being fuscous; this basal marking extends (more or less broadly) medially to the anterior margin, but is bounded laterally by the basal foveæ: the *elytra* are somewhat rounded in form, thickly punctate; the surface is rufo- or flavo-fuscous, maculated with dark fuscous markings; these markings are sparingly distributed, though differing in different examples: *legs* and *antennæ* rufo-flavous.

Unquestionably specifically distinct from *H. multimaculatus*, though at first sight possibly to be confounded with it; it is more rounded in form, the sinuation of the sides of the thorax is very striking and unmistakable, and the markings of the elytra (though this is a far

less important subject of difference) are on the whole less thickly grouped together. *H. sinuatocollis* differs from *H. Meadfootii* and others *inter alia* by its *transverse* thoracic fovea.

So far as I know, this species has been taken only by Mr. Bakewell, who has kindly presented examples from his cabinet to the British Museum, and has also placed it in my own collection.

23. *H. Meadfootii*, n. sp.

H. ovatus, *sub*parallelus, crebre punctatus, niger, vel niger flavo maculatus.

Long. corp. 1–1$\frac{1}{6}$ lin., lat. $\frac{3}{5}$ lin.

Ovate, more or less rounded in form, subpubescent, thickly punctate, fuscous black: *head* finely punctate, in colour either black, or fuscous black with a medial flavous marking, or flavous with a basal margin of black, or flavous: *thorax* with the sides subparallel; near the base is a broad shallow transverse depression, more or less definite in different examples; in colour as varied as that of the head, either black with flavous margins, or flavous with a medial marking of black, or flavous entirely: *elytra* fuscous black, in many examples marked more or less broadly with flavous; these markings for the most part are distributed generally in the form of an ante-medial and also post-medial transverse band, consisting sometimes of two or three linear longitudinal markings on each elytron; sometimes these markings are almost confluent, and form a distinct but irregular band: *legs* and *antennæ* rufo-flavous.

It is not without much examination that I come to the conclusion that the above different patterns of colouring ought to be referred to a single species: I am able to detect no constant difference of sculpture or form which enables us to separate them: the examples with the pale thorax are certainly more constant in their pattern and a trifle broader in form, and may possibly, when we know more of this group, require to be separated from the others.

The species has been received plentifully by Mr. Bakewell from Melbourne. In the collections of the British Museum, R. Bakewell, Esq., and the Rev. Hamlet Clark.

2. Striola in elytris continuata.

24. *H. bistrigatus* [Chev. MS.].

H. ovatus, planus, subtiliter pubescens, punctulatus, nitidus, rufo-flavus.

Long. corp. 1$\frac{2}{5}$ lin., lat. $\frac{3}{5}$–$\frac{4}{5}$ lin.

Ovate, smooth, very finely punctate throughout, flavous or rufo-flavous: *head* almost impunctate, rufo-flavous: *thorax* with the sides parallel, the surface smooth, rufo-flavous, the base being very obscurely fuscous:

elytra very obsoletely pubescent, in colour flavo-fuscous, clouded irregularly with a darker shade of fuscous; these markings are for the most part post-medial and broadly transverse, in some examples they are almost obsolete, in others represented merely by an apical marking: *legs* and *antennæ* flavous.

The size of this species alone separates it from allied species of this section.

A very common species in S. Australia; received from the district of Moreton Bay by Mr. Bakewell. In the cabinets of the British Museum, Mr. Bakewell, and the Rev. Hamlet Clark.

25. *H. Shuckardii*, n. sp.

H. ovatus, planus, subtiliter punctatus, rufo-flavus, fusco adumbratus.
Long. corp. 1 lin., lat. $\frac{1}{2}$ lin.

Ovate, sparingly and finely punctate throughout, of a rufo-flavous colour: *head* impunctate, near the margin of the base is a very fine transverse thread-like line; flavous or rufo-flavous in colour, the base being more or less broadly fuscous: *thorax* sparingly punctate, more distinctly near the base; the lateral foveæ are not parallel with the margins, but tend inwards towards the middle; the colour is flavo-rufous, the base and middle being more or less broadly fuscous: *elytra* sparingly punctate, of a rufo-flavous or flavous colour; in some examples markings of fuscous obscurely appear, ranged longitudinally; the surface is in all examples somewhat mottled: *legs* and *antennæ* flavous.

I name this species after Mr. Shuckard, in accordance with the MS. name in Mr. Bakewell's cabinet. A common insect, apparently, near Moreton Bay. In the cabinets of the British Museum, Mr. Bakewell, Mr. Waterhouse, and the Rev. Hamlet Clark.

26. *H. amabilis*, n. sp.

H. ovatus, sat latus, subparallelus, punctatus, fuscus vel rufo-fuscus.
Long. corp. $1\frac{1}{5}$–$1\frac{1}{4}$ lin., lat. $\frac{3}{5}$–$\frac{4}{5}$ lin.

Ovate, broad, impubescent, distinctly punctate, rufo-fuscous: *head* finely punctate, flavous or rufous, or sometimes fuscous: the sides of the *thorax* are somewhat compressed anteriorly, the surface at the base is distinctly punctate; in colour flavous, the base being fuscous: *elytra* subparallel, thickly punctate, rufo-fuscous: *legs* flavous: *antennæ* rufo-flavous.

A somewhat variable species both in size and colour, and slightly in form: the examples with the flavous head are a trifle larger and more parallel, and elongated at the apex. I am unable to detect

any constant difference which would constitute them a separate species.

A common insect in the neighbourhood of Moreton Bay. In the collections of the British Museum, Mr. Bakewell, and the Rev. Hamlet Clark.

27. *H. gemellus*, n. sp.

H. subparallelus, confertim punctulatus, flavo-rufus.
Long. corp. $1\frac{1}{4}$ lin., lat. $\frac{3}{5}$ lin.

More parallel, more elongate, and narrower than *H. amabilis*; more thickly punctate on the elytra; of a flavo-rufous rather than rufo-fuscous colour: *head* pale rufous, impunctate: *thorax* flavous, the base being fusco-flavous and perceptibly punctate: *elytra* parallel, finely punctate, in colour rufo-flavous: *legs* and *antennæ* flavous.

I think, quite distinct specifically from *H. amabilis*; it is more parallel, narrower in proportion, and more minutely and closely punctate.

South Australia. Received by me some years ago from Mr. S. Stevens. In the collections of Mr. Bakewell and the Rev. Hamlet Clark.

28. *H. compactus*, n. sp.

H. ovalis, punctatus, thorace flavo, elytris rufo-flavis.
Long. corp. 1 lin., lat. $\frac{1}{2}$ lin.

A much smaller insect than the preceding, and more oval in form: *head* impunctate, rufo-flavous: *thorax* finely punctate at the base, rufo-flavous: *elytra* ovate, and subattenuated at the apex, punctate, in colour rufous or rufo-flavous: *legs* and *antennæ* rufous.

To be distinguished chiefly from *H. amabilis* and *H. gemellus* by its smaller size; it is also, though closely resembling them in general appearance, more oval in form.

Received by Mr. Bakewell from Adelaide.

XXXI.—*On the Canarian* Malacoderms. By T. Vernon Wollaston, M.A., F.L.S.

In the following Paper I propose to give a descriptive enumeration of the various Malacoderms which have been detected, up to the present date, in the several islands of the Canarian archipelago. And I may add, briefly, that I have regarded the *Malacodermata* as restricted to the purely flower-infesting members of the *Priocerata*, comprised in the families *Telephoridæ*, *Malachiidæ*, and *Melyridæ*, but as excluding the (nevertheless soft-bodied) *Drilidæ* and *Cy-*

phonidæ. Whether natural or not, these are the limits which have been assigned to it by those recent writers (Kiesenwetter, Lacordaire, and others) who have paid special attention to the representatives of this department of the Coleoptera.

Considering that the Madeiras, which have been far more perfectly explored than the Canaries, have afforded us hitherto but 9 members of this great and important Section, it is surprising that so many as 31* should already have been brought to light in the latter; for although the greater amount of surface would naturally lead us to anticipate the presence of a larger number of species, still the area is not *so* extensive, compared with that of the former, as to account for this wonderful discrepancy. And when I further add that it is evident to me that there are many exponents yet to be discovered, whilst I have no longer any reason to look for additions from Madeira, this disproportionate development of the Malacoderms in the Canary Islands becomes still more striking. Nor can it be accounted for by the superior development of the Flora; for in both Groups the flowering plants are, *as a whole*, equally insignificant,—that portion of their vegetation which is truly indigenous attaining its greatest luxuriance, alike in the two archipelagos, amongst the *Euphorbiaceæ*, the *Laurineæ*, and the Ferns. And we can therefore only accept it as a fact, leaving the problem to be solved by those who profess to have a more complete insight into the mysteries of nature's workshop.

In glancing over the following pages, the great preponderance of *Attalus* (which numbers no less than 16 species) is the most salient fact. And this is the more curious since it is doubtful whether the genus is so much as even represented in the Madeiran Group †. Yet at the Canaries the *Attali* are literally everywhere. In the whole seven islands, and at nearly all altitudes, we meet with some member, or more, of the genus. In fact wherever flowers are to be found, there, throughout the entire year, though more particularly during the spring and summer months, are *Attali*.

* Only 30 are described in the present Memoir; but a second species of *Cephalogonia* (captured by myself, at Aldea de San Nicholas, in Grand Canary) is in the hands of Professor Westwood, who is about to include it in a Paper which he is now preparing.

† I say "doubtful" because I have stated below (*vide* p. 426) that it is not absolutely certain that *Pecteropus* (which has three exponents in Madeira) can be kept distinct from *Attalus*. At the same time I have expressed my belief that it probably *may* be retained; though *in that case* it will be a question yet to be decided, whether the *P. maderensis* and *rugosus* should not be regarded as *Attali*, and the *P. rostratus* alone as a *Pecteropus*.

I have found it necessary to establish two new genera in this paper —namely, *Micromimetes* and *Cephalogonia*. The former has most of the characters, and the external facies, of *Attalus*, except that the front tarsi of its male sex are *simple* (the second joint *not* being produced on its upper side into a tectiform lobe), and also 4- (instead of 5-) articulate. The latter, on the other hand, is closely related to *Troglops*; but its anterior male-feet have their second joint considerably longer (being composed, apparently, of two closely soldered together), the third articulation of its antennæ is *almost* as short as the minute second one, its abdominal segments are each of them broadly membranous along their apical edge, and the head of its male sex is much more deeply (indeed very anomalously) scooped out, and has the excavated portion furnished in the middle with a (more or less evident) tubercle.

It is somewhat extraordinary that although so many as 31 Malacoderms have already been detected in these islands, *not one* of them is identical with any of the 9 species of the Madeiran archipelago. Even the *Dasytes illustris*, which swarms on almost every rock of the latter, has not yet been observed at the Canaries, where its place is occupied by a totally different insect, the *D. subænescens*. It is curious, however, that both groups should have exactly three *Melyrosomata*, which, although perfectly distinct *inter se*, may be regarded as *representative* of each other respectively. Of *genera* (apart from the two uncharacterized ones already referred to), *Malachius*, which exists in Madeira, has not been discovered hitherto at the Canaries; whilst *Dolichosoma* and *Haplocnemus*, which occur at the latter, are apparently absent from the former.

It merely remains to add that in Messrs. Webb and Berthelot's voluminous work on the Natural History of the Canary Islands—a publication remarkable for its gigantic proportions but meagre and inaccurate contents—only *one* member of the great Section *Malacodermata* is enumerated, and *that one is wrongly named*! Indeed the whole subject-matter of the present Memoir is there conveniently disposed of in seven words,—"On remarque quelques petits *Dasytes* et *Malachiens*."

As a slight aid to the eye, in judging of their respective *habitats*, perhaps the following tabulation of the species may not be unacceptable.

	Lanz.	Fuert.	Can.	Ten.	Gom.	Palma.	Hierro.
Fam. Telephoridæ.							
1. Malthinus mutabilis, *Woll.*	...	...	*	*	...	*	*
β. depauperatus	*	*					
2. —— croceicollis, *Woll.*	...	...	*				
Fam. Malachiidæ.							
3. Pecteropus angustifrons, *Woll.*	...	...	...	...	*		
4. Attalus ruficollis, *Woll.*	...	...	...	*			
β. pauperculus	...	...	...	...	...	*	
5. —— pellucidus, *Woll.*	...	...	...	*			
6. —— ovatipennis, *Woll.*	*	...	*	*			
β. collaris	...	...	...	...	...	*	
γ. gracilipes	...	...	...	...	*		
δ. excelsus	...	...	*				
ε. subopacus	...	*					
7. —— bisculpturatus, *Woll.*	...	*					
8. —— rugifrons, *Woll.*	...	...	...	...	*		
9. —— ornatissimus, *Woll.*	...	...	...	...	...	*	
10. —— chrysanthemi, *Woll.*	*	*					
β. dasytoides	*						
11. —— commixtus, *Woll.*	*						
12. —— lævicollis, *Woll.*	*						
13. —— posticus, *Woll.*	...	*					
14. —— anthicoides, *Woll.*	*	*					
15. —— tuberculatus, *Woll.*	...	...	...	*			
16. —— obscurus, *Woll.*	...	...	*				
17. —— subopacus, *Woll.*	*	*					
18. —— metallicus, *Woll.*	*						
β. similis	...	...	...	*			
19. —— ænescens, *Woll.*	...	...	*	*	...	*	
β. puncticollis	...	...	...	*	...	*	
γ. umbrinus	...	...	*				
20. Micromimetes alutaceus, *Woll.*	...	...	*				
21. —— ? jucundus, *Woll.*	...	...	*				
22. Cephalogonia cerasina, *Woll.*	...	...	...	*			
Fam. Melyridæ.							
23. Dasytes subænescens, *Woll.*	*	*	*	*	...	*	
24. —— dispar, *Woll.*	...	...	*				
25. Dolichosoma Hartungii, *Woll.*	*	*	*	*			
26. Haplocnemus sculpturatus, *Woll.*	...	...	...	*	...	*	
27. —— vestitus, *Woll.*	...	...	...	...	...	...	*
28. Melyrosoma costipenne, *Woll.*	...	...	*				
29. —— hirtum, *Woll.*	...	...	...	*			
30. —— flavescens, *Woll.*	...	...	...	...	...	*	

Fam. 1. Telephoridæ.

Genus Malthinus.

Latreille, Gen. Crust. et Ins. i. 261 (1806).

1. *Malthinus mutabilis*, n. sp.

M. flavus; capite postice (vel in maculis disjunctis vel omnino) nigro, valde attenuato; prothorace subquadrato, lineis duabus dorsalibus (plus minus fractis vel plus minus confluentibus) ornato; elytris brevibus, ad

basin dilute flavis, inde fere ad apicem paulatim obscurioribus, ad apicem ipsum læte pallido-flavis; antennis gracilibus, nigrescentibus, basin versus pedibusque testaceis; femoribus posticis (interdum posterioribus) ad apicem nigrescentibus; tibiis tarsisque posticis (interdum posterioribus) plus minus infuscatis.

Var. β. *depauperatus.* Sæpius minor, palpis ad apicem obscurioribus, femoribus (præsertim posticis) versus basin (nec ad apicem) late nigrescentibus.

Long. corp. lin. $1\frac{1}{3}$–$2\frac{1}{3}$.

Habitat insulas Canarienses, in Gomera sola adhuc haud detectus.

The present *Malthinus* may be regarded as the representative in these islands of the European *M. flaveolus.* It is, however, on the average considerably smaller than that insect (descending to a comparatively minute size); its limbs and elytra are relatively shorter; its head, although greatly narrowed, is not quite *so* attenuated posteriorly, and has its darker portion more often resolved into separate patches; its prothorax has merely the disk ornamented with two longitudinal lines (which are sometimes broken up into detached spots, and at others completely confluent); its elytra have even their *basal* region usually of a rather clearer yellow; and its legs are less uniformly pale, the hinder pair (and often the intermediate ones also) having the apex of their femora black, and frequently their tibiæ and tarsi a good deal infuscated. It is a most variable species, both in size and hue; and in some of the smaller examples, particularly those from the more barren islands of Lanzarote and Fuerteventura, the femora, especially the posterior ones, are clouded or darkened towards their *base* (leaving only the apex or apical portion paler), and their palpi have the terminal joint more decidedly blackened; but, after comparing them with an extensive series of specimens collected in six (out of the seven) islands of the Group, I have come to the conclusion that they cannot be detached from the remainder, their slight differences seeming to be the mere result of depauperation, in those individuals in which the stature is diminished. Nevertheless I have thought it desirable to treat them as a *variety.*

There can be no doubt that the *M. mutabilis* is universal throughout the archipelago, in the whole seven islands of which I have myself captured it, except Gomera, where our sojourn was so short, and moreover so early in the season, that it escaped our observation. In Teneriffe, Palma, and Hierro it was found also by Mr. Gray. My Fuerteventuran specimens are principally from the Rio Palmas, the Canarian ones from El Monte and San Martao, the Teneriffan ones

from the vicinity of Orotava, Sta Cruz, Taganana and Ycod el Alto, and the Palman ones from the Barranco da Agua.

2. *Malthinus croceicollis*, n. sp.

M. rufo-flavus; capite postice nigro, attenuato; prothorace transverso-subquadrato, immaculato; elytris brevibus, nigris, ad apicem solum flavis; antennis nigris, ad basin fusco-testaceis; pedibus nigrescentibus, anticis plus minus dilutioribus.

Long. corp. lin. $1\frac{2}{3}$–2.

Habitat Canariam Grandem, ad flores in regione "El Monte" captus.

In general colour and aspect this species a good deal resembles the European *sanguinolentus*; nevertheless, by the construction of its anteriorly widened and posteriorly contracted head, it is a true *Malthinus*, and no *Malthodes*. Apart from which, it is considerably smaller than that insect, its forehead and the extreme apex of its elytra are more broadly flavescent, and its limbs are shorter, darker, and less robust. Hitherto I have observed it only in Grand Canary, where it is not uncommon, during the spring months, on flowers throughout the region of El Monte.

Fam. 2. **Malachiidæ.**

Genus Pecteropus.

Wollaston, Ins. Mad. 247 (1854).

Whether my genus *Pecteropus* can be upheld as truly distinct from *Attalus*, I will not undertake to pronounce for certain, seeing that the greater number of its structural characters are apparently identical with the corresponding ones of the *Attali*. I am inclined, however, to think that, if limited in the Madeiran group to the *P. rostratus* (from Porto Santo and the Desertas), and at the Canaries to the *P. angustifrons* (from Gomera)—in both of which the head is narrower and much more *oval*, with the forehead concave, the eyes less prominent, the epistome more produced in front, and the neck relatively broader, whilst the maxillary palpi are somewhat longer, the entire surface more densely sculptured, and the outline more acuminated anteriorly—it may be retained as separate; under which circumstances the two genera would bear much the same relation to each other as do *Malthinus* and *Malthodes* in the *Telephoridæ*. At any rate for the present I prefer this adjustment of the species, which seems a sufficiently natural one, to an indiscriminate amalgamation of the whole.

3. *Pecteropus angustifrons*, n. sp. (Pl. XX. fig. 1.)

P. cyaneo-niger prothorace læte rufo, pubescens; capite angusto, ovali, opaco, densissime et minute subgranulato-rugoso, fronte excavato-depressa, oculis minus prominentibus, clypeo pallido; prothorace in disco nitido et ibidem distincte punctulato; elytris nitidis, dense ruguloso-punctulatis; antennis ad basin pedibusque anterioribus rufo-testaceis, tibiis anterioribus in toto femoribusque ad apicem ipsum plus minus infuscatis; pedibus posticis nigris, femoribus ad basin rufo-testaceis.

Mas antennis vix longioribus, tibiis anticis subcurvatis, tarsorum anticorum articulo secundo in lobum brevissimum pectinato-spinosum ægre observandum supra producto.

Variat prothorace in disco antico interdum nigro-nebuloso.

Long. corp. lin. $1\frac{2}{3}$–2.

Habitat Gomeram, in collibus mox supra Sanctum Sebastianum mense Februario A.D. 1858 ad flores captus.

Apart from its structural characters (of narrower and more rostrate head, &c.) which have already been pointed out, the present insect is *primâ facie* remarkable amongst the *Attali*, to which it necessarily bears a general resemblance, by its brightly rufous prothorax and dark-cyaneous elytra and head, the latter of which is subopake, and most densely and minutely roughened. Its four anterior legs also are more or less rufo-testaceous, whilst the two hinder ones are nearly black. The second joint of the front feet of its males is so very slightly produced into a hood-like lobe on the upper side that the latter is scarcely perceptible, except beneath the microscope; but when thus viewed it will be seen, nevertheless, to be *more* strongly pectinated, or spinose, than is usually the case in the true *Attali*. Hitherto it has been observed only in Gomera, where, during February 1858, it was taken sparingly by Mr. Gray and myself from off flowers on the ridge immediately to the north of San Sebastian.

Genus Attalus.

Erichson, Entomograph. 89 (1840).

In describing the following *Attali* I do not think it necessary to indicate their sexual distinctions, which are almost exactly the same in the *whole* of them. It will be sufficient to state here that the males have their antennæ usually just perceptibly longer, their eyes a trifle more prominent, their elytra for the most part somewhat less ovate (or more parallel at the sides), and the second joint of their fore tarsi produced externally into a more or less elongated, concave

(or galeiform), and internally-pectinated lobe. In 3 out of the 16 species described below (namely, the *A. commixtus*, *lævicollis*, and *posticus*), I have not yet captured the males; but I believe, nevertheless, that they are strictly members of this genus.

§ I. *Prothorax plus minus (i. e. vel omnino, vel in parte majore, vel versus angulos solos posticos) pallidus.*

4. *Attalus ruficollis*, n. sp.

A. subænescenti- vel subcyanescenti-niger prothorace rufo, nitidus; capite prothoraceque minutissime et parce punctulatis; elytris dense ruguloso-punctatis, pilis nigris erectis longiusculis obsitis; antennis ad basin paulo dilutioribus.

Variat (in locis editioribus) vix densius punctulatus necnon pube minuta cinerea demissa superaddita plus minus evidenter vestitus.

Var. *β. pauperculus* [an species?]. Minor, tibiis tarsisque plus minus testaceis. [*Ins.* Palma.]

Long. corp. lin. $1\frac{1}{3}$–2.

Habitat Teneriffam, ad flores vulgaris; ab ora maritima usque ad 8000′ s. m. ascendit, tempore vernali prædominans: var. *β* ad Palmam pertinet.

The present *Attalus* and the following one are the universal species of Teneriffe, occurring on flowers from the sea-level to an elevation of at least 8000 feet. The *A. ruficollis* may be known by its bright-red prothorax, which is usually quite immaculate. The specimens from the higher altitudes are generally a little more densely punctured and ænescent, and have their minute *under*-pile (of short, decumbent, subcinereous hairs) more evidently developed; but they merge gradually into the others as we descend into the lower districts, and have no character sufficiently constant to warrant the suspicion that they are distinct. The "var. *β*" appears to be only a small state peculiar to Palma, in which the tibiæ and tarsi and the base of the antennæ have a tendency to be testaceous: I captured it high up in the Barranco da Agua, as also in the Barranco de Galga, and (in a state approaching nearer to the Teneriffan one) at the Banda. In Teneriffe it seems to occur universally: my specimens are chiefly from the neighbourhoods of Sta Cruz, Orotava and Laguna, from Taganana, Souzal, the Agua Garcia, the Agua Mansa, Ycod el Alto, and (from off the blossoms of the *Spartium nubigena*) on the two lofty Cumbres—above the Agua Mansa, and adjoining the Cañadas. Near Sta Cruz it was taken also by Mr. Gray and the Barão do Castello de Paiva.

5. *Attalus pellucidus.*

A. sp. præcedenti similis, sed paulo magis ænescens, prothorace nigro (nec rufo), ad angulos posticos (et interdum per marginem ipsissimum basalem) solum subpellucido-flavo.

Long. corp. lin. $1\frac{1}{3}$–2.

Pecteropus pellucidus, Woll., Ins. Mad. 247 (1854).

Habitat Teneriffam, vulgaris, in iisdem locis ac præcedens.

As will be gathered from the diagnosis, the only important character which separates the present *Attalus* from the preceding one is, that its prothorax, instead of being bright red, is (like the rest of the surface) black, with merely a small portion at either posterior angle (and sometimes the basal margin itself, though very narrowly) of a somewhat pellucid yellow. I can detect no other differential feature (except that its surface is *usually* a trifle more ænescent), and I might therefore have been inclined perhaps to regard it as a variety of the other, had I been able to discover the *least trace* of a passage between the two. But since both of them are equally diffused over Teneriffe, independently of elevation, and since in an extensive series now before me, collected in ten or twelve different (and distant) localities, *each* is equally constant, I have no option but to treat them as distinct. Nor indeed can they be sexual forms, seeing that I have males and females of both; and I may further add that I took the greatest pains whilst in the island to observe whether they were ever found *in coitu,* but could never succeed in so detecting them, though I frequently captured *each species* in that situation. I have taken it (I believe) in *all* the Teneriffan localities in which I have met with the *A. ruficollis,* but did not obtain it in Palma. Near Orotava it was also found by Mr. Gray; and it has likewise been communicated by the Barão do Castello de Paiva. It is the species which I described in 1854 (in a foot-note at p. 247 of my 'Ins. Mad.'), from a single example which was brought from Teneriffe by the late Rev. W. J. Armitage.

6. *Attalus ovatipennis,* n. sp.

A. viridi-ænescenti-niger prothorace in limbo postico (rarius in limbo) rufo-testaceo, parce cinereo-pubescens, nitidus; capite prothoraceque minutissime et parce punctulatis; elytris ovatis, paulo minus nitidis, obsoletissime (interdum vix perspicue) longitudinaliter subcostatis, minutissime punctulato-rugulosis (punctulis subtilissimis), pilis nigris erectis longiusculis obsitis; antennis pedibusque breviusculis, illis versus basin horumque tibiis et tarsis (necnon femoribus in parte) plus minus testaceo dilutioribus.

Var. *β. collaris.* Prothorace fere omnino rufo, elytris vix profundius punc-

tulatis pilisque erectis minus nigris dense obsitis, antennis paulo longioribus. [*Ins.* Palma.]

Var. γ. *gracilipes.* Antennis pedibusque gracilioribus et paulo nigrescentioribus. [*Ins.* Gomera.]

Var. δ. *excelsus.* Paulo major, nitidior, minus ænescens minusque ovatus, prothorace vix latiore, elytris distinctius punctulatis. [*In editioribus* Canariæ Grandis.]

Var. ε. *subopacus.* Vix minus nitidus, prothorace elytrisque sat densius punctulatis, illo minute subruguloso punctulis subtilibus, elytris minus pilosis, antennis vix longioribus. [*Ins.* Fuerteventura.]

Long. corp. lin. 1–1½.

Habitat in Lanzarota, Fuerteventura, Canaria, Teneriffa, Gomera et Palma, ad flores, passim.

Evidently a most variable insect, but one which may be known generally by its ovate (or posteriorly-expanded) outline, by the greenish-brassy tinge of its dark elytra and head, by its prothorax having usually only the hinder margin and angles pale (though occasionally a larger portion of its surface), and by its tibiæ and tarsi (and *parts* of the femora) being diluted-testaceous. It appears to be more widely spread over the group than any of the other species. I have taken it, though very sparingly, in Fuerteventura; throughout the region of El Monte, as also at Mogan and Teror, in Grand Canary (and the "var. δ," which may possibly be distinct, in the lofty Pinal of Tarajana, above San Bartolomé, in the same island); at Taganana, in Teneriffe; near San Sebastian, of Gomera (though only a single example—the "var. β" enunciated above); and in the Barranco above Sta Cruz, the Barranco da Agua, and the Banda, of Palma; and, since a specimen has been communicated by Dr. Heer, stated to have been captured (by M. Hartung) in Lanzarote, it is in all probability *universal* throughout the archipelago.

7. *Attalus bisculpturatus*, n. sp.

A. capite prothoraceque nigris depressis opacis grosse granulato-alutaceis, hoc subrotundato ad basin dilute flavo; elytris æneo-nigris, concoloribus, nitidis, dense rugulosis (vix punctulatis), minute cinereo pubescentibus, pilis nigris erectis longiusculis parce obsitis; antennis ad basin, tibiis tarsisque infuscato-testaceis.

Long. corp. lin. 1–1⅓.

Habitat Fuerteventuram, Aprili ineunte A.D. 1859 repertus.

This singular little *Attalus* may be known at once from the other Canarian species here enumerated by its very remarkable sculpture, —the head and prothorax (which are much depressed, particularly the former) being opake and coarsely and evenly *alutaceous* (or

minutely granulated) throughout, whilst the elytra are shining, and merely roughened in the ordinary manner. Its colour is black, except the hinder part of the prothorax (which is dull yellow), and the tibiæ, tarsi, and base of the antennæ (which are brownish-testaceous). The only two examples which I have seen (a male and a female) were captured by myself in Fuerteventura—I believe in the Rio Palmas, early in April of 1859.

8. *Attalus rugifrons*, n. sp.

A. ænescenti-niger prothorace vel in limbo postico vel fere omnino rufo, cinereo pubescens; capite subopaco, densissime et minute subgranulato-rugoso; prothorace nitido, minutissime et parce punctulato; elytris subnitidis, minute et leviter rugulosis (vix punctulatis), pilis nigris erectis longiusculis obsitis; antennis versus basin pedibusque anterioribus (margine femorum superiore excepto) rufo-testaceis; pedibus postice nigrescentibus, femoribus infra tarsisque (necnon interdum etiam tibiis) paulo dilutioribus.

Variat prothorace vel ad angulos posticos et per basin ipsissimam, vel in limbo latissimo, vel (rarius) etiam fere omnino pallido-rufo.

Long. corp. lin. $1\frac{1}{2}$–$1\frac{2}{3}$.

Habitat Gomeram, in collibus prope Sanctum Sebastianum mense Februario ineunte A.D. 1858 ad flores repertus.

The present *Attalus*, which has been observed hitherto only in Gomera, is, like most of the species, very variable in colour; nevertheless its subopake and densely and minutely rugulose head (in which respect it somewhat resembles the *Pecteropus angustifrons*), combined with the rufo-testaceous hue of its four anterior legs and the base of its antennæ (the former of which, however, have the *upper edge* of their femora, and occasionally of the tibiæ also, black), will sufficiently distinguish it. Its prothorax has *usually* the sides and base broadly testaceo-rufous; but sometimes it is entirely dark, except towards the hinder angles, whilst at others even the *discal* patch is almost obsolete, when nearly the whole surface is pale. It was taken from off flowers by Mr. Gray and myself on the hills above San Sebastian of Gomera, at the beginning of February 1858.

9. *Attalus ornatissimus*, n. sp. (Pl. XX. fig. 2.)

A. vel cyaneus vel viridi-cyaneus prothorace utrinque latissimo pallido-rufo, cinereo pubescens, nitidus; capite subopaco prothoraceque densissime et minute subgranulato-rugulosis ac minutissime punctulatis; elytris densissime et minute subruguloso-punctulatis, pilis nigris erectis elongatis postice obsitis; antennis ad basin trochanteribusque plus minus dilutioribus.

Var. β. Prothorace omnino rufo, pedibus anticis (necnon femoribus intermediis ad basin) testaceo dilutioribus.

Long. corp. lin. $1\frac{1}{3}$–$1\frac{2}{3}$.

Habitat in montibus Palmæ; var. β ad locos paulo inferiores pertinet.

The bright cyaneous, or greenish-cyaneous, head and elytra of this beautiful *Attalus*, combined with its rufous prothorax, which has generally only a very broad central band darker, and its usually black limbs, will serve to characterize it. Its head is less shining than the rest of the surface, and is very closely and most minutely rugulose; and much the same kind of sculpture exists, though less densely, on its pronotum, whilst its elytra are very thickly, though delicately, punctulated, and with the additional erect hairs almost evanescent at the base but very long towards the apex. It has been observed hitherto only on the mountains of Palma. On the 12th of June, 1858, I captured it rather abundantly from off flowers, at a high elevation, immediately below the Cumbre above Buenavista; and during the preceding February it was taken more sparingly by Mr. Gray at a lower altitude—I believe, in the district of Buenavista itself. Mr. Gray's examples are the ones which I have indicated as the "var. β," in which the prothorax is either almost or entirely rufous, and in *some* of which the anterior legs and the base of the intermediate femora are infuscated-testaceous.

10. *Attalus chrysanthemi*, n. sp. (Pl. XX. fig. 3.)

A. læte cyaneo-viridis (rarius subænescens) prothorace in limbo postico, elytris latissime ad apicem et anguste per partem marginis lateralis posticam pedibusque flavis, subnitidus, supra densissime et (præsertim in capite prothoraceque) sat grosse punctulato-rugulosus; elytris depressis, pilis nigris erectis elongatis dense obsitis; antennis nigris, basin versus obscure rufo-testaceis.

Var. β. *dasytoides.* Elytris ad apicem angustius flavis (interdum subconcoloribus), pedibus nigrescentibus.

Long. corp. lin. $1\frac{1}{3}$–2.

Anthocomus analis, Hartung [nec Panz.], Geolog. Verhältn. Lanz. und Fuert. 140.

Habitat Lanzarotam et Fuerteventuram, ad flores (præsertim *Chrysanthemi ochroleuci*, W. et B.), hinc inde sat vulgaris, sed præcipue in illa.

This beautiful and comparatively constant *Attalus* may be immediately known by its bluish-green and sometimes ænescent surface,—the hinder angles and extreme base of the prothorax, together with a large apical portion of the elytra (and a narrow lateral *strip* arising out of it and extending to about the middle of the margin) and the legs, being of a pale yellow. The legs, however, which are some-

times infuscated in parts, should perhaps be described as testaceous rather than strictly yellow. Its surface is also very densely and rather coarsely sculptured, particularly the head and prothorax, which are less shining than the elytra; and its antennæ are black, with the basal joints more or less obscurely rufo-testaceous. That it is the species referred in M. Hartung's list to the *Anthocomus analis*, Panzer, I am enabled to state for certain, having received examples thus identified from Dr. Heer, who compiled it. It does not possess, however, a single feature, either of size, outline, colour, clothing, or sculpture, in common with that insect. In very rare cases the large yellow portion at the apex of the elytra is much reduced both in dimensions and intensity, when the legs also are apt to be almost, or even entirely, dark. It is such specimens as these (which however can be connected gradually with the others) which I have defined above as the "var. *β*."

So far as observed hitherto, the *A. chrysanthemi* appears to be peculiar to Lanzarote and Fuerteventura, where it occurs on the flowers of various plants during the winter and spring, though more particularly those of the *Chrysanthemum ochroleucum* of Webb and Berthelot. In such situations it was taken abundantly by Mr. Gray and myself, between Haria and Mágui, in the north of Lanzarote, in January 1858; as also subsequently by myself, in the same locality, during March of the following year; and, a few weeks later, at Oliva, in Fuerteventura.

11. *Attalus commixtus*, n. sp.

A. æneo-niger elytris fuscescentioribus, prothoracis limbo, elytrorum apice et margine laterali, antennis ad basin pedibusque dilute flavis; capite prothoraceque nitidis, illo vix, hoc leviter punctato; elytris obsoletissime subcostatis, densissime punctulato-rugulosis, pilis nigris erectis longiusculis obsitis; tibiis rarius infuscatis.

Long. corp. lin. $1\frac{1}{2}$–vix $1\frac{2}{3}$.

Habitat Lanzarotam borealem, ad flores *Euphorbiarum* captus.

This *Attalus* is apparently a good deal allied to the *A. chrysanthemi*. It is, however, less depressed, and more acuminated anteriorly; its surface, instead of being cyaneous-green, is dark-æneous, with the entire margins of the prothorax (and not merely the posterior one) of a dull fulvous-yellow; its head and pronotum are narrower, much more shining, and very much less sculptured (the former being almost impunctate, whilst the punctures of the latter are exceedingly shallow and ill-defined); its elytra (which have, especially towards the suture, obscure indications of being longitudinally costate) have

a much smaller portion at the apex, and also the *entire* lateral margin (instead of only half of it) pale; and its paler parts are *altogether* of a duller or browner tint. The few specimens which I have seen (five in number) were captured by myself from off the flowers of the *Euphorbia piscatoria* and *balsamifera*, on the lofty cliffs known as the "Risco" (overlooking the Salinas), in the extreme north of Lanzarote. They are all of them females; but, from their general aspect and their manifest affinity with the last species, there can be no doubt that they are correctly referred to the present genus.

12. *Attalus lævicollis*, n. sp.

A. antice subacuminatus, niger, prothorace (macula media magna excepta), elytris ad apicem ipsum, antennis ad basin pedibusque pallido-flavis; capite prothoraceque nitidissimis, fere impunctatis; elytris nitidiusculis, profunde rugoso-punctatis, antice subcalvis, postice pilis nigris erectis longiusculis parce obsitis, margine laterali postice paulo dilutiore.

Long. corp. lin. $1\frac{2}{3}$.

Habitat Lanzarotam borealem, cum sp. præcedente semel lectus.

In general character and outline, the present species somewhat resembles the last one. It is however larger, with its head and prothorax very highly polished and almost entirely impunctate (a few extremely minute and remote points being alone traceable even beneath the microscope); its elytra are blacker, more coarsely sculptured, and with the punctures better defined, apparently free from any indications of longitudinal costæ and rather less pilose (particularly in front); and its pale portions are altogether of a much lighter yellow,—the prothorax, moreover, having merely a broad central band on its fore disk dark. It is hitherto unique,—the single example (a female) from which the above diagnosis has been compiled having been captured by myself, in company with the last species and the *A. chrysanthemi*, in the extreme north of Lanzarote.

13. *Attalus posticus*, n. sp.

A. subparallelus, subænescenti-niger, prothoracis limbo postico elytrorumque apice pallido-flavis, minutissime et parce cinereo pubescens, nitidus; capite magno, convexo, profunde punctato; prothorace nitidissimo, minute et parce punctulato; elytris brevibus, depressis, minute punctulato-rugulosis, pilis nigris erectis brevibus parce obsitis; antennis versus basin rufo-testaceis; pedibus piceo-nigris, tibiis dilutioribus.

Long. corp. lin. $1\frac{3}{4}$.

Habitat Fuerteventuram, juxta oppidum Betancuria semel lectus.

I have unfortunately but a single example (and that a female one)

from which to compile the diagnosis of the present *Attalus*; nevertheless its characters are so distinct and well-defined that there can be no doubt as to the impossibility of referring it to any of the species here enumerated. It may be readily known by its rather large size and somewhat parallel outline; by its short and depressed elytra (which have, at any rate in the female sex, a considerable portion of the pygidium uncovered); by its large, convex and deeply punctured head; by its exceedingly bright and very lightly punctulated prothorax; and by its dark hue, the hinder margin of the prothorax and the extreme apex of the elytra (which are less æneescent than the rest of the surface) being alone of a pale whitish yellow. Although I have not seen the male, and although the specimen before me has certainly a rather different aspect from the species amongst which I have placed it, I have nevertheless but little doubt that it is a true *Attalus*. It was taken by myself in the Rio Palmas of Fuerteventura, close to the little town of Sta Maria Betancuria, at the beginning of April 1859.

14. *Attalus anthicoides*, n. sp. (Pl. XX. fig. 4.)

A. æneo-niger, prothoracis limbo, elytris in toto (versus basin et suturam gradatim obscurioribus exceptis), antennis versus basin, tibiis tarsisque testaceis, minute sed dense cinereo pubescens, nitidus; capite prothoraceque subrotundato minute et parce punctulatis; elytris paulo minus nitidis, submollibus, interdum obsoletissime (vix perspicue) subcostatis, densissime et minute punctulatis, pilis nigris erectis longiusculis parce obsitis; pedibus parum elongatis.

Long. corp. lin. 1–1$\frac{1}{3}$.

Habitat Lanzarotam et Fuerteventuram; vel ad flores vel præsertim sub recremento farris circa basin acervorum tritici sparso, una cum *Anthico canariensi* et cæt. degens.

In its general outline, size, and colour this *Attalus* bears such a curious *primâ facie* resemblance to the Heteromerous *Anthicus canariensis*, that, until carefully examined, it might literally (although in affinity so remote) be mistaken for that insect. And this analogy is the more remarkable from the fact of the *habits* of the two being almost identical,—the *A. anthicoides* receding from the other members of the group here enunciated in being found not *merely* upon flowers, but (far oftener), like the *Anthici*, beneath dry vegetable refuse lying upon the ground. In such situations I have captured it, rather abundantly, both in Lanzarote and Fuerteventura, to which islands (so far as observed hitherto) it would seem to be peculiar. In fact I have frequently taken it *in company* with the little *Anthicus* above alluded to; and *when in motion*, at all events, it is next to impos-

sible, from their likeness to each other, to recognize the difference between them. It is usually under the rubbish around the base of corn-stacks that it is to be found, in which positions it appeared pretty general around Haria, in the north of Lanzarote, during March of 1859; and it was only at the *end* of our sojourn there, when the sun had become more powerful, that I succeeded in detecting it upon flowers. My Fuerteventuran specimens are principally from the Rio Palmas.

The almost testaceous hue of the *A. anthicoides*—which has merely its head, the disk of its prothorax, its femora, the basal joint and apical portion of its antennæ, and the region of its elytra about the base and suture, dark (the latter being only *gradually* obscured, the two tints being shaded-off into each other)—will immediately characterize it. Its minute cinereous under-pile is rather denser than is the case in any of the preceding species; and its elytra (which are much less shining than the head and prothorax) are of a somewhat softer, or less consistent, texture.

§ II. *Prothorax cum capite elytrisque concolor* (*rarius ad angulos ipsissimos posticos obscurissime et anguste pallidus*).

15. *Attalus tuberculatus*, n. sp.

A. niger, vix submetallicus, cinereo pubescens; capite prothoraceque nitidis, minute punctulatis, hoc subovali, inæquali, ad basin in medio sub-bituberculato, ad angulos ipsissimos posticos sæpius angustissime et obscure pallidiore; elytris paulo minus nitidis, leviter subseriatim tuberculatis, pilis nigris erectis elongatis sat dense obsitis; antennis pedibusque robustis, nigris, illis ad basin vix picescentioribus.

Long. corp. lin. $1\frac{1}{3}$–$1\frac{2}{3}$.

Habitat Teneriffam, ad flores juxta Portum Orotavæ, tempore vernali haud infrequens.

Its *uneven* prothorax, which is distinctly longer than broad, and has the central portion at the base slightly raised and *divided in the middle* (so as to form two obscure nodules), and of which the extreme margin at the posterior angles is *usually* (though not always) narrowly and *obscurely* pale, combined with the minute and somewhat longitudinally disposed subglabrous tubercles of its elytra (the additional hairs of which are very long and very erect), will easily characterize this *Attalus*. Its colour is black, with a barely traceable metallic tinge (which, however, is a *little* more apparent on the head and prothorax than on the elytra); its cinereous under-pile is comparatively coarse and dense; and its limbs are rather thickened, or robust. Hitherto I have observed it only around the Puerto Orotava,

in Teneriffe, where, however, it is far from uncommon during the spring months on flowers.

16. *Attalus obscurus*, n. sp.

A. subæneo-niger, minute cinereo pubescens; capite prothoraceque subopacis, densissime granulato-alutaceis, hoc transverso; elytris vix nitidioribus, dense punctulato-rugulosis, obsoletissime (sæpe vix perspicue) subcostatis, pilis erectis fere carentibus; antennis pedibusque subgracilibus, illis in sexu masculo elongatis necnon ad basin plus minus rufo-testaceis.

Long. corp. lin. $1\frac{1}{4}$–$1\frac{1}{2}$.

Habitat Canariam Grandem; in regione El Monte, præsertim in summo monte ipso "Bandama" dicto, tempore vernali ad flores captus.

The present *Attalus* I have detected hitherto only in Grand Canary, where it is tolerably common, throughout the region of El Monte, particularly towards the summit of the Bandama mountain, during the spring. It may be readily known by its black and *subopake* surface (which however has a slightly æneescent tinge); by its very closely, evenly, and minutely granulose, or *alutaceous*, head and prothorax (in which respect it approaches the *A. bisculpturatus*); by its elytra being almost free from additional erect hairs (the few which are present being moreover exceedingly short); and by the antennæ of its male sex being rather longer than is the case in the generality of the *Attali* here enumerated. Its prothorax is *even*, and more transverse than that of the last species; its cinereous under-pile is more minute; and its elytra have no indications of the small subglabrous longitudinally-disposed tubercles which are so evident in that insect.

17. *Attalus subopacus*, n. sp.

A. cyaneo-niger, minus nitidus (fere subopacus), minute cinereo pubescens; capite prothoraceque leviter subgranulato-alutaceis punctisque minutissimis parce adspersis; elytris dense punctulato-subrugulosis, plus minus obsolete subcostatis, pilis nigris erectis longiusculis obsitis; antennis ad basin tarsisque plus minus testaceo dilutioribus.

Long. corp. lin. 1–$1\frac{1}{3}$.

Habitat Lanzarotam et Fuerteventuram, in floribus, tempore vernali, passim.

This *Attalus* appears to be peculiar to Lanzarote and Fuerteventura, where it is tolerably common during the spring months on flowers, and in the former of which it was also taken by Mr. Gray. It may be known by its dark-*cyaneous* hue and but slightly shining (though scarcely subopake) surface, which is more or less perceptibly clothed

with a minute cinereous pubescence; by the light (but not very regular) subalutaceous sculpture of its head and prothorax, on which there are only a few excessively small and remote punctures intermixed; and by its very closely punctulated elytra, which are rather flattened on the disk, usually with very faint indications of longitudinal costæ, and beset with erect hairs. My Fuerteventuran examples are principally from the Rio Palmas.

18. *Attalus metallicus*, n. sp.

A. æneo-, viridi-æneo- vel cyaneo-niger, subglaber, nitidus, supra (præsertim in elytris) sat profunde denseque punctatus; elytris pilis fere carentibus; antennis ad basin tarsisque, necnon interdum etiam tibiis, plus minus testaceo dilutioribus.

Var. β. *similis.* Vix profundius densiusque punctatus, prothorace ad basin subinæquali. [*Ins.* Teneriffa.]

Long. corp. lin. 1–1½.

Habitat Lanzarotam, ad flores varios præsertim *Euphorbiarum* haud infrequens: var. β ad Teneriffam pertinet.

The comparatively deeply punctured and almost *glabrous* surface of this *Attalus*, in conjunction with its metallic hue, which is generally greenish brassy, but occasionally almost cyaneous, will sufficiently characterize it. It is rather common in Lanzarote, in the north of which island it was taken by Mr. Gray and myself, during January of 1858, from off the flowers of Euphorbias; in which district I again met with it early in March of the following year. I have also a single specimen (the "var. β" indicated above) which I captured in Teneriffe, though I cannot now recall the precise locality: it is altogether a little more deeply and closely punctured, and has the base of its pronotum a trifle raised and uneven; but I do not perceive anything about it to warrant the suspicion that it is specifically distinct.

19. *Attalus œnescens*, n. sp.

A. æneo-niger, minute cinereo pubescens, nitidus; capite prothoraceque rotundato minute et plus minus dense punctulatis; elytris dense punctulato-subrugulosis, interdum obsoletissime subcostatis, pilis nigris suberectis plus minus obsitis; antennis pedibusque nigris, illis ad basin tarsisque (rarius tibiis) vix dilutioribus.

Var. β. *puncticollis.* Colore paulo obscuriore, prothorace densius punctato, elytris ad basin vix minus pilosis. [*Ins.* Palma et Teneriffa.]

Var. γ. *umbrinus.* Colore obscuriore, interdum etiam subnigrescente. [*Ins.* Canaria Grandis.]

Long. corp. lin. ¾–1⅓.

Habitat Canariam, Teneriffam et Palmam, ab ora maritima usque ad 8000′ s. m. ascendens.

Whether there be more than a single species included in the above diagnosis, I will not undertake to pronounce for certain; nevertheless, since the insect is without doubt a very variable one, both in size and sculpture, I am inclined to think, after a careful examination of many specimens collected in three of the islands and at different altitudes, that the "varieties" which I have indicated are but local phases which may be connected sufficiently well with what I have regarded as the type. This latter is eminently attached to the intermediate and higher elevations of Teneriffe, occurring at the Agua Mansa, and on the lofty Cumbre above it, as well as on the *opposite* one adjoining the Cañadas. It is almost always of a bright-æneous hue, and has its prothorax moderately punctured. The examples in the lower regions (at Orotava, Garachico, &c., at the latter of which it was captured by the Rev. R. T. Lowe) have their prothoracic punctures perhaps a trifle more dense, whilst those from the wooded slopes above Taganana have them denser still. These last ("var. β") correspond, thus far, with the specimens from the island of Palma, which have a thickly, though minutely, punctulated prothorax; but I have been perfectly unable to draw a line of demarcation between them and those collected from the blossoms of the *Retama* on the Cumbres of Teneriffe. The few which I met with in Grand Canary (in the district of El Monte) are blacker; but I do not believe that they are specifically distinct.

The variations, however, of this *Attalus* do not amount to much *primâ facie*, since they are scarcely conspicuous except under a high magnifying power. It may be known *generally* by its æneous hue, and the small size to which it descends; by its rather pubescent and more or less finely punctulated surface; and by its usually dark, and not very robust (indeed more frequently slender), limbs.

Genus Micromimetes (nov. gen.). (Pl. XX. fig. 5.)

Corpus (in utroque sexu alatum), *instrumenta cibaria* et *pedes* fere ut in *Attalo* et *Pecteropo*; sed *capite* paulo majore et (una cum *prothorace*) convexiore, in utroque sexu simili; et *tarsis anticis* (5 *b*) in *maribus* 4-articulatis, simplicibus (nec articulo secundo supra producto).

Obs.—A genere *Troglops* palporum maxillarium (5 *a*) articulo ultimo elongato-fusiformi aut potius conico (a basi usque ad apicem regulariter acuminato), capite minore convexo subovali in utroque sexu simili, prothorace postice subrotundato-latiusculo (nec basi angustato), antennis articulisque singulatim multo brevioribus, præter cætera, differt.

A μικρὸς, parvus, et μιμητὴς, imitator.

[Typus—*Micromimetes alutaceus.*]

The insect from which the above characters have been drawn

recedes from both *Attalus* and *Pecteropus* in having the front feet of its males 4-articulate and *simple*,—the second joint not being in the slightest degree produced on its upper side into a process or lobe. In minor respects, its head is relatively a little larger and, together with the prothorax, somewhat more *even* and convex; its elytra are more parallel at the sides, and almost free from erect additional hairs; and its entire surface is most minutely alutaceous and subopake. And yet, in spite of the first-mentioned characters, which are of primary importance, it so nearly resembles the *Attalus chrysanthemi* in external markings and *facies* that, before closely examining it, I had imagined that it might possibly be a mere depauperated state of that species; and it was only when I came to overhaul it critically that I discovered it to belong to a totally different *group*! It certainly, however, affords a strong instance of how easily we are apt to be misled by the superficial fact of creatures *which are wholly distinct in the essential details of their structure* being moulded on a certain general outward pattern which would seem, for some mysterious reason, to have been assigned *par excellence* to particular countries, or districts.

The only four genera of the *Malachiidæ* hitherto enunciated in which the anterior male-feet are tetramerous, are *Troglops*, *Homœodipnis*, *Antidipnis*, and *Colotes*. The last three of these, however, are so peculiar in the development of their palpi (which in *Antidipnis* and *Colotes* offer, moreover, the most remarkable *sexual* modifications) that it is unnecessary to point out in what they differ from *Micromimetes*; and we need merely confine ourselves therefore to *Troglops*. Apart from all secondary characters, the comparatively slender and *conical* last joint of its maxillary palpi (which is regularly acuminated from the base to the apex, instead of being more or less thickened and securiform), in conjunction with its smaller, convexer, and rounder head (which is alike in both sexes and has no frontal depression or excavation), its more even and totally different prothorax (which is comparatively wide behind, and rounded instead of being suddenly constricted), and its very much more abbreviated antennæ (each separate joint of which is considerably shorter), will at once remove the present genus from *Troglops*.

I cannot perceive any sexual distinctions in *Micromimetes* (apart from the anterior feet), except that the males (as in the *Attali* and *Pecteropi*) are a trifle smaller and more parallel, with their eyes a little more prominent, and their antennæ (although still very short) somewhat more elongated. Both sexes are winged.

20. *Micromimetes alutaceus*, n. sp. (Pl. XX. fig. 5.)

M. parallelus, subopacus, ubique alutaceus, minutissime et parce cinereo pubescens, subænescenti-niger, prothoracis limbo postico, elytrorum apice et margine angusto laterali, antennis in toto pedibusque flavo-testaceis; capite latiusculo, parce et minute punctulato; prothorace convexo, minutissime (vix perspicue) punctulato; elytris depressis, vix distinctius punctulatis et multo subtilius alutaceis, pilis erectis fere carentibus; pedibus posticis interdum paulo infuscatis.

Long. corp. lin. 1–1½.

Habitat Canariam Grandem australem, in arenosis ad Maspalomas mense Aprili A.D. 1858 pauca specimina inter flores deprehendi.

Although (as lately stated) perfectly distinct from it in real *structure*, yet, regarding the present insect *superficially* as an *Attalus* (for which it would, at first sight, be taken), I may just add that it may be readily known from its *apparent* allies by its subopake and entirely *alutaceous* surface; by its dull brassy-black hue (which has often a slightly greenish tinge), the hinder margin of the prothorax, the extreme apex and lateral edges of the elytra, and the limbs (except occasionally a portion of the posterior legs) being pale yellow; by its head and pronotum being convex, whilst the elytra are somewhat parallel and depressed; and by the latter being almost entirely free from any indication of additional erect pile. The few specimens which I have seen (only fourteen in number) were captured by myself, during April 1858, in the sandy district at Maspalomas, in the extreme south of Grand Canary.

21. *Micromimetes? jucundus*, n. sp.

M. nitidus, subglaber; capite sat magno longiusculo convexo crasso, æneo-nigro, regulariter punctato; prothorace rufo, in disco antico vix nigro maculato, fere impunctato, postice angustato, mox ante basin (in medio sub-bipartito elevatam) transversim constricto; elytris cyaneis, minutissime et parce punctulato-subrugulosis, pilis nigris erectis perpaucis parce obsitis; antennis brevibus, nigrescentibus, versus basin rufo-testaceis; pedibus anticis fusco-piceis, intermediis (tarsis exceptis) paulo obscurioribus, posticis subnigrescentibus.

Long. corp. lin. 1⅔.

Habitat Canariam Grandem, in regione "El Monte" exemplar unicum (heu! fœmineum) tempore vernali A.D. 1858 collegi.

I would wish distinctly to state that I have placed the present insect here merely provisionally, and not with the idea that it is truly a second species of *Micromimetes*; but having unfortunately only a single individual to judge from, and that a *female*, I am unable to conjecture to what group the fore tarsi of its males would tend to

assign it. From the shape, however, of its posteriorly contracted prothorax, which is *raised in the centre* behind, as well as from its general *facies* and nearly glabrous surface, I feel pretty confident that it is not an *Attalus*; and although in its peculiar prothorax it makes a most decided approach to *Troglops*, it is nevertheless totally removed from that genus (apart from all tarsal considerations, which may or may not detach it therefrom, as the case may be) by its convex, *oval* (and therefore more *posteriorly*-widened) head and differently placed eyes, by its shorter antennæ (with their very much more abbreviated joints), and by the terminal articulation of its palpi being (as in the three preceding genera) conical and acuminated. In its convex, thickened head, indeed, and the construction of its antennæ, it agrees perhaps *better* with *Micromimetes* than with any other form here enumerated: but I do not believe that it will really enter into that group; and it is far more likely that its male sex, when discovered, will afford sufficient modifications for the establishment of a separate genus. In the meanwhile I would place it here *provisionally*,—its very suggestive prothorax and almost glabrous surface clearly leading us in the direction of *Troglops*.

Apart from the features just alluded to, the present insect may be known from all the preceding *Attali* (with which in many respects it of course agrees) by its rather large, convex, oval, and regularly punctured head; by its bright-rufous and nearly unsculptured prothorax; and by its dark-*cyaneous* elytra, which apparently have no minute under-pile, and merely an exceedingly few and remote additional erect hairs. My unique example was captured in the region of El Monte, in Grand Canary, during the spring of 1858.

Genus Cephalogonia (nov. gen.). (Pl. XX. fig. 6.)

Corpus fere glabrum, vix (aut saltem minutissime) sculpturatum, læte pictum: *capite* rhombiformi, oculis magnis prominentibus ad angulos laterales positis; *in sexu masculo* latiore, oculis maximis, necnon vel antice vel postice subito et profunde excavato, excavatione tuberculo medio instructa: *prothorace* antice rotundato, postice producto sed per basin truncato: *elytris* in utroque sexu integris (nec ad apicem appendiculatis): *alis* in utroque sexu maximis: *abdomine* e segmentis 6 composito, segmentis corneis sed ad apicem (præsertim in 4 basalibus) singulatim membranaceo-marginatis. *Antennæ* longiusculæ, filiformes, art. 1mo longiusculo clavato sequentibus vix crassiore, 2do brevissimo, 3tio paulo longiore sed brevi, inde ad penultimum longitudine vix crescentibus, ad apices internos oblique truncatis, ultimo oblongo. *Labrum* (6 *a*) coriaceum, transverso-subquadratum, apice integrum parce ciliatum. *Mandibulæ* (6 *b*) triangulares, ad apicem inflexæ acutæ et ibidem

longissime bifidæ. *Maxillæ* (6 *c*) bilobæ, breviusculæ, pubescentes: *lobo externo* apice subito incurvo: *interno* brevi. *Palpi maxillares* elongati, art. 1mo minuto, 2do elongato, 3tio brevi transverso, ultimo crassiore (2do paulo longiore) fusiformi apice truncato: *labiales* (6 *d*) breves, art. 1mo brevi sed latiusculo, 2do paulo longiore vix latiore, ultimo crassiore breviter fusiformi apice valde truncato. *Mentum* (6 *d*) veluti e duplici parte formatum, una apicali magna subquadrata ad latera rotundata, altera basali (prioris stipite) robustiore transversa angulis anticis paulo producta. *Ligula* elongata, apice subrotundata pilosa. *Pedes* longissimi, graciles; *tarsis anticis* in *maribus* 4-articulatis, articulis tribus basalibus supra ad apicem oblique truncatis necnon subtus productis, 1mo longiusculo, 2do valde elongato (quasi e duobus inter se omnino confluentibus composito), 3tio brevi, ultimo longiusculo clavato.

Obs.—Generi *Troglops* hoc genus affinitate proximum est, cum illo forma habituque generali necnon tarsis anticis masculis 4-articulatis congruens, sed caput in maribus est etiam latius, oculis majoribus, necnon in fronte multo profundius excavatum, excavatione (vel antice vel postice abrupte sinuato-terminata) tuberculo medio (quasi ocellum ferente) instructa, antennarum articulo tertio brevi (vix longiore quam etiam secundo), tarsorum anticorum articulo secundo longissimo, abdominisque segmentis 4 basalibus ad apicem membranaceo-marginatis.

A κεφαλή, caput, et γωνία, angulus.

For the very excellent figure of the type (and details) of this interesting genus I am indebted to Professor Westwood, who has kindly both drawn and dissected it with great care. And although the insect is so large, I feel bound to add that in my own dissections of its very coriaceous mouth I had failed to determine precisely the exact nature of its mentum and ligula; so that I avail myself with the greater satisfaction of the conclusions arrived at by Professor Westwood, whose delineation of the parts in question afford abundant evidence of his usual accuracy. And I may just state that a second representative of the genus, captured by myself in Grand Canary, has been brought to light, but is purposely omitted from the present paper, as being well calculated for admission into a memoir which Professor Westwood is now preparing on Platycephalous Coleoptera.

In general facies and structure, *Cephalogonia* has much in common with *Troglops*, which is its nearest ally. This is particularly apparent in the very significant shape of its (rhombiform) head and (posteriorly produced yet basally truncated) prothorax, as well as in its almost glabrous, highly decorated surface, in the quadriarticulate front feet of its male sex, and in the proportions of its palpi. Nevertheless it differs from that group in the third joint of its antennæ being much

shorter (scarcely longer than the minute one which precedes it), in the second articulation of its anterior male tarsi being considerably more elongated (and composed, apparently, of two joints closely soldered together), in its abdominal segments (or at least the first four) being each of them broadly membraneous along their apical margins, and in the head of its males being not only more dilated and with the eyes larger, but in having also their frontal excavation extremely deep and anomalous, being abruptly terminated (and trisinuated) *either* behind or before, and furnished in its centre with a curious tubercle, which has somewhat the appearance of having been intended to support an ocellus.

22. *Cephalogonia cerasina*, n. sp. (Pl. XX. fig. 6.)

C. subglabra; capite prothoraceque læte cerasino-rufis, hoc inæquali, in disco antico calloso, in limbo antico (in speciminibus integris saltem) appendiculato; elytris pedibusque nigro-cyaneis; antennis pedibusque longissimis, illis (una cum palpis et mento) nigrescentibus, articulis versus basin partim testaceis.

Mas, capite latiore antice excavato, excavatione postice trisinuata, in medio tuberculo ciliato instructa.

Long. corp. lin. $1\frac{2}{3}$–2.

Habitat Teneriffam borealem, ad flores *Physalidis aristatæ*, præcipue circa Portum Orotavæ, tempore vernali haud infrequens.

The very remarkable colour of this beautiful insect (the *head*! and prothorax being of a clear cherry-red, whilst the elytra and legs are dark cyaneous) will, apart from its structural peculiarities, immediately distinguish it from everything else here enumerated. Its legs are extremely long and slender, and its surface is *almost* glabrous. I have observed it hitherto only around the Puerto Orotava and Realejo, in the north of Teneriffe, where it is not uncommon during the spring months, making its appearance about the end of February. It is particularly attached to the flowers of the *Physalis aristata*; and indeed I have never observed it, as yet, on any other plant or shrub.

Fam. 3. **Melyridæ.**

Genus Dasytes.

Paykull, Fauna Suec. ii. 156 (1798).

23. *Dasytes subænescens*, n. sp.

D. angusto-parallelus, subænescenti-niger, parum nitidus, plus minus dense cinereo vel flavescenti-cinereo pubescens et pilis nigris erectis elongatis obsitus; capite prothoraceque profunde subrugoso-punctatis, hoc paulo inæquali ad latera leviter rotundato; elytris levius sed den-

sissime punctato-rugulosis; antennis pedibusque nigris, tibiis tarsisque sæpius dilutioribus.

Mas paulo longior, antennis longioribus.

Long. corp. lin. $1\frac{3}{4}$–$2\frac{1}{4}$.

Dasytes nigricornis? Brullè [nec. Fab.] in Webb et Berth. (Col.) 60 (1838).

Habitat in Lanzarota, Fuerteventura, Canaria, Teneriffa et Palma, ad flores, ab ora maritima usque ad 8000′ s. m. ascendens.

The present *Dasytes* is closely allied to the common European *D. flavipes*. It differs, however, in being a little larger and more pilose, in its prothorax being less abbreviated, or somewhat more produced anteriorly, and more transversely constricted behind the apex, in its antennæ and tarsi being relatively a little longer, and in its entire sculpture being more coarse. It is probably universal throughout the archipelago, though hitherto I do not happen to have observed it in either Gomera or Hierro. But about Haria, in the north of Lanzarote, and in the Rio Palmas of Fuerteventura, I have taken it commonly; as also throughout the region of El Monte, in Grand Canary; at Orotava, Taganana, the Agua Garcia, the Agua Mansa and on the lofty Cumbre above it, as well as on the *opposite* one (adjoining the Cañadas) of Teneriffe; and in the Barranco da Agua, and the Barranco above Sta Cruz, in Palma. The Palman examples seem to have their legs more uniformly dark than is generally the case in those from the other islands, the tibiæ and tarsi (judging from the specimens now before me) being scarcely, if indeed at all, diluted in hue. Lanzarotan examples, which were collected by M. Hartung, have been communicated by Dr. Heer, and one from Teneriffe by the Barão do Castello de Paiva.

24. *Dasytes dispar*, n. sp.

D. sp. præcedenti similis, sed vix obscurior angustior necnon pilis erectis suberectisque densius obsitus; prothorace (præsertim in maribus) angustiore et in fœminis minus dense punctato; elytris in fœminis paulo magis rugosis; antennis pedibusque in maribus longioribus et paulo gracilioribus, illarum articulis multo magis elongatis.

Long. corp. lin. $1\frac{2}{3}$–$2\frac{1}{4}$.

Habitat Canariam Grandem, in regione "El Monte" tempore vernali A. D. 1858, ad flores parce captus.

Were it not for the *structural* dissimilarity between the male antennæ of the present *Dasytes* and the last one, I might perhaps have regarded them as but states of the same insect; but since those organs in the species now under consideration are longer and slenderer than in the *D. subœnescens*, their last five joints being *con-*

siderably more elongated, narrower, and differently shaped, I am compelled to lay greater stress upon certain small additional characters than I should otherwise have done. Apart, therefore, from the antennæ of its male sex, the *D. dispar* may be known from its ally by being a trifle slenderer, blacker, and more pilose, by its prothorax (particularly in the males) being narrower and less developed and in the females a little more deeply and less closely punctured, by its elytra in the latter sex being more rugose, and by the legs of its males (especially the feet) being, like the antennæ, longer and less robust. I have taken it, sparingly, throughout the district of El Monte, in Grand Canary, in company with the last species, but have not, hitherto, observed it elsewhere.

Genus Dolichosoma.

Stephens, Man. Brit. Col. 193 (1839).

25. *Dolichosoma Hartungii*, n. sp.

D. angusto-cylindricum, postice vix latius, submetallico-nigrum, sat nitidum, fere glabrum; capite prothoraceque profunde punctatis, hoc ante medium lato sed inde ad basin valde angustato, ad latera marginato; elytris dense punctato-rugulosis, pilis perpaucis suberectis nigris postice obsitis; antennis pedibusque nigris, illis ante basin vix rufescentioribus.

Long. corp. lin. $1\frac{1}{2}$–$2\frac{1}{3}$.

Dasytes filiformis, Heer, in litt.

—— ——, Hartung, Geolog. Verhältn. Lanz. und Fuert. 140, 141.

Habitat Lanzarotam, Fuerteventuram, Canariam et Teneriffam, hinc inde ad flores tempore vernali haud infrequens.

Judging from the description and figure, the present insect is closely allied to the *D. protensum*, Genè, from Sardinia, though at the same time perfectly distinct from it specifically in most of its characters. It would seem to be altogether darker and more deeply punctured, with its prothorax narrower behind and unchanneled on the disk, and with its entire surface considerably less pilose. The sixth joint of its antennæ, from the apex, is perceptibly smaller than either of those which precede and follow it; but this may very probably be the case in its European representative also, though I do not see any notice of the fact in the generic formula. It is *locally* far from uncommon, during the spring months, throughout the eastern and central islands of the group. I have taken it around Haria, and elsewhere in Lanzarote; near Oliva, in Fuerteventura; on the calcareous ground at Tafira, in the region of El Monte, in Grand Canary; and on the mountains above Sta Cruz, as well as

around the Puerto Orotava, in Teneriffe. In Lanzarote and Fuerteventura it was captured likewise by M. Hartung; and that it is the Dr. Heer, who prepared the list. It is, however, unaccompanied by insect referred to in his volume under the title of *Dasytes filiformis* I can state for certain, having received a specimen, thus identified, from any description; and even if it had been characterized, the name could not have been retained, it having been employed by Creutzer for the type of the genus—the *D. linearis* of Fabricius. I have therefore much pleasure in dedicating it to M. Hartung.

Genus Haplocnemus.

Stephens, Ill. Brit. Ent. iii. 316 [script. *Aplocnemus*] (1830).

26. *Haplocnemus sculpturatus*, n. sp.

H. oblongus, convexus; capite prothoraceque fusco-æneis, nitidis, sat dense punctulatis, pube demissa sericea vestitis, hoc convexo, margine laterali pallidiore crenulato; elytris æneo-fuscis, dense et valde profunde punctato-rugosis, pube brevi demissa parce irroratis; antennis nigro-fuscis, basin versus vix dilutioribus; pedibus testaceis, tibiis interdum paulo infuscatis.

Mas paulo minor, antennis longioribus.

Long. corp. lin. $2\frac{1}{3}$–3.

Habitat Teneriffam et Palmam, in locis intermediis et elevatis, rarissimus.

This large *Haplocnemus* is remarkable for its brassy-brown surface and very deeply sculptured elytra. Its head and prothorax are clothed with a fine silken decumbent pile; but its elytra are *comparatively* glabrous, the hairs (likewise decumbent ones) with which they are studded being short and few. Its prothorax is convex, with the extreme lateral edges rather pale and minutely crenulated; its legs are testaceous, with the tibiæ sometimes a little darkened; and the last joint of its maxillary palpi is distinctly securiform. It is apparently extremely rare, though widely distributed over Teneriffe, occurring at intermediate and lofty elevations. I have taken it in the wood of La Esperanza, at the Agua Garcia, the Agua Mansa, and beneath the dead sticks, as well as on the blossoms, of the Retamas on the Cumbre adjoining the Cañadas—more than 8000 feet above the sea. And I also observed the mutilated remains of it (for they were clearly referable to this species) in Palma.

27. *Haplocnemus vestitus*, n. sp.

H. præcedenti similis, sed supra ubique pilis erectis elongatis mollibus dense vestitus; elytris vix minus profunde sculpturatis; antennis in

sexu masculo sensim longioribus et crassioribus; tibiis paulo magis infuscatis.

Long. corp. lin. $1\frac{3}{4}$–$2\frac{3}{4}$.

Habitat ins. Hierro, in regione "El Golfo," parce captus.

As will be gathered from the diagnosis, this *Haplocnemus* differs from the preceding one (which at first sight it much resembles) in being densely beset all over (in addition to the decumbent underpile of its head and prothorax) with very long, fine, and erect hairs, of which there is no indication whatsoever in the *H. sculpturatus*. Its elytra are perhaps a trifle less deeply punctured; and the antennæ of its male sex are somewhat longer and thicker. Hitherto I have observed it only in Hierro, where, during February 1858, I captured five specimens of it in the sylvan district of El Golfo, on the western side of the island.

Genus Melyrosoma.

Wollaston, Ins. Mad. 253, tab. v. f. 1, 2 (1854).

28. *Melyrosoma costipenne*, n. sp.

M. atrum, pilis brevibus demissis nigris vestitum; capite prothoraceque profunde et densissime rugoso-punctatis, hoc subconico, vix canaliculato sed postice in medio foveola impresso; elytris valde profunde rugoso-punctatis, sutura costisque tribus in utroque fortiter elevatis; antennis ad basin vix picescentioribus.

Mas paulo minus gracilius, antennis brevioribus.

Long. corp. lin. $1\frac{1}{2}$–2.

Habitat in montibus Canariæ Grandis, ad flores (præsertim *Cytisorum* et *Cistorum*) in pineto quodam excelso Tarajanæ mense Aprili, A.D. 1858, repertum.

The intensely black hue of this *Melyrosoma*, combined with its short, robust, and *decumbent* pile, its subconical prothorax, and the three very elevated costæ with which each of its elytra is furnished, will sufficiently characterize it. It is allied to the Madeiran *M. oceanicum*, but is rather larger and of a deeper black, its pubescence also is darker and more decumbent, its prothorax is less abbreviated and more conical, its elytral ridges are more distinct, its entire sculpture is denser and coarser, and its antennæ and palpi are a little more elongated. Like that insect, it is strictly a mountain species; and the only region in which I have hitherto observed it is the lofty Pinal of Tarajana, above San Bartolome, in the centre of Grand Canary, where, during April 1858, I took it, not uncommonly, about the flowers of the *Cytisi* and *Cisti*.

29. *Melyrosoma hirtum*, n. sp.

M. atrum, pilis elongatis erectis mollibus vix dilutioribus vestitum; capite prothoraceque profunde et densissime rugoso-punctatis, hoc transverso, in medio leviter canaliculato; elytris valde profunde rugoso-punctatis, sutura costisque tribus in singulo obscure elevatis; antennis breviusculis, gracilibus, ad basin vix picescentioribus.

Mas adhuc latet.

Long. corp. lin. $1\frac{3}{4}$.

Habitat Teneriffam, in montibus excelsis supra Agua Mansa ad flores *Cytisi* mense Maio, A.D. 1859, specimen unicum collegi.

Unfortunately I have but a single example of this *Melyrosoma*, and that a female one, to describe from; nevertheless it may be known immediately from the *M. costipenne* by the very long, erect, and fine hairs with which it is densely clothed; by its still coarser sculpture; by its prothorax being shorter and more transverse, and with a lightly impressed channel down the disk (instead of merely an abbreviated one, or fovea, behind); by its elytral costæ being less developed; and by its antennæ being perhaps somewhat shorter and slenderer. It bears about the same relation to the Madeiran *M. abdominale* as the last species does to the *oceanicum* of those islands; nevertheless its elongated pubescence is still denser, its prothorax is altogether wider (particularly behind), and, together with the head, much more deeply and closely sculptured, its elytral punctures are larger and more confused or roughened (having no tendency whatever to be disposed in longitudinal rows); and although I have not yet seen the male sex, I have but little doubt (judging from the specimen now before me) that its antennæ will be found to be considerably shorter. My unique specimen was captured at a lofty elevation on the ascent to the Cumbre, above the Agua Mansa, in Teneriffe, during May 1859, from off the blossoms of a *Cytisus*.

30. *Melyrosoma flavescens*, n. sp.

M. gracile, nigrum, pilis robustis demissis flavo-cinereis vestitum; capite prothoraceque profunde et densissime punctato-rugosis, hoc angusto, subconico; elytris profunde punctatis, sutura costisque tribus in utroque sat fortiter elevatis; antennis pedibusque gracilibus, illis ad basin tarsisque paulo dilutioribus.

Mas antennis vix longioribus.

Long. corp. lin. 1–$1\frac{1}{3}$.

Habitat in montibus Palmæ, Junio ineunte, A.D. 1858, ad flores captum.

The comparatively small size and narrow outline of this interesting little *Melyrosoma*, in conjunction with the rather robust but nearly decumbent *yellowish*-cinereous pile with which it is densely

clothed, and its slender limbs, will at once separate it from both of the preceding species. And it is somewhat remarkable that, whilst the *M. costipenne* and *M. hirtum* would seem to represent, at the Canaries, the Madeiran *M. oceanicum* and *M. abdominale* respectively, the present one may be regarded as the analogue of the *M. Artemisiæ* of those islands. And yet, in spite of this general resemblance, it is abundantly distinct from it specifically. Thus, it may be known by its larger size and more anteriorly acuminated outline, by its pubescence being comparatively short and decumbent (instead of long, fine, and erect), by its prothorax being much narrower, less abbreviated, and more conical, by its entire sculpture being closer and less coarse, and by its male antennæ being very much shorter and with each individual joint considerably less developed.

The *M. flavescens* was captured by myself in the mountains of Palma, from off the perpendicular rocks which bound the great Pinal, above the plains of Los Llanos, in the district of the Banda, at the beginning of June 1858.

XXXII.—*Descriptions of new Genera and Species of* Phytophaga. By J. S. Baly.

Fam. **Eumolpidæ.**

Genus Pyropida.

Corpus oblongum, valde convexum. *Caput* perpendiculare, subelongatum; *oculis* reniformibus; *antennis* filiformibus, gracilibus, longitudini corporis æqualibus, aut *fœminæ* vix brevioribus; *mento* apice angulato-emarginato; *palporum* articulo ultimo ovato, obtuse truncato. *Thorax* longitudine latitudini fere æquali, dorso valde convexo, lateribus marginatis, breviter rotundatis. *Elytra* basi thorace multo latiora, apicem versus angustata, obovata, basi truncata; punctato-striata, humeris prominulis. *Pedes* modice robusti; *femoribus* paullo incrassatis, basi attenuatis, inermibus; *tibiis posticis quatuor* extus ante apicem emarginatis; *unguiculis* basi dentatis. *Prosternum* latum, transversum, lateribus medio paullo productis; *antepectoris* processu antero-laterali anguste cuneiformi, extus ad thoracis angulum exteriorem non extenso.

Type *Pyropida sumptuosa*, Baly.

This lovely insect is very closely allied to *Chrysopida*, agreeing with that genus (and differing from *Rhyparida*) in possessing a narrow wedge-shaped antero-lateral process to the antepectus, differing in the shorter, more robust form, in the shorter legs (the thighs being also less incrassate and unarmed beneath), and also in the somewhat shorter, less exserted head and less prominent eyes.

Pyropida sumptuosa.

P. oblonga, valde convexa, nitida, cærulea, viridi tincta; elytris læte purpureis, plaga trigonata communi magna, a basi fere ad apicem extensa, aurea; antennis metallico-viridibus.—Long. 4–5 lin.

Hab. Malacca, Malay Peninsula.

Oblong, very convex, nitidous, body metallic blue with a green reflexion, more especially on the thorax and legs. Head remotely but deeply punctured; antennæ metallic green, covered (the three or four basal joints excepted) with a fine adpressed fulvous down. Thorax as broad as long in the *male*, slightly broader in the *female*, remotely punctured. Elytra obovate, truncate at the base, much broader than the thorax; humeral callus prominent; disk transversely grooved below the basilar space; each elytron with eleven rows of distinct but not coarse punctures, the first row short, interspaces plane; bright purple, a large common patch commencing at the base, where it occupies the space between the two humeral calli, and extending nearly to the apex of the elytron, gradually narrowing on the suture until at last it becomes a mere sutural line, bright golden.

Fam. **Halticidæ.**

Genus Podontia, Dalman.

Podontia 14-*punctata* (Linn.).

This species appears to possess several well-marked local varieties; two apparently new are described for the first time in the present paper. I have had the opportunity of examining several individuals of each of the forms, but (beyond that of colour, which appears to be permanent and not to vary in the most trifling degree) have not been able to detect the slightest difference between them, in sculpture or otherwise; the *ædeagus*, which in other species of the genus forms a good specific character, does not here show any variation whatever. The present is another instance of individuals of the same species, brought from distant localities, presenting striking and permanent differences in colouring and markings, but agreeing in all other and more essential characters, showing us how little we ought to depend on colour alone as a specific character.

Podontia 14-*punctata.*

"*C.* testacea, coleopteris flavis, punctis sedecim nigris, duobus communibus."

Chrysomela 14-*punctata*, Fab. Ent. Syst. i. 314. 29; Linn. Syst. Nat. 2599. 94.

Hab. India; Java; Lao.

Var. A. pallide rufo-picea; elytris nigro-piceis flavo irroratis, utroque

plaga magna baseos fasciisque duabus latis, prima vix ante medium, secunda apicem versus positis, flavo-fulvis.

Hab. Labok. Collected by the late M. Mouhot.

Var. C. nigra, corpore supra rufo-fulvo.

Hab. India, Madras.

This variety approaches very closely to *P. lutea*; Olivier, in his very short description of the latter species, does not mention the legs as differing in colour from the rest of the body, although in the plate they are figured entirely black; he also gives India, instead of China, as the locality of his insect.

Podontia spectabilis. (Plate XXI. fig. 2.)

P. oblongo-elongata aut oblonga, valde convexa, rufo-fulva, nitida; antennis extrorsum nigris, abdominis apice flavo; thorace lateribus bisinuatis, antice angustatis, dorso hic illic profunde sed sparse punctato, basi utroque latere trifoveolato, medio ante apicem transversim impresso, interdum longitudinaliter canaliculato; elytris flavo marmoratis, utroque ante apicem excavato, sat fortiter punctato-striato, striis disco evidenter, iis ad marginem exteriorem profunde sulcatis, interspatiis ad apicem costatis.—Long. 4 lin.

Hab. Northern China.

Oblong-elongate or oblong, convex, bright rufo-fulvous, nitidous. Face transversely depressed between the eyes, impressed on either side with a deep groove, which, commencing just above the insertion of the antennæ, curves obliquely outwards and upwards to the upper edge of the eye; antennæ (their base excepted), apex of jaws, and a spot on the labrum black; eyes narrowly oblong, also black. Thorax impressed on either side with three deep foveæ, the hinder one smaller than the rest, and attached to the basal margin, base with a short longitudinal impression on either side and a small round fovea in the middle, the latter sometimes obsolete, central portion of disk in front more or less distinctly transversely depressed, sometimes also impressed with a longitudinal groove; surface sparingly impressed with deep punctures, forming on the sides short irregular rows. Scutellum subtrigonate. Elytra broader than the thorax, oblong, sides parallel, apex subacutely rounded, surface covered with large, irregularly confluent yellow spots; each elytron impressed with eleven rows of deep punctures, the first row short, striæ near the outer margin sulcate, their interspaces sulcate; towards the apex of the elytron, where the surface is broadly excavated, all the interspaces are thickened, subcostate, and covered with indistinct transverse wrinkles.

Podontia ? basalis.

P. ovata, valde convexa, fulva, nitida, antennis nigris, tarsis fuscis; thorace lævi, fere impunctato, utrinque prope marginem obsolete excavato:

elytris tenuiter punctato-striatis, interspatiis sat crebre punctulatis; nigris, basi margineque inflexo fulvis.—Long. 4 lin.

Hab. Mysol. Collected by Mr. Wallace.

Ovate, very convex, nitidous. Face furnished between the eyes and just above the insertion of the antennæ with two transversely placed, shining tubercles; jaws, labrum, and antennæ black, the latter rather more than half the length of the body, several of the basal joints fulvous beneath. Thorax convex, smooth, and indistinctly punctured on the disk, slightly and singularly excavated on the side just within the lateral border, side margins angustate-rotundate. Elytra shining black, their basal fourth, together with the inflexed limb, fulvous, each elytron impressed with eleven rows of very fine punctures, the first row short; these striæ, however, are discovered with difficulty, owing to the nearly equally well-marked punctation of the perfectly plane interspaces; near the outer margin, just below the humeral callus, is a shallow smooth fovea. Tibiæ unarmed.

Podontia vittata.

P. oblonga, valde convexa, castanea, nitida, abdominis basi pectoreque obscuris, antennis (basi exceptis) nigris; elytris punctato-striatis, margine exteriore, vitta subsuturali (apice cum margine ipso confluente) vittaque angustiore discoidali, ante apicem abbreviata, flavis, limbo inflexo flavo, nigro tessellato; capite thoraceque fulvis, hoc convexo, minute punctato, utrinque unifoveolato.—Long. $3\frac{1}{2}$ lin.

Hab. Port Natal.

Oblong, very convex. Head very minutely punctured, face impressed on either side by a deep bisinuate groove, which, commencing just within the insertion of the antennæ, runs obliquely upwards to the upper margin of the eye. Thorax smooth, convex, impressed on either side near the lateral margin with a small fovea, surface minutely punctured; on either side the disk in front are three longitudinally placed deep punctures. Elytra each impressed with eleven rows of deep punctures, the first row very short, interspaces on the outer disk convex, those near the suture nearly plane.

Genus Xenidea. (Details, Plate XXI. fig. 4.)

Corpus oblongo-ovatum, valde convexum. *Caput* exsertum; *facie* perpendiculari, longitudinaliter carinata, utrinque supra antennas profunde canaliculata; *antennis* gracilibus, fere filiformibus, corpore brevioribus, articulo primo incrassato, secundo illo breviore, paullo incrassato, obovato, tertio secundo fere duplo longiore, cæteris tertio singulatim fere æqualibus; *epistoma* elevatum, antice integrum. *Thorax* transversus, lateribus anguste marginatis, basi biimpressus. *Scutellum* trigonatum, apice rotundato. *Elytra* thorace latiora, apice rotundata, fortiter punctato-striata. *Pedes*: *tibiis intermediis* inermibus; *tibiis posticis* dorso canaliculatis, lateribus ante apicem obsolete sinuatis, ad apicem pectinatis,

apice in processum brevem producto; *tarsis posticis* articulo primo duobus sequentibus longiore, etsi tibiæ dimidio paullo longiore.

Type *Xenidea alternata*, Baly.

This genus must be placed close to *Plectroscelis*.

Xenidea alternata. (Plate XXI. fig. 4.)

X. oblongo-ovata, valde convexa, nitida, subtus purpureo-nigra; pedibus obscure rufo-piceis, purpureo-micantibus, femoribus posticis dimidio postico obscure purpureis; antennis pallide fulvis, articulis 6to, 7mo, 8vo 11mo que nigris; supra læte purpurea; thorace subremote punctato; elytris sat profunde punctato-striatis.—Long. $1\frac{3}{4}$ lin.

Hab. Aru, New Guinea.

Oblong-ovate, very convex, nitidous; body beneath deep-purplish black; the legs obscure rufo-piceous, the apical half of the hinder thighs obscure purple. Body above deep shining purple. Head smooth, impunctate; epistome elevated into a transverse ridge; from its centre a strongly raised longitudinal carina runs upwards nearly as far as the upper border of the eyes; on either side is a deeply grooved line, which, commencing close to the longitudinal ridge, a short way below its centre, and just above the insertion of the antennæ, runs for a short distance perpendicularly upwards, then turns abruptly outwards and is carried directly across the face until it reaches the inner margin of the eye; here it again forms nearly a right angle with its transverse portion, and is continued upwards along the inner border of the eye nearly to the apex of the latter, where it suddenly terminates; immediately above its apex is a deep round puncture; on either side the upper portion of the central ridge is a smooth, impunctate, concave space, bounded below and on the outer side by the above-mentioned grooved line; antennæ nearly equal in length to the body, pale fulvous, their 6th, 7th, 8th, and 11th joints black. Thorax twice as broad as long; sides narrowly margined, obliquely narrowed from the base towards the apex, anterior portion obliquely truncate, the margin of this latter part thickened; disk indistinctly punctured, the puncturing more distinct at the base. Elytra distinctly punctate-striate; interspaces smooth, nearly plane.

Genus Plectrotetra. (Details, Plate XXI. fig. 3.)

Corpus elongatum, convexum. *Caput* exsertum; *antennis* MARIS corpore longioribus, robustis, apicem versus attenuatis, et ibi gracilibus, articulis 1mo crasso, curvato, 2do brevi, obovato, 3tio ad 7mum singulis basi ad apicem incrassatis, paullo compressis, perparum latitudine et longitudine decrescentibus, cæteris filiformibus, ultimo acuto; FŒMINÆ gracilibus, filiformibus, articulis 3tio ad 7mum non incrassatis; *mandibulis* dentatis; *labio* subquadrato; *palpis* articulo ultimo subconico; *oculis* ovatis. *Thorax* transversus, basi transversim sulcatus. *Elytra* anguste oblonga, parallela, disco punctato-striata, striis gemellatis, interspatiis FŒMINÆ

costatis. *Antepectus* angustum, integrum. *Pedes : femoribus quatuor anticis* leniter, *posticis* sat incrassatis, subtus non canaliculatis ; *tibiis* MARIS *quatuor anterioribus* extus ante apicem spina valida armatis, illa *tibiarum anticarum* brevi ; *tibiis posticis* muticis, apice paullo incrassato, extus excavato, introrsum curvato, in processum obtusum compressum producto : FŒMINÆ *tibiis anticis* muticis, *intermediis* spina brevi armatis, *posticis* apice introrsum non curvato, non producto, spina acuta armato, *tarsorum* ejusdem paris articulo basali ad apicem tibiæ inserto. *Tarsis* articulo tertio brevi ; *posticis* paullo ante apicem tibiæ insertis ; *unguiculis* bifidis, dente interiore paullo breviore, compresso, introrsum curvato.

Type, *Plectrotetra Clarkii*, Baly.

Plectrotetra Clarkii. (Plate XXI. fig. 3.)

P. elongata, subcylindrica, rufo-testacea, nitida ; antennis (basi excepta), femorum basi, tibiis tarsisque nigro-fuscis ; elytris viridi-cyaneis, gemellato-punctato-striatis.—Long. 3–3½ lin.

Mas. Elytrorum interspatiis alternis minus costatis, ante medium fere planis, tarsorum anticorum quatuor articulo basali dilatato.

Fœmina. Elytrorum interspatiis alternis valde costatis.

Var. A. Antennis corpore concoloribus.

Hab. Oaxaca. Collected by M. Sallé.

Elongate, subcylindrical, parallel, shining rufo-testaceous ; antennæ (their basal joints excepted), extreme base of thighs, the tibiæ and tarsi nigro-fuscous ; unguiculi rufo-piceous. Head prominent ; face nearly perpendicular, trigonate ; epistome separated from the face by an elevated line, from the apex of which a broad, strongly raised ridge extends upwards as far as the upper edge of the insertion of the antennæ, where it becomes dilated on the upper portion of the face into a raised, bilobed, obovate space ; antennæ longer than the body in the male, shorter in the female. Thorax transverse, sides moderately rounded, slightly narrowed in front, all the angles slightly produced, acute ; upper surface swollen, slightly flattened across the middle of the disk, the latter impressed near its base with a sinuous transverse groove, either end of which, before reaching the lateral border, curves obliquely to the hinder margins ; surface of disk nearly impunctate. Elytra rather broader than the thorax, narrowly oblong, sides parallel, the apex obtusely rounded, sutural angle acute ; surface of each impressed with five or six double rows of punctures, the punctures being placed more or less irregularly on the striæ ; interspaces between each double set of striæ nearly flattened in front in the male, more or less costate towards the apex, in the female costate for their whole length ; interstices between the punctures on the striæ frequently transversely costulate.

Genus NONARTHRA. (Details, Plate XXI. fig. 1.)

Corpus rotundato-ovatum, convexum. *Caput* exsertum ; *antennis* 9-articulatis, robustis, ad apicem subincrassatis, compressis, articulo primo

incrassato, secundo primo dimidio breviore, ovato, tertio paullo longiore, subclavato, cæteris singulatim illi longitudine fere æqualibus, compressis, modice dilatatis, ultimo paullo longiore; *oculis* prominulis, ovatis, *epistoma* integrum; *facie* et *vertice* lævibus, sine carina aut canaliculis. *Thorax* brevis, transversus. *Scutellum* trigonatum. *Elytra* ovata, modice convexa, minute punctata, margine exteriore ante medium paullo dilatato. *Pedes antici quatuor* simplices; *tibiis posticis* dorso canaliculatis, marginibus canaliculæ minute pectinatis; *tarsorum* ejusdem paris articulo primo ante apicem tibiæ inserto.

Type, *Nonarthra variabilis*, Baly.

This genus is separated from all other known genera of *Halticidæ* by the nine-jointed antennæ.

Nonarthra variabilis. (Plate XXI. fig. 1.)

N. rotundato-ovata, modice convexa, nitida; pedibus (femorum posticorum apice excepto) flavo-albis; supra flavo-alba; antennis extrorsum fuscis, verticis maculis duabus, scutello, elytrorumque fascia lata transversa baseos extrorsum abbreviata, altera vix pone medium integra, sutura postice maculaque apicali nigris; elytris minutissime punctulatis.—Long. $1\frac{2}{3}$ lin.

Var. A. Elytrorum signaturis plus minusve obsoletis.

Hab. Northern India.

Rotundate-ovate, convex, nitidous; body beneath black, legs pale-yellowish white, with the exception of the apex of the hinder thighs; above pale-yellowish white; antennæ beyond their base fuscous. Head smooth, nearly impunctate; face without any trace of either longitudinal ridge or sulcation, with the exception of a very short longitudinal groove which runs upwards from the apex of the grooved line separating the epistome from the face; vertex with two parallel black triangular patches; labrum, eyes, and jaws black. Thorax twice as broad as long, sides distinctly margined, rounded at the base, obliquely rounded and narrowed in front, anterior angles obtuse, slightly thickened; disk smooth, impunctate. Elytra oval, shoulders rounded, anterior half of lateral border dilated, its upper surface concave; general surface of elytra moderately convex, smooth and shining, very minutely punctured.

Nonarthra ornata.

N. rotundato-ovata, modice convexa, nitida, subtus cum antennis (harum basi flava excepta) nigra, capite thoraceque testaceis, pedibus elytrisque flavis, his fascia lata basali extrorsum abbreviata fasciaque vix pone medium utrinque abbreviata nigris, scutello nigro, tibiis posticis nigro-pectinatis.—Long. $1\frac{1}{2}$ lin.

Hab. Penang. Collected by Mr. Bowring.

Very closely allied to the preceding species, smaller and somewhat broader in proportion to its length, the elytra rather more

distinctly punctured; the chief difference, however, with the exception of that of colour, is in the shape of the thorax, the angles of which are distinctly more prominent than in *N. variabilis*, the posterior being almost subacute.

Genus Psylliodes, Latr.

Psylliodes Brettinghami.

P. obovata, supra cærulea, nitida; antennis nigris, basi fulvis; subtus obscure picea, purpureo micans, pedibus pallide fulvo-piceis; vertice fere impunctato, facie inferiore rufo-picea; thorace punctato, a basi ad apicem angustato, lateribus rectis, apice oblique truncatis; scutello subtrigonato, acuto, nitido-piceo; elytris fortiter punctato-striatis, striis ad latus subsulcatis.—Long. $1\frac{2}{3}$ lin.

Hab. India. Collected by Mr. Brettingham.

Stout, obovate, shining blue above, body beneath obscure rufo-piceous with a purple reflexion; legs pale piceous, the apex of the four anterior tibiæ, together with the tarsi of the same legs, nigro-fuscous. Head triangular, vertex shining, nearly impunctate, lower portion of face rufo-piceous, sparingly clothed with pale-fulvous hairs; antennæ black, the basal three joints pale fulvous. Thorax nearly a third broader at the base than long, narrowed from base to apex; sides straight, obliquely truncate at their apex; disk smooth, deeply but not very closely punctured. Scutellum shining piceous. Elytra much broader than the thorax, ovate, narrowed from a short distance below the shoulders to the apex, the latter subacutely rounded, each elytron impressed with close regular rows of deep punctures, the first row abbreviated before it reaches the middle; striæ on the outer half of the disk (and all towards their apex) indistinctly sulcate, their interstices obsoletely convex, those on the inner disk in front flat, all of them finely but remotely punctured.

Genus Acrocrypta. (Details, Plate XXI. fig. 5.)

Corpus breviter ovatum, valde convexum; *antennis* crassis, longitudine corporis brevioribus, articulis 1mo incrassato, 2do brevi obconico, 3tio illo fere duplo longiore, 4to et 5to æqualibus, singulatim 3tio paullo longioribus perparum incrassatis, 6to ad 11mum incrassatis, clavum elongatum compressum formantibus; *palporum maxillarium* articulo penultimo valde inflato, subgloboso, apice truncato; articulo ultimo brevissimo, penultimi apici immerso; *oculis* prominulis, integris, ovatis; *epistoma* margine antico integro. *Thorax* transversus, lateribus anguste marginatis, angulo antico tuberculato. *Scutellum* trigonatum. *Elytra* irregulariter punctata. *Pedes* simplices; *femoribus posticis* valde incrassatis, subtus canaliculatis; *tibiis* ejusdem paris dorso non canaliculatis, apice in spinam validam compressam producto; *tarsis posticis* ad apicem

tibiæ insertis, articulo basali duobus sequentibus conjunctim paullo longiore; *unguiculis* appendiculatis.

Type, *Acrocrypta Mouhoti*, Baly.

Acrocrypta must stand close to *Acroleuca*, Chevr., which latter genus contains many species, nearly all undescribed, from the East; it may be separated by the shorter, more robust, more compressed, and much more dilated antennæ, and also by the almost globular maxillary palpi, with their extremely short and nearly hidden terminal joint.

Acrocrypta Mouhoti.

A. ovato-rotundata, subglobosa, fulva, nitida; antennis (basi excepta), ore, oculis pedibusque nigris.—Long. $2\frac{1}{2}$ lin.

Hab. Cambogia. Collected by M. Mouhot.

Ovate-rotundate, subglobose, shining fulvous; antennæ (their base excepted), eyes, mouth, and legs black. Head nearly buried in the thorax, face subrotundate; epistome slightly thickened, separated from the face by an indistinct angular groove, at the apex of which a transverse depression runs across between the eyes; labrum black; antennæ scarcely longer than half the body, first two joints flavous, pitchy above, terminal joint with its extreme apex obscure white. Thorax more than twice as broad as long; apex broadly but slightly concave, sides narrowly margined, rounded behind, obliquely narrowed in front, anteterior angles thickened, slightly produced, broadly obtuse, posterior subacute; basal margin oblique on either side, rounded in the middle; disk finely but not very closely punctured. Elytra broadly ovate, wider than the thorax, shoulders rounded, surface distinctly but not coarsely punctured.

Acrocrypta dimidiata. (Plate XXI. fig. 5.)

A. ovato-rotundata, subglobosa, nitida, nigra, abdomine elytrisque (horum basi prætermissa) fulvis.—Long. $2\frac{1}{2}$ lin.

Hab. Cambogia. Collected by M. Mouhot.

Very similar to the preceding, rather narrower and less rotundate, differing however principally in colour.

Genus Camœna. (Details, Plate XXI. fig. 7.)

Corpus oblongo-ovatum, modice convexum. *Caput* exsertum, *facie* trigonata; *antennis* modice robustis, subfiliformibus, basi et apice attenuatis, articulis secundo et tertio brevibus, fere æqualibus; *oculis* prominulis, ovatis, intus vix sinuatis. *Thorax* transversus, ante basin transversim sulcatus, sulco utrinque intra latus retrorsum ad basin curvato. *Elytra* ovata, basi truncata, anguste marginata, confuse punctato-striata. *Pedes* simplices; *femoribus posticis* incrassatis, subtus canali-

culatis; *tibiis posticis* dorso canaliculatis, apice spina brevi armatis; *tarsorum* ejusdem paris articulo basali tibiæ apici inserto.

Type *Camœna tibialis*, Baly.

Camœna tibialis. (Plate XXI. fig. 7.)

C. oblongo-ovata, modice convexa, fulva, nitida; tibiis, tarsis antennisque (his apice albis) nigris; elytris nigris, metallico-micantibus.—Long. $3\frac{1}{2}$ lin.

Hab. Brazil.

Oblong-ovate, moderately convex, fulvous, nitidous; tibiæ, tarsi, and antennæ black, three apical joints of the latter white. Head short, trigonate; eyes oblong, black; antennæ subfusiform, nearly as long as the body, basal joint pale fulvous beneath. Thorax more than twice as broad as long; sides narrowly margined, nearly straight, narrowed from base to apex; anterior angles slightly produced, obtuse, incrassate; disk swollen, transversely grooved on side just within the lateral border. Elytra ovate, broader than the thorax, finely punctured.

Genus Medonia. (Details, Plate XXI. fig. 6.)

Corpus ovatum, modice convexum. *Caput* exsertum; *facie* fere perpendiculari, subtrigona, oculis sat magnis, prominulis, ovatis, integris; *antennis* filiformibus, gracilibus, articulis primo incrassato, secundo brevi, tertio illo plus duplo longiore. *Elytra* breviter ovata, anguste marginata, tenuiter punctata (sulco utrinque ante latus ad basin recurvato). *Thorax* transversus, basi transversim sulcata. *Pedes: femoribus posticis* incrassatis; *tibiis posticis* apice dente brevi armatis; *tarsorum ejusdem paris* articulo basali ad apicem tibiæ inserto.

Type, *Medonia Batesii*, Baly.

Medonia Batesii. (Plate XXI. fig. 6.)

M. oblongo-ovata, modice convexa, flavo-fulva, nitida; vertice, thorace, femoribus posticis (horum basi margineque inferiore exceptis) elytrorumque dimidio postico nigris.—Long. $3\frac{1}{4}$ lin.

Hab. Ega, Upper Amazons.

Oblong-ovate, moderately convex, nitidous. Head nearly impunctate, labrum piceous; antennæ nearly as long as the body, third joint twice as long as the second; epistome thickened. Thorax nearly three times as broad as long; sides oblique, narrowly margined; anterior angles obliquely truncate, incrassate; disk convex, impunctate, impressed just before the basal margin with a deep transverse groove, which curves abruptly backwards to the base of the thorax, at either end, a short distance within the lateral border. Elytra subovate, narrowly margined, very minutely punctured.

XXXIII.—*On some Australian* Colydiidæ.

By Francis P. Pascoe, F.L.S., &c.

For a long time all the Australian Colydians have been referable, with any certainty, to three genera only—*Deretaphrus*, *Bothrideres*, and *Pycnomerus*; more recently *Ulonotus*, *Meryx**, and *Bitoma*† have been added in the pages of this Journal.

Deretaphrus was proposed by Mr. Newman in the 'Entomologist,' p. 403, for four Australian insects: subsequently Mr. Janson having called the author's attention to a note of Erichson's in the 'Naturgeschichte der Insekten Deutschlands,' a second notice was given in the 'Zoologist' for 1855, App. ccix., preceded, however, by a new and elaborate generic description, and accompanied by certain critical remarks from the pen of Mr. Wollaston, who, it is perhaps necessary to state, had but a single example of *Deretaphrus fossus* before him‡. The result of Mr. Newman's second notice was to eliminate (but apparently with reluctance§) two out of the four original species (*illusus* and *vittatus*), which he referred, with the Berlin Professor, to *Bothrideres*. *D. puteus*, unknown to Erichson, Mr. Newman retained in *Deretaphrus*; and in this he was followed by M. Lacordaire, who,

* *Ulonotus* had been described as an *Asida*, and *Meryx* was always supposed to be Indian.

† It will be necessary, however, to form a new genus for the reception of the Australian species.

‡ In the description, *six* abdominal segments are mentioned, no doubt a slip of the pen, as no Colydian, I believe, has more than five. As Mr. Wollaston institutes a comparison between *Deretaphrus* and *Thorictus*, I may observe that my friend M. de Baran, of Paris, some time ago suggested to me the affinity of the latter to another genus of the Colydiidæ—*Aglenus*.

§ Mr. Newman, while apparently deprecating the tendency of Mr. Wollaston's "characters" to limit the genus, is inclined "rather" to "the extension than the restriction of generic divisions, on account of the encumbrance to science caused by the multiplicity of names." I may here observe that *Deretaphrus* was, when it was first proposed, referred to a "natural order—Ptinites," in company with *Epiteles contumax*, which belongs to the *Cleridæ* and is in fact a *Cylidrus*, and *Synercticus heteromerus*, which Mr. Newman thought bore "a considerable resemblance to the Clerites, and" that "perhaps a more rigid investigation of the mouth" might even "establish their [viz. the two specimens described] claim to a station in that order." Except by Erichson, in his 'Bericht' (1842), I believe this genus has remained unnoticed and unknown. A few days ago, however, at the British Museum, I came upon the identical pair which served Mr. Newman for his description, and found it to be the same with *Aposyla* (*ante*, p. 325), a genus probably allied to *Calcar*, among the *Tenebrionidæ*. *Aposyla* must therefore give way to *Synercticus*. The species, however, are different, the one described by me being narrower, with the prothorax broader behind, without any traces of elevated lines on the elytra, the punctures finer, &c.

however, did not appear to be aware of the article in the 'Zoologist': but there can be no doubt that this should also be referred to *Bothrideres*, as I have convinced myself from an inspection of the type in the British Museum; indeed, Mr. Newman's phrase, "*linea ovata dorsali profunde impressus*," is sufficient to show that it is not a *Deretaphrus*. In the same number of the 'Zoologist,' Mr. Newman describes two new species of this genus—*D. Wollastoni* and *D. Erichsoni**. The former of these I have not seen, nor do I know where the type specimen is to be found. The species described by Germar, in the 'Linnæa Entomologica,' iii. p. 223, under the name of *Sigerpes piceus*, is quite distinct from any of these, although all the authors who have treated of this genus have considered it as synonymous with *D. fossus*; but, *inter alia*, it is only necessary to observe that the "*prothorace* subtiliter vage *punctato*" of Germar shows that it must be quite different from the "*prothorax* confertim *punctus*" of Newman.

The affinity of the two genera, *Deretaphrus* and *Bothrideres*, seems to me by no means close: the peculiar structure of the mouth of the former, the character of the antennæ with a club of three subequal, transverse joints, the subapproximate posterior coxæ with the interfemoral process rounded anteriorly, and the subequal basal segment of the abdomen, are all points which contrast strongly with *Bothrideres*.

With regard to *Pycnomerus*, the extra-European species with eleven-jointed antennæ having been separated from those with ten, Erichson's *P. fuliginosus* and the two presently to be described must be referred to *Penthelispa* (*ante*, p. 111).

I have nothing to add at present in reference to the genera *Ulonotus*, *Meryx*, and *Bitoma*.

The greater part of the new species described below I owe to the kindness of Robert Bakewell, Esq., to whose liberality, as this Journal testifies, I have been so often indebted. There are, however, some others in his collection which, being unique, I have passed over. The Colydiidæ are a family whose haunts, to be known, require those who will patiently persevere in their search for them, and hence they rarely occur to collectors who are not also close observers; it is therefore probable that their species will be found to be much greater than the number at present in our cabinets would lead us to infer.

In the following descriptions I have avoided, as unnecessary

* This is the one probably alluded to as a third species by M. Lacordaire, in his 'Genera des Coléop.' ii. p. 377, *note*.

repetition, noticing those characters which either belong to the genus, or which are so slightly modified as scarcely to be appreciated even when neighbouring species are contrasted with one another. For the generic characters, so far as they relate to *Deretaphrus* and *Bothrideres*, I must refer to M. Lacordaire's 'Genera des Coléoptères,' ii. pp. 377–78, where they will be found carefully and accurately detailed. *Penthelispa* is described in this Journal, p. 111: its species are found in all parts of the world, except Europe.

Table of the Species of Deretaphrus.

Prothorax with a sharply defined longitudinal impressed line or canal.
- Prothorax coarsely punctured.
  - Elytra subdepressed.
    - Third interstitial line strongly elevated or costæform.
      - Interstitial lines finely punctured; pitchy black, subnitid ..... *D. fossus.*
      - Interstitial lines scarcely punctured; rufous brown, opake ..... *D. ignarus*, n. s.
    - Third interstitial line not elevated ..... *D. viduatus*, n. s.
  - Elytra narrower, subcylindrical ..... *D. colydioides*, n. s.
- Prothorax finely punctured.
  - Pitchy black, shining; broader ..... *D. piceus.*
  - Dark chestnut, or rufous brown, glossy; narrower *D. Bakewellii*, n. s.

Prothorax with a shallow longitudinal impression .. *D. Erichsoni.*

Deretaphrus Wollastoni, Newm. (Zool. 1855, App. ccx.), appears to be characterized by a "ridge or keel" parallel with and on each side the median impression.

Deretaphrus ignarus.

D. obscure rufo-fuscus; prothorace fortiter punctato, canaliculo antico obsoleto; elytris interstitiis (duobus internis exceptis) costatis; pedibus ferrugineis.

Hab. Sydney.

Dull rufous brown; head and prothorax strongly punctured, the latter with a sharply impressed, longitudinal canal, scarcely extending beyond its basal half, no anterior canal, but a shallow depression instead; elytra seriate-punctate, the interstices, except the two inner, raised into strongly marked costæ, especially the basal portions of the third *, fifth, and seventh, the punctures large, and at regular intervals; body beneath reddish pitchy, rather coarsely but not closely punctured; legs ferruginous, subnitid. Length 5 lines.

The dull rufous-brown colour and the single prothoracic canal, together with the elevated costæ on the elytra, sufficiently charac-

* The sutural line is counted as the first.

terize this species; the interstices also have scarcely any traces of the finer punctures which are so obvious under a good lens in *D. fossus* and *D. viduatus.*

Deretaphrus viduatus.

D. niger, subnitidus; prothorace fortiter punctato, interrupte canaliculato; elytris interstitiis quinto et septimo costatis; pedibus piceo-nigris.

Hab. Adelaide.

Black, subnitid; head and prothorax strongly punctured, the latter with a deeply impressed, interrupted longitudinal canal, with the anterior portion narrow, but well defined; elytra less nitid than the prothorax, seriate-punctate, the interstices towards the suture scarcely raised, except at the apex and base, the fifth, sixth, and seventh forming strongly marked costæ, especially the fifth and seventh, the punctures large, round, and at regular intervals; body beneath black, shining, coarsely punctured; legs pitchy black. Length 5 lines.

Darker and less glossy than *Deretaphrus fossus*, the prothorax narrower, the third interstitial line especially not prominent, and the punctures between them more regular in form and more equally distributed; in both species the interstices themselves have each a fine row of small punctures.

Deretaphrus Bakewellii.

D. angustulus, rufo-fuscus, nitidus; prothorace subtiliter punctato, profunde interrupte canaliculato, lateribus antice rotundatis; elytris striato-punctatis, interstitiis alternis elevatis.

Hab. Melbourne, Sydney.

Narrow, dark reddish brown, glossy; head and prothorax minutely punctured, the latter with a deeply impressed, interrupted longitudinal line, the anterior portion very short, but deep and well defined; elytra seriate-punctate, the third, fifth, and seventh interstices forming elevated, costæform lines; body beneath brownish pitchy, with shallow, scattered punctures; antennæ and legs reddish pitchy. Length 5 lines.

A more slender form than *Deretaphrus piceus*, with the prothorax proportionally more constricted at the base, and more rounded anteriorly, of a decidedly reddish-brown colour, and more glossy.

Deretaphrus coxydioides.

D. angustus, subcylindricus, nigro-piceus; prothorace fortiter punctato, interrupte canaliculato, canaliculo antico minuto; elytris striato-punctatis, interstitiis alternatis elevatis, striis fortiter punctatis.

Hab. Sydney.

Narrow, approaching to cylindrical, pitchy black; head and prothorax coarsely punctured, the latter with a somewhat shallow, but

sharply defined, interrupted canal, the anterior portion very short and narrow; elytra seriate-punctate, with the alternate interstices raised, and the punctures in the striæ large and very strongly marked; body beneath reddish pitchy, with coarse scattered punctures; legs ferruginous, shining. Length $2\frac{1}{2}$ lines.

The smallest and slenderest of the *Deretaphri*, and somewhat cylindrical, or at least its depth very nearly equalling its breadth, although above it is slightly depressed, as in the other species. In the diminution of the anterior portion of its prothoracic canal it resembles *Deretaphrus fossus*, but, notwithstanding its smaller size, it is much more distinct.

Table of the species of Bothrideres (Australasian).

Disk of the prothorax with a deeply impressed continuous line, including an oblong space.
- The included discoidal space twice as long as broad . *B. anaglypticus.*
- —— —— three times as long as broad ..... *B. puteus.*

Disk of the prothorax without a continuous line including a space.
- Prothorax with a broad, shallow depression, more or less raised along the median line.
  - With a dark sutural stripe ..... *B. vittatus.*
  - Without a dark sutural stripe.
    - Glossy chesnut-brown ..... *B. musivus*, n. s.
    - Subopake tawny yellow ..... *B. merus*, n. s.
- Prothorax with a deeply impressed, crescent-shaped mark posteriorly.
  - With a strongly marked anterior impression also.
    - Entirely dark-brown, opake ..... *B. equinus*, n. s.
    - Elytra chesnut-brown, shining; suture dark brown ..... *B. tæniatus*, n. s.
  - Without a strongly marked anterior impression.
    - Prothorax with a small lobe at the base of the impression on each side ..... *B. lobatus*, n. s.
    - Prothorax without a small lobe at the base of the impression on each side.
      - Large, dark brown..... *B. illusus.*
      - Smaller.
        - Fulvous yellow; posterior impression very slightly curved ..... *B. servus*, n. s.
        - Brown; posterior impression strongly curved. *B. versutus*, n. s.

Bothrideres equinus.

B. fusco-brunneus, subopacus; prothorace rude punctato, basi sulcato, disco biimpresso; elytris concoloribus.

Hab. Melbourne.

Dark reddish brown, somewhat opake; head with crowded oblong punctures; prothorax longer than broad, coarsely punctured, anterior angles prominent, a short groove at the base, the disk slightly depressed and marked with two small semicircular impressions; elytra strongly punctate-striate, with three lateral alternate interstices forming raised lines or costæ; body beneath reddish brown, strongly punctured; legs reddish ferruginous. Length $3\frac{1}{2}$ lines.

Narrower than *Bothrideres illusus*, and more opake; the prothorax more depressed, with two distinct impressions and a punctation wholly different.

Bothrideres tæniatus.

B. rufo-fuscus, nitidus; prothorace rude punctato; basi trisulcato, disco biimpresso; elytris rufo-brunneis, sutura fusca.

Hab. Melbourne.

Dark-reddish brown, shining; head closely and coarsely punctured; prothorax coarsely punctured, longer than broad, the anterior angles prominent, disk rather depressed, with two deep semicircular impressions, the space between not punctured in the centre, behind the posterior impression a broad shallow canal, and on each side of the canal a slight groove; elytra reddish brown, shining, the suture dark brown, punctate-striate with the alternate interstices raised; body beneath reddish brown, coarsely punctured; legs reddish brown; palpi testaceous yellow. Length $2\frac{1}{2}$ lines.

Bothrideres vittatus, which resembles this species in the dark-coloured suture, is at once distinguished by its prothorax being without any impressions, except that the whole disk sinks down, as it were, leaving only a slight median elevation at the base.

Bothrideres musivus.

B. fulvo-brunneus, nitidus; prothorace fortiter punctato, disco late depresso, medio vix elevato; elytris fulvo-castaneis.

Hab. Melbourne.

Light-yellowish brown, shining; head thickly punctured; eyes black; prothorax longer than broad, coarsely punctured, anterior angles not prominent, the disk with a large, oblong, shallow, somewhat parallelogrammic impression, slightly raised at the base and in the middle, where it is smooth and without punctures; elytra uniform pale yellowish brown, shining, striate-punctate, three lateral alternate interstices costæform; body beneath darker brown, and rather sparsely punctured. Length 2 lines.

Smaller and the colour more uniform and paler than in *Bothrideres vittatus*; the depression on the prothorax larger and less divided by the medio-basal ridge.

Bothrideres merus.

B. lutescens, subnitidus; prothorace fortiter punctato, disco late depresso, medio vix elevato; elytris luteis.

Hab. Melbourne.

Luteous yellow, subnitid; head with crowded, oblong punctures; eyes black; prothorax scarcely longer than broad, strongly punctured, anterior angles scarcely produced, the disk with a large, broad, shallow depression slightly raised posteriorly, with a smooth ovate point in the centre; elytra luteous, rather more glossy than the prothorax, striate-punctate, the punctures rather small, the alternate interstices slightly raised; body beneath reddish brown, coarsely punctured; legs and antennæ luteous brown. Length $1\frac{2}{3}$ line.

From *Bothrideres musivus* this species may be distinguished by its smaller size, paler and less glossy colour, and proportionally shorter and less coarsely punctured prothorax: in both the elytra are less deeply striated, the interstices near the suture being very obviously punctured.

Bothrideres lobatus.

B. fulvo-luteus, subnitidus; prothorace longitudinaliter corrugato, basi bilobato, disco postice linea semilunari impresso; elytris sutura margineque infuscatis.

Hab. Sydney.

Pale brownish yellow, subnitid; head sparingly punctured; prothorax slightly convex, rather broader than long, finely corrugated longitudinally, a very distinct semicircular impression posteriorly, between which and the base are two small diverging lobes; elytra slightly convex, the suture and lateral margins darker than the disk; body beneath pale brownish yellow, moderately punctured. Length $1\frac{1}{2}$ line.

The short and corrugated prothorax, with its two raised and diverging lobes at the base, render this species easy of recognition.

Bothrideres servus.

B. fulvo-brunneus, subnitidus; prothorace longitudinaliter corrugato, postice linea subcurvata impresso, basi late sulcato; elytris sutura marginibusque infuscatis.

Hab. Melbourne.

Light yellowish brown, slightly shining; head and prothorax with coarse punctures, more or less confluent in a longitudinal direction, giving the intervals a corrugated appearance, the latter nearly equal in length and breadth, its anterior angles rather prominent, the posterior impressed line only slightly curved, no anterior impression, a broad shallow groove at the base; elytra with the suture and margins darker than the disk, striate-punctate, the three lateral alternate interstices

costæform; body beneath light yellowish brown, rather finely punctured, with the anterior margins of the abdominal segments dark brown; eyes black. Length 2 lines.

The single and very slightly curved impression on the prothorax is sufficiently distinctive of this species.

Bothrideres versutus.

B. rufo-fuscus, vix nitidus; prothorace longitudinaliter corrugato, postice linea curvata impresso, basi late sulcato; elytris concoloribus, interstitiis alternis punctatis.

Hab. Melbourne.

Reddish brown, scarcely shining; head corrugated, especially in front, punctured behind the eyes; prothorax nearly equal in length and breadth, slightly contracted at the base, the anterior angles prominent, covered with coarse oblong punctures throwing the intervals into small longitudinal folds, the impressed line at the base semicircular, having a smooth space in front, and a shallow, broad groove behind; elytra coarsely striate, the alternate interstices, commencing at the sutural one, with a very obvious line of punctures, the three lateral costæform, the striæ apparently impunctate; body beneath reddish brown, shining, coarsely punctured, the punctures on the abdominal segments gradually more crowded as they approach the last. Length $2\frac{1}{2}$ lines.

Perhaps most nearly allied to the last on account of its corrugated prothorax, with its single impressed line, which, however, is deeper and more decidedly curved; the colour is also different, and the punctures on the alternate interstices are less marked.

Penthelispa secuta.

P. fusco-picea; prothorace obsolete biimpresso, angulis posticis rotundatis; elytris punctato-striatis, lateribus a basi sensim angustatis.

Hab. Melbourne.

Dark pitchy; head and prothorax coarsely and somewhat closely punctured, the latter rather longer than broad, very slightly incurved at the sides, and rounded at the posterior angle, the disk with two very shallow, almost obsolete, longitudinal impressions; scutellum broadly transverse; elytra coarsely striate-punctate, very gradually receding from the base to the apex; body beneath pitchy, with rather distant punctures; antennæ and legs reddish ferruginous, shining. Length 2 lines.

Very like *Penthelispa porosa* (a Rio insect), but darker, rather less depressed, and more strongly punctured, especially on the prothorax, which has also its posterior angles more rounded.

Penthelispa obscura.

P. fusca, opaca; prothorace obsolete biimpresso, angulis posticis subacutis; elytris fortiter striatis, interstitiis punctatis, lateribus subrotundatis.

Hab. Melbourne.

Dark brown, opake; head and prothorax coarsely and closely punctured, the latter scarcely longer than broad, the base a little narrower, the sides nearly straight, with the posterior angles subacute, the longitudinal impressions on the disk almost obsolete; scutellum transverse; elytra slightly rounded at the sides, broadly striated, the striæ with irregular shallow depressions, and each of the interstices furnished with a row of punctures; body beneath pitchy, coarsely punctured; antennæ and legs dull ferruginous. Length 2 lines.

Well distinguished from the last by its opake surface, subacute posterior angles of the prothorax, the punctured lines between the striæ of the elytra, &c.

XXXIV.—*Descriptions of Species of the Genus* Hydroporus, Clairv., *new to the European or British Catalogues.* By the Rev. Hamlet Clark.

I should be very glad if any British entomologists, into whose hands this paper may fall, would allow me to inspect any doubtful species of this genus that may come under their observation. I have no doubt that several species known on the Continent, as yet unknown in Great Britain, may yet be detected in our pools and streams: the latter habitat I would especially commend as likely to supply interesting or new species; two of the species described here were taken in streams. *Agabus brunneus*, one of our rarest British water-beetles, has just been taken by Dr. Power and Turner in a stream in the New Forest; *Haliplus fluviatilis* is taken in streams (in the Seine, Rhone, &c.); *H. opatrinus* I have taken on the Continent, in streams; *H. ferrugineus*, another of our rarest species, was taken by Stephens in a stream at Kimpton. In a paper in the 'Zoologist,' 1855, p. 4846, I pointed out the Continental species that we might expect to find in Great Britain; a few of these have since been discovered.

The following paper contains notices of three species of this genus apparently hitherto undescribed,—two of them, *H. derelictus* and *H. celatus*, taken in Great Britain; the third, *H. Andalusiæ*, in Spain.

H. quinquelineatus, Zett.

Zett. Faun. Ins. Lapp. i. 335.
Aubé, Iconographie, v. 367, pl. 42. fig. 2.
Sp. ——? Waterhouse, Cat. Brit. Col. 8vo. 1861, p. 107.

Examples of this species were taken, some years ago, by Mr. Waterhouse, probably in the London district: it is a new species to the British lists. It is closely allied to *H. reticulatus*, Fab., with which it may often have been confounded. The thorax is a trifle broader, the basal margin of fuscous is more distinct, and the punctation somewhat more frequent and deeper: in the elytra, the four longitudinal markings, which in *H. reticulatus* are *interrupted* postmedially, and are *not continued* to the base, are narrower, more regular, uninterrupted, and continued to the base parallel with and similar to the sutural marking. The *punctation* of the elytra is especially different: in *H. reticulatus*, under a high power, the surface will be seen to be covered with very minute and very thickly distributed punctures, among which are others deeper, broader, and at some distance from each other; in *H. quinquelineatus*, the punctures are uniform and coarse, tolerably evenly arranged. I have received the species from Dr. Schaum, Prof. Boheman, and others, from Lapland and Norway. British examples, taken as yet only by Mr. Waterhouse, are in the cabinets of Mr. Waterhouse, Dr. Power, and Rev. H. Clark.

H. Andalusiæ, n. sp.

H. ovalis vel pene oblongo-ovalis, depressiusculus, haud pubescens, subtilissime et crebre punctatus, testaceus vel fusco-testaceus: thorace ad latera rotundato, ad discum medium subrotundato (marginibus leviter depressis), antice et ad basin irregulariter punctato etiamque plus minus transverse nigro, maculisque duabus ad medium basalibus subcircularibus nigris: elytris griseo-testaceis, striis duabus undique punctulatis obsoletis, nigro lineatis, maculis nigro-fuscis diversis pluribus ordine veluti tribus vittis transversis dispositis: pedibus rufis, tarsis anterioribus rufo-fuscis: antennis rufis, ad apicem fusco notatis.
Long. corp. $2\frac{1}{3}$ lin., lat. $1\frac{1}{5}$ lin.

Very closely allied to a species (*H. Clarkii*) discovered in the Canaries by Messrs. Gray and Wollaston, and described by the latter in 'Annals and Magazine of Natural History,' 1862 (June), p. 438. After a very careful examination of the two forms both by Mr. Wollaston and myself, it has seemed to us that the two ought to be recorded as distinct species: a comparison of a series of the two shows that *H. Clarkii* is larger, more oblong, more shining, less pubescent; the spines also at the apex of the elytra are less

distinct in proportion to its size. *H. Clarkii* is a little more parallel and broader towards the shoulders, and the four anterior feet of the male are somewhat more dilated than in the species before us. *Head* with two antical depressions, the surface is obsoletely granulated and *finely* punctate-rufous: the *thorax* is rounded in front, the sides being subparallel; the surface is finely and sparingly punctate, flavo-rufous, the base and two medial basal subcircular markings being fuscous: *elytra* with two faint striæ, one sutural and the other submedial; in colour pale testaceous or flavo-testaceous, with four or five irregular, interrupted, longitudinal lines of fuscous, which vary much, in different examples, in breadth, in length, and in degree of continuation; for the most part, these lines are so transversely interrupted that they form (in general appearance) three irregular transverse bands; the spines at the apex of the elytra are certainly decidedly more developed than in *H. Clarkii* (in which species they are almost obsolete), assimilating in development to those of *H. assimilis*, Payk.

My friend Mr. Gray and I captured this handsome species at Malaga, on May 13 and 29, 1856, in pools formed by mountain watercourses, in company with *Colymbetes coriaceus*, *Agabus brunneus*, and others. I have also received the species from M. Schaufuss as undescribed, from the South of Spain.

H. halensis, Fab.

H. ovalis, subtiliter pubescens, pallide fuscus: capite flavo, ad latera et apicem fusco: thorace pubescenti-flavo, undique juxta medium irregulariter fusco notato: elytris pubescentibus, pallide testaceis, lineis sex ad basin ab apicem fuscis, attenuatis, æqualibus, hic illuc interstitiis fuscis: pedibus rufo-flavis, tarsis anterioribus fuscis, tarsis posticis rufo-flavis ad articulos fusco annulatis: antennis flavo-rufis, articulis apicalibus fuscatis.

Long. corp. 2 lin., lat. 1 lin.

Oval; perceptibly broader and less parallel in the sides than *H. assimilis*, Payk., the sides of the thorax also being continued in a more direct line with those of the elytra than in this species; the coloration is entirely different, being less tinged with rufous, and the longitudinal lines on the elytra being narrower: the *head* is narrower; the two depressions at the inner margins of the eyes are more distinct; in colour the lateral margins are much more broadly fuscous: the *thorax* is broader than in *H. assimilis*, Payk.; at the anterior margin is a single regular row of distinct fuscous punctures (not frequent and unarranged minute punctures); the surface is pubescent, thickly and evenly punctate throughout. In *H. assimilis* the surface is rather minutely granulated, the granulations being interspersed with more distinct punctures; the

colour of the thorax is flavous, with a tendency to rufo-flavous, the basal line and also two subtriangular markings, one on either side of the middle (which are connected with the base, but terminate at some distance from the anterior margin) being fuscous: *elytra* broader, and more rounded at the sides, than in *H. assimilis*, Payk. Six fuscous lines, longitudinal, evenly disposed, and regular in continuation and colour, extend from the apex to the base; these lines are much narrower, and the interstices broader, than in *H. assimilis*; the testaceous colour of the interstices between the 1st and 2nd lines (from the suture) is interrupted at three points by a narrow fuscous junction of the lines (basal, ante-medial, and post-medial), between the 2nd and 3rd at one point (medial), between the 3rd and 4th at two points (medial, less distinctly, and basal), between the 4th and 5th at no point; the 5th and 6th lines take the usual form of broader abbreviated markings (in *H. assimilis* the interstices between the lines are less interrupted): *legs* rufo-flavous, the anterior and the joints of the posterior tarsi being fuscous: *antennæ* flavous, the apical joints being fuscous.

H. halensis is a trifle longer than *H. assimilis*, Payk.; the apical spines of the elytra are obsolete; it is not so acute at the apex, and (as will have been seen) differs widely in stronger pubescence and coloration. The species is also closely allied to, but distinct from, *H. Andalusiæ*, described in this paper; it is shorter and rounder in form; and the markings of the elytra are, in all the examples before me, constant in their difference of pattern. It is perhaps *most* nearly related to *H. fuscitarsis* of Aubé, from Sardinia; this latter species, however, is impubescent, the general colour of the elytra is decidedly darker by reason of the greater breadth of the fuscous lines, the general form is narrower, and a trifle more parallel, than in *H. halensis*.

Dr. Schaum has pointed out to me that our Scotch species, found only in Mull ('Zoologist,' p. 4859), which has, since his paper in the 'Zoologist' (p. 1890), stood in our cabinets under the name of *halensis*, Fab., is the true *griseostriatus* of DeGeer,—the error having arisen from a confusion on the part of the late Mr. Stephens, between his cabinet and his 'Manual' and 'Illustrations,' and that this species is the true *halensis* of Fabricius.

This species has been twice taken in England—in Horning Fen, Norfolk, by myself, in May 1855, in a running stream, and also, by Dr. Ernest Adams, in a little river ("the Gipping?") near Haughley, Stowmarket, Suffolk.

H. derelictus, n. sp.

H. ovalis, subparallelus, crebre punctatus (aliquando pene punctulatus), pubescens, nitidus (♀ interdum opacus), ater: capite rufo ad apicem, ad

basin et oculorum margines late nigro-fusco sparsim punctulato, inter et infra oculos leviter bidepresso: thorace lato, brevi, lateribus obliquis et subrotundatis, margine posteriore sinuato, non oblique curvato; facie sparsim pubescente et *valde* punctata (disco *ad medium impunctato*); lateribus, angulis posticis, et margine ad basin subdepressis: elytris subparallelis (pone medium sublatioribus), ad apicem sat productis, pubescentibus, crebre punctatis, atris: antennis fuscis, articulis 1–4 flavis: pedibus rufo-flavis, tarsis anticis in ♂ *latis*, tarsis tibiisque posticis fuscatis.

Long. corp. 2 lin., lat. 1 lin.

Nearly allied to *H. planus*, Fab., but slightly narrower, more parallel, and not so rounded in form: in *H. planus* the greatest breadth is medial, in *H. derelictus* it is post-medial. The thorax of *H. planus* is covered with minute punctures; in the species before us it is at the margins more coarsely punctured, and medially impunctate: the basal outline is (by reason of the more distinct definition of the medial scutellary angle) somewhat more sinuate; the colour of the head is entirely different: the elytra are pubescent (not simply glabrous), of a deep black colour (not fuscous or rufous black), and more obviously punctate; in one of the examples before me, a ♀, the colour is entirely opake, not shining, and the punctation of the elytra appears to be somewhat closer: the tarsi are all (in every example) distinctly fuscous, and the anterior tarsi of the ♂ appear to be broader and more dilated.

In colour of head and elytra, and in its fuscous tarsi, it more nearly resembles *H. erythrocephalus*, Linn.; but this latter species is very distinctly more rounded, and a smaller insect.

I received six examples from a bird-collector in the island of Orkney, whom I employed to collect water-beetles for me, in August 1855. The species probably was then abundant. During an entomological tour through the Western Isles of Scotland, last autumn, with Mr. John Gray, in which we specially sought to collect *Hydradephaga*, we were unable to meet with a single example of this species. By the kind aid of M. Javet, M. Aubé of Paris has been good enough to examine a specimen which was returned by him "unknown." I have a note that the species appeared to me to be very closely related to *H. lapponum*, Gyll., of the collection of the Jardin des Plantes; but the opportunities that I have had of examining insects in that museum have not been always very favourable; and *H. lapponum* of Gyllenhall is, according to examples I have received from M. Boheman, narrower, less pubescent, more rufo-fuscous in colour, and with the elytra more sparingly punctate. M. Thomson has described a species (*H. Bohemanni*) which probably is very near to this species.

I regret much that I have had at present no means of comparing the two together. In the cabinets of Dr. Power, Mr. Waterhouse, and the Rev. H. Clark.

H. celatus, n. sp.

H. oblongo-ovalis, leviter convexus, punctulatus, nitidulus, niger: capite inter oculos bifoveolato, minutissime punctato, nigro, ad basin anguste ferrugineo: thorace lateribus obliquis subrotundatis, marginatis, ad basin transverse subdepresso et crebre punctato, antice stria transversa punctorum una, plerumque haud interrupta, ad medium discum sparsim punctulato vel pene impunctato: elytris ad latera subrotundatis, punctulatis, striis duabus undique punctorum majorum a basi ad apicem: antennis rufis, pedibus omnino rufo-flavis.

Long. corp. $1\frac{2}{3}$ lin., lat. $\frac{3}{4}$ lin.

I have before me four examples, taken at three different localities, of a form of *Hydroporus*, which are absolutely identical in shape, size, and sculpture. The form is unregistered in our British lists, and I am unable to assign it to any described species known on the Continent. As, in such a very difficult section of the genus as that to which this species belongs, any conclusions that are not based upon careful comparison of authentic types are at best but inconclusive, it is only perhaps provisionally that the species will stand as *H. celatus*. My own belief is, having carefully examined descriptions and also examples of most of the species found on the Continent, that it will prove to be as yet undescribed; at all events, it is new to Great Britain. In general form it closely resembles *H. vittula*, Er. It is however, a much larger insect, the punctures on the thorax are less regularly distributed (the base being deeply punctate, while the medial surface is almost impunctate), the striæ on the elytra are less distinct (and only punctured striæ, not slight longitudinal depressions), while the legs are entirely rufo-flavous, not suffused with fuscous. From *H. nigrita*, Fab., it may be distinguished, as well by its much greater size, as by its less-coarse punctation, and by its striæ on the elytra: in size, and glossiness of hue, and general appearance it is very near to *H. melanarius*, Sturm. (according to examples in my cabinet); but it is in form more oval, not so parallel, the punctures on the elytra are *slightly* more frequent, and in this latter species there are no traces of punctate striæ; it is broader, and not so long as *H. Gyllenhallii*, Schiodte; it is very like a large *H. pubescens*, Gyll., but with finer punctation and other minor differences. Its position in our British cabinets should be between *H. Gyllenhallii* and *H. melanarius*. Among species not hitherto detected as British, it would resemble most closely *H. incertus*, Aubé; this species, how-

ever, is longer, suffused at the margins with rufous, and more sparingly and more deeply punctured. I know no other species to which it is possible to refer this form, except perchance *H. geniculatus*, Thomson, and *H. acutangulus*, Thomson, of which I regret that I have no knowledge.

Of the examples before me, two were taken in a stream in Bradgate Park, Leicester, by Dr. Power, in August 1855; one in a stream at Black Park, Uxbridge, in August 1856, also by Dr. Power; and one in a stream in Tilgate Forest, by Mr. Brewer. In the cabinets of Dr. Power, Mr. Brewer, and the Rev. Hamlet Clark.

XXXV.—*Description of a remarkable Species of Singing Cricket* (Locustariæ) *from the Amazons, supposed to be new to science.* By H. W. Bates, Esq.

Order Orthoptera.

Family **Locustariæ**, Latreille.
(Gryllidæ, Leach, Westwood).

Genus Chlorocœlus*, n. gen.

Palpi with their terminal joints elongate, gradually and slightly thickened towards their tips; the maxillaries more than double the length of the labials. *Prothorax* rather short; surface plane, sloping upwards posteriorly, without ridges or spines, but with a transverse central furrow; sides vertically deflexed; hind margin slightly produced in the middle, and rounded. *Pro-, meso-,* and *metasterna* of moderate breadth, each armed with a pair of corneous tooth-like processes. *Antennæ* setaceous, not so long as the body; basal joint oblong, thick, its external anterior angle slightly produced. *Legs* moderately long, stout; the thighs furnished beneath with a row (the anterior with two rows) of very small denticulations; the tibiæ angular, and also finely denticulate or spinose beneath; the anterior thighs are arcuate above, which makes them broader in the middle than at either end; the hind legs are short compared with their usual length in this family, reaching only 2 or 3 lines beyond the tips of the closed elytra. *Head* large, with an obtuse point between the antennæ; forehead nearly square, the sides with a smooth longitudinal ridge. *Eyes* small, globular. *Elytra* of parchmenty texture, extremely broad and convex, giving to the insect, when closed, a bloated, vesicular appearance; they surpass the abdomen by nearly one-half their length, and are obtuse and rounded at their tips; the longitudinal nervure is strongly bent before the middle of its course; the broad costal space is crossed by a number of long transverse nervures,

* From χλωρὸς, green, and κοῖλος, hollow.

and the rest of the surface is reticulated, the areoles being very large and mostly quadrangular. *Wings* much shorter than the elytra, the median nervures strongly flexuous.

The stridulating-organs of the male (the only sex known) are of elaborate construction. They are formed, as usual in this family, out of the elements of the small basal portion of the elytra which overlaps when the wing-cases are closed. This basal part in the right elytron (Pl. XXII. fig. *b*), which is overlapped by that of the opposite wing-case, forms in the centre an opake, smooth, horny plate of irregular shape, and the margin projects as a quadrangular lobe with much-thickened and raised horny edges. The same part of the left elytron (Pl. XXII. fig. *a*) forms a thick horny lobe of quite different shape: its edges are not raised, but the under surface is traversed by a thick, horny rib, finely scored like a file, which comes in contact with the raised edges of the corresponding lobe, and by the rapid voluntary movement of the wings is scraped across them, producing the very loud notes for which the insect is remarkable. This file-like rib occupies the position of a very slender internal nervure visible on the elytra of most of the insects of this family. The genus is closely allied to *Thliboscelus*, Serville.

Chlorocœlus Tanana. (Pl. XXII. figs. 1, 2.)

C. elongato-ovatus vel pyriformis, prasinus, alis pallidioribus: capite impunctato: thorace transverse rugoso. Long. (alis clausis) 2″ 3‴. ♂.

The insect in life is wholly of a light-green colour, the membranous wings being paler; it fades after death, and becomes of a dingy olive-yellow hue. The head is impunctate; the forehead smooth and shining; the frontal tubercle is excavated on its upper surface. The prothorax is transversely and feebly rugose; the central furrow is strongly marked, continuing on each side to the inferior margin of the pronotum. The abdomen is conical in shape, and has a central, smooth, dorsal keel, which is interrupted by a large rounded tubercle at the base of each segment. The elytra are of a thin, hard, parchmenty nature, and slightly transparent; the basal lobes, as before mentioned, are corneous and opake.

The species is found in the middle part of the region of the Lower Amazons, at Obydos and Santarem. It is met with most frequently in the drier forests of the Guiana or north side of the river, from Obydos to the lower part of the Trombetas, but it is not a common insect anywhere. The natives call it Tananá, and admire it greatly for its musical performances, keeping it, when they capture one, in

a small wickerwork cage, for the sake of hearing it sing. When fed with pieces of cactus, the Tananá will live for two or three weeks in captivity; but its song, at first loud and sonorous, and audible at a very long distance, becomes gradually feebler, and ceases altogether before the end of that time. The individual from which the above description is taken was kept by a friend of mine at Obydos in the way here related. It used to chirp in the early hours of morning or late in the evening. When producing the sound, the bladder-like elytra were in a state of rapid vibration; and the sound produced by the swift passage of the file-like instrument of the one wing-case over the horny edges of the other had a much more musical tone than I have heard in any other Orthopterous insect. It was my impression that the thin hard texture of the elytra and the hollow drum-like space which they enclosed were the causes of the peculiar resonance of its notes. The sounds produced had some resemblance to the syllables Ta-na-ná repeated in quick succession, and hence the native name of the insect.

Many excellent observations have been published on the stridulating-organs of Orthopterous insects by Latreille, Goureau, and others; but the subject is well worthy of further investigation. The asymmetrical form of the two halves of the organ, being portions of wing-cases, which in all their conditions and variations are usually perfectly symmetrical in insects, strikes me as very curious. The enlarged internal nervule which forms the file-like instrument of the left elytron in *Chlorocœlus Tanana* exists on the right wing-case also, in an enlarged condition, but perfectly smooth: it seems to perform no function, but owes its enlargement to correlation. It is highly probable that the same nervule in the female of this insect would be quite small and feeble, as it is in the females of other allied species, whose males have beautifully elaborated singing-organs of a similar nature to that of the Tananá. I was rather surprised to find the wing-cases of the male house-cricket perfectly symmetrical. In this species a different nervure to that employed in the Tananá is scored, but the nervure is scored in the same way on both elytra.

It is not until after much hesitation that I have decided to describe the present insect as new to science. I am by no means sure that it is not the *Locusta camellifolia*, described by Fabricius in 'Entom. System.' tom. ii. p. 35. His phrase, "Elytra magna, concava, viridia, nervosa, apice rotundata," seems to apply well to our species. He does not, however, mention the remarkable vesicular appearance of the insect. The expression "concava" is applied by him to the elytra of many allied species of Locustariæ. The Fabrician species

was again described by Serville in the 'Histoire Naturelle des Orthoptères,' p. 443, who instituted a new genus for its reception—*Thliboscelus*. There appears to be no doubt that the two authors had the same insect in view: this is partly shown by the expression of Fabricius, "Thorax segmentis tribus," which accords with the description of Serville, who says, "Disque du prothorax ayant deux sillons transverses assez distincts." If this character can be relied on, it would show that they had not our species before them; for the *Chlorocœlus Tanana* has only one transverse furrow to the prothorax. This, however, is the only positive point of difference I can detect in the lengthy characters given by Serville. Fabricius gives "America" as the locality for his insect; Serville states that his specimen came from Brazil. The *Thliboscelus camellifolia* of the British Museum is a North American insect. The generic characters of *Thliboscelus* given by Serville suit well our insect in every point, except that they do not include the great convexity of the elytra. He mentions their great breadth and obtuseness, and the bent direction of the longitudinal nervure (as well as that of the corresponding nervures of the wings); but these points do not enable me to decide, in the absence of express allusion to the striking character of their great convexity. It was necessary to give our insect a name in order to record the interesting facts relating to its structure and habits*, and therefore there was no remedy but to give it a new one.

XXXVI.—*Notes on the British Museum Catalogue of* Homoptera. By C. Stål, Ph.D., Stockholm.

I have lately been occupied in making some synonymical notes upon the species described by Mr. Walker in the British Museum Catalogue of Homopterous Insects. I am proposing to publish them. As a preface to these notes I offer this paper, in which I desire to make some remarks upon the scientific value of these and other works which are published as descriptive catalogues of Homoptera.

The numerous papers of Mr. Walker upon nearly all orders of insects have already received their verdict from the most eminent Continental entomologists who have made different orders their special study. Concerning the papers upon Homoptera, an order of insects unhappily having very few students, and still fewer who have to study added knowledge, there have only hitherto been pub-

* These are described in a narrative of my travels which is now nearly ready for publication.

lished some synonymical notes by Dr. Signoret upon the Tettigonides and Cercopides described by Mr. Walker in the Museum Catalogues. It becomes my duty to furnish to entomologists of all countries some examples of the many errors into which this author has fallen: my conscientious regard for English entomologists, and respect for their scientific knowledge, induces me to publish my remarks in an English journal.

The first remark that I have to make is respecting the nomenclature of the author. It is ever disagreeable to meet with names badly constructed and in no way appropriate; however, I should not have stopped at this matter, if the descriptive and scientific parts of the papers had had any value at all. Why hundreds of times use such terms as *basimacula*, *dorsimacula*, *quadrimacula*, *rufi-fascia*, *albivitta*, *dorsisigna*, *flavisigna*, *biplaga*, *bifascia*, *unifascia*, *multifascia*, *lativitta*, *brevivitta*, *multistriga*, &c., when the usual and correct term is *basi-maculata*, *dorso-maculata*, *quadrimaculata*, *rufo-fasciata*, *albovittata*, *biplagiata*, *multistrigata*, &c.; or such names as *basistella*, *speilinea*, *speicarina*, *albiplana*, *biconica*, *basiflamma*, *annulivena*, *bifacies*, *basispes*, *flosfoliæ*, &c., composed of words each having a signification, but which when compounded into one word have no signification that can be understood? When Linné named and described a *Cicada septemdecim*, he had good reason for so doing, and every one who knows the history and habits of that species will acknowledge the name to be good and appropriate; but when Mr. Walker calls a species *Dundubia duarum* (!!!), and another *Dundubia decem* (!), every one will be only perplexed, and ask why the species were not called *secunda* and *decima*, names which, if not at all characteristic, can at least be *understood*, and which will not be considered *completely absurd*.

Now, first, because the terminology is often very obscure and to be condemned, and secondly, because the author shows an entire want of knowledge of the first principles of the system, it is very often almost impossible to understand, and quite impossible to make any use at all of his papers. It is the first and most essential duty of a descriptive author to make himself acquainted with the scientific terminology; and if unhappily this rule is not followed out in all cases, still such occasional occurrences are pardonable, and generally of minor value, and are not to be compared with those to be met with in the works of Mr. Walker. It will be sufficient for me to give as illustrations terms that are strictly mathematical, and so well known and understood in common life, that it would appear ridiculous in any one not to comprehend their signification; but even such are

frequently confounded by Mr. Walker in the most careless manner. Apparently as if he were unacquainted with the distinction between a solid body and a plane figure, terms belonging to one are frequently employed as if they were terms belonging to the other: thus he uses the term *macula conica* for what ought to be, I presume from the insect, *macula triangularis*, *margo convexus* (or *concavus*) for *margo rotundatus* (or *sinuatus*), *caput hemisphæricum* for *semicirculare*, &c.; very frequently the transverse nervures of the wings are spoken of as upright, *nervi erecti*, and other nonsense.

But we can only understand that the entomological papers of Mr. Walker are of no scientific value whatever when we examine the collections used by him. It will be found almost impossible to determine from his descriptions alone such species as are not distinctly marked by certain patterns of coloration, or by other similarly striking characters, and that even in the case where these species are placed (at hazard) in the genera, or at least in the group, or even family to which they truly belong. Species that are well defined may be readily recognized by a description, if they are placed among the group to which they in truth belong; but if the species is placed in another group, as a *Chrysomela* amongst *Halticas*, or a *Vanessa* among *Noctuas*, it is impossible, even if the descriptions are *truly good*, to identify it under that position. Any one who will take the trouble to investigate the synonymical notes which I propose to publish will see that the same, frequently entirely well-known and quite constant species is sometimes described *four*, *five*, *six*, and even *eleven times* over! not only under different specific names, but frequently even as belonging to *two* or *three* different genera! and if those species which would not to other entomologists probably present even the slightest variety are to be found placed by him in the same genus, they are often separated from each other by species that have no affinity to them, and which often belong to other very distinct genera. Sometimes species are described from specimens in very bad condition, mutilated, or so much injured by having been kept in spirits, that they are not suitable for any collection; and these cannot be determined in most cases even from the type-specimens, much less with the help of the descriptions. Some of the types described are not in the collection of the Museum.

A number of species are described as belonging to the genus *Elidiptera* of Spinola, but of these not one truly belongs to that genus, nor even to the group to which that genus belongs; the species that Mr. Walker has fancifully brought together as constituting this genus of Spinola belong, in fact, to *seven* different genera,

and these again to *three* very distinct groups or subfamilies. In a short paper recently printed in the 'Journal of Entomology' (vol. i. No. 5), Mr. Walker has described two new genera; one of them, *Thessitus*, is said to be "allied to" the genus *Elidiptera*: this is certainly a mistake; the genus has not *any relation whatever* to *Elidiptera*—not even to *any of the genera which Mr. Walker has confounded with that genus* in the Museum Catalogue. One other genus of that paper, *Dechitus*, is said to be "allied to" *Cotrades*, and also to *Serida*, genera founded by Mr. Walker himself; but, again, this equally is utterly a misconception, these two genera belonging most apparently, by every character of the insects, *to different subfamilies, and neither of them to the same subfamily as Dechitus*! The nothing-saying, meaningless characters given by Mr. Walker of these two genera are such as will not enable any entomologist to determine them without the aid of the figures of Mr. Robinson: these at once show us that these two genera are nearly allied to, or, if you please, identical with, the genus *Eurybrachys*, one of the most striking forms amongst insects! Several of the species described by Mr. Walker under the generic name *Elidiptera* belong to *Flatoides* of Guérin: certainly in the Catalogue of Homopterous Insects in the Collection of the British Museum there will be found a great number of species placed in the genus *Flatoides*, but *not one* truly belonging to that genus!—the species must be placed *in other distinct genera, belonging to different groups of the family* FULGORINA!

In the British Museum Collection are three examples of an Australian *Aphrophora*, very striking in form and coloration: one of them is described with doubt as a new species of *Clastoptera*, a genus truly belonging to the family *Cercopina*, but placed by Mr. Walker amongst the *Jassina*; the second specimen he describes, also with doubt, as a new species, but places it in the genus *Aphrophora*; when for the third specimen he fabricates a third new species, he seems to be sure that it belongs to the well-known genus *Aphrophora*—at least there is no sign of doubt given after the generic name. It is wonderful to say, that these three examples are *the same identical species one with the other*.

A very great number of species are described as belonging to the genus *Ledra*, a very curious and distinct genus in habit and characters: on examining the species placed in that genus in the Museum Collection, it will at once be seen that the greater number of species placed there belong not only to other genera, but to genera belonging to some other, and, from the situation of the ocelli, very striking groups of the family *Jassina*. Of the species belonging truly

to the genus *Ledra*, most of them are described *twice* or *thrice* under different specific names.

The genus *Cœlidia* of Germar is perhaps the most striking of any in the family *Jassina*; and, in my opinion, an entomologist who at first sight cannot at once distinguish that genus is not qualified to write papers on Homoptera. Mr. Walker describes a number of species which, apparently by accident, he places in this genus *Cœlidia* (and they belong, in fact, to that genus); but a number of species belonging to the same genus he describes and places (why, it is difficult to imagine) in other genera, such as *Bythoscopus* and *Tettigonia*, where no one would think of looking for them: and again, when he describes a new genus, *Daridna*, not at all distinct from *Cœlidia*, which belongs to *Jassina*, why place that genus *Daridna* in the family *Fulgorina*, the most natural and the most striking of all natural groups of insects? (!)—and again, when he describes another new genus, *Gabrita*, which probably will not prove to be distinct from *Cœlidia* (as the latter genus contains the typical species of *Gabrita*, described for a second time and under another specific name), why does he place those two genera in two different groups of the family *Jassina*?

It is very painful to be compelled to make these strictures. I have confined myself to a few: were I to mention all that I have observed, it would require a volume to enumerate them. The above examples will prove that the Catalogues are so deficient in scientific value, that, I trust, they will be declared non-existing; and all serious entomologists will, with myself, regret that the Catalogues of Homoptera published by the British Museum, and the descriptions of the fine collections of these insects made by Mr. Wallace, have been the work of an entomologist not at all acquainted with that order of insects.

I am obliged to the British Museum and to the gentlemen of the insect department for the great courtesy and attention that I have received while studying this group. I desire to manifest my sense of the consideration which has been accorded to me; I cannot do so better than by offering myself as the person who earnestly asks them quietly and for ever to withdraw, for the sake of science, these volumes of their Catalogue from the light of day.

[The concluding sentence of the above critique will probably be thought unnecessarily severe; but as, in our absence from town, the article had been distributed in a separate form before we had seen it in print, we have, although with great hesitation, allowed it to

remain without alteration. We considered it right, however, to send Mr. Walker a copy, in order to afford him an opportunity of making his remarks on it (if he considered it desirable to do so), that they might be published at the same time as the above. Those who know that gentleman's amiability of character will not be surprised that he should shrink from anything involving the possibility of a controversy; but he will examine the alleged errors and "take an opportunity of publishing corrections of them."—Ed.]

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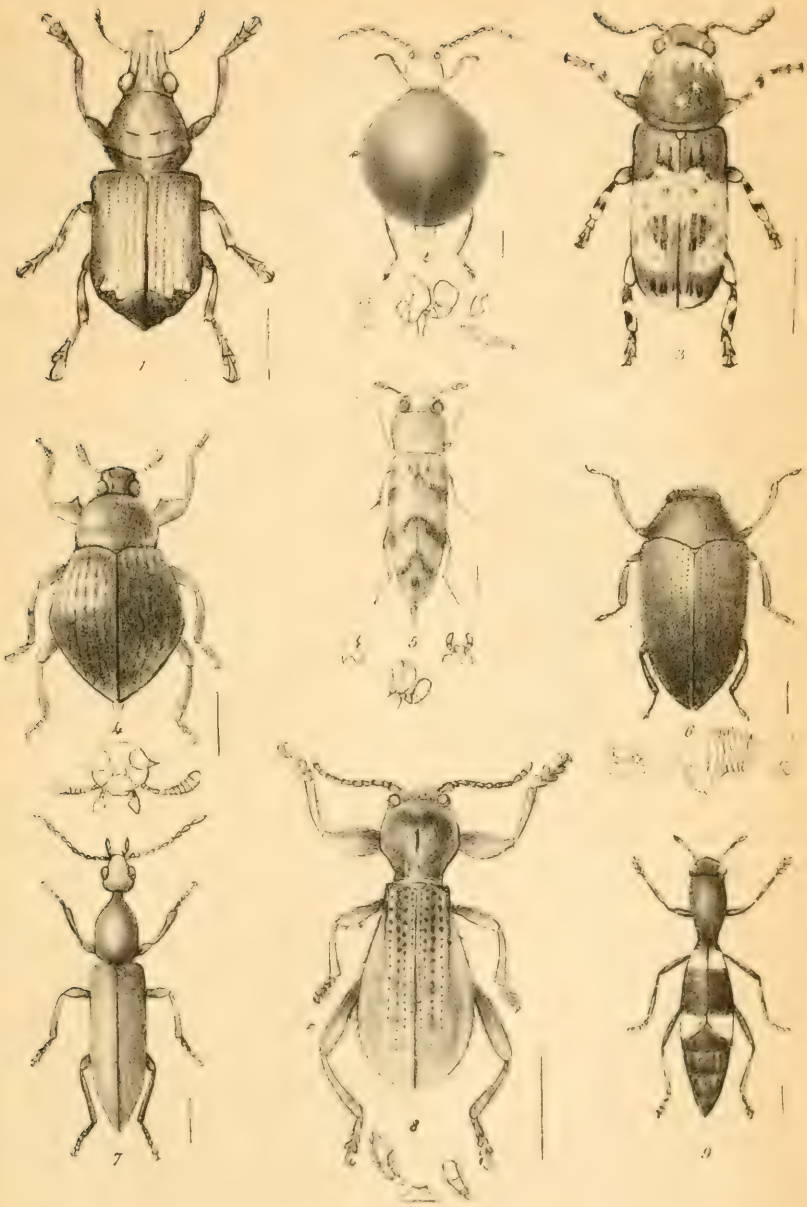

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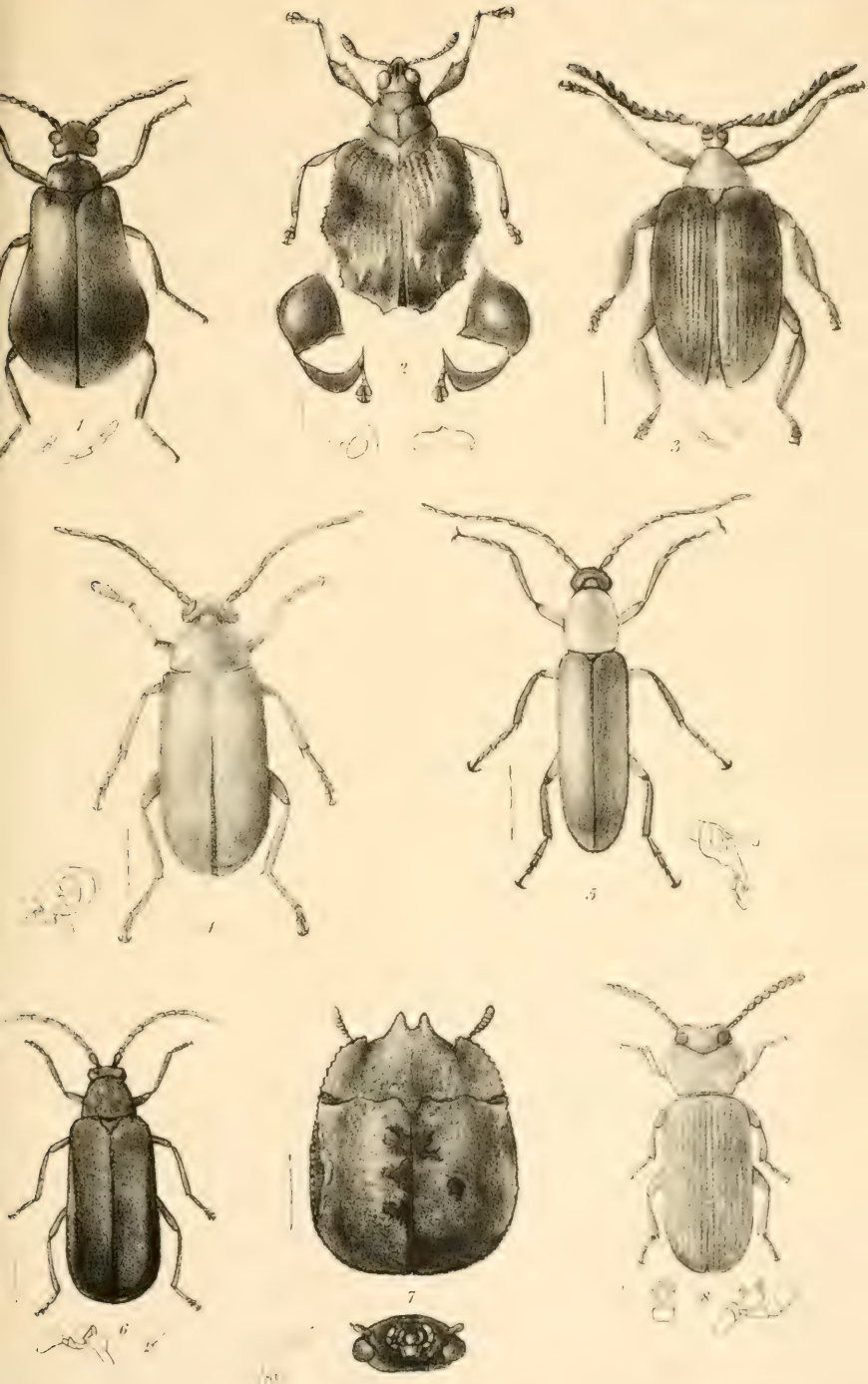
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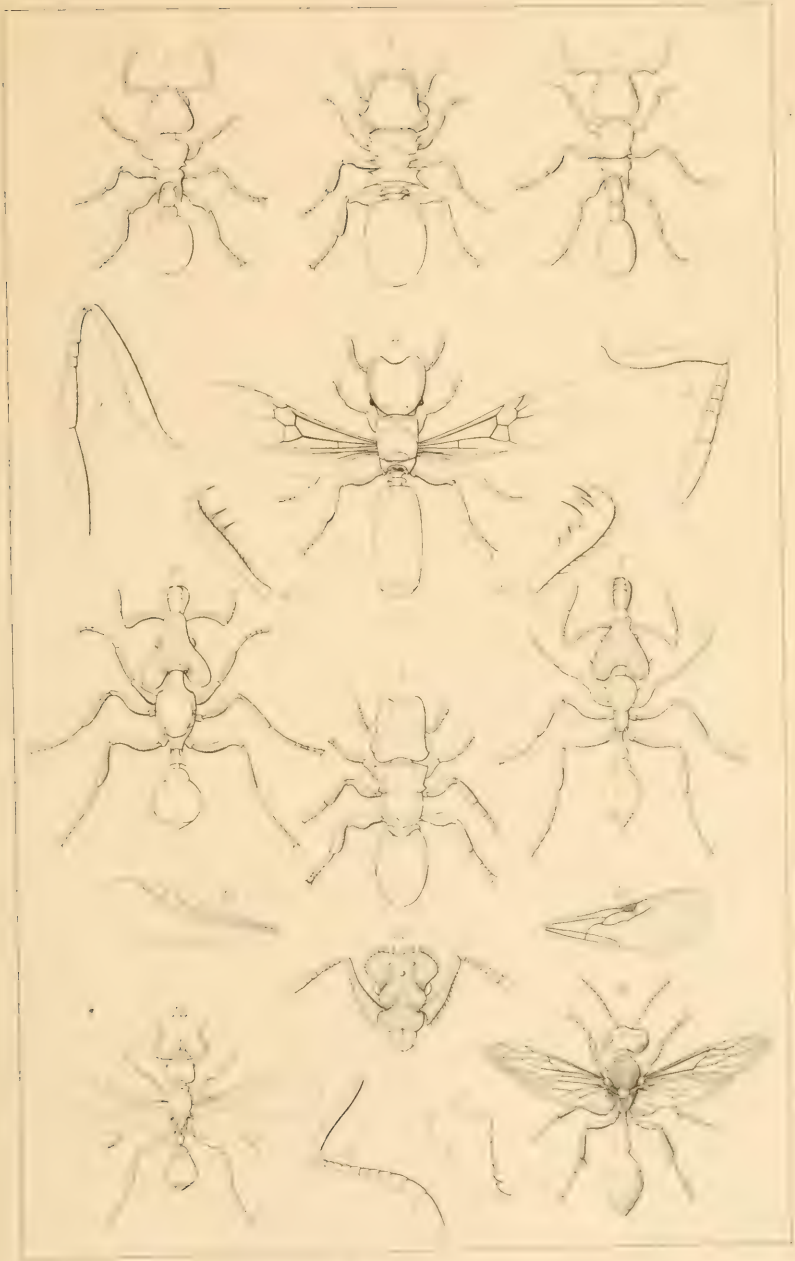
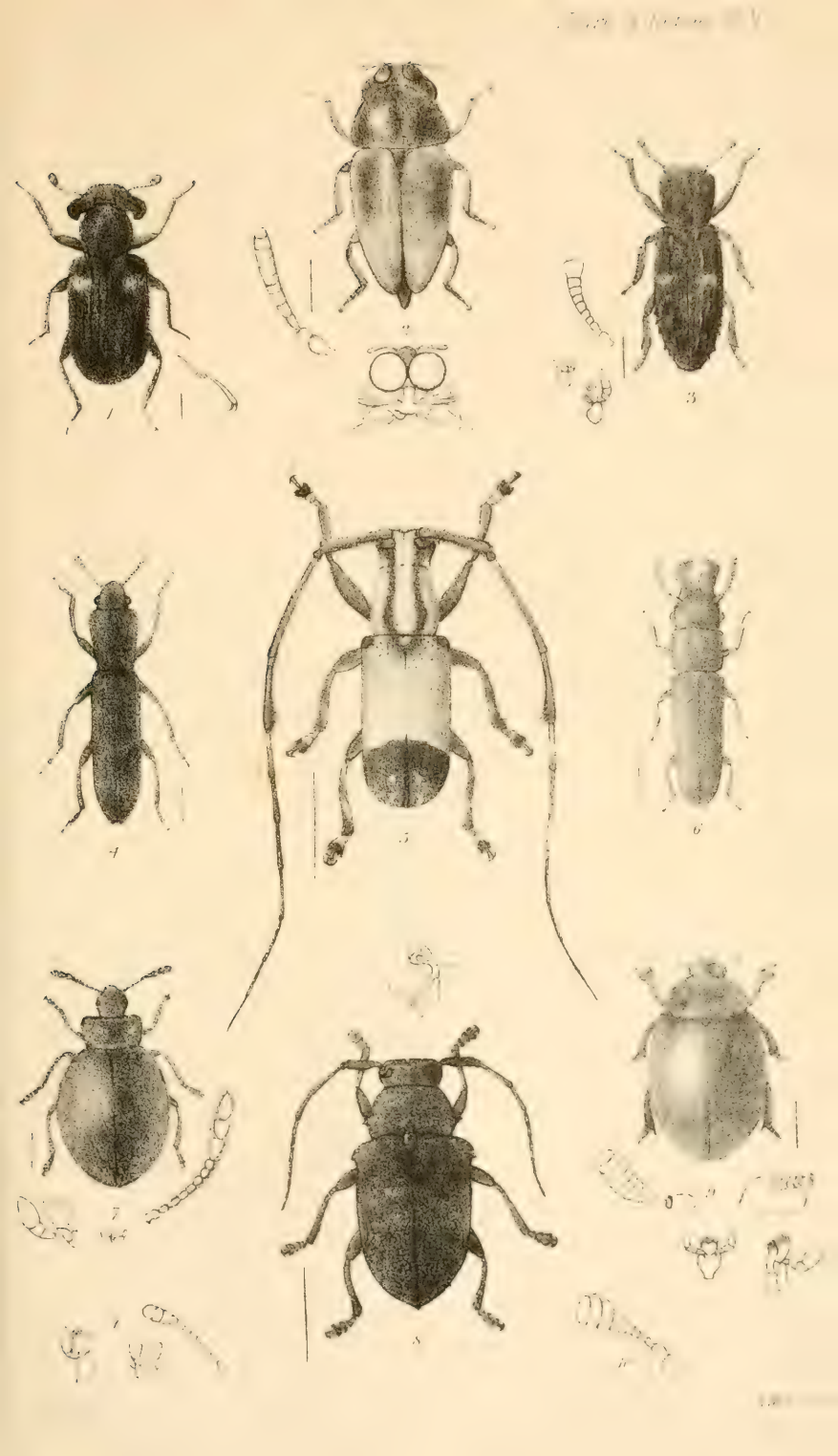
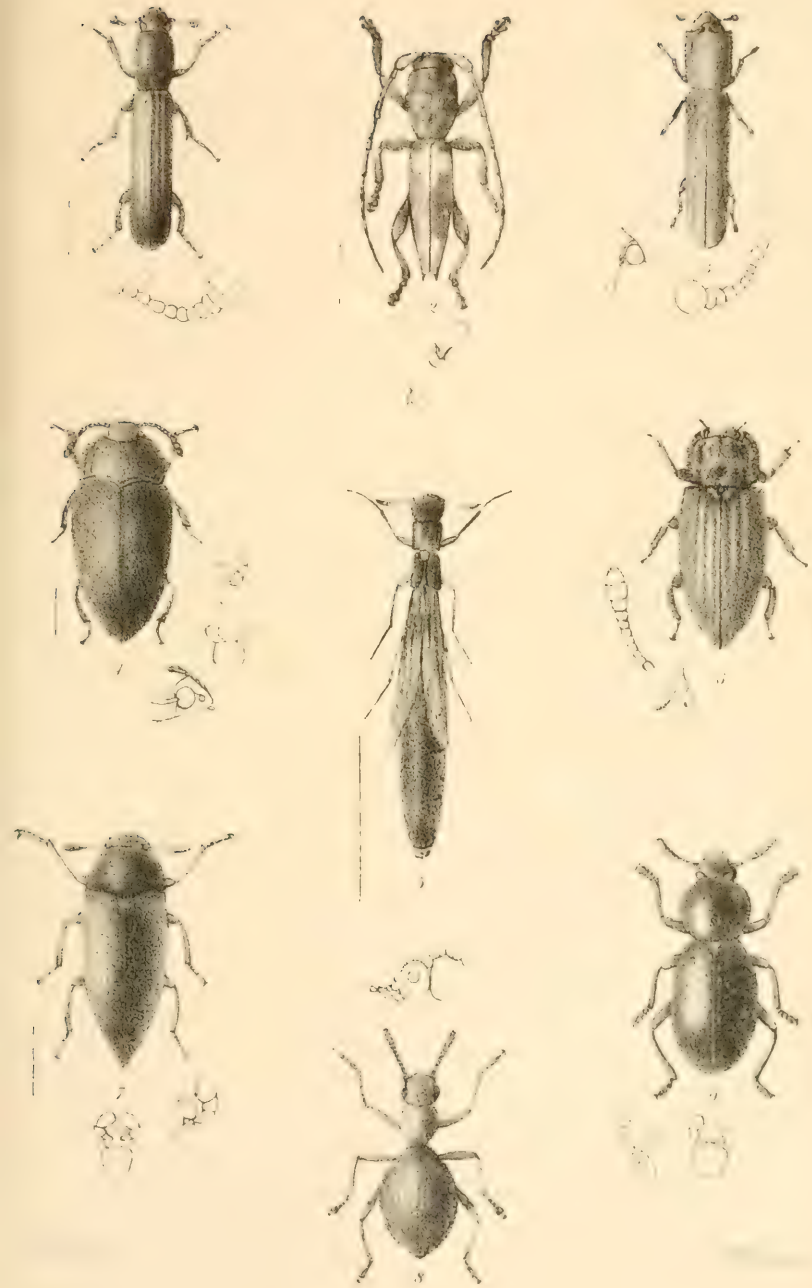
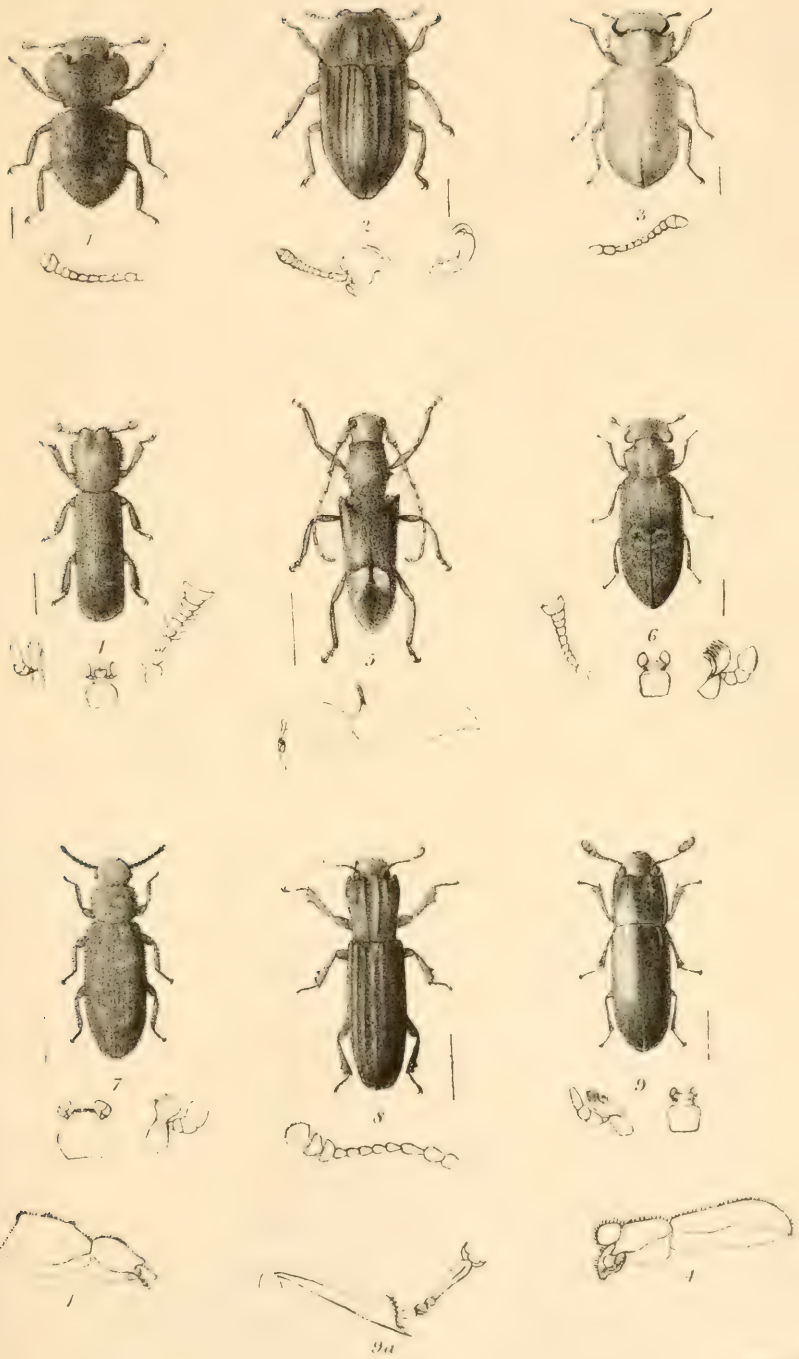


Fred.k Smith Del.t & Sculp.t







F.P.P. lith.

W.West Imp

W. C. Hewitson del. et lith. 1860.

Printed by Hullmandel & Walton.

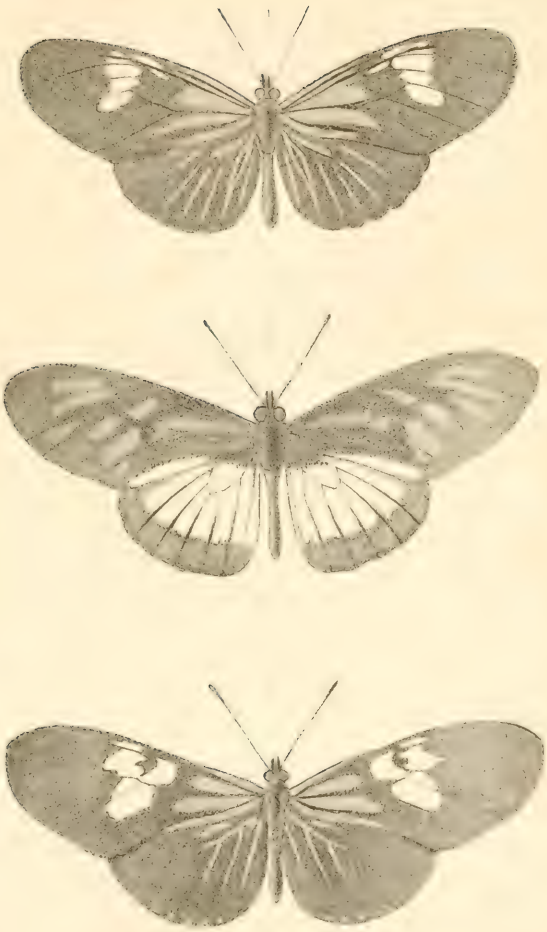
1. LYMANOPODA LEAENA.

2. 3. LYMANOPODA LACTEA.

4. LYMANOPODA LABDA.

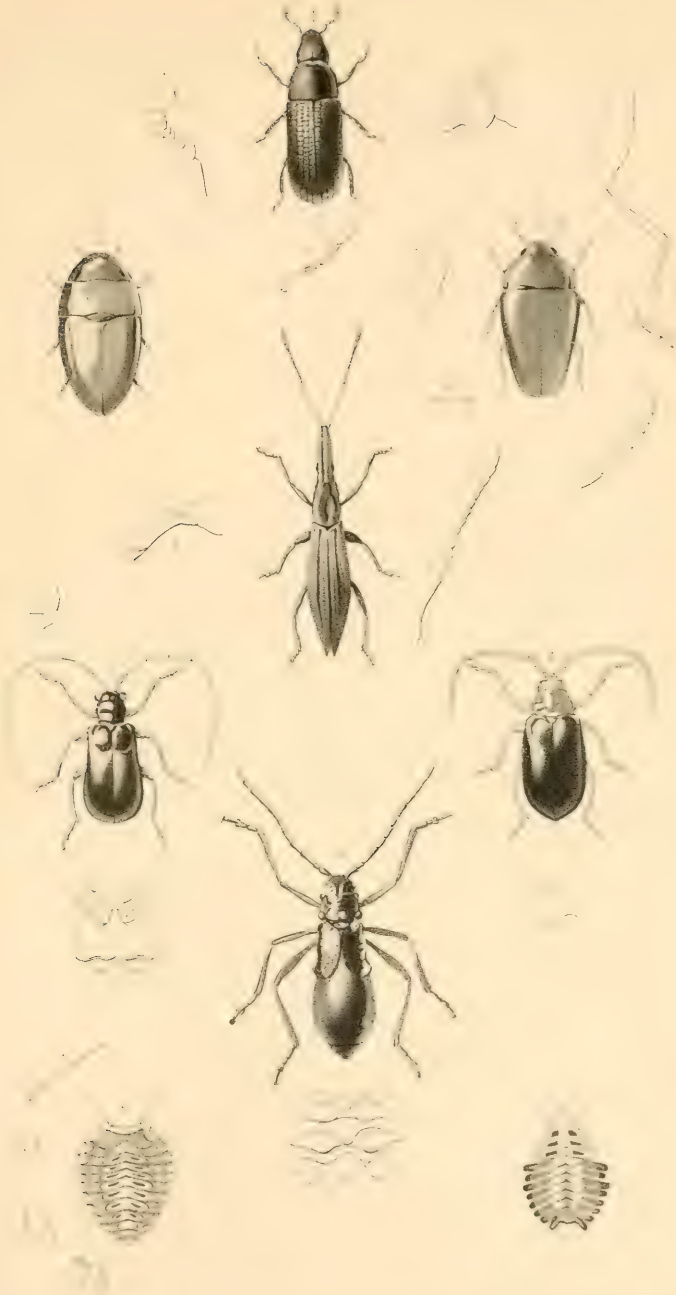
5. LYMANOPODA ALBOCINCTA

6. LYMANOPODA ALBOMACULATA



W. C. Newman, del. et lith. 1860

Printed by Huillmandel & Walton.



F. W. Robinson Del. et Sc. 1861.