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THESAURUS  
ENTOMOLOGICUS OXONIENSIS

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# THESAURUS ENTOMOLOGICUS OXONIENSIS;

OR,

ILLUSTRATIONS OF NEW, RARE, AND INTERESTING  
INSECTS,

FOR THE MOST PART CONTAINED IN THE COLLECTIONS PRESENTED TO  
THE UNIVERSITY OF OXFORD

BY THE REV. F. W. HOPE, M.A., D.C.L., F.R.S., &c.

WITH FORTY PLATES FROM DRAWINGS BY THE AUTHOR;

BY

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*"We should be apt to think too meanly of the attributes of our Creator, should we be able to come to an end of all His works, even in this sublunary world. And therefore I believe never any man yet did, never any man shall, so long as the world endures, by his utmost industry, attain to the knowledge of all the species of Nature."*—JOHN RAY.

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## ADVERTISEMENT.

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THE donation made to the University of Oxford by the late REV. F. W. HOPE, of his entire Collections and Library of Natural History, and the subsequent acquisition of the Burchell, Wells, and other Collections, including also my own, have enriched the University Museum with a large number of new and rare species of Insects, from which it has been considered advisable that a selection should be made for illustration in a manner worthy both of the donor and the University.

In making this selection I have considered that it would be most beneficial to illustrate certain Groups or Families rather than isolated Species.

With this view the Groups of Goliathidæ and Cremastocheilidæ have been selected; a complete Monograph of the latter being given, with figures of upwards of one hundred Species. Of the singular Family Paussidæ upwards of fifty Species are figured for the first time, together with many other curious Coleoptera. Many remarkable Groups and Species belonging to the Orders Hymenoptera, Orthoptera, Neuroptera, Hemiptera, and Lepidoptera, as well as several singular Apterous Groups, are also given.

The Plates are engraved and coloured from drawings and dissections prepared by myself.

I have considered it due to the memory of Mr. HOPE to reprint the late Dr. PETTIGREW'S Biographical Notice of him, together with a concise account of the Collections presented by him to the University of Oxford, and a list of his published Works and Memoirs.

J. O. WESTWOOD.

OXFORD, *October*, 1873.



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# Obituary Notice

OF THE

REV. FRED. WM. HOPE, M.A., D.C.L., F.R.S., F.L.S.,

ETC., ETC., ETC.,

BY

T. J. PETTIGREW, Esq., F.R.S., F.S.A.,

PHIL. DOCT. GOTTING, V. P. AND TREAS. OF THE BRITISH ARCHÆOLOGICAL ASSOCIATION.

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*From the Address delivered at the Annual General Meeting of the Association, May 13, 1863.*

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I NOW arrive at a name in the obituary of the year at which we must all repine, the Rev. FREDERICK WILLIAM HOPE, M.A., D.C.L., F.R.S., etc., one distinguished in private life by his most amiable and benevolent character, and who in public will ever be regarded as a distinguished contributor to natural science, and the founder of a much-needed Professorship in the University of Oxford. I look back to a period of thirty years' communion and friendship with pride and satisfaction, and the regret I feel at his loss is commensurate with the gratification and information I derived from his society.

The Rev. Mr. Hope was born on the 3rd of January, 1797, in Upper Seymour Street, Portman Square. He was the second son of John Thomas Hope and of Ellen Hester Mary, only child of Sir Thomas Edwardes, Bart., of Ealing, Middlesex, and Netley, Shropshire. Mr. Hope received a portion of his earlier education from an old and respected friend of mine, the Rev. Mr. Delafosse, of Richmond; after which he was entered at Christ Church, Oxford, where he graduated as B.A. in 1820, and took the degree of M.A. in 1823. His health was always delicate, but his activity was great; for his mental energy was sufficient to carry him through any object which called for his attention. He selected the Church as his vocation, and was ordained to a curacy at Frodesley, Shropshire, one of the livings in the gift of his family. The pursuit of natural history was, it may be said, a passion in which he indulged from the earliest period of his useful life. Under

Dr. Kidd, at Oxford, he studied geology and other branches of science with great ardour ; but the chief department of natural science to which his attention was directed was Entomology, in which branch, I may be permitted, without fear of contradiction, to say, he was the most highly qualified of his day. I state this upon no less an authority than that of the late Rev. W. Kirby, F.R.S., who gave to me personally this character of my friend. I could state many circumstances in proof of this assertion, but I will content myself with recording one which occurred to me at a time when I was paying much attention to the processes of embalming adopted by the ancient Egyptians. In the examination of one of the mummies—that of which I have given a representation and particular description in my work on this subject, published in 1834—I met with a quantity of *débris* that had simply the appearance of so much dirt mixed up with minute fragments of wings, legs, and other most diminutive parts of insects. I placed this mass before him in the presence, I recollect, also of our distinguished associate and vice-president, Sir J. Gardner Wilkinson, F.R.S. ; and Mr. Hope immediately, without being apprized whence it had been obtained, pronounced the mass to be composed of insects whose natural food was animal matter, which he deduced from the apparent structure of the mandibles, and the formation of the limbs. It was, in fact, the remains of insects which had been feeding upon the ancient Egyptian during his embalment, and whose labours, together with their existence, had been brought to an end by the heat and medicaments employed in the conservation of the form of a human mummy. What Baron Cuvier and Professor Owen have been able to accomplish in the building up of a mammal, or a bird, or other animal from a single bone, Mr. Hope could do with a portion of wing, or limb or wing-case of an insect. I always derived much assistance from his vast entomological knowledge, on the occasion alluded to as well as in other objects of pursuit ; and in examining some heads brought for me from Egypt by Sir Gardner Wilkinson, we found contained within the skull of one, a number of insects in various stages of their existence, that had most probably first drawn their vitality within the head, where the ova had been, during the process of embalming, deposited, and the whole being afterwards bandaged up and all exit closed, there they were born, passed the short period of their life, exhibited themselves in different states of their progress, and became ultimately embalmed within the skull, which formed for them the cradle of their birth and the tomb for their dead remains. Mr. Hope was able to mark all the distinguishing appearances of these insects ; and as although the genera to which they belonged was known, yet not the precise species, we agreed to name them, from the peculiarity of their situation and circumstances, *Necrobia mumiæ* and *Dermestes pollinctus*. The present Professor of Zoology at Oxford, J. O. Westwood, Esq., made a drawing of these in their natural and magnified forms, their larva, ova, etc., which I now lay before you, and which I had engraved in the work before alluded to, and I offer it as an evidence of Mr. Hope's intimate acquaintance with entomology.

It is not remarkable that Mr. Hope should have been early admitted into the fellowship of the Linnean Society and many other societies abroad established for the promotion

of natural history. These connexions led him to a very extensive correspondence with eminent professors and other distinguished persons; and being happily endowed with ample means to indulge in any pursuit of which he might make choice, he readily obtained from, I may say, almost every part of the world, specimens which led him to form a cabinet which was the envy of many, and the delight of all. I well recollect this rich collection as deposited in Seymour Street, and witnessed with wonder the variety and splendour of this department of animated nature. In this museum were to be found assembled and associated naturalists not only of this but of many foreign countries, and conversazioni held of the most interesting character. This rich museum is now, by the liberality of Mr. Hope, deposited at Oxford. It was given to the University in 1849; and upon occasion of laying of the first stone of the New University Museum, in 1855, Mr. Hope was justly distinguished by having conferred upon him the honorary degree of D.C.L. To this collection he may be said to have continued to make additions up to the time of his decease, although the latter years of his life were passed under sufferings of ill health of a very severe description. But his mind was of too vast a character to limit his researches to one department: he made collections in all the branches of natural history, and he purchased large and entire collections, among which may be mentioned Mr. Hubbard's, of Orkney birds; Professor Bell's, of reptiles and crustacea; Mr. Westwood's, of insects, books, and drawings; and Mr. Wollaston's, of the insects of Madeira. These vast accessions have all been added to his munificent gift to the University of Oxford, rendering the entire collection unrivalled, if we except those in the national collections of London, Berlin, and Paris. Mr. Hope was acutely sensible that, however valuable and desirable such collections must be to the students of his Alma Mater, yet that their value and importance would be very greatly diminished unless a professorship should be established specially devoted to their consideration. Hitherto there existed no chair for the teaching of zoology. With his collections, therefore, he endowed a professorship of £400<sup>1</sup> per annum, by which his name will be handed down to posterity as a great benefactor to his university and his country. The nomination of the professor was left to Mr. Hope during his life, and as the first occupant of the chair he nominated Mr. J. O. Westwood, a name well known to all naturalists, and one, also, with which archaeologists are in no little degree acquainted. Mr. Hope also appointed Mr. Westwood the Curator of the Museum.

Mr. Hope was a good scholar, and his Latin compositions were elegant. That his tastes

<sup>1</sup> [‘For this purpose Mr. Hope endowed the Professorship of Zoology with the capital sum of £10,000 New 3 per Cent. Annuities. Mr. Hope died in the early part of 1862, and shortly afterwards his widow, in fulfilment of his intentions, transferred to the University a second sum of £10,000 in the same Stock, and assigned one-third of the dividends to the Professor in augmentation of his stipend. Mrs. Hope assigned another third part of the dividends as a stipend for the Keeper of the Hope Collection of Engraved Portraits, and directed the remainder to be applied in equal portions in keeping up and increasing the two Hope Collections. In December, 1864, Mrs. Hope gave a further sum of £1666 13s. 4d., in the same Stock, to augment the stipend of the Keeper of the Engravings, for the purpose of enabling him to employ an Assistant, and to meet expenses incidental to his duties.’—*Extract from the Oxford University Calendar.*]

should lead him to indulge to a certain degree beyond the range of natural objects is not surprising; and in collecting the portraits of distinguished naturalists, he was led also to those who had eminently cultivated other branches of science, the arts, and literature, and in the course of time led him to the formation of a most remarkable collection of engraved portraits and topography, consisting of more than 200,000 specimens. The portraits have been estimated to be not fewer than 140,000, and the topographical engravings nearly 70,000, whilst the engravings in natural history are between 20,000 and 30,000 in number. The portraits are arranged, according to the subjects for which the individuals were peculiarly distinguished, in Solander cases, the larger in portfolios and guard books. These have all been given to the University of Oxford, and are open to the inspection of the public, for which he anxiously stipulated. He has been no less liberal in regard to his vast collection of drawings in natural history and topography, and to these are attached his books, forming a very extensive library of works in all branches of natural history, which serve to elucidate his museum. I recollect that when in London, I have seen him at his daily occupation, devoting himself to a case of insects, for they required attention at least once a year to be preserved from destruction—so fragile is their nature. He had a case, he used to tell me, for every day in the year; and latterly, in the arrangement of his engraved portraits, etc., he was happy in having as his assistant his amiable and enlightened partner, whose undeviating attention to his pursuits and constant care of his health under great infirmity were the admiration of all who had the happiness to enjoy their society and friendship. Of the Entomological Society of London Mr. Hope was a founder, and he published various papers in the *Transactions* of that Society; also in the *Proceedings* of the Linnæan Society; and a distinct work, in three volumes 8vo, on the *Classification of Coleopterous Insects*. Highly gratifying as it would be to me to dwell upon these researches, I must yet forbear, as they do not come under the denomination of those to which our attention is particularly directed. I cannot, however, withhold the mention of a work which is only in MS. at present [as it is still in 1874], but which I trust may some day be put before the public, as interesting to all classes and to all readers—his *Entomologia Sacra*—in which the character of, and the antiquities connected with, all species of insects referred to in Holy Writ are most precisely and learnedly discoursed of.

Mr. Hope was most liberal in his communications to other naturalists, and it would be difficult to form any estimate of the aid given by him to many authors in the production of their works<sup>1</sup>. Looking over some of his MSS.—many of which are fragmentary, but of considerable value, left to the University, and I may venture to hope to form the nuclei of future essays—I found one, in rough notes, of contributions rendered to the late amiable

<sup>1</sup> [In proof of this statement it may be mentioned that Mr. Hope's name appears in almost every page of Gravenhorst's work in 3 volumes, 'Ichneumonologia Europæa,' 1829, as a contributor of British Species of Ichneumonidæ, which he had collected to a very large extent. In like manner his name appears as a very extensive contributor of exotic species of Curculionidæ to Schonherr's Work on that Group, in 14 volumes; and also in M. Gory's great works on the Cetoniidæ and Buprestidæ.—J. O. W.]

Mr. Kirby, for his admirable Bridgewater Essay. Many have readily acknowledged the services Mr. Hope had rendered to them. Mr. Yarrell takes special notice of the assistance he had received in his works on *British Birds and Fishes*; Mr. Stephens on *English Insects*; Dr. Royle in his work on the *Himalayas*; in the remarks on the *Entomo-geography of India*, and others at home and abroad. He was a Fellow of the Royal Society, of the Linnæan, took a warm part in the establishment of the Zoological Society [1826], and was elected President of the Entomological Society [1835]. Many foreign academics and societies enrolled his name in their lists, and we have had the honour of his name from the commencement of our labours. I look back with pride at having introduced him into our Association; and for a short time he was a member of our Council. Had his health permitted of a continued residence in England, we should doubtless have benefited much from his exertions. We had, however, the great satisfaction of seeing him at our Congress at Shrewsbury, and he was present on occasion of our visit to Uriconium. I had the pleasure of passing a week with him, after that Congress, at the seat of his brother, Mr. Hope-Edwardes, at Netley in Shropshire; and it is with much gratification we find that gentleman's name in the list of our Associates.

The state of his health rendered a residence abroad absolutely necessary to him; but he followed up with unabated assiduity his attention to natural history. Nice, the climate of which appeared to be congenial to his frame, offered him abundant opportunities of collecting fish and crustacea to add to his collections. At Naples, in 1851, he printed a Catalogue *dei Crostacei Italiani e di molti altri del Mediterraneo*, which is highly important in regard to the identification of species and the establishment of their habitats. Many of these are for the first time recorded and named. He also published in Italian *Descrizione di alcune Specie d'Insetti Fossili*, in a memoir presented to the Academy *degli Aspiranti Naturalisti* in 1847.

Mr. Hope's zeal sustained him to the last; but nature was exhausted, and on the 15th of April, 1862, at the age of sixty-five years, he expired. To a naturally weak system, I fear his subsequent ill state of health to have been much produced by his energetic temperament, his eagerness in the pursuit of knowledge, and particularly in his researches in Holland, where he was attacked with ague in a virulent form. From that time I sensibly observed his failure: he also, in making collections at Nice, met with an accident, fell into the water, and barely escaped with life. All told now heavily upon him, yet his desire to improve and add to his collections was constant; and, when unable any longer to move about, he was to be found examining catalogues and sending commissions to sales, to render complete those vast accumulations which will serve to hand down his name to posterity with honour and approbation.

## LIST OF THE ENTOMOLOGICAL WORKS OF THE REV. F. W. HOPE.

1. SYNOPSIS OF THE NEW SPECIES OF NEPAUL INSECTS IN THE COLLECTION OF MAJOR-GENERAL HARDWICKE. (Publ. in Gray's Zoological Miscellany, Part I, London, 1831, 8vo. pp. 21-32.) Two hundred and forty-seven new species of Beetles were contained in this Memoir, but in consequence of the very short specific character having only been given, (the editor having declined to publish the detailed specific descriptions supplied by Mr. Hope), many of the species are scarcely recognisable.
2. DESCRIPTIONS OF SOME HITHERTO UNCHARACTERIZED EXOTIC COLEOPTERA, CHIEFLY FROM NEW HOLLAND. (Trans. Ent. Soc. London, Ser. 2, vol. i. pp. 11-20, with two plates; read Dec. 2, 1833.) Eleven new species of Beetles, including the new Genera *Adelotopus*, *Microchætes*, *Macromalocera*, *Scotæus*, *Decarthria*, and *Pachylocerus*.
3. NOTICES OF SEVERAL SPECIES OF INSECTS FOUND IN THE HEADS OF EGYPTIAN MUMMIES. (Pettigrew, Hist. of Egyptian Mummies, London, 1834, 4to; also in Trans. Ent. Soc. Lond. vol. i. Journ. of Proc. p. 11.) The species described are *Corynetes violaceus*, *Necrobia mumiarum*, *Dermestes vulpinus*, *D. pollinctus*, *D. Roi*, and *D. elongatus*, *Pimelia spinulosa*, *Copris Sabæus*, *C. Midas*, and *C. Pithæcius*, *Cantharis* sp., and a number of the pupæ of some dipterous insect.
4. DESCRIPTION OF A NEW CURCULIONIDEOUS BEETLE FROM THE SWAN RIVER. (Trans. Ent. Soc. Lond. vol. i. p. 68, with figures.) *Amycterus Schoenherri*.
5. MONOGRAPH ON MIMELA, A GENUS OF COLEOPTEROUS INSECTS. (Trans. Ent. Soc. Lond. vol. i. p. 108; read Sept. 1, 1834.) Twelve species of *Mimela*, and one species of the sub-genus *Aprosterna*.
6. OBSERVATIONS ON INSECTS PRODUCING SILK, AND ON THE POSSIBILITY OF REARING SILK CROPS IN ENGLAND. (Trans. Ent. Soc. London, vol. i. p. 123; read Dec. 1, 1834.)
7. OBSERVATIONS ON AN EFFICACIOUS MANNER OF CHECKING THE RAVAGES OF THE HOP-FLY. (Trans. Ent. Soc. Lond. vol. i. Proc. pp. lii. and lvii.)
8. DESCRIPTION OF CERAMBYX TETRASPILOTUS, with coloured Figure. (Silberman, Rev. Ent. 1835, tom. iii. p. 71.)
9. CHARACTERS AND DESCRIPTIONS OF SEVERAL NEW GENERA AND SPECIES OF COLEOPTEROUS INSECTS. (Proc. Zool. Soc. Lond. 1833, vol. i. pp. 61-64; and Trans. Zool. Soc. Lond. 4to. tom. i. pp. 91-112, with four plates.) Twenty-three species of exotic Beetles, including the new Genera, *Aploa*, *Coptorbina*, *Phænomeris*, *Lyprops*, *Isacantha*, and a generic distribution of the *Stenocoridae*. Reprinted in the fifth and sixth volume of Oken's *Isis*, 1855 and 1866.
10. OBSERVATIONS ON SUCCINIC INSECTS. (Trans. Ent. Soc. Lond. vol. i. p. 133; read March 3, 1834.) Followed by a list of Insects observed in amber and gum anime, and SUPPLEMENTAL DESCRIPTIONS (with figures) in vol. ii. pp. 46-57.
11. PRODROMUS OF THE BUPRESTIDE OF NEW HOLLAND. (8vo. Lond. 1836, pp. 13.) This Memoir, which was printed for private circulation and was widely distributed by the author, includes short characters of sixty-eight new Species of the Family.
12. A SHORT ADDRESS TO THE MEMBERS OF THE ENTOMOLOGICAL SOCIETY ON NOMINATING THE VICE-PRESIDENTS FOR 1835. (8vo. Proc. Ent. Soc. Lond. vol. i. App.)
13. AN ADDRESS ON THE SECOND ANNIVERSARY OF THE ENTOMOLOGICAL SOCIETY, Monday, Jan. 25, 1836. (8vo. Proc. Ent. Soc. Lond. vol. i. App.)
14. NOTICE OF THE ENTOMOLOGICAL PROCEEDINGS AT THE MEETING OF THE BRITISH ASSOCIATION HELD AT BRISTOL. (Trans. Ent. Soc. Lond. vol. ii. Proc. Sept. 5, 1836.)
15. ON THE GOLOFA BEETLE OF VENEZUELA AND ITS ALLIED SPECIES. (Trans. Ent. Soc. Lond. vol. ii. p. 42; read March 7, 1836, with Plate.)
16. NOTE ON THE ECONOMY OF CHALCIS (BRACHYMERIA) EUPLÆE, WESTW. (Proc. Ent. Soc. Lond. vol. ii. p. 5.)
17. THE COLEOPTERIST'S MANUAL, CONTAINING THE LAMELLICORN BEETLES OF LINNÆUS AND FABRICIUS. London, 8vo. Bohn, 1837-1840; vol. i. 1837, vol. ii. (containing the Predaceous Land and Water Beetles) 1838, and vol. iii. (containing various other Families of Beetles) 1840. Noticed in detail in the *Revue Zool.* 1838, t. i. p. 232, Oken's *Isis*, 1844, and Erichson's *Bericht*, 1838.
18. DESCRIPTIONS OF SOME SPECIES OF CARABIDE COLLECTED BY CHARLES DARWIN, ESQ., IN HIS LATE VOYAGE, INCLUDING FIVE SPECIES OF CARABUS AND THREE OF CALOSOMA. (Trans. Ent. Soc. Lond. vol. ii. p. 128.)

19. OBSERVATIONS ON THE LAMELLICORNS OF OLIVIER. (*Entom. Mag.* 1838, vol. iii. pp. 312-326, and in *Mag. Nat. Hist.* Ser. 2, 1839; vol. iii. pp. 17-24, 171-177.)
20. REMARKS ON THE MODERN CLASSIFICATION OF INSECTS. (Report of Brit. Assoc. 1838, Sect. Nat. Hist. p. 113; also in *Revue Zool.* 1839, tom. ii. p. 126; *Erichson's Bericht*, 1838, p. 15; in *Wiegman's Archiv.* 1839.)
21. ON THE NOTIONS ENTERTAINED BY THE EGYPTIANS RESPECTING THE EMBLEM SCARABÆUS. (*Trans. Ent. Soc. Lond.* vol. ii. p. 172.)
22. OBSERVATIONS IN SUPPORT OF THE OPINION THAT THE BLATTA, OR COCKROACH, CANNOT BE CONSIDERED THE SAME INSECT AS OREB, THE FLY WHICH HUMBLERD THE PRIDE OF PHARAOH. (*Trans. Ent. Soc. Lond.* vol. ii. p. 179.)
23. OBSERVATIONS ON THE ENTOMOLOGY OF THE HIMALAYAS AND OF INDIA. (In *Royle's Illustrations of the Botany and Zoology of the Himalayas*, 1839, vol. i. plate XXXVIII, pp. 1-16; also in *Madras Journ. Lit.* xii. p. 105; *Erichson's Bericht*, 1840, p. 10; and *L'Institut*, 1842, No. 446, p. 252.)
24. MONOGRAPH OF THE COLEOPTEROUS GENUS EUCHLORA, MACLEAY. (*Proc. Zool. Soc. Lond.* 1839, vol. vii. pp. 63-75; *Oken's Isis*, 1846, vol. vi. p. 619; *Annals, Nat. Hist.* 1840, vol. iv. p. 342.)
25. ON A NEW SPECIES OF LAMIA FROM THE VICINITY OF THE SWAN RIVER, NEW HOLLAND. (*Mag. Nat. Hist.* Ser. 2, 1839, vol. iii. p. 230; with Figure.)
26. OBSERVATIONS ON THE TORTOISE-, OR SHIELD-BEETLES, COMMONLY DENOMINATED CASSIDA BY LINNÆUS; WITH THE CHARACTERS OF SIX NEW GENERA, WITH FIGURES, NAMELY, MESOMPHALIA, DOLICHOTOMA, SELENIS, TAUROMA, DESMONOTA, AND BATONOTA. (*Ann. Nat. Hist.* 1839, vol. iii. pp. 92-100; *Oken's Isis*, 1844, vol. ix. p. 746.)
27. LISTS OF THE GENERA AND SPECIES OF INSECTS INFESTED BY FILARIE, WITH THE NAMES OF THE PERSONS BY WHOM OBSERVED, AND OTHER MEMORANDA RELATIVE TO THE OCCURRENCE OF THE SAME. (*Trans. Ent. Soc. Lond.* vol. ii. Proc. plate LXXXIV.)
28. ON INSECTS AND THEIR LARVÆ OCCASIONALLY FOUND IN THE HUMAN BODY. (Read April 3, 1837; *Trans. Ent. Soc. Lond.* 1840, vol. ii. pp. 256-271; *Revue Zool.* 1841, vol. iv. p. 85; *London Medical Gazette* for April and May 1837, with Three Tables: Tab. 1, Coleoptera, or their larvæ, producing Cantharidiasis and Dermaptera; Tab. 2, Lepidopterous larvæ, producing Scoleciasis; Tab. 3, Dipterous larvæ, producing Myiasis.)
29. AN ADDRESS ON THE THIRD ANNIVERSARY OF THE ENTOMOLOGICAL SOCIETY, JAN. 23, 1837. (*Trans. Ent. Soc. Lond.* vol. ii. App.)
30. DESCRIPTIONS OF SOME NEW INSECTS COLLECTED IN ASSAM BY W. GRIFFITH, ESQ., COLEOPTERA AND LEPIDOPTERA. (*Trans. Linn. Soc.* vol. xviii. p. 435, with 2 Plates.)
31. DESCRIPTIONS OF SOME NONDESCRIPT INSECTS FROM ASSAM, CHIEFLY COLLECTED BY W. GRIFFITH, ESQ., COLEOPTERA. (*Trans. Linn. Soc.* vol. xviii. p. 587, with 1 Plate; *Ann. Nat. Hist.* 1840, tom. iv. pp. 279-, 299-; *Revue Zool.* 1840, vol. iii. p. 310; *Oken's Isis*, 1843, vol. vi. p. 430; *Proc. Linn. Soc.* 1839, vol. i. p. 42, and 1840, p. 77.)
32. OBSERVATIONS ON THE STENOCHORIDÆ OF NEW HOLLAND, WITH DESCRIPTIONS OF NEW GENERA AND SPECIES OF THAT FAMILY. (Read June 23, 1840, *Proc. Zool. Soc. Lond.* 1840, vol. viii. p. 46; *Ann. Nat. Hist.* 1841, vol. vii. p. 58; *Trans. Zool. Soc. Lond.* 1849, vol. iii. p. 187, with 1 Plate.)
33. REMARKS ON THE SPECIES OF CICINDELA AND ELAPHRUS MENTIONED BY OLIVIER. (*Mag. Nat. Hist.* Ser. 2, 1840, vol. iv. p. 169.)
34. ON THE ENTOMO-GEOGRAPHICAL CHARACTER OF THE AFRICAN CONTINENT. (*Colonial Magazine*, 1840, Ser. 3, No. 9, pp. 13-17, 150-156, 291-297, 472-477.)
35. DESCRIPTIONS OF SOME NEW LAMELLICORN COLEOPTERA FROM NORTHERN INDIA. (*Trans. Ent. Soc. Lond.* vol. iii. p. 62.)
36. OBSERVATIONS SUR LES EROTYLES, AVEC LA DESCRIPTION DES PLUSIEURS NOUVEAUX GENRES ET QUELQUES ESPÈCES INÉDITS. (*Revue Zool.* 1841, vol. iv. p. 109.)
37. ON A NEW SPECIES OF DYNASTES AND OTHER COLEOPTERA. (*Proc. Ent. Soc. Lond.* Aug. 3, 1840, vol. iv. Proc. p. 11; *Annals and Mag. Nat. Hist.* 1841, vol. vii. p. 147.)
38. DESIDERATA IN THE ENTOMOLOGY OF INDIA. (*Calcutta Journal of Nat. Hist.* 1841, vol. i. p. 61.)
39. DESCRIPTION DE QUELQUES INSECTES NON DÉCRITS TROUVÉS DANS LA RESINE ANIMÉ. (*Guérin, Mag. de Zool.* 1842, vol. xii. No. 87, with 3 Plates.)
40. OBSERVATIONS RESPECTING VARIOUS INSECTS WHICH AT DIFFERENT TIMES HAVE AFFORDED FOOD TO MAN. (*Trans. Ent. Soc. Lond.* 1842, vol. iii. p. 129.)

41. SOME REMARKS ON WIRE WORMS, WHICH SERIOUSLY DAMAGED THE POTATO CROPS OF SHROPSHIRE, WORCESTERSHIRE, AND HEREFORDSHIRE IN 1838. (Trans. Ent. Soc. Lond. 1842, vol. iii. p. 154.)
42. OBSERVATIONS ON SOME MUMMIED BEETLES TAKEN FROM THE INSIDE OF A MUMMIED IBIS. (Trans. Ent. Soc. Lond. 1842, vol. iii. p. 191.)
43. MONOGRAPH OF THE ELATERIDEOUS GENUS CAMPSOSTERNUS LATR. (14 Species, Ann. Nat. Hist. 1842, vol. viii. p. 453; Trans. Ent. Soc. Lond. vol. iii. p. 286, Proc. vol. iv. p. 36.)
44. MONOGRAPH OF THE COLEOPTEROUS (ELATERIDEOUS) FAMILY PHYLLOPHORIDÆ. (Proc. Zool. Soc. Lond. 1842, vol. x. p. 73; Ann. Nat. Hist. 1843, vol. xi. p. 391.)
45. ON SOME NONDESCRIPT LAMELLICORN BEETLES, with Figures. (Trans. Ent. Soc. Lond. vol. iii. p. 279; Proc. Ent. Soc. Lond. vol. iv. Proc. p. 32; Ann. Nat. Hist. 1842, vol. viii. p. 302.)
46. ON SOME RARE AND BEAUTIFUL INSECTS FROM SYLHET, CHIEFLY IN THE COLLECTION OF F. I. PARRY, with 3 Plates. (Trans. Linn. Soc. Lond. 1843, vol. xix. pp. 103, 131; Proc. Linn. Soc. 1842, vol. i. p. 127; Ann. Nat. Hist. vol. ix. p. 247; Oken's Isis, 1845, vol. viii. p. 707.)
47. OBSERVATIONS ON THE COLEOPTERA OF PORT ESSINGTON IN AUSTRALIA, WITH DESCRIPTIONS OF NEW SPECIES. (Trans. Ent. Soc. Lond. vol. iv. Proc. Nov. 1, 1841, pp. 43, 76; Ann. Nat. Hist. 1842, vol. ix. p. 423, and 1843, vol. xii. p. 357.)
48. ON SOME NEW INSECTS FROM WESTERN AFRICA, WITH REMARKS ON THE GOLIATH BEETLES BY MR. SAVAGE. (Ann. Nat. Hist. 1842, vol. ix. p. 497; vol. x. p. 91; and vol. xi. p. 364.)
49. DESCRIPTIONS OF THE COLEOPTEROUS INSECTS SENT TO ENGLAND BY DR. CANTOR FROM CHUSAN AND CANTON, WITH OBSERVATIONS ON THE ENTOMOLOGY OF CHINA. (Trans. Ent. Soc. Lond. vol. iv. p. 4; Proc. Ent. Soc. Lond. vol. iv. p. 60, March 7, 1842; Ann. Nat. Hist. 1843, vol. i. p. 62.)
50. DESCRIPTIONS OF NEW SPECIES OF COLEOPTERA FROM THE KASYAH HILLS NEAR THE BOUNDARY OF ASSAM, LATELY RECEIVED FROM DR. CANTOR. (Trans. Ent. Soc. Lond. 1845, vol. iv. p. 73; Proc. p. 83; Ann. Nat. Hist. 1843, vol. xii. p. 363.)
51. DESCRIPTIONS OF SOME NEW SPECIES OF COLEOPTERA FROM ADELAIDE IN NEW HOLLAND. (Trans. Ent. Soc. Lond. vol. iv. p. 100; Proc. June 1842, p. 71.)
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53. DESCRIPTIONS OF NEW SPECIES OF BUPRESTIDÆ FROM NEW HOLLAND, CHIEFLY COLLECTED BY D. E. FORTNUM, ESQ. (Trans. Ent. Soc. Lond. vol. iv. p. 208; Proc. July 1, 1844, vol. iv. p. 109; Ann. Nat. Hist. vol. xvii. p. 62.)
54. DESCRIPTIONS OF NEW COLEOPTERA COLLECTED BY MR. FORTNUM AT ADELAIDE IN SOUTH AUSTRALIA. (Trans. Ent. Soc. Lond. vol. iv. p. 280; Proc. Feb. 2, 1846, vol. iv. p. 146; Ann. Nat. Hist. Ser. 2, 1841, vol. i. p. 142.)
55. THE AUTOBIOGRAPHY OF JOHN CHRISTIAN FABRICIUS, TRANSLATED FROM THE DANISH, WITH ADDITIONAL NOTES AND OBSERVATIONS. (Trans. Ent. Soc. Lond. vol. iv. App. p. i.)
56. SOME BRIEF NOTICES OF DECEASED NEAPOLITAN ENTOMOLOGISTS, COMMUNICATED BY SIGNOR O. G. COSTA, OF NAPLES, AND TRANSLATED BY THE REV. F. W. HOPE. (Trans. Ent. Soc. Lond. vol. iv. App. p. xvii.)
57. AN ADDRESS DELIVERED AT THE ANNIVERSARY MEETING OF THE ENTOMOLOGICAL SOCIETY OF LONDON, ON JAN. 26, 1846. (Trans. Ent. Soc. vol. iv. App.)
58. DESCRIPTIONS OF A FEW NONDESCRIPT SPECIES OF BEETLES. (Trans. Ent. Soc. Lond. vol. iv. p. 181.)
59. OBSERVATIONS ON THE FOSSIL INSECTS OF AIX IN PROVENCE, WITH DESCRIPTIONS AND FIGURES OF THREE SPECIES. (Trans. Ent. Soc. Lond. vol. iv. p. 250.)
60. DESCRIZIONE DI ALCIME SPECIE D' INSETTI FOSSILI. (Ann. Acad. Aspirant. Nat. Napoli, 1847, 8vo.)
61. DESCRIPTIONS OF SOME NEW EXOTIC CETONIIDÆ. (Trans. Ent. Soc. Lond. vol. v. p. 32.)
62. DESCRIPTIONS OF SEVERAL NEW SPECIES OF HELEIDÆ FROM AUSTRALIA. (Trans. Ent. Soc. Lond. vol. v. p. 52.)
63. ON A NEW ARACHNIDE UNITING THE GENERA GONYLEPTES AND PHALANGIUM. (Trans. Linn. Soc. Lond. vol. xvii. p. 397.)
64. CATALOGO DEI CROSTACEI ITALIANI E DI MOLTI ALTRI DEL MEDITERRANEO. (8vo. Napoli, 1851, pp. 40, with Appendix entitled 'Caratteri di alcuni de Generi e Specie nuove segnate nel presente Catalogo,' pp. 8, with Plate.)
65. OBSERVATIONS ON THE RAVAGES OF LIMNORIA TEREBRANS, WITH SUGGESTIONS FOR A PREVENTATIVE AGAINST THE SAME. (Trans. Ent. Soc. Lond. vol. i. p. 119.)

(J. O. W.)



# THESAURUS ENTOMOLOGICUS.

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## ORDER—COLEOPTERA.

SECTION—PENTAMERA.

FAMILY—CARABIDÆ.

GENUS—DELINIUS. Westw.

(Trans. Ent. Soc. Lond. 3rd Ser. vol. ii. Proc. p. 3.)

Habitus et statura *Steropi madidi*. Antennæ breves graciles, geniculatæ, articulo basali tertiam partem longitudinis occupante. Caput mediocriter porrectum, labro in medio marginis antici prominenti. Mandibulæ graciles acutæ, intus edentatæ. Maxillæ spina rigida apicali lobi interni, margineque interno spinulis armatæ. Palpi maxillares externi articulo apicali medioeri, subsecuriformi. Mentum in medio emarginaturæ porrectum truncatum. Palpi labiales magni, articulo ultimo magno securiformi. Prothorax subquadratus, lateribus rotundato-curvatis. Elytra ovalia. Tibiæ anticæ haud palmatæ, margine interno emarginatæ.

This curious genus in its geniculated antennæ might be considered to belong to the Scaritides; its general affinities are however with the Harpalides, approaching *Promecognathus* and *Eripus*. It is placed in Harold and Gemminger's Catalogue between *Omaseus* and *Steropus*. I am not acquainted with the Australian genus *Meones* of Castlenau (Notes on Austral. Col., p. 69), which is probably nearly allied to *Delinius*; but it is described as resembling a large *Stomis*, but broader, with more oval elytra, and with triangular-formed palpi and filiform antennæ.

SPECIES UNICA—DELINIUS ESSINGTONII. Westw.

PLATE II, FIG. 1.

(Trans. Ent. Soc. Lond. loc. cit. supra, p. 3.)

*Niger subnitidus*; capite inter antennis bisulcato, pronoto sulco medio in fossulam parvam ovalem ante marginem posticum terminato; sulcisque duobus prope angulos posticos notato; elytris striatis costaque submarginali instructis.

Long. corp. lin. 8.

Habitat; Port Essington in Australia. In Mus. Hopeiano Oxoniæ.

Plate II, fig. 1 *a*, represents the head and antenna of this insect seen from above; and 1 *b* as seen from below, shewing one of the maxillary and one of the labial palpi: fig. 1 *c* represents one of the maxilla; and 1 *d* the mentum, labium, and one of the labial palpi.

FAMILY—CETONIIDÆ.

SUB-FAMILY—GOLIATHIDES.

The whole of the then known species of this sub-family, of which many are remarkable for their large size, brilliant colours, or the horns with which the head and sometimes the thorax of the males are armed, were illustrated in the 'Arcana Entomologica'; since the publication of which work some few additional, but equally interesting species, have been obtained. The larger species are natives of tropical Africa, from which country the whole of those represented in Plate I. have been received (except fig. 4).

## GENUS—GOLIATHUS. Lamarck.

## SPECIES 1—GOLIATHUS ALBOSIGNATUS. (Mas.)

## PLATE I, FIG. 2.

Castaneo-niger, velutinus; capite supra, pronoti lateribus lineisque quinque longitudinalibus, elytrorum lateribus striolisque numerosis transversis irregularibus, margaritaceo-albis; capite antice in mare 4-furcato, cornuque porrecto bifido, parum recurvo, apicibus cornu oblique truncatis; corpore infra, pedibusque castaneo-nigris, nitidis, æneo parum tinctis; tibiis 4 posticis pallide rufo-setosis.

Long. corp. (cum cornu capitis maris) unc.  $2\frac{3}{8}$ .

Habitat; Africa, prope oppidum Tete collibus Kebrabassa dictis. In Mus. Britann., Turner, et Holmiæ.

SYN.: *Goliathus albosignatus*. Boheman, *Insecta Caffrariæ*, pars ii. p. 10 (1857).

*Goliathus Kirkianus*. G. R. Gray, *Proceed. Zool. Soc. Lond.* Jan. 26, 1864.

From a sketch which I made of the type specimen of *G. albosignatus* of Boheman in the Stockholm Museum, I am able to state its identity with Dr. Kirk's insect, the frontal horns in the former specimen having been broken off by a gun-shot, the specimen having been fired at whilst flying. I am indebted to Dr. Kirk for the following note on the locality of his specimen now in the British Museum.

'The Goliath was found under exceptional circumstances in an out of the way place not likely to be visited by white men for some time again. It was in exploring Kebrabassa, in which trip, except Dr. Livingstone and myself, every man on the expedition was done up and turned; and he says that this was the worst journey he ever had in his life. The season was November, just before the rains had set in, although the first showers had fallen. The beast was crawling on the rocky ground among the few inches of parched grass-stalks which remained. Thus I did not find it in its native habitat. I think it ought certainly to be found along the slopes near where the Mission was. There the climate is nearer to what it was where I got the insect than anywhere else: high hills of schist rock barely wooded, damp at one season and dry at another. The vegetation is nearly the same, but Kebrabassa has some features slightly distinct.'

The head of the male, seen laterally, is represented in fig. 2*a*, the maxilla of the same sex at fig. 2*b*, shewing the unarmed mando and the obtusely bidentate galea, and the broad mentum, deeply notched in the porrected middle of the anterior margin, at fig. 2*c*.

The specimen figured is contained in the Collection of the late J. Aspinal Turner, Esq., of Manchester.

## SPECIES 2—GOLIATHUS HIGGINII. Westw.

## PLATE II, FIG. 7.

Totus niger, capite et elytris subopacis, prothorace sub-heptagono, ante medium depresso, tuberculo parvo in medio marginis antici, disco glabro punctatissimo; elytris parum rugosis; scutello glabro basi punctato; pedibus crassis, tibiis anticis extus 3-dentatis, 4 posticis prope medium extus spinula, basique serrulatis, intus nigro setosis; pygidio piceo setoso. (Fœm.)

Long. corp. unc.  $1\frac{3}{4}$ .

Habitat; Africa tropicalis. In Mus. D. Higgins.

The male of this small but distinct Goliathus is still unknown. One of the maxillæ of the female is represented in fig. 7*b*, shewing the acute apical spine of the mando, and the two deflexed teeth of the galea; and the mentum in fig. 7*a*. The latter is contracted at the base, and has the fore margin slightly produced in the middle and not at all incised in the centre. This peculiarity may possibly indicate other peculiar characteristics in the male, which may render it necessary to separate it subgenerically from *Goliathus* proper, when it shall be discovered.

## GOLIATHUS (SUBGENUS GOLIATHINUS. Westw.).

Mas. Caput latius, antice 4-dentatum, cornu frontali apice bifido armatum, maxillæ mandone in spinam acutam terminato; galea obtuse bidentata. Tibiæ anticæ dente infra apicem extus armatæ, margine interno inermi; tibiæ 4 posteriores denticulo parvo mediano instructæ basique externe subserratæ, intus setosæ.

Fœmina. Tibiæ anticæ extus 3-dentatæ.

## SPECIES 3—GOLIATHUS (GOLIATHINUS) FORNASSINII. (Mas.)

## PLATE I, FIG. 1.

Niger, capite et pronoto crebre punctatissimis, hujus lateribus striolisque quinque longitudinalibus luteo-fulvis; elytris guttis numerosissimis irregularibus luteo-fulvis notatis; scutello et capite nigris, hoc cornu frontali sat gracili, capitis longitudine, apice furcato armato; tibiis 4 posticis intus nigro-setosis.

Long. corp. maris (cum cornu capitis) unc.  $1\frac{7}{8}$ .

Habitat; apud Zambesi. Mas in Mus. Turner. (Dr. Kirk.)

SYN.: *Goliathus Fornassinii*. Bertolini, Prodotti del Mozambico, Diss. IV, p. 5, 1853.

Fœm. Thomson, Ann. Soc. Ent. France, 3rd Ser. tom. iv. 1856, pl. VII, fig. 1.

The head and pronotum of the male (now, for the first time, figured) are glossy black and thickly but finely punctured; the elytra are black but not glossy, and but slightly punctured. The small spots on the elytra form about five longitudinal irregular rows on each side of the suture; they are more irregularly dispersed towards the lateral margins, where they occasionally form short transverse stripes. The abdominal segments are not longitudinally impressed along the middle of the ventral surface; the body beneath is black, glossy, and very slightly punctured.

One of the maxillæ of the male is represented in fig. 1 *a*, and the mentum in fig. 1 *b*.

## GENUS—MEGALORHINA. Westw.

## SPECIES UNICA—MEGALORHINA HARRISII. Westw.

## PLATE I, FIG. 6.

Fœm. Bronzeo-viridis opaca, capite antice luteo, margine antico parum emarginato, disco glabro, punctato; pronoti marginibus lateralibus angustis et elytrorum basi striola obliqua luteo-fulvis guttisque numerosis ejusdem coloris in lineis quinque longitudinalibus dispositis; corpore infra viridi, polito, cupreo luteoque tincto præsertim in pedibus et segmentis ventralibus; podice obscure viridi, opaco, maculis duabus magnis fulvis ornato; tarsis quatuor anticis nigris, duobus posticis fulvis.

Long. corp. fœm. unc.  $1\frac{1}{2}$ .

Habitat; Guinea, Grand Bassan. Mas in Mus. Hopeiano Oxoniæ. Fœm. in Mus. Mniszech et Swanzy.

The male of this beautiful species was first described and figured by myself in the Transactions of the Entomological Society of London, 1st Ser. vol. v. p. 20, pl. I, fig. 2, from an unique specimen in the Hopeian Collection.

The female is now, for the first time, described and figured. It has the fore tibiæ armed externally with three acute teeth, and each of the four posterior tibiæ is armed with a spine a little beyond the middle. The maxilla is terminated by an acute galea, strongly setose above, and the mando by a very sharp spine. (Fig. 6 *a*.)

## GENUS NOVUM—ASTHENORHELLA. Westw.

Mas. Caput parte antica ovali, parum convexa, lateribus elevatis, angulis duobus anticis in tubercula duo frontalia productis: maxillæ (pl. I, fig. 5 *a*) mandone quadrato inermi; galea parva conica apice acuto, longe setosa. Mentum (pl. I, fig. 5 *b*) oblongum, lateribus in medio, pro receptione palporum, emarginatis, margineque antico profunde excavato. Prothorax transversus antice angustior, lateribus rotundatis nec in medio angulatis, angulis posticis rotundis, dorso punctato. Elytra punctata, punctis in striolas longitudinales triplici serie bis dispositis. Mesosternum antice porrectum. Femora antica crassa versus apicem incisione profunda instructa; tibiæ anticæ extus sub-tridentatæ, tibiæ 4 posticæ pone medium extus denticulo parvo armatæ. Abdomen infra ad basin impressione lata longitudinali distinctum.

Asthenorhinæ proxima; differt clypeo bituberculato, prothoracis lateribus rotundatis, elytris punctatis, tibiisque anticis obtuse tridentatis nec pone medium attenuatis.

SPECIES UNICA—ASTHENORHELLA LEONINA. Westw.

PLATE I, FIG. 5.

Obscure viridis sat rude nigro-punctata, elytris striato-punctatis, striis 6 longitudinalibus in seriebus duabus (tres in singula serie) dispositis, una prope suturam, altera discoidali, lateribus etiam punctatis, apiceque punctis semicircularibus notato; capite viridi-aurato antice luteo fulvo; pedibus fulvo-viridibus, tarsis auratis, unguibus obscure castaneis. Corpore infra viridi nitido, femoribus fulvo-viridibus. (Mas.)

Long. corp. lin. 10; lat. humer. elytr. lin. 5.

Habitat; Sierra Leone. In Mus. Britann.

### SUB-FAMILY—MACRONATIDES.

GENUS—EUREMINA. Westw.

(Trans. Ent. Soc. 3rd Ser. iv. 1868, p. 590.)

Genus novum e familia Cetoniidarum; corpore parvo oblongo, supra planiusculo; habitu Cremastochelorum nonnullorum, necnon Cnemidæ (Rutelidarum), attamen Macronatis magis affine. Caput vertice in tuberculum parvum subconicum inter oculos prominente, clypeo emarginato; antennæ (fig. 4 *d*) 10-articulatæ formæ ordinariæ; mandibulæ (fig. 4 *a*) quadratæ margine laterali externo in cultellum extenso; maxillæ (fig. 4 *b*) mandone in medio marginis interni dente prædito, galea simplici, longe pilosa. Mentum (fig. 4 *c*) truncato-cordatum, margine antico profunde emarginato, parte antica emarginata. Prothorax subheptagonus, supra planiusculus, pone medium biimpressus: prosternum simplex, medio marginis antici in angulum parvum conicum productum, postice pone coxas anticæ haud porrectum: meso- et meta-sterna simplicia. Elytra planiuscula glabra, in medio longitudinaliter sulcata et striata. Abdomen (in individuo unico viso) infra haud sulcatum, segmento penultimo utrinque haud tuberculato. Pedes sat graciles; tibiis 2 anticis 3-, 4 posticis 2-denticulatis; tarsis gracilibus 5-articulatis.

SPECIES UNICA—EUREMINA AGNELLA. Westw. MS. loc. cit. pl. XIV, fig. 9.

PLATE I, FIG. 4.

Nigra nitida, capite et pronoto rude punctatis; elytris nigris basi rufis, colore rufo in margines laterales et dimidium suturæ longitudinaliter extenso, in medio profunde sulcatis, striolisque in profunditate incisus.

Long. corp. lin. 5½.

Habitat; Penang. (D. Lamb.)

The prothorax is subheptagonal, the fore margin nearly straight, the lateral margins slightly angular in the middle, and the hind angles obtuse; the hind margin is slightly produced in the middle. The scutellum is one-third of the length of the elytra. The elytra are twice the length of the prothorax. They have a stria on each side of the suture, and another (anteriorly abbreviated) at the end of the inner red patch. Between the two red patches, which are very convex, glossy, and almost impunctate, there arise four plain striæ, between which and the lateral margins are several very irregular rows of punctures. Beneath, the body is black, glossy, and slightly punctured; the coxæ of the fore legs are clothed with fulvous hairs, the hind coxæ are striolate-vermiculate; the three basal segments of the abdomen have a transverse fascia of luteous scales, interrupted in the middle; the hind femora are obliquely striolated.

### SUB-FAMILY—TRICHIIDES.

GENUS—YNCALA. White. Thompson.

SPECIES 1—YNCALA CALABARINA. Westw.

PLATE I, FIG. 3.

Lutea, fusco albidoque irrorata, punctata; clypeo transverso, angulis anticis rotundatis, medio in lobum parvum conicum productum; prothorace subhexagono, lateribus ante medium obtuse angulatis, angulis anticis in

tuberculum parvum obtusum productis, posticis acutis, margine postico parum sinuato, supra basin scutelli vix producto; linea media longitudinali alterisque duabus obliquis e medio marginis antici pone medium extensis; postice in maculam obscuram desinentibus; alterisque duabus parvis ante scutellum; elytris irregulariter fusco-nigro maculatis, humeris maculaque ovali in singulo prope scutellum fasciaque valde indistincta submediana obscuris, lateribus luteo et nigro alternatim maculatis; pedibus longis obscure luteis, tibiis in medio nigro-fasciatis. (Mas.)

Long. corp. lin.  $5\frac{1}{2}$ .

Habitat; Old Calabar. In Mus. Hopeiano Oxoniæ.

The dissections accompanying the figure of this species are taken from the unique specimen of the male in the Hopeian Collection. The mandibles (fig. 3 *a*) have the upper edge of the basal portion and the outer edge of the horny knife-like external part setose. The maxillæ (fig. 3 *b*) have the upper edge of the flat square mando and the galea densely clothed with long hairs; the mentum (fig. 3 *c*) is obconical, notched on each side below the anterior rounded angles, for the reception of the palpi; the anterior margin is widely but not very deeply emarginate. The markings on the upper surface of the body are produced by squamosity, and are not at all clearly defined. The legs are long and slender, the fore tibiæ have two sharp teeth at the extremity, and a third much shorter between the base and the middle; the middle tibiæ are rather short and much curved, and the hind tibiæ are long and straight; the tarsi are long and slender. The pro- and meso-sterna are simple and unarmed, the mesosternum being obliquely obtuse.

#### SUB-FAMILY—CREMASTOCHEILIDES.

Inter species familiam Cetoniidarum constituentes, hæc insecta (quorum genus typicum *Cremastocheilus* Knockii est) e cæteris facile distinguuntur magnitudine (pro majori parte) minori, coloribus obscuris, et habitu alieno, interdum Trogides simulantia, necnon structura orali quæ in typicis speciebus omnino insolita est. Species hujus subfamiliæ, quæ hic monographice tractavi, caput habent mediocri rarissime cornutum, clypei margine antico sæpe reflexo. Mandibulæ inter os clausæ, parvæ bipartitæ, parte externa cornea, valida et porrecta; parte interna minore membranacea subquadrata, dente lato molari ad basin intus instructa. Maxillæ galea cornea valida curvata sæpe falciformi extus brevissime setosa et 1- vel 2-dentata; mandone breviori apice interno 1- vel 2-dentato. Mentum (labium, Burmeisteri) magnum, sæpe maximum, os majori parte vel omnino tegens, corneum, planum vel concavum vel medio plus minusve angulatum. Labium bilaciniatum et setosum, in medio paginæ internæ menti affixum.

Prosternum sæpissime in spinam ante coxas anticas porrectum aut deflexum; mesosternum angustum, sæpissime muticum, rarius planum et subacutum. Epimera mesothoracica supra detecta, horizontalia.

Abdomen subtus 6-annulatum, pygidio ab elytris haud tecto, sæpe carinato; spiracula 2 apicalia sæpe conica. Pedes validi breves, tarsis sæpissime 5- interdum 4- vel 3-articulatis.

This group, by means of such genera as *Uloptera* and *Macroma*, is related to the more typical Cetoniidæ, through such genera as *Diplognathus* and *Anoplocheilus*, with which indeed Mr. MacLeay united the more aberrant Cremastocheilides (in his memoir on the South African Cetoniidæ); whilst the more typical Cremastocheilides were formed into a separate group, *Cryptodinus*, with *Cryptodus* as the leading genus. This last-named genus however, as I proved by careful analysis in a memoir published in the fourth volume of the Transactions of the Entomological Society of London (1845-1847), belongs to the Dynastidæ, and is in no wise related to the Cremastocheilides except in the obscure colours and flattened form of the species. In the Berlin Museum another Dynastideous genus is also arranged with these insects—*Cryptodontes* Dej. Burm. (*Leptognathus* Westw.)—the anatomical details of which I have also elucidated in the same memoir.

But very little is known of the habits of the insects of this family. Dr. Schaum found one specimen of *Cremastocheilus canaliculatus* in the nest of a large black species of ants on the Catskill Mountains; and Professor Haldeman, in Pennsylvania, found several specimens of two species in ants' nests. Herr Guenzius found *Canocheilus setosus* in ants' nests, the individuals being covered with the ants, which seemed to suck from them a gummy exudation. He also discovered *Scaptobius aciculatus* in ants' nests, in company with *Paussus cucullatus*; also specimens of *Lissogenius* were found by him in similar situations.

## GENERUM CREMASTOCHEILIDARUM TABULA SYNOPTICA.

I. Mesosternum antice latum, porrectum :											
A. Corpus dilatatum, tarsi brevibus, crassis.											
a. Pronotum pluries excavatum.											
a.	Palpi maxillares articulo ultimo securiformi	..	..	..	..	..	1. Uloptera.				
β.	.. .. .. . ovali	..	..	..	..	..	2. Phymatopteryx.				
b. Pronotum haud excavatum (superficie integra).											
a.	Prothorax antice angustatus	..	..	..	..	..	3. Macroma.				
β.	Prothorax hexagonus, antice et postice æque latus	..	..	..	..	..	4. Macromina.				
B. Corpus angustius, tarsi elongatis.											
a. Elytra depressa, sinuato-costata.											
a.	Antennæ articulo basali lato	..	..	..	..	..	5. Cymophorus.				
β.	.. .. .. . angustiori	..	..	..	..	..	6. Rhagopteryx.				
b. Elytra haud sinuato-costata.											
a.	Mentum subquadratum	..	..	..	..	..	7. Aspilus.				
β.	Mentum antice latum, lateribus rotundatis	..	..	..	..	..	8. Praona.				
II. Mesosternum abbreviatum, obtusum, haud porrectum :											
A. Spatium inter coxas medias adest deplanatum, carinæ rotundatæ simile.											
a. Tibiæ anticæ 1- vel 2-dentatæ.											
a. Mentum medio tumidum.											
* Corpus nudum, punctatum vel striolatum.											
† Mando unidentatus.											
‡ Tarsi 5-articulati.											
§ Corpus supra convexum.											
! Prothorax margine antico integro								..	..	9. Hoplostomus.	
!! Prothorax tuberculo magno armatus								..	..	10. Problerhinus.	
§§ Corpus supra planum.											
! Prothorax transversus								..	..	..	11. Platysodes.
!! Prothorax circularis								..	..	..	12. Genuchinus.
‡‡ Tarsi 4-articulati in utroque sexu								..	..	..	13. Callynomes.
†† Mando bidentatus.											
‡ Prothorax postice latior.											
§ Clypeus excavatus, cornu frontali								..	..	..	14. Centrogathus.
§§ Clypeus integer								..	..	..	15. Spilophorus.
‡‡ Prothorax circularis								..	..	..	16. Trogodes.
** Corpus partim tomentosum								..	..	..	17. Pilinurgus.
β. Mentum haud tumidum, planum vel concavum.											
* Tarsi 3-articulati								..	..	..	18. Trichoplus.
** Tarsi 5-articulati								..	..	..	19. Cœnochilus.
b. Tibiæ anticæ 3-dentatæ.											
a. Mentum cordatum, antice latius								..	..	..	20. Genuchus.
β. Mentum postice latius.											
* Mentum postice truncatum								..	..	..	21. Lissogenius.
** Mentum postice in spinam conicam productum								..	..	..	22. Scaptobius.
B. Spatium inter coxas medias angustissimum, lineare.											
a. Corpus supra plus minusve opacum : tarsorum ungues minimi conici.											
a. Prothorax latitudine longitudinem superante								..	..	..	23. Cyclidius.
β. Prothorax latitudine longitudinem æquante								..	..	..	24. Cyclidinus.
b. Corpus supra nitidum haud velutinum, tarsorum ungues validi.											
a. Prothorax lateribus rotundatis, angulis inermibus								..	..	..	25. Psilocnemis.
β. Prothorax lateribus irregularibus, angulis tuberculiformibus								..	..	..	26. Cremastochelus.

## GENUS 1—ULOPTERA.

Burmeister, Genera quæd. Insect. pl. XXXIX, Handb. iii. 1842, p. 625; Lacordaire, Gen. d. Coleopt. Atlas pl. XXXIX, fig. 2.

This singular genus, founded upon a single species, *U. planata*, from Cayenne, seems to hold a situation between the Cetoniides and Cremastocheilides. In the 'Handbuch der Entomologie' it is placed between the Diplognathides and Cremastocheilides. It has the antennæ 10-jointed, with a 3-jointed club. The eyes are partially incised; the maxillæ have the mando terminated in an acute point, whilst the galea is small and bidentated. Respecting the palpi, Burmeister observes:—

'Palpis maxillaribus' (see my plate VIII, fig. 2), '*securiformibus*, inter omnia Melitophila hoc genus potissimum notatur.'

The mentum is dilated at the sides, which are strongly ciliated; the labial palpi are minute, with the last joint acute; the mesosternum is produced into a dilated flattened process, truncated in front. The abdomen on the ventral surface is 6-jointed; the legs short, with the fore tibiæ obtusely tridentate on the outer edge.

## SPECIES UNICA—ULOPTERA PLANATA. Burmeister, l. c.

Fusca nitida; antennis, clypeo, pronoti elytrorumque margine toto obscure-rufis; illo punctis, his fascia undulata rufo-flavescentibus.

Long. corp. lin. 5.

Habitat; Cayenne. In Mus. Dom. Buquet, Parisiis.

## GENUS 2—PHYMATOPTERYX. Westw.

Genus novum Ulopterae proximum. Corpus breve crassum supra deplanatum, pronoti et elytrorum superficie impressionibus et tuberculis valde irregulari. Caput parvum supra planum. Antennæ 10-articulatæ, clava 3-phylla. Mandibulæ parvæ bipartitæ extus corneæ apice producto acuto, parte interna breviori membranacea rotundata, basi in dentem magnum molarem dilatata. Maxillæ (fig. 1 *a*) parvæ corneæ, mandone in dentem parvum producto, galea parva, cornea apice oblique truncato, vix bidentato. Palpi maxillares parvi, vix ultra apicem maxillarum extensi, articulo ultimo ovali. Mentum lateribus basi dilatato-angulatis setosis; medio disci impresso et circulariter striolato. Palpi labiales minuti, articulo ultimo ovali (fig. 1 *b*). Prothorax brevis latitudine longitudinem excedente, lateribus rotundatis, margine postico ante scutellum emarginato; scutellum elongatum, postice attenuatum. Elytra thorace latiora, regione suturali depressa, medio disci longitudinaliter sinuato-elevato tuberculisque elevatis instructo. Prosternum in cornu deflexum truncatum ante pedes anticos productum (fig. 1 *d* lateraliter et 1 *e* subtus visum). Mesosternum inter pedes intermedios paullo porrectum, latum deplanatum, lateribus parum angulatis (fig. 1 *f* subtus, 1 *g* lateraliter visum). Abdomen subtus convexum. Pedes breves; tibiis anticis triquetris, margine externo obtuse tridentatis (fig. 1 *e* lateraliter visis).

This genus is closely allied to Uloptera, but is at once distinguished by the minute size of its maxillary palpi, on which organs, as stated above, Burmeister lays the greatest stress in the characters of his genus. The prosternal process is also quite distinct, being described in Uloptera as 'planum, latiusculum.' This character in Phymatopteryx evinces a strong relationship to many of the Cremastocheilides, whilst the irregularly raised disc of the elytra especially recalls to mind the Genera Ptychophorus and Rhagopteryx. The African habitat of the type of this genus further removes it from Uloptera.

## SPECIES UNICA (2)—PHYMATOPTERYX SCULPTILIS. Westw.

## PLATE VIII, FIG. 1.

Castaneus; lævissimus; pronoti impressionibus 5 magnis cicatricoso-punctatis, lateribusque punctatis; elytris regione scutellari lævi, pone medium versus suturam 4-striolatis, sutura ipsa elevata medioque disci elytrorum elevato, carinam obtusam irregularem longitudinalem formante, singulo tuberculis 4-fulvis instructo, striisque cicatricoso-punctatis inter medium et marginem lateralem irregularibus; abdomine nigro nitido, singulo segmento linea transversa media punctorum notato.

Long. corp. lin. 5.

Habitat; Guinea. In Mus. Oxoniæ (olim Westw.) et Parry.

## GENUS 3—MACROMA.

Gory et Perch. Mon. Cet. 1833, p. 35.

SYN.: *Campsiura*. Hope in Gray's Zool. Misc. pt. 1, 1831, sine descriptione.*Estenomenus*. Faldermann.

Corpus crassum, superficie glabra; caput vertice convexo, clypeo basi angustata, margine antico reflexo sinuato. Maxillæ mandonis dente apicali crasso 2-3-denticulato; galea elongata curvata acuta. Mentum oblongum margine antico profunde emarginato, vel bilobato, vel fere recto, parte antica obliqua. Prothorax subconicus antice truncatus, vel trapezoidalis, e medio ad caput sensim angustatus, angulis posticis rotundatis, margine postico parum lobato. Elytra e basi ad apicem sensim angustata. Prosternum simplex. Mesosternum inter coxas intermedias dilatatum et porrectum, apice cum processu antico metasterni coalito, rotundato. Abdomen maris segmentis ventralibus basalibus canaliculatis. Pedes mediocres robusti, tibiis anticis bidentatis, coxis posticis angulo externo acuto prominenti.

The species of this genus differ from all the rest of the sub-family in their variegated colours as well as in the shape of their robust bodies, which bear a greater resemblance to the ordinary form of the typical Cetoniidæ. The species are natives of Africa and the East.

## DIVISION I—SPECIES AFRICANÆ. (Sp. 1-7.)

## SPECIES 1 (3)—MACROMA SCUTELLATA.

Fabricius, Syst. Eleuth. ii. p. 146, No. 54; Schönherr, Syn. Ins. 1. 3. 129, 78.

## PLATE VI, FIG. 1.

Obovata subdepressa, glabra, nigra nitida, flavo-variegata; clypei apice subconico elevato nigro, fascia postica cum linea verticali sensim attenuata, connexa, flavis; antennarum clava brunnea; prothorace subtrigono, lateribus in medio parum dilatatis; medio postice canaliculato, lateribus anguste et irregulariter, et linea media tenui æquali dorsali, flavis; elytris nigris disco parum-, lateribus rugose-punctatis, apice subrugoso; scutello flavo; pygidio in medio tenue carinato, utrinque pone medium tuberculo instructo, macula magna subquadrata basali in lineam tenuiorem ad apicem extensa flava; coxis anticis flavis, pedibus omnibus nigris; corpore subtus nigro nitido; abdominis segmentis 2, 3, 4, et basi 5ti castaneis; metasterni lateribus late, coxarum posticarum et segmentorum abdominalium lateribus supra expositis, segmentoque 5to fascia tenui transversa in medio interrupta, flavis.

Long. corp. lin.  $8\frac{1}{2}$ ; lat. humer. elytr. lin.  $4\frac{1}{2}$ .

Habitat; Guinea, Cape Coast Castle. In Mus. Oxoniæ et Hafniæ (Westermann olim.)

## SPECIES 2 (4)—MACROMA CONFUSA.

## PLATE VI, FIG. 2.

Castanea nitida, capitis clypeo toto, maculaque trigona verticali connexa, prothoracis lateribus latis (singulo punctum parvum nigrum includente) lineaque media angusta (antice abbreviata), scutello, maculis lateralibus abdominis maculaque trifida pygidii, flavis; capite et lateribus prothoracis pone medium minute punctatis; coxis anticis flavis.

Long. corp. lin.  $7\frac{1}{4}$ .

Habitat; Senegal, Sierra Leone, Abyssinia. In Mus. Hopeiano Oxoniæ (typus Gorii), &amp;c.

SYN.: *Macr. confusa*. Hope (sine descr.), Trans. Ent. Soc. vol. ii. p. 65; Schaum, Verzeichn. 1848, p. 60.*Macr. Abyssinica*. Westw. MS; Schaum, Verz. Lam. Melit. p. 60.*Macr. bispinosa*. Schaum in litt.*Macr. scutellaris*. Gory et Perch. Mon. Cet. pl. XXIII, fig. 4, nec *Macr. scutellata*, Fabr.

Dr. Schaum (in a letter to me of October 28, 1848) says: 'I have lately obtained two specimens of *Macroma Abyssinica*, and seen about a dozen more in the Senckenberg Museum, in Frankfurt, taken by Rüppel. I have



compared them very carefully with my specimen of *Macr. confusa*, Hope (*scutellaris*, Gor. et Perch.), from Senegal, and do not find any difference. *Macroma Abyssinica* must therefore be sunk. I have no doubt, by comparing Mr. Hope's specimen of *confusa* with that of *Abyssinica* in the British Museum, you will come to the same conclusion.' The specimens from Abyssinia, to which I applied the MS. name *M. Abyssinica*, are smaller than all the others from South Africa, Natal, and Zulu, being only  $7\frac{1}{4}$  lines long. I can, however, discover no other specific distinction.

## SPECIES 3 (5)—MACROMA COGNATA.

## PLATE VI, FIG. 3.

Obovata, parum convexa, obscure sanguinea vel castanea, nitida; clypeo et macula trigona verticali flavis; antennis castaneis; prothorace sublævi, basi utrinque parce punctulata, postice medio longitudinaliter impresso, vittis tribus flavis, media angustiori et antice valde abbreviata, marginalibus ante medium macula parva obscure sanguinea aut nigra notatis; scutello flavo; elytris parce subseriatim punctulatis, lateribus transverse striolatis; pygidio medio carinato, macula magna flava elevata apice tricuspidata; pectore plagis magnis abdomineque utrinque serie laterali, e maculis magnis flavis notata.

Long. corp. lin.  $7\frac{1}{2}$ –9=15–18 mill.; lat. humer. elytr. fere lin. 5=10 mill.

Habitat; Caffraria tota, Port Natal. In Mus. Brit., Hopeiano Oxoniæ (Westw. olim). Etiam apud Promont. Bon. Spei (D. Thorey.)

SYN.: *Macroma cognata*. Schaum, Germar Zeitschr. iii. p. 278 (1841), No. 2; Burm. Handb. iii. p. 643, No. 3; Boheman, Ins. Caffr. pars ii. p. 45.

No figure has hitherto been published of this pretty species.

The basal joint of the antenna is rather dilated. The apex of the clypeus is emarginate, having a transverse elevated line close to the apex. The maxilla (fig. 3 *a*) in both sexes has the inner lobe armed with three teeth, of which the upper one is the largest, and the inner one scarcely prominent. The mentum (alike in both sexes) is emarginate on each side opposite the insertion of the labial palpi (fig. 3 *b*), and the anterior tibia of the male (fig. 3 *c*) is narrower and less strongly toothed than that of the female (fig. 3 *d*).

## SPECIES 4 (6)—MACROMA SULCICOLLIS.

Nigra nitida, capitis fascia transversa media cum macula trigona verticali conjuncta fulvis, prothoracis canaliculati margine laterali lineaque media, scutello, maculisque pectoralibus, alteraque trigona pygidii flavis; prothoracis lateribus haud punctatis.

Long. corp. lin.  $6\frac{1}{2}$ .

Habitat; Guinea.

SYN.: *Macroma sulcicollis*. Schaum, Ann. Soc. Ent. France, 2nd Ser., vol. ii. 1844, p. 294, pl. X, fig. 6.

*Macroma scutellata*. Schaum, Germar Zeitschr. iii. p. 278 (nec Fabricius, nec Schaum in Ann. Soc. Ent. France).

Dr. Schaum says of this species in the French Annales, 1844, where he first applied to it the name of *Macroma sulcicollis*, 'l'espèce que j'avais regardée (Germar Zeitschr., l. c.) comme étant la *Macroma scutellata* des auteurs est plus grande, plus large; elle a la tête noire avec une bande transversale au milieu et une tache y-jointe qui occupe tout le vertex, jaunes; le corselet est sillonné au milieu dans toute sa longueur et n'a pas des points enfoncés sur les côtés.'

## SPECIES 5 (7)—MACROMATA BILINEATA.

## PLATE VI, FIG. 5.

Elongato-ovata, supra subdepressa, clypeo, cum macula trigona verticali punctisque duobus pone oculos flavis; prothorace nigro, lateribus flavo marginatis et nigro bipunctatis, lineaque tenui media abbreviata flava notato; scutello apice flavo; elytris nigris, singulo vitta longitudinali castaneo-rufa notato; pygidio convexo, macula magna flava transversa postice profunde emarginata; pedibus castaneis; antennarum clava apiceque femorum posticorum fulvis; metasterni et coxarum posticarum necnon segmentorum abdominalium lateribus, flavis.

Long. corp. lin.  $7\frac{1}{2}$ ; lat. humer. elytr. lin.  $3\frac{1}{2}$ .

Habitat; Senegal. In Mus. Hopeiano Oxoniæ.

SYN.: *Macroma bilineata*. Buquet, Ann. Soc. Ent. France, t. v. 1836, p. 207.

The smaller and narrower size of the insect, and especially the form of the yellow spot on the pygidium (fig. 5 *b*), and the rich chestnut coloured stripe on each elytron, well distinguish this species from its immediate allies. The mentum is light chestnut coloured; it is much angulated in the middle; the apical portion (fig. 5 *a*, head seen in front, concealing the basal portion of the mentum) being broadly cordate, the front margin being but slightly emarginate. The middle of the thorax, in front of the scutellum, is but slightly impressed.

SPECIES 6 (8)—MACROMA EMARGINICOLLIS.

PLATE VI, FIG. 11.

Oblongo-ovata, supra parum convexa, nigra, nitida; capite macula oblonga flava notato; prothoracis margine postico late emarginato, parce punctulato, utrinque vitta laterali medio intus excisa, scutelloque flavis; elytrorum dorso parce subtilius, lateribus crebrius punctatis, pone medium macula marginali, extus ramulum angustum retrorsum emittente, flava; pygidio, pectore abdomineque flavo maculatis.

Long. corp. lin.  $6\frac{1}{2}$ —7 =  $12\frac{1}{2}$ —14 mill.; lat. lin. 7—8.

Habitat; regio fluvii Limpopo dicti, Caffraria, Port Natal. In Mus. Oxoniæ (olim Westw.).

SYN.: *Macroma emarginicollis*. Westw. MS; Schaum, Vers. Lam. Melit. p. 60; Boheman, Ins. Caffr. pars ii. p. 45.

This species is at once distinguished by the deeply emarginated hind margin of the prothorax. The mandibles have the outer blade considerably elongated (fig. 11 *a*). The maxillæ have the upper lobe forming a very acute sickle-shaped tooth, and the lower lobe is acutely bidentate with several spinulose setæ on the inner margin (fig. 11 *b*). The mentum is oblong, with the apical half oblique and the apex nearly truncate (fig. 11 *c*, 11 *d*, the same seen sideways). The mesosternum is broad, rather rounded in front, obtuse (fig. 11 *f*), and but slightly porrected (11 *e*, seen sideways). The anterior tarsi are 5-jointed, but the basal joint is concealed above by the produced extremity of the tibia. The punctures on the disc of the elytra form transverse curved lines, and they are very crowded together at the sides, the apex being marked with oblique striolæ. The pygidium is black, longitudinally carinated down the middle with two oval convex yellow spots, striolated at the sides, the striolæ in the middle being transversely curved. The abdomen beneath is black and glossy; it is convex, the second and third segments with a very slight longitudinal impression in the middle. The metasternum is marked with a large nearly circular spot of yellow on each side (visible from above), and the third and fourth segments have a yellow spot on each side also seen from above. The terminal pair of spiracles of the abdomen are conically elevated.

The specimen figured in the plate was kindly forwarded to me by M. Boheman from Stockholm, where I have also since examined other individuals.

SPECIES 7 (9)—MACROMA LUTESCENS.

PLATE VII, FIG. 2.

Oblonga subdepressa, luteo-fulva, nitida, capite et pronoto lævibus; elytris sublævibus; vertice inter oculos litura V tenui notato, lateribusque pone oculos castaneis; pronoto postice in medio sulcato, luteo-fulvo, vittis duabus latis longitudinalibus antice angustatis, castaneis, punctisque duobus antico-lateralibus nigris; elytris ad suturam depressis, puncto humerali maculisque duabus irregularibus subapicalibus castaneis; margine tenuissimo postico pronoti et sutura tenuissima nigris; pedibus brevibus castaneo-rufis, femoribus supra fulvis; abdomine subtus fulvo flavoque variegato.

Long. corp. lin. 10.

Habitat; Port Natal. In Mus. Britann.

The elypeus is oval and entire in front; the prothorax is subtriangular, with the posterior angles rounded; the abdomen above is chestnut coloured, the terminal joint having a transverse yellow fascia with a small conical apical spot of chestnut.

## DIVISION II—SPECIES ASIATICÆ. (Sp. 8-16).

## SPECIES 8 (10)—MACROMA MIRABILIS.

## PLATE VI, FIG. 4.

Depressa, glabra, aterrima, nitida, thorace lateribus clypeoque testaceis; elytris abdomine multo brevioribus angustioribusque, disco antice brunneis; maxillis intus dentibus 3 longis acutis armatis; mento lato apice truncato utrinque rotundato et in medio late et profunde emarginato; clypeo elongato ante oculos profunde exciso, ibique sat inflexo, antrorsum dilatato, lateribus declinatis, apice obtuse rotundato, integro, haud reflexo, margine in medio nonnihil elevato.

Long. corp. lin. 9; lat. lin.  $4\frac{1}{2}$ .

Habitat; China Borealis.

SYN.: *Estenomenus mirabilis*. Faldermann in Mem. Acad. Petrop. ii. 1835, pl. I, fig. 2, a—h; Burmeister, Handb. iii. p. 642; Schaum, Verz. Lam. Melit. p. 60; Annales Soc. Ent. France, 1845, p. 53; Germar Zeitschr. iii. p. 280.

## SPECIES 9 (11)—MACROMA XANTHORHINA.

## PLATE VI, FIG. 6.

Obovata, parum convexa, elytris in medio vix depressis; clypeo porrecto, angulis anticis rotundatis, medio nonnihil angulato, et vix elevato; prothorace trapezoidali, supra scutellum paullo producto; elytrorum lateribus profunde emarginatis; pygidio tricarinato, carinis postice abbreviatis; clypeo cum macula trigona frontis, lateribus pronoti, elytrorum disco, et metasterni et coxarum posticarum lateribus detectis, fulvis; pronoto puncto parvo nigro utrinque versus angulum lateralem notato.

Long. corp. lin. 9; lat. humer. elytr. lin.  $4\frac{1}{2}$ .

Habitat; Nepalia, Thibeta.

SYN.: *Campsiura xanthorhina*. Hope in Gray, Zool. Misc. pt. i. 1831, p. 25.

*Macroma bicolor*. Gory et Perch. Mon. Cet. p. 149, pl. XXIII, fig. 6; Burmeister, Handb. iii. p. 643; Schaum, Verz. Lam. Melit. p. 60; Annales Soc. Ent. France, 1845, p. 53; Germar Zeitschr. iii. 280.

The clypeus is convex, very slightly angulated, and elevated in the middle of the fore margin. The maxillæ (fig. 6a) have the galea very acute and curved, and the basal lobe is produced at its apex into an acute spine, with another nearly as large in the middle of the inner edge; the mentum (fig. 6b) is oblong, rounded at the anterior angles, and but very slightly emarginate in front. The yellow colour of the clypeus extends in a triangle nearly to the back of the head, which is nearly smooth. The yellow margin of the prothorax is angulated near the hinder angles; the disc is sparingly impressed with very fine punctures, as are also the elytra, where they scarcely form longitudinal lines. The black lateral margin of the elytra extends from the shoulders to rather beyond the middle, where it suddenly terminates, the yellow then extending to the margin. The black apex of the elytra is separated from the yellow portion by a strong elevated arched ridge, beyond which the apex is closely covered with delicate transverse striolæ, with which also the tricarinated pygidium is also covered. The black suture of the elytra is but little depressed at the base, and is slightly raised at the extremity. With the exception of the exposed sides of the metasternum and posterior coxæ, the under side of the body is black.

In the large size of the tooth in the middle of the inner margin of the basal portion of the maxillæ (mando), this species is distinguished from the majority of the genus, but agrees with Faldermann's *M. mirabilis*. The very slight emargination of the mentum is also a peculiar character. The fulvous colour of the disc of the elytra occasionally assumes a rich more chestnut tint.

## SPECIES 10 (12)—MACROMA MELANOPUS.

## PLATE VI, FIG. 8.

Obovata, nitida, supra subconvexa, sutura elytrorum vix depressa, clypeo cum macula trigona verticali connexa fulvo; pronoto fulvo utrinque nigro bimaculato maculaque magna dorsali postice irregulari et ad basin scutelli acute extensa; scutello nigro aut flavo; elytris nigris, disco minute punctato, apice transverse striolato; pygidio nigro, in medio carinato, utrinque tuberculo elevato instructo; capite corporeque subtus toto nigris, metasterni et coxarum posticarum lateribus detectis flavis, pedibus nigris.

Long. corp. lin.  $10\frac{1}{2}$ ; lat. humer. elytr. lin. 5.

Habitat; Assam, Sylhet. In Mus. Hopeiano Oxoniæ, et Britann.

SYN.: *Macroma melanopus*. Schaum, Verz. Lam. Melit. 1848, p. 60; Annales Soc. Ent. France, 1845, p. 53.

*Macroma nigripennis*. Hope, Trans. Ent. Soc. iii. 1841, p. 65 (nec Schaum).

The posterior margin of the pronotum is nearly straight, being only very slightly produced over the base of the scutellum. I have given my reason for adopting Dr. Schaum's name for this species in preference to Mr. Hope's in my observations on *M. nigripennis*, Schaum, next described.

The British Museum possesses a series of this species from various localities, viz. from Siam, Burmah, Cambogia, Dacca and China, all having a yellow scutellum—the Chinese specimens having two yellow spots on the back of the head, whilst others from Siam, India, and Burmah have the scutellum either entirely black or yellow at the base.

## SPECIES 11 (13)—MACROMA NIGRIPENNIS.

## PLATE VI, FIG. 7.

Castaneo-nigra nitida; antennis rufo-brunneis; capite toto, prothoracis vitta media lata (apicem pronoti haud attingenti) et vitta laterali antice dilatata (puncto nigro utrinque incluso) flavis, scutello maculisque pectoralibus flavis; abdomine piceo segmentis 3 et 4 sanguineis; pedibus anticis (tarsis exceptis) fulvis; posticis 4 nigris.

Long. corp. lin.  $6\frac{1}{2}$ –7.

Habitat; China (Schaum, Verz.), in Mus. Berolin. Laas, in Mus. Mniszech.

SYN.: *Macroma nigripennis*. Schaum in Germar Zeitschr. iii. 1841, p. 279; Ann. Soc. Ent. France, 1844, 2nd Ser. vol. ii. pl. X, fig. 7, ibid. 1845, p. 53, (nec Hope); Burmeister, Handb. iii. p. 645.

*Macroma Schanmii*. Westw. MS. olim.

The specimen represented in the accompanying figure (pl. VI, fig. 7) is from Laas, Camboja, in the Collection of Count Mniszech. It is 7 lines long and 4 broad across the shoulders of the elytra. The underside of the head is pitchy. The anterior coxæ are pale yellow. The mentum is strongly angulated in the middle; the anterior part broadly ovate (fig. 7 a, the underside of the front of the head seen in front, concealing the base of the mentum). The front of the mesosternum is fulvous in the middle. The third and fourth segments of the abdomen are sanguineous at the sides and in the middle beneath. The whole of the abdomen is glossy and very delicately transversely striated, as are also the 4 broad black hind femora. The basal segments of the abdomen have an oblong impression in the unique male specimen which I have examined. The yellow sides of the metasternum are impunctate and very glossy. The scutellum is impunctate except at the base. The apex of the elytra is finely transversely striated, this part being separated from the disc by a sharp curved depression. The pygidium is black, with a strong central carina and two conical tubercles.

The name of *M. nigripennis* was applied by Dr. Schaum and Mr. Hope to two different insects, the descriptions of which were published in the same year—1841. In such cases I think it is preferable to adopt that given by a monographer rather than that of a describer of isolated species, and therefore I retain Dr. Schaum's name in preference to Mr. Hope's, although the description given by the latter was read at the Entomological Society of London on the 1st of July, 1839.

## SPECIES 12 (14)—MACROMA JAVANICA.

## PLATE VI, FIG. 9.

Obovata, nitidissima; clypeo subrotundato margine antico modice reflexo, mento crasso, antice perpendiculariter truncato; prothorace transverse subquadrato, versus caput angustato; elytris humeris dilatatis, postice angustatis; pygidio tricarinato; sterno transverso; tota brunneo-nigra; capite, antennis, pedibus duobus (tarsis exceptis) anticis, pronoti lateribus, fulvis; his ante medium macula parva nigra notatis; metasterni lateribus fulvis, marginibus segmentorum abdominalium rufis.

Long. corp. lin. 8; lat. humer. elytr. lin. 5.

Habitat; Java.

SYN.: *Macroma Javanica*. Gory et Perch. Mon. Cet. p. 148, pl. XXIII, fig. 5; Schaum, Verz. Lam. Melit. p. 60; Burmeister, Handb. iii. p. 645; Annales Ent. Soc. France, 1845, p. 53; Germar Zeitschr. iii. 280.

This species is shorter and broader than *M. melanopus* from Assam. It is very glossy. My figure and the following notes are made from M. Gory's typical specimens communicated by the late Dr. Schaum. The head beneath, with the maxillæ and palpi, are dark luteous, the mentum yellow; the hind part of the head is dark brown; the coxæ of the fore legs yellow; the deflexed anterior angles of the pronotum have a black border; the front of the mesosternum is flat, perpendicular, and fulvous; the posterior angles of the epimera are deflexed and yellow coloured; the third and fourth segments of the abdomen are dark blood red; the second and fifth have a small ferruginous patch in the middle of each. The male has the three basal segments of the abdomen marked with an oval longitudinal impression. The pygidium is black, with a raised tricuspidate space, having a sharp longitudinal central carina.

There is a variety of this species in the British Museum, collected in India by Colonel Whithill, nearly 9 lines long, black, with the lateral margins of the pronotum yellow, with a black spot; the head and anterior coxæ yellow; the exposed part of the posterior coxæ pale yellow; the abdomen black, with a red central vitta, and the middle segments with a blood-red spot on each side.

## SPECIES 13 (15)—MACROMA MACULICOLLIS.

## PLATE VI, FIG. 10.

Breviter obovata, clypeo rotundato vix antice elevato; prothorace fere semicirculari lateribus rotundatis, margine postico fere recto; elytris in medio basi impressis, sutura postice parum elevata; pygidio in medio carinato utrinque tuberculo vix cariniformi instructo; nigra, nitida, capite et pronoto fulvis, hoc nigro variegato, femoribus et tibiis anticis fulvis; coxis anticis lateribusque metasterni et coxarum posticarum flavis; abdominis segmentis 3tio et 4to utrinque late sanguineis.

Long. corp. lin. 9; lat. humer. elytr. lin. 4.

Habitat; Sylhet, Assam. (Jenkins, Robinson), in Mus. Oxon. (olim Westw.) Pachbon, Siam (Mouhot), in Mus. W. W. Saunders.

SYN.: *Macroma maculicollis*. Westw. MS; Schaum, Verz. Lam. Melit. p. 60.

The antennæ are chestnut, with the club fulvous. The under side of the head is black; the mentum is yellow, strongly angulated in the middle, the anterior portion being obliquely truncate and broadly ovate in form. The disc of the pronotum is nearly smooth, but the sides are rather thickly punctate; the anterior and posterior margins are narrowly black, and on each side of the middle is a black longitudinal mark, the anterior half narrow, but forming a lozenge-shaped spot united behind to a large nearly rounded spot: there is also a small round spot in front of the middle of each side. The disc of the elytra is sparingly punctate, but the sides more thickly, the punctures being more transverse. The apex of each elytron is finely transversely punctate-striate, being separated from the disc by a sharply defined curved impression. The terminal hook of the maxillæ is very acute, slender, and arched, the teeth of the inner lobe being short and robust. The mesosternum forms a nearly globose tubercle slightly advanced between the base of the middle legs.

The abdomen in the male has the basal segments longitudinally impressed.

A specimen from Pachbon, Siam, collected by M. Mouhot, in the Museum of W. W. Saunders, Esq., F.R.S., agrees entirely with my type specimens from Upper India. Another specimen in the same Museum, collected also by M. Mouhot at Laas, differs only in having the disc of the pronotum entirely black, with the yellow lateral margin much narrowed behind the small black spot which is united to the dark disc of the pronotum.

SPECIES 14 (16)—MACROMA FLAVO-GUTTATA.

Atra, nitida, pronoti margine laterali 'anteriori, guttisque quinque in serie transversa postica dispositis flavis.'

'Forme allongée de la scutellata. Couleur générale un noir très-luisant. Front cariné, chaperon largement rebordé rugueux. Corselet à ponctuation fort mais clair-semée, lisse aux angles antérieurs et devant l'écusson, celui-ci déprimé. Deux lignes jaunes orangées au bord du chaperon. Angles antérieurs du prothorax largement colorés en jaune soufre; cinq taches de cette couleur, plus ou moins grandes, quelquefois se touchant presque, au bord postérieur. Hanches de la première paire et deux grandes taches, ainsi que deux plus petites de chaque côté du sternum jaunes.'

Long. 16 mill.

Habitat; Borneo.

SYN.: *Macroma flavo-guttata*. Snellen van Vollenhoven, Tijdschr. Ent. Nederl. vii. 1864, p. 159, pl. X, fig. 6; Wallace in Trans. Ent. Soc. 3rd Ser. vol. iv. p. 590.

SPECIES 15 (17)—MACROMA AURORA.

'Elongato-ovata, postice attenuata, fortiter dense punctata, nitida, nigro-brunnea, capite supra, thoracis lateribus maculaque oblonga, medio scutello, elytrorum fascia postica ad suturam interrupta maculaque sinuata ad apicem aureo-purpureis; epipleuris mesosterno maculis duabus in medio apiceque abdomine segmento penultimo margine, pedibus annulis pygidioque maculis duabus aureis vel aureo-viridis' (sic).

Long. corp.  $7\frac{1}{2}$  lin.; lat.  $3\frac{1}{2}$  lin.

Habitat; Amboyna.

SYN.: *Macroma Aurora*. Motschulsky, Étud. Ent. vii. 1858, tab. annex. p. 57, fig. 14.

'Cette magnifique espèce de Cétonide ressemble par sa forme atténuée aux Taniodera, mais son chaperon arrondi en avant lui assigne une place à côté du *M. scutellata* F.'

SPECIES 16 (18)—MACROMA GLORIOSA. Mohnike.

(Arch. f. Naturg. 1871, I. p. 313, tab. VII, fig. 7.)

PLATE VII, FIG. 1.

Late ovata, glaberrima, nigra, clypeo rotundato margine antico parum reflexo, capite et pronoto sanguineis, hoc maculis 9 parvis rotundis nigris, pronoti basi elytrisque in medio basi depressis, humeris elevatis, sutura pone medium elevata, parte apicali elytrorum transverse striolata et e disco spatio elevato 4-dentato in singulo separata, pygidio tricarinato.

Long. corp. lin.  $11\frac{1}{2}$ ; lat. humer. elytr. lin.  $6\frac{1}{2}$ .

Habitat; Siam (Mouhot). In Mus. W. W. Saunders. Sumatra (Mohnike).

This very striking species is at once distinguished by its great width. It is convex, but with the base of the pronotum and the scutellar region of the elytra considerably depressed in the centre. The head is convex, very delicately granulose; the clypeus rounded in front, with the fore margin slightly elevated; there is a slight round impression on each side near the base of the antennae, and a fine impressed line extends backwards from the same point. The upper side of the head is blood red, but beneath and at the sides behind the eyes it is black; the antennae have the club chestnut coloured; the pronotum is very glossy, nearly impunctate on the disc, with the sides finely but sparingly punctured. The hind margin is considerably produced over the base of the scutellum. On the disc are nine small black round spots, four on each side, forming an oblique lozenge, and one in the centre behind the middle. The elytra are very glossy, the disc nearly impunctate, the shoulders

are very broad and raised, the suture near the scutellum is depressed, but beyond the middle it is elevated into a ridge. The terminal part of each elytron is thickly covered with very fine transverse striolæ, this part being separated from the disc by a curious ridge, which is scalloped into four teeth. The pygidium is tricarinated, the central carina arising at the base and not reaching the extremity, the two lateral ones arising towards the middle, and forming two terminal teeth. The body beneath is black and glossy, and in the only specimen which I have seen the basal segments are convex. The prothorax is subtriangular, with the posterior angles rounded; the breadth of this part equals the length from the front of the clypeus to the base of the scutellum. The breadth of the shoulders of the elytra equals their entire length, including that of the scutellum. The maxillæ (fig. 1 *a*) have the apical lobe strong and sickle-shaped; the inner lobe has the terminal tooth slightly bifid, and there is also a slender spine or spine-like bristle in the middle of the inner edge of this part of the maxillæ. The mentum is oblong (fig. 1 *b*), widest at the place of insertion of the palpi, the anterior part obliquely truncate, and the apex subemarginate.

## SPECIES 17 (19)—MACROMA TRIGUTTULATA. Mohnike.

(Arch. f. Naturg. 1871, I. p. 311.)

'*M. aterrima*, nitida, clypeo margine antico reflexo, medio elevato, punctato; thorace disco minus, lateribus plus punctato, glabro, antice flavo marginato, postice guttulis tribus flavis, quarum media ante scutellum sita minor ornato; elytris glaberrimis abbreviatis seriatim punctatis, ante apicem rotundatam, crista transversa parum prominente distinctis, pygidio carinis tribus longitudinalibus, medio valde prominente; parapleura flava; abdomine, pectore, pedibusque concoloribus, punctatis; processu mesosternali brevi obtuso, apice dilatato.'

Long. mill. 14.

Habitat; insula Sumatra.

## GENUS 4—MACROMINA. Westw. Gen. Nov.

Corpus oblongo-ovale, convexum, elytrorum sutura subdepressa. Maxillæ galea valida elongata falciformi, apice acuto integro, mandone bidentato dente supero majori acuto, infero parvo (pl. VII, fig. 3 *a*); mentum oblongum, medio externo angulato setoso, margine antico parum emarginato (fig. 3 *b*; 3 *c*, e latere visum). Pronotum hexagonum, lateribus in medio angulato-productis. Tibiæ anticæ bidentatæ. Metasternum in medio antice in mucronem obtusum inter coxas intermedias porrectum. Elytra pone humeros valde emarginata, singulis versus suturam in carinam longitudinalem paullo curvatam e scutelli lateribus ad tuberculum subapicalem elytrorum extensam elevatis. Abdomen ad basin subtus haud depressum; spiraculis duabus apicalibus conicis; pygidium in medio carinatum et utrinque tuberculo instructum.

I have ventured to propose this new genus for an African species, which agrees with *Macroma* in its general details, but differs from the species of that genus in its small size, hexagonal prothorax, and colouring.

## SPECIES 1 (20)—MACROMINA ANGULICOLLIS.

PLATE VII, FIG. 3.

Oblonga supra subdepressa, nitida punctata, clypeo subrotundato, margine antico elevato, prothoracis lateribus in medio angulato-prominentibus, margine postico antico paullo latiori, fere recto, medio disco in carinam tenuissimam elevato, humeris elytrorum elevatis, sutura versus basin depressa sed ad apicem elevata; nigra, pronoti linea tenui media dorsali lateribusque anguste sanguineis (his punctum nigrum ante medium includentibus) scutello, lineisque duabus angustis in singulo elytro (ante apicem striola transversa conjunctis) sanguineis; elytris punctatis, linea tenuissima sutura proxima et parallela, lateribusque striolis transversis omnino tectis.

Long. corp. lin. 6; lat. humer. elytr. lin. 2 $\frac{3}{4}$ .

Habitat; prope lacum N'gami, Africa. In Mus. Hopeiano Oxoniæ.

The only specimen of this interesting little species which I have hitherto seen I obtained from a Collection received from Lake-N'gami: it is a male, having the basal segments of the abdomen longitudinally impressed down the middle. The two terminal spiracles of the abdomen are prominent, and the pygidium is raised so as to form three obtuse tubercles.

## GEN. 5—CYMOPHORUS.

(Kirby, Zool. Journ. iii. p. 271, 1827. *Ptychophorus*, Schaum, Germar Zeitschr. iii. 271.)

Corpus parvum subgracile oblongo-ovatum. Clypeus antice marginatus sed non reflexus. Mandibulæ parte externa cornea extus rotundata apice acuto recto, ultra partem internam producto. Maxillæ elongatæ galea curvata apice acuto integro; mandonis dente apicali plus minusve fisso seu bispinoso (pl. VIII, fig. 5 a). Mentum oblongum, disco ante medium angulato, parte antica suboblique truncata, sæpe valde setosa (fig. 5 b). Prothorax subhexagonus, ante medium versus caput, angustatum, pone medium lateribus fere parallelis, postice biimpressum. Prosternum in spinam acutam deflexam ante coxas anticas productum. Mesosternum in processum brevem subtruncatum productum. Elytra singula costa elevata irregulari in disco notata. Abdomen segmentis 2, 3 et 4 basalibus sulco longitudinali notatis. Spiracula postica magna conoidea. Tibiæ anticæ maris extus inermes, fœminæ extus ad apicem dilatatæ bifidæ.

I consider the reasons given by Schaum for the rejection of Mr. Kirby's generic name insufficient. The Lepidopterous name *Cymatophora* is sufficiently distinct from Mr. Kirby's, and it occurs in a different order of insects. The rejection of a generic name in one order or class, because it is already employed in another, would, in the present state of science, involve the change of hundreds of names well known and generally adopted.

The species of this genus are of small size, with the middle of the disc of each elytron raised, forming a polished costa, between which and the suture are several fine striæ. The elytra are also generally marked with small white silky spots. The species appear to be confined to Africa.

## SPECIES 1 (21)—CYMOPHORUS HILARIS.

PLATE VIII, FIG. 10.

Oblongo-obovatus, supra parum convexus; niger nitidus; antennis ferrugineis; prothorace sat crebre punctato, basi utrinque impressa; scutello punctato, medio lævigato; elytris luteis, subtiliter parce punctatis; intus bistriatis, unicostatis, in disco exteriori biimpressis, sutura fere ad apicem late nigra, nigredine medio utrinque ampliata, abdomine toto dilute sanguineo.

Long. corp. mill. 6-9; lat. 3-4 $\frac{3}{4}$  mill.

Habitat; tractus fluvii Limpopo dicti, Caffraria. In Mus. Holm. (mihi pro delineatione communicatus).

SYN.: *Ptychophorus hilaris*. Westw. MS; Schaum, Verz. Lam. Melit. p. 60; Boheman, Ins. Caffr. pars ii. p. 48.

This pretty species is distinguished not only by its orange-coloured elytra, with a broad irregular black sutural mark, but also by the hind part of the prothorax not being narrowed at the shoulders. The clypeus has the sides, and especially the front margin, elevated; the head and pronotum are finely punctured; the sides of the elytra strongly punctured; the humeral and discoidal impressions of the latter are striolated; the disc glossy and finely but distantly punctured. The body beneath is shining; the sides of the metasternum strigosely punctured; the abdomen blood red and glossy, with an oval central impression extending over the second, third, and basal half of the fourth segments. The maxillæ have the galea acute and slightly curved, and the mando armed with two nearly equal acute teeth. The mentum is oblong, nearly straight along the fore edge, behind which it is obliquely truncated, so that the anterior part, seen laterally, is outwardly angulated. The anterior tibiæ in the female are slightly notched below the apex (fig. 10 a) rather than bidentate. The anterior process of the metasternum is thickened between the middle feet, and porrected towards the hind part of the prosternum.

## SPECIES 2 (22)—CYMOPHORUS FLUCTIGER.

PLATE VIII, FIG. 6.

Niger, parce albido squamulosus, clypeo apice medio elevato; thorace transversim ruguloso, elytris profunde impressis; tibiis anticis extus inermibus.

Long. 8 mill = 3 $\frac{1}{2}$  lin.

Habitat; Senegambia. Mus. De Brême.



'Cym. spiniventri minor. Caput nigrum, opacum, punctato-rugosum, ante oculos profunde excisum, clypeo transversim impresso; apice reflexo, medio elevato. Antennæ nigræ clava picea. Thorax lateribus medio obtuse angulatus, antrorsum magis angustatus, basi supra scutellum sinuatus, angulis posticis obtusis, apice medio tuberculato, supra convexus, basi biimpressus, undique transversim rugulosus, niger, opacus, lateribus parce albido-squamulosis; scutellum nigrum, transversim rugulosum. Elytra costa media subundata basi incrassata, furcata [sic, sutura?] lævi, pone suturam profunde impressa, striis duabus geminatis, impressione humerali profunde rugulosa, laterali profunde striolato-rugulosa, nigra, maculis nonnullis sparsis albido-squamosis. Pygidium albido-squamosum, medio carinatum carina ante apicem abbreviata. Abdominis segmentum penultimum lateribus spinosum, supra medio carinatum. Corpus subtus nigrum, parce albido pilosum, tibiæ anticæ in individuo singulo, quod femininum videtur, extus inermes nec bidentatæ.'

## SPECIES 3 (23)—CYMOPHORUS LEUCOSTICTUS.

PLATE VIII, FIG. 4.

Oblongo-obovatus, supra parum convexus, niger subnitidus; clava antennarum rufa; prothorace sat crebre punctato, basi utrinque leviter impressa, margine laterale maculisque duabus basalibus, albidis; scutello crebre punctato, medio anguste lævigato; elytris crebre vage punctatis; singulo ad suturam bistriato, unicostato, disco exteriore biimpresso, parce albido-maculato; corpore et pygidio albido-variegatis.

Long. corp. lin.  $4\frac{1}{2}$ –5; lat. lin.  $2\frac{1}{2}$ .

Habitat; regio fluvii Limpopo dicti, Caffraria. In Mus. Reg. Holm.

SYN.: *Ptychophorus leucostictus*. Schaum, Germar Zeitschr. iii. p. 273; Annales Soc. Ent. France, 1844, p. 395; Boheman, Ins. Caffr. pars ii. p. 47.

*Ptychophorus undatus* (mas). Burmeister, Handb. iii. p. 648, 2.

## SPECIES 4 (24)—CYMOPHORUS MARGARITIFERUS.

PLATE VIII, FIG. 5.

Oblongo-obovatus, niger, nitidus, parum convexus; antennis ferrugineis; capite parce albido-squamoso; prothorace subtiliter, sat crebre punctato, basi utrinque leviter impressa, vitta utrinque lata inæquali, albido-squamosa; scutello basi transversim aciculato; elytris intus striatis, dorso unicarinatis, in disco exteriore biimpressis, postice evidentius, vage punctatis, singulo maculis duabus lateralibus binisque suturalibus, una ante medium parva, altera ante apicem majore albis; pygidio albo bimaculato.

Long. corp. circ. lin.  $4$ – $5 = 8\frac{1}{2}$ – $10$  mill.; lat.  $5$ – $5\frac{1}{2}$  mill.

Habitat; regio fluvii Gariep, Caffraria; in Mus. Holm. (mihi pro delineatione transmissus): etiam Damara Land (Anderson); in Mus. Oxon.

SYN.: *Ptychophorus margaritiferus*. Westw. MS; Schaum, Verz. Lam. Melit. p. 61; Boheman, Ins. Caffr. pars ii. p. 46.

This handsome species is at once known by the large pearly spots on the elytra, of which the anterior is the largest; the posterior lateral ones are sometimes connected with the two at the extremity of the suture, and the pygidium is marked with two small similar spots. The maxillæ (fig. 5 *a*) have a strong slightly curved acutely tipped galea, and two teeth at the extremity of the mando; the mentum is oblong, very setose on its outer surface, and angulated between the base of the labial palpi (fig. 5 *b*, seen from beneath; 5 *c*, seen laterally). The anterior tibiæ are entire in the male, in which sex the base of the abdomen beneath has a strong impression. The prosternum forms a strong deflexed spine; the metasternum is broad and porrected between the middle legs, but not forming a porrected point with the mesosternum, being squared off when seen laterally. The middle and hind femora have a thick row of grey hairs on the under margin; the body beneath is glossy-black, with grey hairs scattered about, a large patch on each side of the metasternum, the exposed part of the epimera, as well as a small patch on each of the metasternal epimera, formed of thick grey pile; the sides of the abdominal segments are marked with fine curved lines, forming semioval punctures chiefly arranged in double rows.

## SPECIES 5 (25)—CYMOPHORUS LATICOLLIS. Westw.

## PLATE VIII, FIG. 8.

*C. niger nitidus*; capite et pronoto crebre punctatis, hoc lato lateribus ante medium rotundatis, pone medium fere rectis parallelis, marginibus lateralibus albido-sericeis, sericie ad angulos laterales scutelli extensa, impressionibus duabus striolatis prope angulos posticos; elytris costa irregulari media glaberrima, impressionibusque duabus, una subhumerali altera pone medium striolatis; striolisque quatuor gracillimis, macula parva albida pone medium elytrorum versus latus, aliaque minuta prope basin suturæ, apicibus etiam albidis; pygidio carina media acuta longitudinali instructo, clava antennarum ferruginea. Tibiæ anticæ fœminæ ad apicem externe dilatatæ, et subbifidæ. Abdomen infra in eodem sexu valde convexum.

Long. corp. lin. 4.

Habitat; Africa. In Mus. Com. Mnischez, Parisiis.

## SPECIES 6 (26)—CYMOPHORUS INTRUSUS.

## PLATE VIII, FIG. 7.

‘*Angustus, piceus*: prothorace crebre punctato, immaculato, basi bi-excavata; elytris piceo-rubris versus suturam bi-strigosis, medio lateribus infraque humeros profunde excavatis: pygidio carinato, acuto; pedibus abdomineque piceo-rubris.’

Long. 10 mill.

Habitat; Africa austral. orient. In Mus. Parisiis.

SYN.: *Ptychophorus intrusus*. Blanchard, Coll. Ent. Mus. Paris, 1850, p. 43; Westw. MS; Schaum, Verz. Lam. Melit. p. 60.

## SPECIES 7 (27)—CYMOPHORUS SEMILUCTUOSUS.

‘*Niger, punctatus*; capite albo maculato, prothorace convexo, limbo externo dentato, punctisque duobus baseos cum scapulis albis: elytris bistrigosis, excavatis, fascia maculari abbreviata, mediana, margine externo bidentato, puncto humerali, punctoque apicis albis.’

Long. 10 mill.

Habitat; Caffraria. In Mus. Parisiis.

SYN.: *Ptychophorus semiluctuosus*. Blanchard, Cat. Coll. Ent. Mus. Paris, 1850, p. 43.

## SPECIES 8 (28)—CYMOPHORUS SPINIVENTRIS.

*Niger nitidus punctatus*; clava antennarum ferruginea; clypeo brevi quadrato; prothorace trapezoidali, utrinque vitta marginali albida sericea postice dilatata et fere ad scutellum intus extensa (ubi in impressionem profundam desinet), prosterno spina porrecta ante coxas anticas armato; elytris parallelis profunde punctatis apice quadratis, singulo versus humerum impressione magna trigona alteraque ovali media discoidali notato; disco fulvo striola laterali media, guttis 4-subsuturalibus, apicibusque albidis; pygidio spinoso albo-bimaculato, spiraculisque duabus ultimis conico-elevatis.

Long. corp. lin. 3-4.

Habitat; Senegal. In Mus. Hopeiano Oxoniæ, etc.

SYN.: *Cremast. spiniventer*. Gory et Perch. Mon. Cët. p. 121, pl. XVII, fig. 2.; Burmeister, Handb. iii. p. 647.  
*Cetonia sponsa*. Dej. Cat. Ed. iii. p. 193.

## SPECIES 9 (29)—CYMOPHORUS UNDATUS.

PLATE VIII, FIG. 3 (♀).

Oblongo-obovatus, niger vel piceus nitidus, parum convexus, squamulis fulvescentibus vel albidis subtus confertius dense obsitus; capite suborbiculato, punctato, prothoraceque confertissime granulato scabro, hujus basi, utrinque, transversim impressa; elytris lacunosus, punctulatissimis, intus bistriatis, striis lævibus; disco longitudinaliter in carinam obtusam undatam elevato, exteriore biimpresso; tibiis anticis extus inermibus, extrinsecus striatulis; pygidio in cornu breve triangulare acuto producto, spiraculis 2 ultimis conicis.

Long. corp. lin. 4–5; lat. 2–2¼.

Habitat; Caffraria tota, frequenter visus. In Mus. Hopeiano Oxoniæ.

SYN.: *Cymophorus undatus*. Kirby, Zool. Journ. iii. p. 153, pl. V, fig. 6 (nec Burmeister nec Schaum in Annales 1845, p. 53); Boheman, Ins. Caffr. pars ii. p. 46; Schaum, Germar Zeitschr. iii. p. 274.

The type specimen of this species is now contained in the Hopeian Collection at Oxford. It is a male, with the anterior tibiæ simple on the outer margin, and the abdomen deeply channelled on its ventral surface. It is entirely pitchy coloured, with luteous scales. My figure of the female is taken from a fine specimen of that sex sent (with a male) from the Royal Museum of Stockholm, for my examination, by the kindness of Prof. Boheman. The male wants the two small dots on the elytra. The female has an oblong impression down the middle of the metasternum, and the third and fourth segments of the abdomen beneath have a small impression in the middle of the hind margin. There has been some confusion between the names of this species and *C. leucostictus*, which Dr. Schaum cleared up in the Annales Soc. Ent. France for 1844, p. 395.

## GEN. 6—RHAGOPTERYX.

Burmeister, Handb. iii. 1832, p. 649.

Corpus oblongo-ovatum nitidum metallicum; clypeus margine antico reflexo-elevato. Antennæ articulo primo parvo. Mandibulæ validæ corneæ in apice aduncæ; membranula interna rotundata ciliata. Maxillæ galea crassa uncinata simplici; mandonis dente brevi crasso oblique exciso, subbidentato. Mentum oblongum (fig. 9a, 9b idem e latere visum) extus longitudinaliter gibbum; antice oblique truncatum, apice fere recto. Pronotum trapezoidale lateribus arcuatis, basi bis angulata, in ipsis angulis foveolata. Elytra inæqualia, singulo carina irregulari obtusa longitudinali impressionibusque duabus notato. Pygidium carinatum. Spiracula duo ultima conoidea. Tibiæ anticæ subbidentatæ (fig. 9c). Tarsi 5-articulati.

## SPECIES 1 (30)—RHAGOPTERYX BRAHMA.

PLATE VIII, FIG. 9.

Oblongo-ovata punctata, viridi-bronzea, rufo-tincta, nitida; clypeo brevi antice reflexo; prothorace subhexagono, antice angustiori, punctatissimo, et versus scutelli angulos anticos bifoveolato; elytris postice angustatis; in medio irregulariter carinatis, singulo striolis 4 (per paria dispositis) prope suturam; lateribus transversim striolatis; segmento ultimo abdominali spiraculis conicis; pygidio in medio carinato et utrinque angulato-producto.

Long. corp. lin. 4.

Habitat; Java. In Mus. Hopeiano Oxoniæ.

SYN.: *Cremast. Brahma*. Gory et Perch. Mon. Cet. p. 120, pl. XVII, fig. 3; Burmeister, Handb. iii. p. 650; Gen. Ins. No. 38, fig. 1–7.

The body beneath is polished, æneous with a coppery tinge, the mesosternal mucro separated from the metasternum by a transversely sinuated impressed line, and with an impressed longitudinal line down its centre. The abdomen beneath is convex, with the sides of the segments marked with oval slightly impressed punctures.

## GEN. 7—ASPILUS.

Westw. MS; Schaum, Verz. Lam. Melit. 1848, p. 61.

Corpus parvum oblongum obscurum, rugosum, elytris cum prothorace parallelis. Clypeus parvus margine antico fere recto, et parum reflexo. Antennarum articulus basalis mediocris. Mandibulæ parte externa cornea extus gibba, interna paullo longiori, apice in dentem acutum recte porrectum producto. Maxillæ galea acuta paullo curvata; mandonis apice bispinoso (pl. VIII, fig. 11 *a*). Mentum oblongum sub medio paullo angustatum margine antico parum emarginato (fig. 11 *b*). Prosternum spina deflexa antice armatum. Mesosternum angustatum haud porrectum. Prothorax latitudine elytris æqualis. Elytra oblonga subdepressa, disco nec irregulariter costato nec sulcato. Pedes mediocres tibiis anticis ad apicem externe bispinosis (fig. 11 *c*). Pygidium convexum simplex.

The type of this genus agrees with *Cymophorus* in the form of its maxillæ and mentum, but the large size of the prothorax, and the peculiar style of sculpturing of the rugose elytra, distinguish it from all the species of that genus.

## SPECIES 1 (31)—ASPILUS GAMBIENSIS.

PLATE VIII, FIG. 11.

Oblongus, opacus, niger, varioloso-punctatus; prothoracis angulis posticis, elytrorum lateribus striolaque brevi pone medium, et apicibus corporeque subtus luteo-sericeis et setosis; antennarum clava rufa; pronoto striolis irregularibus concentricis arcuatis; elytris prope suturam bis bi-striolatis; disco granuloso (absque costis curvatis et sulcis subhumeralibus et sublateralibus); tibiis anticis ad apicem extus bidentatis; tarsis omnibus 5-articulatis; abdomine (in specimine nostro unico) subtus convexo, nigro nitido vage punctato.

Habitat; Gambia. In Mus. Hopeiano Oxoniæ.

SYN.: *Ptychophorus Gambiensis*. Hope MS; Burmeister, Handb. iii. p. 648; Schaum, Verz. Lam. Melit. p. 61; Annales Soc. Ent. Fr. 1845, p. 53.

The head is simple, slightly convex, with the fore margin nearly straight and elevated. The disc is thickly punctured. The under side of the body is variegated with whitish scales. The pygidium is slightly carinated down the centre with two patches of luteous scales. The scutellum and base of the elytra are rugose with very short curved striolæ, mostly oblique and irregular; the disc of the elytra being densely covered with irregular punctures, and without the strongly raised curved costa observed in all the species of *Cymophorus*. The prothorax is nearly equal in breadth with the elytra, the hind part of the lateral margins being nearly parallel, the anterior portion becoming narrower towards the head; the sculpturing of this part of the body is peculiar. The analysis of the genus, which I made at the request of my friend Burmeister in 1842 (see Handb. d. Ent. iii. p. 649), is described in the generic character given above. The Hopeian specimen still remains unique.

## GENUS—PRAONA. Westw. Gen. Nov.

Corpus supra velutinum. Caput mediocre clypeo integro, tenue marginato. Antennæ articulo basali haud dilatato. Maxillæ mandone parvo dentibus duobus (infero minuto) acutis armato, galea magna falciformi apice acuto supra valde setoso (pl. XIII, fig. 1 *a*). Mentum magnum basi contractum lateribus ad basin fere parallelis disco dilatato, valde gibboso, lateribus rotundatis, margine antico in medio recto (fig. 1 *b*, 1 *c*). Palpi labiales articulo ultimo elongato, ultra apicem menti extensi. Prothorax latitudine longitudinem fere æquanti, lateribus parum arcuatis; e medio ad marginem anticum sensim angustatus, margine postico latiori, supra scutellum paullo extensum, angulis omnibus subacutis. Pedes satis elongati; tibiæ anticæ extus bispinosæ. Tarsi omnes 5-articulati.

## SPECIES 1 (32)—PRAONA NIVEOSPARSA. Westw.

PLATE XIII, FIG. 1.

Nigra velutina, capite et pronoto punctis ovalibus, elytris que cicatricosis striolaque tenuissima subsuturali notatis; undique guttis irregularibus albo-vel luteo-velutinis; spiraculis duobus ultimis conicis, pygidioque conico.

Long. corp. lin. 8.

Habitat; in partibus orientalibus Insulæ Mindanao Philippinensi (D. Semper). In Mus. Semper, Altonæ.

GENUS—OPLOSTOMUS.

MacLeay, Ill. Zool. S. Afr. 1838, iii. p. 20; Schaum, in Germar Zeitschr. iii. 264 (Hoplostomus).

Corpus breve latum crassum ut in Cetoniis plurimis. Clypeus antice declivis, margine antico parum elevato. Antennarum articulus primus mediocriter triangularis. Mandibulæ latæ crassæ, parte cornea externa in dentem subacutum, paulo pone partem internam, producta (pl. IX, fig. 8 *e*). Maxillæ subelongatæ, galea elongata falciformi acutissima, mandonis apice in dentem integrum recte porrectum acutum producto (fig. 8 *d*, maxilla supra visa). Mentum maximum os occultans, basi subcontracta basin maxillarum haud tegenti, parte apicali latissima lateribus rotundatis, disco concentricè striato, utrinque in margine excisum ad palporum basin suscipiendam (fig. 8 *e*, mentum interne visum). Pronotum transversum convexum, margine postico emarginato. Prosternum ante coxas anticas in spinam deflexam antice setosam productum. Mesosternum processu antico haud porrecto et cum metasterno inter pedes medios conjunctum (fig. 8 *f*). Pygidium convexum. Spiracula postica conoidea. Tibiæ anticæ bispinosæ.

SPECIES 1 (33)—OPLOSTOMUS CRIBROSUS.

PLATE IX, FIG. 7.

Elongato-ovatus, niger, nitidus, punctatus, pronoti guttis 4 rubris lateralibus; clypeo lateribus rotundatis, antice recto et elevato, parum carinato; prothorace subhexagono, postice biimpresso; elytris valde emarginatis, brevibus, irregulariter foveolatis, foveis profundis, et striolatis; abdominis segmentis lateraliter rotundato-elevatis; pygidio obtuse carinato; spiraculis 2 posticis conicis.

Long. corp. lin. 4–5½.

Habitat; Senegal.

SYN.: *Cremast. cribrosus*. Gory et Perch. Mon. Cet. p. 117, pl. XVI, fig. 2; Burmeister, Handb. iii. p. 657; Gen. Ins. No. 37, fig. 1–6; Schaum, Germar Zeitschr. iii. p. 274 (Ptychop. cr.)

The original type of this species, formerly in Gory's Collection, still, I believe, continues unique; the parts of the mouth have been dissected away, so that both Burmeister (Handb. d. Ent. iii. p. 658) and myself are unable absolutely to determine its affinity to the type of the Genus, *H. fuligineus*. The anterior margin of the clypeus is very slightly angulated in the middle. The sides of the pronotum are deflexed and longitudinally striated. The prosternal spine before the anterior coxæ is so deflexed as to be scarcely visible ('ganz niedrig, mit borstiger spitze.' Burm.) The metasternal process between the middle feet is not porrected, but advanced to a point, received within the notched extremity of the mesosternum (fig. 7 *a*). The lateral margins of the elytra are transversely rugulose, and the four basal segments of the abdomen are longitudinally impressed down the centre. The hind legs are wanting in the type specimen.

SPECIES 2 (34)—OPLOSTOMUS FULIGINEUS.

Obovatus, crassus supra parum convexus, niger nitidus; antennis testaceis, articulo primo nigro; capite punctato; clypeo quadrato, reflexo, supra carinato; prothorace mediocriter, dorso parcius, lateribus crebre punctato; margine postico late emarginato; elytris parce, lateribus apiceque crebrius aciculatis, regione scutellari sublævigata, singulo bicostato, costis lævibus; sutura basi depressa, pone medium elevata; corpore subtus confertim aciculato; pygidio transversim rotundato.

Long. corp. lin. 10½ (mill. 20–22.); lat. humer. elytr. lin. 6 (11–13 mill.)

Habitat; Caffraria tota, Senegambia. In Mus. Hopeiano Oxoniæ, etc.

- SYN.: *Cetonia fuliginea*. Oliv. Ent. I. 6, p. 20, 17, pl. III, fig. 12; Schonh. Syn. Ins. iii. p. 144, 162.  
*Cremast. fuligineus*. Gory et Perch. Mon. Cet. p. 110, pl. XV, fig. 1; Schaum, in Germar Zeitschr. iii. p. 264, 1; Burmeister, Handb. iii. p. 657, 1.  
*Hoplostomus fuligineus*. Boheman, Ins. Caffr. pars ii. p. 49.  
*Cetonia melanaria*. Dejean Cat. Ed. iii. p. 172.  
*Macrominus (Oplostomus) fuligineus*. MacLeay, Annul. S. Afr. p. 21.

## SPECIES 3 (35)—OPLOSTOMUS PLATYCEPHALUS.

## PLATE IX, FIG. 8.

Oblongo-obovatus, supra paullum convexus, niger, parum nitidus; capite magno, crebre punctulato, apice leviter rotundato; prothorace brevi, profunde, crebre punctato, postice angustato; singulo leviter bicostato.

Long. corp. lin.  $8\frac{1}{2}$ –9=16–18 $\frac{1}{2}$  mill.; lat.  $9\frac{1}{4}$ –9 $\frac{1}{2}$  mill.

Habitat; tractus fluvii Gariepis, Caffraria. In Mus. Holm. et Oxon. (e Mus. præced. communicatus).

SYN.: *Hoplostomus platycephalus*. Westw. MS; Schaum, Verz. Lam. Melit. p. 61; Boheman, Ins. Caffr. pars ii. p. 49.

This robust, dull black insect has the head very broad (fig. 8*a*, seen beneath; 8*b*, seen sideways), with the fore margin slightly reflexed. The basal joint of the antennæ is very large and triangular, the second joint being inserted near the middle of its under surface. The mandibles (fig. 8*c*) are very broad, the inner basal angle being much produced internally. The maxillæ have the two lobes produced into very sharp and slender teeth (fig. 8*d*). The mentum is very broad, strongly angulated below the middle (as seen in fig. 8*b*). The labium has two setose lobes applied to the inner surface of the base of the mentum, and the labial palpi arise far apart, near the lateral margins of the mentum (fig. 8*c*). The prosternum is armed with a short slightly deflexed spine in front of the anterior coxæ (fig. 8*b*), and the mesosternal process is very short, flat, and acuminate behind, meeting the advanced point of the centre of the front of the mesosternum (fig. 8*f*). The body beneath is black and glossy; the sides of the metasternum marked with small oblique striolæ; the abdomen beneath is convex; the pygidium convex, with a very slight central, oblong, scarcely raised tubercle; the segments finely but distantly punctured.

## SPECIES 4 (36)—OPLOSTOMUS BOCANDEI.

Habitat; Guinea, Lusitanorum.

SYN.: *Hoplostomus Bocandei*. Thomson, Mus. Scient. i. 1860, p. 37. (Mili invisus.)

## GENUS 10—PROBLERHINUS.

H. Deyrolle, Ann. Soc. Ent. France, 1864, p. 321.

Corpus breve crassum nigrum, nitidum parcius punctatum. Caput (pl. VII, fig. 5*a*) transversum vertice elevato; antice bituberculato, lateribus extus oculos in spinam utrinque productis; clypeo transverso depresso margine antico crasso elevato, medio carinato. Antennarum articulus basalis mediocris. Maxillarum galea longa apice acutissima subtransversa, extus ad basin tuberculo instructa; mandonis dente apicali acutissimo integro galea parallelo (fig. 5*b*). Mentum magnum subtrigonum, concavum, margine antico reflexo; basi acuminatum (fig. 5*c*, caput cum mento subtus visum). Prothorax magnus transverse subquadratus, antice parum latior, lateribus rotundatis; margine antico tuberculo transverso cum lateribus elevatis et medio depresso instructo; margine postico in medio emarginato. Elytra brevia pronoto vix latiora apice rotundata. Pygidium convexum integrum. Prosternum inerme. Metasternum (fig. 5*e*) inter coxas medias et illas haud superans, antice sub-tuberculiforme. Pedes breves crassi. Tibiæ anticæ extus tridentatæ (fig. 5*d*).

The remarkable and unique insect, which forms the type of this genus in its robust form and teeth of the maxillæ, approaches *Oplostomus*, from which the armature of the head and prothorax, the shape of the mentum, and the tridentate anterior tibiæ at once remove it; in several of the latter characters it approaches *Cyclidius*.

## SPECIES 1 (37)—PROBLERHINUS MOUFFLETI.

## PLATE VII, FIG. 5.

Niger nitidissimus, irregulariter et parce punctatus, vertice elevato margine ejus antico subito depresso, et in medio bituberculato; clypeo transverso in medio carinato, carina in medio marginis antici reflexi desinenti; prothorace transverso lato, medio marginis antici elevato, supra verticem producto angulis partis productæ elevatis; dorso convexo fere impunctato, versus angulos anticos magis punctato, lateribus ante medium rotundatis; elytris prothoracis parte postica parum latoribus; sutura depressa, disco suturali depresso cicatricoso punctato, subbicostato; singulo versus apicem puncto albido squamoso notato; pygidio dense punctato; corpore infra nitido, rude punctato; metasterno lævi.

Long. corp. lin. 10; lat. humer. elytr. lin.  $4\frac{1}{2}$ .

Habitat; Fernando Po. In Mus. Com. Mniszeeh (mihi pro delineatione benevole communicatus).

SYN.: *Problerhinus Mouffleti*. H. Deroylle, Ann. Soc. Ent. France, 1864, p. 321, pl. IV, fig. 5.

## GENUS 11—PLATYSODES. Westw. Gen. Nov.

Corpus late ovatum supra depressum. Clypeus transversus angulis anticis lateralibus rotundatis, margine antico fere recto integro. Antennæ parvæ articulo primo haud dilatato. Maxillæ (pl. VII, fig. 4*b*) galea elongata curvata apice acuto, integro, mandone crassiori et breviori edentato, apice etiam integro. Palpi breves crassi. Mentum latitudine longitudinem excedens (fig. 4*c*), angulis anticis lateralibus rotundatis, disco plano, margine antico integro, palpi labiales parvi articulo tertio longo curvato (fig. 4*d*). Prothorax brevis transversus, lateribus rotundatis, marginibus antico et postico fere equalibus hoc, ante scutellum, emarginato. Epimera mesothoracica parva. Elytra lata depressa lateribus parum emarginatis. Tibiæ anticæ extus bidentatæ. Prosternum in spinam compressam antice porrectum (fig. 4*a*, caput et prothorax e latere visa).

The broad flattened form of the unique type of this genus, with its obscure colour and almost impunctate surface, with the broad head and corresponding broad mentum entirely closing the mouth beneath, will readily distinguish it from the other genera of the family, although most nearly allied to *Oplostomus*.

## SPECIES 1 (38)—PLATYSODES VERLORENI. Westw.

## PLATE VII, FIG. 4.

Niger nitidus subdepressus fere impunctatus, elytrorum sutura depressa, cum stria gracili impressa in singulo prope suturam, alteraque cum lateribus parallela, puncto minuto albo in medio singularum striarum, apiceque etiam albo; pygidio albo bimaçulato, segmentisque abdominalibus macula marginali alba notatis; corpore infra nigro nitido; abdomine haud canaliculato.

Long. corp. unc. 1.

Habitat; Java (Blume). In Mus. Reg. Lugdunensi. A Dom. Vollenhovii benigne communicatus et in honorem Domini Doctoris H. Verloren, entomotomi præclari, dicatus.

## GENUS 12—GENUCHINUS. Westw. Gen. Nov.

Genúcho proximus. Corpus oblongum depressum; maxillarum galea et mando unidentati, hujus dente latiori, apice oblique truncato; mentum plus minusve late ovale, latitudine longitudinem æquante vel superante, basi angulum dependentem formante et ad coxas anticæ arete applicata (pl. X, fig. 1*a*). Prosternum spinula porrecta armatus. Tibiæ anticæ plus minusve triquetræ extus bidentatæ.

Species Americæ tropicæ incolæ.

The insects on which I have formed this genus are natives of the tropical parts of America, whilst those of the Genus *Genuchus*, to which they are most nearly allied, are inhabitants of Africa. From the American *Cremaſtocheili* and *Psiloenemis* they differ in the narrow form of the body and much narrower mentum.

## SPECIES 1 (39)—GENUCHINUS V NOTATUS.

## PLATE X, FIG. 4.

*Niger nitidus*, supra subdepressus; capite et pronoto punctatis; elytris velutinis cicatricoso-punctatis; capite antice rotundato, margine elevato; prothorace fere circulari disco utrinque biimpresso; elytrorum dorso plano, ante medium lineola V irregulari lateribusque lineolis nonnullis transversis luteis notatis.

Long. corp. lin.  $7\frac{1}{4}$ ; lat. humer. elytr. lin.  $2\frac{3}{4}$ .

Habitat; Mexico (Mus. Berol., olim D. Schaum): Chontales, Nicaragua (D. Belt.): 'Afr. occid.?' (D. Parry.)

SYN.: *Genuchus V notatus*. Westw. MS.

*Genuchus quadrinotatus*. Schaum, Verz. Lam. Melit. p. 63.

The head is of moderate size, slightly and regularly convex above, with the anterior margin rounded and sharply elevated. It is thickly covered with small punctures; the antennæ are black with the basal joint large and triangular. The maxillæ have a long sickle-shaped apical tooth, and the inner lobe is armed with a shorter and broader flattened tooth. The mentum is large, covering the front of the head beneath, triangularly produced at its base, which is rounded, free, and stands out from the jugulum; the fore margin is rounded and the hind margin is sharply elevated; the middle of the disc is impressed, and it is finely punctured; there is also a slight impression on each side near the insertion of the palpi. The prothorax is nearly circular, the fore margin alone being truncated for the reception of the head with the anterior angles acute. The disc is but very slightly convex, the lateral margins are sharp but not elevated. Within the margin is a slightly impressed line covered with luteous squamosity. The disc is polished and marked with large punctures irregularly scattered about, and with two slight rounded impressions on each side of the disc forming a square. The scutellum is elongate-triangular with the apex acute, it is slightly marked with luteous scales. The elytra are elongate, the disc flattened with a distinct costa extending from within the humeral angle of each to the subapical tubercles. The disc is marked with elongate-oval cicatricose punctures, but at the sides the punctures are rounded. On the disc, rather before the middle, is an irregular V-shaped mark formed of luteous plush-like scales, and on each side are three transverse lineolæ similarly formed; the apex is marked with similar dots, as is also the pygidium. The body beneath is black and glossy, covered sparingly with moderate sized punctures. The prosternum is porrected in front of the anterior coxæ, forming a sharp, compressed, curved, and setose point. The large metasternum is marked with a very fine central longitudinal line. The posterior coxæ and the base of the abdomen are marked with luteous scales; and the basal segments of the latter are impressed down the centre in the male, the second, third, and fourth segments being raised on each side parallel with the posterior margin. The legs are of moderate size. The anterior coxæ are armed on the outside at the tip with two teeth, the inner margin being constricted between the teeth. On the underside the fore tibiæ are furnished near the apex with a large depressed lobe or tubercle rounded at its tip, which gives the tibiæ a triquetrous appearance in this part. The spur on the centre of the four posterior tibiæ is sharp and distinct.

## SPECIES 2 (40)—GENUCHINUS SULCIPENNIS. Westw.

## PLATE II, FIG. 3.

*Niger subnitidus* luteo-sparsus; elytris velutino-costatis cicatricoso-punctatis; prothorace lateribus rotundatis, angulis anticis porrectis acutis, posticis parum angulato-prominulis, sulco medio longitudinali; tibiis anticis extus bidentatis, subtus angulato-incrassatis; metasterno utrinque segmentisque abdominalibus stramineo-velutinis nigro-punctatis.

Long. corp. lin.  $5\frac{1}{2}$ ; lat. humer. elytr. lin.  $2\frac{1}{4}$ .

Habitat; Equador (D. Buckley). In Mus. Parry.

This species at once differs from the others of the genus in the flattened elytra, of a velvety black colour marked with various straw-coloured patches, each having three moderately raised longitudinal polished ridges, the two next the suture disappearing beyond the middle of the elytra. The head is moderately convex, covered with small punctures, the anterior margin thin, rounded, and reflexed. On each side, extending forwards from the place of insertion of the antennæ, is an oblong depression. The maxillæ have the inner lobe terminated by



an obliquely truncated thin tooth. The mentum is broadly ovate, with the entire margin behind the palpi very slightly raised, so as to cause the surface to appear nearly flat when seen horizontally; the anterior margin is deflexed, and the disc marked with striolæ arranged circularly. The prothorax is rather wider than the head, the lateral margins being rounded, the greatest width being rather behind the middle; the anterior angles are acute and rather prominent, the hind margin is rounded and separated from the lateral ones by the posterior angles being rather slightly angulated. The disc is smooth, rather convex, with large punctures scattered wide apart, and with a central longitudinal sulcus. The scutellum has the transverse base delicately punctured, the remainder smooth with the sides elevated. The elytra are long and rather narrow, being widest at the shoulders, which are elevated. The suture and the elevated longitudinal ridges are polished, the disc marked with cicatricose punctures, arranged in irregular striæ, and the sides and apex with small rounded punctures not sharply defined. The silky markings on the elytra are not quite regular, the chief consisting of two transverse spots near the suture before, and two larger ones near the outer margin beyond, the middle. The pygidium is covered with luteous pile. The body beneath is black and glossy, moderately punctured. The sides of the metasternum, and the whole of the second and the base and sides of the third and two following segments of the abdomen are clothed with straw-coloured pile with black punctures. The basal segments are very slightly longitudinally impressed, but the third and fourth are rather transversely swollen on each side. The fore tibiæ are bidentate at the extremity, and the under surface is dilated into an elongated triangle so as to become triquetrous.

SPECIES 3 (41)—GENUCHINUS VELUTINUS. Westw.

PLATE X, FIG. 5.

*Niger opacus supra velutinus, albido-sparsus, prothorace fere rotundato, supra convexo, lateribus rotundatis albido-marginatis, angulis posticis rotundis; capite punctato, pronoti disco cicatricoso-punctato, interstitiis delicatissime granulatis (fig. 5 b); elytris supra depressis, disco punctis oblongis cicatricosis in striis irregularibus dispositis (fig. 5 c); tibiis anticis extus bidentatis, triquetris, apice interno in lobum angustum producto.*

Long. corp. lin. 7; lat. humer. elytr. lin. 2 $\frac{3}{4}$ .

Habitat; Mexico. In Mus. Parry.

This species is distinguished by its intense black velvety hue, marked rather irregularly with small and rather pale buff patches. The head is covered with minute punctures, with the anterior margin transversely rounded and elevated. The mentum is more pointed behind (fig. 5 a), and the sides are raised behind the insertion of the palpi. The prothorax is nearly rounded, the posterior angles not being in the least prominent, the anterior angles are slightly porrected, the front margin, seen from the front, being emarginate, but when seen from above, its convexity causes it to appear rounded as in the figure. The whole surface is covered with more or less distinctly cicatricose punctures, of each of which the hinder margin is not so decided as the anterior, which gives somewhat a scaly appearance when seen under a lens, the interstices being entirely covered with exceedingly minute granulations. The sides of the pronotum are margined with buff, and there are two small buff dots between the middle and the anterior margin. The base of the scutellum is marked with an irregular buff spot. The epimera are posteriorly margined with buff. The elytra are oblong, flat above, velvet black with numerous small irregular whitish buff marks, of which the most conspicuous are a slender irregular broken transverse series across the middle, preceded by another nearly opposite the extremity of the scutellum, and an angulated one near the lateral margins towards the extremity. The apex of the elytra and the pygidium are similarly dotted. The elytra are thickly marked with large oblong cicatricose punctures, arranged in irregular longitudinal lines. The anterior tibiæ are triquetrous, the under side being produced into a long triangular lobe, pointed at its extremity, beneath the base of the tarsus; the outer extremity is bidentate, but the inner is produced into a narrow flattened oblique lobe, at the extremity of which the single calcar is fixed. The body beneath is black and glossy, and punctured rather thickly; the basal segments of the abdomen are longitudinally depressed in the centre.

## GENUS 13—CALLYNOMES. Westw.

Corpus oblongum subdepressum; prothorace subrotundato. Caput convexum, margine antico lato rotundato parum reflexo. Antennæ articulo primo maximo, cavitatem inter mentum et oculos exacte claudens; secundo in medio disci inferi præcedentis inserto. Maxillæ validæ, galea curvata falciformi acutissima; mandone in dentem brevior compressum apice acuto oblique truncato. Mentum maximum planum, capitis partem anticam inferam tegens, antice paullo latius, basi in dentem dependentem producta; palpis labialibus gracilibus, mento absconditis. Prosternum in dentem parvum porrectum productum. Prothorax subrotundatus elytris angustior. Pedes satis graciles, tibiis anticis maris simplicibus edentatis, fœminæ (pl. VII, fig. 7 *e*) extus bidentatis dente infero parvo; tibiis 4 posticis extus dente medio in fœmina tantum armatis. Tarsi omnes in utroque sexu 4-articulati, unguibus minutis armati. Abdomen segmentis basalibus in medio parum depressis.

The extraordinary size of the first joint of the antennæ, the very large mentum, and the 4-jointed tarsi in all the feet of both sexes, will at once distinguish the species of this genus, which is essentially Oriental.

## SPECIES 1 (42)—CALLYNOMES VOLLENHOVII.

## PLATE VII, FIG. 6.

Niger glaberrimus parce punctatus, luteo-setosus, setis gracilibus et piceis, capite antice valde convexo prothoraci fere æquale, clypei lateribus ante basin antennarum dilatato-rotundatis, margine antico acuto valde arcuato; antennis nigris subnitidis; pronoto fere circulari utrinque impressionibus duabus obliquis, anticis ad angulos laterales (valde deflexos) extensis; alterisque duabus curvatis posticis humeris elytrorum oppositis; scutello punctato apice acutissimo; elytris depressis, sutura paullo elevata, singuli disco bicostato, costis angustis, glabris, interstitiis subopacis, canali laterale abbreviata, humeris prominentibus, singulo elytro versus medium suturæ gutta parva albo-cinerea notato; pygidio convexo integro longe setoso; spiraculis duabus ultimis conicis; corpore subtus concolori parce punctato; metasterno utrinque macula parva triangulari albo-cinerea notato.

Long. corp. lin. 8.

Habitat; Java (Macklots), in Mus. Lugdunensi; Malacca, in Mus. Mnischek (setis deteritis).

I suppose the two specimens of this curious species which I have seen are males, because the second and third segments of the abdomen are slightly longitudinally depressed on their ventral surface. They have, however, the tarsi 4-jointed with very small ungues. The maxillæ have the outer lobe forming a slender very acute curved hook, and the inner lobe is obliquely truncate and sharp (fig. 6 *a*). The mentum is somewhat hexagonal, being widest at the anterior lateral angles; it covers the whole of the front of the under side of the head. Its inside is represented in fig. 6 *b*, shewing the small size of the labial palpi, the labium itself forming two setose diverging lobes, lying flat on the inner surface of the mentum, arising slightly below its centre. The prosternal point is porrected in front of the anterior coxæ. The basal joint of the antennæ is very large, flat, and subtriangular, with the anterior angles rounded, it exactly closes the space between the eyes and the mentum, forming a continuous flat surface with the latter.

## SPECIES 2 (43)—CALLYNOMES JUCUNDUS.

## PLATE VII, FIG. 7.

Oblongus depressus, nigro-velutinus punctatus; elytris rufo-fulvis macula media communi pone scutellum apicibusque nigris. Antennarum clava ferruginea. Caput magnum punctatissimum antice declive; clypeo rotundato ante basin antennarum dilatato integro, margine ipso reflexo nitido; prothorace rotundato parum convexo, lateribus (in medio vix angulatis) et postice tenuè marginatis, punctis parvis obsito; scutello punctis magnis vix impresso; elytris oblongis depressis, fere planis, humeris paullo elevatis et glabris, punctis oblongo-ovalibus, præsertim versus apicem, parum profundis impressis, spiraculis duabus ultimis abdominalibus conicis; pygidio inerme punctato; pedibus et corpore infra nigris, nitidis punctatis; tarsis omnibus 4-articulatis, unguibus minutis, segmentis ventralibus abdominis haud longitudinaliter impressis.

Long. corp. lin. 10½; lat. bas. elytr. lin. 4½.

Habitat; Siam (Mouhot). In Mus. Dom. W. W. Saunders.

The colours of this pretty species, and the flat surface of the elytra shewing only the vestiges of longitudinal striolæ visible in the two slender paler-coloured longitudinal lines, will at once distinguish it. The prothorax is also comparatively small, and nearly circular. The basal joint of the antennæ is very large, and triangular; when at rest it shuts exactly between the sides of the mentum and the eyes, completely concealing the sides of the head beneath; the second joint is inserted on its inner surface below the middle (fig. 7 *a*). The mentum is very large, forming a covering, indeed, for the under side of the greater part of the head (fig. 7 *b*); it is angulated in the middle of its basal margin, in the front of which it is dilated into a deflexed horn when seen laterally (fig. 7 *c*). The maxillæ have the apical lobe formed into a slender sickle-shaped hook, the lower lobe being broader and obliquely truncate; the labial palpi (fig. 7 *d*) have the terminal joint curved. The anterior tibiae have a very slight tooth on the outer edge. All the tarsi are 4-jointed (fig. 7 *e*, extremity of anterior tibia and tarsus; fig. 7 *f*, the same of posterior leg). The sides of the elytra and the exposed margin of the sides of the metasternum are clothed with luteous pubescence. The abdomen beneath is convex, the basal segments not being channelled longitudinally.

## SPECIES 3 (44)—CALLYNOMES MANDARINUS.

PLATE VII, FIG. 8.

*C. niger subdepressus, parum nitidus; elytris albido-irroratis, guttis fasciam irregularem interruptam ante medium formantibus; capite antice rotundato, ante basin antennarum haud dilatato, supra depresso, parte inter oculos magis elevata; prothorace transverso-rotundato; elytris supra planis, indistincte longitudinaliter costatis; prothorace multo latioribus, lateribus rectis parallelis; pygidio rotundato spiraculis 2 apicalibus haud prominentibus; tibiis omnibus ante apicem extus dente armatis.*

Long. corp. 6 lin.; lat. humer. elytr. lin.  $2\frac{1}{2}$ .

Habitat; China, Pekin. In Mus. Britann.

This species is of a leaden-black colour, slightly glossy above, thickly but not strongly punctured, the punctures of the elytra being oval and cicatricose. The head (fig. 8, 1, seen sideways, and fig. 8, 2, from beneath) is broad, but not dilated in front of the insertion of the antennæ; the fore margin is slightly reflexed, the disc of the head is depressed, but the space between the eyes is more elevated. The mentum is very large, and marked with fine circular lines; it is produced at the middle of its base into a deflexed spine, as is also the anterior margin of the prosternum; the maxillæ have the inner lobe narrower and less obliquely truncate than in the two preceding species (fig. 8, 3). The labial palpi are slender, and do not extend beyond the edges of the mentum (fig. 8, 4). All the tarsi are 4-jointed. The length of the elytra and podex is equal to  $1\frac{1}{2}$  of the base of the elytra. Beneath glossy black, with but few distant punctures. The anterior coxæ are luteous.

## GENUS—CLINTEROCERA.

(Motschulsky, Étud. Ent. 1857, p. 112.)

The following is the description given by Motschulsky of an insect which seems closely to resemble *Callynomes mandarinus*; but, as it appears that its author had various individuals before him agreeing in having only the posterior tarsi 4-jointed (for had the four anterior been in that condition he would certainly have noticed it), and as his description of the mentum, 'élargi antérieurement et rebordé,' does not agree with my species, I am induced for the present to consider them as distinct.

## 'CREMASTOCHILA SCABROSA.

(Motschulsky, Étud. Ent. 2nd ann. 1854, p. 49.)

'Elongata, parallela, depressa, scabroso-punctata, nigra, elytris albo-maculatis, clypeo emarginato; antennarum articulo primo valde dilatato foliaceo; thoracis lateribus angulisque rotundatis; elytris pygidioque erosopunctatis.'

Long.  $5\frac{1}{2}$  lin.; lat.  $2\frac{1}{2}$  lin.

Habitat; China, environs of Pekin.

*Cl. scabrosa* Motsch. 'J'ai donné une diagnose de cette insecte que j'avais placé dans le genre *Cremastocheilus* dans la seconde année de ces Études, p. 47. Depuis ayant eu l'occasion de me procurer des exemplaires plus complets, je me suis assuré qu'il n'appartient guère à ce genre, par plusieurs caractères très remarquables, tels que; *un menton plane* et non concave, élargi antérieurement et rebordé: par *un corselet* à angles fortement arrondis, et enfin, par des *tarses postérieures* composées seulement de *quatre articles* visibles, vu que le tier est oblitéré et entièrement soudé au second, n'étant représenté que par un renflement globuliforme assez insignifiant, à la base de ce dernier, parfaitement caché dans la cavité de la jambe. Cette Cétonide est donc *hétéromère*.'

#### GENUS 14—CENTROGNATHUS.

(Guérin-Ménéville, Rev. Zool. 1840, p. 79; Schaum, Germar Zeitschr. iii. 267.)

Corpus latum crassum. Caput parvum. Clypeus apice subsinuato margine reflexo et in cornu clavatum elevato; lateribus supra basin antennarum auriculatis (fig. 4*a*, caput e latere visum). Antennæ articulo basali parvo. Mandibulæ parte externa cornea brevi extus rotundata apice acuto, vix partem internam membranaceam ambiente (fig. 4*b*). Maxillæ parvæ galea uncinata apice acuto integro; mandonis dente apicali curvato apice fisso (fig. 4*c*). Mentum oblongum subparallelum, in medio disci angulatum, parte antica oblique truncata, margineque antico fere recto (fig. 4*d*). Prosternum inerme, nec ante coxas anticas spina armatum. Mesosternum obtusum haud porrectum. Abdomen in mare basi late canaliculatum. Tibiæ anticæ basi crassæ extus bidentatæ (fig. 4*e*).

The genus is here confined to the single species first described by Guérin-Ménéville as its type, and which differs from the allied species, with which I have formed the Genus *Spilophorus* (which Burmeister united with it) in the remarkable structure of the head and legs. In its cibarian characters it more nearly agrees with them.

#### SPECIES 1 (45)—CENTROGNATHUS SUBRUGOSUS.

##### PLATE IX, FIG. 4.

*Niger opacus*, subrugosus, capite supra excavato, utrinque cornu erecto, intus recurvo, armato clypeoque in cornu elevatum producto; elytris basi thorace paullo latioribus, parallelis supra planis; pedibus brevibus crassis; tibiis anticis dente vix conspicuo extus instructis; tarsis brevibus cylindricis crassis, unguibus longis.

Long. corp. lin.  $9\frac{1}{2}$ ; lat. humer. elytr. fere lin. 5.

Habitat; Malacca. In Mus. Parry (olim Guerini).

SYN.: *Centrognathus subrugosus*. Guérin-Ménéville, Rev. Zool. 1840, p. 80.; Voy. de Delessert, pl. II, fig. 3; Schaum, Germar Zeitschr. iii. p. 267.

I have hitherto only seen a single specimen of this curious species, now in Major Parry's collection. The lateral margins of the head are raised into two auriculated processes, and the front of the clypeus is raised into an erect subtruncated horn (fig. 4*a*, head seen sideways). The mandibles (4*b*) are pointed at the tip, with a setose membranous lobe on the inner margin, of which the base is not much produced; the galea of the maxillæ (fig. 4*c*) is acute, and the mando bidentate. The mentum is oblong, straight in front, and rather constricted in the middle on each side (fig. 4*d*). The legs are very short and thick (fig. 4*e*, the anterior tibia and tarsus), the latter being 5-jointed. The frontal horn is polished in front. The prosternum is entirely simple, and not in the least prominent, nor with a deflexed point in front of the anterior coxæ. The podex is semicircular, with a very slight longitudinal central carina.

#### GENUS 15—SPILOPHORUS. Westw. MS.

(*Centrognathus* (pars), Burmeister, Handb. iii. p. 652; Lacordaire, Gen. III. 1856, p. 545.)

Corpus latum crassum, ut in *Cetoniis* plurimis, glabrum, nitidum, supra cretoso-maculatum. Caput parvum; clypei margine antico curvato parum elevato. Antennarum articulus basalis parvus. Mandibulæ parte externa cornea elongata et recte producta, apice subacuto. Maxillæ galea curvata apice integro. Mando dente apicali minori apice oblique et inæqualiter bifido (pl. IX, fig. 6*a*). Mentum oblongum basi parum angustiori

et utrinque pone medium subinciso et pro receptione palporum canaliculato (fig. 6*b*), disco longe setoso, antice incrassatum (pl. IX, fig. 5*a*, caput e latere visum). Prothorax antice multo angustior, margine postico ante scutellum emarginato. Prosternum spina minuta conica setosa ante coxas anticas armatum. Mesosternum in tuberculum parvum transversum antice rotundatum, inter coxas paullo elevatum et nullo modo porrectum. Pedes mediocres, tibiis anticis extus ad apicem bidentatis (fig. 6*c*), 4 posticis in medio spina extus armatis. Abdomen maris segmentis 4 basalibus subtus in medio impressis. Pygidium in medio longitudinaliter subcarinatum.

This genus is now composed of several species from South Africa and India, remarkable for their general resemblance to some of the robust species of *Cetonia*, and for the brilliant shining upper surface of the bodies more or less marked with white or buff patches.

## SPECIES 1 (46)—SPILOPHORUS MACULATUS.

Oblongo-ovatus, depressus, cyaneo-niger, albo variegatus punctis magnis distantibus notatus; vertice convexo; clypeo antice rotundato margine in medio reflexo, vertice albo sparso; prothorace hexagono, disco et lateribus punctatis, margine postico late emarginato, lateribus irregulariter albis punctum nigrum includentibus; elytris parallelis, depressis, singulo macula magna irregulare submedia, guttis nonnullis striolaque subapicali albis; pygidio maculis duabus; prosterno utrinque maculato, metasterni et coxarum posticarum lateribus detectis et segmentis ventralibus abdominis utrinque irregulariter albo-maculatis.

Long. corp. lin. 7.

Habitat; Ind. Orient., Poonah, Gozo. In Mus. Hopeiano Oxoniæ, &c.

SYN.: *Cremast. maculatus*. Gory et Perch. Mon. Cet. p. 119, pl. XVI, fig. 8; Burmeister, Handb. v. p. 565.

*Cetonia cretosa*. Hope, Trans. Zool. Soc. Lond. i. 1835, p. 98.

*Cetonia lugubris*. Burmeister, Handb. vi. p. 653 (nec Fabricius, nec Burm. Op. c. v. p. 565).

## SPECIES 2 (47)—SPILOPHORUS PLAGOSUS.

## PLATE IX, FIG. 6.

Ovatus, parum convexus, niger, nitidus; vertice biimpresso et inæqualiter albido-squamoso; prothorace vel toto lævi, vel in lateribus parum punctato, disco medio lævi, vitta utrinque laterale, intus bisinuata, postice abbreviata, alba; elytris parce at profunde irregulariter punctatis, maculis duabus magnis, albido-squamosis, una mox pone medium, difformi, altera apicali, transversa, notatis; pygidio, pectore lateribusque abdominis albo-maculatis.

Long. corp. lin. 11½–12 m.; lat. 6¾–7 m.

Habitat; Caffraria tota, Limpopo. In Mus. Oxoniæ (Dr. Burchell).

SYN.: *Spilophorus plagosus*. Westw. MS; Schaum, Verz. Lam. Melit. p. 61; Boheman, Ins. Caffr. pars ii. p. 49.

*Spilophorus lugubris*. Burmeister, Handb. v. p. 565; nec Fabricius, nec Burm. Op. c. iii. p. 653.

The specimen of this species, 14 mill. long, figured in pl. IX, fig. 6, was (with another only 11½ mill. long, but agreeing with it exactly) brought from South Africa by the late Dr. Burchell, both differing from the ordinary type in the much smaller extent of the white markings; the head and pronotum being entirely black, the latter with the sides (especially near the posterior angles) punctured, with a very minute spot close to the outer margin of the elytra near the apex, and a very small one on each side of the pygidium; the under side of the body is also quite immaculate.

The maxillæ (fig. 6*a*) have the galea sickle-shaped, but rather thickened in the middle; the mandible has a small tooth on the under side; the mentum is oblong, with the fore margin scarcely emarginate, the lateral margin slightly narrowed in the middle for the action of the labial palpi (fig. 6*b*); the fore legs are strongly bidentate on the outside (fig. 6*c*).

The specimens described by Burmeister and Boheman have the hind part of the head marked with an irregular white transverse mark, the sides of the pronotum with a broad white band, irregular on its inside, and not extending to the hinder angles; the sides of the elytra marked in the middle with a large irregular spot, within which are several black dots, the apex of the elytra with a transverse irregular white broken spot, and

each side of the pygidium with an irregular spot; the metasternum has also a large irregular white blotch on each side. Such specimens from Motito are in the collection of Count Mnischech. Specimens from Damara Land in the collection of W. W. Saunders, Esq., are similarly marked above; but there is only a very small white spot on each side of the metasternum, and a very minute one on each side of the fourth segment of the abdomen beneath.

## SPECIES 3 (48)—SPILOPHORUS LUGUBRIS.

'Glabra, atra, elytris macula laterali anoque albis. Clypeo integro, abdomine utrinque macula lineaque punctorum albis.

'Un peu plus grande que la Cétonie versicolor; les élytres ont des points enfoncés; le sternum n'est presque pas avancé.'

Habitat; Cape of Good Hope. Mus. Dom. Banks.

SYN.: *Cetonia lugubris*. Fabr. Ent. Syst. I. ii. 152; Syst. Eleuth. ii. p. 158; Syst. Ent. i. App. p. 819; Olivier, Ent. i. 6. pl. 44, pl. VII, fig. 60; Schönherr, Syn. Ent. iii. 142; Schaum, Germar Zeitschr. iii. 270 (Cenoch. l.)

The typical specimen of this insect is still preserved in the Banksian Collection at the British Museum. The hind part of the head above has an irregular white mark; the apex of the elytra are scarcely marked with white; the sides of the metasternum have an irregular white mark, and the abdominal segments have on each side a row of spiracle-like white dots. I consider it most probably a rubbed specimen of *Sp. plagosus*.

## SPECIES 4 (49)—SPILOPHORUS AURIFER.

## PLATE IX, FIG. 5.

Niger nitidissimus; supra lateribus pronoti et elytrorum guttis aureo-cretaceis numerosis indutis; capite mediocri supra convexo; clypeo, antice viso, emarginato, et in medio parum elevato, mandibularum parte externa apice obtuso; vertice e clypeo linea transversa separato; supra linea centrali longitudinale, marginibusque lateribus elevatis; antennarum clava piceo-rufa; pronoti dorso lævi fere impunctato, lateribus punctatissimis; elytris glaberrimis regione suturale depressa, disco medio longitudinaliter at paullo irregulariter elevato; punctis paucis magnis oblongo-cicatricosis (versus latera multo frequentioribus) notato, spiraculis 2 posticis conicis obtusis.

Long. corp. lin. 7.

Habitat; Guinea. In Mus. Reg. Hafniæ (olim D. Westermann).

SYN.: *Hoplostomus aurifer*. Westw. MS. olim; Schaum, Verz. Lam. Melit. p. 62.

The hind part of the clypeus is separated from the crown of the head by a transverse line, and the latter has a raised central line, the lateral margins being also elevated. The pronotum is slightly margined, and very thickly punctured at the sides, the disc being nearly destitute of punctures. The legs are punctured, as well as the pygidium, which has a slight longitudinal carina. The body beneath is black and glossy, the middle of the metasternum smooth, with the sides punctured and irregularly covered with luteous patches; the abdomen is more sparingly punctured all over, the second segment has a small oval-oblong central impression, and is marked, as well as the three following segments, on each side, with a pale transverse irregular patch. The prosternal point is very short, but distinct. The head is represented laterally in pl. IX, fig. 5, which exhibits the thickened and truncated extremity of the mentum, clothed with setæ. The maxilla is represented in fig. 5 *b*, and is identical in structure with that of *C. plagosus*, fig. 6 *a*. The mentum (fig. 5 *c*), however, is more regularly oblong, with the sides nearly parallel, and the anterior portion more prominent and swollen. The anterior tibiæ are acutely bidentate, and the tarsi 5-jointed (fig. 5 *d*) and short.

The unique specimen of this elegant species is now preserved, with the remainder of the Westermann collection, in the Royal Museum of Copenhagen, to which it was bequeathed by its late possessor, by whom it had previously been kindly forwarded to me for description and representation in the present Monograph.

## GENUS 16—TROGODES.

(Westw. MS; Schaum, Verz. Lam. Melit. 1848, p. 64.)

Corpus obscurum late obovatum depressum. Caput parvum, antice declive; clypei margine antico parum elevato et in medio tenue angulato. Antennæ articulo basali parvo. Maxillæ elongatæ galea curvata apice acuto integro; mandonis dente apicali tridentato dentibus inæqualibus (pl. XI, fig. 1 *a*). Mentum (fig. 1 *b*, 1 *c*),

oblongum, prope basin utrinque rotundato-incisum, margine antico fere recto, disco in medio angulato-incrassato longe setoso. Prothorax fere circularis margine antico (pro capitis receptione) paullo emarginato, disco spatiis duobus parvis obliquis lævibus. Prosternum ante coxas anticas spina parva deflexa armatum (fig. 1 *c*). Mesosternum minime porrectum obtriangulare; metasterni apice haud prominulo, pro receptione apicis mesosterni emarginato. Elytra supra fere plana, impressione profunda sublaterale notata. Abdomen segmentis 4 basalibus subtus in medio depressis at non canaliculatis. Tibiæ antice extus bidentatæ (fig. 1 *d*). Tarsi 5-articulati breves.

The South African species, upon which I have established this genus, agrees with *Scaptobius* in size and general obscure appearance, but is distinguished at once from it by the form of the prothorax and mentum; from *Cœnochilus* it differs in its broader form and unidentate galea of the maxillæ; from *Cymophorus*, in its obscure appearance, comparatively smooth elytra, and rounded thorax; and from *Oplostomus*, in its bidentate mando, form of the thorax, and comparatively small mentum. It agrees with *Centrognathus* in several important respects, but differs in its small unarmed head and simple feet. Its nearest ally, however, seems to be the Genus *Pilinurgus*, having nearly similar maxillæ and mentum, and bidentate anterior tibiæ.

## SPECIES 1 (50)—TROGODES ROTUNDICOLLIS.

## PLATE XI, FIG. 1.

Oblongo-obovatus, niger, opacus, supra parum convexus, indumento fusco-brunneo obsitus; capite subtiliter crebre punctulato; prothorace crebre punctato, medio utrinque area parva sub-elevata, lævi, notato, lateribus posticeque valde rotundato; elytris vage sat crebre aciculato-punctatis, singulo, in disco, leviter biimpresso.

Long. corp. lin. 5 (9–10 mill.); lat. lin.  $2\frac{1}{4}$  ( $4\frac{3}{4}$ –5 mill.)

Habitat; Caffraria tota. In Mus. Hopeiano Oxoniæ, Reg. Holm. &c.

SYN.: *Trogodes rotundicollis*. Westw. MS; Schaum, Verz. Lam. Melit. p. 64; Boheman, Ins. Caffr. pars ii. p. 54.

This insect has somewhat the appearance of a small depressed *Trox* (whence the generic name). The head and prothorax are variolose-punctate, each puncture producing a minute luteous bristle; the elytra have elongate punctures of the same character. The abdomen beneath in one sex is convex, but in the other the four basal segments in the middle are flattened, but not channelled. In this sex the legs are rather longer, and the spines of the fore tibiæ and the spurs of the four hind tibiæ are not so strong as in the female; the pygidium has a longitudinal carina at its base, more strongly defined than in the female, and the elytra have several obscurely defined abbreviated costæ on the disc and towards the lateral margin.

## GENUS 17—PILINURGUS.

(Burmeister, Handb. iii. 1842, p. 658; *Myoderma*, Dejean Cat. (pars).)

Corpus parvum obscurum hirtum, tomentosum. Antennarum articulus basalis mediocris. Clypeus parvus margine antico integro elevato. Mandibulæ parte externa cornea, apice acuto. Maxillæ (pl. IX, fig. 2 *a*) mediocres, galea brevi curvata apice subobtusio; mandone porrecto dentibus duobus obtusis, antico porrecto. Mentum oblongum, antice paullo latius, ante medium angulato-elevatum (fig. 2 *b*, subtus; 2 *c*, e latere visum) antice oblique truncatum, disco truncaturæ subconcavo margine antico integro. Prothorax subhexagonus, margine postico elytris angustiori, haud emarginato. Elytra prothorace latiora absque costis vel sulcis impressis. Prosternum spina deflexa antica armatum. Mesosterni processus anticus abbreviatus obtuse-rotundatus, coxas non superans (fig. 2 *d*). Tibiæ anticæ apice extus bidentatæ (fig. 2 *e*). Spiracula duo postica tuberculiformia.

The small size of the species of this African genus, and the tomentose covering of their upper surface, without any of the deep sulci or raised curved costæ of the elytra, will distinguish them from their nearest allies. I have here added a second species to this genus, closely allied to the type *P. hirtus*; as well as a third species from the East, which seems most fitly to be placed here, unless it should be considered more advisable to form it into a separate genus, which seems scarcely necessary.

## SPECIES 1 (51)—PILINURGUS HIRTUS.

PLATE IX, FIG. 2.

Oblongo-ovatus subconvexus, obscure ater, cicatricoso-impressus luteoque rude setosus et squamosus, maculis nudis nigris marmoratis; clypeo lateribus rotundato, margine antico supra viso recto, in medio reflexo; prothorace supra maculis duabus irregularibus lateralibus luteo-setosis notato; elytris emarginatis parallelis, apice rotundatis, fasciis transversis undatis irregularibus luteo-squamosis; capite, pygidio corporeque subtus plus minusve luteo-setosis immaculatis, tibiis tarsisque nigris nitidis.

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

Habitat; Senegal. In Mus. Hopeiano Oxoniæ, &amp;c.

SYN.: *Pilinurgus hirtus*. Gory et Perch. Mon. Cet. p. 119, pl. XVII, fig. 1; Guérin-Méneville, Icon. R. An. Ins. pl. XXVI, fig. 1; Burmeister, Handb. iii. p. 659; Schaum, Verz. Lam. Melit. p. 62.

*Myoderma fuliginosa*. Dej. Cat. Edit. iii. p. 187.

The details of the mouth of this species (represented in figs. 2*a*, 2*b*, and 2*c*) are described in the generic characters given above. The thorax and elytra are covered with small oval cicatricose punctures, each emitting a small reddish or luteous seta from its base; the luteous scales upon the elytra form an irregular dentate fascia across the middle, and a transverse one between the middle and apex, followed by some irregular spots. The prosternum has an acute deflexed spine in front of the anterior coxæ. The pygidium is convex, and entirely covered with pale-luteous squamosity. The body beneath is also covered with similar scales and with whitish buff setæ (especially on the under side of the legs, which are almost destitute of scales). The third and fourth segments of the abdomen are marked with two black transverse spots in the middle.

## SPECIES 2 (52)—PILINURGUS SUBUNDATUS.

PLATE IX, FIG. 1.

Niger opacus, luteo-squamosus, prothorace magis hexagono, postice elytris multo angustiori; clypeo antice reflexo; elytris postice magis angustatis, disco subplano lateribus subito deflexis; tibiis anticis obtuse bidentatis.

Long. corp. lin.  $4\frac{1}{2}$ ; lat. elytr. bas. lin.  $2\frac{1}{4}$ .

Habitat; Port Natal. In Mus. Schaum olim.

SYN.: *Pilinurgus subundatus*. Westw. MS; Schaum, Verz. Lam. Melit. p. 62.

This species is larger than the preceding, from which it is chiefly distinguished by its more hexagonal prothorax, and more posteriorly attenuated and less truncated elytra. The front margin of the clypeus is rather elevated, and the disc of the head is thickly marked with small cicatricose punctures; the prothorax has the middle of the lateral margins angulated, and the posterior margin is nearly straight and much narrower than the base of the elytra. The prothorax and elytra are covered with shallow irregular cicatricose punctures, each producing a short black seta. The disc of the elytra is flat, the sides suddenly deflexed, and separated from the disc by a scarcely elevated carina. The body beneath is thickly clothed with dirty greyish-buff squamosity and similar coloured setæ, and the second, third, and fourth segments of the abdomen are marked in the centre beneath with two transverse black spots.

## SPECIES 3 (53)—PILINURGUS DESPECTUS.

PLATE IX, FIG. 3.

Late obovatus, supra depressus, obscurus piceo-niger, luteo parum squamulosus, elytris magis piceis; capite parvo; clypeo rotundato, tenuiter marginato; prothorace transverso lateribus in medio margineque postico rotundatis, punctis minutis cicatricosis notato; elytris in medio dorso subplanis, obscuris subvelutinis, maculis nonnullis indistinctis luteo-sericeis, punctis subdistantibus minime profundis, apice singuli rotundato, et sub humeris profunde emarginatis; pygidio in medio paullo carinato, spiraculis 2 posticis conicis; pedibus brevibus; tibiis anticis acute bidentatis; corpore infra sericie grisea induto.

Long. corp. lin.  $5\frac{1}{2}$ ; lat. humer. elytr. lin.  $2\frac{1}{2}$ .



Habitat; Siam (Mouhot). In Mus. Britann., Oxoniæ et W. W. Saunders.

I am reluctantly induced to place this Siamese insect in the Genus *Pilinurgus*, hitherto composed of species from Western Africa, with which it agrees in its obscure setose appearance, and in the structure of the maxillæ, which have a short porrected galea, obtuse at the tip, whilst the mando is also porrected and obtusely bidentate (pl. IX, fig. 3 *a*). The mentum (fig. 3 *b*) is nearly square, with the fore margin slightly rounded; the middle of the disc is somewhat angulated, with two large impressions in the anterior half, having a central raised ridge between them. The prosternum is armed with a deflexed flattened spine in front of the anterior coxæ; the abdomen beneath is convex; the pygidium is marked with two large oval depressions; the metasternum is simple in front between the middle coxæ. The length of the elytra is not quite equal to  $1\frac{1}{2}$  times the width of the middle of the prothorax; the punctures at the base of the elytra are large, but shallow, and wide apart. The species appears liable to be affected by grease, as some of the specimens which I have seen are quite obscure.

### GENUS 18—TRICHOPLUS.

(Burmeister, Handb. iii. p. 660, 1842; Gen. Ins. quæd. No. 36.)

Corpus oblongum planum, nigrum nitidum; caput latum in medio verticis nodulosum; clypeus brevis transversus subsinuatus; antennæ articulo primo maximo. Mandibulæ basi dilatata, dente molari angusto instructa, parte externa cornea apice obtuso. Maxillæ compressæ, galea magna cornea, basi curvata, bidentata; mandonis dente longo gracili apice tridenticulato (fig. 10 *d*). Mentum transversum fere planum, tenue, lateribus rotundato-dilatatis, parte antica subito angustiori, disco medio paullo concavo setoso. Prothorax magnus lateribus rotundatis. Elytra oblonga parallela, regione scutellari depressa. Pedes breves compressi. Tibiæ omnes inermes. Tarsi omnes 3-articulati. Prosternum ante pedes anticos in spinam deflexam compressam apice dilatato-porrectum (fig. 10 *b*). Mesosternum carinatum obtusum, haud porrectum (fig. 9 *a*).

The simple unarmed tibiæ, and the 3-jointed tarsi, at once distinguish this genus from the rest of the family. Hitherto the genus has only comprised one described species of remarkable character. A second, still more striking, was kindly communicated to me for this Monograph, from the Royal Museum of Stockholm, by the late Professor Boheman.

#### SPECIES 1 (54)—TRICHOPLUS LÆVIS.

##### PLATE IX, FIG. 9.

Depressus, totus niger nitidissimus; clypeo brevi sinuato; prothorace subquadrato, lateribus rotundatis antice paullo latioribus, subtiliter punctato, elytris oblique aciculatis punctatis, regione scutellari lævissima; pedibus valde compressis.

Long. corp. lin. 5.

Habitat; Cape of Good Hope.

SYN.: *Cremast. lævis*. Gory et Perch. Mon. Cet. p. 115, pl. XVI, fig. 2; Burmeister, Handb. iii. p. 663; Gen. Ins. No. 36, fig. 1-8.

My figure of this remarkable insect was drawn from M. Gory's original type, communicated by Dr. Schaum.

#### SPECIES 2 (55)—TRICHOPLUS SCHAUMII.

##### PLATE IX, FIG. 10.

Valde oblongus, elytris parallelis, niger nitidus; prothorace orbiculari, disco pronoti in cavitationem magnam rotundatam transverse striolatam excavato; lateribus elevatis et postice rude punctatis; elytris oblique striatulis, singulo carina elevata longitudinali suturæ proxima et parallela instructo; pedibus omnibus inermibus; calcari-bus tibiarum minutis, tarsis 3-articulatis brevissimis.

Long. corp. lin. 5.

Habitat; Cape of Good Hope. In Mus. Reg. Holm.

SYN.:—*Trichoplus Schaumii*. West. MS; Schaum, Verz. Lam. Melit. p. 63.

The orbicular prothorax, with its deep circular excavation of the disc, will distinguish this most remarkable species from every other known Coleopterous insect. The under side of the prothorax is excavated in front, so that when the head is bent down it fits exactly into the hollowed space in front of the anterior coxæ, leaving only exposed the dilated apex of the prosternal spine (fig. 10 *a*, fig. 10 *b* representing the under side of the head when raised up, shewing the large mentum covering the mouth). The mandible (fig. 10 *c*) has the outer horny portion obtusely rounded at the tip. The maxillæ (fig. 10 *d*) have the base elongated so as to be visible on the outside of the base of the mentum; the galea is strongly angulated at its base, nearly forming a right angle with the basal portion; its apex is bifid, the apical tooth of the mandible is much more slender, with its apex tridentate. The mentum (fig. 10 *e*) is wider than long, the sides beneath the insertion of the palpi dilated and rounded, the fore margin nearly straight and the palpi very short. The elytra are oblong with the sides parallel, delicately marked with oblique striolæ, the suture elevated, and each having a strong and elevated carina near to and parallel with the suture. The legs are short and compressed and all the tibiæ are destitute of lateral spines. The tarsi are 3-jointed, the anterior (fig. 10 *f*, apex of tibia and tarsus seen from above; 10 *g*, the same seen below) shewing a minute rudimental joint, or constriction, at the base of the first joint. In the four posterior tarsi, which are 3-jointed, the basal joint itself is minute. The body beneath is black and glossy, with a slight pitchy tinge. The four basal segments of the abdomen beneath are marked with a broad, but shallow impression. They are covered with very large oval punctures, which decrease in size to the podex. The sides of the metasternum are obliquely striolated.

I have named this most singular insect after my lamented friend Dr. Schaum, who, in the most liberal manner, assisted me to the utmost of his power in preparing this Monograph.

#### GENUS 19—CENOCILUS.

(Schaum, Germar Zeitschr. iii. p. 268, 1841.)

Corpus latitudine plus duplo longius, superficiei dorsali punctata nitida. Clypeus transversus convexiusculus apice sinuato et parum reflexo. Antennæ articulo basali incrassato sed non triangulariter dilatato. Mandibulæ parte externa cornea, extus rotundata apice obtuso. Maxillarum basis utrinque pone mentum conspicua, galea et mandone bidentatis. Mentum oblongum canaliculatum angulis anticis lateralibus rotundatis, margine antico plus minusve profunde inciso. Pronotum suborbiculare antice posticeque angustatum, angulis haud tuberculatis. Pedes validi mediocres. Tibiæ omnes bidentatæ. Tarsi tibiis longiores 5-articulati. Abdomen maris subtus haud aut vix canaliculatum.

The narrow elongated form of these insects, together with the bidentate structure both of the galea and mandible of the maxillæ, the strong spine in front of the prosternum, the dilated apex of the anterior tibiæ in the males (bidentate in the females), distinguish them from the neighbouring groups. Some of them are of considerable size and others very small; the elytra are more or less costated, and the males in some species have the legs armed in a remarkable manner.

The species are natives of Africa and the East, and are arranged below according to their localities, although some of them are so closely allied together (if not absolutely identical) as to have occasioned some confusion in their synonymy.

#### DIVISION I—SPECIES AFRICANÆ. (Sp. 1-17.)

##### SPECIES 1 (56)—CENOCILUS MAURUS.

##### PLATE XI, FIG. 5.

Elongatus toto rufo-piceus, vel piceo-niger, nitidus; clypeo transverso, paullo sinuato; mento subquadrato, angulis anticis rotundatis, margine antico bifido; vertice postice carina tenui transversa instructo: prothorace rotundato antice angustiori, parte latiori pone medium posita, margine antico in medio tuberculo elevato instructo, lateribus distincte tenuè marginatis, utrinque intus angulos posticos biimpresso et canali tenuissimo medio dorsali; elytris subcastaneis longitudinaliter canaliculatis; pygidio convexo; tibiis anticis subito ad apicem dilatatis: abdomine subtus segmentis mediis in medio vix impressis.

Long. corp. lin. 10–11.

Habitat ; Senegal (Gory et Perch.), Guinée.

SYN. : *Cetonia maura*. Fabricius, Syst. Eleuth. ii. p. 158 ; Schönherr, Syn. Ins. iii. 143 ; Burmeister, Handb. vol. iv. appendix (nec Burmeister, iii. p. 666).

*Cremastr. Paulus*. Gory et Perch. Mon. Cet. p. 112, pl. XV, fig. 4 (nec Burmeister, Handb. iii. p. 664).

I have drawn up the above description from an examination of the Fabrician type in the Royal Museum of Copenhagen.

The elytra are very polished, with one well defined impressed stria next the suture, outside of which is a line formed of interrupted punctures; next a moderate depression and then a sublateral one (fig. 5 a), the middle of the disc covered with punctures. The metasternum and posterior margin of the four hind legs are clothed with luteous hairs.

Much confusion has arisen respecting the nomenclature of this species, and I am indebted to the late Dr. Schaum for the following MS. remarks, in which it is cleared up:—

‘Malgré mon assertion deux fois répétée (Annales Soc. Ent. France, p. 396 et 424) que M. Burmeister a décrit sous le nom de *Cæn. Paulus* le même individu que Gory et Percheron et que le *Paulus* Burm. était donc le même insecte que le *Paulus* Gor. et Perch., j’ai eu absolument tort, et je m’empresse de le réparer. Burmeister a réèlement décrit un individu que appartenait à M. Thorey. Je m’en suis pu convaincre en recevant de nouveau ce dernier par M. Thorey. Ne pouvant pas vous le communiquer, je l’ai fait dessiner et je vous envoie ce dessin (pl. XI, fig. 8), que est très exact. Seulement la grandeur naturelle n’a pas été indiquée sur ce dessin; elle est la même que celle du *Paulus* Gor. et Perch. Voici quelques différences qui séparent le *Paulus* Burm.; que j’ai nommé *procerus* pour éviter toute confusion avec le *Paulus* Gor. et Perch. Le *procerus* a la même grandeur, mais il est plus large, les élytres sont plus courtes. La tête n’a pas la carène transversale entre les yeux qu’on voit dans le *Paulus* Gor. et Perch. Le corselet est plus orbiculaire et plus large, sa plus grande largeur se trouve au milieu et non pas derrière le milieu comme dans le *Paulus* Gor. et Perch.; le corselet est autrement ponctué, les pièces axillaires et le dessous sont velues, les élytres ont la suture et trois faibles côtés élevées, ces côtés et la suture ont des points écartés et fins; les intervalles sont aciculés plus fortement sur les côtés et à l’extrémité, etc.

‘Il restait encore à décider lequel de ces deux insectes est la véritable *Cetonia maura* Fabr. Je les ai donc envoyés à M. Westermann pour être comparés avec le type de celle-ci; M. Westermann me répond que le *Paulus* Gor. et Perch. est parfaitement identique à la *C. maura* Fabr. M. Burmeister avait donc raison également sur ce point; la synonymie de ces deux insectes serait donc:

(a) *Cæn. maurus* Fab., *Paulus* G. et P.

(b) *C. procerus* M., *Paulus* Burm.

La patrie du *procerus* est un peu douteuse. Thorey ne la connaît pas d’une manière sûre. Burmeister en disant qu’il vient du Sénégal se rapportait à l’indication de Gory et Percheron. Je crois qu’il vient de la Caffrérie, ayant vu, chez M. Von Winthem à Hambourg, un second individu du *procerus* trouvé dans cette localité par Eklon.’ Schaum, in litt. Oct. 3, 1846.

My figure 5 in pl. XI is drawn from Gory’s typical specimen, kindly forwarded to me by Dr. Schaum, who purchased his collection of Cetoniidæ. The lateral margins of the prothorax are slightly injured and notched in this specimen, as represented in my figure. The prothorax has the fore margin with a central tubercle; there are two impressions within the posterior angles, and on the disc before the middle are two very minute circular impressions scarcely visible. The fore tibiæ have the lower tooth broad.

The late J. Aspinall Turner, Esq., M.P., sent me for delineation two specimens which he had received from Gambia, and which I have represented in figures 6 and 7. His death has prevented me from again comparing them with my drawings of *Cr. Paulus* Gor. and Perch. and *Cr. procerus* Schaum, with the view of clearing up the slight differences which exist between the different figures. Thus the fore margin of the clypeus is emarginate in fig. 5, but slightly rounded in fig. 6. (This difference is probably occasioned in consequence of the head being raised at a different angle in the two specimens.) The lateral margins of the thorax are entire in fig. 6, the specimen not being injured in this part as in fig. 5. The two punctures of the disc of the prothorax are apparently more central in fig. 6 than in fig. 5. The specimen represented in fig. 6 has the abdomen slightly depressed in the middle of the three anterior segments. The calcaria of the hind legs are acute in the male,

but more obtuse and stronger in the female. Fig. 6 *a* represents the maxilla (alike in both sexes), and fig. 6 *b* the lower lip terminated in two flat rounded lobes, and strongly depressed in the middle. Fig. 7 represents Mr. Turner's female, which is rather broader and larger than the male, the prothorax is more orbicular, the widest part being across the middle, with a central furrow and four dorsal impressions: the elytra are less depressed, the basal joint of the antennæ dilated, the ventral segments of the abdomen are convex. The elytra have a rather deep plain stria near the suture, a second, less strongly marked, extends to the inside of the subapical swelling, which is glossy, the apex of the elytra being dull: a third stria on the disc is formed only by a very indistinct broad depression, outside of which is an abbreviated one, there is also a rather deep impression within each humeral angle. The lateral portion of each elytron is finely and transversely aciculated; in the middle part the punctures are very shallow, oval, and ill defined behind. The pygidium is very finely rugose, the under side of the thorax is very finely and closely punctured, the sides of the abdominal segments with fine oblique aciculated striolæ, and the lower tooth of the fore tibiæ broader than in the male.

## SPECIES 2 (57)—CÆNOCHILUS PROCERUS.

## PLATE XI, FIG. 8.

Præcedenti magnitudine æqualis sed latior, elytris brevioribus: prothorace magis orbiculari, parte latiori in medio posita. Niger subnitidus, punctatus, supra glaber, infra luteo-setosus; vertice valde convexo, carina transversa inter oculos haud instructo: prothorace punctatissimo, canali lævi postico medio notato, impressionibusque duabus intus angulos posticos aciculatis, scutello punctato margine elevato; epimeris rufo-hirtis; elytris sutura costisque tribus parum elevatis, costis parum punctulatis, interstitiis aciculatis, pygidio rufo-hirto.

Long. corp. lin. 10.

Habitat; Africa Austral., Caffraria, teste Schaum.

SYN.: *Cœnochilus procerus*. Schaum, Verz. Lam. Melit. p. 62.

*Cœnochilus Paulus*. Burmeister, Handb. iii. p. 665 (nec Gory et Perch.).

In several of the characters of this species, as indicated in Dr. Schaum's note given under *C. maurus*, it will be seen that it approximates to Mr. Turner's female of the latter. The frontal tubercle of the prothorax is however wanting, and the head is not transversely carinated between the eyes; it also wants the dorsal impression of fig. 7.

## SPECIES 3 (58)—CÆNOCHILUS VENTRICOSUS.

## PLATE XI, FIG. 11.

Piceo-niger; capitis vertice pone oculos transverse carinato et versus basin antennarum biimpresso; clypeo transverso, parum sinuato; mento subquadrato angulis anticis rotundatis, antice oblique truncato margine in medio inciso; prothoracis lateribus rotundatis, margine antico angustiori, parte latiori pone medium posita; disco canali tenui medio vix distincto basique biimpressa, dorso punctis minutissimis, angulis posticis rotundatis; elytris longitudinaliter striolatis interstitiis rotundato-elevatis et lævissime aciculatis; pygidio valde convexo.

Long. corp. lin. 6 $\frac{3}{4}$ ; lat. bas. elytr. lin. 2 $\frac{3}{4}$ .

Habitat; Sierra Leone, Guinea, Senegal (Gory et Perch.). In Mus. Hopeiano Oxoniæ et Reg. Holm.

SYN.: *Cœnochilus ventricosus*. Gyllenhal in Schönh. Syn. Ins. i. 3, App. p. 56 (84); Burmeister, Handb. iii. p. 665; Schaum, Ann. Soc. Ent. France, 1844, p. 396.

*Cremast. Brou*. Gory et Perch. Mon. Cet. p. 113, pl. XV, fig. 5.

The original type of this species, described by Gyllenhal, is preserved in the Royal Museum of Stockholm (Coll. Alfeldius). It exactly agrees in size with the insect in the Hopeian Collection, from which Gory and Percheron derived their description and figure of *Cremast. Brou*, and which is also here represented in fig. 11.

The elytra have a few very minute luteous scales scattered over their surface; the pygidium is regularly convex, the upper part sculptured with very fine and minute circular and semi-circular lines, the lower part is glabrous. The abdomen is not channelled in the middle at its base in the type specimen of *Cremast. Brou*, but is rather flat, with the terminal segment a little incurvêd downwards. The ventral segments are marked with fine semicircular lines, and the mesothorax is thickly punctured and thickly clothed with luteous setæ.

## SPECIES 4 (59)—CÆNOCHILUS TURBATUS.

## PLATE XII, FIG. 7.

Piceo-niger, nitidus, punctatus; capite carina transversa inter oculos extensa; clypeo antice emarginato; prothorace obovato lateribus rotundatis marginatis, parte latiori pone medium sita, margine antico multo angustiori, margine postico sinuato, intus angulos posticos transversim biimpresso; disco convexo in medio haud (nisi certo situ tenuissime) canaliculato; elytris punctatis, stria tenui longitudinali prope suturam, ex apice scutelli extensa; alterisque quatuor dorsalibus in singulo elytro abbreviatis minus distinctis; podice integro convexo.

Long. corp. lin. 8.

Habitat; Port Natal. In Mus. Britann.

SYN.: *Cænochilus turbatus*. Westw. MS; Harold et Gemminger, Cat. Col. p. 1337.

Caput et pronotum punctatissima, punctis in caput confluentibus, punctis elytrorum paucioribus et majoribus. Pronotum convexum impressione longitudinali (vix nisi certo situ distinguenda) tenuissima in medio prope marginem posticum, fossulisque duabus ovalibus transversis intus angulos posticos. Scutellum parce punctatum basi minutissime et transverse striolatum. Elytra subconvexa prope humeros impressione notata; prope scutellum paulo elevata, striis longitudinalibus e punctis oblongis plus minusve confluentibus formatis. Podex piceus semicircularis, convexus, striolis minutissimis semicircularibus impressus. Corpus subtus similiter striolatum inde subsquamosum apparet. Femora 4 antica, tibiæ 4 posticæ et metasternum setis fulvis induta. Abdomen subtus impressione magna ovali longitudinali fere ad podicem extensa.

## SPECIES 5 (60)—CÆNOCHILUS GLABRATUS.

## PLATE XII, FIG. 9.

Oblongus, niger, nitidus, supra convexus; capite crebre rugoso-punctato, carina transversa tenui inter oculos; prothorace crebre medioeriter punctato, lateribus medio valde ampliato, disco haud impresso; scutello basi transversim impresso, aciculato; elytris in dorso punctato-striatis, striis duabus externis abbreviatis et postice conjunctis; singulo parum bicostato.

Long. corp. lin. 9; lat. lin. 4.

Habitat; Gambia, Natalia et in tractu fluvii Limpopo dicti, Caffraria. In Mus. Hopeiano Oxoniæ, Britann. et Holm.

SYN.: *Cænochilus glabratus*. Westw. MS; Schaum, Verz. Lam. Melit. p. 62; Boheman, Ins. Caffr. pars ii. p. 50.

The very glossy upper surface of this species, the deep sulci, or striæ, of the elytra, of which the two outer are confluent posteriorly beyond the middle and the rounded concave apex of the mentum, distinguish it from its congeners. The clypeus is slightly dilated at the sides, and its fore margin is nearly straight, the upper surface of the head is thickly but finely punctured, and there is a transverse ridge between the eyes. The maxillæ are robust, the lower tooth of the mandible rather smaller than the upper (fig. 9a). The mentum is oblong, narrowed at the base, and constricted rather before the middle, the lateral anterior angles are rounded off, and the fore margin emarginate. The mentum (fig. 9b) is in this part thickened (fig. 9d), and truncated into a transversely oval concave apex (fig. 9c). The prothorax is wider than long, much rounded at the sides and convex, covered with minute round punctures, without any impressed central line. The posterior lateral angles are rounded off; the hind margin is nearly straight, with a slight transverse impression close to the hind margin on each side. The elytra are but slightly punctured; their surface is irregular, with rugosities about the middle of the suture, and deep sulciform striæ, of which the two outer ones on the disc become confluent together behind the middle; outside of these striæ is an oblong impression parallel with the outer margin. Their length is rather more than  $1\frac{1}{2}$  times that of the width of the prothorax. The podex is convex below the middle; the basal portion marked with fine transverse striæ close together; the lower part punctured and glossy. The body beneath is glossy, very finely punctured, with the punctures wide apart. The sides of the metasternum, and of the trochanters of the hind legs, are marked with fine oblique striæ, and the abdomen is convex and not channelled in the females. The legs are strongly spined, and the tarsi are long and slender.

The male has the pronotum less strongly punctured; the abdomen with a deep and rather broad impression on the under side; the striæ of the elytra rather deeper than in the female; the fore tibiæ are obtusely bidentate, and the hind tibiæ have a brush of strong setæ on the posterior half of the inner edge.

## SPECIES 6 (61)—CÆNOCHILUS CASTANEUS.

PLATE XI, FIG. 9.

Oblongo-ovatus castaneus nitidus; capite inter oculos biimpresso, et carina elevata tenui transversa postica notato; prothorace antice et postice truncato, lateribus rotundatis, disco medio biimpresso et linea media impressa cum fossulis duabus posticis notato; elytris crebre punctatissimis et subcostatis; femoribus anticis ante apicem profunde emarginatis.

Long. corp. lin.  $8\frac{1}{2}$ ; lat. humer. elytr. lin.  $3\frac{1}{2}$ .

Habitat; Abyssinia. In Mus. Mnischez, Parisiis.

This species is distinguished by its castaneous colour, and by the fore tibiæ being very strong and armed with a tooth preceding a strong notch near the extremity. The head is rather wide, rounded at the sides and slightly emarginate in front; it has two round impressions between the front of the eyes, and a slender raised ridge between their hinder part. The prothorax is one-sixth wider than long, and the elytra are slightly more than twice the length of the prothorax, and are as long as one and two-fifths of the width of the shoulders of the elytra. The anterior lateral angles of the prothorax are acute, and the hind ones rounded off; there is a slight longitudinal sulcus down the middle of the prothorax, with two slight impressions near the middle of the disc, and two transverse oval ones opposite the sides of the scutellum. The head and pronotum are covered with fine round punctures, and the elytra are finely cicatricose-punctured and but slightly costated. The body beneath is covered with fulvous hairs, short on the abdomen, but long and thick on the metasternum, and also on the under side of the femora. The abdomen in the only specimen I have seen (which, from its bidentate anterior tibiæ, I consider to be a female, notwithstanding the strong notched fore femora) is convex, and the podex is also convex.

## SPECIES 7 (62)—CÆNOCHILUS APPENDICULATUS.

PLATE XIII, FIG. 2.

‘Elongatus parallelus, totus rufo-brunneus, nitidus; prothorace æqualiter disperse punctulato, basi leviter bifoveolato; elytris obsolete costatis, secundum suturam depressis, ante apicem albo-setulosis; tibiis anticis submuticis, posticis intus late dentatis.’

Long. corp.  $19\frac{1}{2}$  mill.

Habitat; Zanzibar ad *Euduro*. In Mus. Reg. Berol.

SYN.: *Cænochilus appendiculatus*. Gerstaecker, Beitr. Ins. Zanzibar, in Wiegman. Arch. f. Naturg. (vol. xxxiii. 1867, p. 39.)

A *Cæn. mauro* Fab., Burmeister, Handb. Ent. iv. p. 568, statura minore necnon capitibus prothoracisque sculptura subtiliore distinctus; a *Cæn. glabrato*, Bohem. (Ins. Caffr. ii. p. 50, n. 743), inter alia jam colore discrepans.

‘Caput frequenter sed vix rugoso-punctatum vertice transverso elevato, fronte convexa, utrinque longitudinaliter impressa; clypeo distincte trisinuato, parcius punctulato, nitido. Prothorax suborbicularis, basi subtruncatus, ante scutellum sinuatus, ibique foveolis duabus transversis lævibus signatus; supra deplanatus, undique disperse punctulatus, intra marginem lateralem subreflexum punctis nonnullis majoribus et in disco linea abbreviata subtilissima vix impressa instructus. Scutellum disperse punctulatum, medio fere læve, scapula squamoso-strigata. Coleoptera latitudine plus dimidio longiora, suturam versus ultra medium usque fortiter declivia, singula parum profunde bisulcata, inter sulcos uni-, per discum pluri-seriatim punctata, pone excisionem lateralem leviter cicatricoso-impressa, ante apicem setulis nonnullis crassis brevibus obsita. Pygidium obtuse-rotundatum convexum confertissime transversim aciculatum. Processus prosternalis, femora anteriora subtus, tibiæ intermediæ intus ferrugineo-fimbriatæ. Pectus punctatissimum; abdomen læve, lateribus cum coxis posticis aciculatis. Tibiæ anticæ apice triangulariter ampliatae sub calcare intus breviter ferrugineo-fasciculatae, posticæ in margine interno dente amplissimo, late truncato, instructæ, extus ante apicem emarginatæ.’

## SPECIES 8 (53)—CENOCILUS ANALIS.

## PLATE XII, FIG. 10.

Niger, subnitidus, parce setosus; elytris setis parvis brevissimis inter strias; capite et pronoto punctatissimis; elytris striis quinque discoidalibus ad humeros haud extensis; pronoto subcirculari, striola tenui impressa in medio partis posticæ impressionibusque duabus posticis, ano feminae binodoso.

Long. corp. lin.  $5\frac{1}{2}$ .

Habitat; Natalia. In Mus. Hopeiano Oxoniæ et Mniszech.

SYN.: *Cenochilus analis*. Westw. MS; Harold et Gemminger, Cat. Col. p. 1336.

Oblong, subcylindrical, black, slightly glossy; the head covered with small punctures, which are sometimes confluent; a slender transverse carina between the eyes; the antennæ pitchy, the basal joint clothed sparingly with grey setæ. The prothorax is nearly circular, convex, minutely and thickly punctured; the lateral margins almost destitute of a thickened edge; a slender channel runs down the middle of the hind part, with two small transverse impressions near the posterior angles. The scutellum is thickly punctured at its base, its apex being obliquely striolated. The elytra are thickly punctured, the punctures small but very irregular in size; they are slightly sulcated longitudinally, and each has on its disc five duplicated striæ, not extending either to the base or apex of the elytra, and not reaching to the shoulders; the outer striæ being most indistinct and somewhat catenated. The pygidium is thickly punctured. The body beneath is marked with transverse punctures; it is setose, the metasternum being more thickly clothed with setæ. The pygidium of the male is convex, and preceded by a short segment slightly produced in the centre and setose along its posterior margin (fig. 10 *c*, seen from behind; 10 *d*, seen sideways); that of the female is more angulated when seen laterally (fig. 10 *b*), and has two raised tubercles on its disc, the short preceding joint being bisinuated (fig. 10 *a*). The abdomen of the male has its extremity curved and deflexed, rather flattened, but not in the least channelled down the middle of the basal segments on the ventral surface.

## SPECIES 9 (54)—CENOCILUS CALCARATUS.

## PLATE XII, FIG. 3.

Elongatus, angustus, niger, nitidus; minute punctatissimus; capite antice parum emarginato; prothorace fere circulari, linea tenui media dorsali, et versus humeros elytrorum biimpresso; elytris dorso parum convexo, sutura striolisque duabus prope suturam in singulo impressis, disco cicatriculis minutis elongatis notato; tibiis duabus posticis brevissimis crassis, subtus ad apicem spina valida curvata, tibiarum longitudine armatis, calcaribus valde elongatis. ♂.

Long. corp. lin. 10; lat. elytr. lin.  $3\frac{1}{2}$ .

Habitat; Sierra Leone et Old Calabar (Foxcroft.) In Mus. Britann. et Parry.

The upper surface of this very distinct species is black and moderately glossy; the head is of moderate size; the disc slightly convex, with a shallow impression on each side behind the base of the antennæ; the fore margin is emarginate with the lateral angles rounded; it is rugose, being closely covered with minute punctures; the antennæ are pitchy black, the basal joint marked with curved striolæ on the outside, setose at the tip and under side; the first joint of the clava is marked with an oval impression on the outside near the middle, filled with minute setæ. The maxillæ (fig. 3 *a*) are armed with two strong triangular teeth on the apical lobe, the inner lobe is also bidentate; the mentum (fig. 3 *b*) is oblong, terminated in front by two rounded lobes, the junction forming an acute impression between them. The prothorax is nearly circular, being slightly widest behind the middle; the lateral margins are distinct, but very slightly elevated. The disc is convex, with a fine impressed longitudinal line down the middle of the posterior half of the pronotum, and opposite the humeral angles of each elytron is a rather deep marginal impression. The disc is closely covered with small distinct round punctures. The elytra are moderately convex on the disc, the suture itself, and two longitudinal striæ on each elytron near the suture, being considerably impressed: there is also a rather deep impression within each humeral angle, behind which is also an abbreviated longitudinal but slight impression. The disc is moderately marked with minute longitudinal punctures, very shallow and incomplete behind, which become shorter and more confused toward the sides.

## SPECIES 10 (55)—CENOCILUS ARMIGER.

## PLATE XII, FIG. 2.

*Niger, vix nitidus, punctatissimus; elytris costatis, sutura et costis impunctatis, interstitiis duplicato-striolatis et quasi coriaceis, lineis brevissimis aciculatis obtectis; pronoto subrotundato angulis lateralibus posticis vix prominulis, tibiis 4 posticis maris calcari longo et crasso reflexo intus armatis; elytrorum apicibus intus paullo angulatis.*

Long. corp. lin. 7; lat. humer. elytr. fere lin. 3.

Habitat; Zulu, Africa Merid. In Mus. Hopeiano Oxoniæ et Sheppard.

The remarkable armature of the four hind legs of the male of this species distinguishes it from every known Coleopterous insect. It is black, with a slight castaneous tinge on the elytra, antennæ, and body beneath. The head is rounded in front, and has a raised ridge between the eyes. The prothorax is nearly circular, the two posterior lateral angles being scarcely produced; the lateral margins are slightly deflexed. It has a fine central impressed line beyond the middle, and two impressions opposite the sides of the scutellum, which are rather deep, wide, and obliquely striolated. The scutellum is punctured at the base, and finely striolated behind. Each of the elytra has three elevated costæ, which are nearly impunctate, as is also the portion of each adjoining the suture, the apex of which is slightly acuminate. The intervening spaces of the elytra have a coriaceous appearance from being covered with an infinite number of minute aciculated lines close together. The antennæ (fig. 2 *a*) have the third, fourth, and fifth joints marked with fine longitudinal lines on the upper side, whilst they are smooth on the under side. The mentum is oblong, being twice as long as broad, slightly dilated at the sides behind the middle; the fore margin emarginate in the middle, and with the anterior lateral angles rounded off. The fore tibiæ in the male are dilated at the outer extremity, where they are notched so as to form two obtuse teeth; the four posterior tibiæ are furnished at the extremity on the under side with a long, obtuse, slightly curved spine, which is directed backwards, the two ordinary apical spurs being of the usual small size. The abdomen of the male has the second, third, fourth, and fifth segments marked with an oval shallow impression, and the podex is vertical and not convex, and covered with fine aciculated transverse lines (fig. 2 *b*, seen from behind); the two posterior spiracles not being greatly enlarged. The tarsi are flat and rather broad, with short straight ungues. The epimera and sides of the metasternum are clothed with greyish luteous hairs.

## SPECIES 11 (56)—CENOCILUS NILOTICUS.

## PLATE XII, FIG. 11.

*Niger, subnitidus, punctatissimus; capite inter partem anticam oculorum biimpresso; prothorace fere circulari, linea tenui media longitudinali et impressionibus duabus ovalibus ante scutellum notato; elytris costatis, interstitiis longitudinaliter duplicato-striolatis; pedibus posticis inermibus; antennis et capite subtus piceis.*

Long. corp. lin. 6½; lat. humer. elytr. lin. 2½.

Habitat; ad Nilum album, Africae tropic. In Mus. D. Sheppard.

This species might at first sight appear identical with *C. armiger*, but the simple feet and some other characters at once distinguish them from each other. The upper surface is black and glossy; the head and thorax is thickly covered with small round punctures; the clypeus is dilated on each side, in front of the insertion of the antennæ; there are two nearly rounded impressions between the anterior part of the eyes, and a line between their middle part. The mentum (fig. 11 *a*) is oblong, not much longer than wide, with the fore margin emarginate in the middle, and the anterior lateral angles rounded off. The prothorax is nearly circular, the greatest width being a little behind the middle; the hinder lateral angles are rounded off, and the hind margin in front of the scutellum is very slightly emarginate. The lateral margins are reflexed; the central longitudinal impressed line does not extend either to the anterior or posterior margin, and there is an oval impression on each side opposite the anterior angles of the scutellum, which are marked with oblique striolæ; the elytra have three raised costæ, which, as well as the sides of the suture, are punctured, the interstices being filled with very fine aciculated punctures, which towards the base are more cicatricose. The podex is convex, preceded on the under side (fig. 11 *b*, 11 *c*, seen sideways) by a short joint, which has its hinder margin a little produced in the middle, followed by the deep open anal impression. The under surface of the abdomen of the male has the second, third, fourth, and fifth segments with a broadly oval depression in the middle.



## SPECIES 12 (57)—CÆNOCHILUS SULCATUS.

PLATE XI, FIG. 10.

Oblongus, subangustus; elytris depressis; fusco-niger subtus luteo-setosus; antennis nigris clava picea; clypeo quadrato antice sinuato; prothorace rotundato sulco longitudinali medio (præsertim postice) impressionibusque duabus subobsoletis prope scutellum notato; elytris longitudinaliter canaliculatis; disco sub lente subtilissime lineato-punctatis vel coriaceis; femoribus anticis crassis, supra in mare obtuse serratis; tibiis anticis apice dilatatis et obtuse bidentatis, tibiis anticis in fœmina acute bidentatis; pygidio maris convexo, fœminæ impressione rotunda notato.

Long. corp. lin.  $7\frac{1}{2}$ –9.

Habitat; Sierra Leone et Africa Austr.

SYN.: *Cænochilus sulcatus*. Schaum, Germar Zeitschr. iii. p. 270; Burmeister, Handb. iii. p. 666.

*Cremast. maurus*. Gory et Perch. Mon. Cet. p. 113, pl. XV, fig. 6; Schaum, Ann. Soc. Ent. France, 1844, p. 396 (nec *Cet. maura* Fabricius).

The general appearance of this species is dull and obscure black; the clava of the antennæ is pitchy; the head and pronotum are covered with very minute grey pubescent setæ, and the elytra with the same, but more widely scattered; the under side of the body is also similarly clothed, the metasternum being more woolly in its appearance; the hairs of the hind tibiæ are also luteous grey. The prosternum is armed with a strong deflexed spine in front of the anterior tibiæ; the anterior tibiæ are strongly bidentate at the tip in the female, and the pygidium is marked with a large round impression.

These notes were made from an examination of the original type of *Cr. maurus* of Gory, from the Cape of Good Hope, communicated by Dr. Schaum, who observes of it that it 'est un peu plus grand que le Sénégalensis, le corselet moins convexe, couvert d'une ponctuation beaucoup plus serrée, les côtés des élytres sont plus saillantes et également couvertes d'une ponctuation réticulée.'

Specimens from Western Africa and Sierra Leone are in the Collections of W. W. Saunders, Esq. and Count Mniszech, which I cannot specifically distinguish from Gory's South African type. One of these, which I apprehend are males, is represented in pl. XI, fig. 10. These specimens are nine lines long (three-fourths of an inch). The length of the elytra is nearly equal to twice the width of the broadest part of the prothorax; at their base the elytra are marked with more decided oval punctures, often pointed at the tips behind, each puncture having a very minute central dot. The suture is rather elevated, and more clearly punctured; there is an impressed line running on each side parallel with the suture, and on the disc are two longitudinal, not deeply marked sulci, the sides of the elytra parallel with the lateral margin being rather elevated. A portion of the disc of the left elytron, highly magnified, is represented in fig. 10*a*, to shew the intricate minute impressions, not visible except under a lens, which give a shagreened appearance to the elytra. The metasternum and its sides are clothed with short luteous setæ. The body beneath is black, glossy, and slightly punctate, and the abdomen is very convex on its ventral surface; the penultimate segment of the abdomen above is transversely marked with very minute striolæ, and is somewhat carinated longitudinally down the centre. The pygidium is quite convex, covered with extremely minute and closely arranged irregular (but for the most part transverse) striolæ; amongst which are some distant minute circular punctures, emitting fine short luteous setæ. The fore legs are strong, the femora having the anterior margin obtusely serrated and setose. The anterior tibiæ are obtusely bidentate at the tips, having also a conical tubercle on their under surface, a little below the insertion of the 5-jointed anterior tarsi (fig. 10*b*). The posterior tarsi are inserted at a little distance before the extremity of the tibiæ, which is excised for this purpose on its outer edge; the spurs, which are broad and short, arise below the insertion of the tarsi.

## SPECIES (13 58)—CÆNOCHILUS EMARGINATUS.

PLATE XII, FIG. 1.

Niger nitidissimus; capite et prothorace punctatissimis; clypeo subrotundato; prothorace antice rotundato, supra depresso, pone medium latiori, angulis posticis rotundatis, utrinque impressione minime profunda inter emarginaturam et angulos posticos notato, margine postico in medio late emarginato, lateribus capiteque

luteo-setosis; scutello et elytris parce punctatis, horum basi lateribus et apice magis punctatis, singulo striolis 4 gracillimis longitudinalibus per paria dispositis, suturæ depressæ proximis et parallelis; disco inter medium et striolas convexo; humeris prominentibus sulco curvato pone humerum, alteroque minime profundo oblongo sublaterali pone medium singuli posito; abdomine infra convexo, punctato; pygidio convexo setoso; antennis piceis; tibiis anticis acute bidentatis.

Long. corp. lin.  $5\frac{1}{2}$ ; lat. elytr. bas. lin. 2.

Habitat; Damara Land, Afric. Austr. In Mus. W. W. Saunders.

The polished surface of this insect, and the peculiar form of the prothorax, well distinguish it from its congeners. It bears indeed a certain amount of resemblance to some of the species of *Cymophorus*, but the very acutely bidentate galea of the maxillæ (fig. 1 *a*), and the great length of the bidentate terminal spine of the mando, prevent its introduction into that genus. The elytra are twice the length of the widest part of the prothorax; the four posterior tibiæ are longitudinally sulcated, and there is a fine impressed line down the middle of the metasternum.

SPECIES 14 (59)—*CENOCHILUS CORNIGER*.

PLATE XII, FIG. 4.

Parvus, angustus, capite inter oculos tuberculo elevato instructo; prothorace subovali in medio supra impressione ovali magna notato; elytris elongatis sub-parallelis, antennis rufo-piceis.

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

Habitat; Africa Austr. In Mus. Reg. Hafniensi (olim D. Westermann).

SYN.: *Cœnochilus corniger*. Westw. MS; Schaum, Verz. Lam. Melit. p. 62.

This very small narrow species is at once distinguished by the raised tubercle in the middle of the head, between the eyes, and by the somewhat oval prothorax having a large oval impression in the middle of its upper side. The head is rather short, the clypeus broad, with the fore margin slightly emarginate in the middle. The prothorax is broader than the head, the sides rounded, the greatest width being about the middle of its length. The anterior angles are not prominent, but the posterior ones are acute, and the hind margin is slightly emarginate in front of the scutellum. The elytra are very narrow. The head is punctured rather strongly and closely, as is also the front of the pronotum, with the punctures circular, but behind the middle the punctures are more linear, and so arranged as to form two oval circles. The elytra are punctured, the punctures emitting luteous setæ, those on the basal half of the elytra being sometimes more or less confluent, forming two or three ill-defined abbreviated striæ in addition to the two decided striæ on each side of the suture. The posterior spiracles form two very minute conical points. The legs are rather robust, the anterior tibiæ, in the only specimen I have seen, broad and bidentate, the tarsi flattened, with the joints dilated, only the three apical joints being visible from above in the anterior feet. The prosternum forms a strong deflexed spine in front of the fore coxæ. The abdomen is convex beneath. On the under side the body is black and glossy, punctured, and setigerous, as are the top and under sides of the prothorax.

SPECIES 15 (60)—*CENOCHILUS CRASSIPES*.

PLATE XII, FIG. 5.

Parvus, angustus, niger, capite antice emarginato vertice convexo; prothorace majori, lateribus rotundatis, antice angustiori, angulis posticis rectangulis; disco haud longitudinaliter impresso, basi transversim biimpressa; elytris prothorace haud multo latioribus, apice rotundatis, longitudinaliter læviter striolatis, striolis postice abbreviatis; capite et pronoto punctis minutis rotundis; elytris nitidis punctis minimis, tibiis omnibus latis.

Long. corp. lin. 4.

Habitat; Guinea, Africa. In Mus. Deyrolle, Parisiis.

This species is distinguished by its convex head and prothorax, the latter nearly as broad in the middle as the elytra, with the hind part wider than the front, and by the very broad bidentate tibiæ. The clypeus is rather dilated on each side into a flattened lobe, with the margin slightly reflexed, the fore margin being emarginate in the middle. The prothorax is broadest across the middle, with the sides rounded, the anterior portion being much more gradually narrowed than the hinder, which latter has the posterior lateral angles acute and slightly

produced in front of the epimera; the disc is convex and entire, but there is a transverse impression on each side of the base; the punctures on the front of the prothorax are simple and round, but in the middle and hind parts they are more oblong, closer, and more confluent, becoming short striolæ near the posterior angles. The elytra are very long and narrow; they are shining and very delicately and irregularly punctured; they have a moderately prominent costa at a short distance from the suture, the sutural stria being curved and duplicated beyond the middle of the elytra; on the disc are three duplicated striæ, which are abbreviated behind, the lateral one not extending to the middle, behind which is a longitudinal impression parallel with the lateral margin. The two terminal spiracles are conical and prominent; the legs are rather short and strong, with the tibiæ broad, the anterior being strongly bidentate; the podex is very convex and semicircular; the body beneath is black and very glossy; the abdomen in the only (female) specimen which I have seen not being channelled. The deflexed sides of the pronotum are marked with curved striæ, and all the femora on the under side and the sides of the metasternum are similarly striated.

## SPECIES 16 (61)—CÆNOCHILUS ANGUSTATUS.

## PLATE XII, FIG. 6.

Parvus, valde angustus, niger, subnitidus, crebre punctatissimus, capite convexo, antice emarginato; prothorace oblongo, lateribus in medio dilatatis, angulis posticis rectis; elytris fere parallelis pone humeros sinuatis, singulo quinque duplicato-striolatis, antennis rufo-piceis.

Long. corp. lin.  $4-4\frac{3}{4}$ .

Habitat; Africa Occid. tropicali, Sierra Leone. In Mus. Britann., Holm. et Parry.

SYN.: *Cænochilus angustatus*. Westw. MS; Schaum, Verz. Lam. Melit. p. 62.

*Cænochilus pygmæus*. Parry MS; Schaum, l. c.; Harold et Gemminger, Cat. Col. p. 1336.

The small size and narrow form of this species, with an oblong prothorax somewhat swollen across the middle, distinguish it from the other species. It is black, slightly glossy; the head and pronotum covered with minute circular punctures; the reflexed lateral margins of the latter marked with close curved longitudinal striæ; and the hind margin is nearly straight, being scarcely emarginate in front of the scutellum, which is transversely striolated at the base and punctured behind. The elytra are very delicately punctured, and each is marked with five very fine duplicated striæ; on each elytron, beyond the middle, there is a longitudinal impression parallel with the lateral margin. Each of the two maxillary lobes are acutely bidentate; the mentum is oblong, rounded in front, with a notch in the middle of the fore margin (fig. 6a). The anterior femora are longitudinally striated on the under side. The middle of the metasternum is punctured, and its sides marked with curved longitudinal striæ placed close together. The abdomen beneath, especially at the sides, is finely but irregularly striolated; the pygidium is terminated by an obtuse point, and is marked with very delicate circular striolæ.

## SPECIES 17 (62)—CÆNOCHILUS SETOSUS.

## PLATE XII, FIG. 8.

Oblongus, subparallelus, subcylindricus, niger, subnitidus, setis aureis micantibus adpersus; antennarum clava et palpis rufo-testaceis; capite convexo, prothorace confertissime aciculato basi lata, biimpessa; elytris crebre rugoso-punctatis; singulo ad suturam tenuiter bistriato, dein leviter unicostato, disco valde aciculato lateribus punctatis.

Long. corp. fere lin.  $4=$  mill. 8; lat.  $3\frac{1}{4}$  mill.

Habitat; Natalia, in regione fluvii Gariep. In Mus. Hopeiano Oxoniæ, Britann. &c.

SYN.: *Ptychophorus setosus*. Burmeister, Handb. v. p. 564. 68; Boheman, Ins. Caffr. pars ii. p. 51.

The mando of the maxillæ is acutely bidentate; the inner edge below the teeth armed with several strong spinose setæ. The galea is also acutely bidentate; the mentum (fig. 8a) is oblong, rather widened in front, where it is obliquely truncate; the posterior margin of the oblique truncation clothed with strong erect setæ. The elytra are marked next the suture with a stria formed of a fine double impressed line extending from near the extremity of the scutellum almost to the pygidium: a second similarly formed stria is more abbreviated both

anteriorly and posteriorly; the middle of the disc is densely aciculated. The prothorax has an oblique impression on each side, within the posterior angles, very finely and obliquely striolated. The prosternum forms a strong deflexed spine in front of the anterior coxæ. The abdomen of the male is scarcely punctured beneath, and has a very distinct oval impression in the middle extending to the extremity of the fourth segment. The body beneath is black, shining, clothed sparingly with grey hairs, except the metasternum, which has on each side a dense patch of such hairs. The coxæ of the hind legs are obliquely striolated.

DIVISION 2—SPECIES ASIATICÆ. (Sp. 18–25.)

SPECIES 18 (63)—CÆNOCHILUS TRABECULA.

PLATE XIII, FIG. 8.

Elongatus, totus rufo-castaneus, lævis; subtus luteo-setosus; clypeo lato rotundato, subbilobato; capite pone oculos transverse carinato; antennarum articulo primo mediocri; prothorace rotundato, convexiore, punctis majoribus impresso, antice minus attenuato, disco longitudinaliter canaliculato, basi magis quadrata; elytris sinuatis, postice truncatis, dorso carinatis, prope humeros late impressis; singulo striis duabus prope suturam; tibiis anticis fortiter bidentatis, denteque tertio multo minori prope basin externe armatis (fig. 10 a).

Long. corp. lin. 6–6½.

Habitat; Senegal (Gory et Perch. an recte?), India Orient., Malabar (Schaum).

SYN.: *Cænochilus trabecula*. Schaum, Annales Soc. Ent. France, 1844, p. 397; Verz. Lam. Melit. p. 62.

*Cremast. Senegalensis*. Gory et Perch. Mon. Cet. p. 114, pl. XV, fig. 7.

My figure of this species is taken from Gory's type specimen kindly communicated by Dr. Schaum<sup>1</sup>.

The elytra are marked with two regular striæ on each side of the suture, the remainder being sulcated, but not regularly striated. The punctures of the elytra are not distinct; the pygidium is semi-oval, with fine transverse aciculated lines. The metasternum is rather thickly clothed with luteous setæ, as well as the hind side of the femora. The abdomen is convex and not longitudinally sulcated at the base beneath, a slight impressed line in the middle of the second segment only being visible; it is polished and slightly luteo-setose.

Dr. Schaum observes of this species that it has 'le corselet plus convexe que le ventricosus, moins rétréci en avant, le sillon longitudinal est beaucoup plus profond, la base est coupée plus carrément, les angles postérieurs sont plus sentis, les élytres offrent une large impression à l'épaule, les stries sont plus fortement enfoncées. Les jambes antérieures ont trois dents en dehors, la première est très peu saillante et placée très près des genoux.'—Annales, p. 396.

SPECIES 19 (64)—CÆNOCHILUS CAMPBELLII.

PLATE XIII, FIG. 5.

Niger punctatissimus, glaber, clypeo antice dilatato apice late emarginato, subcordato, mento obconico apice incrassato infundibiliformi; thorace subhexagono, lateribus angulato-rotundatis, basi obsolete biimpresso, dorso medio longitudinaliter impresso; elytris fere planis striolis duabus in singulo prope suturam, costisque duabus disci obsoletis, undique sparsim punctulatis; abdominis spiraculis duabus ultimis tuberculato-spinosis, abdomine in medio subtus late at minime profunde impresso; tibiis anticis acute bidentatis, posticis simplicibus.

Long. corp. lin. 8=17 mill.

Habitat; India Orient. In Mus. W. W. Saunders, Germar (olim) et Mniszech.

SYN.: *Cænochilus Campbellii*. W. W. Saunders, Trans. Ent. Soc. vol. iii. p. 234, pl. XIII, fig. 1.

*Cænochilus platyrhinus*. Schaum, Annales Soc. Ent. France, 1844, p. 419; Verz. Lam. Melit. p. 63.

The accompanying figure has been made from the original type of the species described by Mr. W. W. Saunders, with which I have carefully examined Dr. Schaum's typical specimen of *C. platyrhinus*. Both are

<sup>1</sup> In this specimen the lateral margins of the prothorax have been slightly injured in the middle, giving it the appearance of a slight incision on each side (as represented in my figure).

of almost exactly the same size, the only differences which I can detect being, that *C. platyrhinus* appears rather narrower, not quite so polished, slightly more pitchy, with two minute rounded impressions on each side of the middle impressed line of the prothorax beyond the middle, and the teeth of the fore tibiæ are very slightly more acute. Both specimens are males, and these distinctions can only be regarded as individual.

The species is larger than *C. brunneus*, less polished, less strongly sulcated on the elytra, the prothorax more rounded, one-fourth wider than long, its broadest width being across the middle, and the hind tibiæ simple. The clypeus is marked on each side by a sharp acute ridge extending forward from the base of the antennæ (fig. 5 *a*); the mentum is cup-shaped (fig. 5 *b*), transversely truncated at its thickened extremity, the truncation being pointed at each end, and the surface concave (fig. 5 *c*, the mentum seen from front). The sulci on the elytra next the suture are formed by united punctures (fig. 5 *d*, portion of left elytron).

A specimen sent for my examination by Count Mniszech agrees with the type in size, but the impressed line of the prothorax is much stronger and extends to the hind margin.

## SPECIES 20 (65)—CÆNOCHILUS BRUNNEUS.

## PLATE XIII, FIG. 3.

Oblongo-ovatus, niger, nitidus; elytris castaneo parum tinctis; clypeo convexo, margine antico subemarginato; prothorace fere rotundato; versus caput paullo angustato, canali tenui dorsali (antice plus minusve oblitterato); margine postico rotundato, et ante marginem biimpresso; elytris glabris parum punctatis, 4-sulcatis sulco externo antice et postice abbreviato; tibiis anticis in utroque sexu bidentatis, tibiis 2 posticis maris subtus dimidio apicali, lobo elongato compresso intus setoso armatis.

Long. corp. lin. 7; lat. humer. elytr. lin. 3.

Habitat; Bengalia, India Orient. In Mus. Oxon. (olim Westw.) et W. W. Saunders.

SYN.: *Cremast. brunneus*. W. W. Saunders, Trans. Ent. Soc. iii. 1842, p. 235, pl. XIII, fig. 2.

The female of this species was first described by Mr. W. W. Saunders under the name of *Cremast. brunneus*, the abdomen and elytra having a very slight pitchy tinge, of which the male is destitute. I obtained a specimen of the latter sex at the sale of Captain Boys' Collection: it is remarkable for the singular structure of the posterior legs, which are simple in the female. The male has a strongly-marked oval impression in the middle of the basal segments of the abdomen, but the anterior tibiæ are similarly bidentate in both sexes. The female has the maxillæ strong, with the galea and mando bidentate (pl. XIII, fig. 3 *a*). The mentum (fig. 3 *b*) is oblong, rather widened in front, with a slight incision rather below the middle on each side, the fore margin being truncated with a deep transverse-ovate impression (fig. 3 *c*, the apex of the mentum seen from front). The pygidium is convex and deflexed, that of the female having its lower extremity more distinctly acuminate and raised. The elevated ridges between the sulci of the elytra are polished and nearly impunctate, the sulci being more rugose; the third sulcus on each (counting from the suture) is wider than the two preceding, and runs down the centre of the disc, whilst the submarginal sulcus is abbreviated both towards the shoulders and apex of the elytra. The terminal spiracles on each side are small, but conically elevated.

## SPECIES 21 (66)—CÆNOCHILUS JAVANICUS.

## PLATE XIII, FIG. 9.

Oblongo-ovatus, niger, parum nitidus, punctatissimus, luteo-setosus; capite antice parum convexo, postice carina tenui transversa pone oculos instructo; antennarum clava picea nitida; pronoto convexo, obcordato, punctis minutis numerosissimis, setisque luteis valde induto, canali tenuissimo mediano ante medium oblitterato, margineque postico biimpresso; elytris creberrime punctatissimis, interstitiis magis granulosis, singulo longitudinaliter 6-striato, striis versus basin et apicem oblitteratis, basi magis distincte punctatis; pygidio granuloso-punctato, apice glabro; corpore subtus nigro, punctatissimo, luteo-setoso.

Long. corp. lin. 7.

Habitat; Insula Java (D. Blume). In Mus. Reg. Lugdunensi (mihi pro delineatione transmissus).

The head of this species is slightly dilated at the sides, the fore margin being entire and rather rounded; it has a transverse ridge between the eyes. The maxillæ have the two teeth of the galea and the two of the

mando of equal size. The mentum is oblong, scarcely constricted in the middle, and with the fore margin slightly angularly emarginate. The prothorax is obcordate, narrowed in front, the sides gradually rounded, the widest part being behind the middle, the hinder angles rounded off, and the hind margin nearly straight. There is a slender impressed longitudinal line down the middle of the pronotum, the hinder margin of which is also marked with two transversely ovate impressions; the prosternum is armed with a strong spine in front of the fore legs, and there is a smaller acute one in front of the mesosternum (fig. 9*a*). Each of the elytra is marked with six longitudinal striæ not reaching to the base or apex, the interstices rugosely punctured or subgranulated and setose. The spines of the legs are strong and acute.

## SPECIES 22 (67)—CÆNOCHILUS STRIATUS.

PLATE XIII, FIG. 7.

*Niger nitidus*; capite inter oculos tuberculo rotundo instructo; prothoracis lateribus rotundatis parte latiori pone medium posita, angulis duobus lateralibus posticis parum extus productis, disco regulariter punctato; elytrorum singulo costis tribus longitudinalibus lævibus impunctatis, interstitiis profundis et longitudinaliter irregulariter striolatis; scutello parum punctato; tuberculis duobus ultimis spiraculiferis conicis, acutis; epimeris meso- et meta-thoracis albedo-velutinis.

Long. corp. lin.  $6\frac{1}{4}$ .

Habitat; Hong Kong (Bowring). In Mus. Brit.

Syn.: *Cœnochilus striatus*. Westw. MS; Harold et Gemminger, Cat. Col. p. 1337.

The front margin of the clypeus is slightly emarginate; the maxillæ have both the mando and galea armed with two nearly equal thick teeth (fig. 7*a*); the mentum is subquadrate in its outline, but the middle of the disc is strongly angulated (fig. 7*b*, seen from beneath; fig. 7*c*, seen laterally); the obliquely truncate anterior portion semicircular, and fringed with strong setæ. The exposed part of the epimera of the mesothorax is clothed with whitish pile, as are also the lateral parts of the metathoracic epimera, with a large patch on each side of the metasternum, and a spot on each side of the second and third segments of the abdomen, those on the third being smaller than the others. The under side of the abdomen is not longitudinally channelled at the base, and the anterior tibiæ are obtusely bidentate (fig. 7*d*).

## SPECIES 23 (68)—CÆNOCHILUS TAPROBANICUS.

PLATE XIII, FIG. 8.

*Piceus, parum nitidus*; capite et prothorace regulariter punctatis; capite supra inermi; clypeo lateribus rotundis; prothorace fere circulari, antice et postice æquilato; margine antico parum arcuato, tuberculo medio haud instructo; disco canali medio longitudinale impressionibusque duabus intus angulos posticos impresso; elytris oblongis, postice rotundatis, cicatricoso-punctatis; singulo striis 4 punctorum, plus minusve abbreviatis, interstitiis parum rotundato-elevatis, tuberculis spiraculiferis 6 posticis (paria tria postica) extus prominentibus.

Long. corp. lin.  $9\frac{1}{2}$ ; lat. bas. elytr. lin. 4.

Habitat; Ceylon et India Orient. In Mus. Britann.

The maxillæ have the mando terminated by a short transverse acutely bifid spine; and the galea is of large size, nearly sickle-shaped, and terminating in two acute spines. The mentum is cup-shaped, transversely truncate at its front margin, which is vertical (figures 8*a*, 8*b*, 8*c*, and 8*d*, seen in different positions). The prosternum has a deflexed spine in front. The anterior coxæ are dilated with a broad emarginate depression in front, the produced basal angle with a large impressed puncture. The fore legs have the tibiæ rather narrow and slightly arched outwardly, with the apex rather broad and bidentate; the tarsi are rather short in the fore legs. The elytra have the sutural margin slightly depressed; between the suture and the middle of the disc are four punctured, longitudinal striæ with the interstices rather raised and arched, and finely punctured, adjoining the third stria (and between it and the lateral margin) is a fourth abbreviated stria, the punctures of these striæ, being aciculated and semioval, open behind, the lateral margin thickly covered with small oval punctures. The

hind tarsi are moderately elongate, each joint marked with a large oblong puncture. The unguiculi of all the feet are small.

## SPECIES 24 (69)—CÆNOCHILUS APICALIS.

PLATE XIII, FIG. 4 (♀).

Fusco-niger, subobseurus punctatissimus, supra subdepressus; clypeo convexo antice parum emarginato, vertice postice transversim depresso; antennis piceo-nigris; prothorace subrotundato, latitudine majori pone medium (inde margo posticus fere rectus antico latior est), angulis posticis rotundatis; sulco medio tenuissimo minime profundo in parte postica, impressionibusque duabus angulis scutelli oppositis; scutello punctato-striolato striolis curvatis; elytris supra subdepressis, sutura læviter elevata, singuloque costis duabus gracilibus longitudinalibus notato, costis lævioribus et distinctius punctatis, disco omnino coriaceo, seu punctulis linearibus vel angulatis numerosissimis sub lente tantum distinguendis; apice singuli elytri acuminato; tibiis anticis apice dilatatis, in maribus subspatulatis, in fœminis obtuse bidentatis.

Long. corp. lin. 6–8.

Habitat; Siam, Laas, Cambogia (Bowring, Mouhot). In Mus. Oxon., Britann., W. W. Saunders, et Mniszech.

The acuminated and costated elytra, with the peculiar form of the anterior tibiæ, well distinguish this species, especially from *C. trabecula*.

The clypeus is not reflexed at its fore margin (fig. 4*a*), which is slightly emarginate. The maxillæ (fig. 4*b*) have the galea moderately long and bidentate, and the mando is short, and notched at its tip. The mentum is oblong, rather narrowed across the middle (fig. 4*c*), rather deeply notched in the middle of its fore margin, the angles of which are rounded; the disc is rather slightly longitudinally impressed, forming only a very slight angle before the middle. The prosternum is armed before the anterior coxæ with a deflexed spine, setose in front (fig. 4*a*). The anterior tibiæ, in some specimens (fig. 4*d*), terminate in a broad flat lobe, rounded and entire on its outer edge, but in others the outer edge of this lobe has a more or less distinct angular incision (figs. 4*e* and 4*f*). I presume that the former are males, and the latter females, although in all the abdomen is convex beneath; in those, however, with the entire tibia, the pygidium is convex, but in the others it is rather flattened in the middle, with a very slightly-defined longitudinal carina. The anterior tarsi have the five joints marked with an impressed line. The elytra, when seen with a lens, are delicately shagreened, being, except at the base and along the raised costæ (which are more regularly punctured), entirely and thickly covered with minute short lines, either straight or angulated, amongst which a few more distinct punctures are to be seen.

## SPECIES 25 (70)—CÆNOCHILUS CURTIPES.

PLATE XIII, FIG. 6.

Oblongus, piceus, parum nitidus punctatissimus; capite convexo integro, margine antico rotundato; prothorace lateribus rotundatis, antice et postice æquilatis, tuberculo minuto in medio marginis antici lineaque impressa media longitudinali; elytris parum elongatis, versus suturam subcostatis et striolis duabus e punctis concatenatis inter medium et suturam; pedibus brevibus, spiraculis 6 posticis prominentibus; tarsis brevibus crassis.

Long. corp. lin. 9½; lat. humer. elytr. lin. 3½.

Habitat; Assam (D. Robinson). In Mus. Hopeiano Oxoniæ (olim nostr.).

SYN.: *Cænochilus curtipes*. Westw. MS; Schaum, Verz. Lam. Melit. p. 63.

This species is distinguished by its convex head, nearly circular prothorax, short legs, and prominent posterior spiracles. The clypeus is dilated at the sides, and rounded in front. The head is convex, and thickly but very finely punctured (fig. 6*a*); the fore margin is not reflexed. The maxillæ have the galea large and sickle-shaped, with two very sharp equal spines; the mando is smaller, the under tooth being smaller than the upper (fig. 6*b*). The mentum is obtriangular, being widest and truncated in front, where it is thickened into a transversely triangular mass, the apex of which is concave (fig. 6*c*, the mentum seen from beneath; 6*d*, seen from within, shewing the palpi concealed from above by the dilated sides of the mentum; 6*e*, the mentum seen

sideways; and 6*f*, the anterior truncated and concave extremity of the mentum seen from the front). The prothorax is nearly circular, convex, with sharp lateral margins, very finely and closely punctured, the widest portion being across the centre, the hind margin being only as wide as the anterior, the posterior margins rounded off, and the hind margin nearly straight; on the disc is a straight longitudinal impressed line down the middle. The scutellum is marked with small cicatricose punctures, some portions in the centre being left plain. The elytra are about twice the length of the prothorax, and about one-third wider; they have several slight costæ on the disc, and two striæ, formed of concatenated cicatricose punctures (fig. 6*i*, central part of elytron); they are covered with small semi-oval punctures. The pygidium is convex, and delicately granulose; the three posterior pairs of spiracles are prominent, especially the last pair. The legs are short and thick; the tarsi thick at the base, and gradually becoming more slender to the tips; the anterior tibiæ are obtusely bidentate at the tips, the posterior having a slight angular production in the middle of the outer edge (fig. 6*g*, anterior foot; 6*h*, hind foot). The abdomen is convex.

GENUS 20—GENUCHUS. Kirby.

(Trans. Linn. Soc. xiv. p. 569.)

Corpus oblongum, subdepressum. Clypeus deflexus, apice reflexo emarginato; vertex fovea magna impressus. Maxillæ mediocres; galea longa curvata falciformi, apice acuto integro; mandonis apice in dentem minorem apice etiam acuto integro. Mentum (labium, K.) quasi pedunculo elevatum, elongato-subtriangulare angulis rotundatis; cum clypeo os exactissime claudens, disco postico in cornu obtuso oblique deflexo sub jugulum dependente, producto; palpis lateraliter insertis, vix ultra marginem anticum menti extensis. Antennæ articulo primo magno incrassato arcuato. Prothorax subrotundus antice emarginatus. Prosternum ante coxas anticas spina parva armatum. Mesosternum inter pedes intermedios parvum mucronatum. Elytra oblonga parallela. Tibiæ anticæ extus 3-dentatæ, posticæ in medio extus spina armatæ. Tarsi 5-articulati.

The species of this genus are small in size, oblong, depressed, with the sides of the elytra parallel. They are natives of Africa, and the typical species is subject to considerable variation in the colour of the prothorax and elytra, which are either entirely black or variously marked with red spots.

SPECIES 1 (71)—GENUCHUS HOTTENTOTTUS.

Angustus, niger nitidus; supra aciculato-striolatus; clypeo brevi sinuato, antice reflexo; vertice integro inermi; prothorace rotundato disco sublævi haud canaliculato; scapulis pleuris elytrorumque tuberculis apicalibus fasciculato-pilosis; elytris apice rotundatis; pygidio convexo, transverse carinato, guttis duabus fulvis transversis notato.

Long. corp. lin. 4.

Habitat; Cape of Good Hope. In Mus. Hopeiano Oxoniæ, &c.

SYN.: *Cetonia hottentotta*. Fabricius, Syst. Ent. p. 52; Syst. Eleuth. ii. p. 159; Ent. Syst. t. ii. 153, 96; Gory et Perch. Mon. Cet. p. 14, pl. XVI, fig. 1; Olivier, Ent. i. 6, p. 56, pl. VII, fig. 55; Burmeister, Handb. iii. p. 668; Schaum, Ann. Soc. Ent. France, 1845, p. 53.

VAR.: *Genuchus cruentus*. Fabricius, Mant. Inst. i. p. 32; Gory et Perch. Mon. Cet. p. 15, pl. XVI, fig. 3; Olivier, Ent. i. 6, p. 57, pl. VII, fig. 58, et var. pl. VI, fig. 37; Schaum, Germar Zeitschr. iii. p. 266; Schönberr, Syn. Ins. iii. 143, 158.

Capite pronoto, elytris et corpore subtus nigris nitidis, prothorace maculis duabus lateralibus posticis, plagisque duabus curvatis in medio elytrorum abdomineque supra sanguineis.

Habitat; Senegal (Gory et Perch.).

VAR.: *Genuchus sanguinolentus*. MacLeay, Ill. Zool. S. Afr. iii. p. 18.

Niger, pronoti maculis duabus posticis, elytris pygidioque toto sanguineis.

Habitat; Cape of Good Hope.



## SPECIES 2 (72)—GENUCHUS ELONGATULUS.

## PLATE X, FIG. 1.

Oblongus, fusco-niger nitidus, valde punctatus; vertice bituberculato (fig. 1 *a*); antennis rufis; clypeo antice parum reflexo; prothorace rotundato, latitudine longitudinem paulo excedente, linea impressa media longitudinali sulcisque duobus brevibus ante medium disci impresso; elytris oblongis parallelis striatis et forte punctatis; scapulis, pleuris, elytrorumque tuberculis apicalibus albedo-tomentosis; mento transverse striolato, basin maxillarum haud tegenti (fig. 1 *b*); tibiis anticis obtuse tridentatis.

Long. corp. lin. 5.

Habitat; Cape of Good Hope (Gory et Perch.), Senegambia (Burmeister, an recte?).

SYN.: *Genuchus elongatulus*. Gory et Perch. Mon. Cet. p. 116, pl. XVI, fig. 4; Burmeister, Handb. iii. p. 669, and p. 829 (*C. elongatus*); Schaum, Germar Zeitschr. iii. p. 267.

This species is rather narrower than *G. hottentottus*, differing from it in the bituberculated vertex, the less elevated fore margin of the clypeus, and the longitudinally channelled pronotum.

## SPECIES 3 (73)—GENUCHUS NIGRICLAVIS.

## PLATE X, FIG. 3.

Niger, nitidissimus; elongatus, subparallelus; rude irregulariter punctatus: capitis facie transverse late impressa, marginis antici angulis lateralibus prominulis, medio in cornu obtuso elevato, marginis postici carinam inter oculos formante; prothorace antice subdeclivi, linea longitudinali media impressa notato et utrinque parum impresso; elytris longitudinaliter sulcatis et striatis, singulo in medio macula parva ovali lunulaque apicali albidis signato.

Long. corp. lin. 6; lat. elytr. lin.  $2\frac{1}{4}$ .

Habitat; Port Natal et Caffraria, regio fluvii Gariepis. In Mus. Brit. et D. Parry.

SYN.: *Genuchus nigriclavis*. Westw. MS; Schaum, Verz. Lam. Melit. p. 63; Bobeman, Ins. Caffr. pars ii. p. 51.

The head is about half the width of the centre of the prothorax; it is closely punctured; the middle of the face between the eyes is moderately transversely impressed, the anterior margin of the impression being subtridentate, the lateral angles are rather prominent, whilst the centre is more triangularly porrected into an obtuse tooth, the upper or posterior margin of the impression forming a slightly prominent transverse ridge. From the central tooth to the anterior margin of the clypeus the latter is longitudinally elevated, but not acutely ridged (fig. 3 *a*, head seen from the front). The antennæ are entirely black. The maxillæ (fig. 3 *b*) are armed with a strong curved apical tooth, and the lower lobe is terminated by a shorter irregular tooth. The mentum, seen from beneath, is urn-shaped, and very convex (fig. 3 *c*); the lower extremity terminating in a prominent obtuse deflexed lobe (fig. 3 *d*, seen sideways). The prothorax is large, rather shorter than wide, with the anterior and posterior angles rounded off, the anterior portion slightly narrower than the hinder; the middle of the anterior margin is slightly obliquely truncate, and there is a rather deep longitudinal impression down the middle of the prothorax; the upper surface of which is finely polished and irregularly impressed with deep moderate-sized punctures. The anterior margin of the prosternum is armed with a strong compressed spine. The elytra are oblong, with the shoulders prominent (having a slight impression within each shoulder), and the sutural portion towards the base being depressed; between the suture and the middle of the disc each elytron is marked with five fine striæ, formed of confluent punctures, with an oval whitish spot between the fourth and fifth of these striæ on each elytron near the middle; the space between the second and third striæ (counting from the suture) is longitudinally elevated into a carina, and the apex of each elytron is marked with a whitish lunule. The legs are short and strong, the anterior tibiæ being armed on the outer edge with three small equidistant teeth. The four hind tibiæ are armed with a small central spine. The body beneath is black and glossy, and marked with widely scattered punctures. In the male specimen delineated, the basal segments of the abdomen have a central depression. The pygidium is sometimes marked with two whitish spots.

## SPECIES 4 (74)—GENUCHUS PERDITUS.

## PLATE X, FIG. 2.

Subdepressus; capite transverso, clypeo verticali supra angulato-truncato, margine infero paullo prominulo; vertice rugoso-punctato convexo; prothorace magno convexo, lateribus rotundatis; disco cicatricoso-punctato, absque canali centrali, tuberculoque parvo in medio prope marginem anticum instructo; elytris brevioribus granulato-punctatis, singulo 4-costato, costis parum prominulis lævibus; sutura elevata.

Long. corp. lin. 5; lat. humer. elytr. fere lin. 2.

Habitat; —?

This species differs from the preceding in the large size of the prothorax, which is not longitudinally channelled down the centre, and in the shorter elytra, the sides of which are not parallel, but are gradually narrowed from the base to the extremity.

## GENUS 21—LISSOGENIUS.

(Schaum, Ann. Soc. Ent. France, 1844, p. 420; 1845, p. 53; *Chthonobius*, Burmeister, Handb. vol. v. p. 567 (1847).)

Habitus Cremastocheili elongati: clypeus antice obtuse trigonus, acumine emarginato; maxillarum mando brevissimus, apice subobtusum, supra penicillatus, galea cornea, falcata apice unidentata, extus pilosa; mentum latum, os claudens, omnino planum lævigatum pone medium utrinque impressum pro receptione palporum; prothorax longitudine latior, supra depressus, lateribus valde dilatato-rotundatis, angulis posticis rectis parvis; prosternum cum processu ante coxas anticas dependente; metasternum angustum, non porrectum; tibiæ anticæ triquetrae extus obtuse tridentatae, supra crenulatae; tarsi 5-articulati, anticorum articulis brevibus crassis obconicis ultimo transversim impresso, unguibus minimis; abdomen spiraculis duobus ultimis elevatis, segmentis ventralibus secundo tertio et quarto longitudinaliter in maribus parum depressis.

This genus was founded by Dr. Schaum, on an insect from Guinea, and was considered by him as intermediate between *Scaptobius* and *Cyclidius*. He incorrectly described it as wanting the dependent spine in front of the anterior tibiæ, and, from his specific description of the type, it would appear that the specimen in the Basle Museum which he examined was so saturated with grease as to cause the luteous irrorations to disappear. Hence, from these two causes, Dr. Burmeister was probably led to infer that the insect, which he described in 1847 under the name of *Chthonobius conspersus*, (with the prosternum spined, and the body covered with whitish tomentosity, 'niger, supra opacus, cicatricibus ellipticis dense signatus, interstitiis albido-tomentosis,') was distinct from Dr. Schaum's *Lissogenius*. The difference of the locality of the two insects might also lead to their being considered as distinct; but the figure given by Dr. Schaum of the Basle specimen from Guinea proves it to be congeneric, if not specifically identical, with the Natal and Caffrarian specimens subsequently received in some numbers.

## SPECIES 1 (75)—LISSOGENIUS CONSPERSUS.

## PLATE X, FIG. 11.

Oblongus, niger, subopacus, supra parum convexus, sordide luteo-variegatus; capite confertissime rugoso-punctato; fronte transversim carinata, carina medio emarginata; prothorace brevi, crebre rude, parum profunde punctato, dorso impresso, utrinque elevato, angulis basalibus emarginatis; elytris in dorso planis, cicatricibus ellipticis crebre impressis, singulo bicostato.

Long. corp. 11 mill.; lat. 5 mill.

Habitat; Caffraria, Natalia, &c. in tractu fluvii Gariep. In Mus. Oxon., Holm. &c.

SYN.: *Chthonobius conspersus*. Burmeister, Handb. Ent. v. 567; Schaum, Verz. Lam. Melit. p. 64.

*Lissogenius luteo-varius*. Boheman, Ins. Caffr. pars ii. p. 55.

The head is marked with a transverse ridge, running across between the places of insertion of the antennæ, being interrupted in the middle; the fore margin of the clypeus is also elevated on each side. The maxillæ have the apex of the mando internally produced into a small obtuse tooth, and the galea is elongated and falciform

(pl. X, fig. 11 *a*). The mentum is oblong, nearly flat, with the anterior angles rounded, the fore margin nearly straight, the sides deeply impressed behind the middle for the reception of the base of the labial palpi (fig. 11 *b*). The prothorax has the middle of the disc flat, the sides deflexed; it is covered with large cicatricose shallow punctures; the posterior angles are sharply prominent and acute; a ridge, slightly oblique, extends forwards from each towards the anterior angles of the prothorax, and separates the disc from the deflexed sides. The prosternum is armed with a small deflexed spine in front of the anterior coxæ (fig. 11 *c*, seen from the front of the head). The elytra have the middle of the disc depressed, a rather strongly-raised ridge, parallel with the margin, separating it from the deflexed side; the surface is covered with large oval cicatricose punctures, the interstices filled in with irregular luteous spots; the two terminal spiracles are prominent, but obtuse. The legs are short and strong; the anterior tibiæ obtusely tridentate, and the tarsi very short and 5-jointed, the terminal joint of the fore legs being strangulated in the middle and the unguis very minute.

## SPECIES 2 (76)—LISSOGENIUS PLANICOLLIS.

Niger, opacus; thorace subhexagono; disco plano angulis posticis rectis; elytris deplanatis.

Long. 9 mill. (4 lin.)

Habitat; Guinea. In Mus. Basiliensi.

SYN.: *Lissogenius planicollis*. Schaum, Ann. Soc. Ent. France, 1844, p. 421; *ibid.* 1845, p. 53; Verz. Lam. Melit. p. 64.

‘Caput nigrum opacum, rugoso-punctatum, utrinque ante oculos transversim alte carinatum; clypeo basi lateribus parallelo, apice obtuso trigono, acumine emarginato. Thorax longitudine latior, subhexagonus, lateribus angulato-rotundatis, margine antico emarginato, angulis anticis acutis deflexis, margine basali minus lato, fere truncato, angulis posticis rectis subprominulis, supra disco area triangulari deplanata utrinque ad marginem medium obsolete impressus; niger, opacus, disco lineolis semicircularibus, lateribus lineolis transversis insculptis. Elytra thorace duplo longiora, humeris rotundatis, disco omni deplanato, postice callosa, lineolis disco semi-ellipticis, lateribus magis irregularibus insculptis, nigra, opaca. Pygidium convexum apice inflexum. Corpus subtus nigrum opacum, lineolis arcuatis insculptis tectum.’

The above are Dr. Schaum's characters of the specimen in the Basle Museum from Guinea, which differs almost solely, in its locality and entirely black colour, from the Caffrarian insects described above; the prothorax is, moreover, described as ‘subhexagonus,’ which hardly agrees with the latter specimens.

## GENUS 22—SCAPTOBIUS.

(Schaum, Germar Zeitschr. iii. 1841, p. 260.)

Corpus parvum, obscurum, oblongo-ovatum, depressum: caput vertice in medio subtuberculato; antennæ articulo primo magno; clypeus quadratus, e vertice linea curvata separatus, margine antico parum elevato; maxillarum galea et mando unidentati; mentum transversum-quadratum, latissimum os inferne exacte claudens, angulis anticis rotundatis, basi in spinam conicam liberam infra jugulum dependentem producta; palpi labiales breves graciles; elytra oblongo-quadrata depressa; pronotum antice posticeque angustatum, intus angulos posticos utrinque excisum; prosternum spina parva deflexa setosa ante coxas anticæ armatum; tibiæ anticæ tridentatæ dente basali in maribus minus distincto; tarsi tibiis breviores 4- vel 5-articulati; abdomen subtus, ut mihi videtur, in omnibus individuis convexum segmento quinto ad basin transverse et profunde depresso; mesosternum haud prominens, postice in medio angustissimum et inter coxas intermedias retro extensum, metasterni medio vix producto conjunctum.

This genus is composed of a few very obscure South African insects, having the appearance of small depressed species of *Trox*, the surface of the elytra being generally rugose or carinated; which are further distinguished by the large size of the mentum, terminated behind in a sharp free point beneath the jugulum.

## SPECIES 1 (77)—SCAPTOBIUS CAFFER.

PLATE X, FIG. 8.

Niger, obscurus, cicatricoso-punctatus; prothoracis lateribus in medio angulatis et pone medium emarginatis, angulis posticis subspinosus, disco postice convexo; elytris obtuse tricarinatis, carinis inæqualibus, interstitiis lineolis arcuatis striolatis; tarsis 5-articulatis<sup>1</sup>.

Long. corp. lin.  $4\frac{1}{2}$ –5.

Habitat; Cape of Good Hope, Caffraria. In Mus. Hopeiano Oxoniæ, &c.

SYN.: *Scaptobius Caffer*. Schaum, in Germar Zeitschr. iii. p. 262; Burmeister, Handb. iii. p. 672.

This species is at once distinguished by the peculiar form of its prothorax, which is strongly angulated in the middle of each side, the lateral margin behind the angle being suddenly narrowed and emarginate. The hind angles are slightly incised, and there is a small impression running obliquely from the incision on each side. The middle of the head between the eyes is raised obtusely. The maxillæ (pl. X, fig. 8) are armed with two strong acute teeth; and the mentum (8*b*, underside of head; 8*c*, ditto seen sideways) is produced behind into a strong deflexed conical point.

## SPECIES 2 (78)—SCAPTOBIUS CAPENSIS.

PLATE X, FIG. 6.

Oblongo-ovatus, fusco-niger obscurus; clypeo rotundato, e vertice impressione curvata sejuncto; prothorace transverso lateribus rotundatis dorso granulato, extrorsum longitudinaliter aciculato, medio obsolete sulcato, basi utrinque impressa, angulis posticis acutis et profunde incisus; scutello crebre punctato; elytris depressis, triplici serie tuberculatis luteoque setosis; tarsis 4-articulatis.

Long. corp. lin.  $5\frac{1}{2}$  ( $9\frac{1}{2}$ – $11\frac{1}{2}$  mill.); lat. lin.  $2\frac{1}{4}$  ( $4\frac{3}{4}$ – $5\frac{1}{4}$  mill.)

Habitat; Caffraria tota passim. In Mus. Hopeiano Oxoniæ, &c.

SYN.: *Cremastocheilus capensis*. Gory et Perch. Mon. Cet. 117, 13, pl. XVI, fig. 6; Schaum, Verz. Lam. Melit. p. 63.

*Scaptobius capensis*. Burmeister, Handb. iii. p. 672, 1; Boheman, Ins. Caffr. pars ii. p. 53; Schaum, Zeitschr. iii. 262; Ann. Soc. Ent. France, 1843, p. 53.

The maxillæ (pl. X, fig. 6*a*) have the apex of the mandible transverse, with the extremity obliquely truncate; the galea is curved and acute. The mentum is broader than long (fig. 6*b*, seen within); the fore angles are rounded off, the sides below the insertion of the labial palpi are slightly widened, and the base is externally produced into a conical point. The anterior tibiæ have three obtuse teeth, and the tarsi are 4-jointed (fig. 6*d*).

## SPECIES 3 (79)—SCAPTOBIUS PENTARTHRIUS.

PLATE X, FIG. 7.

Præcedenti (*Sc. capensi*) omnino simillimus at paullo major; tarsis omnibus 5-articulatis (fig. 7*a*); abdomine subtus articulis omnibus convexis, quinto ad basin transverse depresso, minus tamen quam in specie præcedente. An ejus sexus alter? an femina?

Habitat; Port Natal. In Mus. Parry, &c.

SYN.: *Scaptobius pentarthrius*. Westw. MS; Harold et Gemminger, Cat. Col. p. 1337.

In this and the preceding species (if, indeed, they be distinct), the mentum completely covers the under surface of the head, the point in the middle of its hinder margin exactly fitting the curve of the anterior coxæ

<sup>1</sup> Dr. Burmeister states (Handb. ubi supra cit.), that 'in Herrn Hope's Sammlung sah ich Individuen mit vier und mit fünf Fuss-gliedern.' The specimen with 4-jointed tarsi, to which Dr. Burmeister alludes, still bears the label '*Cr. Caffer* ♀ Burm.' and is certainly a specimen of *C. capensis*.

when at rest. On raising it a little, however, the short setose prosternal point is seen distinctly in front of the anterior coxæ. I allude to this because Dr. Burmeister expressly says of the genus, 'das Prosternum ohne Zapfen' (Op. cit. p. 671).

## SPECIES 4 (80)—SCAPTOBIUS ACICULATUS.

PLATE X, FIG. 10.

Niger; thorace transverso, lateribus rotundatis, postice utrinque profunde inciso; elytris aciculatis obsolete bicostatis.

Long. corp. 9 mill. (4 lin.)

Habitat; Cape of Good Hope et Port Natal. In Mus. Hopeiano Oxoniæ, D. Buquet, &c.

SYN.: *Scaptobius aciculatus*. Schaum, in Ann. Soc. Ent. France, 2nd Ser. tom. ii. 1844, p. 420; 1845, p. 53.

*Scaptobius obscuratus*. Westw. MS. olim.

*Scaptobius variolosus*. Mus. Berol.

Magnitudine et statura *Sc. capensi* simillimus et thorace ut in hoc formato; elytris brevioribus aciculatis, obsolete bicostatis; omnino tamen distinctus. Corpus totum nigrum parce breviter setosum. Caput dense punctatum; clypeo carina transversa obsoleta a fronte sejuncto. Thorax transversus lateribus valde rotundatis, antice profunde emarginatus, angulis anticis productis; posticis acutis, incisura profunda e margine posteriore sejunctis; supra punctatissimus, postice medio obsolete impressus. Elytra subquadrata, longitudinaliter aciculato-rugulosa, plana, sutura costisque duabus in singulo obsolete elevatis. Pygidium apice carina brevi instructum. Corpus subtus cum pedibus nigrum. Tarsi omnes in individuo viso 5-articulati.

From information given to me by Dr. Schaum (in litt. 9 Feb. 1847), it is evident that the insect to which I had given the MS. name of *Scaptobius obscuratus* is identical in all respects with the type of *S. aciculatus* described by Dr. Schaum in the Collection of M. Buquet, having been compared together by Dr. Aubé; the term 'punctatissimus,' however, employed in the description, is erroneous, as the insect has the thorax not punctured at all.

## SPECIES 5 (81)—SCAPTOBIUS NATALENSIS.

PLATE X, FIG. 9.

Ovatus, niger, opacus; prothorace transverso, confertim granulato, basi utrinque leviter impressa, postice ad angulos profunde emarginato, angulis acutis; elytris obsolete punctatis, singulo in dorso bicostato.

Long. corp. 8-8½ mill.; lat. 5-5½ mill.

Habitat; Port Natal. In Mus. Berol.

SYN.: *Scaptobius Natalensis*. Westw. MS; Schaum, Verz. Lam. Melit. p. 64; Boheman, Ins. Caffr. pars ii. p. 53.

*Sc. capensi* affinis sed nonnihil brevior et latior, prothorace posteriori magis angustato, utrinque basi leviter impresso, subtilius punctato; elytris obsolete punctatis, singulo leviter bicostato. Caput nigrum, subopacum subtiliter crebre punctatum; clypeo apice subrotundato leviter reflexo marginato. Oculi parvi parum convexi nigri. Antennæ nigrae. Prothorax latitudine multo brevior apice truncatus, lateribus pone apicem valde rotundato-amplius, dein subito angustatus, basi rotundato-productus, medio vix emarginatus, utrinque ad angulos profunde emarginatus, angulis retrorsum productis; parum convexus niger opacus, subtiliter crebre rugoso-granulatus, basi utrinque leviter impressus. Scutellum triangulare, nigrum, opacum crebre punctulatum. Elytra prothorace latiora et duplo longiora, humeris rotundatis obtusis; pone humeros sinuata, dein vix angustata, apice conjunctim late rotundata, obtusa, in dorso subplana, nigra, subopaca, obsolete punctata, singulo costis duabus parum elevatis instructo; corpus subtus nigrum opacum obsolete punctatum. Pedes nigri opaci obsolete punctati.

A specimen in the Collection of Major F. J. Parry, from Natal, which I regard as belonging to this species, is much broader, less flattened (and consequently thicker) than *Sc. aciculatus*. It is 5¼ lines long; the head is more quadrate in front, the front margin being slightly emarginate in the middle, as well as rather reflexed; the prothorax is slightly wider and shorter, the disc is less strongly granulose, but thickly clothed with luteous short setose scales; its greatest width is rather in advance of the middle of its length, and the laterally produced

posterior angles are obtuse, and rather rounded at their tips. The base of the scutellum is thickly covered with minute punctures, each bearing a minute luteous seta. The elytra are much broader, with the suture and two costæ on each moderately elevated, slightly punctured, the punctures emitting luteous setæ, and the intervening spaces marked with only a few longitudinally oblique scratches. The pygidium is angulated down the middle. The three teeth of the anterior tibiæ are not so strongly developed as in the other specimens. The abdomen beneath is black and glossy, with the transverse impression between the fourth and fifth segments but slightly defined.

GENUS 23—CYCLIDIUS.

(MacLeay, Ill. Zool. S. Afr. 1838, iii. p. 17.)

Corpus supra depressum, holosericeum: clypeus medioeris, convexus margine antico reflexo; interdum cornutus; antennæ articulo basali maximo plano; maxillæ galea falciformi acuta, mandone apice valido oblique exciso et subbidentato (pl. XI, fig. 2 *c*, fig. 3 *b*); mentum basi angustum (fig. 2 *d*), basin maxillarum haud tegens (fig. 2 *b*), apice latissimo pateriformi concavo, hujus margine postico acuminato et in dentem obtusum deflexum producto (fig. 2 *a*); prothorax latior quam longus, lateribus rotundatis, ad angulos anticos vel posticos haud tuberculatus; prosternum in spinam antice setosam deflexam productum (fig. 2 *a*); epimera mesothoracica supra haud detecta, quadrata plana verticalia; pedes crassi; tibiæ anticæ extus 3-dentatæ; dente basali rudimentali; tarsi breves crassi 5-articulati, unguibus minimis.

SPECIES 1 (82)—CYCLIDIUS AXILLARIS.

Oblongus, crassus, niger, supra glaber, subtus lævis; elytrorum tertia parte basali fulva; clypeo lato, antice valde reflexo vertice subspinoso; prothorace rotundato; elytris brevibus parallelis; pygidio semicirculari.

Long. corp. lin. 9.

Habitat; Cayenne. In Mus. Com. Mnischez et Vill. Neuchatel.

SYN.: *Cremast. axillaris*. Gory et Perch. Mon. Cet. pl. XV, fig. 3; Schaum, Germar Zeitschr. iii. 260; Burmeister, Handb. iii. p. 676.

SPECIES 2 (83)—CYCLIDIUS ELONGATUS.

PLATE XI, FIG. 2.

Oblongus, niger velutinus; clypeo antice dilatato, margine reflexo subbifido, angulis anticis rotundatis, vertice carina tenui tuberculisque duobus notato; prothorace rotundato, antice paullo latiori; elytris parum emarginatis dorso plano nitido; femoribus tibiisque brevibus robustis; capite, pronoto, lateribus elytrorum pygidioque velutinis, reliquis partibus nigris nitidissimis.

Long. corp. lin. 12.

Habitat; Guiana, Cayenne.

SYN.: *Cetonia elongata*. Olivier, Ent. 1. 6. p. 24, pl. VI, fig. 51; Schönherr, Syn. Ins. iii. 135. 110; Gory et Perch. Mon. Cet. p. 111, pl. XV, fig. 2; Burmeister, Handb. iii. p. 675.

VAR.: *Cyclidius Nero*. Latreille, Règne An. iv. p. 572, not. 2; MacLeay, Ill. Zool. S. Afr. iii. p. 17.

Ater, holosericeus; elytris depressis, apice maculis duabus sanguineis nitidis.

VAR.: *Cyclidius plagiatus*. Dej. Cat. 3rd ed. p. 187.

The head is entire, and rounded in front, with the margin slightly reflexed, and produced into two short conical points. On the crown of the head is a slight central raised line, behind which are two small raised tubercles (fig. 2 *a*, head seen sideways); the sides of the head are marked with fine aciculated lines. The prothorax is nearly circular, black, and velvety. The elytra are polished on the disc, with longitudinal rows of fine punctures. The fore legs are robust; the tibiæ rather bent outwards, with two teeth on the outside, and a third small rudimental one near the middle; the ungues are very minute and triangular (fig. 2 *e*). The maxillæ have the mando produced at its inner angle into a flattened spine, which is obliquely truncate, and slightly bifid (fig. 2 *c*).

The under side of the front and middle parts of the head are represented in fig. 2 *b*, shewing the large mentum, with its dilated rounded sides, and the deflexed setose spine in front of the prosternum. Fig. 2 *d*, the mentum, seen from behind, shewing the narrowed base, which is concealed when at rest by the dilated hind margin of the disc. The labial palpi have the last joint long and curved.

Plate XI, fig. 2, represents a specimen in the Hopeian Collection, from Brazil. It has the disc of the elytra glossy, and the ventral surface of the abdomen quite convex. A similar specimen (except that the head is more conical in front, and produced into two more decided erect points) from Equador is also contained in the Hopeian Collection, and one from the Upper Amazons is in the collection of W. W. Saunders, Esq. In the former collection are also contained several specimens from Equador and the Amazons, all with the disc of the elytra polished, and each marked with a large orange-red patch (*Cyclidius Nero*). These have also the ventral surface of the abdomen quite convex, and the front of the head still more conically elevated, with the extremity produced into two erect conical points (fig. 3 *a* \*). The legs are thicker, and the fore legs have the inner margin of the tibiæ produced near the middle into an obtuse lobe (fig. 3 *b* \*). These are of a larger size (varying in length from 13 to 15 lines) than the entirely black specimens mentioned above, and, from the increased development of the frontal horn and lobe of the fore legs, might be supposed to be males.

Two specimens in the Collection of W. W. Saunders, Esq., from Colombia, differ from all the rest, in their smaller size (10 to 12 lines), and in having the elytra entirely velvety black (the scutellum alone glossy). They have the head produced and elevated but very slightly in front, as in the first of the above described specimens, with which in other respects they quite agree. The larger of these two specimens has the legs more robust than the smaller, the larger one being, as I suppose, the male, although the abdomen is convex; each of the second, third, and fourth segments is, however, marked with a very minute central longitudinal impression, not visible in the other specimen.

## SPECIES 3 (84)—CYCLIDIUS LACORDAIREI.

## PLATE XI, FIG. 3.

Robustus, niger; capitis clypeo conico, in cornu erecto parum clavato, apice obtuso producto; prothorace magno convexo, lateribus rotundatis; elytrorum disco nitido; pedibus crassis, femoribus anticis clavatis, antice bi-incisis; tibiis anticis extus subinermibus, intus pone medium in spinam obtusam transversam productis; tibiis 4 posticis ecalcaratis; tarsis posticis longioribus.

Long. corp. lin. 15.

Habitat; Peru. In Mus. Hopeiano Oxoniæ.

SYN.: *Cyclidius Lacordairei*. Thomson, Mus. Scient. 1860, I, p. 37.

*Cyclidius elongatus* (mas). Lacordaire, Gen. des Coléopt. v. iii. p. 553, Atlas, pl. XXXIX, fig. 3, (nec Gory et Perch.)

I have here given a figure of an entirely black specimen in the Hopeian Collection from Peru, 15 lines long, which differs from all the specimens of *C. elongatus* above described in its decidedly more robust form: the head is much more conical in front, and elevated into a slightly dilated and obtuse horn (fig. 3 *a*); the prothorax is larger and much more convex; the disc of the elytra is glossy; the legs are robust; the teeth on the outer margin of the anterior tibiæ seem to have been worn away; the lobe on their inner side is very large, and the tarsi, especially of the four hind feet, are decidedly longer than in *C. elongatus*. Fig. 3 *b* represents the maxillæ, 3 *c* the mentum, and 3 *e* the anterior tarsus of this species.

## GENUS 24—CYCLIDINUS.

Corpus oblongo-ovatum, subconvexum, omnino obscurum; caput medioere convexum; clypeo margine antico parum reflexo, angulis lateralibus rotundis deflexis (pl. XI, fig. 4 *a*); antennarum articulus basalis magnus, trigonus; mandibularum pars externa cornea magna curvata apice acuta, partem internam membranaceam multo excedente; maxillarum galea curvata apice acuto integro; mandonis lobo apicali parvo curvato; apice acuto, obliquo, angulo basali in spinam parvam producto (fig. 4 *b*); mentum parte externa maxima obconica transversa, lateribus rotundatis, disco concavo, basi obtuse in cornu deflexum sub jugulo retro producta

(fig. 4*c*, subtus; 4*e*, lateraliter visum), parte basali multo angustiori stipitem formante (fig. 4*d*, mentum e capite separatum et e parte postica visum); prothorax longitudine latitudinem fere æquante, lateribus rotundatis, angulis posticis subacutis (latitudine majori ante medium); epimera mesothoracica supra visa verticalia; prosternum spina parva setosa ante coxas anticas armatum; mesosternum in triangulum acutum inter coxas medias nullo modo porrectum retro terminatum; pygidium rotundatum integrum; pedes subgraciles, tibiis anticis extus bidentatis subtus inermibus nec tuberculo conico instructis; tibiæ 4 posticæ spina brevi et calcari longiore intus ad apicem armatæ; tarsi 5-articulati, articulo basali in pedibus anticis paullo minore (fig. 4*f*, apex tibiæ anticæ et tarsi, maris, ut videtur; 4*g*, id. feminae spinis tibiæ majoribus); unguibus parvis; abdomen in utroque sexu, ut videtur, subtus convexum.

I have separated the insect on which this genus is proposed from the typical *Cyclidii*, on account of its small size, entirely sericeous covering, more slender legs (the anterior tibiæ being destitute of the triangular lobe on the under or inner surface), and the more regularly transversely ovate form of the mentum.

SPECIES 1 (85)—CYCLIDINUS LUGUBRIS.

PLATE XI, FIG. 4.

Totus supra obscure luteo-pulverulentus, punctis nigris variis; prothorace vittis duabus angustis mediis, singula vitta in medio extus dilatata, nigris; capite et pronoto punctis parvis rotundis; elytris supra in medio fere planis, punctis oblongo-ovalibus parvis cicatricosis; antennis obscure fulvis; pedibus nigris rugosis, spiraculis duabus posticis conicis.

Long. corp. lin. 7; lat. humer. elytr. lin. 3.

Habitat; prope fluvium Amazon (Bates). In Mus. Hopeiano Oxoniæ et Bates.

GENUS 25—PSILOCNEMIS.

(Burmeister, Handb. iii. 1842, p. 676. *Cremastocheilus* (pars), Schaum.)

*Cremastocheilo* proximus, corpore fere lævi nitido; clypeus valde dilatatus prope oculos latior; antennarum articulus basalis triangularis; maxillæ basi minus crassa; galea falciformi apice acutissimo; mandone crassiori oblique acuminato (pl. II, fig. 4*a*); mentum maximum, caput antice infra tegens, basi valde angustum (fig. 4*b*, mentum intus, et 4*e*, postice visum); parte antica lata planiuscula margine parum elevato, parte postica angulata integra, et sub jugulo extensa; prothorax lateribus rotundatis æqualibus; tibiæ anticæ extus in medio fere, muticæ, apice extus acuto (fig. 4*d*), et supra basin tarsorum 5-articulorum producto; prosternum spina obtusa setosa ante coxas anticas armatum; mesosternum haud prominens; abdomen maris segmentis 2, 3, et 4 ventralibus longitudinaliter impressis.

The genus agrees with *Cremastocheilus* in the structure of the head and abdomen, and with *Cyclidius* in the legs and prothorax; but, in the polished surface of the body, it differs from both those groups.

SPECIES 1 (86)—PSILOCNEMIS LEUCOSTICTA.

PLATE II, FIG. 4.

Nigra, nitida: capitis margine antico paullo reflexo; vertice inter antennas biimpresso; pronoto elytrisqve punctis vel striolis albis tomentoso-pilosis notatis; prothoracis lateribus rotundatis, margine postico fere recto, ante marginem transversim biimpresso; elytris longitudinaliter in medio subsulcatis, costaque elevata cum lateribus parallela, disco punctis subtriangularibus impresso.

Long. corp. lin. 6; lat. elytr. bas. lin. 3.

Habitat; North Carolina (?) (Zimmerman), Mexico (?).

Syn.: *Psilocnemis leucosticta*. Burmeister, Handb. iii. p. 677, 1842.

*Psilocnemis polita*. Schaum, Annales Soc. Ent. France, 1844 (id. 1845, p. 54), p. 397; Verz. Lam. Melit. p. 65.



The trophi of this genus are carefully represented by Dr. Burmeister in his 'Genera XL, Ins.' No. 9, pl. I, figs. 6, 7. My figures were made from a dissection of the type specimen sent to me by Dr. Schaum. The maxillæ (pl. II, fig. 4*a*) have the galea very acute, and the tooth of the mando thickened above its apex; the mentum is represented as seen within the mouth in fig. 4*b*, shewing the position of the small square basal portion in the middle with the palpi arising in front of its lateral anterior angles. Fig. 4*c* represents the mentum seen from behind, shewing the small square basal portion in relief, and fig. 4*d* represents the anterior tibia and tarsus, of which the two basal joints are concealed by the apex of the former.

#### GENUS 26—CREMASTOCHEILUS.

(Knoch, Neue Beytr. 1801, p. 115.)

Corpus obscurum depressum superficie variolosa; antennæ articulo basali magno subtrigono apice dilatato; clypeus magnus transversus margine antico elevato; mandibulæ mediocres, parte cornea externa curvata et obtusa, apice ipso acuto, et partem internam membranaceam ambiente; maxillæ basi crassæ, galea uncinata acuta, mandone brevi acuminato in dentem transversum acutum abeunte; mentum maximum, parte basali angusta, apicali vero latissima pateriformi excavata, margine ejus postico interdum profunde emarginato aut sub jugulo in processum corniformem retro deflexo (pl. XIV, fig. 5*e*, 5*f*); prothorax angulis anticis et posticis inæqualibus vel tuberculatis; spiracula 2 apicalia conica; prosternum in spinam parvam compressam ante coxas anticas porrectum (pl. XIV, fig. 4*a*); mesosternum tenue muticum inter coxas medias angustissimum; tibiæ anticæ bidentatæ; tarsi 5-articulati simplices.

The species of this genus are confined to North America. They are divisible into three groups, according to the form of the mentum.

GROUP A. Those in which the hind margin of the mentum has a very deep notch, and which appear to be confined to the Atlantic slope as far as the Platte River. The species belonging to this Group may be considered as the types of the Genus.

GROUP B. Those which have a very small notch or incision in the hind margin of the mentum.

GROUP C. Those with the hind margin of the mentum entire and pointed, and which are distributed from the Platte River to the Pacific Ocean.

The following tabulation, by Dr. Horn, of the American species with which he was acquainted, will be found useful in the determination of this very difficult group. It will be seen that the insects described below, under the names of *Cr. Mexicanus* and *Cr. crenicollis* (belonging to the third group), and *Cr. cicatricosus*, *Cr. junior* (if distinct from *Cr. squamulosus*), and *Cr. Percheronii*, belonging to the second group, are omitted. They are introduced in this work mainly on the authority of Dr. Schaum, who possessed specimens of them, and who was in an excellent position to judge of their specific rank, both from possessing the typical specimens of Gory, and from his actual acquaintance with the American Collections made during a long visit to the United States. Being unable to examine the specimens on which these additional species were founded, and to compare them with the more recently published descriptions of Drs. Leconte and Horn, I have not ventured to introduce them into this table.

The first three species, *Cr. planatus*, *depressus*, and *saucius*, have a short frontal carina joining the reflexed ridge in front, while the first two have the sides of the head carinate and a transverse occipital groove, and the pygidium elevated longitudinally. The two species just cited are very decidedly ambulatorial, from the form of their legs, which are relatively longer than any others of the genus. The anterior tibiæ are slender, slightly arcuate, and the teeth of the outer edge small or obsolete. The tarsi are longer than the tibiæ, and the anterior pair with the peculiar formation indicated in the table. The dorsum of the elytra is also perfectly flat and bounded laterally by a slightly elevated border.

## SECTION I. Mentum plate acutely angulated behind.

Anterior tarsi with last two joints rather suddenly thicker.

Teeth of anterior tibiæ distinct; hind angles of thorax moderately prominent

1. *Planatus*, Lec.

Teeth of anterior tibiæ obsolete; hind angles of thorax very feeble .. ..

2. *Depressus*, Horn.

Anterior tarsi normal.

Legs moderate, ambulatorial; tarsi as long as tibiæ, and only very feebly compressed.

Shining species; apical angle of tibiæ prolonged.

Thoracic disc with a deep groove on each side; hind angles spiniform ..

3. *Saucius*, Lec.

Thorax not grooved; angles nodiform .. ..

4. *Nitens*, Lec.

Opaque species; apical angle not longer than upper tooth of anterior tibiæ.

Head and thorax glabrous .. ..

5. *Knochii*, Lec.

Head and thorax pilose .. ..

6. *Pilosicollis*, Horn.

Legs short, compressed, decidedly fossorial; tarsi short, not as long as tibiæ, strongly compressed, claws small.

Hind angles limited within by an impressed line .. ..

7. *Angularis*, Lec.

Hind angles not limited; legs hairy .. ..

8. *Schaumii*, Lec.

## SECTION II. Mentum plate subacute behind, and with a slight notch.

Thorax suddenly constricted at base; hind angles nodiform .. ..

9. *Variolosus*, Kirby.

Thorax not suddenly constricted at base; angles subacute and prominent

10. *Squamulosus*, Lec.

## SECTION III. Mentum plate transversely oval, deeply notched behind.

Surface opaque.

Anterior angles, with a notch on anterior angles only .. ..

11. *Canaliculatus*, Ki.

Anterior angles limited within and behind by an incisure; nodiform

12. *Castaneæ*, Knoch.

Surface shining; anterior angles nodiform, without a lateral incisure ..

13. *Harrisii*, Kirby.

## GROUP A (=Sect. III. Horn)=Mentum with a deep hind notch.

## SPECIES 1 (87)—CREMASTOCHEILUS CANALICULATUS.

Niger, vel piceo-niger, vix glaber, subnitidus; punctato-rugosus; capite excavato-punctato punctis subconfluentibus; menti margine postico profunde emarginato; antennis articulis intermediis rufescentibus; prothorace subquadrato varioloso, lacunoso, antrosum angustato postice utrinque profunde impresso; angulis anticis obtusioribus, intus fovea adjacente, postice item foveis duabus majusculis, oblongis notatis; angulis posticis exstantibus, dentiformibus triangularibus acutis; medio dorsi obsoletius vel latius canaliculato; elytris subrugosis, lacunosis, variolosis, striga laterali transversa, alba; abdominis segmento dorsali penultimo utrinque tuberculo majori apice spiraculifero.

Long. corp. lin. 6–6½.

Habitat; Maryland, Baltimore, Massachusetts, New York. In Mus. Hopeiano Oxoniæ, &amp;c.

SYN.: *Cremastocheilus canaliculatus*. Kirby, Zool. Journ. iii. p. 151, pl. V, fig. 5, c. d.*Cremastocheilus castaneæ*. Schaum, Germar Zeitschr. iii. p. 255; Burmeister, Handb. iii. p. 681, (nec Knoch.)*Cremastocheilus Hentzii*. Harris, Journ. Ac. Phil. vol. v. p. 386.

This species is larger than the true *C. castaneæ*, with a very distinct white spot on each elytra; the head and thorax are densely and finely punctured; the sides of the thorax are attenuated from the middle towards the apex. Mr. Kirby's type specimens are in the Hopeian Collection.

'This is the insect which I described as *Castaneæ*; believing that the original specimens of Knoch existing in Berlin belonged to this species. I had, however, no opportunity of comparing both together. Burmeister has followed me.' (Schaum in letter of January 9, 1848.)

## SPECIES 2 (88)—CREMASTOCHEILUS CASTANEÆ.

PLATE XIV, FIG. 4.

Præcedenti (*Cr. canaliculato*) minor, niger subopacus; elytris vitta tenui transversa lutea; capite et prothorace sparsim et rude punctatis; prothoracis parte latiori pone medium sita, lateribus antice sensim angustatis; disco canali medio vix conspicuo, angulis anticis nodiformibus; menti margine postico profunde inciso.

Long. corp. lin.  $4\frac{1}{2}$ –5; lat. humer. elytr. lin.  $2\frac{2}{3}$ .

Habitat; America Borealis, Pennsylvania, Maryland. In Mus. D. Parry.

SYN: *Cremastocheilus castaneæ*. Knoch, Neue Beytr. p. 115, pl. III, fig. 1, with details, (nec Schaum in German Zeitschr. iii. p. 255.)

The head is small, convex, thickly covered with minute punctures, with the fore margin strongly reflexed and sharp; rounded as seen from above, but arched upwards (or emarginate) as seen from the front. The mentum is very deeply notched in the middle behind. The prothorax is transverse, opaque, less thickly covered with setose punctures than the head, with a very slight longitudinal impression down the centre. The anterior angles are porrected, glossy, black, curved inwards towards the eyes; the sides of the prothorax are emarginate behind the angles, and are thence curved gradually outwards, the widest part being slightly beyond the middle; the posterior lateral angles are acute, conical, glossy, black, rather elevated and directed outwards towards the shoulders of the elytra; the sides of the pronotum within the lateral posterior angles are rather deeply impressed. The elytra are wider than the prothorax, opaque, rather thickly covered with oval cicatricose punctures, emitting slender luteous setæ; each elytron with a small transverse not very distinct luteous mark near the lateral margin, beyond the middle; the disc of each is depressed. The pygidium is covered with minute luteous setæ.

'This species (undescribed by anybody else than Knoch) is of the size of *C. variolosus*; the white spot on the elytra is scarcely visible (and therefore not described by Knoch); the head and thorax sparsely and grossly punctured; the thorax broadest immediately before the hind angles, and gradually narrowed towards the apex. This is the true *Castaneæ* of Knoch, D. Melsheimer having a specimen in his collection which was transmitted by Knoch to his father. Both species have the canalicula of the thorax, but they are sufficiently distinct. Knoch's figure of the thorax of *Cr. castaneæ* is pretty correct. I was led into the belief that *Cr. canaliculatus* was the true *Cr. castaneæ* by the Berlin Museum, where *Cr. canaliculatus* was considered as synonymous with Knoch's insect; and, moreover, by the occurrence of the two principal characters of *Cr. canaliculatus*, viz. the white spot and the canaliculation of the thorax. The doctrine to be derived is, that we have to learn every day.' (Schaum, in letter of January 9, 1848.)

## SPECIES 3 (89)—CREMASTOCHEILUS HARRISII.

Niger, nitidus; vel piceo-niger, subtus albido-pilosus: capite postice punctato, thorace læviori subquadrato, angulis prominentibus tuberculiformibus, postice punctato antice lævigato, utrinque foveis tribus (pl. XIV, fig. 10 a); primo nempe baseos magno punctato, secundo intermedio profundo, tertio anguli antichi minori, his ultimis lævigatis; postice fasciculo pilorum albidorum notato; elytrorum basi humeris apiceque gibbis, punctis magnitudine et forma variis confluentibus, setulis albidis decumbentibus inspersis; menti margine postico profunde emarginato.

Long. corp. lin.  $4\frac{1}{2}$ – $5\frac{1}{2}$ .

Habitat; Massachusetts, Philadelphia.

SYN.: *Cremastocheilus Harrisii*. Kirby, Zool. Journ. iii. p. 152, pl. V, fig. 3 a; Schaum, German Zeitschr. iii. p. 254; Burmeister, Handb. iii. p. 680.

*Cremastocheilus castaneæ*. Kirby, olim Zool. Journ. ii. p. 517; Harris, Journ. Acad. Phil. vol. v. p. 384.

Mr. Kirby's type of this species is now preserved in the Hopeian Collection at Oxford.

There is a specimen in the Royal Museum of Berlin<sup>1</sup>, from the Collection of Dr. Schaum, now numbered

<sup>1</sup> In addition to *Cr. canaliculatus*, Kirby, from New York, *Cr. castaneæ*, Knoch, from Pennsylvania, and the insect above mentioned, No. 41,585, all having the mentum deeply notched, the Berlin Museum possesses two other insects from the Schaum Collection without any specific names attached to them, and which also belong to the same group.

No. 41,579, from Illinois (Coll. Schaum),  $4\frac{3}{4}$  lines long, with the prothorax setose and variolosely punctured,

41,585, which I believe is identical with *Cr. Harrisii*. It is smaller than the Kirbian type, being only  $4\frac{3}{4}$  lines long; the head is very convex and rugosely punctured; the mentum deeply notched. The prothorax, according to a drawing which I made of it in 1869, is gradually widened from the emargination in front of the posterior angles towards the head; the sides are but slightly curved, the anterior angles outwardly rounded, incurved, and porrected with a deep impression within the angle. The disc is finely punctured, and in the centre is a slightly depressed line. The elytra are thickly variolose, the punctures being generally oval. It only bears the vague locality, 'Amer. Septentr.'

GROUP B (=Section II. Horn). Mentum with a very slight hind notch.

SPECIES 4 (90)—CREMASTOCHEILUS VARIOLOSUS.

PLATE XIV, FIG. 7.

Niger, opacus, punctatus, thorace postice constricto; utrinque vix impresso, lateribus obtuse rotundato, angulis prominentibus tuberculiformibus lævibus; elytris apice gibbis, variolosis, variolis oblongis distinctis, seriatim setosis; mento pelviformi, subrhomboidale, margine postico paulum emarginato.

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

Habitat; Pennsylvania. Typus Kirbianus in Mus. Hopeiano Oxoniæ, e Mus. antiquo Francilloni, cum individuo altero omnino simillimo nomine *Cr. Sayi* Kirbio ipso inscripto, et e Dom. Harrisio procul dubio accepto.

SYN.: *Cremastocheilus variolosus*. Kirby, Zool. Journ. ii. p. 516, and iii. p. 152, pl. V, fig. 4 and 6, (nec Schaum, Germar Zeitschr. iii. p. 257; Verz. Lam. Melit. p. 65; Burmeister, Handb. iii. p. 683.)

*Cremastocheilus Sayi*. Harris, Journ. Acad. Phil. v. p. 388.

SPECIES 5 (91) CREMASTOCHEILUS CICATRICOSUS.

PLATE XIV, FIG. 9.

Niger vix nitidus, punctatus, punctis in parte postica prothoracis majoribus, setis brevibus; clypei margine antico arcuato elevato glabro; menti margine postico in medio incisura parva notato (fig. 9a); elytris punctis oblongis cicatricosis notatis; prothoracis parte latiori pone medium sita, lateribus antice multo angustioribus, angulis anticis paullo intus productis ibique fossula connexis, angulis posticis subglobosis; lateribus ante angulos, intus profunde sinuatis; abdomine infra convexo, in medio paullo impresso, sparsim punctato; metasterno crebrius punctato.

Long. corp. lin.  $4\frac{3}{4}$ .

Habitat; Carolina Merid. (Zimmerman), a Dom. Schaum mihi pro delineatione benevole communicatus et in litt. 20 Oct. 1848, descriptus. Individ. in Mus. Reg. Berol. numero 41,577, ex 'Amer. Septentrion.,' e coll. Schaumii, evidenter idem est insectum, a me delineatum.

SYN.: *Cremastocheilus cicatricosus*. Schaum, MS. in litt.; Harold et Gemminger, Cat. Col. p. 1339.

SPECIES 6 (92)—CREMASTOCHEILUS SQUAMULOSUS.

PLATE XIV, FIG. 8.

Piceo-niger, confertim punctatus, punctis squamulis pallidis minutis notatis; thorace lateribus subangulatis, angulis anticis mammillaribus, haud prominulis, fovea magna interna rotundata signatis, angulis posticis parvis

deeply sinuated at each side in front of the posterior angles; the sides curved and gradually narrowed towards the head; each side deeply impressed within the anterior angles; a central furrow and the hind angles produced and elevated; the head is swollen in the middle of the disc, forming two circular raised moderate elevations; the middle tibiæ are thick; the scutellum nearly smooth; the pygidium slightly punctured, with the punctures shallow; the elytra are uneven on their upper surface, with oval cicatricose punctures. (*Cremastocheilus Lecontei*, Westw.)

No. 41,580 (Amer. Septentr. Coll. Schaum),  $5\frac{1}{4}$  lines long, has also the mentum deeply notched, the thorax short and transverse, subquadrate, the sides but little curved, narrowed gradually from the base towards the head, anterior angles considerably produced and incurved, with a deep impression within the angle, the hind angles rather acute, with a strong nearly rectangular emargination on each side in front of the hind angles. (*Cremastocheilus Walshii*, Westw.)

rectis sulco circumdatis, dorso subcanaliculato, ad basin depresso; mento valde concavo, postice anguste inciso.

Long. corp. lin. 5.

Habitat; Florida (Osten Sacken).

SYN.: *Cremastocheilus squamulosus*. Leconte, Journ. Acad. Nat. Sci. Philad. 2nd Ser. iv. p. 17, 1858.

This species is nearest in appearance to *C. canaliculatus*, but smaller, with the fovea at the anterior angles of the thorax larger, and the punctures smaller. The scales of the punctures, both on the thorax and elytra, readily distinguish it. The incision of the mentum is narrow.

SPECIES 7 (93)—CREMASTOCHEILUS JUNIOR.

(Schaum, MS; Verz. Lam. Melit. p. 64.)

PLATE XIV, FIG. 8.

The late Dr. Schaum, in his letters to me in 1847 and 1848, mentioned a new species which he had received from Zimmerman (which he sent to me for delineation), inhabiting South Carolina, to which the latter had applied the name of *Cr. junior*; a name adopted in MS. by Schaum, but not occurring in his collection of these insects now preserved in the Royal Museum of Berlin. Nor is there any specimen agreeing with such a species (from South Carolina) with a slightly notched mentum, if we except the one numbered 41,577, which I believe to be identical with *Cr. cicatricosus*. The specimen sent to me by Dr. Schaum for delineation is represented in pl. XIV, fig. 8, and may possibly be identical with the *Cr. squamulosus* of Leconte.

It is black, moderately glossy, clothed with very short thick whitish setæ; the body beneath is covered with shallow circular punctures emitting short scaly setæ; it is convex, and not transversely or longitudinally impressed in the basal segments. The notch in the middle of the hind margin of the mentum is narrow.

SPECIES 8 (94)—CREMASTOCHEILUS PERCHERONII.

PLATE II, FIG. 5.

*Longiuseculus niger*, parum nitidus, varioloso-punctatus punctis majoribus, elliptice striolatis, setigeris; pronoto postice constricto, utrinque vix impresso, lateribus obtuse rotundato, angulis anticis et posticis auriculatis, obtusis; clypeo glabro.

Long. corp. lin. 4.

Habitat; Amer. Bor., South Carolina (Zimmerman). In Mus. Germar et Univers. Hallensi.

SYN.: *Cremastocheilus Percheronii*. Schaum, MS; Harold et Gemminger, Cat. Col. p. 1339.

*Cremastocheilus variolosus*. Schaum, Germar Zeitschr. iii. p. 257; Burmeister, Handb. iii. p. 683 (nec Kirby).

*Cremastocheilus castanea*. Gory et Perch. Mon. Cet. p. 118, pl. XVI, fig. 7, (nec Knoch, nec Schaum in Germar Zeitschr., nec Burmeister, nec Kirby olim).

My figure of this species is engraved from a drawing by Wagenschieber, kindly sent me by Dr. Schaum, who described it as 'not only very beautiful, but also very correct.' The mentum is concave, with a slight notch in the middle of the hind margin.

The descriptions of Schaum and Burmeister above referred to (given as *variolosus K.*) were both taken from specimens in the Germar and Halle Collections, sent from Say (as from North America), and from Zimmerman from South Carolina.

'The species is easily distinguished by the very slight notch of its mentum. The drawing of the latter, made by Wagenschieber, is correct; that of Guérin, in Gory's book, is erroneous, Guérin having entirely overlooked the incisura. I have carefully compared the specimen in the Museum of Halle, from which I and Burmeister took the description. In my own description it is mentioned that the mentum has but an extremely slight incisura (p. 257), that the sides of the thorax are rounded, and that the punctures of the elytra bear yellow hairs. I remember perfectly well that this was the insect which Harris had under the name of *variolosus Kirby*; he was therefore perfectly right in considering this species as distinct from *Sayi*, but wrong in considering it as *variolosus Kirby*.' (Schaum in litt. 20 Oct. 1848.)

## GROUP C. (=Section I. Horn). Mentum with the hind margin entire.

## SPECIES 9 (95)—CREMASTOCHEILUS PLANATUS.

## PLATE XIV, FIG. 5.

*Elongatus ater*, fere opacus; capite punctato, thorace plano varioloso, latitudine paulo brevior, lateribus valde rotundatis, angulis anticis auriculatis; posticis productis acutis nitidis, sulco definitis; elytris thorace sesqui-latoribus, confertim aciculato-punctatis, dorso planis, lateribus et apice subito valde declivibus; tarsis elongatis, anticis difformibus.

Long. corp. lin. 8–9.

Habitat; Arizona (Dr. Irwin), U.S.A., (Leconte), Texas (Schaum in Coll. Turner).

SYN.: *Cremastocheilus planatus*. Leconte, New Species of North Amer. Coleopt. in Smith's Miscell. Coll. March, 1863, 1. p. 81.

*Cremastocheilus deplanatus*. Schaum in litt.

*Cremastocheilus procerus*. MS. in Coll. Royal Mus. Berlin.

Head punctured, somewhat dilated in front, with a longitudinal carina on the clypeus, and two elevated ridges inside of the eyes not reaching the anterior margin. Thorax flat above, punctured, the punctures rather distant, with a faint longitudinal impression in front of the basis, broader behind the apex than at its basis; the sides rounded with a deep incision behind the anterior angles, which are prominent and subacute; the hind angles acute, directed backwards and a little inwards. Scutellum with some distant large punctures. Elytra twice the length of the thorax, very flat on the disc, elevated and almost carinated at the sides, punctured, the punctures large but not deep; aciculate. Under side black, shining, sparingly covered with moderate sized cicatricose punctures, larger on the breast than on the last segments of the abdomen, of which the three basal segments are longitudinally impressed in the male.

The mentum of this very large and remarkable species is very concave, punctured, with the posterior margin entire, and produced into a moderately acute point (fig. 5*e*, seen from below; fig. 5*f*, seen sideways). Fig. 5*a*, represents the head seen from above; fig. 5*b*, the basal portion of the left side of the head and front of the prothorax; fig. 5*c*, one of the mandibles; fig. 5*d*, one of the maxillæ; fig. 5*g*, one of the anterior tarsi in the male, which are singularly formed; the fourth and fifth joints are enlarged and much compressed, but the claws are scarcely larger than in the other feet. The pygidium is very closely punctured, and obtusely carinated. The punctures of the elytra are oval and often confluent (fig. 5*h*, 5*i*), formed by a deeply sunk and slender line, the edges of which, on both sides, are slightly raised so as to form a sharp margin on both sides the impressed line, the inclosed space of the puncture being but slightly depressed.

## SPECIES 10 (96)—CREMASTOCHEILUS DEPRESSUS.

'Black, feebly shining. Head sparsely punctured, with short carina at middle of clypeus, and a lateral carina extending from the occiput, where it is highest, to the reflexed clypeal margin; occiput with transverse groove. Thorax, one-fourth broader than long, broadest at anterior third; sides strongly rounded in front, gradually narrowed to base; anterior angles moderately prominent, limited by a slight sulcus in the lateral margin; hind angles not prominent, limited within by a slight sulcus parallel with the margin; basal margin lobed at middle, disc coarsely punctured, and with a shallow median sulcus deeper and broader behind. Elytra flat; disc limited by slight elevation; sides slightly convergent behind; surface punctured with elongate shallow foveæ, at the sides rounder. Terminal spiracle feebly prominent. Pygidium sparsely foveate, and subcarinate at middle. Body beneath more shining, sparsely foveate-punctate; sides of prothorax with distinct strigæ. Legs slender; anterior tibiæ slightly arcuate; teeth obtuse, nearly obsolete.

'Length,' 66 inch. = 17 millim.

'Two specimens taken by Mr. Gabb in California, probably in the southern end of Tulare Valley. Closely allied to *Cr. planatus*, which has the hind angles of the thorax prominent and smooth, and the teeth of the (fore) tibiæ acute. The fourth anterior tarsal joint is suddenly broader than the preceding, and equals twice its breadth. The anterior edge of the mentum plate is thicker, and in the concavity more coarsely punctured.'

SYN.: *Cremastocheilus depressus*. Horn, Trans. Amer. Ent. Soc. Dec. 1871, p. 340.

## SPECIES 11 (97)—CREMASTOCHEILUS ANGULARIS.

## PLATE XIV, FIG. 1.

Ater opacus, breviter setosus; thorace confertim punctato, lateribus antice rotundatis, postice obliquis, angulis anticis foveatis acutis, posticis productis elevatis acutis, impressione obliqua definitis; elytris punctis minus profundis ellipticis; mento concavo postice subacuminato (fig. 1 a).

Long. corp. lin. 6.

Habitat; California (Sacramento, Wittick), Vancouver's Island. In Mus. Britann., Berol., Hopeiano Oxoniæ, Mniszech.

SYN.: *Cremastocheilus angularis*. Leconte, Report upon Insects in Survey of Route adjacent to 47th Parallel, June, 1857, vol. ix. p. 37.

*Cremastocheilus armatus*. Walker, in Lord's Natur. Vancouver. ii. 1866, p. 320.

This, in form, size, and general appearance, resembles *C. canaliculatus*, but the mentum is of a different form, and on comparison many other differences may be seen. From *C. Schaumii* Lec. (Proc. Acad. Nat. Soc. vi. 231) it differs by the smaller size, less rounded sides, but more acute angles of the thorax, and by the posterior angles being separated by a small but deep oblique impression: near the margin of the elytra may be seen a few whitish transverse undulated lines. The head is covered with minute rugose punctures, the disc rather circular and flat. The punctures on the thorax and elytra are of nearly equal size and form, irregular, numerous, very rarely confluent, each with the centre slightly raised, and emitting a minute seta; the pygidium is covered with rather large round punctures. The body beneath is glossy, with much fewer and smaller punctures; the abdomen on the under side has a scarcely visible depression in the middle of the second segment.

Mr. I. K. Lord, who collected several specimens of this species, informs me that it was taken at Colville, and is found all along the course of the Columbia river, as well as in Vancouver's Island. Its habit is to frequent the roots, and to hide in the fallen leaves of the wild sage bushes (*Artemisia*), that grow on the sandy plains of the Columbia. Mr. Higgins has recently received this species from Japan: an interesting fact in the geographical distribution of the group.

## SPECIES 12 (98)—CREMASTOCHEILUS PILOSICOLLIS.

'Black opaque; head convex coarsely punctured, and clothed with long erect black hairs; thorax moderately convex, densely and coarsely punctured, and clothed with long black erect hairs; anterior margin truncate at middle, rather suddenly sinuate within the anterior angles, which are moderately prominent; sides rounded and slightly sinuate near the hind angles, which are moderately prominent, acute, and limited within by a faint groove. Elytra slightly convex, parallel, surface with coarse deeply impressed punctures, and sparsely pilose. Last spiracles moderately prominent. Pygidium convex, with coarse foveæ and long hairs. Body beneath coarsely punctured, and sparsely hairy; mentum with an obtuse point behind.

'Length,' 44 inch. = 11 millim.

'This species greatly resembles *Cr. angularis*, but is more convex and clothed with much longer hairs. The main difference between the two species is in the form of the tarsi and tibiæ, of which mention has already been made.

'One specimen from North Western California, collected by Mr. Gabb.'

SYN.: *Cremastocheilus pilosicollis*. Horn, Trans. Amer. Ent. Soc. 1871, p. 341.

## SPECIES 13 (99)—CREMASTOCHEILUS NITENS.

## PLATE XIV, FIG. 2.

'Niger, nitidus; thorace postice subito constricto, ante basin depresso; disco sparsim punctato; elytris confluentur punctatis, humeris scapulisque levigatis; mento basi integro et parum angulato (fig. 2 a, capite infra viso; 2 c, mento oblique et e prosterno viso). Variat (in Mus. Leconte) colore piceo rufo.'

Long. corp. lin. 5½.

Habitat; Missouri: found at the forks of the Platte River.

SYN.: *Cremastocheilus nitens*. Leconte, Proc. Acad. Philad. vol. vi. 1853, p. 232.

'Body black, shining, with a few short yellow bristles. Head convex, grossly confluent punctured, with a small tubercle on each side above the base of the antennæ; mentum excavated, the posterior margin of the excavation ciliated, acutely produced at its middle. Thorax one-half wider than long, gradually narrowed in front, suddenly constricted at the base; the apex with a deep impression near the anterior angles, which are tuberculiform; the bases deeply depressed; the posterior margin truncated; the posterior angles obtuse, tuberculiform, little prominent; surface sparsely punctured, more thickly towards the sides. Elytra slightly impressed near the scutellum with deep confluent punctures; humeri and scapulæ smooth.

'This species is readily distinguished by its lustre, by the deep depression at the basis of the thorax, and the scattered punctures of its disc,' &c.

SPECIES 14 (100)—CREMASTOCHEILUS SAUCIUS.

Rufo-castaneus, nitidus; thorace transverso, angulis anticis auriculatis, posticis incisus et retrorsum acuminato-productis; disco ad angulos anticos breviter, intra posticos longe exarato, parte mediana æqualiter subtilius punctata, lateralibus incrassatis, convexis lævibus, extrorsum punctatis; elytris punctis elongatis sat densis insculptis; pygidio punctato subcarinato; mento parum concavo, margine postico subangulato, haud inciso.

Long. corp. lin. 5.

Habitat; Pole Creek, Nebraska (Mr. W. Wood), Llano Estacado (Captain Pope).

SYN.: *Cremastocheilus saucius*. Leconte, Journ. Acad. Nat. Sc. Philad. vol. iv. 2nd Series, 1858, p. 16.

Readily known by the remarkable form of the thorax, the surface of which is divided into three lobes by the meeting of the long posterior and the short anterior excavations, which commence immediately at the respective angles. It belongs, with the other Western species, to the division with the mentum entire.

SPECIES 15 (101)—CREMASTOCHEILUS KNOCHII.

PLATE XIV, FIG. 6.

Ater opacus; fronte transversim carinata, thoracis lateribus rotundatis, angulis acutis; elytrorum disco subseriatim punctato; mento basi integro prominulo.

Long. corp. lin. 5-5½; lat. elytr. lin. 2.

Habitat; Missouri, near Long's Peak (Leconte); Colorado (D. Parry); Illinois (Mus. Berol. No. 41,582).

SYN.: *Cremastocheilus Knochii*. Leconte, Proc. Acad. Philad. vi. 1853, p. 231.

This species is small, narrow, black, glossy, and subconvex. The head is thickly and finely punctured; the anterior margin strongly reflexed and rounded, and separated from the crown by a sharp, elevated, curved carina; the angles in front of the eyes small but prominent, and the disc marked in front of each eye with an impression. The mentum is moderately excavated, entire, and slightly produced in the middle of the posterior margin. The prothorax is transverse, convex, covered irregularly with large and deep round punctures, the centre having a longitudinal impression; the anterior angles are prominent, directed inwardly towards the eyes, but not elevated into tubercles; the sides of the prothorax are gradually rounded from the apex of the anterior angles nearly to the hinder ones, where they are formed into an acute triangular point, directed outwards; the hind margin of the prothorax is truncate, deeply impressed on each side near the posterior angles, which are acute and prominent; the surface moderately convex, with a slightly longitudinal furrow in the middle, grossly and sparsely punctured. The elytra are narrow and moderately convex, slightly depressed down the middle of each. The disc is moderately covered with a few transverse rugæ, with rather large, oval, cicatricose, shallow punctures, almost disposed in lines on the disc, and which become fewer and more rounded towards the apex. The teeth of the fore tibiæ are less strongly prominent than in the majority of the species. The pygidium is sparsely punctate. Closely allied to *Cr. Mexicanus* Schaum, but smaller, with the thorax more rounded on the sides, and consequently broader at the apex and less constricted at the base.



## SPECIES 16 (102)—CREMASTOCHEILUS SCHAUMII. Leconte.

## PLATE XIV, FIG. 3.

Ater, opacus, breviter setosus; thorace confertim punctato, lateribus rotundato, angulis anticis foveatis, posticis acutis, subelevatis; elytris punctis ellipticis minus profundis; mento modice concavo postice subacuto; pedibus brevibus; tarsis brevissimis; pygidio punctis rotundis notato.

Long. corp. lin.  $7\frac{1}{4}$ .

Habitat; San Diego et Santa Isabel, California. In Mus. Reg. Berol. (Col. Schaum, No. 41,583).

SYN.: *Cremastocheilus Schaumii*. Leconte, Proc. Acad. Philad. vi. 1853, p. 231.

This is a large, robust species; the mentum is entire, saucer-shaped, round in front, and obtusely pointed in the middle of the hind margin (fig. 3 a). The front margin of the head is rounded, elevated, smooth, and glossy; the disc of the head scabrous; the prothorax has the sides very much rounded, it is one-half wider than long, the widest part being behind the middle; the disc with a very slight abbreviated central furrow, the punctures close and fine, emitting short setæ; the anterior angles foveated internally, the posterior angles acute, scarcely elevated, not separated from the disc by a deep impression, the base bisinuate, faintly impressed on each side; the elytra are nearly flat above, sparingly punctured with large elliptical shallow foveæ, from which proceed short bristles: the legs are short, the tarsi very short. The body beneath is black and glossy, and finely punctured.

My figure of this species is engraved from a beautiful drawing by Wagenschieber, kindly sent to me by Dr. Schaum.

Major Parry possesses a Californian specimen,  $7\frac{1}{2}$  lines long, which I believe must be referred to this species, which has extremely short thick legs, the fore tibiæ with the two outer teeth almost obsolete, the tarsi not more than twice the length of the tibial spurs, and the elytra faintly marked with irregular delicate luteous transverse striolæ. If ultimately proved to be a distinct species, it may receive the name of *Cr. crassipes*.

## SPECIES 17 (103)—CREMASTOCHEILUS CRENICOLLIS. Schaum MS.

## PLATE II, FIGS. 6 and 6 a.

Depressus; menti margine postico integro, paulo angulato; capite dense punctato; pronoto, præsertim ad latera, rude sculpturato; marginibus lateralibus crenulatis; antice minus attenuatis, angulis anticis magis prominulis; scutello acuminato; elytrorum lateribus rude et dense punctatis; disco transverse rugoso; pygidio dense et rude punctato.

Long. corp. lin.  $5\frac{1}{2}$ .

Habitat; Santa Fé, New Mexico, on the western slope of the Rocky Mountains. Coll. Schaum, in Mus. Berol. No. 41,581.

SYN.: *Cremastocheilus crenicollis*. Schaum MS; Harold et Gemminger, Cat. Col. p. 1339.

'Closely allied to *Cr. Mexicanus* Schaum, and as flat as the latter, but a little smaller. The under lip has no trace of an incisura, but is a little produced behind. The angles of the clypeus are more rounded, the head more densely punctured, the thorax much more coarsely sculptured, especially at the sides; the lateral margin crenulated. It is less attenuated in front than in *Cr. Mexicanus*, the incisura on the inside of the anterior angles much deeper, the anterior angles more produced, and a little turned inwards. The scutellum is smaller, narrower at the apex, and more acuminated. The elytra are much more coarsely and densely punctured at the sides, and on the disc transversely rugose. The spiracles of the antepenultimate segment are smaller; the pygidium much more coarsely and densely sculptured.' (Schaum MS, in letter of 4th Sept. 1849.)

My figure of this species is engraved from a drawing kindly sent to me by Dr. Schaum. His typical specimen is now in the Berlin Royal Museum, No. 41,581. The disc of the head is closely covered with sharp small punctures; the anterior margin rounded and raised; the punctures of the prothorax emit small setæ. It is black beneath, evenly punctured, and finely setose, the setæ arising from the punctures.

This species is distinct from *Cr. Knochii*, judging from a specimen from Illinois from the Schaum Collection

now in the Berlin Museum, No. 41,582. As Dr. Schaum also possessed the present species, it is not to be supposed that he would not have perceived the identity of the two insects, if such had been the case.

SPECIES 18 (104)—CREMASTOCHEILUS MEXICANUS.

*Niger, opacus, elongatus, rude punctatus, setis brevibus luteis parce obsitus; thorace postice utrinque impresso, lateribus rotundato, angulis anticis porrectis, acutis, posticis tuberculiformibus; disco linea abbreviata media parum impressa; mento transverse-rotundato, concavo, margine postico integro rotundato.*

Long. corp. lin. 6.

Habitat; Mexico. Ehrenberg; in Mus. Berolin. (No. 12,529).

SYN.: *Cremastocheilus Mexicanus*. Schaum, Germar Zeitschr. iii. p. 256; Ann. Soc. Ent. France, 1844, Ser. 2, vol. ii. pl. X, fig. 8; Burmeister, Handb. iii. p. 682.

The front of the clypeus is widened, reflexed, and smooth. The prothorax is proportionably broader than in *Cr. variolosus*, more rounded at the sides, the emargination preceding the posterior angles much less distinct, the anterior lateral angles more porrected, pointed, scarcely raised, and not deeply impressed or grooved within, and the hinder angles not so much exerted, with their outer extremity raised. The disc is more sparingly marked with shallow punctures, occasionally with a slight central longitudinal furrow. The elytra are much longer and proportionably narrower than in *Cr. canaliculatus*, the length exceeding the width by more than half the latter, more sparingly marked with very shallow oval punctures emitting fine yellow setæ, the punctures near the lateral margins being rounder and deeper. The scutellum at the base is very finely and rather closely punctured, the punctures very shallow, towards the apex they become larger and wider apart, but still very shallow. The abdominal segments are constricted at the apex, the ventral surface is glossy, punctured, and luteo-setose. The tarsi are broad.

POSTSCRIPT TO CALLYNOMES.

(Ante, p. 26.)

Since the preceding Monograph of the Cremastocheilides was prepared for the press, a memoir of the Ceto-niidae of the Moluccas and the Sunda Islands has been published by Herr Mohnike, in the Archiv. für Naturgeschichte, 37 Jahrg. i. 225, in which is given a description and wretched figure of an insect from Java closely resembling *Callynomes Vollenhovii*, with the name of—

SPECIES 1 (105)—CHOLERASTOMA SPONDYLIDEA.

‘Supra plumbagineo-nigrescens parum nitens, elytris postice juxta marginem litura parvula albida signatis, subtus nitidior, atra.’

Long. corp. 22 mill. ♂ et ♀

The tarsi are described as 4-jointed in both sexes, and the basal joint of the antennæ as ‘sehr gross.’

I am therefore led to suppose that the insect which Mohnike has described is another species of *Callynomes* which name must in strict justice be replaced by that of *Cholerastoma*, although the author has not described the more important structures of the maxillæ, mentum, prosternum, tibial spurs, and abdominal depression in the males.

A specimen of the male of this species in the Collection of Mr. Higgins measures  $8\frac{1}{2}$  lines in length; it is entirely black (except a small oblong spot near the outer margin of each elytron beyond the middle), only slightly shining, and is destitute of setæ. The head and pronotum are very thickly punctured; the latter has its widest part before the middle, and there are only very slight traces of two small impressions on each side. The elytra are coarsely punctured, very slightly costated, and with the disc rugose.

## FAMILY—HISTERIDÆ.

## GENUS—TERAPUS. De Marseul.

(Ann. Soc. Ent. de France, 4th Ser. tom. ii. 1862, p. 682.)

Of this very anomalous Genus of Histeridæ, established by M. De Marseul upon the unique specimen in the Collection of Count Mniszech, the long legs with dilated tibiæ, the large lateral expansions of the prothorax, the apparent want of a mesosternum (as in *Scapicælis*), and the very wide insertion of the hind legs, are the most striking distinctions.

## SPECIES 1—TERAPUS MNISZECHI. De Marseul.

(Op. cit. p. 682, pl. X, gen. XLV, fig. 1.)

'Oblongus, postice gibbus, nigro-obscurus, clava antennarum tarsisque rufis, supra densissime punctatus, pilis rufis; fronte concava stria brevi utrinque, clypeo angusto, margine elevato; pronoto angulis anticis reflexis obtusis, margine incrassato, inciso, fossa utrinque unituberculata; elytris humeris gibbosis; propygidio basi ovatim atro-holosericeo, postice circumpunctato bituberculato; pygidio parum convexo basi punctato; prosterno basi exciso, extus margine elevato, lobo lato punctato; mesosterno bisinuato; tibiis anticis obtuse, intermediis acute extus angulatis, posticis contortis extus bituberculatis.'

Long. corp.  $3\frac{1}{2}$  mill.; larg.  $2\frac{1}{2}$  mill.

Habitat; Mexico. In Mus. Com. Mniszech.

## SPECIES 2—TERAPUS MARSEULII. Westw.

PLATE III, FIG. 9.

*Niger nitidissimus, minute punctatissimus; pronoto angulis anticis rotundato-dilatatis, lævissimis, dorso sulco lato profundo medio, angulis posticis elevatis, sulco transverso e parte antica separatis; elytris breviter ovatis, sutura depressa, singuli medio disci elevato, podice sinuato; pedibus elongatis; tibiis omnibus extus pone medium angulatis, apice extus sulcatis pro receptione tarsorum recurvorum.*

Long. corp. lin. 2.

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniæ.

I have dedicated this curious insect to the indefatigable monographer of the Histeridæ.

## GENUS—CHLAMYDOPSIS. Westw.

(Trans. Ent. Soc. Lond. 1869, part iv. August, p. 318.)

Genus *Chlamydem* habitu et *Ectrephidem* certo modo simulans; sed inter *Byrrhidas* (præsertim *Murmidium*, Leach = *Ceutorum*, Schüpp.) et *Histeridas* intermedium. Corpus parvum, contractum, fere globosum; pedibus contractilibus, contra latera corporis arcte applicatis; prothorax antice profunde incisus pro receptione capitis; caput in prothorace fere omnino retractile (partes oris in individuis unicis haud examinatæ); antennæ 9-articulatæ, articulo primo magno subtrigono, septem proximis gracilibus, 4-8 minutis, nono (vel clava) præcedentibus sex longitudine æquali vel longiore, exarticulato; elytra humeris valde gibbosis, gibbositate in medio intus luteo-setosa; metasternum maximum, coxis pedum posticorum haud prominulis; pedes subelongati, tibiis depressis pro receptione tarsorum simplicium et 5-articulatorum; abdomen segmento basali maximo.

## SPECIES 1—CHLAMYDOPSIS DUBOULAI.

(Trans. Ent. Soc. Lond. 1869, part iv. August, p. 318.)

PLATE III, FIG. 7.

*C. tota castanea, nitida*; pronoto subcylindrico, angulis posticis lateraliter porrectis, disco punctis ovalibus notato; elytris sparsim granulato-tuberculatis, setosis.

Long. corp. lin. 1.

Habitat; Champion Bay, New Holland (Dom. Du Boulay).

I have much pleasure in dedicating this species to a gentleman who has devoted a great share of his attention whilst in Australia to the collection of minute and singular species of Coleoptera, including also the following species (exhibited at the same Meeting of the Society by Mr. Pascoe; see Proceedings, 1869, p. xv).

## SPECIES 2—CHLAMYDOPSIS STRIATELLA.

(Westw. Trans. Ent. Soc. Lond. 1869, part iv. August, p. 318.)

PLATE III, FIG. 8.

*C. piceo-nigra, subnitida*; pronoto transverso, margine antico acute elevato, angulis anticis auriculato-incisis, punctis longis setigeris obsito; elytris subquadratis, dorso valde irregularibus, spatio medio antico fossulato; humeris acute elevatis et sinuatis, parte dimidia postica striolis numerosissimis obsita; antennarum clava longa tenui et parallela.

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

Habitat; Champion Bay (Dom. Du Boulay).

Of this remarkable insect M. Du Boulay only obtained a single individual, so that I have not been able to examine the parts of the mouth, the head being entirely retracted within the prothoracic cavity. The antennæ have the basal joint compressed and somewhat kidney-shaped, the following joint being attached below the apex; this second joint is longer than thick, having, as it seemed, a transverse impression close to the base (if, indeed, the minute basal portion be not the real second joint); the following joint is slightly longer than thick, but the five following are very short and transverse. The club is elongate, narrow, slightly curved, with the sides nearly parallel, and rounded at the top. When at rest, the antennæ, including the terminal joint, are received within the fossulated anterior angles of the prothorax, outside the lateral parts of the head. The palpi must be very minute, as no portion of them could be perceived in the unique individual examined, although small spaces, evidently the labium and mandibles, were visible. The prothorax is transverse, very much broader than the head, and nearly as broad as the shoulders of the elytra; it is covered with minute elongated setigerous punctures; the fore margin is acutely elevated, with the lateral angles excavated beneath for the reception of the antennæ; the lateral margins are very slightly curved. The elytra are large and subquadrate, very irregular on their dorsal surface, especially the anterior half, the middle of which forms a deep and nearly square impression, the shoulders gradually elevated into a sinuated ridge, outside of the centre of which is a deep circular impression only visible when the body is seen laterally. The impressed portion is marked beyond the scutellar region (the scutellum itself being wanting) by two deep curved lines, near the outer termination of each of which is a patch of short luteous setæ, the space between which and the hind margin of the pronotum is occupied by a triangular raised space on each elytron, which is separated from the humeral region by a longitudinal line; this basal portion of the elytra is rudely punctured, but their terminal half is covered with very delicate longitudinal striolæ, each elytron having a raised boss near the lateral margin opposite the hind femora. The legs are long, but, in consequence of the depth or the thickness of the body, they fold up and lie against the sides of the sterna when at rest, the tarsi folding back, and being received in the long groove in each tibiæ, which reaches as far as the external angle with which each is provided. The prosternum is greatly dilated in front, and truncated behind, separating the fore legs from each other by a narrow space. The mesosternum is very short and trans-

verse, with the middle legs more widely apart at the base than the fore ones, whilst the metasternum is very large and transverse, with a central impressed longitudinal line; the middle legs being inserted far apart, with the coxa but very slightly developed. The basal segment of the abdomen is large, the four following very short, and the terminal joint large, and rounded at its extremity.

This species seems to connect *Ectrephes* with certain *Histeridæ*, such as *Heterius*, and especially with *Terapus* (De Marseul, Ann. Soc. Ent. France, 1862, p. 680, pl. VII.)

## FAMILY—SILPHIDÆ.

## GENUS—APATETICA. Westw.

(Cab. Orient. Entom. p. 86.)

Genus *Pterolomæ* maxime affine. Caput latum antice angustius; labrum transversum angulis anticis rotundatis; medio emarginatum, margine antico membranaceo, ciliato; mandibulæ corneæ subfalcata, acuta, intus ciliatæ haud dentatæ; maxillæ lobo externo lato brevi dense barbato, interno brevi, ciliato, inermi; palpi maxillares breves filiformes, articulis 2, 3, et 4 fere æqualibus; mentum subquadratum; labium breve latum, emarginatum dense ciliatum; palpi breves simplices; antennæ elongatæ subfiliformes, articulis apicalibus parum crassioribus; prothorax latus transversus, lateribus rotundatis elevatis, margine postico supra basin scutelli parum transverse producto; elytra subquadrata subconvexa; pedes elongati graciles; tarsi setosi, 5-articulati articulo quarto sub-bilobo, antici breviores et latiores.

## SPECIES 1—APATETICA LEBIOIDES. Westw.

(Op. cit. pl. XLI, fig. 9.)

Nigra, nitida, lateribus prothoracis fulvis, elytris æneis; capite et pronoto punctatis, illo inter antennas bi-impreso; labro fulvo, mandibulis fulvo-piceis, antennis fulvis; elytris punctato-striatis; femoribus æneis, basi piceis; tibiis tarsisque fulvis; corpore subtus nigro nitido, marginibus inflexis elytrorum æneis nitidis.

Long. corp. lin. 4.

Habitat; India Orient., Himalaya. In Mus. Hopeiano Oxoniæ (olim nostr.)

## SPECIES 2—APATETICA NITIDULOIDES. Westw.

(Trans. Ent. Soc. Lond. 3rd Ser. vol. ii. Proc. p. 11, March, 1864.)

## PLATE V, FIG. 11.

Nigra, nitida, punctata; elytris chalybeis; antennis extrorsum paullo crassioribus; prothorace lateribus rotundatis, dilatato-marginatis, antice multo angustiori, disco rude punctato; elytris profunde punctato-striatis, angulo externo postico acuto; abdomine pone elytra, triangulariter porrecto; tarsis anticis dilatatis; antennis pedibusque nigris.

Long. corp. unc.  $\frac{3}{10}$ .

Habitat; Java (Wallace). In Mus. Hopeiano Oxoniæ.

## FAMILY—COLYDIIDÆ.

## GENUS—APROSTOMA. Guérin-Méneville.

(Guérin-Méneville, Rev. Zool. 1839, p. 171.)

The type of this genus inhabits Madagascar, and was, in 1842, in the Collections of Messrs. Reiche and Guérin-Méneville, the latter of whom, in 1842, allowed me to make a careful figure of it, and who considered it to be allied to *Calodromus* among the *Brenthidæ*, and to *Colydium*. The former relationship is due only to the very elongate and slender form of the insect. The latter is its genuine affinity, as is proved by the structure of the different parts of the mouth.

## SPECIES 1—APROSTOMA FILUM. Guérin-Méneville.

PLATE V, FIG. 7.

‘Cylindrique, noir luisant, palpes fauves, antennes et tarsi bruns; tête lisse, carrée sur les côtés, profondément échancrée en dessus et en avant; corselet lisse un peu rétréci en arrière, au moins trois fois plus long que la tête, ayant un petit sillon longitudinal au milieu; élytres deux fois plus longues que le corselet, très peu rétrécies au milieu, finement striées, terminées en arrière par des carènes élevées dont les deux supérieures le sont plus que les latérales et circonscrivent un espace aplati et sillonné; dessous finement ponctué.’

## SPECIES 2—APROSTOMA PLANIFRONS. Westw.

(Trans. Ent. Soc. Lond. 1869, part iv. p. 320.)

PLATE V, FIG. 8.

A. filiforme, cylindricum, nigrum, nitidum; capite subquadrato, supra plano, glabro, margine omni verticis acute elevato; antennis apicem versus sensim sed paullo crassioribus, et prothorace e quarta parte brevioribus; prothorace crebre punctato, linea media longitudinali impresso; elytris striis impressis punctatis notatis, linea elevata e medio utriusque ad apicem extensa.

Long. corp. lin. 5.

Habitat; River Niger, Africa. In Mus. Hopeiano Oxoniæ.

## FAMILY—TROGOSITIDÆ.

## GENUS—SYNTELIA. Westw.

(Trans. Ent. Soc. Lond. Proc. 3rd Ser. vol. ii. p. 11, March, 1864.)

Insecta *Platycerum caraboidem* simulantia. Corpus oblongum, subdepressum, glabrum; caput porrectum, subquadratum; mandibulæ magnæ porrectæ, intus irregulariter dentatæ; maxillæ bilobæ, lobis simplicibus longe ciliatis, interno brevi ovali, externo elongato; palpi omnes subfiliformes articulis externis æqualibus; mentum subquadratum; labium setosum profunde incisum; antennæ in fossulis obliquis faciei inferæ receptæ, breves, 11-articulatæ, subgeniculatæ, clava magna, depressa, ovata fere solida, 3-articulata; prothorax capite paullo major, subquadratus, tenuè marginatus, antice parum latior, angulis anticis rotundatis; tibiæ omnes extus spinosæ; tarsi simplices 5-articulati, articulo ultimo elongato elavato; prosternum ante coxas anticæ prominens; abdomen 5-articulatum articulis tribus intermediis brevioribus.

## SPECIES 1—SYNTELIA INDICA. Westw.

(Trans. Ent. Soc. Lond. loc. cit. supra.)

## PLATE V, FIG. 9.

*S. chalybæo-nigra*, nitida; capite sparsim punctato; prothorace lævi, lateribus et versus angulos posticos punctato; elytris tenue punctato-striatis, stria prope suturam alteraque sub humerali profundis, podice punctato.

Long. corp. unc.  $\frac{6}{10}$ .

Habitat; India Orient. In Mus. Hopeiano Oxoniæ (olim nostr.).

## SPECIES 2—SYNTELIA MEXICANA. Westw.

(Op. cit. p. 11.)

*S. præcedenti* simillima; chalybæo-nigra, nitida; capite valde convexo parum punctato; pronoto convexo in medio postice depresso, irregulariter at rude punctato, præsertim versus latera et marginem posticum; elytris striato-punctatis, punctisque majoribus, strias transversim conjungentibus notatis, postice punctatissimo; metasterno impressione media ovali, lineaque longitudinali impressa.

Long. corp. unc.  $\frac{6}{10}$ .

Habitat; Mexico. In Mus. Com. Mniszech, Parisiis.

## FAMILY—IPSIDÆ.

## IPS CLARKANA. Westw.

## PLATE V, FIG. 10.

Nigra, nitida, elytris fulvis, maculis quatuor sutura apiceque nigris: capite fere semicirculare, punctato, antice obscure castaneo, vertice 4-impresso; antennis nigris articulis basalibus fulvis; mandibulis difformibus, intus lobo membranaceo luteo instructis, recta longa, valde falcata acutissima, sinistra breviori minus curvata, apice acuto margine interno in medio dente conico armato; prothorace transverso, lateribus tenue marginatis et rotundatis, intra marginem utrinque fovea submarginali, discoque 4-impresso; elytris leviter punctatis et punctato-striatis, singulo maculis duabus reniformibus dorsalibus oblique positis, postica cum apice nigro conjuncta; pedibus nigris; tarsis piceis.

Long. corp. lin. 4.

Habitat; Brazil (D. Rev. Hamlet Clark). In Mus. Hopeiano Oxoniæ (olim nostr.).

I have inscribed this very remarkable insect with the name of its lamented captor, from whom I received it. It exhibits a singular departure from the ordinary law of bilateral symmetry which is found so extensively to prevail amongst insects<sup>1</sup>. It is true, that, when any two organs have to act in opposition to each other, their parts must be fitted to meet for action; thus, if one is hollowed out in a particular part, the other must be dilated to fit into such excavation: but here we find the mandibles exhibiting so remarkable a difformity, that it is difficult to conceive how they can properly act in concert. A somewhat similar difformity occurs in *Agathidium rhinoceros* Sharp, figured in the Entomologists' Annual for 1865, frontispiece, fig. 8.

<sup>1</sup> A curious memoir on the asymmetrical structure of the appendages of the sexual apparatus in the North American Hesperidæ has recently been published by Mr. Scudder.

## FAMILY—PAUSSIDÆ.

PLATES XV, XVI, XVII, XVIII, and XIX.

In the second volume of my *Arcana Entomologica*, 1843-5, is published a complete series of descriptions and coloured figures of the species of this remarkable family known up to that period, eleven plates being devoted to the fifty-two species therein illustrated. Since that time our knowledge of the family has been greatly extended, especially as regards the species which are natives of South Africa, by the labours of Herr Gueinzus, in Ceylon by those of Herr Neitner, and in those of New Holland; so that I am now enabled to more than double their number: the five accompanying plates containing illustrations of fifty-four hitherto unfigured species.

The economy of the Paussidæ is very peculiar, as appears by various communications made to the Entomological Society, of which the following is a summary:—

The late Mr Benson succeeded in capturing two species of *Merismoderus Bensoni* Westw. under stones in ants' nests in India. He also took specimens of *P. nauceras* and *P. Baconis* by sweeping grass and herbage in India. His notes on the habits of *P. Parrianus*, which I published in the Transactions of the Entomological Society, vol. v. p. 30, satisfactorily shew that that species ordinarily lives amongst ants, under stones and decaying bark, and that it emits a fluid, when handled, sufficiently powerful to stain the fingers.

The late Major Champion, also, detected three species of Paussidæ, near Hong Kong, under stones in the nests of a minute species of ant. Crepitation was distinctly observed in these insects, the noise resembling the ticking of a watch, and the finger being discoloured as by the discharge of a *Brachinus*. From the locality where these insects are found, it scarcely seems probable that they are lignivorous, as had been supposed; and further observations will, he thinks, prove their affinity to the Carabidæ. (Trans. Ent. Soc. Lond. N. S. vol. ii. p. 86.)

Mr. Roland Trimen (Trans. Ent. Soc. Proc. 1870, part iii) states that he captured a specimen of *Paussus Burmeisteri* Westw. resting on a leaf of *Protea mellifera*, but that *Pentaplatarthrus Paussoides* Westw. was taken in the nests of a moderate-sized black ant, under stones, where it is seen either motionless or walking slowly among the excited ants along one of their galleries, and it did not appear to him that the ants, when disturbed, shewed any anxiety about the safety of the beetles, or, indeed, paid them any notice whatever. Dr. Becker had, however, told him that he believes he saw some ants *milk* a specimen, in the same manner as they treat the aphides; and Mr. Harrison brought him a pair taken in copula in the nest, leading to the opinion that the beetles seldom, if ever, leave the formicarium. The same gentleman had also taken another small species in a nest of small reddish ants.

Herr Gueinzus, who has been very successful in collecting the species of Paussidæ at Port Natal, states (Proc. Ent. Soc. Lond. Sept. 1, 1851) that all the species observed by him (14 in number) are night-creatures, flying during the Spring (i. e. from the middle of October to December), especially in thundery weather, from 9 to 11 o'clock in the evening. They are dazzled and attracted by light, flying through open windows and doors on still, warm nights. Their flight is swift, and with a peculiar shrill sound. All the species contain a caustic liquid, which they eject in an audible manner from the abdomen on being seized. This liquid from *Pentaplatarthrus Paussoides* stains one's fingers blood-red for several days; from the larger species of *Cerapterus*, the purplish-brown of iodine; from the *Pleuropterus alternans* Westw., it burns the epidermis, forming white spots. The odour of this liquid is extremely pungent, like ammonia, and reminds one also of iodine. The explosion is repeated three or four times, becoming gradually weaker when it becomes exhausted. Herr Gueinzus further observed on several occasions the *Pentaplatarthrus Paussoides* made prisoner by the ants, the specimen being gently led by its antennæ by several ants which accompanied it in procession.

From the statements of Mr. R. W. Plant, on the Paussidæ of Natal (Proc. Ent. Soc. Lond. Dec. 3, 1855), it is evident that these beetles are strictly guarded and kept prisoners by the ants, he having observed a string of the latter seizing one of the beetles and dragging it off to their nest. The beetles struggle, and endeavour to get out of the holes, but they are soon overtaken and brought back again. The ants do not kill them on the spot, as they do some other creatures. And Mr. Plant asks, 'for what other purpose should the ants toil in their capture, but in the pursuit of their natural instinct to secure food wherever it is offered?'



Herr Guenizius also states that, with the exception of the specimens attracted by candle light, and a single one found in the hot sunshine sitting upon a blade of grass, all which he had taken were found in ants' nests, living with species which are carnivorous; Cerapterus, Pleuropterus, and Pentaplatarthrus, with different larger species; but the true Paussi seem to live only with small species of ants; he had, indeed, found as many as seven distinct species of Paussi living with one and the same species of ants. The Paussi 'appear in November, and last during the whole season until April. Their caustic juice is squirted out of the sides of the abdomen; part of it evaporates immediately as a blue smoke, distinctly visible by sun light; the remainder covers both sides of the elytra, and remains as a whitish or pale yellow unctuous matter.' He had repeatedly found *P. Latreillii* in the act of copulation in ants' nests. The specimens are nearly always found in the part of the nest where the eggs and pupæ of the ants are deposited, and although he had never observed a Paussus in the act of feeding, yet, from the great and mysterious attachment which the ants shew them, he is inclined to believe they feed upon the spoil which the ants convey into the nests, rather than upon their eggs or pupæ. He believes also that the eggs of the Paussi are there deposited and bred, and it is not impossible that their larvæ are fed by ants as their own offspring. The sunny sides of the margins of forests are the places where Paussi are generally met with. A piece of old dry wood is seldom found without an ants' nest beneath it; (stones get too hot in the sun); when this shelter is carefully lifted up on one side, he had often observed a Paussus (*P. Dohrnii*, *cucullatus*, or *Latreillii*) surrounded and covered with ants apparently sucking nourishment out of it, and fondling it all the time with their antennæ, as they do the aphides and larvæ of Centroti and other lamellicorn Coleoptera found with ants. When the alarm is given in a nest, and all is hurry and bustle to save eggs and pupæ, two or three ants will seize the sluggish Paussus by the antennæ, and it is quickly hurried below with the rest. Herr Guenizius could discern no difference in the odour emitted by *P. cucullatus* and *P. Latreillii*, when exploding, and that which he perceived on opening an ants' nest on a hot day. (Proc. Ent. Soc. Lond. Feb. 11, 1858, 2nd Ser. vol. v. p. 3.)

Dr. Erichson published the description of a larva, which appeared to him to be unquestionably that of a species of this family, having been received from Dr. Peters at Sinna, Mozambique, stuck upon a pin with a specimen of a Paussus, and not referrible to any other group of larvæ. The body is rather short, not unlike that of a Hister larva, but the integument is leathery, clothed with long hairs; the nine hind segments very short, the last with two large conical hairy appendages, each having a small terminal joint. The small tubular anal joint extends backwards between these two appendages. Each of the second and following segments have on each side of the under surface a small conical process with long oblique hairs at the end, enabling the body to glide forwards; the legs are rather short, spined, the tibiæ short, and the tarsi terminating in a sharp claw. The head is broad and flat, transversely-quadrate. The antennæ have the two basal joints thick, and the third and fourth slender and small; the mouth is formed as in the Carabidæ larvæ. There are six ocelli on each side of the head; the mandibles are strong, rather sickle-shaped, curved, and terminating in a sharp point. The larvæ is 5'' long, and the apical appendages are 1½'' long. The body is shining black, the meso- and meta-thoracic segments orange, the head, two terminal segments, with the two appendages and legs, chesnut coloured, and the hairs black. From the structure of this larva, Dr. Erichson considered that the Paussidæ exhibit a relationship with the Staphylinidæ. (Wiegmann, Archiv. f. Naturg. vol. xiii. p. 275.)

GENUS—CERAPTERUS. Swederus.

SUB-GENUS—ORTHOPTERUS.

(Westw. Arc. Ent. ii. p. 7.)

SPECIES I—ORTHOPTERUS STÅLII. Westw.

PLATE XV, FIG. 10.

*O. Smithii* proximus; totus piceus, nitidus: capite punctato; prothorace capite multo latiori, medio foveato, lateribus rotundatis; elytris vage punctatis; humeris parce setosis et vix punctatis, lateribus seriatim punctis; antennis et pedibus magis rufescentibus; tibiis latis angulo apicali rotundato, setis perpaucis crassis instructo.

Long. corp. lin. 7⅔.

Habitat; Africa (Bowring). In Mus. Britann.

The head is 1 line long, and 1½ wide; the prothorax is 1¼ line long, and 2½ wide; and the elytra are 5⅔ lines long, and 3 lines wide. The antennæ are 4⅔ lines long; the third joint is rather wider than the ninth, the remaining joints to the extremity gradually but very slightly diminishing in width; the width of the seventh

joint is very slightly more than the length of the seventh, eighth, and ninth united; the last joint is also equal in length to that of the seventh, eighth, and ninth united; the second and third joints are equal in length to the fourth and fifth; and the fourth, fifth, and sixth, are equal in length to the seventh, eighth, and ninth united.

## SPECIES 2—ORTHOPTERUS LAFERTEI.

(Westw. Proc. Linn. Soc. June 19, 1849, p. 55.)

PLATE XV, FIG. 11.

*C. piceo-castaneus*, nitidus, lævis; pronoto magis fulvescenti-castaneo; elytris nigro-castaneis, tenuissime punctatis; singulo pone medium plaga longitudinali suturæ proxima, ad apicem recurva et cum margine externo parallela, fulva; pronoto linea impressa media; disco haud setoso; pedibus rufo-castaneis.

Long. corp. lin. 6.

Habitat; Africa Occidentalis Tropicalis, Rio Grande, inter Gambia et Sierra Leone. In Mus. D. Lafertei.

The breadth of the club of the antennæ is equal to two and one-third of its length; the terminal joint is equal in length to the ninth, eighth, seventh, and one-third of the sixth joints.

## SUB-GENUS—PLEUROPTERUS. Westw.

(Arcana Ent. ii. p. 9.)

## SPECIES 1 (3)—PLEUROPTERUS ALTERNANS.

(Westw. Proc. Linn. Soc. June 19, 1849, p. 56.)

PLATE XVI, FIG. 2.

Rufus, elytris magis fulvis, singulo plagis duabus latis nigris postice conjunctis; opacus fere lævis: capite brevi, vertice antice longitudinaliter impresso punctisque duobus impressis inter partem oculorum posticam; antennis fere planis, clava e basi ad apicem sensim angustata, articulo basali postice in lobum rotundatum producto; pronoto transverso, angulis anticis rotundatis, posticis valde incis, inter angulos posticos tuberculis duobus rotundatis instructo; disco valde irregulari, sulco profundo longitudinali; elytrorum humeris elevatis, disco singuli 4-costato; pedibus longis gracilibus.

Long. corp. lin. 4.

Habitat; Mozambique et Port Natal. In Mus. Melly (e Mus. Reg. Berol. cum nomine supra indicato transmissus) et in Mus. D. Fortnum.

The labrum is obconical, rounded at the tip, hiding the base of the mandibles, which are slender and sickle-shaped. The maxillary palpi are scarcely so large as the labial, the first and fourth joints being the shortest; the fourth is pointed at the tip. The labium is large, porrected, and obcordate; the apical margin nearly straight; the labial palpi are large, with the third joint elongate-ovate and setose (fig. 2*a*, the parts of the mouth in situ). The coxæ of the intermediate legs are irregular in shape (fig. 2*b*), and the base of the femora angulated below, the base of the posterior femora being rather produced and angulated (fig. 2*c*).

## SPECIES 2 (4)—PLEUROPTERUS HASTATUS. MS. in Mus. Berol.

(Westw. Proc. Linn. Soc. 19 June, 1849, p. 57.)

PLATE XVI, FIG. 3.

Piceus, tenuissime punctatus, pubescens; elytris subopacis; capite antice sulcato; antennis magis quam in specie præcedenti regularibus, et supra nonnihil concavis; articulo basali clavæ extus in tuberculum obtusum intus sinuatum producto; articulis reliquis longitudine fere æqualibus, ultimo rotundato; pronoto breviter cordato-truncato; angulis anticis valde obtusis, posticis valde incis; utrinque intus angulos posticos tuberculo elevato instructo; elytris obscure piceis basi costatis; singulo macula prope basin, altera pone medium cum macula suturali connexa, margineque postico fulvis; pedibus gracilibus.

*C. (P.) Westermanni* affinis at latior, magis pubescens, antennis et prothorace aliter formatis.

Long. corp. lin. 5.

Habitat; Mozambique. In Mus. D. Melly (e Mus. Reg. Berol. cum nomine supra indicato transmissus.)

## SUB-GENUS—ARTHROPTERUS.

(Westw. Arc. Ent. ii. p. 8.)

## SECTION I—SPECIES AUSTRALASIATICÆ.

## SPECIES 1 (5)—ARTHROPTERUS WILSONI.

(Westw. Proc. Linn. Soc. June 19, 1849, p. 56.)

PLATE XV, FIG. 7.

Totus castaneus, nitidus; capite parvo, punctato, et inter oculos biimpresso; angulis posticis vix ultra oculos lateraliter porrectis; antennarum clava subangusta, sub lente tenuissime granulata; articulo tertio clava latiori, ultimo angustiori longitudine vix tribus præcedentibus æquali; pronoto subquadrato, punctato angulis anticis rotundatis; disco haud longitudinaliter sulcato; elytris elongatis tenuissime punctatis, punctis ad basin majoribus, castaneis sutura magis fulvescenti; pedibus angustis; tibiis vix tarsis duplo latioribus.

Long. corp. lin. 7.

Habitat; Adelaide, Australia (D. Wilson). In Mus. Hopeiano Oxoniæ (olim Westw.), &amp;c.

## SPECIES 2 (6)—ARTHROPTERUS PUNCTATISSIMUS.

PLATE XV, FIG. 3.

Piceus, creberrime punctatissimus, prothorace mediocri; antennis prothorace plus duplo longioribus, lateribus clavæ subparallelis, articulo basali subquadrato (fig. 3 a), ultimo tribus præcedentibus simul sumptis paullo breviori; capite supra convexo, angulis posticis pone oculos parum prominulis; prothorace capite paullo latiori subcordato-truncato, lateribus versus caput paullo latioribus et rotundatis; lateribus marginatis, angulis posticis subobtusis, disco in medio canali parum profundo impresso et intus angulos posticos utrinque impressione curvata notatis; elytris punctatissimis sutura fulva; pygidio piceo punctatissimo; pedibus compressis sublatis, angulo externo apicali tibiarum elongato, in pedibus duobus anticis acuto, in quatuor posticis obtuso (fig. 3 b).

Long. corp. lin. 6.

Habitat; Adelaide, Australia.

The length of the elytra equals one and three-fifths of their width; the length of the antennæ equals that of the head, prothorax, and about one-fourth of the elytra; the seven intermediate joints of the clava are nearly of uniform width; that of the sixth being equal to the length of the sixth, seventh, eighth, and half of the ninth joints united together, and the length of the tenth joint is equal to that of the seventh, eighth, and half of the ninth joints united together.

## SPECIES 3 (7)—ARTHROPTERUS SUBSULCATUS.

(Westw. Proc. Linn. Soc. June 19, 1849, p. 56.)

Totus castaneus; capite punctato, inter oculos haud impresso, angulis posticis pone oculos valde porrectis; antennis tenuissime punctatis, clava sensim e basi ad articulum ultimum latiori, articulo ultimo sexta parte latiori quam longo, tribusque articulis præcedentibus longitudine subæquali; pronoto punctato, cordato-truncato; sulco longitudinali medio fere omnino oblitterato; elytris longitudinaliter subsulcatis vix punctatis; disco setis brevissimis pauciter instructo, basi longius setosis; tibiis tarsis plus duplo latioribus; basi angustioribus, apice externo, præsertim in pedibus anticis, acutis.

Long. corp. lin. 5½.

Habitat; King George's Sound, Australia. In Mus. D. Parry.

## SPECIES 4 (8)—ARTHROPTERUS QUADRICOLLIS.

PLATE XV, FIG. 8.

Piceus, subnitidus, delicate punctatissimus; thorace fortius punctato; capite supra subconvexo, inter oculos biimpresso, angulis posticis extus productis; antennis prothorace duplo longioribus, articulo basali basi lata apice

rotundato (fig. 8 *a*) clava elongato-subovali, articulo quinto latiori (reliquis sensim ad apicem decrescentibus), articulo ultimo subquadrato apice rotundato; prothorace subquadrato, latitudine longitudinem parum excedente, lateribus caput versus paullo latioribus rotundatis; et capite paullo latioribus, lateribus marginatis, angulis posticis quadratis, angulo ipso rotundato, disco in medio canali tenui, et intus angulos posticos impressione notato; elytris depressis, lateribus parum setosis; pygidio rotundato fere lævi; pedibus subelongatis, modice dilatatis, compressis, angulo externo tibiæ haud valde producto.

Long. corp. lin. 6½.

Habitat; Adelaide, Australia. In Mus. Hopeiano Oxoniæ.

The antennæ are comparatively rather narrow in this species; they are nearly two-thirds of the length of the elytra, which latter are three and one-third times the length of the prothorax. The clava of the antennæ is broadest in the middle, viz. at the fifth joint; the width of the sixth joint equals the length of the sixth, seventh, eighth, and half of the ninth joints united together; the length of the tenth joint equals that of the seventh, eighth, and half of the ninth joints together.

SPECIES 5 (9)—ARTHROPTERUS SUBCYLINDRICUS.

PLATE XV, FIG. 2.

Elongatus, angustus, piceo-rufus, delicate punctatissimus; capitis vertice plano; antennis longis angustioribus subparallelis, articulo primo subquadrato, angulo supero rotundato (fig. 2 *a*) articulo decimo duobus articulis præcedentibus paullo longiori; angulis lateralibus capitis pone oculos paullo prominentibus; prothorace longitudine latitudinem superante; convexo, linea media impressa, nec marginem anticum nec posticum attingente; elytris elongatis parallelis, longitudine latitudinem duplo superante; pygidio subquadrato punctato angulis posticis rotundatis; pedibus latis compressis, angulo externo apicali tibiæ prærecto.

Long. corp. lin. 6.

Habitat; Australia. In Mus. Britann.

The antennæ are equal to three-quarters of the elytra in length, and the length of the elytra is twice their breadth. The length of the antennæ (including the basal joint) is four times their width, which is nearly uniform. The width of the seventh joint is nearly equal to the length of the ninth and tenth joints united: the tenth joint is as long as the ninth, eighth, and one-fourth of the seventh joints united.

SPECIES 6 (10)—ARTHROPTERUS DENUDATUS.

(Westw. Proc. Linn. Soc. June 19, 1849, p. 56.)

PLATE XV, FIG. 1.

Piceo-castaneus, subnitidus, tenuissime punctatus; elytris magis nitidis; antennis longis, angustis planis, articulo ultimo duobus præcedentibus longitudine æquali; capitis angulis posticis prærectis; prothorace capite paullo angustiori, supra subdepresso, truncato-cordato, linea media impressa; pedibus subangustis; tibiis omnibus angulo externo apicali acuto.

Long. corp. lin. 6.

Habitat; Australia, ad ripas fluvii 'Mundarra' dicti. In Mus. Hopeiano Oxoniæ, F. Bond, &c.

SPECIES 7 (11)—ARTHROPTERUS BREVIS.

(Westw. Proc. Linn. Soc. 1850, p. 101.)

PLATE XV, FIG. 6.

Nigro-piceus, nitidus, lævis, brevis, latus; capite punctato; antennis latis margine antico sc. infero subrecto, margine supero serrato; prothorace cordato-truncato, linea media tenui longitudinali impressa, disco tenuissime punctato; elytris brevibus, fere lævibus nitidis; tibiis anticis apice submarginato, angulo apicali acuto; tibiis quatuor posticis apice externo obtuse rotundatis.

Long. corp. lin. 3.

Habitat; Australasia. In Mus. Hopeiano Oxoniæ, Hist. Nat. Paris (Verreaux), &c.

## SPECIES 8 (12)—ARTHROPTERUS PARALLELOCERUS.

(Westw. Proc. Linn. Soc. Lond. 1850, p. 100; Ann. Nat. Hist. vii. p. 491.)

## PLATE XV, FIG. 9.

Ferrugineus, antennarum clava lateribus parallelis, articulo basali transverso (fig. 9 *a*), setoso, ultimo tribus præcedentibus simul sumptis longitudine exacte æquali; capite et pronoto rude punctatis, hoc capite latiori subquadrato, antice parum latiori, angulis anticis rotundatis setosis; elytris tenue transversim punctatis, punctis setigeris; tibiis anticis extus acute productis, quatuor posticis extus acuminatis, angulo extremo truncato.

Long. corp. lin. 5.

Habitat; Australasia. In Mus. Hist. Nat. Paris (Verreaux) et Hopeiano Oxoniæ.

The antennæ are equal to two-thirds of the elytra in length; the last joint is just the length of the three preceding joints united together; the basal joint is broader than long; the breadth of the sixth joint equals the length of the second, third, fourth, and fifth joints united together.

## SPECIES 9 (13)—ARTHROPTERUS HOWITTII.

## PLATE XV, FIG. 4.

Affinis *A. MacLeayii*, at minus rugosus; elytris punctis minutis vage sparsis et setosis; articulo basali antennarum parvo quadrato angulo supero rotundato, infero acuto (fig. 4 *a*); articulo ultimo longo, septimo, octavo, et nono longitudine æquali; totus piceo-rufus; capite angulis posticis pone oculos lateraliter porrectis, vertice inter oculos planiusculo, impressionibus duabus parum profundis lævibus notato; prothorace subcordato-truncato, lateribus caput versus latioribus rotundatis, marginatis, disco canali medio notato; tibiis anticis apice acutissimo; tibiis quatuor posticis angulo externo producto, apice rotundato, setis instructo (apicem acutum simulantibus); pygidio punctatissimo.

Long. corp. lin. 4½.

Habitat; Melbourne, Australia (D. Howitt). In Mus. Hopeiano Oxoniæ (olim Westw.).

The length of the antennæ equals that of the head, prothorax, and twice the scutellum; that of the terminal joint equals the seventh, eighth, and ninth joints; the breadth of the antennæ in the middle of the clava nearly equals one-third of their entire length. The length of the elytra is nearly thrice that of the prothorax.

I am indebted to Dr. Howitt for the specimen of this species here described; it is given as distinct from *A. MacLeayii* on his authority, he having compared it with the type specimen of that species in Mr. MacLeay's Collection.

## SPECIES 10 (14)—ARTHROPTERUS MELBOURNII.

## PLATE XV, FIG. 5.

Affinis *A. MacLeayii*, at multo lævior, nitidus punctatus, vix setosus; articulo basali antennarum magno transverso, apice profunde emarginato (pro receptione articuli secundi) (fig. 5 *a*); articulo ultimo brevi transverso vix semicirculari articulos octavo et nono longitudine æquanti; capitis angulis posticis pone oculos vix lateraliter porrectis; vertice subconvexo, vix biimpresso; prothorace subcordato-truncato, lateribus marginatis, angulis anticis rotundatis, posticis obtuse quadratis; tibiis posticis angulo apicali externo rotundato aut subtruncato et ciliato (fig. 5 *b*); pygidio nigro punctato.

Long. corp. lin. 4¾.

Habitat; Melbourne, Australia (D. Howitt). In Mus. Hopeiano Oxoniæ.

The antennæ are equal in length to the head, thorax, and scutellum; the terminal joint is scarcely semicircular, being only equal to the two preceding in length. The basal joint is deeply emarginate for the reception of the second joint; the elytra are thrice the length of the prothorax, and their width nearly equals half their length. The width of the middle part of the clava of the antennæ is equal to the length of five of its intermediate joints united.

Two other Australian species of this sub-genus, *Arthropterus MacLeayii* Donovan., and *Arthropterus Hopii* Westw., are figured in my *Arcana Entomologica*, vol. ii. pl. L, figs. 4 and 5.

Five other species of the sub-genus, from Gayndah, Australia, are described by William MacLeay, Esq., in the *Transactions of the Entomological Society of New South Wales*, vol. ii. part ii, 1871, the characters of which are subjoined, in order to make the present article complete up to the present time. Without actual comparison with typical specimens, I am afraid to pronounce on the possible identity of some of them with some of the species above described.

#### ARTHROPTERUS WESTWOODII.

‘Piceous brown, subnitid, and finely punctured. Antennæ short, with the first joint transverse, obtusely angled, and truncate; the second to the ninth inclusive more than four times broader than the length, and the tenth more than twice the length of the preceding. Head slightly concave between the eyes, truncate behind, and attached to the thorax by a thick neck, with the posterior angles prominent, obtuse, and clothed with stiff hairs. Thorax scarcely longer than the breadth, rounded at the anterior angles, slightly narrowed behind, truncate at the base, margined and ciliated on the sides, and broadly impressed on the median line, more especially towards the base. Elytra rounded at the apex, with a small sinuation at the external angle. Legs and under side of the body thinly punctured, anterior tibiæ with the external apical angle subacute, and the apex deeply emarginate. Intermediate and posterior tibiæ with the external apical angle very broadly rounded and ciliated, and with the apex emarginate.

‘Length,  $5\frac{1}{2}$  lines.’

#### ARTHROPTERUS MASTERSII.

‘Piceous black, subnitid, and finely punctured. Antennæ with the first joint square, obtusely angled and truncate, the second to the ninth inclusive three times broader than the length, and the last more than twice the length of the others. Head slightly concave between the eyes, truncate behind, and attached to the thorax by a thick neck with the posterior angles obtuse. Thorax much longer than the breadth, and very slightly narrowed behind, with the median line deeply impressed in the middle, but not extending to the apical and basal margins, and with an indistinct fovea near the basal part of the lateral margin. Elytra truncate at the apex, and slightly notched at the external angles. Legs and under side of the body closely punctured. The four anterior tibiæ have the external apical angle acute and the apex deeply emarginate; the posterior are rather more obtusely angled.

‘Length,  $6\frac{1}{2}$  lines.’

#### ARTHROPTERUS ANGUSTICORNIS.

‘Of a piceous brown colour and nitid. Antennæ narrow; the first joint square with the angles obtuse, the second to the ninth inclusive twice as broad as the length, the last equal in length to the two preceding united. Head depressed on the vertex and coarsely punctured, with a prominent ciliated tubercle at the posterior angles, and the base truncate. Thorax subcordiform, coarsely and transversely punctured, and with the median line lightly impressed in the middle. Elytra thinly and finely punctured, and truncate at the apex, with two small notches at each external angle. Body beneath, and legs, thinly punctured. All the tibiæ have the external apical angle very acute.

‘Length,  $5\frac{1}{2}$  lines.’

‘This species seems to approach the *A. parallelocerus* of Westwood.’

#### ARTHROPTERUS KINGII.

‘This species differs from *A. angusticornis* in being of a pitchy red colour, in having no depression on the top of the head, in the tubercle at the posterior angles of the head being much smaller, in the thorax being more ciliated on the sides and having the median line more marked, in the external apical angles of the tibiæ being less acute, and in the narrower form of the whole body. The antennæ are of the same character as those of *A. angusticornis*.

‘Length,  $5\frac{1}{2}$  lines.’

## ARTHROPTERUS ELONGATULUS.

‘Long, narrow, of a reddish colour, subnitid, and punctate. Antennæ rather short, the first joint nearly square and with the angles obtuse, the second to the ninth inclusive three times broader than the length, and the last more than twice the length of the preceding one. Head not depressed in front, and with the posterior angles rounded. Thorax much longer than the width, very little narrowed behind, and not rounded on the sides, with the median line obsoletely carinated, and broadly depressed near the base. Elytra a little wider than the thorax, and with the apex tri-emarginate in nearly equal lengths, and produced into acute points between the emarginations. Apex of the abdomen nearly black. The external apical angle of the fore tibiæ is acute, that of the intermediate and posterior tibiæ is rather obtuse with the apex subtruncate.

‘Length, 4 lines.’

I have obtained a specimen of this distinct species during the progress of this sheet through the press.

## SECTION 2—SPECIES AFRICANA.

## SPECIES 11 (15)—ARTHROPTERUS KIRBII.

(*Cerapterus Kirbii*; Westw. Trans. Ent. Soc. Lond. 3rd Ser. vol. i. Proc. p. 189.)

## PLATE XVI, FIG. 1.

Subangustus; prothorace capite vix latiori, subquadrato, angulis anticis rotundatis; elytris pone medium latioribus; glaberrimus et lævissimus; capite inter oculos biimpresso; antennarum clava 9-articulata, subangusta, lateribus parallelis, articulo basali clavæ parvo; prothoracis lateribus acute marginatis; rufo-piceus, prothorace rufescenti, lateribus elytrorum cum macula ovata prope angulos posticos, apicibus suturaque lutescentibus; femoribus anticis subtus concavis; pedibus omnibus (tarsis piceis exceptis) corporeque subtus magis rufescentibus, nitidis.

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

Habitat; Natal (D. Gueinzus). In Mus. Hopeiano Oxoniæ.

## GENUS—PENTAPLATARTHUS. Westw.

## SPECIES 1 (16)—PENTAPLATARTHUS PAUSSOIDES. Var. Natalensis.

(Westw. Trans. Linn. Soc. vol. xvi. p. 619, and Proc. Linn. Soc. 5 June, 1849, p. 57.)

P. castaneo-nigricans; elytris interdum cruce nigra notatis; antennis planis, articulis clavæ subcontinuis (nec basi et apice constrictis ut in *P. Paussoides*); prothoracis lateribus in medio angulatis.

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

Habitat; Port Natal, Africa Merid.

OBS.—On a careful comparison I can detect no other characters to separate the somewhat larger Port Natal specimens from the typical specimen of *P. Paussoides*, formerly in my Collection, and now in the Hopeian Museum.

From the observations also of Herr Döhrn (Proc. Ent. Soc. Lond. Sept. 1, 1851), it is evident that the *Pentaplatarthrus Natalensis* of the Berlin Museum, and *P. 4-maculatus* Buquet MS, are mere varieties of *Pent. Paussoides* Westw., more or less distinctly banded with black on the elytra.

## GENUS—MELANOPSILUS. Westw.

(Trans. Ent. Soc. vol. v. p. 23.)

## SUB-GENUS—CERATODERUS. Westw.

(Proc. Linn. Soc. June 1, 1841.)

Corpus supra glabrum, nitidum; antennæ clava depressa quasi 5-articulata; palpi maxillares articulo secundo subovali lateribus subparallelis; labiales 3-articulati articulo tertio majori ovali apice subtruncate; prothorax cordato-truncatus; tibiæ apicibus externe angulatis.

Typus, *Ceratoderus bifasciatus* Kollar; Westw. Arcana Ent. pl. LVIII, fig. 1.  
Habitat; India Orientalis.

SUB-GENUS 2—MERISMODERUS. Westw.

(Trans. Ent. Soc. Lond. iv. Proc. p. 130.)

Corpus supra opacum, plaga media elytrorum polita; antennæ clava depressa quasi 5-articulata; palpi maxillares articulo secundo fere rotundato depresso; labiales 3-articulati articulo tertio majori subovali apice subtruncato; prothorax bipartitus, lateribus angulatis; tibiæ apicibus externe obtuse truncatis, haud calcaratis; tarsi articulo basali sequenti majori.

This sub-genus was proposed, in the Proceedings of the Entomological Society on the 4th of August, 1845, for a species captured in India by Mr. Benson, which agreed in general characters with *Ceratoderus bifasciatus* of Kollar, but differing from it in characters which do not seem to have more than subgeneric importance. For these two insects the generic name of *Melanopsilus* was proposed by me, the name of *Ceratoderus* being retained as that of the sub-genus of *C. bifasciatus*, and a new subgeneric name, "Merismoderus," proposed for *M. Bensoni*.

SPECIES 1 (17)—MERISMODERUS BENSONI.

(Westw. Trans. Ent. Soc. Lond. vol. iv. Proc. p. 130, and vol. v. p. 23, pl. II, fig. 2; Cab. Orient. Ent. pl. XLI, fig. 4.)

PLATE XVIII, FIG. 1.

Luteo-fulvus, opacus: capite punctulato, supra impressionibus duabus rotundatis inter oculos alteraque versus medium marginis antici; prothoracis parte antica angulis productis, subacutis, parte postica quasi 4-lobata; elytris coriaceis, singulo versus medium plaga magna nigra subtriangulari ad suturam haud extensa; disco nitidissimo, maculaque parva communi nigra ad apicem suturæ, lateribus setulosis.

Long. corp. lin. 3.

Habitat; India Orientalis (D. Benson). In Mus. Hopeiano Oxoniæ, D. Benson, olim in Mus. Westwoodii.

Captured by the late Mr. Benson under a brick near the river Ganges, about fifty miles below Cawnpore, in the cold season. He also took another specimen, under a stone in a black ants' nest, between the Sivalik range and Saharunpore.

GENUS—LEBIODERUS. Westw.

(Trans. Ent. Soc. ii. p. 93.)

SPECIES 1 (18)—LEBIODERUS PERCHERONII.

PLATE XVII, FIG. 3.

Testaceus, lævis, tenuissime punctatus: capitis angulis posticis parum prominulo-acutis, vertice canaliculato; antennarum clava maxima ut videtur tantum biarticulato, impressione profunda, transversa prope basin, reliqua parte inflata (fig. 3 a); marginibus spinosis, parte basali extus in spinam producta; prothorace brevi, parte antica capite multo latiori, lateribus angulatis, carinaque transversa instructa, parte postica multo angustiori, bituberculata; elytris latis oblongis angulis anticis lateralibus antrorsum porrectis; pedibus longis gracilibus.

Long. corp. lin. 3.

Habitat; Tinga. In Mus. W. W. Saunders.

The structure of the antennæ (the club of which is not so apparently 5-jointed as in *L. Gorii*, Westw. Arc. Ent. pl. LVIII, fig. 3, a single transverse deep impression only existing), and the different form of the thorax, lead me to regard this insect as specifically distinct from the type of the genus of which I have now seen a considerable number of specimens, one of which (now in the Hopeian Collection) was kindly presented to me by the late Herr Westermann, of Copenhagen.



## GENUS—HYLOTORUS. Dalman.

(Analecta Entom. p. 103; Westw. Trans. Linn. Soc. xvi. p. 654; Arc. Ent. ii. p. 40.)

## SPECIES 1 (19)—HYLOTORUS BUCEPHALUS.

(Gyllenhal, Schönherr, Syn. Ins. i. 3, App. p. 15, pl. VI, figs. 2 and 2 a; Westw. Arc. Ent. pl. LVIII, fig. 4.)

## PLATE XVII, FIG. 2.

Pallide testaceus, glaber; capite magno rotundato; antennarum clava compressa, ovato-lanceolata, acuta, in fovea ante-oculari reponenda, oculis parvis nigris, fronte linea impressa, postice bifida, ramulis in tubercula duo verticalia mamillata desinentibus; prothorace brevi transverso antice multo latiori, capite æquali, basi apiceque truncato, supra inæquali, paullo pone medium striga angulata valde profunda et antice posticeque aliis obsoletioribus transversim impresso; pedibus brevibus validis, femoribus tibiisque valde compressis, his ad apicem recte truncatis.

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

Habitat; Sierra Leone, Africa (Afzelius). In Mus. Reg. Holm. (Coll. Schönherr).

The outline of the front of the body of this curious insect was made by myself from the original type of the species in the Museum at Stockholm.

## SPECIES 2 (20)—HYLOTORUS HOTTENTOTTUS.

## PLATE XVII, FIG. 1.

Testaceus, coriaceus: capite antice impressione brevi frontali, alterisque duabus frontalibus majoribus oblique ovatis mamillatis; antennarum clava parva, lata ovata apice acuto; prothorace subquadrato, parte antica majori, capitis latitudine, et subruguloso rugis transversis, parte postica parum angustiori, pone medium impressione tenui transversa, in medio punctum profundius formanti; clytris oblongis subparallelis, prothorace multo latioribus, sub lente coriaceis; pedibus brevibus valde compressis; tibiis apice curvato-truncatis.

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

Habitat; Natal et Zoolu, Africa Merid. (Gueinzus). In Mus. Hopeiano Oxoniæ.

The discovery of a species of this remarkable genus in the South of Africa, differing in certain particulars from the Sierra Leone type, is very interesting, and has enabled me, by an examination of the organs of the mouth, to establish the relationship of the genus with the Paussidæ, disputed by Dr. Gerstaecker. The mandibles (fig. 1 c) are sickle-shaped, with a small tooth in the middle of the inner margin, and a slender basal lobe. The maxillæ (fig. 1 d) are very thin and horny, curved at the tip and bidentate, with 4-jointed maxillary palpi, the first joint being very short, the second very large and inflated, and the third and fourth very small. The mentum (fig. 1 e) is straight in the middle of its front margin, and the lateral angles prominent; the labium is large, flat, rather transverse, with the middle of the fore margin produced and rounded; the labial palpi are robust, rising from a basal scape, with the two basal joints short, the third thick, elongate, oval, and rather acuminate at the tip (fig. 1 e). The head is semiglobose in front, and the arrangement for disposing of the antennæ when at rest is remarkably interesting. In the front of the face are two oval depressions, separated by a slender raised mesial line; the basal joint of each of the antennæ is fixed at the outer upper part of these depressions, into which it shuts like a valve; when so shut, the large clava of the antennæ falls closely upon it, the whole scarcely standing off from the surface of the head. Fig. 1 a shews the head and prothorax, seen laterally, with one of the antennæ at rest in front of the kidney-shaped eye. In fig. 1 b the left antenna is opened out from the depression, whilst the right antenna is laid at rest, at which time the small connecting joint is brought into contact with the small mesial ridge above mentioned. The prothorax is not so short and transverse as in *H. bucephalus*, and the furcate impression on the face is wanting.

## GENUS—PLATYRHOPALUS. Westw.

## SPECIES 1 (21)—PLATYRHOPALUS VEXILLIFER. Westw.

## PLATE XVII, FIG. 4.

Subdepressus, piceus, nitidus, vertice profunde impresso; antennarum clava lata minus depressa, apice angulata cum seta terminali, postice dentibus duobus validis, conicis setosis, denticuloque subbasali armata; angulis posticis capitis prominentibus; prothorace brevi, subbipartito, parte antica lateribus dilatatis, angulis anticis rotundatis, posticis recurvis et acutis, parte postica multo angustiori lateribus fere rectis; elytris latis, humeris porrectis rotundatis et intus submarginatis; pedibus longis; tibiis, ante apicem, externe in spinam acutam productis; corpore infra piceo-fulvo, nitido, parce punctato.

Long. corp. lin. 4.

Habitat; Penang. In Mus. Saunders.

Although closely allied to *Pl. aplustrifer* Westw. (Linn. Trans. xvi. p. 664, pl. XXXIII, fig. 51; Arcana Ent. pl. LXXXVIII, fig. 3), the present insect has the body and antennæ less depressed; the head has an oval depression between the front of the eyes; the shape of the clava of the antennæ differs somewhat from that of *Pl. aplustrifer*, as can be best seen by comparing the coloured figure with the outline of the clava of *Pl. aplustrifer* (fig. 4 *b*). The middle femora have a remarkable character on their inner surface, consisting of a group of about twelve small raised ridges arranged in a radiating manner (fig. 4 *a*).

## SPECIES 2 (22)—PLATYRHOPALUS MELLII. Westw.

(Trans. Linn. Soc. xvi. p. 685; Arcana Ent. pl. LXXXVIII, fig. 2; Guérin-Mén. Icon. R. Anim. Ins. pl. XL, fig. 11.)

## PLATE XVIII, FIGS. 2 and 3.

The outlines here given represent the basal joint (fig. 2 *a*), and the clava of the antennæ (2 *b*), of this species, and the prothorax, seen from above (2 *c*). In the second of these figures the margin is slightly trisinuuated near its outer extremity, the lobes of the sinuated portion being clothed with short hairs; the basal joint of the antennæ is rather wide at its extremity, and the prothorax has the dilated portion of its lateral margins slightly angulated, and the narrowed basal portion distinct. Certain individuals, however, have the clava of the antennæ entire along the outer margin, the whole margin being slightly setose (fig. 3 *a*); the basal joint of the antennæ is narrower, and consequently more acute at the tip, and the prothorax has the lateral margins less angulated, and the basal portion not distinct (fig. 3 *b*); the middle and hind tibiæ have the outer apical angle acute, and extended backwards. In all other respects the specimens appear identical with the ordinary type of the species. It is possible these may be sexual distinctions; if not, they must be regarded as specific distinctions (although of a light character), and the name of *Platyrhopalus Pictetii* may be assigned to these individuals.

## GENUS—PAUSSUS. Linnæus.

(Westw. Arcana Ent. ii. plates LXXXIX-XCIV.)

The species of this genus (of which a large number are represented in the plates of the Arcana Entomologica above referred to) may, for convenience, be arranged in the following manner:—

## Section A. Prothorax quasi bipartitus.

a. Antennarum clava postice haud excavata.

b. Antennarum clava postice excavata.

\* Species Asiaticæ.

\*\* Species Africanæ.

## Section B. Prothorax subcontinuus.

a. Species Africanæ.

b. Species Asiaticæ.

## SPECIES 1 (23)—PAUSSUS (A a) HUMBOLDTHI.

(Westw. Trans. Ent. Soc. Lond. New Ser. vol. ii. p. 90; Dohrn MS.)

## PLATE XIX, FIG. 11.

Prothorace bipartito, antennarum clava postice haud excavata; piceus, elytris metasterno et ventre castaneis, nitidus: capite laevi vertice in tuberculum crassum conicum, apice obtusum productum; antennarum clava crassa, ovali, glabra, basi oblique truncata et supra in cornu breve conicum paullo curvatum sensim producta; disco supra et infra convexo, apice rotundato, margine antico acuto, postico vero rotundato; palpis maxillaribus articulis 2, 3, et 4 sensim magnitudine decrecentibus; labialibus filiformibus gracilibus, articulo ultimo longissimo; prothorace capite vix longiori sed evidenter latiori, in partes duas magnitudine et latitudine fere æquales diviso, partis anticæ margine antico fere recto, angulis lateralibus rotundatis, lateribusque obliquis, disco transversim elevato et in medio paullo depresso, fossula media transversa profunda, partis posticæ lateribus rotundatis, disco in medio longitudinaliter subdepresso; elytris latis, vage punctatis et breviter luteo parum setosis; pedibus mediocribus tibiis compressis; podice plano margine tenui elevato.

Long. corp. lin. 5.

Habitat; Natal. In Mus. Dohrn.

## SPECIES 2 (24)—PAUSSUS (A a) PROCERUS.

(Gerstaecker, Ent. Zeit. Stettin, 1867, p. 429.)

## PLATE XIX, FIG. 7.

*P. laevifronti* Dej., Westw. proximus: prothorace subcontinuo, antennarum clava haud excavata, breviter ovata, lenticulari, retrorsum quadri-foveolato; rufo-brunneus nitidus, parce subtiliterque setulosus; vertice inermi; prothoracis dimidio anteriori capite latiori, rotundato-dilatato, posteriori supra haud carinato, utrinque tuberculato.

Long. corp. lin. 5–5½.

Habitat; Abyssinia. In Mus. Reg. Berol. et in Mus. Hopeiano Oxoniæ, 17 Mart. 1873.

The thorax and elytra are delicately punctured, and finely luteo-setose. The tibiæ are compressed, and of moderate breadth. The hind part of the prothorax is more strongly channelled down the middle than is represented in fig. 7.

## SPECIES 3 (25)—PAUSSUS (A a) NILOTICUS. (Dohrn MS.)

## PLATE XIX, FIG. 9.

Præcedenti (*P. procerus*) proximus, at latior et brevior: piceus, capite nitido; elytris obscure castaneis subcoriaceis, punctis parvis setigeris notatis; capitis clypeo in medio longitudinaliter subsulcato; vertice integro postice in collum distinctum contracto; antennarum clava ovali lenticulari, medio disci subtus magis angulato (fig. 9a), prothorace paullo majori, impunctata, setis minutis luteis decumbentibus, angulo basali externo parum producto, margineque postico 4-sulcato, sulcis minutis; prothorace bipartito, parte antica capite latiore, lateribus rotundatis, in medio sulco parvo longitudinali, marginem anticum haud attingente; parte postica fere capitis latitudine, in medio haud excavato, integro, lateribus parum aut vix dilatatis, angulis posticis vix exsertis; pedibus satis latis; tibiis e basi ad apicem sensim latioribus compressis; pygidio punctato.

Long. corp. lin. 3⅔–4½.

Habitat; White Nile. In Mus. Shepherd, Parry et Dohrn; Bogos, Nubia (Felder); Bahr el Abrad (Deyrolle).

The antennæ are about the size of, or slightly larger than, the prothorax. The length of the elytra = 2⅔ the length of the prothorax. There is a very slight impression on each side of the crown of the head, close to the narrowed neck. The tibiæ are compressed, flattened, rather thickened at the tip.

The chief distinctions noticeable between this species and *P. procerus* seem to be in the form and outline of the hind part of the prothorax, the different shape of the club of the antennæ, and in the shorter, more robust form of the body.

SPECIES 4 (26)—PAUSSUS (A a) VERTICALIS.

(Reiche, Voy. en Abyssinie de Galinier, p. 390, Zool. pl. XXIV, figs. 5, 5 a.)

PLATE XIX, FIG. 8.

Affinis *Pausso cornuto* Dej., Westw. Oblongus angustus subdepressus, totus obscure rufescenti-fuscus, vage punctatus, subpubescens nitidus; capite magno thoracis latitudine, subrotundato antice emarginato vertice tumefacto, inter oculos utrinque læviter impresso; oculis magnis; antennarum articulo basali crasso, clava thoracis longitudine basi subemarginata truncata, ovali, margine externo prope basin coarctata et inde subacute basi producta; disco supra infraque convexo margine omni subglabro; thorace paullo latiori quam longo, parte antica dimidiam partem thoracis formante, rotundato-dilatata, latiori, convexa, linea longitudinali medio impressa; parte postica antica dimidio angustiori, cylindrica, transversim impressa; elytris thorace fere duplo latioribus, linearibus oblongis subdepressis abdominis apicem non tegentibus; pygidio lævigato, medio longitudinaliter læviter impresso; pedibus crassis compressis.

Long. corp. 8 mill. ( $3\frac{2}{3}$  lin.); lat. 3 mill. ( $1\frac{1}{3}$  lin.)

SYN.: *Paussus Æthiops*. Blanchard, in Cuvier, Règne An. ed. Crochard, Inſ. pl. LXI, fig. 8, sec. individ. in Mus. Hopeiano Oxoniæ, a Cel. Com. Mniszech transmissio.

SPECIES 5 (27)—PAUSSUS (A a) SPINICOXIS.

(Westw. Proc. Linn. Soc. Lond. June 18, 1849, p. 59.)

PLATE XVIII, FIG. 7.

Angustus, castaneo-testaceus; capite elytrisque tenuissime punctatis; capite tuberculo conico dorsali inter oculos armato; oculis magnis; antennarum clava subovali undique acute marginata; punctata, basi externe in dentem producto; disco utrinque versus marginem posticum 4-impresso; prothorace glabro subcontinuo; angulis anticis rotundatis, parte antica a postica fossula profunda transversa utrinque setosa, separata; elytris glabris; podice rotundato, punctato; palpis maxillaribus subfiliformibus, articulo secundo parum crassiori; pedibus gracilibus, coxis 2 posticis in spinam productis.

Long. corp. lin. 4.

Habitat; Africa Meridionalis, apud Port Natal. In Mus. Britann. et Hopeiano Oxoniæ.

SPECIES 6 (28)—PAUSSUS (A a) DAMARINUS. Westw.

PLATE XVII, FIG. 9.

Nigro-castaneus, elytris magis castaneis, capite, basi clavæ antennarum, parte antica prothoracis et elytris nitidis; capite antice fere recto, inter eypeum et verticem parum depresso, vertice ipso cornu conico erecto armato; antennarum clava ovali basi truncata, angulo externo acuminato setoso, supra et infra convexo delicate granulata, margine postico impressione tenui et parum profunda instructo, ejus marginibus oblique 4-impressis (fig. 9 a, caput e latere visa; 9 b, clava postice viso); collo angusto depresso; prothorace bipartito, parte antica capite vix latiori, angulis anticis oblique rotundatis; disco transverse et oblique elevato; parte postica capitis latitudine, angulis posticis parum prominentibus, e parte antica impressione transversa luteo-setosa separata, in medio impressione quadrata notata; elytris oblongis punctatis; thorace multo latioribus; podice punctato margine postico acuto; pedibus medioeribus; tibiis gracilibus.

Long. corp. lin. 6.

Habitat; Damara Land, Afric. Merid. In Mus. D. W. W. Saunders.

## SPECIES 7 (29)—PAUSSUS (A a) SCHIODTHI. Westw.

PLATE XVI, FIG. 6.

Castaneo-rufus: elytris nigris nitidis basi rufis, delicate punctatis et luteo-setosis; capite antice impresso; disco fere plano lateribus ad marginem internum oculorum parum elevatis, collo angusto depresso; clava antennarum ovali, basi truncata angulo externo acuto, margine omni acuto, supra parum convexo, et transversim 4-sulcato sulcis utrinque paulo dilatatis, infra pone medium valde convexa (fig. 6*a*); prothorace bipartito, parte antica capite vix latiori lateribus rotundatis; dorso in medio longitudinaliter impresso, parte postica e præcedenti sulco tenui transverso separata, in medio tuberculis duobus rotundatis elevatis instructa, lateribus fere rectis; elytris prothorace multo latioribus, sutura apicibusque rufo-piceis; podice punctato, margine apicali acuto; pedibus castaneo-rufis; tibiis compressis, sensim ad apicem latioribus.

Long. corp. lin. 3½.

Habitat; Bengal (Bowring). In Mus. Britann.

## SPECIES 8 (30)—PAUSSUS (A a) CURTISII.

(Westw. Proc. Ent. Soc. Lond. Jan. 1864, 3rd Ser. vol. i. p. 190.)

PLATE XVIII, FIG. 11.

Affinis *P. Schuckardi*, differt præcipue structura antennarum: elongatus, subcylindricus, lævis subopacus, totus obscure rufus; antennis pedibusque granulatis; capite supra lineis duabus angulato elevatis longitudinalibus anticis alterisque duabus obliquis verticalibus (tuberculum medium includentibus) carinato; antennarum clava gracili cylindrica, parum arcuata, apice incrassato, subclavato et postice 3-denticulato; prothorace bipartito, parte antica in medio canaliculata, margineque postico acuto, impressione magna quadrata mediana ad latus utrinque producta; elytris singulis prope marginem lateralem tuberculis duobus glabris (uno ante medium, altero versus angulos posticos) instructis; tibiis omnibus subangustis, subcylindricis.

Long. corp. lin. 4.

Habitat; Natal (D. Gerrard). In Mus. Hopeiano Oxoniæ.

## SPECIES 9 (31)—PAUSSUS (A a) SINICUS.

(Westw. Proc. Linn. Soc. Lond. June 19, 1849, p. 57.)

PLATE XVIII, FIG. 10.

Subcylindricus, niger, subopacus, setis minutissimis griseis undique sparsis, obsitus; elytrorum apice et angulo postico externo piceis; capite tuberculo obtuso inter oculos, serieque quatuor minorum prope collum; antennarum clava angusta, in medio angustiori, apice clavato et supra seriebus duabus tuberculorum parvorum (tribus in utraque serie) in apicem insidentibus; prothorace bipartito, parte antica haud postica latiore, lateribus angulatis; palpis maxillaribus articulo secundo intus ad apicem acuminato producto; palpis labialibus articulo ultimo ovali-acuminato.

Long. corp. lin. 4.

Habitat; prope Hong Kong (D. Bowring). In Mus. Britann.

I have adopted the specific names proposed by Captain Champion for this and two other species brought from Hong Kong by Mr. Bowring, and presented by him to the British Museum.

## SPECIES 10 (32)—PAUSSUS (A a) CULTRATUS. (Mus. Berol.)

(Westw. Proc. Linn. Soc. Lond. June 19, 1849, p. 59.)

PLATE XIX, FIG. 1.

Totus testaceo-fulvus, punctatus et breviter setosus: capite supra convexo integro, angulis posticis pone oculos porrectis; clypeo emarginato; antennis depressis late-falcatis apice acutissimis, margine omni acuto, glabris, tenuiter punctatis; palpis maxillaribus filiformibus; prothorace ovali antice et postice truncato, in medio parum depresso, glabro, excavationibus duabus profundis subrotundatis in medio notato; pedibus subgracilibus; tibiis compressis et ante apicem sensim angustioribus; podice punctato setoso margine acuto elevato.

Long. corp. lin. 3.

Habitat; Africa Meridionalis, apud Port Natal. In Mus. D. Melly cum nomine supra indicato, e Mus. Regio Berol. communicatus; in Mus. Hopeiano Oxoniæ, &c.

## SPECIES 11 (33)—PAUSSUS (A a) GRANULATUS.

(Westw. Proc. Linn. Soc. Lond. June 19, 1849, p. 58.)

PLATE XIX, FIG. 3.

Luteo-fulvus: disco elytrorum magis rufescenti, podice piceo; capite inter oculos biimpresso, tuberculisque duobus apice excavatis instructo; angulis anticis supra basin antennarum productis; antennarum clava falcata, apice acutissimo setaque unica apicali instructo; palpis maxillaribus articulo secundo fere rotundato; capite subnitido, gracillime cicatricoso; pronoto glabro; elytris opacis granulatis, singulo plaga longitudinali submembranacea grisea, impresso; pedibus gracilibus; tibiis 2 posticis magis dilatatis.

Long. corp. lin. 3 $\frac{3}{4}$ .

Habitat; Africa Meridionalis, prope Port Natal. In Mus. Hopeiano Oxoniæ, &c.

## SPECIES 12 (34)—PAUSSUS (A a) CHEVROLATII.

(Westw. Trans. Ent. Soc. Lond. vol. ii. new Ser. p. 93.)

PLATE XVII, FIG. 5.

Prothorace bipartito; antennarum clava vix postice excavata; totus brunneo-rufus, fascia lata media elytrorum nigra; coriaceus, subopacus; capite et pronoto punctis minimis; elytris punctis majoribus setiferis; capite supra fere plano, fossulis duabus parvis rotundis inter partem anticam oculorum; margine antico clypei fere recto acuto, angulis anticis rotundatis; antennarum clava oblonga paullo curvata, dimidio basali depresso, apicali magis convexo, margine antico fere recto, acuto, apicali rotundato, acuto; postico inter basin et medium sat profunde emarginato; puncto profundo, prope angulum subobtusum basalem externum, carinaque acuta e puncto versus medium disci extensa et emarginatura parallela; palpis maxillaribus articulo secundo maximo fere rotundo, subdepresso, tertio et quarto parvis subæqualibus; palpis labialibus articulo basali minuto, secundo rotundato, tertio magno ovali, apice suboblique truncato; prothorace oblongo angulis lateralibus partis anticæ capite latioribus obtusis, parte postica capitis latitudine; fossula profunda media oblonga utrinque ad basin luteo-setosa, carinaque parva longitudinali utrinque notata; elytris capite multo latioribus, humeris rotundatis; pedibus gracilibus elongatis.

Long. corp. lin. 2.

Habitat; Abyssinia. In Mus. Chevrolat, Parisiis; Mus. Hopeiano Oxoniæ, &c.

## SPECIES 13 (35)—PAUSSUS (A b \*) NAUCERAS.

(Benson, M'Clelland's Calcutta Journ. Nat. Hist. ; Westw. Trans. Ent. Soc. Lond. vol. v. p. 25.)

## PLATE XVI, FIG. 8.

Fusco-castaneus : prothoracis lateribus antice angulatis, parte postica elongatiuscula tenuiori picea ; elytris thoraceque setosis, illis elongatis plaga magna communi picea notatis ; capite carina elevatiuscula a clypeo emarginato egredienti usque ad nucham attingente ; tuberculo ad verticem posito ; clava antennarum naviformi, marginibus denticulatis, denticulis inferioribus setigeris ; carina antice versus apicem subangulata, versus basin profunde emarginata, quasi scissa ; tibiis mediocribus.

Long. corp. lin.  $2\frac{1}{2}$  ( $\frac{7}{10}$  poll.)

Habitat ; India Orientalis. D. D. Bacon and Hutton.

Closely allied to *P. denticulatus* Westw., Arc. Ent. ii. pl. XCII, fig. 1.

Taken by Captain T. Hutton in July, 1845, at Green Mount, Mussoorie, on the under side of a leaf of night-shade. Another, apparently of the opposite sex, was captured by Dr. Bacon, on the 5th of July, 1844, with a sweeping net, in grass at Rockville, Landour, three miles from Green Mount.

## SPECIES 14 (36)—PAUSSUS (A b \*) POLITUS.

(Westw. Proc. Linn. Soc. Lond. June 19, 1849, p. 58.)

## PLATE XVI, FIG. 10.

Fulvo-rufus, pronoti lateribus posticis discoque elytrorum nigris : capite tuberculo conico parum elevato, inter oculos ; antennarum clava naviculari, margine antico fere recto, apice rotundato, margine postico excavato, excavatione acuminato-ovali, margine supero simplici, infero 5-denticulato et 5-setoso ; prothorace bipartito, parte postica antica haud latiori ; elytris nitidis lævibus, breviter setosis, lateribus longius setosis ; pedice rufo, setarum serie marginato ; pedibus subgracilibus, basi femorum obscureiori.

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

Habitat ; India Orientalis (D. Bacon). In Mus. Hopeiano Oxoniæ (olim Westw.).

Nearly allied to *P. ploioiphorus* and *denticulatus*, but differs in the narrowed hind part of the prothorax ; also to *P. nauceras*, from which it differs in the glossy elytra and different shape of the antennæ.

## SPECIES 15 (37)—PAUSSUS (A b \*) PLOIOPHORUS.

(Benson, M'Clelland's Calcutta Journ. Nat. Hist. ; Westw. Trans. Ent. Soc. Lond. vol. v. p. 25.)

## PLATE XVI, FIG. 11.

Fusco-castaneus : abdomine elytrorumque disco nigris politis, horum marginibus late castaneis, antennarum clava naviformi, fissura basali profunda angusta incisa, cavaminis marginibus denticulatis, marginis inferioris denticulis setigeris ; abdomine setarum brevium fasciculis duobus munito.

Long. corp. lin. 3, ( $\frac{2}{10}$  poll.)

Habitat ; India Orientalis, mense Febuario (Dr. J. F. Bacon), Moradabad, in Rohilkund, to the north of the river Ganges. In Mus. Benson olim.

This species is of the same size and habits as *P. denticulatus* Westw., and is intermediate between it and *P. nauceras*.

## SPECIES 16 (38)—PAUSSUS (A b \*) DENTICULATUS.

(Westw. Arcana Ent. vol. ii. p. 179, pl. XCII, fig. 1.)

## PLATE XVI, FIG. 12 (details).

Obscure brunneo-castaneus, setosus: elytrorum disco nigricanti; capite tuberculo minuto excavato inter oculos, excavatione clavæ antennarum lata ovata marginibus denticulatis; prothoracis parte postica latiori.

Long. corp. lin.  $\frac{7}{20}$ ths of an inch.

Taken by Captain Boys on a heap of manure at Plassie, near Mhow.

Fig. 12 *a*, represents the prothorax of this species, shewing the very broad hind part; fig. 12 *b*, the antenna seen directly from above, shewing the acute basal angle with a deep impression near the base, the four marginal conical projections, each emitting, as well as the pointed apex of the club, a strong bristle; between the basal angle and the first setigerous lobe is seen the first or basal projection of the opposite margin of the club; fig. 12 *a* shews the antenna seen from behind, shewing the broad oval excavation of the club.

## SPECIES 17 (39)—PAUSSUS (A b \*) PACIFICUS.

(Westw. Trans. Ent. Soc. Lond. vol. iii. new Ser. p. 81.)

## PLATE XVI, FIG. 7.

Castaneus tenue punctatus et vage luteo-setosus: lateribus pronoti postice elytrorumque disco late nigris, nitidis; femoribus obscuris; capite inter oculos tuberculo depresso semicirculari instructo; antennarum clava subovata, margine antico subrecto acuto; disco utrinque ad basin longitudinaliter impresso, margine postico excavato, pagina superiori excavationis recta; inferiori denticulis minutis 6 striolisque totidem transversis notata; prothorace subbipartito, parte antica capite paullo latiori elevata, in medio longitudinaliter, parum impressa, lateribus obliquis et obtusis, medio pronoti fossula transversa brevi impresso; parte postica, ejusdem latitudinis, lateribus integris, sensim angustatis; elytris prothorace multo latioribus punctis minutissimis, vix impressis; lateribus setis rubris curvatis brevibus, marginatis; nigris nitidis, basi, lateribus apiceque castaneis; podice castaneo, margine elevato nigro; pedibus gracilibus obscure castaneis; tibiis posticis brevioribus latioribus; palporum maxillarum piceorum articulo secundo maximo fere circulari; palpis labialibus gracilibus subfiliformibus fulvis.

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

Habitat; Ceylon (D. Neitner). In Mus. Dohrn.

Most nearly allied to the Chinese *Paussus Bowringii* Westw., Proc. Linn. Soc. June 19, 1849; but at once distinguished by the spineless lateral margin of the fore part of the prothorax, the broad posterior tibiæ, &c.

## SPECIES 18 (40)—PAUSSUS (A b \*) JERDANI. (Hope MS.)

(Westw. Trans. Ent. Soc. vol. v. p. 26, pl. II, fig. 1; Cab. Orient. Ent. pl. XLI, fig. 5.)

## PLATE XVIII, FIG. 4.

Prothorace quasi bipartito; antennarum clava postice valde excavata; capitis vertice excavationibus duabus ovalibus; tuberculo parvo elevato in singula excavatione; rufescens obscurus, undique setulis minimis luteis obtectus; elytris setis longis numerosis rufescentibus marginatis; his etiam plaga maxima postica nigra notatis.

Long. corp. lin. 3.

Habitat; India Orientalis. In Mus. Hopeiano Oxoniæ (D. Jerdan).

Nearly allied to *P. Boysii, thoracicus*, &c. The head terminates in front in two slightly rounded and flattened divisions, the incision between which is angular, and terminates in a shallow channel extending to the crown of the head, where it terminates in two deep oval rather oblique impressions, each having a small raised tubercle within. The club of the antennæ is triangular, with the front margin acute and slightly arcuated; the hinder or upper margin is very deeply excavated, the excavation of an oval form, with each side sulcated. The



maxillæ (fig. 4 *a*) are armed with a very thin semitransparent oval lobe, which is bidentate, and the 4-jointed maxillary palpi (4 *b*, seen from above; 4 *c*, seen partially sideways) have the second joint flat and broadly ovate, truncated at the tip, the two terminal joints small. The prothorax has the anterior division slightly broader than the head, with the lateral angles acute, and a slender channel down its centre; the posterior division has the lateral portions elevated, with a small patch of fulvous hairs in front; the centre is deeply impressed, the hind central portion forming two lobes rounded in front. The extremity of the body is margined with rufous bristles, of which there is a thicker patch on each side.

## SPECIES 19 (41)—PAUSSUS (A b\*) BOWRINGII.

(Westw. Proc. Linn. Soc. Lond. June 19, 1849, p. 58.)

## PLATE XVI, FIG. 9.

Niger, nitidus: clava antennarum, parte antica prothoracis, basi lateribus apiceque elytrorum ferrugineis; capitis vertice tuberculo conico piceo-ferrugineo quasi e tuberculis duobus minutis composito instructo; capitis lateribus tenuissime punctatis, lineaque tenuissima impressa e vertice ad medium clypei ducta; antennarum articulo basali punctato; clava capite paullo majori nitidissima, piceo-ferruginea, margine antico subrecto acuto, postice valde convexo, et profunde fossulata fossula ovali, margine supero excavationis recta, postice 6-denticulato, dente singulo setam brevem emittente; prothoracis parte antica elevata, piceo-ferruginea, lateribus acute angulatis et pone angulum emarginatis, parte media fossula transversa nitidissima; parte postica angustiori lateribus sinuatis, angulis ejus anticis obtusis; elytris nigris nitidis basi lateribus apiceque piceo-ferrugineis, fere lævibus, disco setis minutis luteis, lateribus pilis elongatis rufis lateralibus obsitis; prosterno nigro; metasterno et abdomine fulvo-ferrugineis; pedibus piceis satis gracilibus; tibiæ calcaribus obsoletis; podice ferrugineo fere lævi, marginato, margine tenue setoso.

Long. corp. lin.  $3\frac{1}{2}$  = mill. 7.

Habitat; Hong Kong. In Mus. Britann.

## SPECIES 20 (42)—PAUSSUS (A b\*) TURCICUS. Frivaldski.

(A' Magyar. tudós, 1835, p. 263, pl. VI, fig. 5; Westw. Arc. Ent. ii. p. 176, pl. LXXXVIII, fig. 5.)

## PLATE XVIII, FIG. 5.

Syn.: *Paussus Mariae*, Mulsant, Ann. Soc. Linn. Lyon, 1854, ii. p. 143.

No satisfactory representation of this European species having been hitherto published, I have here represented it from specimens in the Hopeian Collection: one from Tarsus, kindly sent to me by Herr Dohrn, and one from Turkey in Asia, collected by M. Wachanru, obtained by me from M. Deyrolle. The species is closely allied to the Indian *P. tibialis*, Westw. Trans. Linn. Soc. xix. p. 47, and Arcan. Ent. ii. p. 174, pl. XC, fig. 1, which has also dilated posterior tibiæ.

## SPECIES 21 (43)—PAUSSUS (A b\*) HYSTRIX.

(Westw. Proc. Linn. Soc. Lond. June 19, 1849, p. 59.)

## PLATE XVI, FIG. 5.

Obscure ferrugineus opacus: capite antice emarginato, vertice tuberculis duobus ovalibus elevatis; antennarum clava oblonga subovata, punctatissima, margine antico acuto, postice excavatione oblonga instructa, hujus marginibus supero et infero sinuatis seu tuberculis rotundatis quinque instructis; prothorace capite paullo angustiori, parte postica antica parum angustiori; lateribus fere rectis; elytris lateribus rufo-setosis, singulo ante medium disci impressione ovali alteraque elongata subcurvata laterali, instructis; pedibus angustis; palporum maxillarum articulo secundo fere rotundato; corpore subtus ferrugineo nitido; podice transverso marginato, margine breviter setoso.

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

Habitat; Hong Kong (Dr. Bowring). In Mus. Britann.

## SPECIES 22 (44)—PAUSSUS (A b\*) WATERHOUSII.

## PLATE XVI, FIG. 4.

Rufo-piceus, haud nitidus, tenue et minute punctatus et subgranulatus: capite antice profunde emarginato (fig. 4c), vertice excavatione polita, rotundata, lateribus elevatis acutis, canali frontali conjuncta (fig. 4b, capite e latere viso); antennarum clava longitudine capite et prothorace æquali, longa, plana, punctata, lateribus fere parallelis, postice excavatione valde angusta longitudinem totam occupante, marginibus tuberculis 5 æquidistantibus instructis (fig. 4a); apice rotundato, basi truncata angulo externo vix producto; collo angusto; prothorace bipartito, parte antica capite latiori utrinque angulata, et transverse elevata, acumine in medio interrupto, parte postica angustiori lateribus fere rectis; medio disci profunde impresso, lateribus impressionis elevatis et subacute angulatis, intus setosis; elytrorum humeris elevatis; lateribus setis mediocribus piceis vestitis; disco singuli versus suturam ante medium impressione ovali nigricanti nitida notato; pedibus sublongis angustis concoloribus; tibiis compressis; elytris apice subfulvis.

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

Habitat; Penang. In Mus. Britann.

This species is closely allied to *P. hystrix*, but differs in its obscure colour, in the shape of the clava of the antennæ, and its longitudinal excavation, as well as in the form of the impression of the disc of the hind part of the thorax.

## SPECIES 23 (45)—PAUSSUS (A a\*) SPENCII.

(Westw. Proc. Ent. Soc. Lond. January, 1864, 3rd Ser. vol. i. p. 190.)

## PLATE XVIII, FIG. 8.

Oblongus, subdepressus, subnitidus, castaneo-rufus: elytris, basi apiceque exceptis, nigris; minute punctatis, punctis setas luteas emittentibus; capite antice emarginato, et impressione longitudinali notato; antennarum clava reniformi, subdepressa, margine antico acuto, postico supra in medio impressione semi-ovali distincto; prothorace capitis latitudine, bipartito, angulis lateralibus partis anticæ rotundatis, disco hujus partis inermi, medio prothoracis excavatione profunda impressa; elytris subangustis; femoribus tibiisque omnibus compressis sublatis.

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

Habitat; India Orientalis (?). In Mus. Hopeiano Oxoniæ.

## SPECIES 24 (46)—PAUSSUS (A b\*\*) AFZELII.

(Westw. Trans. Ent. Soc. Lond. vol. iii. 2nd Ser. p. 82, 1855.)

## PLATE XVII, FIG. 6.

Fulvus, vix nitidus, tenuissime scaber: elytris nigris, basi sutura apiceque fulvis, luteo-setosis; capite antice oblique declivi, parte postica capitis semicirculariter et abrupte depressa; antennarum clava oblonga curvata subcultrata, margine antico acuto, apice rotundato, margine postico canaliculato, canali elongato angusto, pagina ejus superiori tuberculis sex minutis, impressionibus totidem transversis conjunctis; pagina inferiori parum sinuata integra; prothorace capite parum angustiori subbipartito, parte antica longiori, lateribus rotundatis, in medio supra canali longitudinali fortiter impresso, medio disci fossula trigona impresso, antice utrinque tuberculo parvo rotundato instructo, parte postica sensim latiori; lateribus obliquis; elytris prothorace multo latioribus, lateribus subparallelis; pedibus angustis compressis; corpore infra obscurius fulvo; palpis maxillaribus articulo secundo magno ovato, labialibus articulo ultimo ovali apice subacuto.

Long. corp. lin. 3.

Habitat; Caffraria (D. Wahlberg). In Mus. Reg. Holm.

SYN.: *Paussus latus*. Gerstaecker in Stettin Zeit. 1867, p. 430.

This species is closely allied to *P. De Geerii*, but is well distinguished by the narrow prothorax, divided into two nearly equal parts: the anterior with the sides rounded, and the hinder part widest behind.

Having made a careful drawing of the type specimen of *P. latus*, Gerstaecker, in the Berlin Museum, I am able to affirm its identity with *P. Afzelii*.

## SPECIES 25 (47)—PAUSSUS (A b\*\*) PARRIANUS.

(Westw. Trans. Ent. Soc. Lond. vol. v. p. 29, pl. II, fig. 3.)

## PLATE XVII, FIG. 9.

Testaceus, elytris nigris, basi apiceque testaceis: antennarum clava naviculari subcurvata margine postico subserrato, margineque infero excavationis integro; basi postice in cornu rectum producto; apice antice rotundato, postice subangulato; capite supra subconcavo; prothoracæ nitido subbipartito; parte antica lateribus angulato-productis et subacutis, capite latiori, disco in tubercula duo rotundata elevato; parte postica angusta, disco carinis elevatis literam W simulantibus, instructo; elytris coriaceis subopacis; pygidio rufo-piceo, semicirculari, lateribus et carina mediana subelevatis; pedibus gracilibus.

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

Habitat; Port Natal et Cape of Good Hope (D. Benson). In Mus. Hopeiano Oxoniæ, &c.

The flattened crown of the head, with the lateral margins slightly elevated, distinguishes this species. The narrow form of the clava of the antennæ (fig. 7 a, seen from the front; 7 b, seen from behind), and the black disc of the elytra, separate it from *P. ruber* and *cochlearius*; its narrow legs and red colour separate it from *P. excavatus*; and the narrower hind part of the prothorax from *P. Klugii* and *Latreillii*.

From a series of notes on the capture of this species in the neighbourhood of Cape Town, by the late W. H. Benson, Esq., which I published in the Transactions of the Entomological Society, as above referred to, it is evident that it lives habitually in ants' nests and under stones and bark, and that it secretes a liquid capable of staining the fingers when touched.

## SPECIES 26 (48)—PAUSSUS (A b\*\*) AUDOUINII.

(Westw. Trans. Ent. Soc. Lond. vol. ii. new Ser. p. 92.)

## PLATE XVII, FIG. 8.

Prothoracæ subbipartito: antennarum clava postice excavata; totus piceus, sublævis, parum nitidus, punctis minutissimis setulosis vagis; capite subquadrato, antice in medio angulato, emarginato; vertice convexo, punctis duobus profundis inter partem anticam oculorum, inter se et oculos equidistantibus; palpis maxillaribus articulo secundo ovato compresso; antennarum clava capite majori, oblonga, apice rotundato, fere plana, margine postico parum crassiori oblique excavato, excavatione in fossulas sex divisa, margine supero-postico recto, infero-postico parum sinuato, disco punctatissimo; pronoti parte antica capite e quarta parte latiori, lateribus recte angulatis, disco postice elevato, in medio autem impresso, parte postica e præcedenti fossula profunda setosa separata, angustiori, capite fere æquali, breviter cordato-truncata, in medio profunde impressa, lateribus in discum angulato-elevatis, medio postice in lobos duos ovales elevato; elytris pronoti parte antica latioribus, postice sensim paullo latioribus, apice recte truncatis; podice lævi plano, margine omni tenui elevato luteo-setoso; pedibus latis, valde compressis; tibiis fere triangularibus; corpore infra nigro, metasterno et ventre rufis, hujus segmento ultimo nigro.

Long. corp. lin. 3.

Habitat; Benguela, Africa Occid. Tropicalis. In Mus. Jekel, Parisiis.

## SPECIES 27 (49)—PAUSSUS (A b\*\*) BURCHELLIANUS.

(Westw. Trans. Ent. Soc. Lond. 1869, p. 319.)

## PLATE XVII, FIG. 10.

Totus castaneo-fulvus, setosus, nitidus: capite antice emarginato; antennarum clava supra oblonge excavata, marginibus excavationis tuberculatis, tuberculis setigeris, angulo supero basali in spinam longam tenuem, apice obtuso producto; prothorace bipartito, parte antica angustiore, hujus margine antico transversim carinato et ad latera utrinque spina tenui obtusa armato; medio pronoti profunde impresso; pedibus longis gracilibus simplicibus.

Long. corp. lin. 2.

Habitat; Graham's Town, Africa Austral. In Mus. Hopeiano Oxoniæ, &amp;c.

## SPECIES 28 (50)—PAUSSUS (A b\*\*) MURRAIL.

(Westw. Proc. Linn. Soc. 1856, vol. i. p. 75.)

## PLATE XVII, FIG. 11.

Prothorace bipartito clavaque antennarum postice excavata; piceo-rufus, sub lente creberrime punctatus; capite inter oculos transverse elevato et in medio fossulis duabus minimis transversis impresso, angulis posticis parteque postica prothoracis extus porrectis et fere latitudine elytrorum; podice setis longis marginato.

Long. corp. lin. 3.

Habitat; Old Calabar, Africae Tropicæ Occidentalis (D. Murray). In Mus. Hopeiano Oxoniæ (olim Westw.)

This species is at once distinguished by the form of its antennæ and prothorax. The upper side of the head is sloping and slightly concave between the eyes to the fore margin, which is slightly emarginate and a little depressed. Between the eyes is a transverse ridge, in the middle of which are two very minute impressions placed transversely, with raised black edges. The clava of the antennæ is large and navicular, the front margin or keel being acute, with three deep transverse impressions within the margin; the inner basal edge is very deeply incised close to the insertion of the clava upon the basal joint, the remainder of this margin forming a long and acute angle, the outer edge of which extends to the base of the deep boat-like excavation; the upper edge of this excavation is very slightly crenated, but the lower edge is more irregular, being deeply emarginate at its base; the emargination clothed with strong bristles, forming two fascicles; and oblique from the middle to the apex of the antennæ, which is rounded; within the posterior margin the excavation is marked with four deep transverse impressions. The prothorax is strongly bipartite; the anterior portion is the shorter, having a sharp ridge running across it, with each side produced into a strong and acute angle. In the centre of the pronotum is a deep excavation, with a tuft of luteous setæ on each side; the hinder portion has its sides gradually dilated outwards, forming a strong salient tooth or spine on each side, pointing to the outer angle of the shoulder of the elytra; the space between the point of this spine and the outer posterior angles of the prothorax being emarginate, and furnished with a strong tuft of luteous setæ. The elytra are oblong; the disc and lateral margins clothed with luteous setæ. The legs are slender; the tibiæ compressed, but not dilated; the tarsi have the basal joint as large as the following joint.

## SPECIES 29 (51)—PAUSSUS (A b\*\*) DOHRNII.

(Westw. Trans. Ent. Soc. Lond. vol. ii. new Ser. p. 93.)

## PLATE XVII, FIG. 12.

Prothorace bipartito, antennarum clava postice excavata; totus fusco-castaneus, elytris magis castaneis, setulis brevissimis luteis sparsim obsitis: capite convexo, antice punctato, emarginato, inter partem anticam oculorum spina conica obtusa armato; collo angusto lævi; antennarum clava subovata, utrinque convexa tenuissime punctata, setosa, basi supra in spinam obtusam producta, apice parum angustato et recurvo, margine supero excavato, marginibus canalis parum sinuato-undatis, discoque prope marginem sulcis 4 obliquis; palpis maxillaribus subincrassatis; pronoti parte antica elevata lata punctata, lateribus rotundatis, medio marginis ejus

postici parum impresso, parte postica e præcedenti canali profundo intus luteo-setoso, separata, medio profunde impresso, lateribus elevatis glabris, utrinque spina brevi armato; elytris latis, subconvexis et suboblongis, punctatis, apice oblique truncato; pedibus sat gracilibus; tibiis subcylindricis, calcari tibiæ brevissimo; corpore infra concolore, tenuissime punctato.

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

Habitat; Natalia, Africa Orientalis. In Mus. Dohrn.

SPECIES 30 (52)—PAUSSUS (A b\*\*) CUCULLATUS. (Mus. Berol.)

(Westw. Proc. Linn. Soc. Lond. June 19, 1849, p. 59.)

PLATE XVIII, FIG. 6.

Totus castaneus, subnitidus, tenuissime punctatus: pronoto magis nitido, lævi; capitis vertice impressione ovali marginibus elevatis, in qua tubercula duo parva ovalia exstant; antennarum clava glaberrima lata ovali basi truncata, postice profunde excavata; prope marginem anticum et margines excavationis transverse impressa; prothoracis parte antica brevi, lateribus acute angulatis; parte postica multo angustiori in medio profunde impressa; pedibus dilatatis; podice setarum serie marginato; palporum maxillarum articulo secundo lato rotundato.

Long. corp. lin. 2.

Habitat; Africa Meridionalis, apud Port Natal. In Mus. D. Melly, cum nomine supra indicato, e Mus. Reg. Berol. communicatus. Plura individua, a Dom. Gueinzio capta, in Mus. Hopeiano et alior. hospitantur.

SPECIES 31 (53)—PAUSSUS (A b\*\*) BOHEMANNI.

(Westw. Trans. Ent. Soc. Lond. vol. iii. new Ser. p. 83.)

PLATE XVIII, FIG. 9.

Fulvo-castaneus, nitidus, setis longis erectis obsitus: abdomine obscuriori; capite subgloboso, cornu valido erecto, verticali; clava antennarum ovali, glabra, basi supra apiceque in spinam reflexam acutam productis; margine postico canali tenui abbreviato utrinque lobis 5 rotundatis impresso; palpis longioribus, maxillarum articulo secundo subsecuriformi, dente medio menti oblitterato; prothorace subbipartito, parte antica antice capitis latitudine, subito elevata, angulis anticis subacutis et paullo porrectis, marginibus lateralibus in medio angulatis, apice anguli obtuso; disco e medio ad basin profunde impresso; parte postica latiori, breviori, angulis anticis angulato-porrectis, tuberculoque elevato oblongo supra rotundato sublaterali utrinque instructa; elytris parte postica pronoti parum latioribus, sensim paullo dilatatis; pedibus elongatis, femoribus omnibus in medio clavatis, setosis; tibiis curvatis, pone medium præsertim in pedibus intermediis crassioribus, his intus setosis, calcari minimo acuto; tarsis articulo basali minuto.

Long. corp. lin. 3.

Habitat; Caffraria (D. Wahlberg). In Mus. Reg. Holm.

This species is at once distinguished from every other in the Genus by the clavata femora and denticulated prothorax. Its general habit is also quite peculiar.

SPECIES 32 (54)—PAUSSUS (A b\*\*) DE GEERII.

(Westw. Trans. Ent. Soc. Lond. vol. iii. new Ser. p. 82.)

PLATE XVIII, FIG. 12.

Subelongatus, fulvus: elytris tenue punctatissimis setis luteis brevibus obsitus; capite sat lato, inter oculos tuberculis duobus parvis rotundatis depressis inter se et oculos æquidistantibus; antennarum clava oblonga, curvata, margine antico acuto, apice rotundato, margine postico canaliculato, canali elongato, subpyriformi, pagina superiori tuberculis 5 parvis rotundis instructa, posteriori vero parum latiori, inermi; prothorace subbipartito, parte antica capite vix latiori, angulato-elevata, in medio submarginato, lateribus angulatis; parte postica angustiori lateribus rectis parallelis elevatis, canali transverso submedio parum profundo, tuberculis duobus contiguis mediis postice terminato; elytris prothorace multo latioribus subparallelis; pedibus elongatis

gracilibus; palpis maxillaribus crassis articulo secundo maximo obconico; labialibus articulo ultimo elongato-ovali; dente medio menti fere obsoleto.

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

Habitat; Caffraria (D. Wahlberg). In Mus. Reg. Holm.

In the curved clava of its antenna, as well as in general appearance, this species approaches *P. Germari* and *Schaumii*, Westw. Trans. Ent. Soc. new Ser. ii. p. 94.

SPECIES 33 (55)—PAUSSUS (A b\*\*) GERMARI.

(Westw. Trans. Ent. Soc. Lond. vol. ii. new Ser. p. 94.)

PLATE XIX, FIG. 2.

Prothorace bipartito; antennarum clava elongata subensata, canali tenuissimo longitudinali in margine supero vel postico; supra testaceus obscurus; elytris (basi excepto) nigris; totus granuloso-coriaceus; capite antice subquadrato; clypeo in medio emarginato, disci medio longitudinaliter late-impresso, carinis duabus lateralibus elevatis, alteraque transversa postica; utrinque inter oculos tuberculo elevato oblongo-ovali punctoque postico connexo; antennarum clava valde compressa, subelongata, ensem brevem curvatum simulante, basi supra in spinam brevem producto, margine supero in canalem vix distinctum excavato; disco sublævi; palpis maxillaribus articulo secundo maximo, valde dilatato, duobus apicalibus minutis subæqualibus; pronoti parte antica capite vix latiori; lateribus subangulatis carina subacuta media transversa, in medio interrupta, ibique longitudinaliter impressa, biloba; parte postica angustiori e præcedente canali profundo transverso, separata, lateribus in discum in tubercula dua angulata nigra nitida elevatis; medio fossula longitudinali centrali impresso; elytris oblongis, pronoto multo latioribus, sub lente granulatis subopacis nigris, basi obscure testaceis; singulo sulcis quinque longitudinalibus parum profundis, setulis minimis luteis obsitis; corpore infra rufo-piceo, nitido; pedibus subelongatis, haud dilatatis, parum compressis, brevibus setosis, tibiis ad apicem sensim paullo angustatis, calcari minuto armatis, piceis; tibiis tarsisque magis rufescentibus.

Long. corp. lin. 3.

Habitat; Natalia. In Mus. Dohrn.

SPECIES 34 (56)—PAUSSUS (A b\*\*) SCHAUMII.

(Westw. Trans. Ent. Soc. Lond. vol. ii. new Ser. p. 94.)

PLATE XIX, FIG. 6.

Prothorace bipartito; antennarum clava elongata subensata, canali tenuissimo longitudinali marginis postici; fulvus, sublævis, paullo nitidus; elytris nigris; capite antice angustiori, margine antico in medio emarginato; disco longitudinaliter impresso, punctis duobus profundis inter oculos; pone oculos in collum sensim angustato; antennis et palpis ut in *P. Germari*; pronoto capite latiori, parte antica e collo sensim latiori, lateribus obliquis rectis, disco elevato, in medio bilobo, parte postica præcedente latiori subquadrata glaberrima; e præcedenti sulcis duobus profundis obliquis luteo-setosis separata; lateribus in discum oblique elevatis, fossula centrali longitudinali parum profunda et postice abbreviata; elytris elongatis, fere parallelis, pronoti parte postica haud multo latioribus, humeris valde declivibus; nigris basi fulvis, subnitidis, tenuissime punctatis et luteo breviter setosis; corpore infra fulvo-castaneo nitido; pedibus ut in *P. Germari* formatis; podice glaberrimo, margine omni elevato.

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

Habitat; Natalia. In Mus. Dohrn.

SPECIES 35 (57)—PAUSSUS (B a) VOLLENHOVII.

PLATE XIX, FIG. 10.

Angustus, totus rufo-castaneus, nitidus, lævis: elytris læviter punctatis; capite convexo, inermi; antennarum clava capite multo majori, elongato-ovali, margine omni tenui, basi extus in spinam curvatam producta;

pronoto capite haud latiori, parte antica lateribus rotundatis et e postica parte linea curvata vix profunda separata; partis posticæ angustioris angulis anticis subacutis; pedibus gracilibus.

Long. corp. lin. 4½.

Habitat; Africa Tropicalis. D. Parry.

This species is narrow in shape, entirely of a red-chestnut colour, smooth, glossy, the elytra being widely impressed with moderate sized punctures. The head is rather large and subglobose, convex, unarmed on the disc, with two very slightly marked impressions between the eyes; the anterior margin is rounded. The antennæ have the clava considerably larger than the head, extending to three-fourths of the length of the prothorax, elongate-ovate, slightly convex above, and with the middle of the disc beneath somewhat angulated (fig. 10a); the margins are rather sharp, without any indentation or impressions, the base alone being produced at its upper or hinder angle into a curved hook. The prothorax is about equal in width to the head, glabrous and convex, the anterior portion with the lateral margins rounded, the disc entire, and separated from the narrowed posterior portion by a curved impression of moderate depth. The anterior angles of the posterior part are slightly prominent, and it is widest behind. The elytra are narrow, slightly setose at the sides and on the disc; they are twice the length of the head and thorax together. The legs are moderately long and simple, the femora thickened in the middle, and the tibiæ slender and compressed. The pygidium is very convex and punctured in the middle, and glossy, with the hind margin elevated and acute. The body beneath is paler castaneous than above, glossy, and almost impunctate.

SPECIES 36 (58)—PAUSSUS (B a) INERMIS.

(Gerstaecker, Monatsber. Berl. Acad. 1855, p. 268; Peter's Reise, 1862, p. 268, pl. XV, fig. 12; Erichson in Wiegmann Archiv. 1847, i. p. 275 (larva forte)).

PLATE XIX, FIG. 5.

Castaneus, parce setulosus, subnitidus; antennarum clava subtrigona, haud excavata, prope basin marginis posterioris profunde sulcata et in dentem piligerum producta; vertice inermi; thorace deplanato, medio subconstricto; elytris nitidioribus, subtilissime confertim punctulatis, setulis brevibus flavis parce obsitis.

Long. corp. lin. 3.

Habitat; Mozambique, Tette (Africa). In Mus. Reg. Berol., ubi typum delineavi.

SPECIES 37 (59)—PAUSSUS (B a) SETOSUS.

(Westw. Proc. Linn. Soc. Lond. 19 June, 1849, p. 60.)

PLATE XIX, FIG. 4.

Luteo-castaneus, setis aureis obsitus; capite antennis pedibusque magis castaneis; capite inter oculos tuberculo elevato setigero instructo; clypeo vix emarginato; antennarum clava elongata, lateribus parallelis margine omni acuto, basi externe in dentem conicum apice setosum producto; margine postico setarum curvatarum serie instructo; prothorace oblongo, parte antica parum latiori, lateribus rotundatis; partis posticæ lateribus fere parallelis, in medio disci impressione profunda subquadrata; elytris profundius punctatis; podice setarum serie marginato; pedibus gracilibus, longioribus.

Long. corp. lin. 3¾.

Habitat; Guinea. In Mus. D. Lafertei olim.

SPECIES 38 (60)—PAUSSUS LUDEKINGII.

(S. C. Suellen Van Vollenhoven, Stettiner Ent. Zeitung, 33 Jahrg. 1872, p. 82.)

Supra piceus, subnitidus, subtus rufus; elytrorum nigrorum limbo postico rufo-testaceo; antennarum clava ovali inflata, basi mucronata, postice excavata, marginibus denticulatis.

Long. 7 mill.

Habitat; Sumatra.

‘Nachsten dem *Paussus thoracicus* Don. verwandt doch in der farbe und hauptsächlich in der Form der Antennen sehr von diesen abweichend. Oberhalb sehr dunkelbraun; unterhalb ein ziemlich helles roth: Flügeldecken schwarz und rothem Hinterrand. Ganze leib glänzend.—Der Kopf bietet auf der Stirn einen hervorstehenden ohrförmigen Theil dar, als *ein schlecht entwickeltes und vorne offenes Horn*, Antennen-Keule gross, dick, oval, unterseits gekielt, oberhalb geöffnet und deshalb sackförmig mit gezähnten Rändern der Oeffnung; an derselben obern Seite steht nach der Basis hin ein ziemlich spitzer Dorn. Die ganze Aussenseite der Keule ist mit kurzen weissen Haaren besetzt. Der Thorax hat einen breiten Halskragen, der in der Mitte der Hinterseite eingeschnitten ist, und hinter welchem der Thoraxrücken in der Mitte abgeplattet ist, so dass sich nach der Seite hin zwei geschlängelte, keilartige Kanten bilden. Die Deckschilde sind ein wenig glänzender als der übrige Leib und an der Seite mit ziemlich langen weissen Haaren besetzt. Das Roth des Hinterrandes steigt längs der Seiten hin ein wenig nach oben. Saum des letzten Bauchringes mit längeren rothen Haaren bekleidet. Tarsen roth.’

Whilst this sheet has been going through the press, I have received the following new species:—

SPECIES 3 (61)—PLATYRHOPALUS CASTELNAUDII.

Castaneus, subnitidus, elytris glabris parce punctatis; capitis vertice concavo, linea elevata transversa inter oculos, clypei margine parum elevato; antennarum clava prothorace paullo majori, ovata, supra et infra convexa, prope basin transverse impressa, impressione antice et postice in incisionem desinente, margine postico 3-sinuato et intus transversim 3-impresso; prothorace subscabro parte antica capite paullo latiori, lateribus rotundatis, disco impressionibus 4 crucem formantibus, parte postica angustiori, lateribus parallelis; elytris albidis, singulo punctis 4 rotundis prope basin macula magna trigona laterali, apiceque nigris; tibiis sublatis apice extus acute emarginatis.

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

Habitat; Siam, Iuthia (Com. de Castelnau). In Mus. D. Parry.

FAMILY—PSELAPHIDÆ.

The following descriptions of new genera and species of Pselaphidæ were read on the 7th of March, 1870, at the Entomological Society, by way of supplement to papers on other species of the same family, published by me in the Transactions of that Society. All the insects here described are exotic, the major part of them having been collected by Messrs. Wallace and Bates. They are of considerable interest, and several of the new genera will render a modification of the existing classification of the family necessary. The singular antennæ of *Goniastes*, the nearly obsolete palpi of *Rhytus*, the spinose palpi of *Sintectes*, the Pselaphoid palpi of *Phalepsus*, the rostrate head of *Curculionellus*, and the curious coronate heads of the two species which I have assigned to the old Genus *Bryaxis*, especially merit attention.

GENUS—ARTICERUS. Dalman.

SPECIES 1—ARTICERUS AMAZONICUS. Westw.

(Trans. Ent. Soc. Lond. 1869, part iv. August, p. 319.)

PLATE IV, FIG. 1.

*A. castaneo-rufus*, subnitidus; capitis parte antica (ante oculos) angustiore, subquadrato, antice paullo latiore; antennis capitis longitudine, subcylindricis, rectis, sensim ad apicem crassioribus setosis, apice ipso truncato; prothorace latiore quam longo, versus caput angustato, subrugoso, postice in medio impressione lævi notata, marginibus lateralibus rotundatis; elytris prothorace multo latioribus, præsertim postice, striola sub-suturali, alterisque 2 abbreviatis basalibus postice convergentibus; pedibus gracilibus, tibiis simplicibus, sensim e basi attenuata crassioribus.

Long. corp. lin.  $\frac{3}{4}$ .

Habitat; Amazonia Super. (Dom. Bates.) In Mus. Hopeiano Oxoniæ.



## SPECIES 2—ARTICERUS TUMIDUS.

(Westw. Trans. Ent. Soc. Lond. 1869, part iv. August, p. 318.)

## PLATE IV, FIG. 2.

*A. castaneo-rufus*, vix nitidus, punctatus, luteo-setosus: capitis lateribus subparallelis, antennis ovalibus, basi anguste pedunculatis, apice subtruncatis; prothorace breviter ovato, subdepresso, canali brevi centrali longitudinali instructo; elytris sutura nigricante, absque linea impressa longitudinali contigua; tarsis articulis duobus basalibus brevissimis, longe setosis; femoribus intermediis valde inflatis, prothoracem magnitudine æquantibus; tibiis omnibus apicem versus latioribus, depressis; abdomine postice paullo latiore.

Long. corp. lin.  $\frac{3}{4}$ .

Habitat; Swan River (Du Boulay).

It is possible that this insect may be the male of *A. setipes* Westw.

## GENUS—SATHYTES.

(Westw. Trans. Ent. Soc. Lond. 1870, part ii. June, p. 128.)

Corpus breve, valde convexum, immarginatum, opacum; caput subglobosum; antennæ crassæ, longitudine capitis cum prothorace, articulis nono et ultimo magnis, decimo parvo; maxillæ bilobatæ, palpis medio-cribus, articulo ultimo maximo ovali; mentum subcordatum, basi truncatum; labium lobis duobus tenuibus membranaceis setosis; palpis labialibus 1-articulatis, longis, gracilibus, apice seta longa (basi incrassata, articulum secundum palporum referente) instructo; prothorax subglobosus; elytra valde convexa, subglobosa; pedes mediocres, tarsis 3-articulatis, ungue unico instructis.

## SATHYTES PUNCTIGER.

(Westw. Trans. Ent. Soc. loc. cit.)

## PLATE IV, FIG. 3.

Totus piceo-badius, undique punctatissimus punctis minutis; capite postice in collum breve contracto; pronoto utrinque tuberculo minuto depresso in medio marginis lateralis; elytris ad basin serie punctorum impressis; abdomine convexo, immarginato, rotundato, ad basin serie transversa punctorum magnorum notato.

Long. corp. lin. 1 (circ.  $2\frac{1}{4}$  mill.).

Habitat; Borneo, Sarawak (Wallace). In Mus. Hopeiano Oxoniæ.

## GENUS—CURCULIONELLUS.

(Westw. Trans. Ent. Soc. Lond. 1870, part ii. June, p. 127.)

Facies Pselaphi; capite antice elongato, palpis multo brevioribus; abdomine marginato, pedibus et antennis longis.

Corpus subelongatum; caput pone oculos contractum, obconicum, antice in rostrum canaliculatum productum; antennæ longæ, articulo basali crasso, apicalibus elongatis sed præcedentibus vix crassioribus; mandibulæ apice in dentem longum acutum producto, margine interno denticulis 7 vel 8 armato; palpi maxillares parum elongati, articulo ultimo magno, ovali vel elongato-ovali; mentum oblongum, antice paullo latius; labium lobis duobus elongatis, intus setis longis inflexis instructis; palpis labialibus gracilibus, 1-articulatis, apice seta longa terminato; prothorax ovalis vel subovalis; elytra semiovalia, striola suturali alteraque profundiore discoidali notata; abdomen marginatum; pedes longi, coxis et trochanteribus elongatis, his in pedibus intermediis spina armatis, tarsis ungue unico instructis.

## SPECIES 1—CURCULIONELLUS GLABRICOLLIS.

(Westw. Trans. Ent. Soc. Lond. 1870, part ii. June, p. 127.)

## PLATE IV, FIG. 4.

Totus castaneus, nitidissimus, fere impunctatus: capite punctato et fossulato, fossula in medio inter oculos tuberculo instructa; antennis longis, articulis 4 apicalibus præcedentibus paullo longioribus et parum crassioribus; prothorace subovali, in medio latiore, fossula curvata postica utrinque in punctum magnum terminante, jugulo dense villosa; elytris glaberrimis.

Long. corp. lin.  $1\frac{1}{2}$  (circ. mill. 3).

Habitat; New Guinea (Wallace). In Mus. Hopeiano Oxoniæ.

## SPECIES 2—CURCULIONELLUS ANGULICOLLIS.

(Westw. Op. cit. supra, p. 127.)

## PLATE IV, FIG. 5.

Castaneus: capite et pronoto nigricantibus, palpis testaceis; pronoto subquadrato, angulis anticis lateralibus late emarginato-truncatis, postice sensim angustato, dorso toto granulis minutissimis oblecto fossulaque curvata postica in puncta duo lateralia terminante; elytris glabris, singulis striola suturali alteraque discoidali, ad basin profundioribus, instructis; trochanteribus intermediis spinula postice armatis.

Long. corp. lin.  $1\frac{2}{3}$  (mill.  $3\frac{1}{2}$ ).

Habitat; New Holland, Cape York (Schmeltz). In Mus. Hopeiano Oxoniæ.

## SPECIES 3—CURCULIONELLUS DORELIANUS.

(Westw. Trans. Ent. Soc. loc. cit.)

## PLATE IV, FIG. 5 b (palpus).

*C. angulicollis* proximus, sed paullo minor et angustior, paullo magis rufus; capitis parte antica magis prominente et ad apicem in lobos duos rotundos producta, sulco profundo centrali, inter oculos angulariter ampliato; prothorace subhexagono, granulato, angulis lateralibus paullo ante medium subobtusis, marginibus ante angulos parum emarginatis, linea curvata impressa versus marginem posticum, in medio et utrinque ad apicem magis impressa; elytris glaberrimis, striola suturali alteraque discoidali, angulis humeralibus acute elevatis; mesosterno carina forte et acuta armato; metasterno valde convexo, utrinque tuberculo magno ovali elevato instructo; trochanteribus intermediis elongatis, subclavatis, spina parva acuta subapicali postice subtus armatis.

Long. corp. circ. lin.  $1\frac{1}{2}$  (mill. 3).

Habitat; New Guinea, Dorey (Wallace). In Mus. Hopeiano Oxoniæ.

## GENUS—PSELAPHODES.

(Westw. Trans. Ent. Soc. Lond. 1870, part ii. June, p. 129.)

*Curculionello* similis; differt tamen corpore supra villosa; capite convexo inter oculos biimpresso, rostro in medio antice canaliculato, palpis mediocribus; maxillaribus articulo secundo clavato, tertio fere globoso, quarto ovali apice acuto; antennarum articulis tribus apicalibus inerassatis; prothorace sulco tenui e medio marginis antici ad medium extenso; femoribus magis clavatis, tarsisque biunguiculatis.

## PSELAPHODES VILLOSUS.

(Westw. Trans. Ent. Soc. loc. cit.)

PLATE IV, FIG. 6.

Piceus, minute punctatus, supra luteo-villosus, palpis subtetaceis; pronoto in medio angulato, elevato; elytris striola suturali alteraque discoidali instructis; abdomine late marginato; pedibus longis, trochanteribus intermediis subtus acute angulatis, tibiisque intermediis paullo curvatis, femoribus anticis in medio antice spinula instructis.

Long. corp. lin.  $1\frac{1}{2}$  (mill. fere 3).

Habitat; Borneo, Sarawak (Wallace). In Mus. Hopeiano Oxoniæ.

## GENUS—RHYTUS.

(Westw. Trans. Ent. Soc. Lond. 1870, part ii. June, p. 126.)

Corpus oblongo-ovale, dense setosum; caput antice in rostrum breve sulcatum productum; antennæ ♂ corpus totum longitudine æquant, ♀ breviores, articulis 11, tribus apicalibus elongatis et vix incrassatis; mandibulæ apice in spinam acutam terminato, margine interno 6-denticulato; maxillæ bilobatæ, lobo supero setis longis curvatis terminato, infero spinulis curvatis armato; palpi maxillares fere obsoleti, articulo unico constantes, apice seta rigida instructo; mentum crateriforme, in medio marginis antici emarginatum; labium lobis duobus elongatis, intus setis longis inflexis; palpi labiales minutissimi, articulo basali fere rotundato, apice setula longa et ut videtur 2- vel 3-articulata instructo; prothorax subconicus, dorso carina mediana instructus, lateribus in medio subangulatis; elytra sulco suturali carinisque duabus villosis dorsalibus; apice ipso villosa; abdomen villosum, in medio convexum utrinque sulcatum; pedes longi, femoribus anticis in medio antice paullo angulatis, tibiis longis, tarsis articulo secundo magno clavato, apicali minuto, ungue unico terminato.

Obs.—Hoc genus singulare cum *Clavigero* palpis fere obsoletis congruit.

## RHYTUS VESTITUS.

(Westw. Trans. Ent. Soc. loc. cit.)

PLATE IV, FIG. 7.

Castaneus, nitidus, supra dense luteo-setosus; capite inter oculos profunde impresso; prothorace utrinque versus angulos posticos impressione transversa notato; abdomine obscuriore.

Long. corp. fere lin.  $1\frac{1}{2}$  (mill. 3), ♀ paullo major.

Habitat; Brazil, Constantia (J. Gray, mense Jauuario), et Petropolis (Februario, 1857, Rev. H. Clark). In Mus. Hopeiano Oxoniæ et Dom. W. W. Saunders.

## GENUS—GONIASTES.

(Westw. Trans. Ent. Soc. Lond. 1870, part ii. June, p. 125.)

Corpus breve, subglobosum, opacum; caput prothorace paullo majus, ovale, oculis magnis, impressione magna frontali sulcoque inter antennas notatum; antennæ crassæ, geniculatæ, 5-articulatæ, articulo primo longo, secundo parvo, tertio oblongo, versus basin constricto, quarto præcedente minore, quinto oblongo-ovali; labium transversum, margine antico denticulato, seta elongata ad angulos anticos laterales armatum; mandibulæ apice acutæ, denticulis tribus marginis interni sub apicem armatæ; palpi maxillares breves, crassi, articulo secundo cyathiformi, ultimo breviter ovato et ut videtur tuberculo apicali instructo; mentum et palpi labiales formæ ordinariæ; prothorax subconicus; elytra subglobosa, striola elevata prope suturam alteraque dorsali mediana notata; pedes longitudine medioeres, tarsis 3-articulatis, ungue unico terminati; abdomen brevis-simum, immarginatum.

Obs.—Hoc genus novum antennis 5-articulatis et geniculatis primo intuitu distinguitur.

## GONIASTES SULCIFRONS.

(Westw. Trans. Ent. Soc. loc. cit.)

PLATE IV, FIG. 8.

Totus obscure piceo-castaneus, opacus: capite in medio sulcato; pronoto in medio sulco longitudinali in fossulam ovalem postice dilatatam, lateribus areolatis; elytris leviter coriaceis, setosis, abdomen fere totum obtegentibus.

Long. corp. lin.  $\frac{7}{8}$  (mill. fere 2).

Habitat; Amazonia, Ega (H. W. Bates). In Mus. Hopeiano Oxoniæ.

## GENUS—BRYAXIS. Leach.

## BRYAXIS CORONATUS.

(Westw. Trans. Ent. Soc. Lond. 1870, part ii. June, p. 130.)

PLATE XII, FIG. 1.

Totus glaber, lævis, nitidus, sanguineo-castaneus, elytris antennis et pedibus magis rufis: capite ante oculos tuberculo transverso trifido erecto, pone oculos etiam carina transversa, utrinque in punctum profundum terminante, instructo; palpis maxillaribus brevibus, articulo ultimo magno ovali, apice subacuto; antennis satis elongatis, articulis nono et decimo præcedente paullo majoribus, ultimo majore ovali apice subacuto; prothorace cordato-truncato, valde convexo, fossula curvata postica in punctum utrinque terminante; elytris glaberrimis, convexis, striola suturali tantum notatis; abdominis segmento basali tenuè marginato; pedibus longis, femoribus in medio clavatis, tarsis biunguiculatis, unguibus magnitudine paullo diversis.

Long. corp. lin.  $1\frac{1}{4}$  (mill. fere  $2\frac{1}{2}$ ).

Habitat; Brazil (Squiers). In Mus. Hopeiano Oxoniæ.

## BRYAXIS AURITULUS.

(Westw. Trans. Ent. Soc. loc. cit. p. 130.)

PLATE IV, FIG. 9 c (tarsus).

Totus rufo-castaneus, lævissimus, nitidus, impunctatus: capite prothorace majore, oculis prominulis, lenticulis magnis, vertice antice rugoso, postice inter oculos in lobum magnum elevatum tenuem, supra truncatum, auriformem utrinque elevato; antennis parum crassis, articulis nono et decimo præcedente parum majoribus, undecimo magno ovali; palpis maxillaribus parvis, articulo tertio minuto, quarto maximo oblongo-ovato setoso; prothorace subcordato-truncato, capite angustiori, angulis lateralibus anticis subprominulis et e disco striola longitudinali separatis, fossula tenui transversa fere recta ante marginem posticum; elytris cum abdomine ovalibus convexis, striola suturali impressa tuberculoque parvo humerali notatis; pedibus satis gracilibus, tarsis biunguiculatis, unguibus inter se magnitudine diversis, majore sub apicem fisso.

Long. corp. lin.  $1\frac{1}{4}$  (mill.  $2\frac{1}{2}$ ).

Habitat; Brazil (Squiers.) In Mus. Hopeiano Oxoniæ.

## GENUS—SINTECTES.

(Westw. Trans. Ent. Soc. Lond. 1870, part ii. June, p. 129.)

Corpus oblongo-ovale, antice attenuatum; caput antice productum, margine antico truncato, sulco antico mediano, fossulis duabus verticalibus inter oculos, lateribus capitis sub oculos in spinam parvam productis; antennæ crassæ, articulis 2-8 subæqualibus, tribus ultimis magnis, decimo præcedente paullo minori; palpi maxillares articulis tribus ultimis inflatis, secundo et tertio extus spina obtusa armatis, quarto angulo interno in dentem conicum producto; prothorax subhexagonus, antice capite multo angustior, granulatus, haud sul-

catus; elytra striola suturali, carina mediana e basi ultra medium extensa, angulisque humeralibus carinatis; abdomen fortiter marginatum, segmentis duobus basalibus carina utrinque instructis; pedes longi, tibiis curvatis, in medio parum dilatatis, tarsis biunguiculatis; mesosternum simplex; metasternum haud bituberculatum; trochanteres pedum intermediorum sublongi, clavati, haud spinosi.

## SINTECTES CARINATUS.

(Westw. Trans. Ent. Soc. loc. cit.)

PLATE IV, FIG. 10.

Castaneo-piceus, elytris magis castaneis; capite et pronoto delicate granulatis; elytris punctis minutis oblongis; abdomine punctatissimo.

Long. corp. lin.  $1\frac{1}{2}$  (circ. mill. 3).

Habitat; Australasia (Schmeltz). In Mus. Hopeiano Oxoniæ.

## GENUS—PHALEPSUS.

(Westw. Trans. Ent. Soc. Lond. 1870, part ii. June, p. 131.)

Corpus breve, glabrum, abdomen et elytra subglobosa; caput subovale, vertice ante oculos bituberculato, fossula furcata e medio capitis ad angulos posticos oculorum divergente; antennæ satis longæ, articulis tribus ultimis gradatim incrassatis, ultimo maximo; mandibulæ falcate, apice acutæ, sub apicem 4- vel 5-denticulatæ; maxillæ bilobatæ, lobis setigeris; palpi maxillares longissimi, articulo primo brevi, secundo longo curvato ante apicem tumido, tertio brevi subovali, quarto longissimo et in medio inflato; mentum crateriforme; labii lacinia: due intus setis instructæ; palpi labiales graciles (longitudini laciniarum æquales), biarticulati, articulo basali, ut videtur, secundo dimidio brevioris; prothorax conicus, postice fossula curvata in impressionem lateralem utrinque desinente; elytra valde convexa, glabra; abdomen brevissimum, immarginatum; pedes longi, graciles, inermes, tarsis biunguiculatis, unguibus inæqualibus.

## PHALEPSUS SUBGLOBOSUS.

(Westw. Trans. Ent. Soc. loc. cit.)

PLATE IV, FIG. 11.

Rufo-castaneus, glaber, nitidus, palpis et tarsis testaceis.

Long. corp. fere lin. 1 (mill. 2).

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniæ.

Individuum dimidio minus et magis rufum distinguitur antennis brevioribus, articulis apicalibus præsertim crassioribus, et prothoracis lateribus paullo magis angulatis. An sexus alter? an species nova, *Phalepsus Batesellus* nominanda?

## GENUS—RYXABIS.

(Westw. Trans. Ent. Soc. Lond. 1870, part. ii. June, p. 131.)

Corpus oblongum, ovale, opacum, setulosum; caput transverso-quadratum, in collum breve contractum; oculis medioeribus ad angulos anticos capitis locatis, margine antico parum producto, verticis medio biimpresso; antennæ ♂ longitudini elytrorum et abdominis fere æquales, ♀ paullo breviores; articulis 7 basalibus minutis, 4 ultimis longis crassis, magnitudine inter se fere æqualibus; mandibulæ subfalcate, apice acutæ, margine interno simplici; maxillæ bilobatæ, palpi maxillares satis breves et crassi, articulo tertio brevioris, quarto oblongo-ovali; mentum transversum, lateribus in medio constrictis; labii lacinia: intus setigera, setis incumbentibus; palpi labiales exarticulatæ, apice bissetigera; prothorax suboordatus, postice truncatus, disco absque fossula postica; elytra semiovalia, striola suturali, costaque tenui basali ante medium evanescente; abdomen ovale, convexum, segmento basali tenue marginato; pedes medioeres, femoribus in medio subclavatis, tarsis 3-articulatis et biunguiculatis.

## RYXABIS ANTHICOIDES.

(Westw. Trans. Ent. Soc. loc. cit.)

PLATE IV, FIG. 12.

Totus piceus, obscurus, leviter punctatissimus, breviter luteo-setosus.

Long. corp. lin.  $2\frac{1}{2}$  (mill. 5).

Habitat; Singapore. In Mus. Saunders.

## FAMILY—TELEPHORIDÆ.

## SUB-FAMILY—MALACHIIDES.

## GENUS—CEPHALONCUS.

(Westw. Trans. Ent. Soc. Lond. 3rd Ser. vol. i. Proc. p. 178; Wollaston, Catal. Coleopt. Ins. Canaries, p. 229.)

*Cephalogoniæ* Woll. proximum; differt capite in maribus prothorace fere duplo latiori, postice excavato, excavatione lata, antice trisinuata, in medio tuberculo minuto obscuro, instructa; facie in utroque sexu antice brevi, nec conica; antennæ breviores, simplices, articulo secundo minuto, tertio et quarto sequentibus haud multo brevioribus; prothorax brevis late cordatus; palpi labiales (fig. 6*d*) articulo ultimo subovali (nec subsecuriformi); elytra modice elongata apice in singulo rotundato; tarsi omnes (in utroque sexu) 5-articulati (fig. 6*e*); labrum transversum (fig. 6*a*); mandibulæ breves crassæ, apice bifidæ (fig. 6*b*); maxillæ parvæ galea medio articulata (fig. 6*c*).

## CEPHALONCUS CAPITO.

(Westw. Trans. Ent. Soc. loc. cit. supra.)

PLATE V, FIG. 6.

Lutescens, nigro-varius: capite nigro excavatione, in maribus, luteo-variegata; prothorace fulvescente, macula magna media, alterisque duabus parvis lateralibus (interdum confluentibus); elytris luteis, humeris late cum scutello, maculisque duabus magnis subapicalibus nigris.

Long. corp.  $\frac{3}{4}$ –1 lin.

Habitat; Insula Canaria grandis super arbusculas Plocamæ pendulæ, d. 18 Apr. 1858, lectus (D. Wollaston). In Mus. Hopeiano Oxoniæ.

## GENUS—ICHTHYURUS.

(Westw. Cabinet Oriental Entom. p. 84.)

The mandibles are slender, terminated by three sharp teeth (fig. 2*a*); the maxillary palpi (fig. 2*b*) and the labial palpi (fig. 2*c*) are terminated by a large securiform joint; the middle legs in the female are simple (fig. 2*d*).

ICHTHYURUS DISCOIDALIS. (Westw. l. c. supra.)

PLATE II, FIG. 2.

Capite nigro; facie subtus et basi antennarum flavis, palpis nigris, prothorace nitido piceo margine postico pallidiori; elytris flavis, basi cum scutello pallidioribus, disco piceo, abdomine flavo ad basin piceo-vario, segmento apicali nigro; alis fuscis; pedibus anticis maris simplicibus flavis, femoribus in medio, tarsisque fuscis; femoribus intermediis valde inflatis flavis, in medio macula magna ovali nigra, subtus excavatis basique spinis duabus oblique truncatis, armatis; tibiis brevissimis, curvatis crassis; pedibus posticis fuscis basi femorum flavescensibus.

Long. corp. lin 4.

Habitat; Sierra Leone (D. Strachan). In Mus. Hopeiano Oxoniæ.

## FAMILY—PTINIDÆ.

## GENUS—DIPLOCOTES.

(Westw. Trans. Ent. Soc. Lond. 1869, part iv. August, p. 317.)

Genus vel subgenus Ptinidarum; antennæ crassæ, 11-articulatæ; articulo decimo incrassato, et 3 anteedentibus simul sumptis æquante; ultimo parvo, fere rotundato; caput et prothorax omnino ut in Polyplocote; elytra ovalia, globosa, punctato-striata, et setosa; pedes satis elongati, simplices; tarsis 5-articulatis, inermibus.

This insect in its peculiar antennæ connects Polyplocotes with Ptinus, especially with such species as *Ptinus hololeucus*, &c.

## SPECIES 1—DIPLOCOTES HOWITTANUS.

(Westw. loc. cit. p. 317.)

PLATE III, FIG. 6.

*D. totus castaneus, elytris magis fulvescentibus; setosus; antennarum articulis 2-9 moniliformibus; pronoto striolato, pone medium impressione curvata ad incisionem lateralem utrinque extensa et striolis profundioribus notata; elytris punctato-striatis.*

Long. corp. lin. 1.

Habitat; Gawler, Adelaide, Australia (Odewahn). In Mus. Hopeiano Oxoniæ.

## GENUS—POLYPLOCOTES.

(Westw. Trans. Ent. Soc. Lond. 1869, part iv. August, p. 316.)

Genus Ectrephidem cum Ptinidis conjungens; corpus parvum, nitidum; pedibus longis, simplicibus, tarsis pentameris; caput pronum, ante antennas subrostratum, pone antennas utrinque constrictum; mandibulæ (fig. 4*a*) magnæ, conicæ, extus versus basin, incisione minuta; maxillæ (fig. 4*b*), cum palpis, omnino ut in Ectrephide; antennæ crassæ, 9-articulatæ, articulo octavo incrassato, ultimo parvo, truncato; prothorax margine antico elevato, pone medium impressione profunda curvata, in incisionem lateralem utrinque terminata; elytra ovalia, basi sulcis profundis impressa; pedes approximati, binis posticis inter se magis distantibus (fig. 4*d*, thorax infra visus).

This interesting genus satisfactorily solves the question of the affinity of Ectrephes with the Ptinidæ. The mentum (fig. 4*c*) has the sides roundly dilated; the labium is oblong, terminated by two minute palpi.

## SPECIES 1—POLYPLOCOTES LONGICOLLIS.

(Westw. loc. cit. p. 316.)

PLATE III, FIG. 4.

*P. niger, nitidus; antennis rugosis; prothorace oblongo, sulco transverso prope marginem anticum, disco punctato, pone medium semicirculariter impresso, striolato; elytris ad basin sulcis 6 profundis, dorso striato-punctatis.*

Long. corp. fere lin. 1½.

Habitat; Swan River. In Mus. Hopeiano Oxoniæ.

## SPECIES 2—POLYPLOCOTES NITIDUS.

(Westw. Trans. Ent. Soc. Lond. 1869, part iv. August, p. 317.)

PLATE III, FIG. 5.

*P. piceo-niger, glaberrimus; antennis crassioribus, lævibus, nitidis, setosis; prothorace subquadrato, nitido, impunctato, impressione tenuissima postica notato; elytris glabris, impunctatis, basi vix sulcatis.*

Long. corp. lin. 1.

Habitat; Swan River. In Mus. Hopeiano Oxoniæ.

## GENUS—ECTREPHES. Pascoe.

(*Ectrephes*, Pascoe, Proc. Ent. Soc. Lond. 1866, p. xvi; Zoologist, Ser. 2, vol. i. p. 322; Westw. Trans. Ent. Soc. Lond. 1869, part iv. August, p. 315.)

SYN.: *Anapestus*. King, Trans. Ent. Soc. New South Wales, i. 316.

Mr. Pascoe's description of this curious genus was read at the meeting of the Entomological Society, on the 4th June, 1866, and was published in the following month. Mr. King's memoir was read before the Entomological Society of New South Wales on the 5th March, 1866, but the sheet of the Transactions on which it is printed contains the commencement of Mr. McLeay's paper on *Amycteridae*, which was read on the 6th August, 1866, and Part V of the Transactions, in which both papers appeared, contains the Journal of Proceedings for the 3rd September, 1866.

The genus has been considered to be allied to the Paussidae, as well as the Genus *Gnostus*. But it possesses no direct affinity with either of these groups; and is proved, by the analysis of the Genera *Polyplocotes* and *Diplocotes*, described above, to be most nearly related to the *Ptinidae*, especially to such groups as *Mezium* and *Gibbium*.

The mandibles are elongate-conic, with a narrow notch near the base of the outer margin, on the inner edge they are furnished with an oval, pointed, setose appendage; the maxillæ (fig. 1 *a*) are minute, strongly setose at the tip, the maxillary palpi, arising from a thickened scape, are 4-jointed, the terminal joint long, kidney-shaped, and pointed at the tip; the mentum and labium are very minute, long, and slender, terminated by a pair of 2- or 3-jointed palpi (fig. 1 *c*); the hind legs are much wider apart at the base than the middle ones (fig. 1 *b*).

## SPECIES 1—ECTREPHES FORMICARUM. (Pascoe, l. c. supra.)

## PLATE III, FIG. 1.

Omnino fusco-castaneus, elytris nitidis, pilis minutis erectis valde dispersis; antennarum clava elongata, compressa, apice oblique truncato; pronoto transverso, utrinque pone apicem emarginato, lateribus carinato-alatis; elytris breviter ovatis convexis; tibiis compressis.

Long. corp. lin. 1.

Habitat; Freemantle, New Holland. In Mus. Hopeiano Oxoniæ, &c.

SYN.: *Anapestus Kreuzleri*. King, Trans. Ent. Soc. New South Wales, i. 318.

## SPECIES 2—ECTREPHES PASCOEI. (Westw. l. c. supra.)

## PLATE III, FIG. 3.

Totus piceo-castaneus: elytris nitidis, subsetigeris; antennarum clava oblongo-ovali, depressa, disco supero et infero transverse triimpresso, marginibus paullo undulatis et breviter spinulosis; pronoto transverso, quadrato, impressione transversa postica profunda notato; tibiis 4 posticis valde curvatis, margine externo ante medium biangulato, ultra medium emarginato.

Long. corp. fere lin. 1.

Habitat; Swan River, New Holland; sub corticibus arborum mortuarum (Du Boulay.) In Mus. Hopeiano Oxoniæ, &c.

## SPECIES 3—ECTREPHES KINGII. (Westw. l. c. supra.)

## PLATE III, FIG. 2.

Totus luteo-fulvis, subnitidus; capite brevi, antennarum clava magna, fere plana, ovali, apice vix angulato, marginibus subundulatis; prothorace antice striolato, postice profunde impresso, lateribus in medio angulatis et pone angulum cicatricosis; elytris fere rotundatis, striato-punctatis; tibiis omnibus ante medium subangulatis.

Long. corp. lin.  $\frac{3}{4}$ .

Habitat; Swan River (Du Boulay.) In Mus. Hopeiano Oxoniæ, &c.



## SECTION—HETEROMERA.

## FAMILY—HELOPIDÆ.

## GENUS—PTEROGENIUS.

(Candèze, Hist. des Métamorph. de quelques Coléopt. exot. p. 39, pl. III, fig. 8. *Enotiophorus*, Dohrn MS.)

‘Tête grande, concave en dessus, présentant chez les mâles une large expansion de chaque côté, ce qui la rend tout-à-fait transversale et plus large que le prothorax, en demicercle chez la femelle; menton en trapèze; lanquette en ovale transversale; palpes labiaux terminés par un article oblongo-ovale (fig. 2 *d*). Machoires à lobes courts fortement ciliés en dedans (fig. 2 *c*). Palpes maxillaires longs, à 1<sup>r</sup> et 3<sup>m</sup>e articles courts, 2<sup>m</sup>e allongé, dernier grand, triangulaire; mandibules bifides au sommet (fig. 2 *b*); labre très apparent, vertical (fig. 2 *a*). Yeux placés dans une échancrure du bord postérieur de l’expansion latérale; antennes presque aussi longues que le corps chez le mâle, un peu plus courtes chez la femelle, insérées en dessous, devant les yeux; de 11 articles—la massue terminale prenant insensiblement naissance vers le milieu et composé d’articles seulement un peu plus larges que ceux de la base; prothorax transversal; écusson triangulaire plus large que long; élytres courtes, bombées; prosternum caréné; abdomen à 1<sup>r</sup> et 2<sup>m</sup>e segments beaucoup plus allongés que les trois derniers; pattes médiocres, les hanches des antérieures globuleuses, celles des postérieures transversales.’

Larvæ omnino similes larvæ generis *Cis.*, ocellis tribus, spinisque duabus analibus curvatis apice bifurcatis armata. (Candèze, pl. III, fig. 8.)

The above are the characters of this interesting genus given by M. Candèze, with the exception of those of the tarsi, which he describes thus: ‘Tarses de 5 articles à toutes les pattes au moins chez le mâle, les 4 premiers à peine aussi longs ensemble que le 5<sup>m</sup>e, assez fortement villeux, terminés par deux crochets robustes.’ This description is, however, incorrect, as the insect is decidedly heteromerous, the four anterior tarsi being 5-jointed, whilst the hind tarsi are decidedly only 4-jointed, as represented in fig. 2 *e*. This character, therefore, completely removes the genus from the group of *Cisidæ*, in which M. Candèze placed it, and associates it with the Heteromerous family *Helopidæ*, of which it has the general characters, whilst the structure of the larva, on which also M. Candèze evidently relied, will equally bring the insect into conjunction with the group to which I have assigned it. I have represented the wing in fig. 2 *f*.

## SPECIES 1—PTEROGENIUS NEITNERI.

(Candèze, Op. cit. supra, p. 40, pl. III, fig. 8; *Enotiophorus Westwoodi*, Dohrn.)

## PLATE V, FIG. 2.

‘Mâle. D’un noir brunâtre, médiocrement luisant; la tête et les élytres, surtout l’extrémité de celles-ci, couverts, mais peu densément de poils brunâtres; le prothorax avec quelques poils épars; antennes allongées pubescentes de la couleur du corps; front largement dilaté sur les côtés et débordant le prothorax anguleux latéralement, concave et densément ponctué en dessus; prothorax transversal, un peu plus long au milieu que sur les côtés, arqué dans le sens transversal, rebordé latéralement, densément et fortement ponctué; élytres à peu près trois fois aussi longues que le prothorax et un peu plus larges, arrondies en arrière bombées, ponctuées comme le prothorax sans stries. La femelle est très distincte du mâle par sa tête beaucoup moins dilatée sur les côtés et de forme demicirculaire; ses antennes sont un peu plus courtes.’

Long. 3¼ mill.; large 1½ mill.

Habitat; Colombo, Ceylon. In Mus. Hopeiano Oxoniæ, &c.

## SECTION—PSEUDOTETRAMERA. Westw.

## FAMILY—AGLYCYDERIDÆ.

## GENUS—AGLYCYDERES.

(Westw. Trans. Ent. Soc. Lond. 3rd Ser. vol. i. Proc. p. 179; Wollaston, Cat. Coleop. Ins. Canaries, p. 384.)

Genus anomalum, et quoad affinitates dubium, quamvis Anthribidibus, ut mihi videtur, proximum. Corpus oblongum, depressum, obscurum setosum; caput (fig. 3 *a*) in maribus, ante oculos, in cornu utrinque productum, postice in collum angustum contractum; antennæ rectæ filiformes 11-articulatæ; mandibulæ breves, crassæ, trigonæ, obtuse tridentatæ (fig. 3 *b*); maxillæ (fig. 3 *c*) planæ subtrigonæ, margine interno spinis rigidis curvatis armatæ; palpi maxillares abbreviati, conici, articulis tribus basalibus brevissimis; labium (fig. 3 *d*) rotundatum, corneum valde setosum, palpis labialibus minimis conicis; prothorax subquadratus lateribus rotundatis; pedes breves, crassi; tarsi brevibus articulis duobus basalibus subbilobatis, tertio minimo nodiformi, quarto longiori clavato, unguiculis 2 simplicibus instructo (fig. 3 *e*).

## AGLYCYDERES SETIFER.

(Westw. Trans. Ent. Soc. loc. cit. supra.)

## PLATE V, FIG. 3.

Obscure fusco-nigricans, asperato-rugosus, punctatus; elytris striato-punctatis, punctis setas robustas squamiformes erectas albas emittentibus; prothorace profunde canaliculato.

Long. corp. lin. 1.

Habitat; Insulæ Canarienses, Lanzarotæ, Fuerteventuræ, Canariæ, Teneriffæ, et Palmæ vel in caulibus Euphorbiarum putridis, vel sub cortice Ficorum arido laxo, hinc inde congregans (D. Wollaston.) In Mus. Hopeiano Oxoniæ.

Mr. Wollaston speaks thus of the very dubious affinities of this very curious little insect:—'Whilst placing it in the present position' [between the Bruchidæ and Cerambycidæ], 'I do so with the utmost hesitation, for although in many respects it certainly approaches the Anthribides, yet the structure of its oral organs (as evinced by its triangular mandibles and maxillæ, and its short, thick, conical palpi) is unmistakably that of the sub-Rhynchophorous Xylophagous groups (such as Hylastes, &c.) at the opposite extremity of the Circulionidæ. Yet its entire conformation, particularly of the antennæ, removes it completely from all such forms, whilst its 4-jointed (or "pseudotrimerous") feet (the third articulation being excessively minute) render its relationship still more dubious. Upon the whole, it seems to me to combine the *two opposite extremes* of the Rhynchophora (as represented by the Hylesinidæ and Anthribidæ) with certain setose genera of the Colydiidæ (such as Sarrotrium and Diodesma), in which the body is hispid and the tarsi quadriarticulate. Nevertheless, not venturing to assign it positively to the Anthribidæ, I have been compelled to place it in a separate family.'

## FAMILY—PRIONIDÆ.

## GENUS—CANTHAROCNEMIS. Guérin.

## CANTHAROCNEMIS LIVINGSTONII.

(Westw. Trans. Ent. Soc. Lond. 3rd Ser. vol. ii. Proc. p. 134.)

## PLATE II, FIG. 10.

*C. piceo-niger*, mandibulis subfalcatis, intus ante medium dente conico parvo armatis, apicibus oblique truncato-emarginatis; antennis subcrassis, capitis (cum mandibulis) et pronoti longitudine; capitis disco ruguloso, postice lævi, punctato; pronoti marginibus lateralibus subserratis, lateribus rude punctatis; disco sublævi

nitido tenuissime punctato, angulis posticis oblique emarginatis; elytris subrugulosis, punctatis, et in singulo costis 5 parum elevatis sed sat distinctis notatis; tibiis anticis extus 4- vel 5-denticulatis denteque forte subapicali armatis, 4 posticis intus dense fulvo-hirsutis.

Long. corp. lin.  $15\frac{1}{2}$ ; mandib. lin.  $2\frac{1}{2}$ .

Habitat; Zambesi, Afric. inter. (Dom. Rev. Rowleio captus). In Mus. Hopeiano Oxoniæ.

*C. Spondyloide* tertia parte major, magis nitidus et depressus, denticulis tiliarum anticarum minoribus.

#### SUB-GENUS—CANTHAROCTENUS.

(Westw. Trans. Ent. Soc. Lond. 3rd Ser. vol. ii. Proc. p. 134.)

Cantharoenemidi proximum; differt prothorace magis cylindrico, antennis duplo longioribus, 18-articulatis, articulis duplo bipectinatis, pedibusque longioribus.

#### SPECIES 1—CANTHAROCTENUS BURCHELLII.

(Westw. Trans. Ent. Soc. Lond. loc. cit. supra, p. 134.)

#### PLATE II, FIG. 8.

*C. piceo-castaneus* nitidus, prothorace cylindrico, mandibulis capitis longitudine, falcatis, apice valde oblique truncatis, dente acuto apicali, altero subapicali interno, basi etiam intus dente parvo conico nigro armatis; antennarum articulis omnibus (2 basalibus exceptis) infra ad basin dentibus 2 armatis, apice infra in lobum latum tenuem deflexum producto, cujus margo incisus dentes duos alios simulat (inde singulæ antennæ 64 spinas habere videntur); capitis vertice in medio canali longitudinali tenui instructo; prothorace nitido, angulis anticis rotundatis, posticis oblique truncatis, lateribus pone medium spina parva armatis, disco nitido, utrinque pone medium tuberculo parum eminente subnotato; elytris prothorace multo latioribus, nitidis, punctatissimis, sutura striolisque 2 longitudinalibus lævibus vix distinctis notatis; metathorace subtus dense fulvo-hirto; tibiis anticis planis, extus in medio spinis 2 denticulisque nonnullis minutis armatis, apiceque extus in spinam latam producto, 4 posticis extus denticulatis.

Long. corp. lin. 13; mandib. lin. 2.

Habitat; 'Damara Land,' Africa Merid. (Dom. Andersson captus). In Mus. Hopeiano Oxoniæ.

#### SPECIES 2—CANTHAROCTENUS INSIGNIS.

(Gerstaecker, Arch. f. Naturg. 37 Jahrg. p. 76.)

Rufo-piceus, supra glaber nitidus; antennis 20-articulatis; mandibulis basin versus bidentatis, coxis, femorum basi tibiisque intus dense pilosis.

Long. 28 mill. ♂

Habitat; Endara. In Mus. Reg. Berol.

#### SUB-GENUS—CANTHAROPLATYS.

(Westw. Trans. Ent. Soc. Lond. 3rd Ser. vol. ii. Proc. p. 134.)

A genere Cantharoenemide differt corpore magis depresso; mandibulis multo crassioribus et dente basali armatis; antennis abbreviatis; elytris cicatricosis (nec punctatis), juguli angulis lateralibus valde prominentibus.

#### CANTHAROPLATYS FELDERI.

(Westw. Trans. Ent. Soc. loc. cit. supra.)

#### PLATE II, FIG. 9.

Piceo-niger, subopacus: mandibulis subtrigono-falcatis, dente valido intus prope basin armatis; antennis latitudinem capitis vix longitudine superantibus; capite et pronoto punctatissimis hujus disco magis lævi et subirregulari, utrinque circulariter subimpresso; capitis vertice longitudinaliter canaliculato; pronoto transverso

postice latiori, angulis posticis fere rectangulariter incisus; elytris minute cicatricosis punctisque minutis inter cicatrices dispositis, costis 3 longitudinalibus ordinariis vix distinctis; tibiis anticis extus in medio 2- vel 3-denticulatis, apice dente lato armatis, 4 posticis extus denticulatis; femoribus subtus castaneis; metasterno fulvo velutino sericante, disco punctatissimo.

Long. corp. lin. 17; mandib. lin. 2.

Habitat; Africa, apud fluvium White Nile. Dom. Feldero captus et nomine ejus honorato inscriptus.

SECTION—PSEUDOTRIMERA. Westw.

FAMILY—EROTYLIDÆ<sup>1</sup>.

GENUS—ZYTHONIA.

Insectum generi *Triplacidi* proximum: corpus parvum, ovale, convexum; caput latum antice verticale; angulis lateralibus in mare in cornua brevia obtusa dilata producta (fig. 1 *a*), in femina simplicibus; labrum parvum semicirculare margine antico ciliato (fig. 1 *b*); mandibulæ (fig. 1 *b*) parvæ extus rotundatæ apice acuto, bifido, margine interno in medio dente parvo armato, infra membrana obtusa instructo; maxillæ (fig. 1 *c*) parvæ ad apicem lobis duobus tenuibus ciliatis instructæ; palpi maxillares 4-articulati, articulo primo elongato gracili paullo curvato, secundo et tertio brevibus, crassioribus, ultimo maximo securiformi; mentum transversum-quadrum (fig. 1 *d*) medio supra carinatum; labium membranaceum apice subtrifido; palpi labiales articulis duobus basalibus parvis; tertio parum longiori, et ad apicem paullo crassiori; antennæ (fig. 1 *e*) clavatæ, articulo primo crasso, secundo minuto, tertio longo, quarto, quinto, sexto et septimo minutis, octavo et tribus ultimis clavam compressam laxam formantibus, undecimo papilla apicali instructo; prothorax transversus; elytra ovalia glabra; pedes breves; tarsi omnes pseudotetrameris, articulo tertio bilobo (fig. 1 *f*'), alæ apice aveniæ (fig. 1 *g*).

ZYTHONIA FULVA. (Mas.)

PLATE V, FIG. 1.

Tota fulva, antennis tarsisque fusciscentibus, lavis, nitida: capite maris antice rugoso-punctato, feminae nitido, punctato; prothorace punctato; elytris punctato-striatis.

Long. corp. lin. 2½.

Habitat; Guinea. In Mus. Hopeiano Oxoniæ.

<sup>1</sup> See observations on the affinities of this family in 'Mod. Class. Ins.,' vol. i. pp. 143 and 391.

## ORDER—HYMENOPTERA.

### FAMILY—TENTHREDINIDÆ.

#### PERANTHERIX.

Genus novum: corpus parvum; alæ satis latæ; stigmatè magno, cellula unica marginali apice clauso ramulumque minutissimum apicalem emittente, cellulis submarginalibus tribus, prima elongata, venam primam recurrentem accipiente, secunda mediocri, venam secundam recurrentem, in medio marginis postici, accipiente, tertia magna; antennæ (fig. 1 *a*) parvæ 6-articulatæ articulis 1 et 2 brevibus, 3–6 longioribus, setas longas, emittentibus, sexto ad apicem acuminato seta longa terminali instructo; pedes graciles; tibiis 4 posticis pone medium extus spinula parva, calcaribusque duobus apicalibus instructis; tarsorum articulis simplicibus; abdomen parvum.

In the enlarged scapulæ of the collar, and the single marginal and three submarginal cells, this genus approaches *Pterygophorus*, whilst the appendiculated marginal cell and the spur in the middle of the four hind tibiæ are more characteristic of the *Hylotomæ*; the antennæ are, however, quite peculiar to the little insect on which I have proposed the present Genus.

#### PERANTHERIX PUMILIO.

##### PLATE XX, FIG. 1.

Niger albido-varius: alis hyalinis iridescentibus, stigmatè albido extus fusco; pedibus albidis; tarsorum apicibus fuscis.

Long. corp. lin. 2; expans. alar. lin.  $4\frac{1}{2}$  = mill. 10.

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniæ.

Head transverse black, finely punctured; antennæ short, basal joints buff, terminal joints becoming gradually darker brown, with long setæ terminated by a single long arista; thorax black, punctured, the scapulæ of the collar and the tegulæ yellowish buff; the basal segment of the abdomen is broadly margined with buff, the inner edge of the pale colour being sinuated, the five following segments have a triangular patch of the same colour on each side of the hind margin, and the remaining terminal segments are also pale coloured; the wings are hyaline, very slightly stained with brown, and iridescent.

In the unique specimen in the Hopeian Collection there is a minute dot near the extremity of the first submarginal cell.

#### BRACHYTOMA. (Klug MS.)

Antennæ multi-articulatæ, ramis biramosæ: alæ magnæ, anticæ cellula 1 marginali apice appendiculata; 4 submarginalibus, secunda guttula medio instructa; tibiæ calcari medio externo vel interno haud præditæ.

Genus *Lophyro* proximum; locus, America Meridionalis.

#### SPECIES 1—BRACHYTOMA NIGRICEPS.

##### PLATE XX, FIG. 2.

Fulva, capite nigro: labro fulvo; antennis fuscis 20-articulatis, articulis 2 basalibus fulvis, 3–18 biramosis, ramis brevibus, antennarum apicem versus sensim abbreviatis; 19mo uniramoso, 20 integro brevi ovato; mesonoto

brunneo; abdominis segmentis tribus ultimis nigris; alis fulvescentibus, costa stigmatæque fulvis, hoc apice obscuriori; apicibus alarum omnium cinereis, cellula secunda submarginali anticarum gutta minuta fusca nubilaque parva fusciscentis versus basin marginis interni anticarum; pedibus fulvis; tarsis posticis obscurioribus.

Long. corp. lin.  $4\frac{1}{4}$ ; expans. alar. antic. lin. 9.

Habitat; Amazonia (D. Bates). In Mus. Hopeiano Oxoniæ.

SPECIES 2—BRACHYTOMA FUMIPENNIS.

PLATE XX, FIG. 3.

Fulva: capite nigro, punctato; antennis nigris 17-articulatis, articulo tertio 1-ramoso, 4 ad 16um biramosis ramis longioribus, abdominis segmentis duobus ultimis nigricantibus; pedibus fulvis, tarsis paullo obscurioribus; alis fumosis basin versus paullo obscurioribus; costa stigmatæque nigris, cellula secunda submarginali gutta parva obscura notata.

Long. corp. lin. 3; expans. alar. antic. lin. 6.

Habitat; Amazonia (D. Bates). In Mus. Hopeiano Oxoniæ.

SPECIES 3—BRACHYTOMA PICEA.

PLATE XX, FIG. 6 (antenna.)

Parva, picea: capite nigro, nitido, punctato; antennis fuscis, 13-articulatis, tertio uniramoso, 4-12 biramosis, ramis superis longioribus, ultimo integro; thorace antice et ad latera, tegulisque fulvis; abdomine piceo; pedibus anticis luteis; tarsis obscurioribus; posticis 4 luteo-piceis; tarsis fuscis; alis infumatis, costa stigmatæque anticarum nigris; cellula secunda submarginali gutta parva nigricanti.

Long. corp. lin. 2; expans. alar. antic. lin. 5.

Habitat; Amazonia (D. Bates). In Mus. Hopeiano Oxoniæ.

SPECIES 4—BRACHYTOMA VITELLINA. (Klug MS.)

PLATE XX, FIG. 5 (antenna fœm.)

Fulva: capite nigro; antennis piceis 14-articulatis, articulis 4-13 obconicis sensim abbreviatis, apicali minuto quadrato; pedibus fulvis; tarsis paullo obscurioribus; alis anticis brunneis apicem versus paullo dilutioribus; costa stigmatæque nigris medioque cellularum clarioribus, gutta alba in cellula prima discoidali; alis posticis pallide brunneis (fœm.).

Long. corp. lin.  $4\frac{1}{2}$ ; expans. alar. antic. lin. 12.

Habitat; Brazilia. In Mus. Hopeiano Oxoniæ (olim nostr.; mecum communic. D. Klug cujus nomen ineditum retinui).

SPECIES 5—BRACHYTOMA MELANOPTERA. Perty.

(Delect. An. Art. Brasil, p. 130, pl. XXVI, fig. 7.)

Nigra, thoracis lateribus antice fulvis; alis fuliginosis margine antico et venis nigris; pedibus nigris, anticis flavicantibus.

Long. corp.  $3\frac{1}{3}$ ''; expans. alar.  $7\frac{1}{3}$ ''.

Habitat; prope Amazonum flumen.

GENUS—LYDA.

LYDA FRONTALIS.

PLATE XX, FIG. 7.

Lata, depressa, chalybeo-nigra, punctata: capite fulvo, macula frontali (ocellos includente) nigra; antennis longis gracilibus (abdomen et dimidium thoracis longitudine æquantibus) nigris, articulis duobus basalibus piceo-fulvis, 25-articulatis; collare, tegulisque necnon punctis duobus pone scutellum luteis, alis fuscis cyaneo-parum

nitidis, costa obscure lutea, stigmatē nigro; basi præsertim posticarum sublimpidis; pedibus picco-nigris, anticis magis piceis; femorum tibiærumque pedum posticorum apicibus calcaribusque rufo-piceis (mas.)

Long. corp. lin. 8.; expans. alar. antic. lin. 15½.

Habitat; America Septentrionalis, arboribus terebenthinis (Raddon). In Mus. Hopeiano Oxoniæ (olim nostr.)

The mandibles are fulvous, with the tips brown; the palpi are brown, with the base fulvescent; the spongiose under surface of the tarsi is lutescent.

This species is very closely allied to *Lyda plagiata*—‘*Lyda plagiata*, atra capite (verticis medio excepto), pedibus abdominisque dorso luteis’—Klug (Berlin Mag. 1808, p. 278, tab. VII, fig. 6; Latreille, Enc. Méth. viii, Pamphilius, No. 6; St. Farg. Mon. Tenth. p. 5), from Baltimore, in North America; but is sufficiently distinct in having the abdomen not testaceous at the base above, and in the legs being black, not luteous. Klug’s unique specimen was, however, a female.

I am unable to state the precise locality in North America of this species; a great number of specimens of it were, however, obtained by the late Mr. Raddon from the skimmings of barrels of turpentine imported into London. It is a curious circumstance that all the specimens thus obtained were males.

It and the following insect differ from all the hitherto described North American species of the Genus.

#### LYDA APICALIS. Westw.

PLATE XX, FIG. 8.

Luteo-fulva punctata, nigro variegata, alis melleo-fulvis; capite fulvo, vertice plaga magna trifida supra clypeum transversim conjuncta, punctis duobus pone oculos margineque postico nigris; mesonoto nigro, fulvo variegato, tegulis fulvis; abdominis segmentis quatuor basalibus luteo-fulvis; duobus anticis macula majori mediana, tertio et quarto fascia transversa tenui basali in medio interrupta, segmentis reliquis abdominalibus nigris lateribus irregulariter luteis; antennis longis, gracillimis 38-articulatis, fulvis, articulo basali crassiori macula media nigra, apicibus fusciscentibus; pedibus luteo-fulvis, femoribus supra nigris, posticis obscurioribus; alarum anticarum stigmatē brunneo-fulvo (mas.)

Long. corp. lin. 10.; expans. alar. antic. lin. 17.

Habitat; America Septentrionalis arboribus terebinthinis (Raddon). Plures mares tantum vidi. In Mus. Hopeiano Oxoniæ (olim nostr.)

The clypeus and mandibles are buff coloured, the latter with the tips black, the remaining parts of the mouth are buff.

This species is very nearly allied to *Lyda tessellata* Klug, from Georgia, United States of America (Berlin Mag. 1808, p. 276, tab. VII, fig. 4; St. Fargeau, Mon. Tenth. p. 10 (?); Latreille, Enc. Méth. viii, No. 7); but the abdomen is described as ‘ferrugineum, segmentis 2 primis nigris,’ and the wings as hyaline. Dr. Klug’s unique specimen was a female.

#### GENUS—CEPHUS.

CEPHUS 4-GUTTATUS. Westw.

PLATE XX, FIG. 11.

Niger nitidus, mesonoto punctato, metanoto bicarinato: abdominis segmentis quatuor basalibus pedibusque fulvo-testaceis; alis hyalinis, anticis stigmatē punctisque duobus apicalibus nigricantibus.

Long. corp. lin. 4½; expans. alar. antic. lin. 8¾.

Habitat; Massachusetts (Drake). In Mus. Hopeiano Oxoniæ, e Mus. Kirbii.

The head is convex and glossy, with a sinuated transverse ridge above the antennæ; the labrum is short, triangular, and deeply emarginate in the middle of the fore margin (fig. 11 *a*); the mandibles are tridentate, the upper tooth being much larger than the others (fig. 11 *b*); the maxillæ have two large flat membranaceous lobes (fig. 11 *c*); the maxillary palpi are six jointed, the joints very irregular, the fifth being very short and oblique, the sixth affixed close to the base of the preceding (fig. 11 *d*); the labial palpi (fig. 11 *e*) are 4-jointed,

the last joint oval and about the size of the basal joint; the tips of the antennæ, in our unique specimen, are broken off beyond the twenty-second joint: they are black and slender; the abdomen is of moderate length; the wings are large and hyaline, with an oval spot at the tip of the wing within the fourth submarginal cell, and a smaller round one in the middle of the outer middle cell; the fore wing on the right side has a small abnormal spur running into the first submarginal cell, which is wanting in the left fore wing; the hind pair of tibiæ (fig. 11 $f$ ) have two apical and two middle spurs, but the middle tibiæ have only one middle spur; the claws of the tarsi have a broad basal tooth.

FAMILY—SIRICIDÆ.

XIPHYDRIA ORIENTALIS.

PLATE XX, FIG. 10.

*Brevis, crassa, nigra, punctata*: abdominis segmento secundo utrinque macula albida notato, intermediorum lateribus griseo-setosis; pedibus nigris; tibiæ basi, tarsorumque posticorum basi albidis; alis limpide stigmatate venisque nigris; oviductu fœm. brevi.

Long. corp. lin. 6; expans. alar. lin. 9.

Habitat; India Orientalis, Montibus Neelgherriensibus, necnon in Insula Taprobana (Thwaites). In Mus. Hopeiano Oxoniæ.

This is a shorter and more compact species than the European ones. The antennæ are very short and 12-jointed (fig. 10 $a$ ); the second recurrent vein of the fore wings forms a continuous line with the vein between the second and third submarginal cell; the mandibles are marked with a large white spot in front; the breadth of the thorax at the base of the fore wings is nearly equal to one-third of the length of the thorax and abdomen, and the length of the fore wings is equal to that of the thorax and three-fourths of the abdomen. The vein between the two marginal cells is received by the front of the second submarginal cell a short distance before its extremity, and the vein between the second and third submarginal cells is continuous with the second recurrent vein.

The other European species of this genus are:—

XIPHYDRIA LEVICEPS<sup>1</sup>.

(Smith, Journ. Proc. Linn. Soc. Suppl. Zool. vol. iv. 1860.)

Habitat; Amboyna (Wallace). In Mus. W. W. Saunders.

XIPHYDRIA RUFIPES<sup>2</sup>.

(Smith, in Proc. Linn. Soc. vol. iii. p. 177.)

Habitat; Aru (Wallace). In Mus. W. W. Saunders.

<sup>1</sup> *X. leviceps*. Nigra, albo-maculata, tibiis tarsisque basi albis, alis hyalinis iridescentibus.

Long. corp. lin. 5½; expans. alar. antic. lin. 8.

Smaller and considerably more slender than *X. orientalis* Westw. The antennæ are longer, more slender, with more joints; the apical half white; the crown of the head behind the eyes is polished; face in front of the ocelli, longitudinally striated; face and sides of the head behind the eyes varied with white. The small transverse post-scutellum is white, as are two curved oblique marks on the following bilobed segment. The subapical joint of the abdomen has a white fascia, interrupted in the middle, and the apical joint is white. The vein between the two marginal cells is oblique, so that it extends into the third submarginal cell on its fore edge, whilst its hind edge receives the second recurrent vein at one-third of its length from its base. The second submarginal cell is shorter than in *X. orientalis*, so that the vein which closes its apex is nearer the base of the wing than the oblique vein between the two marginal cells and the second recurrent vein.

<sup>2</sup> *X. rufipes*. Nigra, mandibulis, antennarum scapo pedibusque ferrugineis, alis hyalinis et iridescentibus.

Long. fœm. 4 lin.

Not half the size of *X. orientalis* Westw. Black and shining, vertex highly polished; the front, from the posterior ocelli forwards closely punctured and opaque; hind part smooth and polished; the mandibles, scape, and basal joint of the



## XIPHYDRIA WALSHII.

Nigra: abdomine piceo, segmentis mediis lateraliter albido-marginatis; antennis fuscis basi luteis; pedibus fulvis tarsis apice fuscis; alis hyalinis stigmatibus venisque luteo-fuscis; capite nigro antice rugoso, vertice lineis duabus abbreviatis albidis inter oculos, margineque postico pone et sub oculis, albido marginato; mandibulis albidis apice fuscis; antennis fuscis gracilibus 14-articulatis, articulis basalibus fulvo-fuscis, collo gracile nigro, lateribus albido-notatis, subtus albido; thorace nigro punctis duobus albis inter alas; abdomine piceo, subtus pallidiori, segmentis intermediis albo-tenuiter marginatis; coxis omnibus albo-variis.

Long. corp. lin.  $3\frac{1}{2}$ ; expans. alar. antic. lin.  $5\frac{1}{2}$ .

Habitat; Amer. Sept., New York. In Mus. Britann.

## XIPHYDRIA ABDOMINALIS.

(Say, in Long's Second Expedition, ii. p. 311.)

Habitat; Pennsylvania.

## XIPHYDRIA ALBICORNIS.

(Harris, Treatise on Insects, p. 392.)

Habitat; Massachusetts.

## XIPHYDRIA MELLIPES. (Præcedentis Var.?)

(Harris, Treatise on Insects, p. 393.)

Habitat; Massachusetts.

## XIPHYDRIA BASALIS.

(Say, in Boston Journ. Nat. Hist. i. p. 222.)

Habitat; Indiana.

## XIPHYDRIA MACULATA.

(Say, in Boston Journ. Nat. Hist. i. p. 222.)

Habitat; Massachusetts.

## XIPHYDRIA TIBIALIS.

(Say, in Long's Second Expedition, ii. p. 312. See Norton, in Proc. Ent. Soc. Philadelph. 1864, p. 16.)

Habitat; Pennsylvania.

## XIPHYDRIA ATTENUATA.

(Norton, in Proc. Ent. Soc. Philadelph. 1862, p. 144.)

Habitat; Pennsylvania.

slender flagellum, ferruginous; thorax anteriorly punctured and opaque, posteriorly shining black, and with a few punctures at the base of the scutellum; wings hyaline and iridescent; the nervures black; the extreme base of the wings and the tegulæ pale testaceous; the legs pale ferruginous, with the claws of the tarsi darker; abdomen, the base of the segments depressed, and very delicately and closely punctured, subopaque; the apical half highly polished and shining; beneath, obscurely rufo-piceous; the fore wings have the vein between the two marginal cells transverse, and entering the second submarginal cell at a short distance before its distal extremity, and the second recurrent vein entering the third submarginal cell in the middle of its posterior margin.

## GENUS—SIREX.

## SPECIES 1—SIREX FULVOCINCTUS. (Mas.)

## PLATE XXI, FIG. 1.

Niger, punctatus, nigro-setosus: thoracis segmento postico cærulescente; abdomine purpureo-nigro, segmentis duobus intermediis læte aurantiis; antennis caput et thoracem æquantibus 19-articulatis, articulis 3tio, 4to, et 5to fulvis (hujus apice nigro); pedibus nigris, tibiis tarsisque quatuor anticis fulvis; basi tibiæ et articulo 4to et basi 5ti tarsorum in pedibus 2 posticis, etiam fulvis; horum tibiis tarsisque compressis; alis pallide fulvis margine postico fusciscente, stigmate venisque brunneis.

Long. corp. lin. 10; expans. alar. antic. lin. 16.

Habitat; America Septentrionalis. In Mus. Hopeiano Oxoniæ.

The vein which closes the hind part of the first submarginal cell is united to the vein which closes the anterior basal subcostal cell, at a slight distance from the origin of the vein which forms the long posterior margin of the long second submarginal cell, and the median vein throws off a short branchlet before its extremity, forming a small incomplete irregular 5-sided discoidal cell.

## SPECIES 2—SIREX LATIFASCIATUS. (Mas.)

## PLATE XXI, FIG. 2.

Niger, punctatus, setosus: abdomine purpurascente nigro; segmentis 2do, 3tio, 4to, et 5to fulvis; antennis 23-articulatis, articulo 4to et sex sequentibus obscure rufis; apicibus sensim nigricantibus; capite convexo, angulis duobus posticis pone oculos flavis; collaris angulis anticis porrectis fulvis; abdomine subopaco margine postico segmentorum nitido; apice acuto, serrulato; femoribus omnibus nigris tibiis et tarsis 4-anticis fulvis, tibiæ compressarum 2 posticarum basi albida, tarsorum articulis duobus apicalibus sub-fulvis; alis obscure fulvescentibus apice vix obscurioribus, stigmate brunneo.

Long. corp. lin. 10½; expans. alar. antic. lin. 15½.

Habitat; America Septentrionalis. In Mus. Hopeiano Oxoniæ.

The vein which closes the hind portion of the first submarginal cell is continuous with the vein at the end of the long anterior or subcostal cell, causing the first submarginal cell to be shorter and more oblique than in the preceding species; and the vein which forms the hind margin of this anterior or subcostal cell does not emit a branch near its apex, so that the small incomplete discoidal cell seen in the preceding species is here wanting.

## SPECIES 3—SIREX GRACILIS.

## PLATE XXI, FIG. 4.

Species quasi intermedia inter *S. Abaddon* et *S. spectrum*. Elongatus cylindricus, cyaneo-niger, punctatissimus, abdomine magis purpurascenti, segmento ultimo sensim ad apicem acuminato, et serrulato; oviductu dimidium abdominis longitudine æquanti; antennis elongatis nigris gracilibus 21-articulatis, fere ad medium abdominis attingentibus; pedibus nigris gracilibus; alis nigricantibus purpureo parum tinctis.

Long. corp. lin. 12; oviduct. ultra apic. abdom. lin. 4; expans. alar. antic. lin. 16½.

Habitat; America Septentrionalis, arboribus terebinthinis (Raddon). In Mus. Hopeiano Oxoniæ (olim nostr.)

The abdomen is rather more than twice the length of the head and thorax. The portion of the ovipositor which extends beyond the serrated apex of the abdomen equals half the length of the whole abdomen, to which also the wings are equal in length. The vein which closes the first submarginal cell forms a regular curve with that which closes the hind part of the extremity of the long subcostal cell. The vein which closes the hind margin of this cell emits a small branch near its apex, forming a small incomplete discoidal cell.

## SPECIES 4—SIREX DIMIDIATUS.

PLATE XXI, FIG. 5.

Niger: abdomine fascia basali dimidioque apicali fulvis; antennis 21-articulatis nigris, articulis 10 apicalibus sensim brevioribus, albis; capite punctato, macula parva utrinque fulva pone oculos, mandibulis et palpis nigris; thorace nigro, punctato; abdomine opaco, segmento basali segmentisque 4 apicalibus cum corniculo fulvis; hoc basi angustato et ante apicem dilatato, lateribus serrulatis; terebra nigra; pedibus nigris, basi tibiæ 2 posticarum et articuli basalis tarsorum albida.

Long. corp. (excl. cornicul. apic. et oviduct.) lin. 13; expans. alar. antic. lin. 24.

Habitat; America Septentrionalis, arboribus terebinthinis (Raddon). In Mus. Hopeiano Oxoniæ (olim nostr.)

The vein closing the small first submarginal cell behind is separated from the base of the vein closing the second submarginal cell by a small space, so that the first marginal cell is longitudinal rather than oblique. The first recurrent vein is received by the second submarginal cell before the middle of the cell; the second recurrent vein is very oblique, and received at the middle of the third submarginal cell. The vein closing the long basal subcostal cell does not emit a short branch near its hinder extremity.

## SPECIES 5—SIREX MORIO.

PLATE XXI, FIG. 6.

Elongatus gracilis, chalybæo-niger, rugoso-punctatus: abdomine fulvo, segmentis duobus basalibus nigris; antennis nigris 22-23-articulatis; pedibus gracilibus fulvis, femoribus nigris; alis nigricantibus purpureo-nitidis; abdominis segmento secundo margine postico fulvo, segmento ultimo impressione magna rotundata dorsali, apice conico in corniculum breve lateribus serratum terminato, oviductu ultra apicem corniculi, vix lineam longitudine excedente.

Long. corp. (cum corniculo) lin. 15; expans. alar. antic. lin. 24.

Habitat; America Septentrionalis, arboribus terebinthinis (Raddon). In Mus. Hopeiano Oxoniæ (olim nostr.)

This species agrees with *S. nigricornis* Fabr., except in the colour of the legs, which are described as pitchy, with yellow thighs. The long second submarginal cell forms an acute point at its base, and the second recurrent vein is received by the third submarginal cell at one-third of its length from its base; and the long basal subcostal cell emits a branch near its apex, forming a supplemental nearly square baso-discoidal cell.

A small specimen, 9 lines long and 15 lines in the expansion of the fore wings, has the dark colour of the base of the abdomen extending nearly over the third segment, and the legs are pitchy. The wings are also less strongly coloured than in the larger specimens.

## SPECIES 6—SIREX ABADDON.

PLATE XXI, FIG. 7.

Elongatus, cyaneo-niger, punctatus: abdomine chalybæo, segmento ultimo supra ad basin impressione magna rotundata, corniculo brevi conico acuminato lateribus serratis et ad basin utrinque tuberculo parvo instructo; antennis 21-24-articulatis, oviductu pedibusque nigris; alis nigricantibus.

Long. corp. (oviductu exclus.) lin. 11-15; expans. alar. antic. lin. 17½-24.

Habitat; America Septentrionalis, arboribus terebinthinis (Raddon). In Mus. Hopeiano Oxoniæ (olim nostr.)

We have two larger and two smaller specimens of this species, agreeing with the sizes given above; and the smaller ones have fewer joints in their antennæ than the larger ones.

The long second submarginal cell forms quite a sharp point at its base; and the vein closing the long basal subcostal cell emits a short branch near its extremity, forming a small incomplete baso-discoidal cell.

## SPECIES 7—SIREX MELANCHOLICUS.

PLATE XXI, FIG. 8.

Niger, punctatus: capite thoraceque rugosis; abdomine nitido; capite macula utrinque pone oculos, lateribusque serratis collaris albidis; pedibus nigris femoribus quatuor anticis rufis; alis hyalinis, nubila parva prope angulum posticum alteraque versus basin marginis interni, femoribus duobus posticis prope basin constrictis et parum contortis (constrictione articulum simulante); segmento ultimo abdominis obconico, plano, in spinulam parvam terminato. (Mas.)

Long. corp. lin.  $11\frac{1}{2}$ ; expans. alar. antic. lin. 16.

Habitat; America Septentrionalis. In Mus. Hopeiano Oxoniæ.

The unique male of this species in our Collection is closely allied to the male of *Sirex spectrum*, which forms a second section in the genus in Dr. Klug's monograph, intermediate between the genuine *Sirices* and *Tremex*, differing from each in the number of joints in its maxillary and labial palpi. Its general characters agree, however, so entirely with those of *Sirex* (except in the greatly elongated ovipositor), that it does not appear desirable to separate it subgenerically from the rest. The head is convex and sloping, with a central and two lateral impressions in the hinder part. The thorax is coarsely granulated, the collar quadrate and transversely grooved, the lateral margins denticulated. The abdominal segments have the basal portion of each depressed, leaving the sides and hinder margins somewhat raised; the terminal segment is obconical, slightly serrated at the sides, and terminated in a small point. The wings are hyaline, and almost colourless; the large second submarginal cell is pedunculated at its base (as it is also in *S. spectrum*); the vein forming the hind margin of the long basal subcostal cell does not emit a small branch near its extremity. The legs are black, with the femora entirely red, the hinder pair being more pitchy on the upper part.

GENUS—TREMEX (Jurine) XYLOTERUS. Hartig<sup>1</sup>.

## TREMEX PANDORA.

PLATE XXI, FIG. 9.

Niger, rugoso-punctatus: capite nitido, antennis longitudine thoracis 14-articulatis; abdomine purpureo vix tincto subnitido, crebre punctato, segmento ultimo obconico lateribus serrulatis, apice in spinam brevem tenuem producto; pedibus nigris, posticis compressis; alis fuscis, pone medium præsertim versus stigma obscurioribus, cellulis, ante medium alarum subflavescentibus, vena cellulam basalem subcostalem postice claudenti ramulum nullum, versus apicem, retrorsum emittente; mandibulis palpisque nigris.

Long. corp. lin. 13; expans. alar. antic. lin. 20.

Habitat; India Orientalis. In Mus. Hopeiano Oxoniæ (olim nostr.)

## TREMEX MAURUS.

PLATE XXI, FIG. 3.

Piceo-niger, rugoso-punctatus: abdomine lævi depresso crebre et minute punctato; antennis nigris 15-articulatis, longitudine thoracem æquantibus, articulis duobus apicalibus rufescentibus; segmento ultimo thoracis et tribus basalibus abdominalibus utrinque ad basin fulvo maculatis; pedibus piceis, tibiis 4 posticis tarsorumque articulo 1mo, ad basin fulvo-notatis; capite infra pone oculos lateribusque mesosterni obscure testaceis, segmentis ventralibus abdominis obscure rufis; alis fuscis, cellula Ima elongata marginali et vena mediana e basi ad

<sup>1</sup> Van Heyden (Berlin Ent. Zeitschr. 1868, p. 227) has changed the name of 'Xyloterus,' proposed by Hartig in 1837 (but already preoccupied for a genus of Bostrichidæ by Erichson in 1836), to that of Xylœcematium, including in the genus *X. magus*, *fuscicornis* Fabr. and *Columba* Fabr. = *Pennsylvanica* De Geer. Both are, however, synonymous with *Tremex Jurine*. Norton (Trans. Amer. Ent. Soc. ii. p. 366), in a memoir on the North American species of *Oryssus*, *Xiphodria*, *Urocerus* (= *Sirex*) and *Tremex*, has separated *Tremex Cubensis* and *latitarsis* as a subgenus named *Teredon*, the antennæ being 5- or 6-jointed, and the hind tarsi dilated.

medium alæ nigricantibus; segmento ultimo abdominis in spinam acutam brevem lateribus serratis producto, (in individuo delineato, genitalia maris exserta sunt, et in figura apparent).

Long. corp. lin. 12; expans. alar. antic. lin. 19½.

Habitat; America Septentrionalis (E. Doubleday). In Mus. Hopeiano Oxoniæ.

#### TREMEX RUGICOLLIS.

PLATE XX, FIG. 9.

Capite et thorace æneis, punctato-rugosis, metanoti parte postica fulva linea nigra media; abdomine purpureo-chalybæo lateribusque segmentorum quinque basalium fulvis; alis fuscis chalybæo nitidis; antennis nigris 20-articulatis, pedibus 4 anticis albidis tarsorum articulis 4 apicalibus nigris; pedibus 2 posticis nigris latis, femoribus fulvis. (Mas.)

Long. corp. lin. 8; expans. alar. antic. lin. 13.

Habitat; Insulæ Philippinenses (Digallorin prope Luzon, dieb. 18 et 20 Jun. 1860, D. Semper). In Mus. Semper.

Head and prothorax æneous black; head convex, with small but deep punctures; collar rugose, with small conical tubercles; on the mesothorax these tubercles are fine. The metathorax is brownish black, smooth, the hind part with a luteous band divided by a brown central longitudinal line; the abdominal segments are rich purple, chalybeous on the hind margin, very slightly punctured except the terminal joints, which are rugose; the basal segments have a luteous spot on each side, extending nearly the whole length of each joint. The four fore legs are luteous, the tip of the first and the remaining joints of the tarsi pitchy brown; the two hind legs are black, compressed, the femora fulvous, the basal joint of the tarsus broad. The wings are rich brown, with the veins darker brown, strongly glossed with pinkish purple; the body beneath is black, with the thoracic portions æneous. The antennæ are as long as the head and anterior half of the metathorax: they are 20-jointed, and the first joint is pitchy, the second and third steel-green, polished, the fourth and following dark purplish-black, and compressed. The length of the fore wing equals that from the front of the head to the middle of the fifth segment of the abdomen.

This insect is nearly related to several other species of the genus from the Eastern Islands, of which the following are the characters:—

#### TREMEX INSIGNIS.

(Smith, Proc. Linn. Soc. iii. p. 178.)

Nigro-purpureus; abdominis fasciis basalibus albis; alis nigris, cupreo nitentibus.

Long. corp. (oviductu exclus.) 9–11 lin.; expans. alar. antic. lin. 18½.

Habitat; Aru (Wallace). In Mus. W. W. Saunders.

Obscure steel blue, with shades of green, purple and violet; antennæ 16-jointed; the head and thorax punctured; the prothorax with an oblique, smooth, shining space on each side. Wings very dark brown, with a brilliant coppery effulgence. The base of the abdomen opaque, velvety, purple-black; the first segment with a narrow, transverse, cream-coloured fascia in the middle, the second very narrowly whitish at its base; the rest of the abdomen is highly polished, and has a scattered, short, black pubescence. The terminal segment of the abdomen is conical, acute at the tip, with the sides serrated.

Closely resembles *Tr. purpureipennis* Westw., having, like it, 16-jointed antennæ.

#### TREMEX PURPUREIPENNIS.

Niger, purpureo et cæruleo tinctus: capite collare et mesonoto punctatis, parte postica thoracis opaco laevi, nigro, punctis tribus albis; abdomine nitidissimo laevi, segmento basali parum æneo tincto, apicali purpureo tincto; antennis 16-articulatis articulis apicalibus compressis; pedibus anticis cæruleo-nigris; alis nigris purpureo nitidissimis; mandibulis extus hirsutissimis; segmento ultimo abdominis supra depressione magna ovali punctata, apice conico acutissimo, tuberculo parvo utrinque instructo.

Long. corp. lin. 13; expans. alar. antic. lin. 23.

Habitat; Malacca (Lorquin). In Mus. Jard. des Plantes, Paris (olim Coll. Sichel).

## TREMEX INSULARIS.

(Smith, Proc. Linn. Soc. vol. ii. No. 7, 1858, p. 117.)

Ater: capite et thorace disco viridibus; collari flavo, thorace flavo variegato; alis subhyalinis margine antico fuscis; antennis nigris, articulis apicalibus flavis; abdominis segmentis flavo fasciatis, ultimo utrinque striga obliqua flava; tibiis flavis tarsis ferrugineis. (Fœm.)

Long. corp. lin. 8; expans. alar. antic. lin. 14½.

Habitat; Sarawak (Borneo), and Malacca.

Head brassy-green, strongly punctured; the antennæ black, with the apical joints yellow; the face thinly covered with white pubescence. Thorax, the disc, and the scutellum with a green tinge; the pro- and meta-thorax above, yellow; the segments of the abdomen have each a yellow fascia, the first two slightly interrupted; the terminal segment with an oblique yellow stripe on each side. The tibiæ yellow, the tarsi ferruginous; base of the abdomen yellow beneath; wings subhyaline; a dark fuscous stain along the anterior margin of the superior pair; the apical margins of both wings fuscous.

## GENUS—ORYSSUS.

## ORYSSUS IMPERIALIS.

PLATE XXII, FIG. 1.

Læte viridis: capite parum obscuriore; antennis setigeris pedibusque æneis; alis fuscis. (Mas.)

Long. corp. lin. 10; expans. alar. lin. 14.

Habitat; Gold Coast, Africa. In Mus. D. Swanzy.

The head (fig. 1 *a*, seen from the front) is very rugose; the face with two slight curved carinæ extending from the anterior margin of the clypeus to the lower part of the eyes; the face has the lateral margins slightly raised, with three conical tubercles on each side, a small tuberculated ridge also extends across the forehead between the tops of the eyes. The antennæ are irregularly curved, the ninth joint is not thicker, but rather longer than the preceding, oblique at its tip, and the tenth joint is very small. The thorax is punctured, the dorsum of the mesonotum tricarinated. The basal segment of the abdomen has two transverse, slightly curved series of very short deeply impressed lines at its base, followed by a narrow, transverse, polished space, with a small dull black dot on each side; and the broad terminal margin of the segment is very rugosely punctured. The six terminal segments of the abdomen are much more delicately punctured. The legs are æneous, the anterior tibiæ have a strong notch on the under side near the tip (fig. 1 *b*), and the tarsi are set on obliquely; the posterior tibiæ are subserrated on their outer margin. The wings are dark brown, with a slight purplish gloss.

## ORYSSUS PLUMICORNIS.

(Guérin-Ménéville in Lefevre, Voyage en Abyssinie, Ins. pl. VIII, fig. 1.)

PLATE XXII, FIG. 2.

Elongatus, viridi-cæruleus: capite valde rugoso, utrinque ad oculos tridentato (fig. 2 *a*); antennis nigris pilosis, articulis inæqualibus, primo et tertio et quarto quinto septimoque fere æqualibus; thorace dense et fortiter punctato, antice supra tricarinato, abdomine basi vix angustato, postice rotundato, tenuiter punctato, rugoso, griseo subpubescenti; alis fumatis, costa basali brunneo-nigra, fascia media transversa hyalina, posticis fere hyalinis.

Long. corp. lin. 9; expans. alar. lin. 13.

Habitat; Natalia (Guérin-Ménéville), et Abyssinia (Lefevre).

## ORYSSUS BATESIANUS.

PLATE XXII, FIG. 3.

*Chalybæo-niger*: capite et thorace subæneis punctatissimis punctis minoribus; antennis pedibusque nigris, trochanteribus femoribusque pedum 2 posteriorum fulvo-rufis, his subtus ad basin nigris; alis fuscis stigmate nigro, fascia indistincta substigmatali, apiceque hyalinis.

Long. corp. lin. 6; expans. alar. antic. lin.  $7\frac{1}{2}$ – $8\frac{3}{4}$ .

Habitat; Amazonia, Ega (D. Bates). In Mus. Britann.

*O. bifasciato* proximus, at punctis multo minoribus et in thorace remotioribus segmentoque secundo abdominis linea tenui longitudinali lævi insigniori; caput valde rugosum (fig. 3 a, antice visum) carina media transversa alteris duabus curvatis connexa; antennæ nigræ 10-articulatæ articulo nono reniformi depresso, apice obliquo; ultimo minuto; thorax nigro-æneus nitidus, punctatus; abdomen chalybæum crebre punctatum segmento secundo linea media tenui elevata nitida basali, spatio parvo elongato-obtrigono, lævi nitido, ad medium segmenti extenso; segmentis reliquis utrinque albido-villosis; alæ fusæ, violaceo nitidæ, anticæ versus costam obscuriores; venis nigris, fascia obsoleta pallidiori pone medium alæ nubilaque alba triangulari apicali; alæ posticæ omnino pallide fusæ; pedes nigri, tibiis anticis dilatatis, trochanteres et femora pedum posteriorum fulvo-rufa, his subtus ad basin macula fusca notatis; tibiæ posticæ denticulatæ compressæ.

## ORYSSUS FULVO-STIGMA.

PLATE XXII, FIG. 4.

*Niger*, punctatissimus: capite æneo parum tincto, vertice serie duplici tuberculorum; abdominis segmentis intermediis utrinque albido notatis; antennis pedibusque nigris, femoribus duobus posticis rufis; alis hyalinis, anticarum stigmate fulvo, fascia lata fusca ante alteraque pone medium fuscis; alis posticis dimidio apicali obscuriori.

Long. corp. lin. 5; expans. alar. lin. 7.

Habitat; Amazonia, Ega (D. Bates). In Mus. Hopeiano Oxoniæ.

This species, in several respects, so closely resembles *O. Batesianus* (inhabiting also the same locality on the Amazon River) that it may possibly ultimately prove to be a variety thereof; the colour, however, of the body, and especially of the wings and stigma, seem to indicate it as specifically distinct. The face has two curved raised lines extending from the lower edge of the eyes towards the middle of the face, where they are united by a slender transverse carina, behind which are two rows of tubercles. The thorax is black, with a slender central slightly raised, and polished longitudinal line. The basal segment of the abdomen has a fine row of short striolæ at the base, the remainder being strongly punctured with a central raised line; the third, fourth, and fifth segments are marked on each side with a small whitish spot. The legs are thick and black, the two posterior femora red, the hind tibiæ externally serrated. The fore wings have a broad fascia before, and another beyond the middle, the base being hyaline with two small oblong dark dots; the veins in the central hyaline part of the wing are colourless, and the stigma is fulvous.

## ORYSSUS MACULIPENNIS.

(Smith, Journ. of Proc. Linn. Soc. vol. iii. p. 177.)

PLATE XXII, FIG. 5.

*O. niger punctatus*: pedibus ferrugineis; alis fuscis fascia hyalina ante cellulam marginalem sita.

Long.  $5\frac{1}{2}$  lin.; expans. alar. lin.  $7\frac{1}{2}$ .

Habitat; Aru (Wallace). In Mus. Saunders.

Black, head rugose, front coarsely so, with a row of transverse tubercles running from the vertex along the inner orbits of each of the eyes, and crossing the front at half their length; the cheeks with a cinereous down, and a line of silvery white pubescence or down along the outer orbits of the eyes. Thorax coarsely punctured; the mesothorax with a central longitudinal smooth elevation; wings fuscous, with a broad transverse hyaline fascia before the base of the marginal cell; the tips of the wings hyaline. Legs ferruginous, with the coxæ and

trochanters black; posterior tibiæ with a double row of serratures outside. Abdomen shining and closely punctured, base and apex coarsely so.

Fig. 5 *a* represents the front of the head, and 5 *b* the fore leg, shewing the curved transverse depression near the extremity of the tibiæ. The antennæ are short, the articulation between the eighth and ninth joints very indistinct, the ninth joint large and kidney-shaped, and the tenth joint very minute and slender.

ORYSSUS MACULIPENNIS. (Var.?)

Niger, magis rugosus, punctis præsertim abdomine majoribus, vertice capitis magis elevato, media parte postica paullo concava et lævi, tuberculis transversis lunatis lateralibus magis distinctis; antennis pedibusque nigris, femoribus rufis (in pedibus anticis subtus nigricantibus); alis anticis hyalinis; costa, nubila oblonga in cellula supera basali, alteraque versus basin marginis postici, fasciaque lata prope apicem distincte terminata nigricantibus, alis posticis hyalinis, tertia parte apicali pallide nigricanti.

Long. corp. lin.  $7\frac{1}{2}$ ; expans. alar. antic. lin. 12.

Habitat; Insulæ Philippinensis Mindanao dictæ, partibus orientalibus. In Mus. Semper Altonæ, No. 235.

ORYSSUS UNICOLOR.

(Latreille, Encyclop. Method. Ins. t. viii. p. 561.)

PLATE XXII, FIG. 6.

Niger, capite thorace abdomineque immaculatis, punctatus: capite supra rugoso; antennis gracilibus nigris, articulis 4-7 obscure albidis; pedibus nigris, gracilibus, geniculis, tibiisque præsertim posticis extus albidis; alis hyalinis stigmatibus brunneo, fascia media, alteraque latiori ad apicem extensa pallide fuscis.

Long. corp. lin. 4; expans. alar. lin.  $6\frac{1}{2}$ .

Habitat; 'Boulogne,' prope Parisias. In Mus. Britann., communic. D. Latreille (No. 611).

This species is only half the size of *O. coronatus*, and the sexes are alike in colour, so that it cannot be regarded as a variety of that species.

ORYSSUS SAYI.

(Westw. Zool. Journal, vol. v. p. 440; *O. maurus*, Harris, Cat. Ins. Mass. 2nd edit.; and Treatise, p. 543, 2nd edit.)

PLATE XXII, FIG. 7.

Niger: capite, thoraceque punctatis; abdomine subtilius punctato; vertice ad regionem ocellorum tuberculato; facie lineis duabus minutis abbreviatis albis inter oculos ad marginem inferiorem; labro albedo; antennis nigris apice articuli tertii articulisque quarto et quinto supra albo-notatis; pedibus nigris, apice femorum lineo-laque supera tibiali albis; alis dimidio basali hyalinis; dimidio apicali fuscis et ad costam obscurioribus, macula parva substigmatica apiceque ipso hyalinis, stigmatibus nigro. (Fœm.)

Long. corp. fœm. lin.  $7\frac{1}{2}$ ; expans. alar. antic. lin. 11.

Habitat; America Borealis, New Harmony. In Mus. Hopeiano Oxoniæ (olim nostr.)

A considerable number of female specimens of this species were obtained by the late Mr. Raddon, the engraver, from skimmings of raw turpentine imported in barrels, as collected in North America.

A male of this species from Nova Scotia (Redman), in the British Museum, is five lines long, and seven lines in the expansion of the fore wings; the antennæ are simple, black, with a small white spot in front of the third and fourth joints, near the tips; the face with two small, transverse, white lines extending from the fore inner margin of the eyes, the knees and front of all the tibiæ are white: the abdomen with a small triangular white spot at the tip above, the wings not so strongly coloured as in the female, but with the same arrangement of colour on the submarginal vein, and in the submarginal cell.



## ORYSSUS AMAZONICUS. Westw.

## PLATE XXII, FIG. 8.

Niger, punctatissimus: capite duplici serie tuberculorum; antennis nigris articulis 3-7 albidis; pedibus piceis femoribus nigris; alis hyalinis fascia abbreviata ante, alteraque lata pone medium fuscis.

Long. corp. lin.  $3\frac{1}{2}$ ; expans. alar. antic. lin.  $5\frac{1}{2}$ .

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniæ.

The head is rugose and granulated, with two rows of conical tubercles between the eyes (fig. 8a). The antennæ have the third and four following joints buff, the fourth and sixth being longer than the fifth and seventh. The thorax is rugosely punctured, the abdomen more delicately, the basal joint having a transverse row of fine striolæ at its base, divided in the middle by a small polished tubercle, the remainder of the segment being more strongly punctured than the rest of the abdomen. The legs are robust and pitchy black, the extremity of the tibiæ and the tarsi being more pitchy. The wings are hyaline, the fore wings with an abbreviated fascia before the middle of the wing, terminating in an oval spot in the middle of the disc; and beyond the middle of the wing is a broad brown fascia. The vein closing the first submarginal cell is colourless between the dark fasciæ.

## GENUS—DERECYRTA.

(Smith, Ann. Nat. Hist. 3rd Ser. vol. vi. p. 255; *Xiphydrina*, Westw. MS.)

Head subglobose, vertex swollen or convex; eyes lateral, large, ovate; ocelli prominent, placed in a triangle between the eyes; antennæ setaceous, composed of 23-26 joints, the scape short, curved, slightly thickened towards the apex; the first joint of the flagellum half the length of the scape, the second as long as the scape, third and four following joints as long as the first, the remaining joints are each in succession shorter than the preceding. Thorax as wide as the head, oblong, the sides parallel; the prothorax narrowed anteriorly into a short neck; the mesothorax slightly elevated in front; the scutellum elevated; the metathorax with a deep incision in the middle; the anterior wings with one or two marginal and four submarginal cells, the marginal cell, or cells, elongated, with a short appendix at the apex; the first submarginal cell small, the second oblong, widest at the apex, the third subquadrate, the fourth extending to the apex of the wing: the second and third cells each receive a recurrent vein a little within their base; legs slender, not compressed; the four hind tibiæ bispinose at their apex; unguis with a strong broad tooth at the base; abdomen cylindrical, about twice the length of the head and thorax; the ovipositor short, and slightly exerted.

This genus is evidently identical with *Brachyxiphus* of Philippi (Stettiner Entom. Zeit. 32 Jahrg. 1871, p. 285, pl. III), although there are several characters given by that author which differ from those which I have observed. The maxillary palpi are described as 6-jointed, the first four joints of equal length, and the last shorter. They are, however, figured as only 5-jointed, with the first to the fourth of equal length, and the fifth shorter and oval (see his fig. 1b). The labial palpi are described as 4-jointed, the third joint the shortest and the last egg-shaped (see his fig. 1c). Of the sexes he observes—'Mannchen habe ich nicht gesehen.' His figures of his two species evidently, however, represent both sexes, figure 1 being a female, and figure 2 a male. He also notices the difference in the number of marginal (radial) cells in the individuals constituting his two species, described as follows:—

1. *Brachyxiphus grandis* Ph. (fig. 1), niger, abdominis segmentis 3-8 aurantiacis; antennis 26-articulatis; alis nigricantibus cellulis radialibus duabus. Long. corp.  $10\frac{1}{2}$  lin.; exp. alar. 19 lin. Hab. Valdivia.
2. *Brachyxiphus flavipes* Ph. (fig. 2), niger, pedibus flavis; antennis 18-articulatis, in medio albis; alis nigricantibus, cellula radiali indivisa. Long. corp. fere 6 lin.; exp. alar. antic. lin. 9. Hab. Valdivia.

From this description, and the accompanying figures, it would appear that the specimen represented in his fig. 2, having all the appearance of a male, has only one radial (or marginal) cell; whilst his fig. 1, represented with a short ovipositor, as a female, has two radial cells: thus differing from the specimens represented in my plates, in which the male has two radial cells and the female only one. In this uncertainty, I hesitate in uniting the male insect, from Chili, represented in my plate XXIII, fig. 1, having two radial cells, with Philippi's female, fig. 1, from Valdivia, which has also two radial cells, although agreeing with it in colours.

## SPECIES 1—DERECYRTA PICTIPENNIS. (Smith, l. c.)

## PLATE XXIII, FIG. 2.

Ochracea, nitida: capite, abdominis apice, mandibulis, antennis, pedibusque nigris; alis fuscis basi fasciæque transversali flavo-hyalinis, anticis cellula unica marginali. (Fœm.)

Long. fem. 9–10 lin.; expans. alar. antic. lin. 18½.

Habitat; Amazonia, Ega (Bates): In Mus. Britann. et Hopeiano Oxoniæ.

The mandibles are short and thick, obliquely truncate, and 4-toothed (fig. 2*a*); the maxillæ well developed, terminated by two membranaceous ciliated lobes; palpi 6-jointed, the terminal joint indistinctly constricted and slender (fig. 2*b*); the labium cordate, and the labial palpi 3-jointed, the last joint large and securiform (fig. 2*c*); the antennæ in the Oxford specimen 24-jointed (fig. 2*d*), and longer than in *Xiphydria*: they are inserted between the lower angles of the eyes; the head is black, the anterior half between the eyes rugose, the posterior half of the head glossy, smooth, with a slight impression behind the ocelli; the thorax is formed as in *Xiphydria*, equal to the head in width; the abdomen is of equal width with the thorax, elongate, cylindrical; each of the basal segments is marked near the base on the upper side with a sinuated raised line; the terminal segment is obconic, glossy, terminating in a small horny point, beyond which the ovipositor extends to a short distance.

## SPECIES 2—DERECYRTA BICOLOR. Westw.

## PLATE XXIII, FIG. 1.

Nigra, punctatissima: abdomine castaneo-rufo nitido; segmento primo (fisso), secundi disco, ultimoque toto nigris; antennis 26-articulatis; pedibus nigris; alis brunneo-fulvis, purpureo parum tinctis; cellis marginalibus duabus. (Mas.)

Long. corp. lin. 9; expans. alar. antic. lin. 14.

Habitat; Chili. In Mus. Hopeiano Oxoniæ.

Head convex, closely covered with small punctures, two impressed longitudinal abbreviated lines between the eyes, united by a transverse one behind the ocelli; the terminal joints of the antennæ are gradually attenuated to the tip; the mandibles (fig. 1*a*) are 4-dentate, the outer tooth acute, the others obtuse; the maxilla (figs. 1*b*, 1*c*) are terminated by two flat, rounded membranaceous ciliated lobes, with a small appendage near the base of the inner margin; the palpi are 6-jointed, the basal joint short, the second and fourth the longest, the third and fifth nearly equal, shorter, and inwardly setose: the sixth is twice constricted so as to appear 3-jointed (figs. 1*d*, 1*e*); the mentum is broadly cup-shaped, with the middle of the front margin produced and truncate; the labial palpi are 4-jointed, the two intermediate joints being the shortest, the fourth ovate; the neck is not more than one-third of the length of the head; the abdomen is long, narrow, and subconvex, with the intermediate segments transversely depressed at the base, and they have a second transverse impression close to the hind margin of each; the apical segment is rounded, terminated by two broad 2-jointed appendages, between which is seen the slightly exerted extremity of the male organ of generation (fig. 1*f*, terminal joint seen from below; 1*g*, seen from above).

## SPECIES 3—DERECYRTA LUGUBRIS. Westw.

## PLATE XXIII, FIG. 3.

Nigra, nitida: capite lævi, facie et dorso thoracis punctatis; abdominis segmentis margine postico piceo; antennis pedibusque nigris; alis fuscis, fascia pone medium flavescente, cellula unica marginali. (Fœm.)

Long. corp. lin. 10; expans. alar. antic. lin. 18½.

Habitat; Brazil. In Mus. Reg. Holm. (F. Sahlberg) etiam in Mus. W. W. Saunders.

The head is rather larger than in the first species; the abdomen gradually but slightly thickened beyond the middle to the penultimate joint: the joints have a slight transverse impression at the base, and a more distinct sinuated one beyond the middle of each segment; the pale fascia of the fore wing occupies the basal half of the marginal cell, the outer half of the first, and nearly the whole of the second submarginal cells, and nearly the whole of the large posteriorly adjacent cell; the central cell is oblong (not quadrate, as in *D. pictipennis*); the second recurrent vein is not straight, and is received nearly in the middle of the third submarginal cell, instead of near its base, as in *D. pictipennis*, and the central cell of the hind wing is much longer than in that species.

## FAMILY—EVANIIDÆ.

## GENUS—TRIGONALYS.

(Westw. Proc. Zool. Soc. April 14, 1835, No. 28, p. 52; *Seminota*, Spinola, in Guérin Mag. de Zool. 1840, Ins. pl. XLI; *Trigonalis* (Klug, haud recte), Spinola, l. c. 1840, Ins. pl. LIII; *Lycogaster*, Shuckard, Entomologist, p. 124.)

## SPECIES 1—TRIGONALYS LUGUBRIS.

(Westw. Trans. Ent. Soc. Lond. 1868, part iv. December, p. 328.)

## PLATE XXIII, FIG. 4.

Nigra, punctatissima, flavo varia; alis anticis margine costali fusco suffuso.

Long. corp. lin.  $4\frac{1}{2}$ ; expans. alar. antic. lin. 9.

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniæ.

Caput nigrum; clypeo, macula parva ad marginem anticum oculorum, alterisque duabus suborbitalibus, mandibulisque flavis, harum dentibus nigris; antennæ nigræ, 27-articulatæ; thorax niger, collaris margine supero, punctis duobus anticis mesonoti, alterisque duobus minutis ad latera scutelli, post-scutelli linea tenui in medio emarginata, flavis; abdomen segmentis postice flavo tenue marginatis, infra in medio profunde incisus; alæ hyalinæ, margine costali fusco pone stigma magis suffuso; pedes nigri, tibiis extus albidis.

## SPECIES 2—TRIGONALYS LACHRYMOSA. Westw.

## PLATE XXIII, FIG. 5.

Nigra, subnitida: clypeo puncto parvo flavo, thorace antice punctis duobus triangularibus, tegulis, punctisque quatuor transversis, in medio dorsi thoracis, per paria dispositis flavescens; capite fere lævi, mesonoto transverse striolato, metanoto granulato; abdomine punctato, griseo-setoso, marginibus posticis segmentorum griseis; pedibus nigris, femoribus anticis tibiisque quatuor posticis linea flava externe notatis; alis cinereo-hyalinis, stigmate venisque nigris, nubila subapicali anticarum fusciscente.

Long. corp. lin. 6; expans. alar. antic. lin. 12.

Habitat; in partibus orientalibus Insulæ Philippinensis, Mindanao (Semper). In Coll. Semper, Altonæ.

## SPECIES 3—TRIGONALYS ORNATA.

(Smith, Journal of Entomology, vol. i. p. 83.)

## PLATE XXIII, FIG. 7.

'T. nigro-fusca: capite thoraceque maculis flavis ornatis: abdomine flavo fasciato; alis hyalinis; pedibus flavis. Long. corp.  $5\frac{1}{2}$  l.

'Head large, wider than thorax, margins rounded, somewhat flattened in front; clypeus transverse; anterior margin slightly rounded and emarginate in the middle; head, mandibles, and four middle joints of antennæ sulphur yellow; mandibles with three black teeth; a minute black or rather 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; thorax and legs 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; 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.' (Smith, l. c.)

Long. corp. lin.  $5\frac{1}{2}$ ; expans. alar. antic. lin. 12.

Habitat; Mexico. In Mus. F. Smith.

## SPECIES 4—TRIGONALYS JUCUNDA.

(Westw. Trans. Ent. Soc. Lond. 1868, part iv. December, p. 327.)

## PLATE XXIII, FIG. 8.

Rufo-fusco et flavo varia, minute punctatissima: alis hyalinis, anticarum dimidio costali fusco; pedibus rufis, tibiis basi albidis; antennis fuscis, basi fulvis.

Long. corp. lin.  $4\frac{1}{2}$ ; expans. alar. antic. lin. 10.

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniæ.

Caput flavum, vertice late castaneo, nigro cincto; antennæ longæ, 24-articulatæ, apice gracillimæ, articulis 8 basalibus fulvo-rufis, apice fuscæ; thorax castaneo-rufus; collaris lateribus, maculis duabus anticis mesonoti, alteris duabus ad basin scutelli, post-scutello, et maculis duabus ad apicem metanoti, flavis; scutello nigricante; abdomen ad basin castaneum, ad apicem nigricans, segmentorum margine apicali flavo, segmentis ventralibus in medio inermibus.

## SPECIES 5—TRIGONALYS THWAITESII.

(Westw. Trans. Ent. Soc. Lond. 1868, part iv. December, p. 327, nec *Tr. pulchellus* Cresson. No. 14 infra.)

## PLATE XXIII, FIG. 9.

Minuta; castanea, flavo et nigro variegata: alis limpidis, nubila fusciscentis subapicali; antennis obscure fulvis.

Long. corp. lin.  $3\frac{1}{2}$ ; expans. alar. lin.  $6\frac{1}{2}$ .

Habitat; Insula Ceylon (Thwaites). In Mus. Hopeiano Oxoniæ (olim nostr.)

Syn.: *Trigonalys pulchella*.

Species perelegans; caput castaneum, clypeo, orbitu oculorum, maculis tribus verticalibus lineolisque nonnullis posticis flavis; thorax castaneus; marginibus superis collaris, maculis duabus conicis anticis mesonoti, alteris duabus ad latera scutelli, post-scutelli linea tenui transversa, maculisque duabus magnis posticis metanoti, flavis; abdomen segmentis dorsalibus basi nigris, apice castaneis, primo et secundo macula magna communi ovata, hujus etiam margine lato postico, flavis; segmentis apicalibus flavis, linea longitudinali media castanea; segmentis ventralibus inermibus.

## SPECIES 6—TRIGONALYS MARGINATA. (Smith MS.)

## PLATE XXIII, FIG. 10.

Nigra, metanoto piceo, punctatissima: thorace punctis majoribus et magis rugoso, necnon paullo nitido; capite depresso subnitido, vix punctato, abdomine opaco subtilissime granulato; antennis nigris; tibiis et tarsis magis piceis; alis hyalinis, omnium margine costali nigricanti, colore nigro cellulam marginalem et cellulam primam submarginalem occupante; petiolo abdominis subtrigono, supra canaliculato.

Long. corp. lin. 5; expans. alar. antic. lin.  $9\frac{1}{2}$ .

Habitat; Venezuela. In Mus. Britann.

The broad dark fore margin of the wings and the sulcated peduncle of the abdomen distinguish this species. The first large submarginal cell receives the first recurrent vein nearly at its extremity; the second submarginal cell is transversely trigonate, the second recurrent vein being continuous with the vein between the second and third submarginal cells. There is a deep transverse notch in the middle of the ventral surface of the abdomen.

## SPECIES 7—TRIGONALYS PICTIFRONS.

(Smith, Journ. Proc. Linn. Soc. Suppl. to vol. iv. 1860, p. 57.)

## PLATE XXIII, FIG. 6.

‘*Nitidus niger*, distincte punctatus: capite pedibusque albo maculatis; alis hyalinis apice fuscis.

‘Male, length  $3\frac{3}{4}$  lines, closely resembles the female, but rather more finely punctured; the extreme base of the femora and apex of the trochanters are pale; there is also a pale spot on each side of the scutellum and of the postscutellum; the second segment of the abdomen has an ovate spot on each side at its apical margin, and the third segment a very minute one beneath; the apical margin of the second segment is produced into a stout obtuse flattened spine, directed backwards and meeting a projected point on the following segment.

‘Female, length 5 lines; black, head and thorax with coarse shallow confluent punctures; the mesothorax with two oblique longitudinal impressed lines, which enclose, in the middle, one-third of the disc, the lateral portions being irregularly striated longitudinally; the scutellum with a central depression; the metathorax rounded; the face with an ovate cream-white spot outside the insertion of each of the antennæ, two at the base of the clypeus, and an oblong one at the inner margin of the mandibles; the head a little wider than the thorax; the tubercles, the anterior tibiæ in front, and the intermediate and posterior pairs at their base, white; wings hyaline, iridescent, with a dark fuscous cloud at the apex, commencing at the stigma; abdomen shining, more finely punctured than the head and thorax; the base with a central longitudinal depression; beneath more delicately and not quite so closely punctured.’

Habitat; Makassar (Wallace), in Mus. W. W. Saunders; Celebes (Wallace), in Mus. Britann. sub nomine *Tr. luctuosa* inscripta.

The other species of the curious Genus *Trigonalys* are:—

## SPECIES 8—TRIGONALYS MELANOLEUCA.

(Westw. Proc. Zool. Soc. April 14, 1835, No. 28, p. 53; Trans. Ent. Soc. 1st Ser. iii. 273; *Calius Servillei*, St. Fargeau, Guérin. Rev. Zool. 1842, p. 84; Westw. Trans. Ent. Soc. iii. p. 273.)

Habitat; Bahia, Brazil.

## SPECIES 9—TRIGONALYS DEPRESSA.

(De Geer, Mémoires, iii. pl. XXX, fig. 7; Westw. Trans. Ent. Soc. 2nd Ser. vol. i. p. 231.)

I have examined De Geer's typical specimen of this species in the Royal Museum of Stockholm. It is identical with a specimen in Paykull's Collection in the Stockholm Museum which bears the MS. name of *Sphex* (?) *nigrita*.

Habitat; Brazil, Surinam, Cayenne.

SYN.: *Trigonalys obscura*. Westw. olim Trans. Ent. Soc. vol. iii. p. 273.

*Trigonalys bipustulata*. Smith, Ann. Nat. Hist. 2nd Ser. vii. p. 28.

*Trigonalys compressa*. Smith, Trans. Ent. Soc. 2nd Ser. i. p. 178, pl. XVI, fig. 2.

*Seminota Leprieurii*. Spinola, Guérin. Mag. de Zool. Ins. 1840, pl. XLI.

We are indebted to Mr. Smith for a note on the habits of this species. In a nest of *Polistes Lanio* Fabr., from St. Salvador, in the British Museum, he found a specimen of the *Trigonalys* with its head protruding out of one of the cells. The parasite was not enveloped in any pellicle, nor had the cell been closed in any way; the wings were crumpled up at the sides of the body, as is usual in Hymenopterous insects which have not expanded them, proving very satisfactorily that it had never quitted the cell, and that *Trigonalys* is the parasite of *Polistes*. ‘The discovery,’ Mr. Smith adds, ‘is one of much interest, proving the relationship of the insect to be amongst the Pupivora, to which family it had been previously assigned by Mr. Westwood.’ (Proc. Ent. Soc. April 7, 1851; and White, Appendix to Voyage of Rattlesnake, p. 389.)

## SPECIES 10—TRIGONALYS HAHNII.

(Spinola, Guérin Mag. de Zool. Ins. 1840, pl. L; Westw. Trans. Ent. Soc. 1st Ser. vol. iii. p. 274.)

Habitat; Europe, England.

SYN.: *Trigonalys nigra*. Westw. MS., in olim; Trans. Ent. Soc.*Trigonalys Anglicana*. Shuckard, Entomologist, p. 122; Sichel. Ann. Soc. Ent. France, 1864, p. 67.*Abastus Macquartii*. St. Fargeau, Guérin, Rev. Zool. 1842, p. 84.

## SPECIES 11—TRIGONALYS PULLATA.

(*Lycogaster pullata*, Shuckard, Entomologist, p. 124; Westw. Trans. Ent. Soc. vol. iii. p. 274.)

Habitat; North Carolina.

## SPECIES 12—TRIGONALYS MACULATA.

(Smith, Ann. Nat. Hist. 2nd Ser. vol. vii. p. 28; Westw. Trans. Ent. Soc. 2nd Ser. vol. i. p. 231, pl. VII, fig. 4.)

Habitat; Moreton Bay, Australasia.

## SPECIES 13—TRIGONALYS GUNDLACHII.

(Cresson, Proc. Ent. Soc. Philad. iv. p. 10, 1865.)

Habitat; Cuba.

## SPECIES 14—TRIGONALYS PULCHELLUS.

(Cresson, Proc. Ent. Soc. Philad. vol. vi. p. 351, February, 1867.)

Habitat; Western Virginia.

## SPECIES 15—TRIGONALYS (LYCOGASTER) COSTALIS.

(Cresson, Proc. Ent. Soc. Philad. vol. vi. p. 352.)

Habitat; Massachusetts.

## GENUS—MONOMACHUS. (Klug. MSS.)

(Westw. Trans. Ent. Soc. Lond. 1st Ser. vol. iii. p. 252.)

## MONOMACHUS ANTIPODALIS.

## PLATE XXIV, FIG. 1.

Niger, nitidus, crebre et minute punctatus; abdomine elongato parum piceo; antennis pedibusque piceo-rufis, illis 14-articulatis, articulis apicalibus sensim paullo crassioribus; pedum femoribus incrassatis, tibiis duabus posticis e medio ad apicem dilatatis; alis thorace duplo longioribus hyalinis iridescentibus, stigmatibusque nigris; abdomine fere thorace triplo longiori apice deflexo. (Fœm.)

Long. corp. lin.  $8\frac{1}{2}$ ; expans. alar. antic. lin.  $7\frac{3}{4}$ .

Habitat; Melbourne, Australia. In Mus. Hopeiano Oxoniæ.

All the species of this genus hitherto known and described in my Monograph above referred to, are natives of South America. We have therefore here another instance of remarkable types of form occurring in Australia and South America, of which the Thynni, Rhipicæ, &c., are examples.

## GENUS—STEPHANUS.

This Genus comprises a considerable number of interesting insects, in which not only various peculiarities of structure exist, but considerable variation occurs in some of their characters on which it has been usual, amongst Hymenopterous insects, to establish genera. Thus the penultimate joint of the tarsi is obliquely dilated in a remarkable manner, with the terminal joint set on close to the base of the preceding; in the hind legs the tarsi vary in the number of their joints in the opposite sexes, and this character (having been supposed to be a sectional instead of a sexual one) has led to the establishment of a separate genus, *Megischus*, for the females of some of the species. The veins also in the discoidal part of the wing are more or less obsolete in some of the smaller species, and this circumstance led Mr. F. Smith to propose the formation of another genus, *Fœnatopus*, in the Journal of Proceedings of the Linnæan Society (Suppl. Zool. 1860, p. 58), to which also the MS. name of *Stenophasmus* was applied by the same gentleman in the British Museum Collection. If it should be thought advisable to establish genera or subgenera in this group on account of the more or less obsolete character of these veins, a greater number of groups must be proposed, as each modification would require separation.

## STEPHANUS DAMELLICUS. (Fœm.)

## PLATE XXIV, FIG. 2.

*Niger*: capite et antennarum basi piceo-rufis; pedunculo abdominis pedibusque rufis; capite antice trituberculato verticeque carina parva transversa instructo, linea tenui alba utrinque sub oculos; antennis gracillimis, pone medium fuscis; collari trigono-truncato, collo brevi, metanoto basi serie striolarum brevissimarum notato, pedunculo abdomen longitudine æquanti, transversim lævissime striolato; abdomine ovali nitido, oviductu longitudine caput et corpus totum æquanti; pedibus posticis crassis, coxis elongatis transversim carinatis, femoribus clavatis, subtus serratis dentibusque tribus majoribus armatis; tibiis pone medium subito dilatatis; tarsis posticis 3-articulatis (fig. 2 *e*); alis hyalinis venis distinctis nigris, stigmate nigro, basi lutescenti.

Long. corp. lin.  $4\frac{1}{2}$ ; oviduct. lin.  $4\frac{1}{2}$ ; expans. alar. antic. lin.  $6\frac{1}{4}$ .

Habitat; Australia (Damell). In Mus. Hopeiano Oxoniæ.

The mandibles (fig. 2 *a*, *b*, *c*) are robust, their inner margin (seen from above) has two obtuse teeth, seen laterally they are more irregular. The marginal cell is slightly opened at the tip, the vein forming the hinder margin of the incomplete second submarginal cell is abbreviated, and the second discoidal cell is incomplete, the vein forming its hinder margin being obsolete.

OBS.—Species proxima, *Stephanus hæmatipoda* Montrouzier, Ann. Soc. Agric. Lyon. vii. 1, p. 113. Hab. Woodlark Island.

## STEPHANUS NATALICUS. (Mas.)

## PLATE XXIV, FIG. 8.

*Fulvo-testaceus*: capite globoso; antennis fuscis articulis duobus basalibus albidis; abdomine segmentis intermediis apice nigris; femoribus posticis versus basin fasciaque lata subapicali nigris; alis fulvescenti-hyalinis iridescentibus stigmate luteo, venis discoidalibus obsoletis; femoribus posticis subtus serrulatis dentibusque tribus majoribus armatis, tarsis posticis maris quinque, fœminæ triarticulatis.

Long. corp. ♂ lin.  $3\frac{3}{4}$ , ♀ lin.  $5\frac{1}{4}$ ; oviduct. lin. 4; expans. alar. maris lin. 5, fœm. lin. 6.

Habitat; Port Natal. In Mus. Hopeiano Oxoniæ.

In the figure of the male of this insect (fig. 8) the peduncle of the abdomen is represented too long relatively to the abdomen by the length of one line. The head has three small transverse tubercles between the front of the eyes; the mandibles (fig. 8 *a*, seen from above) are, when seen laterally, obliquely truncate at the tips; the maxillæ are minute, with two membranaceous lobes. The maxillary palpi are very long and pendulous, with the three terminal joints very long (fig. 8 *b*); the labium is somewhat heart-shaped (fig. 8 *c*) and finely setose, with the front margin straight, and with a lobe on each side at the base, arising from an obconical mentum. The labial palpi are rather robust and four-jointed. The difference in the number of joints of the

hind tarsi in the opposite sexes (fig. 8 *d*, male; fig. 8 *e*, female), is noticed in the specific character given above. The tarsal unguis have a small tooth at the base, and there is a small heart-shaped pulvillus between them.

This is, I believe, the first species of this curious group, described as an inhabitant of the continent of Africa, thus proving, in conjunction with the Australian insect represented in fig. 2, that the genus is distributed over all the four quarters of the globe, species from Europe, Asia, and America having previously been described. *S. (Fœnatopus) ruficeps* Smith, is from Macassar, *S. Indicus* Westw., as its name imports, from India; and in the British Museum is a species from Solomon's Island (New Hebrides), of which the following is the character:—

#### STEPHANUS SALOMONIS.

Niger: capite utrinque linea alba pone oculos, collo postice transverse striato, metanoto areolato, coxis posticis transverse striatis, dimidio apicali femorum posteriorum et basali tibiaram castaneo, tibiis anticis parum dilatatis basi rufis; tibiis tarsisque intermediis castaneis; alis parum flavescentibus, venis omnibus mediis discoidalibus oblitteratis; abdomine in individuo unico perdito.

Expans. alar. antic. lin. 10½.

#### GENUS—OPHIONELLUS. Westw.

Genus anomalum, abdomine longo compresso curvato ut in *Ophione*, metanoto apice retuso, necnon alarum venis discoidalibus et apicalibus oblitteratis ut in *Stephano*, distinctum: aliis characteribus cum *Ichneumonibus* adscitis nonnullis, e magis aberrantibus, congruit; caput rotundum convexum, angulis posticis acutis, oculi magni laterales; antennæ longæ filiformes, multi-articulatæ articulis 30-40; mandibulæ (fig. 3 *a*) oblongæ dentibus duobus apicalibus robustis acutis armatæ; maxillæ (fig. 3 *b*) subbilobatæ; palpi 5-articulatis, articulis primo secundo et tertio longis, quarto et quinto brevibus setosis; mentum oblongum compressum basin versus angustum (fig. 3 *c*), labium membranaceum parvum internum ultra apicem menti parum productum; palpi labiales 3-articulati articulis æqualibus; collare inconspicuum; mesothorax segmento antico magno conico punctato in medio longitudinaliter sulcato; scutellum parvum transversum; metanotum magnum longitudinaliter 7 carinatum, interstitiis transverse striolatis, postice attenuatum; abdomen thorace quintuplo longius, compressum curvatum apice deflexo, articulo basali seu pedunculo elongato dimidio basali tenuiori; secundo longissimo, tertio, quarto, quinto et sexto longis fere æqualibus, septimo minuto; oviductus cum valvis duobus, brevis paullo recurvus; pedes longi tenuissimi; alæ delicatæ, anticæ stigmatibus tenuissimis fere ad apicem alæ extenso, cellula unica marginali, cellulaque unica submarginali (e cellula prima ordinaria submarginali et prima discoidalibus conjunctis formata) cellulaque minuta discoidalibus, venis in regione apicali alarum oblitteratis.

#### SPECIES 1—OPHIONELLUS FRAGILIS. Westw.

#### PLATE XXIV, FIG. 3.

Niger: capite antice punctis duobus albis, mesothorace punctato, metanoto sulcato et transverse striolato; pedibus piceo-nigris, coxis pedum 2 anteriorum basi tibiaram 2 posteriorum albis; alis hyalinis, parum iridescentibus, venis gracilibus piceis, abdomine glabro.

Long. corp. cum. abd. lin. 10; expans. alar. antic. lin. 7.

Habitat; Amazonia (Bates) et Brasilia (Swainson). In Mus. Hopeiano Oxoniæ.

#### GENUS—AULACUS. Jurine.

The following descriptions of new species are supplemental to those published by me in the Third Volume of the First Series of the Transactions of the Entomological Society of London (p. 260), and in the First Volume of the Second Series (p. 222):—



## SPECIES 1—AULACUS NOBILIS.

(Westw. Trans. Ent. Soc. Lond. 1868, part iv. December, p. 329.)

PLATE XXIV, FIG. 4.

Niger, nitidus: mesonoto valde gibboso, retuso, rugoso, et antice tubereulis duobus conicis porrectis armato, supra rufo-fulvo; alis fuscis, violaceo-micantibus, stigmatē nigro, omnibus macula trigona, paullo ante medium, fasciaque lata substigmatali, hyalinis; abdomine brevi clavato; oviductu abdomine paullo longiori, valvulis nigris. ♀.

Long. corp. lin. 6; expans. alar. lin. 11.

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniæ.

## SPECIES 2—AULACUS FORMOSUS.

(Westw. Trans. Ent. Soc. loc. cit. p. 330.)

PLATE XXIV, FIG. 5.

Elongatus, læte flavus, nigro variegatus: alis subhyalinis, stigmatē nigro, nubilaque apicali anticarum infumatis; capitis vertice nigro, lineis (vel punctis) duabus flavis; mesonoto transverse striatulo, macula trigona antica, alterisque duabus dorsalibus, scutello et metanoto maculis parvis nigris notatis; abdomine flavo, basi et fasciis nigris; pedibus flavis, posteriorum duorum trochanteribus, basi et apice tibiæ, tarsisque nigris; oviductus valvulis nigris. ♂ et ♀.

Long. corp. ♂ lin. 6, ♀ lin. 7; expans. alar. antic. ♂ lin. 12, ♀ lin. 14.

Habitat; Australia Australiori, Melbourne (Bakewell). In Mus. Hopeiano Oxoniæ (olim nostro) et Britann. (cum nomine MS. Smithiano supra usitato inscriptus).

## SUB-GENUS—AULACINUS.

## AULACUS (AULACINUS) MERENS.

(Westw. Trans. Ent. Soc. loc. cit. p. 331.)

PLATE XXIV, FIG. 6.

Brevis, subopacus, niger: capite subgloboso, antennis brevibus, fulvis, articulis 2 basalibus et 2 apicalibus nigricantibus; thorace brevi-ovato, antice subretuso, striatulo; alis subhyalinis, stigmatē et venis nigris, cellulis 4 submarginalibus distinctis, secunda late trigona, apice supra truncato, tertia subquadrata, vena cellulam secundam claudente cum vena secunda recurrenente continua; venis alarum posteriorum obsoletis; pedibus nigris, tibiis (nisi apice posteriorum) tarsisque brunneis; abdomine brevi, clavato; oviductu abdomine breviori; valvulis nigris. ♀.

Long. corp. lin. 5½; expans. alar. antic. lin. 8½.

Habitat; Adelaide, Australia. In Mus. Hopeiano Oxoniæ.

The variation in the veins of the wings has rendered it necessary to propose a separate subgenus for this species.

*Genera duo incertæ sedis.*

## GENUS—NOMADINA.

(Westw. Trans. Ent. Soc. Lond. 1868, part iv. December, p. 328.)

Genus novum, e sectione Terebrantium; Trigonalidi forsitan proximum, Nomadam (Apidarum) quodammodo simulans.

Corpus breve robustum; caput transversum, lobo transverso antico, in quo insident antennæ, thorace breviores, sat crassæ, 16-articulatæ (fig. 7c), articulo primo brevi; ocelli 3, parvi; mandibulæ (fig. 7a) latæ, subquadratæ, fere planæ, 4-dentatæ; reliquæ oris partes fere obsoletæ (fig. 7b); palpi labiales brevissimi, subconici; thorax ovatus, collari supra inconspicuo; pedes breves, robusti, simplices, unguibus bifidis (fig. 7d).

pes anticus); alæ anticæ cellula una marginali, 4 submarginalibus; prima magna accepit venam primam recurrentem, secunda parva trigona, tertia parva quadrata accepit venam secundam recurrentem; cellulis 3 discoidalibus; abdomen thorace paullo majus, depressum, subspatulatum; segmento tertio ventrali in tuberculum medium conicum elevato, quarto inciso.

NOMADINA SMITHII.

(Westw. Trans. Ent. Soc. loc. cit.)

PLATE XXIV, FIG. 7.

Lutea, fusco varia: capite maculis 4 parvis inter et pone oculos; thorace linea media ad post-scutellum extensa, maculisque duabus oblongis mesothoracis, fuscis; margine postico segmentorum abdominalium albido; alis concoloribus, stigmatibus venisque castaneis.

Long. corp. lin. 5; expans. alar. antic. lin. 10½.

Habitat; Amazonia (Bates). In Mus. Smith.

GENUS—RHOPALOSOMA.

(Cresson, Proc. Ent. Soc. Philadelph. vol. iv. 1865, p. 58.)

Caput mediocre, thoracis latitudine; oculi ovales, margine interno incisura semicirculari (fig. 9 a); ocelli magni; mandibulæ parvæ, 3-dentatæ (fig. 9 b); antennæ ♀ graciles, filiformes, alis longiores, maris 13-, feminae 12-articulatæ, non geniculatæ, articulo 1mo parvo (fig. 9 e); palpi valde elongati, 6-4-articulati (fig. 9 c, maxilla); labium, ut videtur, 3-lobatum (fig. 9 d). Thorax elongato-ovatus, collare brevi, lateraliter ad tegulas extenso, in medio subtus profunde impresso (fig. 9 f); petiolus abdominis thorace longior; abdomen elongato-ovatum (fig. 9 l, maris); pedes longi, graciles, haud spinoso-denticulati; calcaribus tibiæ valde elongatis (fig. 9 g); tarsis omnibus elongatis, simplicibus in maribus, membranaceo-dilatatis in feminis (fig. 9 k); unguibus dente medio subtus armatis (figs. 9 i, 9 k); pulvilloque magno recurvo instructis; alæ mediocres, anticæ haud longitudinaliter plicatæ, cellula una marginali, 3 submarginalibus, prima et secunda æqualibus, secunda accepit venam primam recurrentem valde obliquam in medio marginis postici; secunda recurrente, valde indistincta, cellulam tertiam discoidalem claudente, transversa, et apicem cellulæ secundæ attingente; alæ posticæ ad apicem venæ pobrachialis incisæ.

SYN.: *Sibyllina*. Westw. Trans. Ent. Soc. Lond. 1868, part iv. December, p. 329.

This curious genus was considered (doubtfully) by the late Mr. Haliday (one of the most profound Hymenopterologists) as one of the Sphegidae, with smooth legs, near *Pelopæus*, as appears by a note attached to a specimen of the type in the Collection of the British Museum<sup>1</sup>.

On exhibiting a specimen of this insect at a meeting of the Entomological Society, I expressed an opinion of its relations embodied in the following passage, subsequently published in the Transactions of the Society:—  
‘Genus novum Aculeatorum, quoad affinitates animum exerceans, sed ad familiam Vespidarum ut mihi videtur magis approximans. Corpus elongatum, Belonogastri (Vespidarum) vel *Pelopæi* (Sphegidarum) habitu, ♂ etiam Formicarum nonnullarum antennis elongatis, non dissimile.’

Mr. F. Smith, on the same occasion, also considered that ‘it had more characters in accordance with those of the ants than with any other family.’ (Proc. Ent. Soc. Nov. 16, 1868.)

Mr. Cresson, who first described this genus, placed it undoubtedly amongst the multitudinous genera of Ichneumonidae (which caused me to overlook it), remarking, ‘I am at present unable to define the true position of this remarkable genus. It seems to form a connecting link between the *Ichneumones genuini* and the *Adsciti*; from the former it differs by the paucity of the antennal joints, and from the latter, by the anterior wings having a faint indication of a second recurrent nervure. Its structure places it, beyond doubt, in the family Ichneumonidae, whilst its general appearance, together with the arrangement of the wing-veins, seems to place it among the *Adsciti*, where I will allow it to remain, for the present.’

Subsequently, Mr. Smith (without being aware that the insect had been thus commented upon by Mr. Cresson), in a paper communicated to the Entomological Society on the 4th Jan. 1869 (Trans. 1868, Proc. p. li.) discussed the affinities of this genus at length with great acumen, contending, ‘1st, That all wasps have

<sup>1</sup> ‘Antennæ fem. not geniculate; hind wings incised at end of the pobrachial vein; fore wings with a third discal areole. See also form of thorax. I think a Sphegid, with smooth legs, near *Pelopæus*.’ (Haliday MS. in Brit. Mus.)

the wings folded, whilst they are flat in *Rhopalosoma*. 2nd, *Rhopalosoma* has only two submarginal cells, whilst every known wasp has either three or four. 3rd, Every true wasp has three discoidal cells in the fore wings, whilst *Rhopalosoma* has only one. 4th, The prothorax [collar] in all Vespidae extends backwards to the tegulae, which is not the case in *Rhopalosoma*. 5th, Lunate eyes (which *Rhopalosoma* possesses) are found in *Mutilla*, *Scolia*, *Sapyga*, *Pemphredon*, and *Philanthus* amongst the Aculeata, and in the Ichneumonideous genera *Pimpla*, *Campoplex*, *Anomalon*, *Ophion*, and some others. 6th, The tarsal unguis (toothed in *Rhopalosoma*) are simple in the social Vespidae, although dentate in the solitary wasps.' On the other hand, Mr. Smith regarded the insect as belonging to the Ichneumonides. '7th, Because, amongst the minute [Adscitous] groups, species exist having only 12-jointed antennae (*Ephidrus*), and others having 13-jointed antennae (*Trioxys*).' 8th, Mr. Smith states 'that in *Rhopalosoma* a distinct second joint in the trochanters is quite as visible as in the Ichneumonideous genus *Metopius*. 9th, The antennae of every known species of wasp are geniculate, which is not the case in *Rhopalosoma*. 10th, The prothorax of *Rhopalosoma* is of the same structure as in *Ophion* and *Anomalon*. 11th, The ocelli are large and prominent in *Rhopalosoma*, as in the two last-named genera; in the Vespidae they are much smaller, and usually more sunken than prominent. 12th, The broadly dilated tarsi in *Rhopalosoma* do not occur in Vespidae, but are peculiarly characteristic of *Anomalon*. 13th, The basal segment of the abdomen of *Rhopalosoma* is narrowed into a petiole, as in *Ophion* and *Anomalon*. 14th, The sting of *Rhopalosoma* agrees with that of *Ophion* and *Anomalon*, as well as *Belonogaster* and *Vespa*.'

Although thus pointing out the relationship of the genus with *Ophion* and *Anomalon*, Mr. Smith admitted its want of 'strong affinity with any other known insect.'

To these objections I have to reply as follows:—

1. Some of the most aberrant wasp genera, and the remainder of the Aculeata, have flat wings.
2. *Rhopalosoma* has three submarginal cells. In all the genuine Ichneumons, the first submarginal and the anterior discoidal cells are thrown together. Even in those Adscitous which have three distinct submarginal cells, the first (and only) recurrent vein enters the first submarginal cell, and not the second, as in *Rhopalosoma*.
3. *Rhopalosoma* has three discoidal cells, the lower outer one having its extremity partially closed by a transverse nearly obsolete vein.
4. The collar of *Rhopalosoma* extends back laterally to the tegulae, although not seen dorsally at the sides of the thorax.
5. The eyes of *Rhopalosoma* are not lunate, but oval, with a small emargination in the middle of the inner margin.
6. The unguis in *Rhopalosoma* are furnished beneath with two obtuse spines.
7. No species of Adscitous Ichneumon, nor indeed any other terebrant Hymenopterous insect, is known possessing 13-jointed antennae in the males and 12-jointed in the females. This is one of the leading characters of the Aculeata.
8. I cannot discover a second joint in the trochanters of *Rhopalosoma*. Its existence is one of the leading characters of the terebrant Hymenoptera. In certain positions, a faint appearance of an articulation near the base of the femora may be observed. In the Ichneumons the two joints of the trochanters are distinct, and nearly equal in size in many species.
9. The long, straight, filiform structure of the antennae of *Rhopalosoma* is unquestionably a strong character against its belonging to the Vespidae.
10. The front of the thorax of *Rhopalosoma* is similarly formed to that of *Ophion*.
11. The ocelli of *Rhopalosoma* agree with those of *Ophion*.
12. I know no Ichneumonideous nor indeed any other Hymenopterous insect with feet like those of the female *Rhopalosoma*, whereas they are simple in the male.
13. The pedunculated basal segment of the abdomen of *Rhopalosoma* occurs in many groups of Aculeata, as well as in many of the Terebrantia.
14. The sting of *Rhopalosoma* is a genuine aculeus, with a broad sheath.
15. The lobed base of the hind wing, and the 6-jointed maxillary palpi, which latter character occurs in no genuine Ichneumon, must not be overlooked in determining the relations of the genus.

From the preceding discussion it will doubtless be considered that, whilst in several important respects the insect before us agrees with some of the Ichneumonidae, it is, in others equally important, allied to the Aculeata, forming by itself a most exceptional and isolated section.

## SPECIES UNICA—RHOPALOSOMA POEYI.

(Cresson, Proc. Ent. Soc. Philadelph. vol. iv. p. 58; *Sibyllina enigmatica*, Westw. loc. cit. supra.)

PLATE XXIV, FIG. 9.

Tota luteo-fulva, lævis, vix nitida: mandibulis apice nigris, vertice apiceque abdominis infuscatis; unguibus tarsorum fuscis; alis hyalinis, lutescente parum tinetis, venis pallide fuscis.

OBS.—Ophioni luteo coloribus similis.

Long. corp. lin.  $4\frac{1}{2}$ –6; expans. alar. antic. lin.  $6\frac{1}{4}$ –9.

Habitat; Insulæ St. Dominici, Hayti (Dom. Tweedy), Cuba (Dom. Gundlach). In Mus. Britann., Hopeiano Oxoniæ, Reg. Holm., Ent. Soc. Philadelph. DD. Smith et Gundlach.

## FAMILY—CYNIPIDÆ.

## GENUS—LEIOPTERON. Perty.

## SPECIES 1—LEIOPTERON BIFASCIATUM.

PLATE XX, FIG. 12.

Nigrum, griseo-setosum: capite punctato, spina parva centrali frontali armato; mesothorace transverse rugoso, scutello rude punctato, ad basin impressionibus binis rotundatis, apice bituberculato; pedunculo ad basin paullo inflato, longo cylindrico longitudinaliter sulcato; abdomine lævissimo compresso nitido; antennis longis, filiformibus, 14-articulatis; pedibus nigris, tarsis piceis; alis hyalinis fascia curvata media alteraque latiori inter medium et apicem alæ fuscis. (Mas.)

Long. corp. lin. 3; expans. alar. lin.  $5\frac{1}{2}$ .

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniæ.

## SPECIES 2—LEIOPTERON NIGRIPENNE.

Nigrum: capite punctato antice inermi; mesonoto rugoso, scutello basi impressionibus duabus rotundatis glabris, apiceque bituberculato; metanoto apice angulato angulis posticis extus porrectis, pedunculo elongato cylindrico sulcato; abdomine ovali compresso nitidissimo; antennis longis, filiformibus 14-articulatis; pedibusque totis nigris; alis nigro-fuscis, purpureo nitidis. (Mas.)

Long. corp. lin. 5; expans. alar. antic. lin. 10.

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniæ.

## SPECIES 3—LEIOPTERON FUSCICORNE.

Nigrum, nitidum grosse punctatum: capite inter antennis spina parva armato; antennis elongato-clavatis 13-articulatis, piceis, articulo primo basi rufo; scutello basi biimpresso, apice inermi; pedunculo dimidium thoracis fere æquanti, supra sulcato; abdomine majori apice acutissimo, apice oviductûs detecto; alis hyalinis antice flavescensibus venis obscuris; posticis in medio nubila parva obscuriori. (Fœm.)

Long. corp. lin.  $4\frac{1}{3}$ ; expans. alar. antic. lin.  $7\frac{1}{2}$ .

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniæ.

## SPECIES 4—LEIOPTERON ABDOMINALE.

Nigrum, nitidum: capite rugoso, antice inermi; thorace transverse rugoso; scutello basi biimpresso, apice inermi; antennis apice parum crassioribus 13-articulatis; pedunculo abdominis dimidium thoracis superante; abdomine magno ovato compresso castaneo-rufo, nitido, apice in spinam acutissimam terminato; alis fuscis, anticis ante apicem fascia pallidiori notatis (interdum fascia in medio interrupta guttas 2 pallidas subapicales formanti). (Fœm.)

Long. corp. cum oviduct. exsert. 7; expans. alar. antic. lin.  $10\frac{1}{3}$ .

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniæ.

## SPECIES 5—LEIOPTERON APICALE.

Nigrum, nitidum: capite rugoso, antice inermi; antennis longis filiformibus, 14-articulatis; thorace supra transverse rugoso, scutello basi biimpresso, apice bituberculato; pedunculo thoracis longitudine fere æquali, sulcato; pedibus nigris; alis hyalinis, basi apiceque anticarum fusciscentibus; venis in medio alarum lutescentibus. (Mas.)

Long. corp. lin. 5; expans. alar. antic. lin. 9.

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniæ.

## SPECIES 6—LEIOPTERON SUBPETIOLATUM.

Nigrum, rugose punctatum: capite antice piceo-rufo, spina parva inter antennas; antennis fuscis 13-articulatis, articulis apicalibus compressis et sensim dilatatis; scutello basi biimpresso, apice inermi; pedunculo abbreviato supra sulcato; abdomine ovali compresso, terebra longe pone apicem abdominis exserta (fig. 12 e); alis flavido hyalinis, fascia indistincta media guttaque minuta obscuriori ultra cellulam posita; pedibus nigro-piceis.

Long. corp. lin.  $3\frac{1}{2}$ ; expans. alar. antic. lin. 6.

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniæ.

## SPECIES 7—LEIOPTERON CLAVICORNE.

Nigrum, rugose punctatum: capite inter oculos spina parva armato, facie, antennisque piceis, his 13-articulatis apicem versus compresso-clavatis, articulis 5 apicalibus præsertim majoribus; scutello biimpresso, apice integro; pedunculo subbrevis sulcato; abdomine magno ovali compresso apice acuminato; alis hyalinis, nubila transversa ante medium alarum obscuriori venas crassiores includente. (Fœm.)

Long. corp. cum oviduct. exsert. lin.  $3\frac{1}{2}$ ; expans. alar. antic. lin. 5.

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniæ.

## SPECIES 8—LEIOPTERON UNIFASCIATUM.

Nigrum, rugosum: capite inter antennas tuberculo parvo conico instructo; mesonoto transverse rugoso, scutello areolato, biimpresso, apice obtuse bituberculato, pedunculo fere thoracis longitudine, sulcato; antennis corpore paullo longioribus, 14-articulatis, apicem versus paullo crassioribus (fig. 12 e); alis hyalinis, anticis pone medium fascia lata fusca, antice obscuriori, tegulis pedibusque rufis, posticis obscurioribus.

Long. corp. lin. 2; expans. alar. antic. lin.  $4\frac{2}{3}$ .

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniæ.

## FAMILY—CHALCIDIDÆ.

## GENUS—LEUCOSPIS. SUB-GENUS—POLISTOMORPHA.

(Westw. in Germar's Zeitschr. f. d. Entomologie, vol. i. p. 265.)

Sub-genus intermedium inter Leucospides et Chalcides: abdominis articulo basali pedunculum crassum formante, oviductu interno, haud supra dorsum extensum; pedibus posticis minus incrassatis; facie versus os attenuata.

## SPECIES 1—POLISTOMORPHA SURINAMENSIS.

(Westw. in Germar's Zeitschr. f. d. Entomologie, vol. i. p. 265, pl. IV, fig. 5.)

## PLATE XXV, FIG. 2.

Fulva, obscura: thorace lineis nonnullis fuscis; alis fulvescentibus; abdomine elongato; femoribus posticis 10-12-denticulatis.

Long. corp. lin.  $7\frac{1}{2}$ ; expans. alar. antic. lin. 14.

Habitat; Surinam, in Mus. Reg. Berol., et Amazonia (Bates), in Mus. Hopeiano Oxoniæ.

Fulva, crebre punctata haud nitida; caput fere thoracis latitudine, facie versus os attenuata, oculis lateralibus, mandibulis bidentatis, antennis fulvis; thorax elongatus, ovatus, antice et postice truncatus; prothorace in collum parvum at distinctum formato; collare transverso, fascia tenui centrali fusca; mesothoracis scuto transverso, macula parva triangulari centrali (antice latiori) lineisque duabus obliquis lateralibus fuscis, parapleuris distinctis; scutello triangulari postice rotundato, macula majori centrali fusca; metathorace elongato subquadrato, spiraculis lateralibus distinctis, linea tenui fusciscenti; abdomen elongatum sexannulatum segmentis tribus primis brevibus secundo breviori, quarto maximo ovato, latiori; duobus ultimis minutis, spiraculis lateralibus distinctis, fulvum segmento primo interdum macula parva triangulari fusca lineaque tenui dorsali laevi; oviductu haud exserto; pedes fulvi elongati, femoribus posticis minus incrassatis quam in *Leucospidibus*, subtus 10-12-denticulatis, dente primo maximo dentibusque 5, 6, et 7 reliquis majoribus; coxis posticis extus dente armatis; alae flavescens, venis distinctis stigmatique fuscis, venis subobsoletis fulvescentibus.

## SPECIES 2—POLISTOMORPHA FASCIATA.

PLATE XXV, FIG. 3.

Fulva, minute punctata: capite et thorace nigro maculatis; abdomine fulvo fasciis flavis; alis flavescens; femoribus posticis 7-dentatis.

Long. corp. lin. 6; expans. alar. antic. lin.  $12\frac{1}{2}$ .

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniae.

Caput fulvum, margine postico, verticeque inter oculos et ocellos nigris; thorace nigro variegato, collare macula media trigona; mesonoto, maculis tribus elongatis, intermedia obovata; scutelli basi et metanoti dorso bivittatis, lateribus spina media armatis; abdomine fulvo-rufescente, setoso, flavo-fasciato; antennis pedibusque fulvis, femoribus posticis supra vitta flavescens, spina 1 media magna fulva, alterisque 6 minoribus apicalibus nigris; alis fulvo-hyalinis, apicem versus grisescentibus, venis stigmatique fuscis.

## SPECIES 3—POLISTOMORPHA SPHEGOIDES.

(Walker, Journal of Entomology, vol. i. p. 22.)

PLATE XXV, FIG. 1.

Fœm. Piceo-nigra punctata: antennis rufis, basi nigris; prothorace linea postica transversa brevi pallide fulva; mesothorace lineis duabus pallide fulvis postice approximatis; tegulis punctisque duobus scutelli fulvis; metanoto supra longitudinaliter carinato; abdomine cinereo-pubescenti, segmento primo basi et apice fulvo fasciato; pedibus tibiis tarsisque anterioribus fulvis; femoribus posticis fulvo pallidissimo vittatis 6-dentatis; alis luridis.

Long. corp. lin. 9; expans. alar. antic. lin.  $18\frac{1}{2}$ .

Habitat; Brazil, St. Paul (Bates). In Mus. Britann. et Oxoniae.

Very thickly and minutely punctured; head in front and mouth much prolonged; epimera partly pale tawny; metathorax with a dorsal ridge and an elevated border; abdomen keeled above and beneath; first segment linear, with a tawny hind border, much narrower than the other part, which is elongate pyriform; hind femora armed with six rather large teeth.

## GENUS—LEUCOSPIS.

## SPECIES 1—LEUCOSPIS DARLINGII.

PLATE XXV, FIG. 4.

Nigra, punctata, aurantio-rufo variegata: alis fuscis purpureo nitidis, articulo basali antennarum fulvo; femoribus posticis obscuris; capite viridi parum tineto; collare fulvo, lateribus, margine antico, lineaque media tenui abbreviata nigris; mesonoto nigro, lateribus anguste, maculisque duabus dorsalibus ovalibus fulvis; tegulis fulvo marginatis; scutello fulvo angulis anticis lateralibus nigris; metanoto nigro; abdominis segmento pedunculari fulvo-rufo, margine tenui nigro; secundo nigro, tertio fulvo, quarto nigro, quinto fulvo; oviductu

recurvo, ad medium scutelli extenso; pedibus fulvis; tibiis 4 anticis extus obscurioribus; coxis posticis in medio supra spina armatis, femoribus piceis supra magis fulvis, spina 1 majori, 8 minoribus armatis; alarum venis fuscis.

Long. corp. lin.  $7\frac{1}{2}$ ; expans. alar. antic. lin.  $13\frac{1}{2}$ .

Habitat; Darling Downs, Australia. In Mus. Hopeiano Oxoniæ.

## SPECIES 2—LEUCOSPIS CUPREO-VIRIDIS.

PLATE XXV, FIG. 5.

Æneo-viridis, punctata cupreo-variegata: antennis pedibusque testaceis; alis fusco-flavescentibus, venis fuscis; collare transverso rufo, in medio transverse obscuriori; mesonoto obscure æneo lateribus margineque postico rufis, scutello et postscutello viridibus; metanoto cupreo-rufo æneo tincto; abdomine æneo-viridis, griseo setoso; oviductu rufo, ad basin segmenti tertii tantum attingente; pedibus testaceis, coxis posticis extus obtuse angulatis; femoribus subtus spina 1 magna, 8 minoribus armatis. (Fœm.)

Long. corp. lin.  $3\frac{1}{2}$ ; expans. alar. antic. lin. 6.

Habitat; Sta. Martha, New Granada. In Mus. Hopeiano Oxoniæ.

## SPECIES 3—LEUCOSPIS REGALIS.

PLATE XXV, FIG. 6.

Rugoso-punctata: capite aurato; antennis nigris, articulo ultimo rufescenti; thorace supra purpureo, viridi paullo tincto; abdomine concolori, segmentis ad apicem paullo constrictis; oviductu rufo, usque ad postscutellum recurvo; pedibus purpureis viridi tinctis; coxis posticis extus ad apicem angulatis; femoribus posticis subtus tuberculo in loco spinæ magnæ, spinisque 8 parvis (intermediis majoribus) armatis; alis brunneo-fuscis venis obscurioribus.

Long. corp. lin. 7; expans. alar. antic. lin. 11.

Habitat; Philippine Island Luzon, Camiguin (D. Semper). In Mus. D. Semper, Altonæ.

## SPECIES 4—LEUCOSPIS ANTHIDIODES.

PLATE XXV, FIG. 7.

Brevis crassa, nigra, opaca, punctata, luteo-setosa: collaris margine antico tenui, postico lato flavis; mesonoto lateribus, tegulis et scutelli margine postico fulvis; abdominis segmentis 1 et 2 postice setis luteis marginatis, quarto et reliquis fulvis, segmento primo pedunculari late campanulato; antennis piceis, articulo basali subtus flavo in medio nigro; pedibus brunneis, coxis posticis flavo marginatis; femoribusque intus striola flava notatis, his subtus spina 1 magna alterisque 7 minoribus armatis; oviductus squama basilari fulvo, utrinque nigra guttato; oviductu, vix ad postscutellum retro extenso; alis flavidis venis brunneis.

Long. corp. lin. 4; expans. alar. antic. lin.  $9\frac{1}{2}$ .

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniæ.

## GENUS—METAMORPHA.

(Walker, Trans. Ent. Soc. 3rd Ser. vol. i. p. 347.)

Fœm. Corpus læve, nitens: caput transversum subquadratum, collo distincto, fronte verticali; palpi gracillimi; antennæ graciles pubescentes (mutilated in the specimen described); prothorax subquadratus bene determinatus; humeris rotundatis; mesothorax elongatus, parapsidum suturis distinctissimis; scutello conico, parapteris magnis; metathorax scaber, bene determinatus; petiolus brevissimus; abdomen compressum valde gibbosum, thorace brevius; oviductus recurvus longissimus; pedes sat graciles; alæ longæ angustæ; tibiis calcaribus brevibus apicalibus; coxis posticis longis.

‘With the humerus emitting into the disc, at a little beyond half its length, a branch from whence the two spurious veins proceed; ulna rather less than one-third of the length of the humerus; radius extending nearly to the tip of the wings, more than twice the length of the ulna; cubitus very short, furcate.’

Mr. Walker considers that 'this genus belongs to the Tormidæ, and is most nearly allied to *Megastigmus*, but it has also a tendency to the structure of the *Leucospidæ*, and shews the transition between these two families'—a position I am not inclined to adopt, failing to observe any relationship with *Leucospis*.

The mandibles are strong and armed with three teeth, as in pl. XXV, fig. 10 *a*, the inner part representing the fourth tooth being broader and obtuse.

The British Museum specimen has the terminal joints of the antennæ broken off, the second joint of the antennæ very small, and the third minute and annular, the fourth and following much longer than the second, and setose.

I regret that the rule of priority compels me to adopt the absurd names, both generic and specific, given to this insect by Mr. Walker.

SPECIES 1—METAMORPHA LEUCOSPOIDES.

(Walker, Op. cit. supra, p. 346.)

PLATE XXV, FIG. 8.

'Fœm. Nigra: caput antice flavum, nigro-vittatum, oculis flavo-submarginatis; prothorax flavo-quadrimalatus; parapsides paraptera et scutellum flavo-marginata; abdomen basi subtusque flavum; segmentis flavo-marginatis; pedes lutei, coxis flavis nigro-variis, femoribus posticis nigris apice luteis; tibiis tarsisque posticis flavis; alæ lurido-cinereæ, venis nigris.'

Length of the body, 5–6 lines; oviduct, 10 lines; expansion of the fore wings, 10 lines.

Habitat; Bootan (Pemberton), in Mus. Britann.; Assam, in Mus. Hopeiano Oxoniæ (olim nostr.)

I found a specimen of this interesting species lying dead and loose in a box of insects received from Assam, sent me by Major Jenkins. I had no means of determining whether it had been developed from any of the insects, or had accidentally entered the box, or had fed upon some insect which might have attacked the wood or cork of the box.

GENUS—EUDOXINNA.

(Walker, Trans. Ent. Soc. 3rd Ser. vol. ii. p. 206.)

Fœm. Corpus sat robustum; caput et thorax punctata subpubescentia, caput brevissimum, verticale thoracis latitudine; facies subdepressa, striata, striis versus os convergentibus (fig. 9 *a*); mandibulæ falcate intus dente unico armatæ; palpi breves; antennæ 9-articulatæ, filiformes, fronte insertæ; articulus primus subelavatus, subcompressus tuberculo parvo globoso subtus prope apicem instructus, secundus brevissimus, tertius et sequentes lineares subæquales pubescentes parum attenuati, nonus apice conicus; prothorax transversus, lateribus rotundatis; mesothorax brevis; parapsidum suturæ conspicuæ; paraptera et epimera magna; scutellum vix bidentatum; metathorax bene determinatus, fere verticalis; abdomen læve valde compressum (fig. 9 *b*), thorace non longius; segmenta antice contracta; pedes læves simplices breviusculi; femora clavata; tibiæ compressæ, omnes præsertim intermediae extus pone medium dilatatæ; alæ anticæ latæ non longæ.

Syn.: *Sosytra*. Walker olim, Trans. Ent. Soc. Lond. 3rd Ser. vol. i. p. 370.

'Humerus extending at some distance from the costa; ulna about one-fifth of the length of the humerus; radius about twice the length of the ulna; cubitus somewhat shorter than the ulna.'

Mr. Walker states that this 'very remarkable genus partakes of the characters of the *Chalcidites* and of the *Cynipites*, and seems to differ from them both as much as they do from each other. It agrees with the *Chalcidites* in the structure of the wing veins, and may be considered as the type of a new family of that tribe.'

Except in having the abdomen compressed and the scutellum slightly bidentate (characters found in many other *Chalcididæ*), I can perceive no relationship with the *Cynipidæ*. The genus appears nearest related to the *Eurytomidæ*.



## SPECIES 1—EUDOXINNA TRANSVERSA.

(Walker, Op. cit. supra, p. 371.)

PLATE XXV, FIG. 9.

‘Fœm. Flavescente fulva: caput nigrum lituris anticis flavis; prothorax lineis duabus transversis nigris, prima interrupta, secunda abbreviata; scuto linea nigra; tibiæ posteriores ex parte nigricantes; alæ cinereæ, venis fulvis lurido-marginatis.’ (Walker, l. c.)

Long. corp. lin. 4; expans. alar. antic. lin. 7.

Habitat; Amazonia, Ega (Bates). In Mus. Britann.

## GENUS—CHÆTOSPILA.

Caput quadratum antice trilobatum; mandibulæ subtrigonæ apice obliquo 4-dentato (pl. XXV, fig. 10 *a*); maxillæ lobo apicali membranaceo rotundato setoso, palpis maxillaribus 4-articulatis articulis primo et tertio brevibus (fig. 10 *b*); mentum oblongo-ovale; labium oblongum in medio paullo constrictum apice rotundato, palpis labialibus biarticulatis articulis æqualibus (fig. 10 *c*); antennæ 8-articulatæ (absque articulis annuliformibus) articulis 2–7 longitudine fere æqualibus at sensim crassioribus, ultimo majori longo-ovali (fig. 10 *d*); collare semi-ovale capite angustius; mesonoti scutum breve, scutellum magnum; pedunculus abdominalis brevis; abdomen magnum ovale; alæ amplæ, setis longis marginatæ, vena subcostali trientem costæ vix attingente, apice ejus in fasciculum setarum erectarum terminato, ramo stigmatali minuto; pedes graciles.

The remarkable fascicles of short erect bristles at the junction of the subcostal vein with the costa is quite peculiar, and, so far as I have observed, does not occur in any other insect. The insect is closely allied to *Cerocephala*, from which it differs in the short peduncle to the abdomen and the 8-jointed antennæ, these organs in *Cerocephala* being distinctly 10-jointed, the eighth and ninth being equal in size to the two preceding joints.

## CHÆTOSPILA ELEGANS.

PLATE XXV, FIG. 10.

Æneo-viridis, nitida, lævis: capite et collare fulvis, pone oculos et ad latera æneo-tinctis; dorso thoracis æneo; metanoto cum pedunculo brevi fulvo; abdomine æneo; antennis piceis, articulo basali fulvo; pedibus fulvis; alis hyalinis apicibus iridescentibus, fasciculo setarum nigrarum, nubila substigmatali fulvescenti.

Long. corp. lin. 1; expans. alar. lin. 1½.

Habitat parasitice in *Zee* *Maydis* seminibus (D. Raddon). In Mus. Hopeiano Oxoniæ (olim nostr.)

## GENUS—THEOCOLAX.

(Westw. Lond. and Edinb. Phil. Mag. 3rd Ser. vol. i. No. 11, p. 127; Mod. Class. Ins. Gen. Syn. p. 66; *Læsthia*, Haliday (Curtis MS.), Ent. Mag. vol. i. p. 268; ib. p. 335; *Cerocephalæ pars*, Walker, Ent. Mag. vol. ii. p. 149.)

Corpus oblongum, in utroque sexu subapterum: alæ valde rudimentales scutello haud longiores; caput oblongo-quadratum, margine ovali utrinque et fronte antice mucronatis; oculi minuti glabri; antennæ infra mediam faciem insertæ remotæ, fœminæ 9-articulatæ clavatæ articulo ultimo magno ovali exarticulato (fig. 11 *e*), maris 10-articulatæ ante apicem incrassatæ (fig. 11 *d*); collare antice attenuatum; abdomen sessile ovatum haud depressum, aculeo fœminæ exserto brevi subconico; mandibulæ parvæ subquadratæ apice truncato 4-dentato (fig. 11 *a*); maxillæ lobo magno plano membranaceo ovali ciliato instructæ, palpis maxillaribus 4-articulatis, extus setis nonnullis longis, articulis primo et tertio minutis (fig. 11 *b*); labium elongatum apice subrotundato, palpis labialibus 2-articulatis (fig. 11 *c*); thorax oblongus capite longior et angustior; collare crateriforme, antice attenuatum; mesothorax quadratus, scuto transverso, humeris minutissimis; scutello transverso subquadrato; parapteris minutissimis valde remotis; pedes medioceres.

This genus is most nearly allied to *Cerocephala* and *Chætospila*. It is also related to *Spalangia*.

## THECOLAX FORMICIFORMIS. (Fœm.) Westw.

(Mod. Class. Gen. Synops. p. 66; *Laesthia vespertina*, Haliday, Ent. Mag. vol. i. p. 336.)

PLATE XXV, FIG. 11.

Testacea glabra, vertice thorace et abdomine luteo supra æneo-nitidis; pedibus pallidioribus; abdomine et antennis apice obscurioribus.

Long. corp. lin. 1.

Habitat; in domibus, tarde ambulans, Anobii parasita. In Mus. Hopeiano Oxoniæ (olim nostr.)

I have reared a considerable number of specimens of both sexes of this interesting little insect from pieces of deal timber flooring infested with the larvæ of *Anobium striatum*. In June and July, 1834, I also took several specimens crawling about papers upon an old table much worm-eaten.

## GENUS—CEROCEPHALA.

(Westw. in Guérin, Mag. de Zool. 1<sup>re</sup> Livraison, pl. IV (1832); Walker, Ent. Mag. vol. ii. p. 148 (pars); *Epimacrus*, Ibid. vol. i. p. 369.)

This genus is closely allied to Theocolax, having, like it, a tridentate head and large triangular collar; but it is fully winged, and the antennæ of the males are 10-jointed (pl. XXV, fig. 12). The type *C. cornigera*, Westw. (Op. cit. and Stephen's Illustr. Brit. Ent. Mand. pl. XLV, fig. 1; *Epimacrus rufus*, Walker, Ent. Mag. i. p. 149), was taken by Mr. R. Lewis on trunks of trees in St. James's Park, London, in the Spring of 1832. I also took it on palings on Wandsworth Common in July, 1835. Mr. Stephens took it near Ripley, and Mr. Doubleday near Epping.

The males vary in their size as well as in the amount of development of the frontal horns.

## SUB-FAMILY—PERILAMPIDES.

## GENUS—PHILOMIDES.

(Haliday, Annales Soc. Ent. France, 4th Ser. Tom. ii. (1862), p. 115; *Eucoptes*, Westw. MS. olim.)

'Tarsorum unguiculi subtus dilatati, arolium inconspicuum: caput antice profunde excavatum pro receptione antennarum; epistoma transversum; genæ breves subintegre; prothorax immarginatus; scuti mesothoraci parapsides subparallele; scutelli parasides conniventes; alarum anticarum venæ normalis segmentum costale, citra ramum radialem; hoc parum longius; abdomen segmento primo brevissimo annulari.'

The head (fig. 1 *a*) has a deep oval impression between the eyes in which the antennæ are received when at rest, the large club falling upon the basal scape (pl. XXVI, fig. 1 *b*). The mandibles are acute and sickle-shaped, with a tooth on the inner margin towards the middle. The maxillæ are terminated by an elongated lobe armed with strong bristles on its outer edge (fig. 1 *c*); the maxillary palpi are very short and apparently 4-jointed, the basal joint very short, the second the largest, angulated in the middle of the inner margin and bristly; the two terminal joints minute. The labium is ovate, with two short 2-jointed palpi, strongly setose (fig. 1 *d*). The tarsal ungues are denticulated on their inner edge (fig. 1 *e*).

The specimen of this species now in the Museum of the Jardin des Plantes, Paris (Coll. Sichel), has the club of the antennæ more slender, and the yellow lateral spots of the scutellum are united by a pale band across its base.

## PHILOMIDES PAPHIUS.

(Haliday, l. c.; *Eucoptes excavata*, Westw. MS.)

PLATE XXVI, FIG. 1.

Flavus: occipite, metathorace, pectore mesothoracis macula oblonga antica, fascia media utrinque antrosum lobata et scutelli apice nigris; antennarum flagello alisque ferruginosis. (Mas.)

Long. corp. 3-4 lin.; expans. alar. antic. 6½-7 lin.

Habitat; Ile de Chypre (Coll. Mus. Paris, olim Sichel) etiam in Albania. In Mus. S. S. Saunders.

## GENUS—EURYTOMA.

EURYTOMA MELLEÆ. Westw.

PLATE XXVI, FIG. 2.

Luteo-fulva: capite et thorace punctatis, abdomine compresso ovato glabro; capite sulco profundo frontali, margine postico macula trigona fusca; antennis fuscis articulo secundo fulvo annulo nigro basali; collari lato fulvo; mesonoto in medio et lateribus fuscis; scutello magno fulvo; abdomine fulvo, segmentis margine postico lato fuscis; pedibus fulvis, femoribus subtus ad basin fuscis; alis melleis, nubila obliqua mediana obscuriori.

Long. corp. lin.  $4\frac{1}{2}$ ; expans. alar. antic. lin. 6.

Habitat; Brazil, Para (Burchell, No. 1409, Sept. 9, 1829, 'plura individua e fructu quodam educata,')—(an parasitice?)

Obs.—The *Chalcis pomorum* of Fabricius<sup>1</sup>, Syst. Piez. 163, with simple hind legs, parasitic on fruit-feeding larvæ, is evidently congeneric with the insect here described.

## GENUS—EUCHRYSIA.

Caput antice utrinque excavatum carina media conica; antennæ graciles 11-articulatæ, articulo primo longo, secundo mediocri, tertio minimo annuliformi; octo ultimis longitudine æqualibus, ultimo ad apicem attenuato; alæ anticæ vena radiali clavata, longe a subcostali remota; pedes intermedii calcari mediocri; tarsis basi haud incrassatis; pedes postici femoribus incrassatis subtus inermibus aut tuberculo medio conico tantum instructis; tibiis arcuatis extus setigeris, calcaribus duobus armatis.

Locus; Australasia.

## SPECIES 1—EUCHRYSIA CLEPTIDEA.

PLATE XXVI, FIG. 3.

Capite et thorace rubris punctatis; mesonoto in medio maculis duabus triangularibus cæruleis; metanoto postice cæruleo tincto; abdomine chalybæo, nitido, basi apiceque viridi nitidis; antennis longis, gracilibus, nigris articulis duobus basalibus pedibusque quatuor anticis rufis; pedibus duobus posticis cum coxis cæruleis; tibiis extus setosis, basi basique articuli primi tarsorum albidis, horum reliquis articulis fuscis; alis hyalinis, fascia longitudinali lunari ramulum emittente ad angulum posticum alarum extensum fusca, femoribus posticis incrassatis, subtus sulcatis anguloque obtuso prominente inter medium et apicem instructis. (Fem.)

Long. corp. lin.  $2\frac{2}{3}$ ; expans. alar. antic. lin.  $4\frac{1}{4}$ .

Habitat; Adelaide, Australasia (D. Fortnum). In Mus. Hopeiano Oxoniæ.

## SPECIES 2—EUCHRYSIA GEMMEA.

PLATE XXVI, FIG. 4.

Læte cærulea, minute punctata, viridi parum tineta: antennis longis gracilibus 11-articulatis, articulo primo longo, secundo mediocri, tertio annuliformi, quarto et reliquis longitudine fere æqualibus (fig. 4e); abdomine glaberrimo, rufo cupreo, apice acuminato; alis fulvo hyalinis, nubila discoidali paullo obscuriori; femoribus posticis subincrassatis; tarsis fuscis, articulo basali pallidiori. (Fem.)

Long. corp. lin. 3; expans. alar. antic. lin. 5.

Habitat; Adelaide, Australasia (D. Fortnum). In Mus. Hopeiano Oxoniæ.

The labrum (fig. 4a) is transverse and setose, the mandibles small and broad, with one apical acute and two obtuse teeth (fig. 4b); the maxillæ are terminated by a large membranous ciliated lobe, with the maxillary

<sup>1</sup> C. obscura, abdomine compresso basi gibbo, alis macula fusca; habitat in America meridionali in larvis poma infestantibus; Dom. Smidt; Mus. Dom. Lund. Magna, antennæ nigre articulo primo subtus testaceo; thorax fuscus antice lineolis duabus parvis testaceis; abdomen elongatum basi compressum, gibbum apice conicum, acutum; alæ albidæ, macula magna medio fusca; pedes simplices pallidi femoribus nigris.

palpi (fig. 4 *c*) 4-jointed, and scarcely longer than the lobe; the mentum is subcordate, the labium obtusely pointed at the tip, and the labial palpi small and 3-jointed, the middle joint the shortest (fig. 4 *d*). The hind femora are moderately incrassated, without any spine on the under margin; the hind coxæ are produced into a small spine near the tip of the outer margin. The antennæ are inserted just above the mouth widely apart, the basal joint received, when at rest, in an oblique channel of the face between the eyes.

## SPECIES 3—EUCHRYSIA PRASINA.

Capite et thorace viridibus, punctatissimis; scutello concolori punctis majoribus rotundatis creberrime impresso; metathorace et abdomine nitidis viridibus cæruleoque tinctis; pedibus viridibus; tarsis nigris, intermediis articulo basali parum crassiori subalbido, femoribus posticis subclavatis, apicem versus subtus subemarginatis; alis hyalinis, venis nigricantibus.

Long. corp. lin. 3; expans. alar. antic. lin. 4½.

Habitat; in partibus Septentrionalibus Novæ Hollandiæ. In Mus. Hopeiano Oxoniæ.

## GENUS—CHRYSEIDA.

(Spinola in Guérin, Magasin de Zoologie, 1840, Ins. pl. XLII.)

## SPECIES 1—CHRYSEIDA SUPERCILIOSA. Spinola.

The type of this Genus, from Cayenne, is described as a male, and is remarkable for the great development of the prosternum, which is concave on its upper side, 'formant une espèce de cuiller au fond de laquelle, la tête se retire en partie quand elle se repose, et où elle peut enfoncer toutes les parties de la bouche.'

The antennæ are 11-jointed; the second joint is, however, very minute, the five following cylindrical and elongated, and the four terminal ones much shorter, forming an elongated mass.

## SPECIES 2—CHRYSEIDA AMAZONICA.

PLATE XXVI, FIG. 5.

Capite obscure cupreo, punctato; fronte in tubercula duo porrecta truncata, inter oculos, producta (fig. 5 *a*); thorace rude punctato viridi; abdomine nitido chalybæo, viridi paullo tincto; antennis nigris, articulo basali fulvo; pedibus 4 anticis nigris, geniculis apiceque tibiarum luteis; tibiis 2 posticis brunneis; tarsis omnibus luteis apice nigricantibus; alis pallide flavescentibus, nubila pallida mediana magis flavescenti.

Long. corp. lin. 3; expans. alar. antic. lin. 5.

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniæ.

The antennæ in the specimen figured are 11-jointed, but the second joint is very short, the third annular and almost indistinct, the four following joints large and of equal size, and the remaining three forming an oval mass not larger than the preceding joint.

## GENUS—POLYCHROMA.

*Chalcodecti* *Wlk.* affine: corpus crassum; caput antice excavatum; oculi magni; antennæ mediocres 11-articulatæ, articulo primo longo, secundo præcedentis dimidium longitudine fere æquant, tertio dimidium secundi, ultimis 8 sensim crassioribus, ultimo truncato, angulo supero in spinam brevem terminato; collare minutum; parapsides mesonoti bene distincti; postscutellum magnum; alæ anticæ vena radialis e subcostali haud valde remota; pedes 4 antici inermes; postici 2 coxis magnis, femoribus clavatis, subtus spinosis, tibiis curvatis; abdomen ovale apice acuto.

## SPECIES 1—POLYCHROMA HISTRIONICA.

PLATE XXVI, FIG. 6.

Punctata, viridis, purpureo cupreoque variegata: antennis nigricantibus; femoribus anticis basi cæruleis, apice, tibiis anticis, pedibus totis intermediis, tibiisque posticis fulvis; tarsis fuscis articulo basali albido; femoribus posticis cæruleis, subtus spinis 11 armatis; alis hyalinis parum fusciscentibus, apicibus iridescentibus.

Long. corp. lin. 4; expans. alar. antic. lin.  $7\frac{1}{3}$ .

Habitat; Brazil? In Mus. W. W. Saunders.

The head and collar of this very beautiful insect are green, finely punctured; the mesonotum is green, with a large coppery-purple spot in front, and a larger one between the parapsides, the sides of which are tinged with the same coppery-purple, which is also the colour of the large scutellum, which is marked with two oval green spots. The abdomen is chalybeous, very glossy, and varied with green and coppery-red and orange, of which colours are two large spots on the fifth and sixth segments of the abdomen; the sixth segment has a large spiracle near each of the anterior lateral angles. The antennæ (fig. 6*a*) have the basal joint long, the second moderately long and slender, the third and following gradually becoming shorter and somewhat broader, the last (eleventh joint) being the shortest and truncate at the tip, the apex being furnished with a small spur or spine on its under side. The hind femora are large and clavate, armed on the under side with eleven teeth, of which the middle ones are the largest. The curved tibiæ are received into a groove on the under side of the thighs, the inner edge of which groove is furnished with a row of eight small tubercles (fig. 6*b*).

## SPECIES 2—POLYCHROMA REGALIS.

PLATE XXVI, FIG. 7.

Viridis, punctata, purpureo rufo-cupreoque variegata: scutello magno rufo-purpureo; antennis nigris, articulis duobus basalibus rufis; femoribus purpureo-piceis; tibiis fuscis, basi et apice posticarum tarsisque albidis; abdominis segmentis primo, quinto et sexto, utrinque macula cupreo viridique tincta ornatis; alis fusciscenti-hyalinis apice iridescentibus; femoribus posticis subtus denticulis circiter 26 armatis.

Long. corp. lin.  $3\frac{1}{2}$ ; expans. alar. antic. lin. 6.

Var. minor, paullo obscurior, femoribus posticis 24-25-denticulatis.

Habitat; Amazonia (D. Bates). In Mus. Hopeiano Oxoniæ.

This lovely insect differs from the preceding in the structure of the hind thighs, which are armed with a row of minute teeth, twenty-six in number, on each side of the groove, for the reception of the hind tibiæ (fig. 7*a*). The antennæ are destitute of the minute annular joints succeeding the second joint found in so many species of the family: they are distinctly 11-jointed, the eighth being the thickest and the eleventh the smallest, with a minute curved spur at its apex. The front of the mesonotum, the fore margins of the parapsides, and the large scutellum, with its lateral lobes, are rich coppery-purple.

## SPECIES 3—POLYCHROMA 16-DENTATA.

Capite et thorace æneis obscuris, purpureo parum tinctis, punctatissimis; abdomine chalybæo, nitidissimo, segmentis intermediis purpurascensibus basi transverse striolatis, sexto utrinque puncto impresso; antennis nigris, 11-articulatis, articulis quarto, quinto et sexto fulvis; pedibus nigro-æneis; tarsis luteis apice fuscis, femoribus posticis incrassatis, subtus 16-denticulatis; alis hyalinis, anticis nubila magna brunnea pone medium posita.

Long. corp. lin. 4; expans. alar. antic. lin. 7.

Habitat; Brazil, Para (Bates). In Mus. W. W. Saunders.

## SPECIES 4—POLYCHROMA 7-DENTATA.

Capite æneo, facie aurea, occipite nigricante; antennis nigris; thorace rude punctato; mesothorace cæruleo-viridi, dorso cupreo; scutello magno convexo, purpureo, apice viridi; abdomine elongato-conico, nitidissimo, dorso chalybæo-purpureo versus basin magis cuprescenti, basi ipsa magis aureo-viridi, apice nigro; pedibus 4 anticis chalybæo-nigris; tarsis articulo basali albido; coxis posticis viridi-cæruleis nitidis, femoribus cupreis, clavatis, subtus 7-dentatis; tibiis posticis æneis basi fulvis; tarsis albis apice fuscis; alis hyalinis.

Long. corp. lin. 3; expans. alar. antic. lin.  $4\frac{1}{2}$ .

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniæ.

## SPECIES 5—POLYCHROMA CUPRESCENS.

Capite et thorace obscure-æneis, punctatissimis; scutello cuprescente; metathorace cærulescenti, nitido; abdomine breve ovato-conico, supra cupreo-nitidissimo, basi aureo purpureoque tincto; antennis nigris, articulis intermediis fulvis; pedibus 4 anticis nigro-æneis; tarsis basi albis; pedibus posticis, cum coxis et femoribus, nigro-æneis; tibiis basi articuloque basali tarsorum albis, femoribus posticis clavatis, 16-denticulatis; alis hyalinis; pone medium parum fusciscentibus.

Long. corp. lin. 3; expans. alar. antic. lin.  $4\frac{3}{4}$ .

Habitat; Australasia, Melbourne (D. Bakewell). In Mus. Hopeiano Oxoniæ (olim nostr.)

## GENUS—PELECINELLA.

(Westw. Trans. Ent. Soc. Lond. 1868, Proc. p. 35.)

Callimomi affine: corpus feminae longissimum, fere filiforme; caput subglobosum; antennæ (fig. 8a) thoracis longitudine 11-articulatæ, articulis secundo et tertio minutis, quarto longo subcompresso, reliquis sensim decrescentibus; collare capite duplo longius valde angustatum; abdomen longissimum, gracillimum, segmentis secundo et tertio parum crassioribus, reliquis compressis; apice lobis 2 magnis foliaceis terminato (figs. 8b, 8c\*\*), oviductus exsertus fere abdominis longitudine curvatus; alæ anticæ ramo stigmatali fere punctiformi; pedes 4 antiqui graciles; 2 postici apice tibiæ et articulo basali tarsorum dilatatis.

## PELECINELLA PHANTASMA.

(Westw. Trans. Ent. Soc. Lond. loc. cit. p. 36.)

## PLATE XXVI, FIG. 8.

Nigra, punctata: abdomine chalybæo; collaris lateribus rufis, abdomine nitido; pronoto, metanoto et petiolo transverse striatis, segmento sequente purpureo; alis translucidis; tarsorum posteriorum articulis 4 apicalibus albis.

Long. corp. lin. 12; expans. alar. antic. lin.  $7\frac{1}{2}$ .

Habitat; ad ripas flum. Amazonum (Bates). In Mus. Hopeiano Oxoniæ.

## GENUS—THAUMASURA.

(Westw. Trans. Ent. Soc. Lond. 1868, Proc. p. 36.)

Cleonymo et Episteniaæ affine: antennæ (fig. 9a) graciles 11-articulatæ, articulo secundo mediocri, tertio minuto, quarto longo, reliquis sensim attenuatis; thorax subovalis; abdomen segmentis 5 basalibus brevibus, massam ovalem fingentibus; duobus apicalibus gracillimis tubulum capite et thorace duplo longiorem pro receptione oviductus formantibus; alæ anticæ ramo stigmatali brevi, apice furcato; femora compressa; tarsi simplices; oviductus abdomine a quarta parte longior.

The mandibles (fig. 9a) are trigonate, the inner margin obtusely 3-dentate; the maxillary palpi (fig. 9b) with the second and fourth joints elongate; the labial palpi (fig. 9c) apparently only 2-jointed.

## THAUMASURA TEREBRATOR.

(Westw. Trans. Ent. Soc. loc. cit.)

PLATE XXVI, FIG. 9.

*T. purpureo-chalybæa*, punctata: metathoracis lateribus et abdominis basi cupreo tinctis; antennarum articulis intermediis pedibusque rufis, alis anticis sub stigmate fusco parum nebulosis; abdominis segmento sexto 5 præcedentibus simul sumptis longitudine æquali, septimo longiore et tenuiore; tibiis posticis extus curvatis serrulatis.

Long. capitis, thoracis et segm. 5 basal. abdom. lin. 5; segm. 2 apical. abdom. lin. 7; expans. alar. antic. lin. 9½.

Habitat; Australasia, partib. Austral. In Mus. Hopeiano Oxoniæ (olim nostr.)

## GENUS—SOLENUMA.

(Westw. Trans. Ent. Soc. Lond. 1868, Proc. p. 36.)

*Thaumasuræ* affine: antennæ (fig. 10 *a*) capite vix duplo longiores, 11-articulatæ, apicem versus paullo crassiores articulo secundo parvo, tertio minuto; corpus breve compactum; abdomen segmentis 3 basalibus massam elongato-ovalem, thoracis magnitudine formantibus, reliquis tubulatis; quarto 3 basalibus simul sumptis longitudine æquali, cylindrico, quinto præcedente duplo brevior, sexto 4 basalibus simul sumptis æquali, septimo minuto; terebra paullo ultra abdominis apicem extensa (fig. 10 *b* apex abd. latere visus); pedes breves simplices.

## SOLENUMA TELESCOPICA.

(Westw. Trans. Ent. Soc. loc. cit.)

PLATE XXVI, FIG. 10.

*S. chalybæa punctatissima*: abdomine purpurascente; segmento tertio et sequentibus carina media distinctis; antennis nigris, pedibus obscure rufis; alis immaculatis.

Long. capitis, thoracis et segm. 3 basal. abdom. lin. 4; segm. 4 apical. abdom. lin. 7; expans. alar. antic. lin. 7.

Habitat; Java (D. Horsfield?). In Mus. Hopeiano Oxoniæ.

## GENUS—EUCHARISSA.

(Westw. Trans. Ent. Soc. Lond. 1868, Proc. p. 36.)

*Eucharidi* affine: caput transversum antice dense lanatum; antennæ capite duplo longiores 16-22-articulatæ, plumosæ vel serratæ; thorax subglobosus; abdomen brevissimum petiolo brevi; pedes breves simplices.

Obs.—This is the only genus in the whole of the immense number of species forming the family Chalcididæ, which has the antennæ formed of more than thirteen joints.

## SPECIES 1—EUCHARISSA SPECIOSA.

(Westw. Trans. Ent. Soc. 1868, Proc. p. 37.)

PLATE XXVII, FIG. 3.

Antennis 22-articulatis (fig. 3 *a*), nigris; capite et thorace læte viridibus, hoc antice canaliculato et transverse striato; abdomine et pedibus luteis, femoribus et petiolo obscurioribus; alis pallide fuscescentibus.

Long. corp. lin. 4; expans. alar. lin. 10.

Habitat; Cape of Good Hope. Mecum communicaverunt D.D. Klug (cum nomine '*Eucharis speciosa*,' Kl. MS.) et March. Maxim. Spinola.

## SPECIES 2—EUCHARISSA NATALICA.

(Westw. l. c.)

*E. antennis 16-articulatis, nigris; ænea, areolato-punctata; abdomine nigro nitido, postice luteo; pedibus albidis; femorum basi fusca.*

Long. corp. lin.  $2\frac{1}{2}$ ; expans. alar. antic. lin. fere 6.

Habitat; Natalia. In Mus. Hopeiano Oxoniæ (olim nostr.)

## SPECIES 3—EUCHARISSA STIGMATICA.

PLATE XXVII, FIG. 2.

Viridis, rude punctata: thorace brevi ovali, convexo, antice haud canaliculato; abdomine compresso ovali aurato-viridi, pedunculo mediocri; antennis nigris 22-articulatis, articulo, tertio et reliquis biramosis, ramis internis brevioribus (fig. 2a); externis ante apicem spinula armatis; pedibus albidis femoribus nigricantibus apicibus pallidis; alis brunneo subhyalinis, stigmate et vena stigmatica fuscis. (Mas.)

Long. corp. lin. 3; expans. alar. antic. lin.  $6\frac{1}{3}$ .

Habitat; Caffraria. In Mus. Reg. Holm. Dom. Stålio mecum benevole communicata.

## SPECIES 4—EUCHARISSA CUPRIFRONS.

Capite cupreo, lateribus lævibus; antennis nigris, 18-articulatis articulis 3–13 intus in ramulum acutum productis; thorace aureo-viridi convexo, antice haud longitudinaliter canaliculato, transverse striolato, et in medio cupreo antice tincto; scutello valde convexo; pedunculo abdominis coxisque posticis viridibus; pedibus luteis, femoribus (apicibus exceptis, nigris, unguibus et pulvillis tarsorum nigris; alis et stigmate ut in *E. stigmatica* coloratis; abdomine luteo-fusco nitidissimo. (Fœm.)

Long. corp. lin. 3; expans. alar. antic. lin.  $6\frac{1}{2}$ .

Habitat; Caffraria. In Mus. Reg. Holm.

## GENUS—PRIONOPELMA.

(Westw. Proc. Zool. Soc. April 14, 1835, No. 28, p. 51.)

Caput latum, antice subtridentatum; antennæ 11-articulatæ; articulis secundo et tertio fere æqualibus, minutis, reliquis 8 longitudine sensim decrecentibus; abdomen subsessile, oviductu corpore fere duplo longiore, vaginulis pilosis; pedes graciles, intermediis crassioribus cum tibiis paullo curvatis, calcari valido armatis; tarsis intermediis dilatatis.

OBS. 1.—Hoc genus oviductu elongato Callimomem cum Eupelmo (pedibus intermediis) conjungit.

OBS. 2.—Genus Phlebopenes, (Perty), Del. An. Art. Brasiliæ, p. 132, pl. XXV, fig. 11, his insectis etiam affine; differt, secundum descriptionem auctoris laudati, antennis filiformibus tantum 9-articulatis, primo satis elongato, secundo valde brevi, sequentibus indistinctis, ultimis involutis; femoribus etiam compressis, mediis apicem versus paullo dilatatis; an Callimomi conjungendum?

## SPECIES 1—PRIONOPELMA VIRIDIS.

(Westw. Op. cit. supra.)

Aureo-viridis purpureo nitens; abdomine nitido, femoribus viridi-nigris; tibiis tarsisque obscurioribus, geniculis pedum intermediorum albidis; antennis nigris; alis pallide fulvescentibus, in medio paullo obscurioribus, venis fuscis.

Long. corp. lin.  $3\frac{1}{2}$ ; oviductus  $5\frac{1}{2}$ ; expans. alar. antic. lin. 6.

Habitat; Brazilia. In Mus. Dom. Hope.



## SPECIES 2—PRIONOPELMA LONGICAUDATA.

PLATE XXVII, FIG. 4.

Viridis: abdomine chalybæo, basi fulvo; oviductu longissimo toto corpore fere quintuplo longiori, supra recurvo; thorace antice retuso, mesonoto antice declivi, rugis transversis delicatulis substriatis; facie pone antennis purpurea in medio depressione parva rotundata, nec canaliculata; antennis 11-articulatis, filiformibus, nigris, articulo basali basi fulvo, secundo et tertio parvis fere æqualibus, ultimis sensim brevioribus et gracilioribus; collare et mesonoto antice purpureis, hujus dorso maculis duabus nigris oblongis; scutello punctato; lateribus thoracis sub alas purpureis; abdominis segmento basali fulvo-rufo, ultimo viridi; femoribus anticis nigris, viridi-tinctis; tibiis tarsisque fulvo-fuscis, illis subtus linea obscuriori media notatis; femoribus mediis luteis, tibiis fulvis, apicibus tarsisque fuscis; femoribus posticis fulvis, tibiis tarsisque nigris; alis pallide fusciscentibus; abdomine subtus articulis tribus basalibus fulvis, reliquis aureo-viridibus.

Long. corp. lin. 4; oviduct. lin. 19; expans. alar. antic. lin.  $7\frac{3}{4}$ .

Habitat; Para (Bates). In Mus. Britann.

## SPECIES 3—PRIONOPELMA LONGICOLLIS.

PLATE XXVII, FIG. 1.

Cærulea, viridi parum tineta: lateribus thoracis pedibusque omnibus brunneo-fulvis; capite splendide viridi, occipite et margine postico punctis minutis, facie majoribus; mandibulis antennisque nigris, harum articulis primo et secundo cæruleis; collari splendide purpureo impunctato, profunde semicirculariter impresso; mesonoto oblongo viridi, minute punctato, purpureoque tincto, maculis duabus oblongis nigris transverse striatis; abdomine chalybæo nitido lateribus viridibus, apice purpureo; subtus in medio fulvo; oviductus vaginis nigris setosis, corpore triplo longioribus; prosterno viridi; pedibus (coxisque pedum anticorum) fulvo-rufis; coxis posticis supra viridibus, infra aurantiis; alis hyalinis præsertim basin versus melleo tinctis, venis fuscis, nebulisque longitudinalibus paullo obscurioribus; antennis gracilibus 11-articulatis (fig. 1 a); tibiis mediis calcari magno tarsisque crassioribus instructis (fig. 1 b.)

Long. corp. lin.  $6\frac{1}{2}$ ; oviduct. lin. 21; expans. alar. antic. lin.  $9\frac{1}{2}$ .

Habitat; Para (Bates). In Mus. Britann.

## GENUS—OODERA.

Prionopelmæ affine, differt pedibus anticis raptoriiis, collare elongato locoque natali orientali. Caput antice bicanaliculatum; antennæ longæ filiformes 11-articulatæ, articulis secundo et tertio brevibus, quarto longo, quinto et reliquis sensim brevioribus et paullo gracilioribus; collare oblongo subovale postice contractum; meso- et metathorace massam oblongo-ovalem postice truncatam formantibus; abdomen eiongatum, basin versus apiceque angustatum; oviductus fere corpore toto longitudine æqualis; pedes antici subraptorii; coxis elongatis, femoribus clavatis subtus spinulis minutis armatis; tibiæ mediæ ad apicem crassiores, calcari magno instructæ; tarsi medii ad basin subtus paullo dilatati; pedes postici longi simplices.

## SPECIES 1—OODERA GRACILIS.

PLATE XXVII, FIG. 9.

Cæruleo-purpurea, thoracis dorso viridi, nigro variegata, delicate punctata: abdomine nitido cæruleo basi purpurascente; pedibus anticis viridi-cæruleis, intermediis obscure cæruleis, geniculis calcaribusque brunneis, posticis cæruleis femoribus rufis; alis fusco-hyalinis.

Long. corp. lin.  $7\frac{1}{2}$ ; oviduct. lin. 6; expans. alar. antic. lin.  $9\frac{1}{4}$ .

Habitat; Rosenberg, Aru. In Mus. Hopeiano Oxoniæ, e Mus. Reg. Lugdunensi mihi benevole communicata.

## SPECIES 2—OODERA RUFIMANA.

Capite antennisque nigris, articulo secundo piceo; collare purpurascens, transverse striatulo, lateribus in medio angulatis; thorace punctato viridi, parapsidibus mesonoti et postscutello cuprescentibus; abdomine longo, depresso chalybæo, lateribus viridi nitentibus; oviductu collari duplo longiori nigro; coxis anticis æneis, femoribus testaceis supra æneo-nitidis, subtus setis nigris marginatis; tibiis tarsisque fulvis; pedibus intermediis obscure fulvis, tibiis ante apicem obscurioribus; pedibus posticis obscure testaceis; femoribus versus apicem piceis, apice ipso albido, tibiisque ante apicem obscurioribus; alis subhyalinis venis fusciscentibus; anticis nubila media paullo obscuriori.

Long. corp. lin. 5; oviduct. lin. 1; expans. alar. antic. lin. 6.

Habitat; Cambogia (Mouhot). In Mus. W. W. Saunders.

## SPECIES 3—OODERA OBSCURA.

Tota obscure ænea: abdomine breviori depresso chalybæo, oviductu brevissimo; trochanteribus 4 posticis, tarsisque omnibus albidis apice fuscis; alis hyalinis venis nigricantibus.

Long. corp. lin.  $2\frac{1}{2}$ ; expans. alar. antic. lin. 3.

Habitat; —? In Mus. W. W. Saunders.

## GENUS—BELONEA.

Præcedentibus affine: caput transversum; antennæ (fig. 5 a) graciles sat longæ, 11-articulatæ, articulo primo longo, secundo elongato, tertio brevissimo, quarto ad apicalem modice elongatis, sensim brevioribus et gracilioribus; collare transversum medio antice angulariter productum; abdomen elongatum obconicum, segmento ultimo in tubulum elongatum productum, oviductus apicem solum tegente; pedes antici longi, femoribus crassis subtus prope apicem incisus, pedes intermedi longi simplices; postici femoribus brevioribus crassioribus et curvatis subtus inermibus; tibiis tarsisque elongatis.

## SPECIES 1—BELONEA AUSTRALICA.

## PLATE XXVII, FIG. 5.

Nigra punctata: abdomine puiceo-rufo nitidissimo, segmentis secundo, tertio et quarto parum transverse subrugosis; antennis nigris, articulis tertio, quarto et quinto pedibusque rufis; coxis posticis nigris; alis hyalinis maculis duabus discoidalibus nebulaque longitudinali pallidiori fuscis.

Long. corp. lin.  $6\frac{1}{2}$ ; expans. alar. antic. lin. 7.

Habitat; South Australia (Damell). In Mus. Hopeiano Oxoniæ.

## SPECIES 2—BELONEA FEMORALIS.

## PLATE XXVII, FIG. 7.

Obscure purpureo-nigra, viridique variegata: thorace opaco; antennis nigris, medio albidis; pedibus viridibus, femoribus rufis; alis hyalinis pallide lutescentibus, maculis duabus rotundatis fuscis; capite postice declivi, obscure purpureo; antennarum articuli quarti dimidio apicali, quinto et sexto albidis, reliquis 5 sensim brevioribus et tenuioribus; collare transversum, carina media acuta, maculis duabus mesonoti et metanoto obscure viridibus; abdomine nitidissimo, nigro-chalybæo, basi purpurascens, segmentis intermediis utrinque macula sericea viridi vel cærulea notatis; elongato, sensim acuminato, segmento ultimo tubulum tenuem longum formante; oviductu ultra apicem tubuli duas lineas extenso; pedibus valde elongatis, femoribus anticis parum incrassatis

subtus ante apicem incisus; tibiis intermediis calcari unico instructis, articulo basali tarsorum intermediorum vix reliquis crassiori basi albido.

Long. corp. lin.  $4\frac{1}{2}$ – $6\frac{1}{2}$ ; tubuli lin.  $1\frac{2}{3}$ – $2\frac{1}{2}$ ; oviduct. apic. lin.  $1\frac{1}{4}$ – $2$ ; expans. alar. antic. lin.  $7$ – $10\frac{1}{4}$ .

Habitat; New Guinea, Mysol, Aru (Wallace). In Mus. W. W. Saunders.

OBS.—Mas differt magnitudine multo minori, femoribus præsertim posticis crassioribus abdomineque e segmento basali et tubulo apicali tantum, ut videtur, constanti, illo plano nitidissimo thorace angustiori et multo (fere dimidio) breviori, apice in medio marginis postici angulato, lateribusque deflexis et angulato productis; tubuloque apicali (longitudine capitis et thoracis) valde angusto plano, ut videtur exarticulato, apice deflexo et acuto.

Long. corp. cum tubulo apicali lin.  $3\frac{1}{2}$ – $5\frac{1}{2}$ .

Habitat; Waigiou (Wallace). In Mus. Hopeiano Oxoniæ et W. W. Saunders.

#### SPECIES 3—BELONEA BREVICAUDATA.

Præcedenti maxime affinis at minor: abdomine brevior; pedibus magis rufis, tubulo apicali abbreviato; oviductu pone tubulum vix quartam partem lineæ extenso.

Long. corp. cum oviduct. lin.  $4\frac{1}{3}$ .

Habitat; Mysol (Wallace). In Mus. W. W. Saunders.

#### GENUS—LYCISCA.

(De Romand, Guérin, Mag. de Zool. 1840, pl. XLIII; *Proglochis*, Philippi in Stettin, Ent. Zeit. vol. xxxii. p. 288.)

Antennæ breves 11-articulatæ, articulo secundo fere tertiam partem articuli primi æquanti; tertio minuto, quarto secundo parum longiori, quinto et reliquis longitudine parum decrecentibus, ultimo indiviso apice acuminato; collare quadratum, longitudine latitudinem ejus æquanti, aut antice parum attenuatum; meso- et meta-thorax massam oblongam formantes; abdomen elongatum depressum, segmentis apicalibus subito angustatis et elongatis; pedes graciles femoribus anticis clavatis intus prope apicem emarginatis; tibiæ et tarsi intermedii simplices.

This genus is very nearly allied to *Cleonymus* Latr., *Hetroxys* Westw., and especially to *Epistenia* Westw.<sup>1</sup>, which is a shorter and more compact form, but with similarly formed 11-jointed antennæ, and with the three terminal segments of the abdomen attenuated.

#### <sup>1</sup> GENUS—EPISTENIA.

(Westw. in Griffith, Animal Kingdom, Insecta, vol. ii. p. 432.)

Antennæ 11-articulatæ, articulo secundo medioeri, tertio parvo, quarto secundo majori, reliquis 7 subæqualibus, ultimo indiviso; facies in medio canaliculata; collare breve transversum capite paullo angustius; thorax subquadratus; abdomen subelongatum depressum, segmentis quinto et reliquis subito angustatis, caudam brevem formantibus; pedes graciles, antici femoribus simplicibus.

#### SPECIES 1—EPISTENIA CÆRULEATA.

(Westw. in Griffith, Animal Kingdom, l. c. supra, pl. LXXVII, fig. 3.)

Læte cærulea, viridi purpureoque parum tincta, rude punctata: segmento basali abdominis subnitido, obscure sanguineo; pedibus pallide testaceis, unguibus nigris; alis pallide luteo-fusco-hyalinis parum iridescentibus, venis fuscis, lateribus thoracis et abdominis albo setosis; collare transversum, femoribus anticis vix incrassatis.

Long. corp. lin.  $5\frac{1}{4}$ ; expans. alar. antic. lin.  $5\frac{1}{2}$ .

Habitat; Georgia, America. In Mus. Britann.

## SPECIES 1—LYCISCA RAPTORIA.

(De Romand, l. c. supra.)

Habitat; Cayenne. Olim in Mus. de Romand.

## SPECIES 2—LYCISCA ROMANDI.

(Westw. in Guérin, Mag. de Zool. 1841, Insectes, pl. LXXXIV.)

Cæruleo-nigra, punctatissima: capite postice et ad marginem internum oculorum aureo-viridi; antennis nigris; collaris margine postico, parapsidum et parapterum marginibus metathoraceque aureo-viridibus; abdomine supra plano, punctato, lateribus inflexis, supra cæruleo-nigro, apicibus segmentorum nitidissimis, subtus marginibus segmentorum aureo-viridibus et punctatis; pedibus brunneis; alis pallide infumatis, maculis duabus brunneis, subcostalibus postice lunula pallidiori connexis.

Long. corp. lin. 8; expans. alar. antic. lin. 9.

Habitat; Cayenne. Olim in Mus. de Romand, etiam in Mus. W. W. Saunders et Miers: indiv. in Mus. W. W. Saundersii abdomen habet longius et magis attenuatum quam in *L. ignicaudata*.

## SPECIES 3—LYCISCA IGNICAUDATA.

PLATE XXVII, FIG. 10.

Elongata, purpureo, chalybæo, viridi, cæruleoque variegata: antennis nigris 11-articulatis apice sensim crassioribus (fig. 10 *a*); segmentis apicalibus abdominis igneis; pedibus viridi-nigris, femoribus rufis apice viridibus; alis nubila magna media curvata extus dilatata, fuscescente; facie utrinque sulcata; collare subtrigono utrinque impresso, mesonoto fascia media interrupta viridi, metanoto in medio cæruleo, lateribus viridibus; abdomine cyaneo-purpurascente fascia sericea viridi ad basin segmenti tertii maculisque duabus rotundatis lateralibus segmenti quarti ejusdem coloris, dimidio apicali segmenti quinti et reliquis igneo-rufis ultimis valde attenuatis, sexto ad basin utrinque puncto rotundato instructo, septimo subtus utrinque producto et ad apicem octavi extenso (fig. 10 *b*, abdomine e latere viso).

Long. corp. lin.  $7\frac{2}{3}$ ; expans. alar. lin. 9.

Habitat; Para, Brazil (Bates et alior.) In Mus. Hopeiano Oxoniæ.

The abdomen is equal in length to one and two-thirds of the thorax, and the wings and abdomen are of equal length. The lateral view of the latter is given in fig. 10 *b*, shewing the remarkable structure of the terminal segments, the penultimate being extended as far as the extremity of the terminal joint, which, as well as the antepenultimate, is furnished with a minute spiracle on each side.

## SPECIES 2—EPISTENIA (Westw.) IMPERIALIS.

(Smith, Proc. Linn. Soc. vol. ii. p. 127.)

‘Capite thoraceque purpureis, rude punctatis; alis hyalinis; abdomine versicolori, segmentis apicalibus basi testaceis.

Long.  $7\frac{1}{2}$  lines.

Habitat; Sarawak, Borneo.

Head and thorax of a rich purple, the metathorax with tints of bright green, the legs black, the apex of the joints rufo-piceous, as well as the apical joints of the tarsi. Abdomen of changeable hues, partaking of tints of blue, purple, violet, or green in different lights; the three basal segments deeply emarginate above, with central longitudinal depressions extending to their base; the ovipositor thick and pubescent, two-thirds of the length of the abdomen.

Appears to belong to Genus *Epistenia*, established by Westwood in Griffith, Animal Kingdom; if not, it is very closely allied.

## SPECIES 4—LYCISCA (?) NATALENSIS.

PLATE XXVII, FIG. 6.

Purpureo-cuprea, viridi variegata: abdomine nitido purpurascens-chalybæo; capite viridi; antennis (fig. 6 a) 14-articulatis, nigris, articulis 7, 8, et 9 albis, articulo secundo brevi, tertio brevissimo, quarto longo, reliquis ad apicem sensim brevioribus, ultimo parvo conico; collare magno, ovali; abdomine obovato, depresso; alis pallide hyalinis, anticis punctis duobus subcostalibus ante medium maculaque magna pone medium fuscis; pedibus anticis coxis magnis, femoribus incrassatis subtus ante apicem emarginatis, testaceis viridi nitidis; femoribus posticis testaceis; tibiis viridescens; tarsis lutescentibus. (Mas.)

Long. corp. lin. 3; expans. alar. antic. lin. 4.

Habitat; Natalia. In Mus. Hopeiano Oxoniæ.

The African locality and the structure of the antennæ remove this insect from the other species of the genus. I am only acquainted, however, with females of the American species, and with the male of this African one.

## SPECIES 5—LYCISCA MACULIPENNIS.

(*Proglöchin maculipennis*, Philippi in Stettin, Ent. Zeit. vol. xxxii. p. 289, and plate annex., fig. 3.)

Capite, mesonoto et scutello rude punctatis, rufo-cupreis; capite infra æneo; metanoto et abdomine metallico-cæruleis, apice nigris; mesosterno et coxis æneis, ventre violaceo; antennis nigris; pedibus rufescentibus; alis hyalinis, anticis fusco-bimaculatis; abdomine thorace quadruplo longiori.

Long. corp. 8 lin. = 17 mill.; expans. alar. antic. lin.  $7\frac{1}{2}$  = 16 mill.

Habitat; Chili, near Los Ulmos, in Prov. Valdivia.

## GENUS—METAPELMA.

(Westw. Proc. Zool. Soc. 26 May, 1835, No. 29, p. 69.)

Thorax ante alas elongatus, declivis; antennæ 11-articulatæ, graciles fere thoracis longitudine apicem versus paullo crassiores, apice ipso oblique truncato; abdomen compressum, oviductu exserto, abdominis longitudine; pedes intermedii longiores, femoribus paullo retro-curvatis; tibiis calcari longo instructis; tarsis vix dilatatis subtus ciliatis, articulo primo longiore; postici crassiores tibiis tarsorumque basi valde dilatatis compressis.

OBS. 1.—Genus Eupelmo<sup>1</sup> affine.

OBS. 2.—Dua species hujus generis, Europæ meridionalis incolæ, a cel. Försterio editæ sunt.

## SECTION 1—SPECIES AMERICANA.

## SPECIES 1—METAPELMA SPECTABILIS.

(Westw. Op. cit. p. 69.)

Capite thoraceque viridibus, cupreo-nitentibus; antennis nigris; abdomine nigro, chalybæo purpureoque nitente; pedibus quatuor anticis ferrugineis viridi subnitentibus; tarsis intermediis fuscis ad basin albidis;

<sup>1</sup> Speciem permagnam hujus generis in Mus. Dom. W. W. Saunders hic describam:—

## EUPELMUS EXCELLENS.

Viridis; thorace sericeo; mesonoti parapsidibus antice declivibus purpureo longitudinaliter vittatis; abdomine elongato depresso, thorace parum angustiore, lateribus fere parallelis, chalybæo-nigro lateribus apiceque aureo-viridibus; antennis nigris, articulo basali viridi; pedibus nigris, intermediis rufis; tibiis sensim crassioribus apice nigro; tarsis intermediis compressis, nigris, articulo basali lato, reliquis ad apicem attenuatis; alis lutescentibus.

Long. corp. lin.  $4\frac{2}{3}$ ; expans. alar. antic. lin. 6.

Habitat; Brazil, Para (Bates). In Mus. D. W. W. Saunders.

pedibus duobus posticis fuscis, femoribus basi rufis; tibiis basi albis; oviductu nigro; alis pone medium nubecula vix infumatis.

Long. corp. lin.  $2\frac{1}{4}$ ; oviduct. lin. 1; expans. alar. antic. lin.  $3\frac{3}{4}$ .

Habitat; Georgia, America. In Mus. Britann.

#### SECTION 2—SPECIES ASIATICÆ.

##### SPECIES 2—METAPELMA GLORIOSA.

PLATE XXVII, FIG. 8.

*Ænea*, cæruleo purpureo et cupreo variegata: antennis nigris, 11-articulatis (fig. 8a) articulis secundo et tertio brevibus, quarto longo, reliquis sensim brevioribus et crassioribus; capite sub lente minutissime granulato punctisque majoribus, facie albo sericanti; collari trigono; abdomine segmentis intermediis utrinque cæruleo maculatis, oviductu abdomine cum thorace longitudine æquanti; calcari et tarsi intermediis (basi crassis) rufescentibus; tibiis posticis nigris basi albis, dimidio apicali membrana magna extus rotunda nigra instructis; tarsi albis, basi articuli primi et apice ultimi nigris; alis pallide hyalinis, apicibus obscurioribus.

Long. corp. lin. 5; oviduct. lin.  $4\frac{1}{2}$ ; expans. alar. antic. lin. 8.

Habitat; Insula Philippinensis, Luzon, Camiguin (D. Semper). In Mus. D. Semper, Altonæ.

##### SPECIES 3—METAPELMA RUFIMANA.

Præcedenti multo minor et obscurior at simillima: tibiis posticis fere e basi sensim dilatatis; pedibus quatuor anticis rufis; oviductu breviori; alis anticis apice fuscis; mesonoto magis cupreo-purpurascenti.

Long. corp. lin. 3; long. oviduct. lin.  $1\frac{1}{2}$ .

Habitat; Sarawak, Borneo (Wallace). In Mus. W. W. Saunders.

##### SPECIES 4—METAPELMA TAPROBANÆ.

Thorace nigro, æneo et cupreo variegata; abdomine piceo, basi supra cupreo parum tineto; mesopleuris macula elongato-conica alba notatis; pedibus 4 anticis rufis, tarsi nigris, articulo primo ad basin albo; coxis pedum 2 posteriorum æneis, femoribus nigris, basi albis; tibiis in spatulam rotundam clavato-compressis, nigris, basi albis; tarsi posticis albidis, dimidio basali articuli primi articuloque ultimo nigris.

Long. corp. lin. 5; oviduct. lin.  $2\frac{1}{2}$ ; expans. alar. antic. lin.  $6\frac{1}{2}$ .

Habitat; Ceylon. In Mus. Reg. Hafniæ.

##### SPECIES 5—METAPELMA OBSCURATA.

Nigra, subænea, purpureoque parum tineta: metathorace magis æneo; abdomine subchalybæo nitido; thorace brevior et angustior, supra plano apice acuto; mesothorace latitudine longior, parapsidibus elevatis longis et parallelis, scutoque inter parapsides angusto utrinque sulcato; oviductu abdomine dimidio brevior; antennis pedibusque nigris, intermediis elongatis femoribus apice albidis; tibiis piceis calcari longo articuloque basali tarsorum albidis, hoc compresso, reliquis ad apicem attenuatis; pedibus posticis compressis, femoribus parum clavatis apice albo, tibiis dilatatis femoribus latioribus, nigris basi albis, tarsi compressis e basi ad apicem sensim angustioribus; alis pallide hyalino-fuscescentibus.

Long. corp. lin. 3; oviduct.  $\frac{3}{4}$  lin.; expans. alar. antic. lin. 4.

Habitat; India Orientalis. In Mus. Hopeiano Oxoniæ.

## SUB-FAMILY—EUCHARIDES.

The twenty-eighth Plate of this work is devoted to a series of remarkable insects belonging to the family Chalcididæ, closely allied to the Eurytomides, but in general distinguished by the great, and often abnormal development of the hinder parts of the thorax, and often also by the strongly pectinated antennæ of the males. The typical genus is *Eucharis* of Fabricius, but several others have been separated, including *Thoracantha* Latr., *Stilbula* Spinola, *Schizaspidia* Westw., and *Gallaria* Brullé; (*Psilogaster* Blanchard is identical with *Stilbula*).

The generic distribution of the group is, however, at present unsettled, and can only be established upon a more careful investigation of the characters of the species than has hitherto been given to them; thus, in the typical species *Eucharis ascendens*, a native of Europe, and also introduced into the British list, I have been unable, after repeated dissections, to discover any normally formed maxillæ or labium, the mouth being apparently closed by membrane; the mandibles of this species are represented in pl. XXVIII, figs. 15 *a* ♀, 15 *b* ♂. In the insect figured under the name of *Schizaspidia rufis* (fig. 5), the mandibles are armed with strong teeth (fig. 5 *b*), and the maxillæ and labium, with their palpi (figs. 5 *c*, 5 *d*), are well developed. The antennæ vary in nearly every species, as may be observed on inspecting the twenty-eighth plate, in which I have added figures of the antennæ of several species not represented; thus, fig. 15 *c* represents the antennæ of the male, and 15 *d*, that of the female, of the type, *Eucharis ascendens*. Fig. 13 represents the 12-jointed antenna of the male of *Eucharis Volusus* (*Entomologist*, pl. P, fig. 1 *c*); the intermediate joints being bifurcate, with the inner branch shorter than the outer. Fig. 14 *a* represents the antenna, apparently 9-jointed, of the male, and 14 *c*, that of the female, apparently 11-jointed, of *Eucharis Zalates* (*ibid.*, fig. 4 *a*, and fig. 4 *b*), in both of which the last apparent joint (or more probably only that of the male) is made up of the three ordinary terminal joints closely soldered together.

## GENUS—SCHIZASPIDIA.

(Westw. Proc. Zool. Soc. 26 May, 1835, p. 69.)

Corpus breve crassum; antennæ breves crassæ, 13-articulatæ, articulis secundo et tertio fere æqualibus, quarto ad decimum interne serratis, reliquis 3 in unum coalitis; scutellum magnum, postice supra abdomen productum et ejus dimidium basale superans, ad apicem furcatum; abdomen thorace paullo majus, supra planum, pedunculo (fere tertiam partem abdominis longitudine æquante) ad thoracis angulo apicale declive affixum.

OBS.—Perilampum (habitu) cum Eucharide (scutello armato) conjungens.

## SPECIES 1—SCHIZASPIDIA FURCIFERA. (Westw. l. c.)

## PLATE XXVIII, FIG. 2.

Capite et thorace æneis; facie canali profundo pro receptione antenarum, his fulvo-albidis (fig. 2 *a*) articulo secundo et tertio parvis fere æqualibus, quarto ad decimum intus acute producto-serratis, undecimo, ut videtur, 3-annulato; mesothoracis scuto et parapsidibus semicirculariter striatis; scutello et postscutello longitudinaliter sulcatis; hoc in cornu retro producto dimidium abdominis æquante, apice bifurcato; abdomine brevi cyaneo, apice fulcescente; pedibus fulvo-albidis; alis hyalinis, anticis nubila transversa pone medium brunnescente. (Femina?).

Long. corp. lin.  $2\frac{3}{4}$ ; expans. alar. antic. lin. 5.

Habitat; India Orientalis, Bengalia. In Mus. Britann.

Variat (sexus alter?) magnitudine minori; antennis magis serratis; thorace profundius sulcato; abdomine toto fulvo.

## SPECIES 2—SCHIZASPIDIA RUDIS.

PLATE XXVIII, FIG. 5.

Nigra: capite brevi lato, thoraci antice arete applicato; antennis capite vix longioribus 12-articulatis fuscis, articulo basali fulvo, secundo tenui sed tertio longiori, hoc et reliquis brevibus distinctis sensim incrassatis et setosis (fig. 5 *a*); mesothoracis scuto grosse punctato, parapsidibus indistinctis; scutello, basi longitudinaliter striato, postice areolato; postscutello in cornu crasso, striato, producto, apice furcato, furcis curvatis apice obtusis, dimidium abdominis attingentibus; abdominis pedunculo brevi cylindrico, abdomine subgloboso, nitido; pedibus rufis; alis cinereo-hyalinis in medio antice fusco-tinctis; vena radiali distincta fusca, fere transversa.

Long. corp. lin.  $1\frac{3}{4}$ ; expans. alar. antic. lin. 3.

Habitat; South Australia (Angas). Rarissima. In Mus. Hopeiano Oxoniæ.

The mandibles of this species are very sickle-shaped (fig. 5 *b*), with two strong teeth on the inner edge, of which the second is truncated. The maxillæ (fig. 5 *c*) are terminated by a long narrow membranous blade, which unite and form a tubular defence for the labium. The maxillary palpi are long, slender, 4-jointed, the last joint slightly clavate. The mentum (fig. 5 *d*) is slender and tubular, as is the labium, the labial palpi 2-jointed, the second joint slightly clavate. The front of the thorax is vertical and concave, forming a saucer-shaped space for the reception of the head. Fig. 5 *e* represents the insect seen sideways, with the limbs removed.

## SPECIES 3—SCHIZASPIDIA PLAGIATA.

(Westw. MS; Walker, Trans. Ent. Soc. 3rd Ser. vol. i. p. 385.)

PLATE XXVIII, FIG. 11.

Nigra: thorace grosse punctato fulvo, 8-maculato; mesothoracis postscutello in tubercula dua brevia obtusa divergentia terminato; metanoti lateribus in cornua dua parum arcuata apice obtusa productis; capite transverso, supra lævi, inter oculos longitudinaliter striolato; facie impressa et supra os transverse striolata; antennis 12-articulatis, articulis duobus basalibus flavidis, reliquis nigris; tertio ad undecimum ramum longum supra singulatim emittenti, duodecimo longitudine rami præcedentis; pedunculo brevi; abdomine ovali subcompresso, nigro-æneo nitido; alis pallide flavo-fusciscentibus; pedibus flavido-albidis; tarsorum articulo apicali fusco.

Long. corp. lin.  $2\frac{3}{4}$ ; expans. alar. antic. lin. 5.

Habitat; Para. In Mus. Britann.

## SPECIES 4—SCHIZASPIDIA CAFFRA.

PLATE XXVIII, FIG. 12.

Capite nigro, subæneo; facie impressa et supra semicirculariter striolata; antennis nigris 12-articulatis, articulo primo satis longo, secundo parvo, tertio obconico, quarto ad undecimum singulatim ramum longum setosum emittente, duodecimo longitudine rami præcedentis; thorace æneo valde convexo; mesoscuto parasidibus indeterminatis, transverse striolato; scutello indistincto, postscutello convexo, longitudinaliter striato, spinis duabus rectis armato; pedunculo medioeri; abdomine parvo compresso, chalybæo, nitidissimo; pedibus piceis femoribus nigris; alis hyalinis, vena radiali minuta pallide fusca.

Long. corp. lin. 2; expans. alar. antic. lin. 4.

Habitat; Caffraria. In Mus. Hopeiano Oxoniæ, e Mus. Reg. Holm. communicata.

The obliteration of the parasides and scutellum, and the simple third joint of the antennæ, together with the peculiar armature of the postscutellum, distinguish this insect from all the other species of the sub-family.



## SPECIES 5—SCHIZASPIDIA (?) MACULATA.

PLATE XXVIII, FIG. 1.

Capite nigro-æneo, punctato; antennis gracilibus simplicibus obscure fulvis, articulo secundo brevi, tertio longiori, 4-8 parvis subæqualibus; thorace luteo-fulvo, punctato, dorso mesonoti nigro maculato; postscutello semicirculari, macula ovali media nigra, apice in spinas duas parvas producto; metathorace fere verticale; abdomine obscure luteo, dorso nigro nitido, brevi, lato, pedunculo mediocri deflexo; alis hyalinis; venis fuscis; pedibus pallide luteis. (Fœmina?).

Long. corp. lin. 2; expans. alar. antic. lin. 5.

Habitat; Brasilia. 'Du midi de la Capitainerie de Goyaz.' In Mus. Jardin des Plantes, Paris.

## GENUS—THORACANTHA.

## SPECIES 1—THORACANTHA APTA.

(Walker, Trans. Ent. Soc. Lond. 3rd Ser. i. p. 384.)

PLATE XXVIII, FIG. 3.

Atra, crassa, abbreviata: capite brevi transverso; antennis (maris) nigris basi luteis, capitis latitudine haud longioribus, articulo primo crasso, secundo minuto, tertio ad undecimum brevissimis, singulo ramum longum pubescentem emittente, duodecimo (ultimo) longitudine rami articuli præcedentis; thorace gibbo; mesonoti scuto cum parapsidibus semicirculariter striolatis; scutello longitudinaliter striato, serieque transversa punctorum distincto; postscutello in spinas duas laterales acutissimas ad apicem abdominis extensis (spatio intermedio emarginato); pedibus pallide fulvis; alis limpidis venis pallidis, radiali fere oblitterata; abdominis petiolo crassiusculo, abdomine parvo compresso.

Long. corp. lin.  $1\frac{2}{3}$ ; expans. alar. antic. lin.  $3\frac{2}{3}$ .

Habitat; Amazonia, Santarem et Villa Nova (Bates). In Mus. Britann. et Hopeiano Oxoniæ.

## SPECIES 2—THORACANTHA FLAVICORNIS.

(Walker, Trans. Ent. Soc. Lond. 3rd Ser. vol. i. p. 382.)

PLATE XXVIII, FIG. 4.

Nigra: thorace luteo-villoso; capite brevi, antennis fulvis, apicem versus paullo crassioribus, articulis 10, articulo primo longo, secundo brevi, tertio longiore ad basin angustato, quarto ad nonum fere æqualibus, decimo ovali exarticulato (fig. 4 a); mesonoti scuto transverso striato; scutello bilobato sulco medio longitudinali, postscutello in lobos duos latissimos, fere longitudine abdominis, apice rotundatis; in singulo costa elevata submarginali; pedunculo robusto striato longiusculo; abdomine valde compresso, thorace paullo longiori; pedibus pallide flavis; alis limpidis.

Long. corp. lin. 2; expans. alar. antic. lin. 4.

Habitat; Amazonia, Villa Nova (Bates). In Mus. Britann.

It is necessary to observe that the figure of this species is taken from the typical specimens in the British Museum described by Mr. Walker, who has omitted to allude to the luteous villose clothing of the thorax,—a character occurring in no other species of the great family to which it belongs. Fig. 4 b represents the side view of the insect with the limbs cut off.

## SPECIES 3—THORACANTHA ACULEATA. (Mas.)

## PLATE XXVIII, FIG. 9.

Nigro-cærulea, nitida: capite brevi transverso punctato; antennis nigris, brevibus 12-articulatis, articulis duobus basalibus fulvis, articulis tertio ad undecimum in mare ramum longum emittente, duodecimo longitudine rami præcedentis; feminae simplicibus articulo primo brevi, secundo brevissimo; reliquis 10 fere æqualibus (fig. 9 a); mesothoracis scuto semicirculariter striato dorso rugoso; postscutello valde elongato, abdomen longe superanti, nitidissimo, in spinas duas acutissimas, longitudinaliter carinatas producto; pedunculo mediocri; abdomine compresso; alis limpidis, venis fere inconspicuis; spinis mesonoti brevioribus; pedibus fulvis.

Long. corp. ad apicem spinarum thoracis lin.  $2\frac{3}{4}$ .

Habitat; Brasilia, in Mus. Swainson olim; Amazonia (Bates), in Mus. Hopeiano Oxoniæ; 'Du midi de la Capitainerie de Goyaz,' in Mus. Jardin des Plantes, Paris.

SYN.: (Mas.) *Thoracantha flabellata*. Westw. in Proc. Zool. Soc. Lond. April 14, 1835, No. 28, p. 52 (nec *Euch. flabellata* Fab.)

(Fœm.) *Thoracantha aculeata* Westw. MS. in Coll. Jardin des Plantes, Paris; Blanchard in Cuvier Règne An. Ed. Crochard. Ins. pl. CXIII, fig. 8.

## SPECIES 4—THORACANTHA CORONATA.

## PLATE XXVIII, FIG. 10.

Æneo-nigra: capitis vertice in cornua dua obtusa elevato; oculis conoideis lateribus porrectis (fig. 10 a); antennis brevibus, luteo-fuscis, 12-articulatis, articulo secundo minuto, tribus ultimis in massam ovalem vix articulo præcedente majorem, coalitis (fig. 10 b); mandibulis valde falcatis, palpis gracillimis; mesothoracis scuto valde gibboso, parapsidibus valde distinctis semicirculariter striatis; scutello longitudinaliter striato; serieque transversa punctorum notato; postscutello longitudinaliter striatello angulisque posticis in cornua dua longa arcuata apice acuta, abdomine paullo longiora, productis; pedunculo abdomine dimidio breviori; hoc ovali compresso nigro; pedibus gracillimis, flavo-albidis, coxis nigris; alis hyalinis stigmatate parvo obscuro.

Long. corp. lin.  $2\frac{1}{2}$ ; expans. alar. antic. lin.  $4\frac{1}{2}$ .

Habitat; America Meridionali, Bahia et Amazonia. In Mus. Hopeiano Oxoniæ.

## SPECIES 5—THORACANTHA BATESELLA.

## PLATE XXVIII, FIG. 8.

Purpureo-cyanea, opaca, punctata: capite transverso tenue punctato; antennis gracilibus, in utroque sexu 11-articulatis; in mare articulo primo longo fulvescenti, secundo minuto, reliquis fuscis, tertio elongato ramum longum ad apicem emittenti, quarto ad decimum similiter ramosis, undecimo longitudine rami præcedentibus (fig. 8 a); in femina filiformibus, articulo tertio longissimo, reliquis 8 brevibus clavam tenuem formantibus (fig. 8 b); thorace ovali, metathoracis scuto subquadrato, in medio sulcato; scutello sulcato serieque transversa punctorum notato, postscutello in utroque sexu in spinas duas magnas crassas subarcuatas, granulosas, apice acutas, et ad apicem abdominis attingentes, sordide luteas, basi purpureas, emittente; pedunculo longo tenui cyaneo cylindrico; abdomine ovali compresso nigro; pedibus luteo-albidis; alis hyalinis, radio parvo fusco.

Long. corp. lin. 3; expans. alar. antic. lin. 5.

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniæ.

## GENUS — EUCCHARIS.

## EUCCHARIS DEPRIVATA.

(Walker, *Annals Nat. Hist.* 3rd Ser. vi. p. 359.)

PLATE XXVIII, FIG. 6.

Mas. Viridis cupreo varia, rude punctata: facie longitudinaliter striata; antennis longis luteo-fuscis basi pallidis, gracilibus 12-articulatis, articulo secundo minuto, tertio ad undecimum ramum longum gracilem singulatim emittente; duodecimo longitudine rami præcedentis articuli; thorace gibbo; mesonoto postice in tuberculum conicum parum prominens elevato; pedunculo longo cylindrico viridi; abdomine fusiformi compresso castaneo subtus pallidiori; pedibus pallide flavis longis gracilibus; alis cinereo-hyalinis nubila substigmatici brunnea.

Fœmina major: antennis longis gracilibus fuscis articulo basali fulvescenti, secundo minuto, reliquis 10 simplicibus sensim brevioribus (fig. 6 a); coloribus obscurioribus, pedunculo abdominis breviori, abdomine piceo.

Long. corp. maris lin. 2; expans. alar. antic. lin.  $4\frac{1}{3}$ .

Habitat; Ceylon; valde communis (D. Thwaites). In Mus. Hopeiano Oxoniæ.

## GENUS—STILBULA. (Spinola.)

## STILBULA PEDUNCULARIS.

PLATE XXVIII, FIG. 7.

Obscure cuprea viridi parum diversa, punctata: capite brevi transverso; facie in medio excavata pro receptione antenarum; antennis longis gracilibus, in utroque sexu simplicibus 12-articulatis, articulo primo parum elongato, secundo brevissimo, tertio longo, reliquis in mare filiformibus, in femina sensim abbreviatis, ultimis submoniliformibus (fig. 7 a); thorace gibboso ovato; mesothoracis scuto in medio sulco longitudinali, parapsidibus magnis; postscutello trigono, in cornu tenui breve apice furcato producto, furcis obtusis; pedunculo longo, tenui albido, pone medium nigro annulato; abdomine pedunculo parum breviori subclavato compresso nigro nitido; pedibus lutescentibus, femoribus in medio obscurioribus; alis hyalinis iridescentibus, radio in maculam trigonam dilatato.

Fœmina major, obscurior, pedunculo breviori.

Long. corp. lin.  $2\frac{3}{4}$ ; expans. alar. antic. lin.  $3\frac{1}{2}$ .

Habitat; South Australia (Angas). In Mus. Hopeiano Oxoniæ.

## FAMILY—PROCTOTRUPIDÆ (Steph.), OXYURA (Latr.)

## SUB-FAMILY—BETHYLIDES (Haliday), GONATOPIDES, pars (Westw.)

The three plates, XXIX, XXX, and XXXI, are devoted to the illustration of a very rare and curious group of Hymenoptera whose relations with other families are very peculiar. In many respects they approach nearly to the typical Aculeata, especially to the Mutillidæ, in the apterous condition of the females, certain of which closely resemble the females of *Methoca*; whilst others resemble some of the smaller Fossores allied to *Psen*, &c. Their 13-jointed antennæ in both sexes, however, at once distinguish them and remove them to the great aberrant section of the Hymenoptera. Here they are related, on the one hand, to those genera of Proctotrupidæ, in which the fore wings have most of the apical veins in an undeveloped condition, although their situation is indicated by certain narrow markings on the wings destitute of the fine setæ with which the other parts of the wings are clothed. Some of the species, especially those of the Genus *Mesitius*, are closely allied to the Chrysididæ (which have also 13-jointed antennæ in both sexes, and partially obsolete veins in the fore wings); but *Chrysis* has only 5-jointed maxillary palpi, and the ovipositor is differently constructed. The Genus *Bethylus* Latr. (*Omalus* Jur.) has been restricted to the flat-headed species, which have the hind basal cell of the fore wings shorter than the front one, and which have 12-jointed antennæ; whereas in the species before us those organs are uniformly 13-jointed in both sexes. It is possible that some of the smaller continental species of *Epyris* may have been described by Dr. Klug in his Monograph on *Bethylus*, in which seven species of the genus are described, in Weber and Mohr's Archiv. (vol. ii. p. 187—). In his generic characters, however, he describes and figures the maxillary palpi as 6-jointed, and the labial as 4-jointed; and he states that his species agree in their general characters with *Tiphia villosa* (S. Piez. 235), and *Bethylus villosus* (S. Piez. 236).

The late lamented A. H. Haliday was engaged upon a Memoir on the European Species of the Group, whilst I was occupied, in conjunction with him, chiefly upon the extra species. My illustrations are therefore confined to the extra-European species (with the exception of our British species, including *Pristocera depressa*), and the species of *Mesitius*. It is to be hoped that his valuable materials will not be lost to science.

The species are for the most part of small size, although the size of many of them considerably exceeds that of the great mass of the Proctotrupidæ, some of which indeed are the most minute of insects.

## GENUS—CALYOZA.

(Westw. Trans. Ent. Soc. Loud. vol. ii. p. 56.)

Corpus elongatum subdepressum; caput magnum subconvexum, oculi ante medium capitis lateraliter positi: ocelli postici; antennæ in utroque sexu 13-articulatæ, articulis secundo et tertio minutis, 4–12 in mare ramum longum emittentibus, in fœmina (fig. 2 a) simplicibus cylindricis; mandibulæ elongatæ; in mare apice lato oblique truncato (fig. 1 a) dente magno apicali, alterisque tribus parvis obtusis, in fœmina (figs. 2 b, 2 c, e latere visa) magis irregulariter dentatis, dente interno obtuso subtus setis rigidis armato, dente medio apicali magno, trigono, alteris externis parvis obtusis; maxillæ (fig. 1 b, mas) parvæ, apice lobis tribus planis membranaceis ciliatis; palpi maxillares modice elongati 6-articulati, articulis 1 et 2 brevibus, reliquis 4 longioribus fere æqualibus at sensim tenuioribus; mentum (fig. 1 c, mas; 2 d, fœmina) subobovatum; palpis labialibus brevibus 3-articulatis; collare magnum subtrigonum antice rotundatum; metathorax longitudinaliter sulcatum et transverse striolatum; alæ anticæ tantum cellulis duabus basalibus, stigmate magno, cellulaque unica marginali incompleta instructæ, unguis tarsorum acuti basi lati denteque medio armati (fig. 2 e).

This genus was proposed by me for a male insect preserved in gum anime in the Collection of Mr. Strong, of Long Acre, London. Its characters were consequently not satisfactorily examined. I have recently obtained a male insect from Port Natal, collected by Herr Gueinzus, which I have no hesitation in giving as identical with the Copal individual, and the British Museum Collection possesses a female which I am equally convinced is the other sex of the same species.

## CALYOZA STAPHYLINOIDES.

(Hope MS; Westw. Op. cit. p. 56, pl. VII, fig. 11.)

PLATE XXIX, FIG. 1, male; 2, female.

Nigra, punctata: antennis apiceque abdominis rufis; pedibus nigris, geniculis, apice tibiæ tarsisque piceo-rufis; metathorace in medio dorsi lineis 7 longitudinalibus approximatis, interstitiis transverse striolatis; lateribus punctatis.

Long. corp. mar. lin.  $3\frac{1}{2}$ ; fœm. lin.  $4\frac{1}{2}$ ; expans. alar. mar. lin.  $4\frac{3}{4}$ ; fœm. lin.  $5\frac{1}{2}$ .

Habitat; Natalia (Gueinzus). Mas in Mus. Hopeiano Oxoniæ; fœm. in Mus. Britann.

## GENUS—EPYRIS.

(Westw. Taylor, Ann. Phil. August, 1832, p. 129.)

Caput mediocre subconvexum (nec planum ut in Bethylo) thoracis latitudine; oculi villosi; ocelli distincti; antennæ elongatæ graciles cylindricæ (nec articulis basi tenuioribus ut in Bethylo) in utroque sexu 13-articulatæ. in fœmina minus graciles; mandibulæ falcatæ apice obliquo, 5-dentato, dente externo magno acuto (fig. 1 a); maxillæ lobis duobus membranaceis ovalibus ciliatis apicalibus; palpi maxillares longi, penduli 6-articulati, articulis tribus basalibus crassioribus, primo minuto, secundo et tertio sensim longioribus, ultimis tribus longis gracilibus (fig. 1 b); mentum parvum ad apicem paullo latius; labium parvum; palpi labiales 3-articulati, articulis sensim longioribus (fig. 1 c); collare trigono apice rotundato; metathorax transversus vel subquadratus longitudinaliter carinatus; alæ in utroque sexu completæ; alæ anticæ cellulis duabus basalibus (brachialibus) conterminis; radiales oblonga in apice alarum incompleta; cubitalibus et discoidalibus oblitteratis; pedes medioeres femoribus crassis, unguibus tarsorum simplicibus.

A much more detailed generic description than the above was published by Haliday in the Entomological Magazine, vol. iv. p. 432, in which the relative parts of the thorax were carefully investigated.

## SPECIES 1—EPYRIS NIGER.

(Westw. Ann. Phil. ut supra.)

PLATE XXX, FIG. 1.

Niger: capite et collare subtiliter punctatis; antennis nigris elongatis; metathorace truncato, dorso tricarinato interstitiis transversim striolatis, carinaque laterali utrinque instructo; abdomine nitido convexo, ovali; alis cinereo-hyalinis venis et stigmatibus fuscis, venis costalibus conjunctis; geniculis, tibiis, tarsisque plus minusve piceis. (Mas et fœm.)

Long. corp. lin.  $1\frac{3}{4}$ ; expans. alar. antic. lin.  $2\frac{3}{4}$ .

Habitat; Ripley, 1826, Coomb, Surrey, mense Julii, 1835. Isle of Wight (Rudd). Near Paris (Comte de Castelnau). Bingen and Isle of Wight (I. O. W).

SYN.: *Epyris niger*. Haliday, Entom. Mag. vol. v. p. 519 (nec vol. iv. p. 432).

## SPECIES 2—EPYRIS FRATERNUS. Westw.

PLATE XXX, FIG. 2.

Præcedente major, magis elongatus, subtiliter punctatus; capite oblongo ovato; antennis brevioribus; collare magis elongato; metathoracis dorso tricarinato, carina media integra, duabus lateralibus abbreviatis; interstitiis oblique striolatis carinaque laterali utrinque instructo; abdomine elongato-ovalis; pedibus crassis, coxis, geniculis, tibiæ basi et apice tarsisque cum antennis et tegulis alarum rufo-piceis; alis luteo-parum tinctis, venis stigmatibusque pallide luteo-fuscis. (Fœm.)

Long. corp. lin.  $2\frac{1}{2}$ ; expans. alar. antic. lin.  $2\frac{1}{2}$ .

Habitat; fœminam unicam cepi apud Coomb, 16 Julii, 1835. In Mus. Hopeiano Oxoniæ.

## SPECIES 3—EPYRIS SÆVA.

## PLATE XXXI, FIG. 6.

*E. picicorni* valde similis at paullo major: capitis clypeo bituberculato; antennis piceo-rufis in tubercula insidentibus; articulo primo crassiori annulo medio nigro; mandibulis subfalcatis apice oblique truncatis, dentibus duobus, externo majori acuto, armatis (fig. 6 a); metanoto dorso tricarinato; carinis lateralibus ad marginem elevatum transversum posticum extensis, spatiis intermediis longitudinaliter striolatis, striolis autem ad basin convergentibus et subarcuatis, lateribus etiam carina instructis; abdominis segmentis margine postico cum segmentis ultimis piceis; pedibus anticis rufescentibus, femoribus basi nigris, 4 posticis nigris, geniculis, tibiis basi tarsisque rufescentibus; alis luteo-hyalinis; venis et stigmate pallide fuscis.

Long. corp. fere lin. 3; expans. alar. antic. lin. 3.

Habitat; —. In Mus. Britann. (Coll. Anglic. No. 53, 80, sub nomine *Epyris niger* inscriptus).

## SPECIES 4—EPYRIS HALIDAI.

## PLATE XVI, FIG. 6.

Niger: abdomine nitido glabro; antennarum articulo primo apice, reliquis cunctis pedibusque rufo-piceis, trochanteribus tibiis tarsisque ferruginosis; mandibulis apice ferrugineis, capite thoraceque subtiliter intricatim punctulatis, fronte, vertice, pro- et mesothoracis dorso præterea punctis majoribus sparsis pilisque raris albidis; scutelli disco læviore nitente; metathorace basi ruguloso, linea longitudinali elevata postice evanescente in canali posita, apice convexo rotundato; alis subfumato-hyalinis, tegulis venis stigmatæque fusco-ferrugineis venis costalibus disjunctis, areola præbrachialia a stigmate remota.

Long. corp. maris lin.  $2\frac{1}{4}$ ; expans. alar. antic. lin.  $3\frac{1}{2}$ .

Habitat; Isle of Wight (mense September). In Mus. Hopeiano Oxoniæ.

SYN.: *Epyris niger*. Haliday, Ent. Mag. vol. iv. p. 433.

*Epyris subcyaneus*. Haliday, Ent. Mag. vol. v. p. 519.

Specimens of this species were taken by W. W. Saunders, Esq., to whom I am indebted for a specimen. Mr. Haliday also kindly sent me a pair (but I am not acquainted with their locality). The Comte de Castelnau took it near Paris, and I have received it from the neighbourhood of Berlin, taken by Dr. Burmeister, from Stuttgart, taken by Van Roser, and near Brussels, from M. Wesmael, the latter under the name of *Omalus fuscicornis* Jurine, but that insect, as appears clearly from the figure of the fore wings, belongs to the flat-headed Genus *Bethylus*.

The species was first described by Mr. Haliday, who mistook it for my *E. niger*, which name he corrected subsequently to *E. subcyaneus*. I am obliged to alter the latter name from the fact that it is incorrect, the specimen described by Haliday having been washed over with gum water mixed with corrosive sublimate, which gave it an unnatural bloom. I have therefore applied to it the name of its lamented and most talented describer.

## SPECIES 5—EPYRIS LATHROBIOIDES.

## PLATE XXIX, FIG. 7.

Valde elongatus: capite oblongo, clypeo parum producto transverso; antennis rufis brevibus, articulis secundo et tertio brevibus fere æqualibus, proximis sensim majoribus, latere interno paullo productis (fig. 7 c); collari conico antice subtruncato; metanoto striolis 5 longitudinalibus duabus intermediis tenuioribus, interstitiis transverse striolatis, lineaque longitudinali laterale utrinque notato; abdomine elongato-ovali, glabro, segmentis sub lente punctis minimis impressis, apicibus segmentorum, segmento apicali tegulisque rufo-piceis;

pedibus crassis rufis, tibiis 4 posticis extus spinulosis; alis luteo-fuscescentibus venis stigmatæque fuscis, cellula postero-discoïdali incompleta; palpis maxillaribus brevibus, articulis tribus basalibus crassis subæqualibus, tribus ultimis subæqualibus tenuioribus (fig. 7 *a*); palpis labialibus articulis tribus subæqualibus (fig. 7 *b*).

Long. corp. lin. 5; expans. alar. antic. lin. 5.

Habitat; Ceylon (D. Thwaites). In Mus. Hopeiano Oxoniæ.

SPECIES 6—EPYRIS MUSCARIUS.

PLATE XXIX, FIG. 8.

Brevis, latus, lævissime punctatus: collare magno transverso; metanoto transverso-quadrato; dorso 5-carinato, carinis duabus externis parum obliquis, interstitiis transverse striolatis, utrinque linea laterali longitudinali impresso, angulis posticis prominentibus incis; antennis fuscis, articulis secundo et tertio brevissimis æqualibus; mandibulis apice truncato, dente valido externo alteris 4 minutis obtusis (fig. 8 *a*); palpis pallide fulvis; pedibus fulvis; femoribus 4 posticis nigris; alis hyalinis, venis stigmatæque brunneo-fulvis; collaris margine postico, tegulis margineque postico segmentorum abdominalium piceis.

Long. corp. lin.  $2\frac{1}{2}$ ; expans. alar. antic. lin. 4.

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniæ.

SPECIES 7—EPYRIS PLATYCEPHALUS.

PLATE XXIX, FIG. 9.

Robustus, niger, punctatus: capite fere plano transverso-subquadrato, clypeo porrecto transverso; antennis brevibus, rufo-piceis; collare magno semicirculari; metanoto transverso apice declivi, disco 7-carinato, carinis longitudinalibus fere rectis, secundo et sexto antice abbreviatis, lineaque laterali longitudinali utrinque impresso; abdomine ovali glaberrimo, segmentorum apicibus piceis; pedibus brevibus crassis, tiliarum apicibus et tarsis rufo-piceis; alis lutescentibus venis stigmatæque obscurioribus, cellula postero-discoïdali oblitterata; mandibulis (figs. 9 *a*, 9 *b*, 9 *c*, diversis sitibus visis) dente magno bifido apicali alterisque 5 minoribus obtusis marginis interni; palpis maxillaribus articulis tribus basalibus crassioribus subæqualibus, tribus apicalibus etiam subæqualibus, gracilioribus; palpis labialibus articulis tribus subæqualibus, secundo ad apicem dilatato.

Long. corp. lin.  $4\frac{1}{2}$ ; expans. alar. antic. lin.  $5\frac{3}{4}$ .

Habitat; Australia Septentrionali (Damell). In Mus. Hopeiano Oxoniæ, et in Mus. Britann. (3 indiv.)

SPECIES 8—EPYRIS PICEIVENTRIS.

PLATE XXIX, FIG. 10.

Niger, punctatus punctis minutis: capite subgloboso, clypeo lobis duobus minutis lateralibus instructo; antennis brevibus piceis in medio paullo crassioribus, et e medio ad apicem sensim attenuatis; collari magno subquadrato, postice paullo latiori; metanoto in medio carinis 5 longitudinalibus, secunda et quarta multo gracilioribus, interstitiis transverse striolatis, lateribus linea longitudinali impressis, extus punctatis; abdomine breviter ovato, rufo-piceo lævi; alis hyalinis luteo paullo tinctis, venis stigmatæque obscurioribus, cellula infera discoïdali haud determinata; pedibus nigris tibiis tarsisque piceo-rufis; mandibulis dente valido apicali alterisque quatuor minoribus armatis (fig. 10 *a*); maxillarum palpis articulis tribus basalibus sensim majoribus, tribus ultimis æqualibus longitudine tertii (fig. 10 *b*).

Long. corp. lin.  $2\frac{1}{2}$ ; expans. alar. antic. lin. 4.

Habitat; Melbourne, New Holland. In Mus. Hopeiano Oxoniæ.

## SPECIES 9—EPYRIS EGANUS. (Mas.)

PLATE XXX, FIG. 5.

Aureo-viridis, leviter punctatus: metanoto cæruleo-nigro; abdomine nigro nitidissimo, apicibus segmentorum piceis; pedibus nigro-æneis, geniculis, tibiærum apicibus, tarsisque rufescentibus; alis fulvescentibus nubila obscuriori pone stigma, vena radialis elongata; capite rotundato, subdepresso; clypeo prominulo subconico; facieque in medio antice depressa; antennis nigris longis, fere ad medium abdominis attingentibus, gracilibus, filiformibus, apice attenuatis; articulo primo satis elongato, secundo parvo, tertio minimo, reliquis longitudine subæqualibus; mandibulis (fig. 5 a) apice oblique truncatis dentatis, dente externo majori, interno magno bifido; maxillis parvis, lobo basali obtrigono corneo, palpis longis articulo primo minuto, secundo et tertio æqualibus crassioribus, tribus ultimis æqualibus setosis; mento obconico, palpis labialibus articulis tribus æqualibus; collari semiovali, angulis posticis lateralibus paulo productis; mesonoti subquadrati dorso 5-carinato, carinis duabus externis utrinque postice conjunctis interstitiis transverse striolatis cum linea tenui elevata striaque utrinque punctata prope latera impresso; margine transverso postico tenui elevato; tegulis piceo-rufis.

Long. corp. lin.  $3\frac{3}{4}$ ; expans. alar. antic. lin. 5.

Habitat; Ega, Amazonia (Bates). In Mus. Britann.

## SPECIES 10—EPYRIS EGANELLUS. (Fem.)

PLATE XXXI, FIG. 4.

Individuo masculino *E. Egani* multo brevior et crassior: capite magno thoracis latitudine, oculis permagnis, facie impressione arcuata pone clypeum, hoc semicirculariter producto, carina media, longitudinaliter impressa notato; scutello impressione transversa arcuata basali distincto; mesonoto nigro transverso, nec subquadrato, similiter carinato, at lineis duabus parvis intermediis obsoletis; abdomine ovali, nigro, nitido, ultra medium setoso, segmentis apicalibus rufo-piceis; antennis medioeribus rufo-fuscis, articulo basali rufo, secundo parvo, tertio et decem apicalibus fere æqualibus; pedibus magis rufescentibus; alis anticis capite et thorace longitudine æqualibus.

Long. corp. lin.  $4\frac{1}{4}$ ; expans. alar. antic. lin.  $5\frac{1}{2}$ .

Habitat; Ega, Amazonia (Bates). In Mus. Britann.

## SPECIES 11—EPYRIS SMITHANUS.

*E. Eganello* proximus at gracilior, viridi-æneus: abdomine nigro apice rufo; capite convexo, facie antice linea media impressa vix distincta; clypeo conico apice emarginato, carina media; antennis brevibus piceis; capite et collare punctatis; mesothorace glabro; scutello utrinque puncto profundo; metanoto transverso, viridi, carinis ut in *E. Eganello*; tegulis fulvis; abdomine elongato-ovalis glabro; pedibus rufo-fulvis, femoribus nigro-æneis; alis melleo-hyalinis; venis fulvis.

Long. corp. lin. 4; expans. alar. antic. lin.  $5\frac{1}{2}$ .

Habitat; Brazil. In Mus. F. Smith.

## SPECIES 12—EPYRIS AURICHALCEUS. (Fem.) (Klug MSS.)

PLATE XXXI, FIG. 3.

Brevis, aureo-viridis nitidissimus: capite et mesonoto læviter punctatis; abdomine nigro, segmentis præsertim posticis apice rufis; mandibulis, antennis pedibusque rufis; alis pallide fuscis; venis brunneis; capite subquadrato pone oculos latiori, convexo; clypeo vix angulato porrecto, facie linea brevissima impressa e clypeo ducta; mandibulis apice dilatatis truncatis, 5-dentatis, dente externo paulo majori (fig. 3 b); antennis brevibus, articulo secundo magnitudine fere tertii, hoc et reliquis brevibus fere æqualibus (fig. 3 a); mesonoto



cæruleo-viridi transverso, dorso 5-carinato, carinis duabus externis dimidiatim-abbreviatis, inter carinas tres medias transversim striolato, et intus striolas externas oblique striolato, marginibus lateralibus et apicali angustis elevatis; alis anticis vena radiali elongata; cellula postero-discoidali vix indicata.

Long. corp. lin.  $3\frac{2}{3}$ ; expans. alar. antic. lin.  $5\frac{1}{4}$ .

Habitat; Insula Cuba. In Mus. Reg. Berol. et Mus. Hopeiano Oxoniæ, Dom. Guerinio communicata.

SPECIES 13—EPYRIS AMAZONICUS. (Fœm.)

PLATE XXX, FIG. 9.

Oblongus, viridis, læviter punctatus: mesonoto nigro, quadrato; abdomine nigro, segmentorum margine postico anoque rufis; antennis fuscis articulo basali rufo, secundo et tertio parvis, quarto et reliquis subæqualibus, supra nigris subtus obscure rufis; pedibus nigris, geniculis, tibiæ apice tarsisque rufo-piceis; alis fulvo-hyalinis; venis fulvo-brunneis, radiali elongata, discoidalibus obsolete; capite convexo; clypeo in tuberculum conicum elevato, facie linea longitudinali media e clypeo ad ocellos ducta impressa; mandibulis apice dilatatis, dente externo longiori acuto, interno magno truncato (fig. 9a); palpis maxillaribus brevibus articulis 6 subæqualibus setosis (fig. 9b); palpis labialibus articulo tertio (apicali) longiori tenuiori; mesonoto subquadrato nigro, dorso 5-carinato, carinis duabus externis utrinque postice convergentibus, linea tenui inter carinam mediam et proximam utrinque elevata; interstitiis transverse carinatis; abdomine elongato ovali.

Long. corp. lin. 5; expans. alar. antic. lin.  $5\frac{1}{2}$ .

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniæ.

In its more elongated form, and in several other respects, this insect appears to be more likely to prove the true female of *E. Eganus* than the female in the British Museum; (also from Ega, to which I have given the name of *E. Eganellus*).

SPECIES 14—EPYRIS PLANICEPS.

(*Dryinus planiceps*, Fabricius, Syst. Piez. p. 201, No. 4.)

Viridi-æneus: abdomine nigro; antennis nigris articulo primo rufo, utrinque ad basin mandibularum insertis; capite plano viridi-æneo, immaculato; thorace viridi-æneo, postice cærulescenti; abdomine conico, acuto, atro immaculato; pedibus rufis femoribus nigris; alis obscuris postice albis.

Two typical specimens of this species, collected in one of the American (West Indian) Islands by Schmidt, are still preserved in the Copenhagen Museum: the metanotum is subquadrate, with three longitudinal carinæ in the middle, and with an abbreviated ill-defined oblique one on each side, and the lateral margin with an impressed line, the interstices transversely striolated. The antennæ are pitchy, with the basal and apical joints reddish. The front of the head is simple, with a rather deep impressed line in the middle; the head and thorax punctured; the apex of the abdomen reddish; the legs pitchy red, with the femora dark in the middle, the anterior pair greenish on the outside.

SPECIES 15—EPYRIS FABRICII.

'*D. planiceps*, var. ex America Meridionalis.'

A specimen thus named by Fabricius is also preserved in the Copenhagen Museum with the two specimens of *E. planiceps*, which I can but regard as specifically distinct. It is a male, with long slender black antennæ, with the basal joint green; the head and collar golden green, very delicately punctured, and with larger punctures interspersed. The front of the head is coppery, with a triangular impression in the middle of the fore margin; the ocelli are large, the front margin of the collar is raised and punctured; the metanotum is subquadrate, dark purple, greenish at the sides. It has five longitudinal carinæ in the middle, with the interstices transversely striolated, and the space between the outer carinæ and the impressed lateral line obliquely striolated. The abdomen is blue black, the legs pitchy fulvous, the femora darker in the middle; the wings stained pale, with the veins and stigma blackish.

Another specimen from Demerara, agreeing with the latter insect, is contained in the Westermann Collection, now forming a most important portion of the Copenhagen Museum.

## SPECIES 16—EPYRIS SERRICOLLIS.

## PLATE XXX, FIG. 10.

*Nigrus, nitidissimus*: capite magno, postice emarginato; clypeo transverso porrecto; antennis pedibus anoque castaneo-rufis; antennis brevibus, articulo basali magno crasso, margine antico setis brevibus rigidis armato; ocellis posticis; labro minuto porrecto longe ciliato (fig. 10 *a*); mandibulis elongatis, apice obtuso, extus sinuatis, intus dentibus obtusis armatis (figs. 10 *b*, 10 *c*, supra et e latere visis); maxillis minutis, palpis brevibus 6-articulatis (fig. 10 *d*); mento crateriformi, labio apice emarginato; palpis labialibus 3-articulatis (fig. 10 *e*); collare magno semiovali, marginibus serratis et setosis; metathorace transverse quadrato, in medio dorso tricarinato, interstitiis transversis rugosis, lateribus linea impressa notatis; abdomine ovali; pedibus crassis tibiis intermediis spinulosis; alis satis brevibus fusco-lutescentibus, stigmate brevi crasso fusco.

Long. corp. lin. 4; expans. alar. antic. lin.  $4\frac{3}{4}$ .

Habitat; Damara Land, Africa Austral. In Mus. Hopeiano Oxoniæ.

NOTE.—In the structure of the mandibles, the short antennæ with a dilated basal joint, and the strong legs, this species recedes from the ordinary species of the Genus *Epyris*.

## SPECIES 17—EPYRIS? NASALIS.

## PLATE XXXI, FIG. 2.

*Niger, nitidus*: capite subquadrato punctato; clypeo porrecto conico; facie antice carina parva instructa; mandibulis (fig. 2 *a*) fulvo-piceis, apice 4-dentato, dentibus duobus intermediis minutis; collare semicirculare; mesonoti scutello punctis duobus profundis; metanoto in medio spatio angusto cuneiformi glabro elevato lineaque utrinque obliqua, spatio intermedio parum ruguloso; lateribus et margine postico anguste marginatis; abdomine nigro nitidissimo; pedibus rufo-fulvis, femoribus nigris apice rufis; alis melleo-hyalinis, stigmate nigro, venis fuscis, cellula antea discoidali parva trigona completa; antennis luteis vix capite longioribus, articulis secundo et tertio parvis, reliquis submoniliformibus (fig. 2 *d*); maxillis lobis tribus apicalibus ciliatis; palpis maxillaribus 6?-articulatis (fig. 2 *b*); mento crateriformi, palpis labialibus 3-articulatis, articulo primo minuto (fig. 2 *c*).

Long. corp. lin.  $2\frac{1}{2}$ ; expans. alar. antic. lin.  $3\frac{1}{2}$ .

Habitat; Brasilia. In Mus. W. W. Saunders.

## GENUS—PRISTOCERA.

(Klug, Weber und Mohr, Beiträgen zur Naturkunde, 11 Bd. p. 202-6, pl. IV, fig. 8.)

The Genus, as proposed by Dr. Klug in the work above quoted, comprised two species only (of which the males alone were known), namely—

1. *Pristocera depressa* Fab., from Germany and Austria.
2. *Pristocera atra*, from Georgia, in North America.

Taking the former of these two insects as the type of the Genus, the following are its generic characters:—

*Mas alatus*. Corpus oblongum depressum; caput mediocre convexum; ocelli in medio verticis positi; antennæ longitudine thoracis et trientem abdominis æquantem 13-articulatæ, articulo primo curvato crassiori punctato, secundo minuto, reliquis 11 subfiliformibus setosis aut pubescentibus; mandibulæ apice dilatata, 5-dentata, dentibus acutis conicis, externo majori (fig. 3 *a*); maxillæ lobis duobus apicalibus membranaceis ciliatis; palpis maxillaribus longis 6-articulatis, articulo secundo breviori (fig. 3 *b*); mentum obconicum setis 4 rigidis antice armatum, labium internum membranaceum apice in medio emarginato; palpis labialibus triarticulatis articulis fere æqualibus, longe setosis (fig. 3 *c*); collare trigonum antice subtruncatum; scutellum convexum; metathorax postice convexus, spatio magno dorsali trigono elevato plus minusve striolato; abdomen

oblongo-ovatum depressum; pedes modice elongati; alæ anticæ cellulis duabus basalibus cellulaque postero-discoidali satis distincte formata; stigmatè magno, venaque radiali longa in disco terminata; pedes satis elongati.

Fœmina aptera, formiciformis: caput magnum quadratum; oculis minutis, ocellis obsoletis; clypeus transversus; antennæ ad basin valde approximatae 13-articulatae, articulo primo crasso arcuato, secundo tertio paullo majori, hoc et reliquis sensim paullo incrassatis, ultimo duodecimo paullo longiori ovali (fig. 4*a*); mandibulae validae curvatae, apice tridentatae dente externo magno obtuso (fig. 4*b*, *c*); maxillae parvae lobo apicali ovali longe ciliato; palpi maxillares breves 6-articulati, articulis irregularibus, basali intus dilatato setoso, secundo breviori, quinto brevissimo (fig. 4*d*); mentum apice paullo latius; palpi labiales articulis tribus fere æqualibus (fig. 4*e*); collare subquadratum angulis anticis rotundatis; mesothorax massam fere rotundatam formans, utrinque supra linea impressus; metathorax obovalis convexus; abdomen valde elongatum convexum 6-annulatum; pedes breves crassi; tibiis spinulosis.

## SPECIES 1—PRISTOCERA DEPRESSA.

PLATE 30, FIG. 3 male, FIG. 4 female.

(Bethylus depressus, Fabricius, Spec. Piezatorum, p. 237.)

Mas. Niger: abdomine rufo depresso nitido, apice obscuriori; tarsis piceis.

Long. corp. lin. 5; expans. alar. antic. lin.  $7\frac{1}{2}$ .

Fœmina. Tota fulva, glabra: capite et collari punctatis; capite longitudine dimidium thoracis æquanti.

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

Habitat; Europa, Germania, Austria, Italia (Roma D. Schiödte, Drewsen.)

I found a specimen of the male of this species amongst a mass of unarranged British Hymenoptera in the Hopeian Collection, and was informed by Mr. Hope that he took it in the Archdeacon's close at Netley. I am indebted to Signor Costa, of Naples, for a knowledge of the female, now for the first time figured.

## SPECIES 2—PRISTOCERA ATRA.

(Klug, Weber und Mohr, Beitr. 2, p. 206, pl. IV, figs. 3, 4, 8.)

PLATE XXXI, FIG. 5.

Atra: antennis pedibusque incano-pubescentibus; capite dense punctato; antennis longis articulo secundo minimo (fig. 5*b*); reliquis ad apicem internum paullo productis (inde subserratae apparent); collari breviori transverso, postice latiori; metanoto ruguloso apice rotundato, dorso spatio magno basali subtrigono depresso; carina media elevata striolisque minutis basalibus distincto; abdomine depresso glabro, segmentis margine postico piceis; pedibus nigris; alis pallide luteo-fusciscentibus apicibus obscurioribus, venis obscuris stigmatè magno nigro; cellula postero-discoidali bene determinata, vena radiali versus basin parum angulata, et inde fere recta; unguibus tarsorum intus spina media armatis (fig. 5*a*). (Mas.)

Long. corp. lin.  $5\frac{1}{2}$ ; expans. alar. antic. lin.  $8\frac{2}{3}$ .

Habitat; Georgia et Florida. In Mus. Berol., Britann. et Oxoniæ.

A figure of this species appears amongst a Collection of Abbots' Drawings of Georgian Insects which I saw at Paris. The late Mr. E. Doubleday found it but rarely, in one spot, in a sandy pathway about one hundred yards from the River St. John's, and a little South of the Bluff. A specimen, also taken by Mr. E. Doubleday, was in the Collection of the Entomological Club, taken at Mount Pleasant, Ohio.

## SPECIES 3—PRISTOCERA COLUMBANA.

## PLATE XXIX, FIG. 5.

Nigra, nitida, lævissima: capite rotundato minute punctato, clypeo prominulo, emarginato; mandibulis albidis, dentibus tribus apicalibus alteroque magno interno (fig. 5 *a*); antennis gracilibus fere longitudine thoracis et abdominis, articulis 13, secundo minuto, reliquis, ad apicem sensim attenuatis, intus setosis; collari brevi semicirculari; metanoto transverse quadrato, in medio longitudinaliter sulcato, striolisque basalibus abbreviatis, internis magis obliquis, lateribus metanoti longitudinaliter striatis; abdomine oblongo-ovato, segmentorum marginibus piceis; pedibus nigris, tibiis apice tarsisque piceo-rufis; alis fuscis, venis stigmatumque fuscis, cellula infero-discoïdali completa.

Long. corp. lin. 4; expans. alar. antic. lin. 6.

Habitat; Columbia (D. Gaudichaud). In Mus. W. W. Saunders.

The wings are slightly longer than the antennæ, which are nearly as long as the thorax and abdomen. The maxillary palpi are moderately long, the two basal joints short, the third longer and oblique at its extremity; the mentum is cup-shaped, and the labial palpi are three-jointed, the last joint thickened at the tip (fig. 5 *b*).

## SPECIES 4—PRISTOCERA CRASSICORNIS.

## PLATE XXIX, FIG. 6.

Nigra, punctata: abdomine nitidissimo lævissime punctato; clypeo porrecto apice subbifido; mandibulis irregulariter dentatis, dentibus duobus apicalibus validis et interno crasso, brevi, truncato (fig. 6 *b*); antennis brevibus, articulis intermediis crassioribus, apicalibus sensim attenuatis (fig. 6 *a*); collare semi-ovato; metanoto spatio semi-ovali longitudinaliter striolato notato, postice in canalem abbreviatum dorsalem ad apicem metanoti extensum desinente; lateribus metanoti oblique striolatis; alis fusco-hyalinis venis stigmatumque nigris; cellula postero-discoïdali vix distincte formata; collaris, segmentorum abdominalium marginibus posticis, tegulisque piceis; pedibus nigris, geniculis, tibiarum apicibus, tarsisque piceo-rufis.

Long. corp. lin. 4; expans. alar. antic. lin. 6.

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniæ et W. W. Saunders.

The maxillary palpi are 6-jointed, the three basal joints short, the third but slightly larger than the second; the three terminal joints are more elongated and slender, nearly equal; the mentum is narrow at the base, dilated at the anterior extremity; the labial palpi 3-jointed, with the joints equal.

## SPECIES 5—PRISTOCERA DREWSENII.

## PLATE XXXI, FIG. 7.

Nigra: capite rotundato varioloso-punctato; clypeo in medio in spinam parvam producto; antennis gracilibus, filiformibus, articulo primo longiori, secundo parvo, reliquis fere æqualibus, ad apicem sensim paullo attenuatis (fig. 7 *b*); mandibulis dentibus 4 apicalibus, dente externo et interno majoribus acutis conicis (fig. 7 *a*); maxillis lobis duobus membranaceis, palpis 6-articulatis, tribus basalibus crassioribus et sensim longioribus, tribus ultimis gracilioribus subæqualibus; mento angulis anticis lateraliter porrectis, margine antico valde setoso, palpis 3-articulatis, articulis basi gracilibus, subæqualibus; collare trigono, punctato, margine postico lævi; mesothoracis dorso postice rotundato, spatio trigono basali areolato, in medio subcanaliculato, carinam tenuem mediam includente; abdomine depresso, nitidissimo; pedibus nigris; trochanteribus albis; alis pallide lutescenti-hyalinis, venis gracilibus stigmatumque nigris. (Mas.)

Long. corp. lin. 5; expans. alar. antic. lin. 7.

Habitat; Ceylon. In Mus. Hopeiano Oxoniæ. Mecum benevole communicavit Dom. Drewsen, Hymenopterologus Danicus peritissimus et nomine ejus inscripta.

## SPECIES 6—PRISTOCERA FULVICOLLIS.

## PLATE XXI, FIG. 3.

Nigra, sublævis: antennis, prothorace cum collare, abdomineque fulvo-testaceis, pedibus luteis, alarum venis stigmatæque fuscis; capite nitido læviter punctato; mandibulis luteis, dente magno apicali alterisque parvis obtusis internis (fig. 3*a*); thorace supra fere lævi, medio metanoti tantum ruguloso, subplano, carina media longitudinali, pedunculo abdominis brevi nigricanti.

Long. corp. lin. 3; expans. alar. antic. lin. 4.

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniæ.

The 6-jointed maxillary palpi are moderately elongate, the second joint is not much shorter than the third. The mentum is subquadrate, with the anterior lateral angles prominent; the labial palpi appear to consist of a very minute basal joint, and two others of nearly equal length, the outer one being gradually thickened at the tip and furnished with several bristles; but it is most probable that the terminal joint has been broken off. The infero-discoidal cell has the veins on three sides distinct, the oblique apical one being very slender.

## SPECIES 7—PRISTOCERA RUFICAUDATA.

## PLATE XXIX, FIG. 4.

Nigra: capite et thorace rude punctatis; metanoto spatio magno triangulari medio, ad basin serie striarum brevium impresso, striolisque radiantibus oblique notato, lateribus metanoti transversim striolatis; abdomine subdepresso; antennis, tegulis, dimidio apicali abdominis, tibiis, tarsisque piceo-rufis; alis pallide fusco-hyalinis, venis stigmatæque rufo-fuscis, cellula infero-discoidali completa.

Long. corp. lin. 5; expans. alar. antic. lin. 6.

Habitat; Natalia. In Mus. Britann.

The antennæ are moderately robust, and not quite so long as the entire thorax. The mandibles are obliquely truncate at the tip, with one strong apical and four smaller teeth; the maxillary palpi are comparatively short, with the four terminal joints of equal length, the mentum is ovate, with the lateral anterior angles prominent, and the labial palpi composed of three equal-sized joints. The clypeus has a small central longitudinal carina between the base of the antennæ.

## SPECIES 8—PRISTOCERA BURCHELLANA.

## PLATE XXX, FIG. 8.

Magna, nigra, nitida, parce punctata: abdomine testaceo; capite thorace angustiori, ocellis magnis; antennis thorace vix longioribus, articulo secundo minuto; thorace elongato-ovali; collaris, lateribus apiceque griseo-setosis; collari brevi, lateribus postice dilatatis; metanoto postice convexo, dorso impressione media longitudinali angusta, in qua linea elevata nitida; abdomine depresso, elongato-ovali, pedunculo brevissimo nigro; pedibus piceo-nigris; alis fusciscentibus, hyalinis, nubila obscuriori pone medium, venis fuscis, discoidalibus magis fulvescentibus, cellula infero-discoidali distincta.

Long. corp. lin. 5-6; expans. alar. antic. lin.  $7\frac{1}{2}$ - $10\frac{1}{2}$ .

Habitat; Brasilia. Plura individua Dom. Burchellio capta ineunte mense Novembris ann. 1828, apud Canga, et Corrego Raiz, nocte volitantia. In Mus. Hopeiano Oxoniæ.

The mandibles of this species are dilated beyond the middle, and terminated by one large apical and several smaller conical teeth (fig. 8*a*); the maxillary palpi are long, and consist of six nearly equal-sized joints (fig. 8*b*); the mentum is narrowly ovate, with the anterior angles laterally and conically produced, the labial palpi consisting of three equal-sized joints. The ungues of the tarsi are acute at the tip, with a strong tooth in the middle of the inner edge.

## SPECIES 9—PRISTOCERA HÆMORRHOIDALIS.

## PLATE XXX, FIG. 7.

Nigra, subtiliter punctata: abdominis dimidio postico rufo-fulvo; alis pallide lutescentibus fascia transversa pone medium fusca; clypeo porrecto in lobos duos parvos conicos producto; antennis mediocribus gracilibus fulvescentibus articulo basali obscuro; collare medioceri antice rotundato, postice dilatato; metathoracis dorso spatio subquadrato basali ruguloso parum impresso, linea tenui media notato, parte postica rotundata convexa; pedibus nigris; tibiis tarsisque anticis fuscis.

Long. corp. lin.  $4\frac{1}{2}$ ; expans. alar. antic. lin.  $7\frac{1}{2}$ .

Habitat; Brasilia (Guérin-Meneville). In Mus. Hopeiano Oxoniæ.

The mandibles are gradually dilated beyond the middle, and terminated by five nearly equal-sized conical teeth (fig. 7 a). The maxillary palpi are long, setose, and pendulous; the three basal joints thickest and nearly equal in length; the three apical ones more slender, longer, and of equal length. The mentum is long, gradually widened to the tip; the labial palpi long, 3-jointed, the last joint longest, gradually pointed to the tip. The metathorax has a row of very short striæ at the base; the nearly square central space is very finely granulose and opaque, depressed, with a slender raised longitudinal line outside of this space; the sides of the metathorax are transversely striolated with an impressed and punctured line, close to the lateral margins; the hind part is rounded and convex. In these and other respects the species approaches *E. Halidayi*.

A Brazilian insect in the Royal Museum of Stockholm, collected by F. Sahlberg, agreeing in size with the preceding, of which I consider it to be a variety only, has the head black, polished, and minutely punctured and setose; the antennæ pitchy black, setose, equal to the thorax in length, with the tip of the basal joint and the second joint dark chestnut-coloured; the thorax black, punctured, and setose; the abdomen smooth and glossy, with the three basal segments black, the remainder fulvous, the fore legs black, with the tip of the tibiæ and tarsi dark brownish-chestnut; the four hind legs black, with the tarsi pitchy; the fascia of the fore wings is broader than in the preceding, with a pale spot at the apex of the postero-discal cell, followed by two adjacent spots close beyond the cell; there is also a hyaline spot behind the base of the stigma. The clypeus is only subemarginate in the middle of the fore margin, and the metathorax has the quadrate space ill defined at the sides, the surface finely rugose, with a row of short striolæ at the base.

## GENUS—MESITIUS.

(Spinola, Compte rendu Hymenopt. de Para, 1846; Mem. Acad. Turin, Ser. ii. t. 13, 1851.)

Antennæ in utroque sexu 13-articulatæ; mesothorax parapsidibus bene determinatis; metanotum angulis posticis valde prominentibus, dorso pluries carinato; abdomen segmento secundo maximo, segmentis apicalibus (insectis desiccatis), interdum in marginem posticum sinuatum contrahentibus; alæ anticæ cellula radiali longa apice incompleta, cellula nulla discoidali.

SYN.: *Heterocalia*. Dahlbom, Hym. Europ. ii. Chrysid. p. 21, 1854.

*Isobrachium*. Förster (1857).

*Scleroderma* (pars). A. Costa, Annuar. Mus. Napoli.

*Epyris* (pars). Westw. MS. olim; Lucas (Algeria).

SPECIES 1—MESITIUS CARCELII. Westw. MS. (*Epyris C.*)

## PLATE XXXI, FIG. 9.

Niger, nitidus, punctatus, griseo-setosus: antennis subbrevis piceis, articulo basali apice rufescente; capite convexo; collari magno rufo, punctato, medio canaliculato; tegulis rufis; metanoto basi serie striarum brevissi-

marum, dorsoque tricarinato, carinaque utrinque intra marginem lateralem in spinam anguli postici terminata; interstitiis transverse striolatis; pedibus rufis; tarsis obscurioribus; alis fuscis, fascia media hyalina.

Long. corp. lin.  $2\frac{2}{3}$ ; expans. alar. antic. lin. 4.

Habitat; in Oriente (Carcel). In Mus. Paris. et Hopeiano Oxoniæ (mecum communicavit D. Sichel).

## SPECIES 2—MESITIUS NIGRIVENTRIS.

(Dahlbom, Hym. Europ. ii. Chrysid. p. 22, pl. I, figs. 15, 16; *Epyris pulchellus*, Lucas, Ins. Algerie.)

## PLATE XXXI, FIGS. 10 a, b, c, d.

Præcedenti simillimus, differt mesonoto toto rufo; collare rufo; pedibus nigris; tarsis piceis.

Long. corp. lin.  $3\frac{1}{3}$ ; expans. alar. antic. lin. 4.

Habitat; Algeria. In Mus. Paris. et Hopeiano Oxoniæ (mecum communicavit D. Sichel).

Varietas pedibus anticis cum coxis omnibus rufis.

E Sicilia. In Mus. Hopeiano Oxoniæ (mecum communicavit D. Blondeau e coll. antiqua Latreillii.)

The details of this genus, given in pl. X, are taken from this variety. The mandibles are oblong, with the apex oblique and but slightly sinuated (fig. 10 b); the maxillæ are terminated by three ciliated membranous lobes, with six-jointed maxillary palpi, the three basal joints gradually increasing slightly in length, the three terminal ones longer and subequal (fig. 10 c); the labial palpi composed of three nearly equal joints (fig. 10 d); the antennæ of moderate length, the first joint long, the second and third slightly longer than the fourth; the ungues of the tarsi are slender, nearly straight, with a very small tooth in the middle of the inner edge.

## SPECIES 3—MESITIUS RUFITHORAX.

## PLATE XXXI, FIG. 11.

Niger, nitidus, punctatus: clypeo, mandibulis, antennarum basi coxisque rufo-piceis; thorace toto rufo; abdomine nitidissimo segmentorum apicibus piceis; pedibus nigris, geniculis tarsisque piceo-rufis; alis fere obsoletis, metathoracis medium attingentibus; clypeo porrecto, in medio carinato, carina longitudinaliter impressa, apiceque dilatato (fig. 11 a), facie antice biangulata; antennis intra angulos insertis; mandibulis 4 dentatis, dente externo valido, reliquis obtusis (fig. 11 b); palpis maxillaribus articulis duobus basalibus mediocribus æqualibus, articulis 4 ultimis longioribus æqualibus setosis; mento anguste ovali, apice setoso, angulis anticis in scapum minutum desinentibus, in quos insident antennæ 13-articulatæ, articulo secundo parvo, tertio sequentibus parum longiori, quarto ad apicem brevibus (fig. 11 d); metanoto dorso tricarinato, carinis duabus externis paullo arcuatis lineaque abbreviata utrinque interjecta; interstitiis transverse striolatis; angulis posticis rectis haud porrectis.

Long. corp. lin. 3.

Habitat; Italia (?). In Mus. Hopeiano Oxoniæ. Mecum communicavit Dom. March. Spinola.

## SPECIES 4—MESITIUS HALIDAI.

## PLATE XXXI, FIG. 8.

Niger, robustus: capite rugoso, vertice linea tenui impressa longitudinali ad ocellos extensa; antennis alis longioribus, nigris, articulo secundo parvo, reliquis 11 crassioribus longitudine subæqualibus, apicalibus attenuatis; collare transverso rugoso-punctato, linea impressa longitudinali media; mesonoti scutello punctis duobus profundis; metanoto transverso quadrato, angulis posticis porrectis; dorso tricarinato carinis externis arcuatis; basi striolis brevibus et interstitiis striolis transversis notato; abdomine brevi ovato nitidissimo; pedibus nigris geniculis tarsisque piceis; alis fuscis, basi, fascia media haud bene determinata apiceque pallidioribus. (Mas.)

Long. corp. lin. 3; expans. alar. antic. lin. 4.

Habitat; Italia. In Mus. Hopeiano Oxoniæ. Mecum communicavit Dom. Haliday, semper deffendus.

The female of this species, as I was informed by Mr. Haliday, comes near *Mesitius Ghilianii* in colour but is shorter, with shorter antennæ, the abdomen especially shorter and less inflexile.

SPECIES 5—MESITIUS HALIDAIELLUS. Westw.

Præcedenti simillimus at quadruplo minor: alis cinereo-hyalinis, dimidio apicali obscuriori.

Long. corp. lin.  $1\frac{1}{2}$ ; expans. alar. antic. lin.  $2\frac{1}{2}$ .

Habitat; Italia. In Mus. Hopeiano Oxoniæ, mecum communicavit D. Haliday.

GENUS NOVUM—EUPSENELLA. Westw.

Corpus parvum fere glabrum, abdomine nitido; caput thoracis latitudine subconvexum; clypeo in medio angulato; antennæ in fœmina 13-articulatæ satis breves, articulo primo crasso, reliquis 12 brevibus fere æqualibus submoniliformibus (fig. 6 e); mandibulæ validæ, apice 5-6-dentatæ, dentibus obtusis, intermedio magno (figs. 6 a, 6 b, supra et e latere visæ); maxillæ minutæ, lobis tribus ciliatis terminatæ; palpis maxillaribus 6-articulatis (fig. 6 c); mentum minutum; labium minutum membranaceum villosum; palpi labiales articulis tribus subæqualibus (fig. 6 d); collare magnum semicirculare; metathorax transversus, angulis posticis rotundatis puncto utrinque intus instructis, basi spatio semicirculari impresso et carina gracillima media notato; abdomen oblongo-ovatum; alæ anticæ stigmatæ magno; cellula unica completa marginali, apice venæ radialis recurvo, cellula una submarginali et una antico-discoidali cum duabus basalibus; venis apicalibus indistinctis; alæ posticæ aveniæ, basi lobatæ; pedes breves, antici præsertim femoribus crassis, unguibus valde curvatis basi dilatatis.

SPECIES UNICA—EUPSENELLA AGILIS.

PLATE XXX, FIG. 6.

Nigra, nitida, lævis: antennis, trochanteribus, tibiis tarsisque rufescentibus; alis melleo-brunneis, venis obscurioribus stigmatæ nigro.

Long. corp. lin. 3; expans. alar. antic. lin. 4.

Habitat; North-west Australia (Damell). In Mus. Hopeiano Oxoniæ.

GENUS—GONIOZUS. Thomson.

(Sver. Proctotrup. in ofvers. Kongl. Vet. Akad. Forhandl. xviii. p. 451.)

Alæ anticæ vena posteostali ante stigma incrassata, vena areolam anticam elongatam basalem terminante in medio angulata et venulam brevem obliquam discoidalem emittente; antennæ breves submoniliformes; mesothoracis scutum parapsidibus indeterminatis; metanotum læve; pedes breves, femoribus anticis incrassatis; ungues tarsorum valde curvati, lobo magno basali denteque parvo medio armati (fig. 1 a).

SPECIES 1—GONIOZUS DISTIGMUS. Thomson, l. c.

Habitat; Scania.

SPECIES 2—GONIOZUS AUDOUINII.

Niger, omnino lævis: antennis fulvo-testaceis, articulo primo nigricanti, apicalibus interdum fuscis; alis diaphanis parum iridescentibus, vix infuscatis, venis brunneis; pedibus testaceis, coxis femoribusque nigris; abdomine nigro nitidissimo.

Long. corp. lin. 2; expans. alar. lin. 3.



Habitat; in vinetis Galliæ Meridionalis. Individua accepi a Dom. Audouinio, Dom. March. Spinola et Dom. Imhoff (sub nomine *Bethylus formicarius*, haud recte).

SYN.: *Bethylus formicarius*. Audouin, Hist. Ins. nuisibles à la Vigne, p. 189, pl. XX, figs. 1-3, and details (nec *Ceraphron formicarius*, Panz. Faun. Germ. fasc. 97, tab. XVI, nec *Omalus formicarius*, Jurine, Hymenopt. p. 301).

Having received specimens of this interesting little insect from M. Victor Audouin himself, I am able to point out its real generic position, and also to state its want of identity with the insect to which it was referred by its discoverer and others. In his plate he incorrectly represents the antennæ as fourteen-jointed, but in his text he describes them correctly as thirteen-jointed, but as 'coudées,' which is not the case. In the spring of 1838, M. V. Audouin observed numbers of specimens running about very quickly on the young shoots of vines in the 'Mâconnais,' which were already infested with the young larvæ of the destructive *Tortrix* (or *Pyralis*) *Vitana*, which were often seized and killed by the winged *Goniozus*. He subsequently, in the month of July, discovered the history of the parasite, having found a larva of the *Tortrix* covered with eight small apodal larvæ of a delicate green colour, and of the size of a large pin's head; each of these little parasites had its head immersed between the segments of the body of the larva. M. Audouin has given very careful details of the structure and economy of these little parasite larvæ, which at the end of six days had completely changed both their form and colour; the whole of the anterior part of their bodies had penetrated into the body of their victim, which had become much contracted, whilst they had assumed an oblong form and become brightish yellow in colour. In two days more they had become darker coloured with whitish spots, with a brown blotch at the extremity of their bodies. On the 2nd of August, all these larvæ, having quitted the shrivelled body of the caterpillar of the *Tortrix*, commenced spinning a small cocoon of dirty-white silk, in the interior of which they were transformed to pupæ. In a fortnight's time the parasitic insects appeared in their perfect state. The cocoons are generally fixed to the leaves, being attached to each other by a brown layer of silk. They are marked at one end with a black spot, which is in fact the cast skin of the larva. The details of this history are illustrated by Audouin in his pl. XX, figs. 4-16.

#### SPECIES 3—GONIOZUS ANTIPODUM.

##### PLATE XXXI, FIG. 1.

Niger, nitidissimus, fere lævis: capite plano subtrigono; clypeo in spinam brevem conicam producto, utrinque tuberculo parvo minuto instructo, cui insident antennæ breves fusco-lutescentes; collare semicirculari; metanoto transverso-quadrato; abdomine magno ovato nigro nitido, marginibus posticis segmentorum piceis; femoribus præsertim anticis, incrassatis, geniculis, tibiis tarsisque rufescentibus; alis melleo-hyalinis, puncto stigmatæque nigris, vena radiali lutescenti.

Long. corp. lin.  $2\frac{2}{3}$ ; expans. alar. antic. lin.  $3\frac{3}{4}$ .

Habitat; Adelaide, Australasia. In Mus. Hopeiano Oxoniæ.

#### GENUS—SCLERODERMA.

The characters of this genus, founded only on female specimens, were first detailed in my monograph of the group published in the second volume of the Transactions of the Entomological Society, with figures of the generic details<sup>1</sup>. Up to the present time no description of the male characters of the group has been published, but I am now able, by the researches of Mr. Haliday in Italy, and Sir S. S. Saunders in Albania and Corfu, to complete the diagnosis of the genus.

Corpus elongatum gracile læve, maris alatum, fœminæ apterum; caput magnum subquadratum supra convexum, fœminæ oculis parvis, ocellis obsoletis; antennæ breviusculæ in utroque sexu 13-articulatæ (fig. 13 a,

<sup>1</sup> In the text of this memoir, vol. ii. p. 1-6, the antennæ were inadvertently described as '10-articulatæ,' instead of 13-jointed as they are in reality, and as shewn in my figures, pl. XV, fig. 10 a, representing both antennæ of *Scl. intermedia*, and fig. 11 b, the antenna of *Scl. contracta*.

mas) in fœmina breviores et paullo crassiores, articulo primo longo, secundo tertio majori, hoc et reliquis parvis, ultimo ovali; mandibulæ parvæ apice obtuse 4-dentatæ (fig. 13 *b*, mas); maxillæ parvæ, apice lobis duobus ciliatis instructæ; palpi maxillares breves 5-articulati, articulis apicalibus tenuioribus (fig. 13 *c*); mentum anguste ovale; palpi labiales 3-articulati; collare magnum trigonum vel semi-ovatum; mesothorax segmentis coalitis scutelliformis; metathorax oblongus, in fœmina basi paullo angustior; abdomen elongatum cylindricum apice in fœmina paullo attenuatum; pedes breves crassi; alæ maris satis magnæ, anticæ cellulis duabus basalibus minutis tantum instructæ, stigmatibus vix indicato, posticæ aveniæ.

The thirteen-jointed antennæ in both sexes indicates at once the relationship of *Scleroderma* to the preceding genera, which is further shewn by the similarity of the females to that of *Pristocera depressa* (pl. XXX, fig. 4), whilst the five-jointed maxillary palpi, and the minute basal cells of the wings, at once distinguish it. There is a great similarity between the females and those of the Genus *Methoca*, but the latter have the normal number (twelve) of joints in the antennæ of the typical aculeate Hymenoptera. There is a considerable number of species of this genus, as may be seen by my monograph above cited, and by the work of Nees ab Esenbeck, who has introduced several into his Genus *Omalus*. Mr. Thwaites has sent me a species from Ceylon, the female of which has wings. Mr. Haliday took three or four specimens of both sexes of a *Scleroderma* in a chamber in which *Attagenus Pellio* abounded in the mattresses stuffed with husks of Indian corn. He also once observed a swarm of little ant-like insects (which proved to be *Sclerodermæ*) between the sheets of a bed made upon a sofa in a house at Lucca, and he suggested the probability that the sofa was stuffed with hair or wool infested by the *Attagenus Pellio*.

The *Scleroderma bicolor* of Smith, collected in Makassar by Mr. Wallace, is a species of this genus, but the *Scl. modesta*, Smith, brought from 'Mysol,' by Mr. Wallace, belongs to the following Genus *Apenesia*. *Scl. contracta*, Westw., Trans. Ent. Soc. vol. ii. p. 169, from Carolina, in the Royal Museum of Berlin, is most probably the female of *Pristocera atra*, or an allied species.

#### SCLERODERMA SIDNEYANA.

PLATE XXXI, FIG. 13, male; FIG. 14, female.

Mas, totus luteo-piceus, lævis nitidus; fœmina, fulvescens, segmentis abdominalibus magis fuscis marginibus posticis fulvescentibus.

Long. corp. maris lin.  $1\frac{1}{2}$ ; fœminæ lin.  $1\frac{1}{2}$ ; expans. alar. antic. maris lin.  $2\frac{1}{2}$ .

Habitat; Albania. In Mus. Hopeiano Oxoniæ. Mecum communicavit Dom. Eq. S. Sidney Saunders.

#### GENUS NOVUM—APENESIA.

Characteres e fœmina desumpti (mares ignoti): corpus longum apterum; caput magnum oblongum vel subquadratum planum, oculis minutis ex hexagonis perpaucais formatis; ocellis obsoletis; clypeus antice trituberculatus; mandibulæ graciles arcuatæ apice dentibus duobus majoribus armatis (fig. 12 *b*); maxillæ basi corneo crasso, apice lobis duobus (interno parvo) longe setoso; palpis maxillaribus difformibus 4-articulatis (fig. 12 *c*); mentum compressum corneum, angulis anticis lateralibus productis, palpis labialibus 3-articulatis setosis, in scapum basalem insidentibus (fig. 12 *d*); antennæ fœm. breves 13-articulatæ, articulo primo longo, secundo tertio parum longiori, reliquis brevibus (fig. 12 *a*); collare magnum subovale; mesothorax brevis dorso subcordato; metathorax oblongus angulis rotundatis, prope basin contractus; abdomen elongato-ovale; pedes breves crassi, fossorii, tibiis intermediis compressis et spinosis.

The misshaped 4-jointed maxillary palpi, strong legs, and 13-jointed antennæ distinguish the females of this genus from the wingless females of the allied genera, as well as from the similar aculeated genera.

## SPECIES 1—APENESIA AMAZONICA.

PLATE XXXI, FIG. 12.

Fulva, nitida, punctis minutis parce notata: abdomine piceo, segmentorum marginibus posticis rufescentibus; capite oblongo antice truncato.

Long. corp. lin. 2-4.

Habitat; Amazonia (D. Bates). In Mus. Hopeiano Oxoniæ.

## SPECIES 2—APENESIA MODESTA.

(*Scleroderma modesta*, Smith.)

Long. corp. lin. 2½.

Habitat; the Island of Mysol, New Guinea (Wallace). In Mus. W. W. Saunders.

'Luteo-fulvous, glossy, with the abdomen more chestnut, and each of the segments marked near the hind margin with a paler indistinct fascia. The head is nearly quadrate, the hind margin nearly straight, the posterior angles well rounded. The eyes are composed of only six hexagonal facets, forming a black spot on each side of the head, near the base of the mandibles; the anterior tarsi have the basal joints curved and dilated, and the middle tibiæ are flattened and spined;' the parts of the mouth are formed as in *A. Amazonica*.

## SUB-FAMILY—DIAPRIIDES.

## GENUS NOVUM—LOBOSCELIDIA.

Genus anomalum, cujus affinitates sunt dubiæ, an ad Diapriides vel ad Cynipides revocandum? Caput (fig. 13 *a*) subglobosum, naso brevi porrecto instructum, postice in collum angustum contractum, collo utrinque membrana oblique striolata et margine dentato acuto instructo; antennæ longitudine totius corporis æquales, 13-articulatæ, articulo primo longo, subtus membrana parva instructo; os minutum inferum; mandibulæ minutæ conicæ (fig. 13 *b*); maxillæ minimæ, lobo unica membranacea rotundata (fig. 13 *c*); palpi maxillares 3-articulatæ (?) articulo ultimo tenui præcedentibus duobus longitudine æquali; mentum minutum oblongum, ligula rotundata integra interna; palpi ut videtur 1-articulati (fig. 13 *d*); thorax ovalis, collo magno transverso, lateribus elevatis, tegulæ magnæ mobiles; metathorax brevis postice rotundatus; abdomen parvum breve fere obconico-ovatum, petiolo brevi metathoraci affixum; alæ anticæ magnæ; venis in dimidio apicali alarum obsoletis; vena subcostali fere ad medium alæ extensa apice in ramum deflexum producto; vena media abbreviata, apice bifida venaque interna simplici; pedes satis breves (fig. 13 *e*); femoribus subtus ad apicem, tibiisque ad basin, membrana tenui auctis; unguis intus denté armati.

The large size of the scales at the base of the wings, the minute size of the oral organs, the cornuted head and neck, and the obsolete character of the veins beyond the middle of the fore wings, give this singular insect a relationship to some of the Diapriides; whilst, in other respects, it seems to approach the Cynipidæ. The post costal vein of the fore wings at its apex does not touch the costa, but is deflexed into a branch running into the disc obliquely.

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SPECIES UNICA—LOBOSCELIDIA RUFESCENS. Westw.

PLATE XX, FIG. 13.

Tota castaneo-rufa: membranulis anticis semihyalinis; alis hyalinis, medium versus fusco-variis, alis posticis subfuscescentibus aveniis.

Long. corp. lin. 2; expans. alar. lin.  $4\frac{1}{4}$ .

Habitat; insulam Malayanam, 'Sula' (Wallace). In Mus. Hopeiano Oxoniæ.

The anterior tibiæ are flattened at the apex and produced into an acute angle on the outer margin, the inner angle being destitute of a spur. The four hind tibiæ are furnished with a short spur at the inner apex.

The lower parts of the mouth seem to approach nearest to those of *Teleas*, as figured by Curtis.

## ORDER—ORTHOPTERA.

### FAMILY—PHASMIDÆ.

GENUS—HETEROPTERYX. G. R. Gray, Westw. (Mon. Phasm.)

#### HETEROPTERYX DILATATA.

PLATE XXXII, FIG. 1.

(*Heteropteryx dilatata*, Parkinson, Linn. Trans. iv, pl. XVIII. Westw. Mon. Phasm. p. 82.)

(SYN.: *Heter. Hopei*. Westw. Trans. Ent. Soc. Lond. Ser. iii. vol. ii. Proc. p. 16.)

Lata subdepressa: mesothorace conico: fulvo-lutea, (viridis? dum viva) tegminibus opacis pallide viridibus, alis puniceis; spinulosa, spinis parvis; capitis vertice spinis octo coronato; mesonoto in medio partis posticæ spinis duabus minutis armato; parte detecta supera oviductus segmento nono dorsali abdominis fere duplo longiori, elongato-lanceolata angusta, sensim ad apicem attenuata, apice furcato. (Fœm.)

Long. capitis lin. 6; proth. lin. 7; mesoth. lin. 9; metath. line. 9; abdom. segm. 6-basal. lin. 27; segm. 3-apical. lin. 11; oviduct. lin. 6; = long. tot. circ. unc. 6½.

Habitat; —? In Mus. Hopeiano Oxoniæ.

Closely allied to *H. Grayii* (Westw. Mon. Phasm. pl. XXX. fig. 3), but much larger, though with the spines much smaller; the tegmina and wings extend to the extremity of the second dorsal segment of the abdomen. The two anterior discoidal spines of the prothorax are smaller than the four posterior ones forming the posterior row, which are much more numerous and still smaller in *H. Grayii*. The mesothorax has the square central dorsal part armed with three marginal spines on each side, three pairs of distant spines on its disc, and only two approximatory spines in the place of the posterior coronet of spines in *H. Grayii*; the tegmina are comparatively larger, and extend to the extremity of the second abdominal segment.

The sides of the body and the femora are much less strongly spined than in *H. Grayii*, but the tibial spines are very robust.

The exposed portion of the dorsal piece of the ovipositor (fig. 1 *a, g*) is elongate-lanceolate, narrow, gradually pointed to the tip, where it is slightly furcate, and is half as long again as the terminal dorsal segment (\*). Fig. 1 *a* represents the four terminal segments of the body of the female lying on its back, with the parts of the ovipositor raised and separated, and fig. 1 *b* the ventral surface of the ovipositor, the lettering of the different parts being the same in both figures; the \* representing the ninth or terminal segment of the abdomen.

*a* represents the large boat-shaped piece arising at the base of the seventh segment, and shutting in the other parts when at rest; *b*, a pair of curved horny blades, each arising from a broad basal piece, *c*; *d*, two shorter horny bifid plates, which unite with *b* to form a concave bed for the reception of the larger eggs; *e*, the under lining of the basal part of the last segment; *f*, a pair of straight horny conical appendages, at the base of each of which is seen a minute conical style; *g*, the under side of the upper portion of the sheath of the ovipositor, and † the entrance of the anus.

I had named the specimen of this species, figured in plate XXXII, in memory of the late Rev. F. W. Hope, the munificent founder of the Chair of Zoology in the University of Oxford, to whom these curious insects were especial objects of interest, having never seen the original type of *H. dilatata*, the Hopeian specimen being in spirits and discoloured. The Saundersian Collection, however, now added to the Hopeian Museum by the liberality of Mrs. Hope, contains a dried specimen, and has enabled me to identify the species.

## HETEROPTERYX CASTELNAUDII.

PLATE XXXII, FIG. 3.

Obscure lutescens, fusco-variegata: capite postice elevato-conico utrinque spinis armato, coronaque e spinis sex (duabus anticis minoribus) formata terminato; antennarum articulo basali depresso, secundo brevi, tertio quarto longiori; apicali longo<sup>1</sup>; prothorace subquadrato parce spinoso; mesothorace dorso medio oblique elevato lateraliter spinoso, spina ultima laterali ad basin tegminum rudimentalium majori; lateribus valde dilatatis et serratis; metanoti lateribus valde rotundato-dilatatis serratis, dorso alis duabus rudimentalibus instructo, spinis duabus dorsalibus; segmentis quinque basalibus abdominis ad latera dilatatis, margine spinosis; pedibus brevibus crassis spinosis, femoribus omnibus ante apicem supra lobo angulato instructis; tibiis posticis intus spinis validis curvatis armatis.

OBS.—Insectum vix omnino declaratum.

Long. corp. unc.  $2\frac{1}{4}$ .

Habitat; Tringany (Comte de Castelnau). In Mus. Hopeiano Oxoniæ.

## GENUS—EXTATOSOMA. G. R. Gray.

## EXTATOSOMA BUFONIUM.

PLATE XXXII, FIG. 2.

Fulvescens, brunneo-variegata: capite postice supra conico valde spinoso; antennis brevibus, articulis tertio ad nonum dilatatis, 10–16 alternatim longioribus nigris et brevioribus albidis (fig. 2*b*); apicalibus 4 albidis gracilibus, ultimo longiori; mesonoto lateribus postice dilatato rotundatis spinosis, spinis duabus in medio antice, coronula spinarum postice armato; metathoracis lateribus dilatatis, dorso in medio valde spinoso et postice spinis foliaceis laciniatis armato; segmentis sex basalibus abdominis, præsertim quarto et quinto, lateribus foliaceo-dilatatis spinosis, dorso spinis foliaceis laciniatis erectis; pedibus brevibus crassis, lobis laciniatus numerosis spinisque instructis; tibiis omnibus absque membrana marginis interni; lobis conicis interdum bifidis externe armatis (fig. 2*a* caput, pro- et mesothorax e latere visa).

Long. corp. unc.  $1\frac{5}{6}$ .

Habitat; Australia. In Mus. Hopeiano Oxoniæ (olim Saunders).

## GENUS—CEROYS. Serville.

## CEROYS LACINIATUS.

PLATE XXXII, FIG. 4.

Fusco-luteus, spinosissimus: capite utrinque lobo magno membranaceo laciniato armato; antennis gracillimus circiter 35-articulatis, articulis alternis (in medio antennarum) brevioribus et ad apicem paullo inerasatis; prothoracis dorso utrinque serie spinarum brevium armato; mesonoti dorso duplici serie spinarum laciniatarum, lateribusque lobis magnis foliaceis spinosissimis, serieque transversa postica spinarum minorum (ut in metonoto et segmentis abdominalibus); metonoti dorso spinoso lateribusque spinis compositis armatis; abdomine segmentis 5 basalibus dilatatis, spinis numerosis in seriebus transversis dispositis, armatis, omnibus (tribus ultimis exceptis) utrinque lobo magno subrotundato membranaceo valde sinuato et laciniato instructis, magnitudine e segmento tertio decrescenti; pedibus triquetris longis gracilibus, lobis numerosis ex angulis femorum et tibi-arum prodeuntibus membranaceis, magnitudine diversis, in medio femorum majoribus, his multi-sinuatis; tibiis 4 anticis margine interno membrana trigona, posticis 2 tribus minoribus instructis.

Long. corp. unc. 3.

Habitat; Nicaragua. In Mus. Britann., Hopeiano Oxoniæ, et W. W. Saunders (olim).

<sup>1</sup> The intermediate joints of the antennæ in the unique specimen in our Museum have been injured, so that I am not clear as to their real length. They were, however, probably longer than represented in my figure.

## FAMILY—LOCUSTIDÆ.

## GENUS NOVUM—PHYSOPHORINA.

Insectum *Pneumoræ* affine: pedibus posticis simplicibus vix saltatoriis; caput verticale rugulosum, vertice inter oculos transverso acuto; mandibulæ validæ apice truncato denticulato; maxillarum galea magna, mandone bidentato; palpi omnes graciles breves; antennæ breves filiformes 15-articulatæ, articulo primo brevissimo, secundo longiori, septem proximis brevioribus æqualibus, ultimis 6 parvis, coalitis; prothorax maximus inflatus, totum corpus tegens, parte postica tegmina dua, sutura recta coalita apice acuminata simulanti, dorso carinata; lateribus in medio costa elevata curvata tuberculata instructis, infra inflexis thoracis et abdominis latera amplectentibus; prosternum simplex; mesosternum elevatum semicirculare; inter pedes intermedios paullo porrectum; metasternum transversum; pedibus posticis lateraliter insertis; abdomen angustum ventre sensim angustatum, segmentis 8, ultimo (sc. opereculo oviductus) acuto; dorso ut videtur 11-articulato, octavo et nono singulatim arcum angustum formantibus, decimo et undecimo paullo longioribus, oviductum formantibus; processu elongato trigono corneo inter decimum et undecimum et octavum ventralem utrinque interposito, utrinque stylo minuto exarticulato ad basin ejus instructo; tegmina et alæ obsoleta; pedes satis breves et graciles, postici paullo longiores, femoribus posticis infra longitudinaliter sulcatis; tibiis posticis extus spinis minutis armatis; tarsi triarticulati, articulo basali infra tribus paribus, secundo pari unico, pulvillorum, instructis.

## SPECIES UNICA—PHYSOPHORINA LIVINGSTONII.

## PLATE XXXII, FIG. 5.

Viridis: corpore et lateribus pronoti fulvescentibus; facie et pronoto tuberculis minimis albidis instructis, his in lineas curvatas dispositis reticulationem tegminum simulantibus; mandibulis apice nigricantibus.

Long. corp. unc.  $1\frac{1}{2}$ .

Habitat; Zambesi. In Mus. Hopeiano Oxoniæ.

## GENUS NOVUM—TETRICODINA.

E *Tetricibus* genuinis differt capitis vertice in collum longum oblique elevato ut in genere *Proscopia*; oculi semi-globosi in apicem verticis inserti, spatio frontali inter-oculari angusto, in medio carinato; ocellis duobus inter medium oculorum; antennisque inter partem inferiorem oculorum insertis; antennæ longæ graciles pauci-articulatæ, articulis basalibus brevibus, intermediis sensim longioribus; palpi maxillares articulis duobus ultimis magnis foliaceis ovalibus; prothorax in scutellum magnum supra abdomen et ultra ejus apicem extensus; pedes longi graciles, postici incrassati saltatorii.

## SPECIES 1—TETRICODINA LIMOSINA.

(Snellen von Vollenhoven, Trans. Ent. Soc. Holland, 1865, p. 66, pl. I, fig. 6-8.)

Fusca, opaca: prothorace omnino concolori; lateribus deflexis prothoracis inter pedes anticos et intermedios angulato-productis; prothoracis carina antice obsoleta; antennis longis gracillimis 15-articulatis, filiformibus (pl. XXXII, fig. 6).

Long. corp. lin. 7.

Habitat; Waigiou. In Mus. Reg. Lugdunens. et Hopeiano Oxoniæ. Mecum commun. Dom Snellen von Vollenhoven.

## SPECIES 2—TETRICODINA LUTEO-MARGINATA.

PLATE XXXII, FIG. 6.

Tota fusca, opaca, delicate granulata: prothoracis carina integra media lateribusque angulatis luteis, lateribus inter pedes quatuor anticos inermibus; antennis longis 15-articulatis articulis duobus basalibus brevibus crassioribus, tertio ad nonum gracilibus sensim longitudine crescentibus, decimo ad duodecimum valde depressis dilatatis, clavam depressam formantibus; tribus apicalibus sensim decrescentibus (fig. 6 *a*); femoribus omnibus supra linea lutea notatis. (Mas et fem.)

Long. corp. lin. 6.

Habitat; Menado et Dorei, New Guinea (Wallace). In Mus. Hopeiano Oxoniæ.



# ORDER—NEUROPTERA.

## FAMILY—MANTISPIDÆ.

GENUS—MANTISPA.

SUB-GENUS—TRICHOSCELIA.

(Westw. Trans. Ent. Soc. Lond. 2nd Ser. vol. i. 1850, p. 270.)

SPECIES 1—TRICHOSCELIA FUMOSELLA.

(Westw. Trans. Ent. Soc. Lond. 3rd Ser. vol. v. 1867, p. 504.)

PLATE XXXIII, FIG. 1.

Nigra: antennis apice piceis; capite infra oculos fulvo; coxarum anticarum apice et femorum anticorum basi luteo-subnotatis; abdomine subtus ad basin et margine tenui apicali segmentorum intermediorum flavis; tibiis 4 posticis fulvis, cum tarsis supra striola nigra notatis; tibiis pedum posticorum elongatis, subdilatis, subsetosis, extus canali tenui longitudinali instructis; alis pallidissime fuseis, anticis plaga magna antica fumosa, margine hyalino ad basin costæ relicto; stigmatibus alarum posticarum elongato, fusco; cellulis 9 vel 10 obliquis in alis anticis. (Mas.)

Long. corp. lin. 5; expans. alar. antic. lin. 14.

Habitat; Amazonia (D. Bates). In Mus. Hopeiano Oxoniæ.

SPECIES 2—TRICHOSCELIA SEQUELLA.

(Westw. Trans. Ent. Soc. Lond. 3rd Ser. vol. v. p. 503.)

PLATE XXXIII, FIG. 2.

Capite valde convexo, badio; antennis nigris; prothorace brunneo, lateribus luteis, meso- et metathorace supra badiis; abdomine nigro, supra flavo-cingulato; corpore subtus pedibusque luteo-fulvis; tibiis anticis et basi tibiarum quatuor posticarum obscurioribus, his parum dilatatis et setosis; alis hyalinis venis nigris, stigmatibus in omnibus alis elongato, nigro; cellulis obliquis 7 in alis anticis. (Fœm.)

Long. corp. lin. 2½; expans. alar. antic. lin. 7.

Habitat; Amazonia (D. Bates). In Mus. Hopeiano Oxoniæ.

SPECIES 3—TRICHOSCELIA FASCIATELLA.

(Westw. Trans. Ent. Soc. Lond. 3rd Ser. vol. v. p. 503.)

PLATE XXXIII, FIG. 3.

Læte fulva: capite nitido, antennis, tibiis omnibus (basi excepta), tarsis 4 posticis et apice abdominis nigris; femoribus anticis serrulatis, haud spinigeris; tibiis 2 posticis (in individuo nostro unico) 2 intermediis non multo crassioribus; alis anticis pallide fulvo tinctis, macula marginis interni ad basin alarum, fascia media apiceque late nigricantibus; cellulis obliquis discoidalibus 8; stigmatibus fulvescente; alis posticis pallidioribus, fere hyalinis, stigmatibus longo, basi fusco, apice fulvescente nubilaque apicali fusca notatis. (Fœm.)

Long. corp. lin. 4; expans. alar. antic. lin. 11.

Habitat; apud Sanctam Martham, Venezuelæ. In Mus. Hopeiano Oxoniæ.

## SPECIES 4—TRICHOSCELIA PARTHENIELLA.

(Westw. Trans. Ent. Soc. Lond. 3rd Ser. vol. v. p. 501.)

PLATE XXXIII, FIG. 4. (Mas.)

Fusco-fulvescens: antennis nigris, basi subtus articulisque subapicalibus fulvis; prothorace nigro, margine antico flavo; meso- et metanoto flavo-variis; pedibus anticis flavis, coxis infra macula magna nigra, femoribus supra nigris; tibiis antice castaneis; pedibus 4 posticis brevibus, fulvis, setosis; tibiis intermediis supra castaneis; posticis crassissimis (præsertim in mare) fulvis, dimidio apicali supra nigro; alis hyalinis, venis anticarum castaneis; versus basin, ante medium et e medio sub stigmatate flavido-subfasciatis, stigmatate brevi brunneo, posticarum longo, fusco; cellulis obliquis octo in disco alarum anticarum. (Mas. et fem.)

OBS.—*M. nothæ* proxima.

Long. corp. lin. 4; expans. alar. antic. lin. 10.

Habitat; Amazonia (D. Bates). In Mus. Hopeiano Oxoniæ.

## FAMILY—PANORPIDÆ.

## GENUS—NEMOPTERA.

## SPECIES 1—NEMOPTERA IMPERATRIX.

(Westw. Trans. Ent. Soc. Lond. 3rd Ser. vol. v. p. 507.)

PLATE XXXIII, FIG. 8.

Albido-lutea: abdomine et medio thoracis obscurioribus; rostro vix capitis latitudine longiori; pedibus obscuris; alis anticis hyalinis, macula minuta fusca in loco stigmatatis, venis brevibus transversis in medio longitudinali alarum nigro parum suffusis; alis posticis valde elongatis, filiformibus, apicibus in spatulam oblongo-ovalem dilatatis, cujus dimidio basali fusco, apicali albido.

Long. corp. unc.  $\frac{5}{8}$ ; expans. alar. antic. unc.  $2\frac{3}{4}$ ; alar. postic. unc.  $3\frac{1}{8}$ .

Habitat; Africa occidentali tropicali. In Mus. Britann.

## SPECIES 2—NEMOPTERA HEBRAICA.

(= ? *N. Egyptiaca*, Rambur Hist. Nat. Ins. Neur. p. 334; Savigny, Egypte. Neur. pl. II, fig. 15.)

PLATE XXXIII, FIG. 5.

Albido-lutea, castaneo-nigro variegata: alis anticis subovalibus pallide flavis, fasciis 4 macularibus irregularibus posticis, striolaque media curvata maculari fuscis, area costali transverse striata; alis posticis mediocriter elongatis basi gracillimis, pone medium latioribus subcultriformibus, fuscis, basi pallidiori, fascia fere media, altera in medio partis latioris, apiceque ipso albis.

Long. corp. lin. 6; expans. alar. lin. 21–23; long. alar. postic. lin. 17–19.

Habitat; Northern Palestine. 'Flying in a swamp among papyrus, near the waters of Merom, forming the first basin of the River Jordan.'—Rev. D. D. Holland and Pickard Cambridge. In Mus. Hopeiano Oxoniæ.

## SPECIES 3—NEMOPTERA COSTALIS.

(Westw. Trans. Ent. Soc. Proc. vol. i. Proc. p. 75; Proc. Zool. Soc. Feb. 9, 1841, p. 13.)

## PLATE XXXIII, FIG. 6.

Lutea, brunneo varia: antennis luteo-fulvis, alis anticis multo brevioribus; his apice rotundatis hyalinis; vena mediastina et postcostali approximatis fulvis (spatio intermedio luteo) punctoque parvo in cellula singula areæ costalis fulvo; stigmatе fusco, nubila apicali alba, interne umbra tenui lutea marginata; alis posticis valde elongatis, gracillimis, versus apicem sensim latioribus, albidis, ad basin fuscescentibus, fascia fusca ante apicem album.

Long. corp. lin. 7; expans. alar. antic. lin. 24; long. alar. postic. lin. 25½.

Habitat; Africa australior. In Mus. Hopeiano Oxoniæ (olim Westw.)

## SPECIES 4—NEMOPTERA ALBO-STIGMA.

## PLATE XXXIII, FIG. 7.

Pallide lutea: dorso thoracis magis brunneo; abdomine obscuriori; alis anticis elongato-ovalibus apice acutis, costa fere recta, hyalinis, iridescentibus, venis gracillimis, stigmatе minuto albo; alis posticis longis (anticis paullo plus duplo longioribus), albis, inter basin et medium fusco parum tinctis, pone medium dilatatione parva sinuata fusca, apice longe albo, gracili.

Long. corp. lin. 7; expans. alar. antic. lin. 20; long. alar. postic. lin. 24.

Habitat; Africa australior, Terra Zoolu. In Mus. Hopeiano Oxoniæ.

## SPECIES 5—NEMOPTERA REMIFERA.

## PLATE XXXIII, FIG. 9.

Luteo-fulva, opaca: dorso thoracis paullo obscuriori; abdomine fuscescenti; alis anticis oblongo-ovalibus apice rotundatis, costa parum curvata, areolis costalibus immaculatis, stigmatе minuto fusco; alis posticis longis gracillimis fuscescentibus, ante apicem vix dilatatis, hic fuscis, apice ipso albo.

Long. corp. lin. 5½; expans. alar. antic. lin. 21; long. alar. postic. lin. 21½.

Habitat; Cape of Good Hope (D. Trimen). In Mus. D. M<sup>c</sup>Lachlan, F.L.S., Neuropterologi peritissimi.

## SPECIES 6—NEMOPTERA TIPULARIA.

## PLATE XXXIII, FIG. 10.

Fulva: thorace utrinque fusco vittata; abdomine valde elongato; pedibus perbrevibus; alis anticis angustis valde iridescentibus, pellucidis, stigmatе minuto albido; alis posticis valde elongatis et gracilibus, ante apicem bis dilatatis, dilationibus ovalibus fuscis, venulis in his partibus nigricantibus, striola longitudinali interjecta alba, apice ipso necnon fascia ante dilatationem albis.

Long. corp. lin. 9; expans. alar. antic. lin. 22; long. alar. postic. lin. 23.

Habitat; Damara Land, Africa australis. In Mus. D. M<sup>c</sup>Lachlan, mihi pro delineatione et descriptione in hoc opere benevole communicata.

# ORDER—LEPIDOPTERA.

## FAMILY—PAPILIONIDÆ.

GENUS—PAPILIO. SUB-GENUS—EURYADES. Felder.

EURYADES DUPONCHELII ♀.

(*Papilio (Euryades) Recvii*, Westw. in Trans. Ent. Soc. Lond. 1872, p. 103.)

PLATE XXXIV, FIGS. 1, 2.

Alis supra obscure fulvis, subtus pallidioribus, et magis stramineis; anticis macula subapicali flavescenti; margine nigro, incisuris rubrarum marginalibus flavidis; posticis dimidio externo supra fusco, subtus nigro; serie duplici macularum, alteraque macularum majorum, supra lutearum, subtus straminearum, interposita; margine sinuato et 1-caudato, incisuris albis.

Expans. alar. antic. unc.  $3\frac{1}{2}$ .

Habitat; Buenos Ayres (J. W. Reeve), Coll. Druce.

Deceived by the assertions of M. Lucas (Annales Soc. Ent. France, tom. viii. p. 91, pl. VIII, 1839, and ib. 4th Ser. vol. viii, 1868, p. 5), that the black butterfly with red and yellow spots, figured by him under the name of *P. Duponchelii*, was a female, and that a smaller and still darker coloured individual was the male, I was led to describe the female insect, here figured by me, as a distinct species in the Trans. Ent. Soc. London, as above referred to, with the suggestion that it might however ultimately be discovered that M. Lucas had mistaken the sex of his first specimen, and that it might be in reality the male of the insect now before us. I was led chiefly to this opinion by the analogy between the two insects and the two sexes of the Australian *Eurycus Cressida*, the males of which are black, with red and white markings, and the females semitransparent and more or less brown, with darker brown marks. Moreover the female of *Euryades Corethrus* (a species closely allied to the female insect here figured) possesses anal lobes similar to those of *Parnassius* and *Eurycus*, as stated by Mr. E. Doubleday from information which I had communicated to him (Gen. Diurn. Lep. i. p. 21); and in certain females of the species here figured these anal lobes are greatly developed, and nearly as long as the whole abdomen: whereas in Mr. Druce's specimen of the female here figured these lobes are either not yet fully developed, or have been broken off near the base. The correctness of my supposition as to the mistakes of M. Lucas, and the sexual relationship between this female insect and the male *P. Duponchelii* of Lucas, has been fully determined by Dr. Burmeister (who, from his residence in Buenos Ayres, the locality of both *Ch. Corethrus* and *Duponchelii*, has had full opportunities of settling the question) in the Stettiner Entomolog. Zeit. 31 Jahrg. (1870), p. 414, as well as by M. A. Guénée in his 'Notice sur divers Lépidoptères du Musée de Genève,' where the females of both these species are figured.

## FAMILY—NYMPHALIDÆ.

## GENUS—CHARAXES.

SPECIES 1—CHARAXES LYSIANASSA. (Fœm.) Hope MS.

(= ? *Ch. Boueti*, Feisthamel, Ann. Soc. France, 1850, p. 261, fœm. ?)

PLATE XXXIV, FIGS. 3, 4.

Alis supra castaneo-brunneis, anticis versus basin et ad costam magis castaneis, fascia lata communi flavescenti, in anticis maculari, in posticis integra, maculisque parvis submarginalibus fulvis; posticarum margine fulvo; alis subtus albido, fulvo, brunneo et griseo læte variegatis, posticis fascia pallida media ocellisque duobus parvis ad angulum analem.

Expans. alar. antic. 3 $\frac{2}{3}$ .

Habitat; Ashantee. In Mus. Hopeiano Oxoniæ.

The upper side of the fore wings is of a rich dark brown colour, the basal portion, especially along the costa, being of a rich dark chestnut, varied by a blackish patch at the extremity of the discoidal cell, which is thereby separated from two other rich chestnut spots placed obliquely, and two others, at a greater distance, placed transversely. From nearly the middle of the inner margin arises a broad buff-coloured fascia with sinuated edges, which soon breaks into oval detached spots of smaller size, extending nearly to the apex, the last spot of this series being small, subcostal, and placed nearer to the discoidal cell of the wing, the spots between the branches of the median vein are each composed as it were of two conjoined spots: near the apical margin is a row of small, nearly rounded, fulvous spots. The hind wings are dark brown, the middle occupied by a broad buff-coloured fascia with nearly regular edges; the margin is broadly fulvous-red, with a very slender black marginal line. The two tails of each hind wing are rather long and slender.

On the under side the ground colour of the wings is pale buff or straw coloured, marked with numerous rich fulvous-red patches. The discoidal cell in the fore wings is traversed by four of the latter, the third of which is very sinuous, followed by a short fulvous-red bar from the subcostal vein; the wing between the discoidal cell and the middle of the inner margin is of a purplish tinge, with several dark brown irregular transverse marks; half way between the middle of the wing and the apical margin is a row of slender fulvous-brown lunules, followed by a row of large oval-shaped fulvous-red spots, darkest next the margin, from which they are separated by reversed pale fleshy lunules; next the anal angle is a large compound black spot, with several patches of pale blue scales on its outer side. The hind wings have a nearly straight black line running across them near the middle, followed by a pale whitish-buff space; the space between the base of the wings and this line being marked by several irregular fulvous-red fasciæ, the outermost being the widest, and joining the black line, which is angulated close to the anal margin. The broad pale fascia is followed by a row of conjoined fulvous-red lunules, beyond which the wing is varied with alternate lunate bars of greenish buff, fulvous-red, black, pinkish-grey, and fulvous; the anal angle having two blue-black dots edged above with white lunules.

The body above is dark chestnut, with four white dots on the crown of the head; the palpi and under side of the chest are varied with white.

SPECIES 2—CHARAXES ANTICLEA ♀.

(*Charaxes Cymo*, Hope MS.)

PLATE XXXIV, FIG. 5.

Alis supra fuscis, omnibus fascia submediana rufo-fulva, in alis anticis versus costam bifida; posticis margine fulvo, linea tenui nigra marginali punctisque duobus parvis albis ad angulum analem.

Expans. alar. antic. 2 $\frac{2}{3}$ .

Habitat; Sierra Leone. In Mus. Hopeiano Oxoniæ.

SYN.: ♂ *Papilio Anticlea*. Drury, Ill. iii. t. XXVII, figs. 5, 6.♀ *Papilio Horatius*. Fabricius, Ent. Syst. iii. pl. I, fig. 64; (Jones, Icon. ined. v. t. XVI, figs. 3, 4.)

No figure having hitherto been published of the female of this very rare species, I have thought it advisable to represent it in the present work, from a fine specimen in the Hopeian Collection.

## SPECIES 3—CHARAXES DRUCEANUS. (Mas.) PLATE XXXIV, FIG. 6.

‘Affinis *C. Eudoxo* vix differt supra a *C. Cynthia*.

‘Alæ subtus rufescentes, anticæ costa argentea; area basali maculas quatuor discoideas et quatuor discales nigrescentes argenteo cinctas includente, a fascia lata argentea continua limitata; hac apud costam bifurcata; area anali fulvo-varia, a serie macularum subocto nigrarum submarginalium (a linea plumbea extrorsum cinctarum) limitata; alæ postice area basali rufescente, argenteo strigosa (strigis lineas nigras includentibus) et a fascia lata argentea limitata; margine externo fulvo, linea tenuissima marginali argentea; maculis septem ferruginosis, argenteo cinctis, extrorsum nigro fasciatis, in serie irregulari discali positis; macula anali ocellari plumbea nigro-cincta; corpus ferrugineo fuscum, palpis lateraliter albis; antennis nigris.’ (Butler, l. c.)

Expans. alar. antic. unc. 3, lin. 3.

Habitat; Old Calabar (Coll. Druce), Port Natal (Coll. Ward), Zambesi (Rev. D. Rowley). In Mus. Hopeiano Oxoniæ, etc.

SYN.: Mas. *Char. Druceanus*. Butler, *Cistula Entomologica*, i. p. 4 (October, 1869); *Lepid. Exot.* April, 1870, pl. X, fig. 4 (nitore argenteo omnino omisso).

*Char. Cinodon*. Hewitson, *Ent. Monthly Mag.* vi. p. 177, (January, 1870).

## GENUS—JUNONIA.

## SPECIES 1—JUNONIA WESTERMANNI. (Mas.)

(Boisd. MS., Westwood in *Entomologists' Monthly Magazine*, vol. vi. p. 278, May, 1870.) PLATE XXXIV, FIG. 7.

Mas. Alis supra nigris, apicem versus magis fuscis; omnibus plaga magna subovali fulva pone medium; posticis macula oblonga subcostali læte cærulea; alis anticis infra pallide fulvis, margine postico fusco (ad angulum apicalem et posticum dilatato) lituris 5 undatis nigris intra cellulam discoidalem maculisque duabus submediis punctoque subapicali nigris; alis posticis albido-griseis, margine postico obscuriori; puncto ad basin cellulæ serieque punctorum 5 sub-marginalium nigris, strigisque nonnullis fuscis undatis per medium alæ irregulariter extensis.

Expans. alar. antic. unc. 2.

Habitat; Guinea (D. Westermann). In Mus. Hopeiano Oxoniæ, Dublinense, Hewitson, &c.

Specimens of this lovely insect were taken in Guinea by the late celebrated entomologist, Herr Westermann of Copenhagen, by whom the species was communicated to the Rev. F. W. Hope, Dr. Boisdual, and other entomologists; and its specific name, adopted above, was proposed for it by the last-named author in his manuscripts. Mr. Hewitson has received (June, 1873) a number of specimens, all being males, from his collector, Mr. Rogers, taken in Angola, south of Congo.

## JUNONIA WESTERMANNI. (Fœm.?) PLATE XXXIV, FIG. 8.

The insect here represented was kindly sent to me from the Royal Dublin Society of Natural History for illustration in this work by Mr. W. F. Kirby (the indefatigable author of a most useful ‘Synonymic Catalogue of Diurnal Lepidoptera’), by whom it was considered to be the female of *J. Westermanni*, of which specimens had been received with it from Cape Coast, Africa. It will be observed, however, that, in addition to other characters, the middle of the hind wings wants the undulated markings of the male.

‘It differs strikingly from the male in the upper side. It is brown above, the base darker, the whole of the centre of the hind wings filled with a broad orange band (much duller than in the male) which extends to the adjacent portion of the fore wings, curving inwards across the cell, where it becomes much more obscure. The orange band of the hind wings seems to have been edged with lilac-blue, and there are traces of detached bright blue scales in the cell of the fore wings. There is a row of five black spots towards the edge of the orange on the hind wings (visible on the under side in the male also), and continued, in the female, on the fore wings, although the only conspicuous spot is one near the hinder angle of the fore wings. Beneath, the female chiefly differs in wanting nearly all the dark markings, and in the orange markings being more suffused and not sharply defined as in the male.’

## FAMILY—HESPERIIDÆ.

GENUS—HESPERIA.

SUB-GENUS—OXYNETRA Felder.

## SPECIES 1—HESPERIA (OXYNETRA Feld.) ZAMBESIACA. PLATE XXXIV, FIG. 9.

*Alis chalybeo-nigris albo-maculatis; corpore nigro, capite et thorace albo maculatis, hujus patagiis, fascia curvata post scutellari et ano sanguineis; abdomine fascia lata media lutea (in medio interrupta).*

Expans. alar. antic. unc.  $1\frac{3}{4}$ .

Habitat; Zambesi (Rev. D. Rowley). In Mus. Hopeiano Oxoniæ.

The fore wings are chalybeous black, with seven spots of white: one close to the base on the hind margin; three between the base and middle, of unequal size; two large ones near the middle, one of which is at the extremity of the discoidal cell, and one in the space between the first and second branches of the median vein. These are followed by a smaller one in the space between the second and third branches of the median vein; and there is an oval 4-partite spot between the cell and the apex of the wing.

The hind wings have a very narrow white transverse streak close to the base, the middle of the wing being occupied by a large white bar divided by the median and postcostal veins, and their branches (which are broadly black) into five portions, the broader outer margin of these wings being more strongly chalybeate than the base. The head and body are black, the head with a large white frontal spot, and two small ones between the eyes. The tippets of the collar or prothorax are clothed with scarlet hairs, the tegulæ or wing scales, together with a pair of dots in front of them, and a second pair behind them, at the sides of the disc, as well as the narrow hind margin of the scutellum, white: the latter is followed by a curved band of scarlet, the extremity of the abdomen being of the same colour: the four middle segments of the abdomen are luteous, with a narrow dark longitudinal line down the centre.

The palpi are broadly truncate, being porrected but slightly in front of the head; the terminal joint is very minute; the antennæ have a tuft of curved hairs at the base, and their tips form a long reflexed club.

## SPECIES 2—HESPERIA (OXYNETRA Feld.) NAMAQUANA. PLATE XXXIV, FIG. 10.

*Alis nigris albo vel albido maculatis; corpore nigro; capite et thorace nigris albo et aurantio maculatis; abdomine fulvo, segmentis in medio maculis triangularibus nigris notatis.*

Expans. alar. antic. unc.  $1\frac{5}{8}$ .

Habitat; Africa australior. In Mus. D. Hewitson.

I am indebted to W. C. Hewitson, Esq., for allowing me the opportunity of figuring his unique specimen of this pretty undescribed species in illustration of the closely allied one from Zambesi in the Oxford Museum. It is somewhat larger than the latter, and wants the chalybeous gloss of the wings, which are black, the fore ones marked with nine spots of white of various sizes, namely, one at the base, on the inner margin, three of unequal size forming a triangle between the base and the middle of the wing, of which the outer one is the largest. These are followed by three near the centre of the wing, placed transversely, the one at the extremity of the discoidal cell and that between the first and second branches of the median vein being the largest, and the third, nearest the hinder angle of the wing, being small. Between the middle spots and the apex of the wing are two other white spots, of which the anterior is narrow, transverse, and tripartite.

The hind wings have a small transverse line at the base, the centre of the wing being occupied by a broad pale buff bar, which is divided by the median and postcostal veins and their branches, which are broadly black, into five portions.

The head is black, with two small white dots at the base of the antennæ, the upper orbits of the eyes, and a small spot on the crown of the head of the same colour. The thorax is black, the patagia of the collar, the wing scales, and a dot on each side behind the wing scales of orange red; there is a slender white line across the front of the mesonotum (interrupted in the middle), and the hind margin of the sides of the scutellum is white. The abdomen is orange-red, the basal segment and a triangular spot in the middle of each of the four intermediate segments being black.

# INSECT MONSTROSITIES.

## PLATE XXXV.

This plate is devoted to a class of Insect Monstrosities of very rare occurrence, to which hitherto but little attention has been directed, and which are unnoticed in any of the general Introductions to the Science. The individuals in question belong to the group which has been termed gynandromorphous<sup>1</sup>, the specimens partaking of the characters of both sexes, being, generally, bilateral; the sexual characters (being for the most part the *secondary* ones) of one sex being exhibited by one side of the body and its organs, and the peculiarities of the opposite sex being seen on the other half of the insect. But, in the specimens before us, the body of the insect appears to be unisexual, and the sexual divarication is confined entirely to the secondary sexual characters exhibited by one or more of the wings only. The peculiar import of this strange modification, in a physiological point of view, is very difficult to be understood; and from the great rarity of the individuals, and their small size, we can hardly hope to obtain specimens sufficient for the necessary examination of the internal characters of the *primary* sexual organs. The specimens hitherto observed belong, for the most part, to the Diurnal Lepidoptera, in which the sexual variation in the markings and coloration of the wings quickly catches the eye. Doubtless, however, they are more numerous than has hitherto been supposed; but they are, of course, liable to be overlooked in the vast multitude of species of all orders, where the external sexual distinctions are not conspicuously distinct. In some instances these modifications of the markings have been suggested to be mere chance variations in the shape or colour of unisexual individuals; but as they are not unfrequently accompanied by sexual variations in structural characters (such as the shape or size of the wings), it is impossible to doubt that they exhibit a strange commingling of sexual distinctions.

<sup>1</sup> This name was proposed by M. Lacordaire to supersede that of Hermaphrodites, which is more strictly applicable to those animals in which the generative organs of both sexes are normally included in the same individual, but which, nevertheless, require the presence of a second individual to effect the joint impregnation of the two individuals.



## LEPIDOPTERA RHOPALOCERA.

## FAMILY—PAPILIONIDÆ.

## PAPILIO POLLUX.

(*P. Castor*, Semper in Wiener Ent. Monatschr. Bd. vii. 1864, p. 281, pl. XIX.)

In my *Arcana Entomologica*, vol. ii. pl. LXXX (September, 1844), I published figures of two new Indian species of *Papilio* under the names of *Castor* and *Pollux*. *P. Pollux* (pl. LXXX, fig. 1) has the wings above nearly black, with very minute whitish incisures and a large white spot near the outer angle of the hind wings divided into four parts by the veins. I have had a number of males of this species. The other species, *P. Castor*, is larger, with dark brown wings, the fore wings having the white incisures gradually enlarged in size to the inner angle, and a row of nine submarginal whitish spots; whilst the hind wings have a submarginal row of seven arrow-headed markings and a broad row of spots between them and the middle of the wing. These broad spots are cream coloured and very decided in the male in the Oxford Museum, which is altogether darker than the females, which have these broad spots suffused with greenish brown scales, and of larger size, especially on the under side, where they extend into the discoidal cell, separated by the veins. The hind wings of the male are of the same shape as in the female, whereas in *P. Pollux*, male, they are more elongated, the third branch of the median vein terminating in a lobe more produced than the rest.

By all subsequent writers these two species have been erroneously considered as sexes of one and the same species.

In the *Wiener Entom. Monatschr.*, as quoted above, Mr. George Semper of Altona, adopting the same opinion, has published figures of a remarkable specimen of *P. Pollux* (under the name of *P. Castor*), of which he has been so good as to send me a photograph, of which both the left wings are of the ordinary female character, as are also the anterior half of the fore- and inner (or anal) half of the hind-wings on the right side; whilst more than the inner half of the fore- and the outer or costal half of the hind-wing on the same right side are irregularly much darker and lighter, partaking of the characters of the darker male and lighter female.

## SUB-FAMILY—PIERIDES.

## PIERIS PYRRHA.

## PLATE XXXV, FIG. 1.

This is a very interesting example of the class of monsters above described, involving also the theory of 'Mimicry' which has lately been upheld to a considerable degree by the supporters of the Darwinian theory of Evolution. The family Pierides is typically well represented by our common garden white butterflies, white and yellow being the general colours of the great mass of the species, the fore wings generally also being tipped with black. In this particular species, the male, on the upper surface of its wings (as seen on the left side of figure 1), follows the normal character of the sub-family; but the female has the wings varied with orange, yellow, and black, and is, in fact, an excellent 'mimic' of some of the *Heliconiidae*. Some traces of this coloration indeed are seen on the under side of the hind wings of the male, and are faintly visible through the wings when looked at from above. The species is common in Brazil.

In the individual represented in figure 1, from Mr. Hewitson's collection, the two wings on the left side, and the fore wing on the right side, as well as the body, are entirely masculine; whilst the hind wing on the right side is, with the exception of a broad space along the costal margin, female. This space is, in the part towards the body, white, as in the male; whilst the outer half of the space is singularly confused with patches of white (male), orange, and black (female) scales.

## EUCHLOE CARDAMINES.

PLATE XXXV, FIGS. 3, 4.

The English orange-tipped butterfly, from the marked difference in the two sexes, and the common occurrence of the species in lanes and pastures in the spring, is more frequently noticed, in a monstrous condition, than the ordinary white Pierides. A specimen, of which the wings on the left side are masculine, and those on the right side, wanting all trace of the orange markings, female, is represented in my 'Butterflies of Great Britain,' pl. II, fig. 3<sup>1</sup>. The insect here figured in plate XXXV, figs. 3, 4, from the Collection of Dr. Boisduval, is a male, but has the orange tip of the fore wings broken up, especially in the right wing, by white patches. The white portion of this right fore wing is, however, almost confined to the space between the third branch of the median vein and the lower disco-cellular vein on the upper side of the wings; and it is interesting to observe, that in this space the broader black apical margin of the female is seen, whereas the under side of this wing is entirely masculine. In the apical portion of the left fore wing there seems to have occurred quite a contest between the male and female characteristic markings, on the upper side, whereas on the underside the female marking is only seen in the space between the second and third branches of the median vein.

Plate XXXV, fig. 8, represents the right fore wing of a specimen of the same species in the Collection of Mr. Edwin Brown, of Burton-on-Trent. This specimen is entirely female, except that the middle portion of the costal region of the right fore wing is marked with several irregular orange dashes above the large black discoidal spot both on the upper and under sides. The abdomen of this specimen appears, however, so far as may be judged by its dried and shrunk condition, to be masculine.

Plate XXXV, fig. 9, also represents the right fore wing of a specimen of the same species observed by Mr. Geldart, to whom I am indebted for a sketch of it. The general appearance is that of a female, but on the upper side of the fore wing, on the right side, there is a small oblong dash of male orange scales in the space between the third branch of the median vein and the lower disco-cellular vein, immediately beyond the black discoidal spot. This dash shews through the white scales on the under side of the wing, but not a single orange scale is discernible on that side even by a strong magnifying glass. There are also two adjacent minute orange dots visible just above the lower disco-cellular vein.

Another specimen of this insect is described by M. Boisduval as a variety of the female having an orange spot on the under side of the fore wings.

In a short memoir in the *Annales Soc. Ent. France* for 1853 (2nd Ser. tom. x, p. 325, pl. IV, fig. 3), M. Bellier de la Chavignerie divides the so-called hermaphrodite insects into two series—1st, those in which 'l'un des sexes' is 'dans une plus grande proportion que l'autre' (of which he had published an instance in *Liparis dispar*, described and figured by himself in the same *Annales* for 1849, p. 173, pl. VI, fig. 2, in which a large part of the right fore wing is coloured as in the female, whilst the whole of the remainder of this insect is masculine); and, 2ndly, those in which the two sexes are equally divided in the individual, which comprise by far the greater number of cases of these monstrosities, and of which, in 1835, M. Alexandre Lefebvre gave a list of 47 of such Lepidopterous monsters: to which M. Bellier added another instance in the volume of the *Annales* for 1852, being a specimen of *Euchloe cardamines*, of which the left side was entirely female. M. J. Fallou has published (*Annales Soc. Ent. France*, 5th Ser. 1871, p. 369, pl. V, figs. 7 and 8) the description and figures of an aberration of *E. cardamines*, of which the body was female (containing eggs), and the hind wings entirely and the fore wings for the most part were female, whilst on the upper side the right fore wing was marked by several narrow orange streaks on the extremity of the costa and apex of the wing, whilst the left fore wing had a small triangular dash of light orange near the inner angle. On the upper side the fore wings may be said to be cut into three nearly equal longitudinal parts, the costal and inner third being female, whilst the central part is masculine, with the orange colour extending into the cell, the apical margin in this part is marked with three triangular patches of green scales. It was taken near Beaumont-sur-Oise.

<sup>1</sup> This specimen is in the Collection of Mr. Henry Doubleday. A similar specimen is figured by M. Bellier in the *Annales of the French Entomological Society*, 2nd Ser. tom. x, pl. IV (1853).

## ANTHOCHARIS EVIPPE.

PLATE XXXV, FIGS. 11, 12.

In the Hopeian Collection is preserved the monstrous specimen of this pretty species from Sierra Leone here figured. The ordinary male character of the specimen is shewn on the left side of figure 11, exhibiting a large red spot on the broad apical margin of the fore wing, the disc of which is entirely white, and the white hind wings with black marginal spots, to which two small somewhat oval ones are attached, extending into the disc of the wing. The ordinary character of the upper side of the female is shewn in figure 12, shewing the large broad apical spot, and an oblong one on the inner margin of the fore wings (which are dilated below the middle of the apical margin), and the hind wings marked with a dark subcentral fascia as well as the marginal spots. In the specimen before us the left side of the insect is entirely male, and the wings on the right side are female in form, and the hind one is also female in markings; but the fore wing has the broad apical dark margin marked with an irregular series of red spots, thus partaking of the character of the male.

## GONOPTERYX RHAMNI.

PLATE XXXV, FIG. 2.

The ordinary character of this very common butterfly is the entirely sulphur-yellow colour of the wings of the male, and the greenish-white colour of those of the female. I have seen several monsters of this species in which one or more of the wings exhibit a combination of the colours of the two sexes.

In the specimen here figured (fig. 2) from the Collection of Herr Staudinger, of Dresden, the fore wing on the right side is female, with the anterior and posterior margins masculine, and with two orange dots on the disc beyond the cell; the right hind wing is entirely masculine; the left fore wing has the anterior half masculine, with two spots at the end of the discoidal cell, and a spot on the apical margin as in the female; the posterior half is female, with a bipartite orange spot on the disc beyond the cell; the left hind wing has the costal half female, and the inner half male, with a pale spot near the anal angle.

Plate XXXV, fig. 10, exhibits the right fore wing of a specimen of the same species in the Collection of Mr. F. Bond, which has the two wings on the left side, and the hind wing on the right side feminine; but this right hand fore wing is confusedly divided (for the most part longitudinally) between the male and female colours. The specimen was taken near London.

Mr. F. Bond possesses another specimen which is entirely masculine except the costal region of the fore wing on the left side, which is female, with a small narrow yellow dash in the middle of the costal edge.

Mr. F. Bond has also recently obtained from the Collection of Mr. Edmunds, of Worcester, two specimens with irregular markings of the two sexes, but with the peculiarity that the markings are exactly similar on the two sides, the under surface of the wings, moreover, shewing the same markings as on the upper surface. In one of these specimens the basal half of all the wings is masculine, with slender white dashes on the chief veins, whilst the apical half is feminine, the body being also female. In the other specimen the fore wings have an oval spot of the female colour near the apex, an elongated dash between the second and third branches of the median vein, and the inner margin with a broad border of the female colour. In the hind wings the discoidal cell is of the female colour, from which three broad stripes of the same colour extend to the outer margin of the wing, each occupying the alternate space between the longitudinal veins of the hind wing beyond the cell.

From the regularity of the markings of these two specimens, and their identity on the two sides, one is almost tempted to fancy the male colour may have been discharged in the pale parts by art.

The Royal Museum of Berlin also possesses two interesting specimens of the same species. In one the left fore wing is masculine, and the two hind wings are feminine, except that the left-hand hind wing has a central narrow stripe of male colour running from the base of the wing, over the ordinary discoidal orange spot, and extending to the outer margin of the wing; the right fore wing is female, except that the costa for two-thirds of its length from the base, a narrow longitudinal streak running through the discoidal cell from the base to below the apex of the wing, and a dash parallel with the inner margin, are masculine.

The other Berlin specimen has the right fore wing and the anterior half of the left fore wing female, the

posterior half of the left fore wing being masculine: the right hind wing is female, with a large yellow patch near the outer angle, and the left hind wing is female, with a yellow stripe extending from the discoidal spot to the outer margin, the outer angle of the wing, and two irregular spots between the angle and the anal edge of the masculine colour.

FAMILY—NYMPHALIDÆ.

S I D E R O N E I S I D O R E.

PLATE XXXV, FIGS. 6, 7.

Mr. Hewitson possesses a curious specimen of this Brazilian species here figured. The ordinary character of the male is shewn on the left side of figure 6, and the corresponding side (that is, the right side) of the under surface shewn in fig. 7. The wings of the female are pale buff, slightly darker at the base, with a broad black apical spot in the fore wings. In this sex the outer angle of the hind wing is more prominent than in the male, the inner margin of the hind wing being shorter than in the male. In Mr. Hewitson's specimen the two wings on the left side and the hind wing on the right side are masculine (except that the latter has a female coloured spot in the middle of the costal region, which is more conspicuous on the under side of the hind wing). The right fore wing, however, presents on its upper surface a complete *mélange* of the colours of the two sexes: the base, however, being masculine; whereas the under surface of this wing offers no distinction from the ordinary under side of the male.

FAMILY—SATYRIDÆ.

H I P P A R C H I A S E M E L E.

PLATE XXXV, FIG. 13.

In Mr. F. Bond's fine Collection is preserved a specimen of this common British species, which in size and general appearance, as well as in the structure of the fore legs, is a male insect, but of which the left fore wing does not exhibit the peculiar male rugose portion of the disc to its full extent<sup>1</sup>, whilst the apical portion is marked as in the female.

Mr. F. Bond also possesses a male specimen of this species, with the apical half of all the wings marked as in the female.

FAMILY—MORPHIDÆ.

In Mr. Hewitson's Collection is preserved a specimen of *Morpho Sulkovskyi* Koll. (*M. Ganymede*, Westw. Gen. D. Lep.), in which the fore and hind wing on the right side, and the fore wing on the left side, are masculine. The left hind wing, however, on the upper surface has two-thirds of the basal portion blue, but not quite so brilliant as the right fore wing; the apical one-third of the wing (as far as and including the ocelli, as seen through the wing) is pale brown, with two narrow subapical bands not at all lunulate; the anal patch is as in the male, but much more diffused with brown; the black and red markings as in the male.

On the under surface the left fore wing is throughout more strongly marked with darker brown, and the ocelli are rather larger than in the opposite hind wing.

<sup>1</sup> In this species the greater portion of the disc of the wing is covered with ordinary shaped oval scales, which are affixed to the wing in little cups placed transversely in rows at equal distances apart; but in the rugose portions of the fore wings, characteristic of the male, the membrane of the wing is covered quite irregularly with a vast number of the small cups, the characteristic male scales or plumules (as they are termed by microscopists) occurring in these parts in vast numbers. These plumules are either of a very elongated oval form, or are almost linear, with the surface, however striated, and the apex terminating in a small tuft of very fine bristles. These scales are implanted in the cups by a minute bulbous base, from which extends a short extremely slender cylindrical portion. Although, however, occurring in such vast numbers, these scales are not observed when the insect is at rest, or dried in a cabinet, the roughness which is observed in those parts of the wings being produced by usual oval scales implanted amongst them, sticking out as if thrust upwards by the dense mass of male plumules beneath.

## FAMILY—LYCÆNIDÆ.

POLYOMMATUS ADONIS. PLATE XXXV, FIG. 5.

In Mr. F. Bond's Collection is a specimen of this pretty insect which, on the under side, has entirely the appearance of a female individual: on the upper surface, also, the two wings on the right side, and the hind wing on the left side, are female; but the fore wing is dashed, especially on the anterior half of the wing, with longitudinal stripes of the brilliant blue colour of the male.

## LEPIDOPTERA HETEROCEA.

## FAMILY—BOMBYCIDÆ.

LASIOCAMPA QUERCUS. PLATE XXXV, FIG. 14.

The specimen here figured is contained in the Collection of Herr Staudinger, of Dresden, and exhibits a curious mixture of both sexes, the fore wing on the right side alone being unisexual and of the enlarged female size and colour; the anterior half of the fore wing, on the left side, is also coloured as in the female; but this wing is small in size, as in the male, and the hind half is curiously mottled with the darker and lighter colours of the two sexes; the red brown not so dark as in ordinary males; the left hind wing has the costal one-third of the pale female colour, the inner two-thirds being of the richer colour of the male, with two large pale oval discoidal spots; the hind wing, on the right side, has the outer two-thirds of the wing coloured as in light-coloured males, with four pale submarginal spots; the inner one-third is of the pale colour of the female, but with a red-brown spot opposite the extremity of the body. The antennæ are shorter and not so much pectinated as in the male; the thorax and base of the abdomen are broad as in the females, but the abdomen is small, conical, and shorter than in the male.

Mr. F. Bond also exhibited at the February meeting of the Entomological Society of London, 1868, another specimen of *Lasiocampa quercus*, with the wings irregularly coloured, with the antennæ also apparently irregularly sexual.

M. Guénée has also described and figured a specimen of the same species in a memoir, recently published, upon certain Lepidoptera in the Museum of Geneva (pl. annex. fig. 8, with details), which exhibits a curious mixture of sexual characters. The two wings on the right side, the hind wing on the left side (except a narrow pale streak extending from the middle of the disc to the outer margin), and the inner half of the fore wing on the left side, are apparently those of the male; but the anterior or costal half of the left fore wing is enlarged and pale coloured, as in the female. The body is thick, as in the female; the antennæ are intermediate in structure between those of the two sexes; and the abdomen was found to contain imperfectly developed eggs—the outer organs of generation being also imperfect.

## ORDER—NEUROPTERA.

## FAMILY—LIBELLULIDÆ.

CALEPTERYX VIRGO. PLATE XXXV, FIG. 15.

Mr. McLachlan has kindly allowed me to figure from his collection a French specimen of this common insect partaking of the markings of the two sexes. The body is green, with the wings very slightly greenish-hyaline; the anterior on the right side only slightly and irregularly marked along the middle of the inner portion with brown spots; whilst the anterior wing on the left side bears a very large dark blue oval patch as in the ordinary males. The two hind wings are unicolourous.

The extremity of the abdomen has been much injured by having a wire passed up the body, the eighth or terminal segment alone exhibiting small black horny conical points.

## ORDER—HEMIPTERA.

### FAMILY—COREIDÆ.

#### GENUS—PHYLLOMORPHA *Lap.* (*Syromastes* p. *Latr.*)

The three species of this curious genus, represented in the upper part of plate XXXVI, form a supplement to the eight species described in my Monograph of the Group published in the *Arcana Entomologica*, vol. i. 1841, p. 7 (plate II). They belong to the first section of the genus having the hind margin of the prothorax not produced into two long lobes.

#### SPECIES 9—PHYLLOMORPHA INDICA. *Westw.*

##### PLATE XXXVI, FIG. 1.

*Ph. Latreillii* proxima at paullo minor: albido-fulvescens, spinosa, brunneo parum variegata, subopaca, venis loborum abdominalium minus distinctis abdomineque magis rotundato (lobis segmentorum quarti et quinti abdominis marginibus rotundis nec submarginatis); lobis segmenti sexti latis subtruncatis; spinis femorum longioribus et magis oblique insertis; antennarum articulo secundo tertio fere dimidio brevior.

Long. corp. lin. 4.

Habitat; India (Boys). In Mus. Hopeiano Oxoniæ.

#### SPECIES 10—PHYLLOMORPHA LIVINGSTONII. *Westw.*

##### PLATE XXXVI, FIG. 2.

(*Trans. Ent. Soc.* 2nd Ser. vol. iv. Proc. p. 71, May 4, 1857.)

Fusco albidoque variegata, longe spinosa: capite et parte antica prothoracis linea tenui media et hujus margine postico fere recto albis, lobis prothoracis maximis aliformibus, apice oblique truncatis, angulo antico truncaturæ acutissimo, longe lateraliter porrecto, lobis segmentorum 4to et 5to abdominalium maximis subæqualibus apice bipartitis, divisione singula acuminata, lobis segmenti sexti angustis apice bispinis; antennis elongatis, articulis duobus intermediis fere æqualibus, ultimo brevi parum crassiori.

Long. corp. lin.  $6\frac{2}{3}$ .

Habitat; Zambesi. In Mus. Hopeiano Oxoniæ. Mecum communic. D. Livingstone, Africæ interioris peregrinator intrepidus et nomine ejus præclaro inscripta.

#### SPECIES 11—PHYLLOMORPHA PELLICULA. *Westw.*

##### PLATE XXXVI, FIG. 3.

(*Arcana Entomol.* i. Append. p. 191.)

Albida, longe spinosa: pronoto postice haud profunde inciso, lateribus in lobos duos lateraliter extensis productis; abdominis lati laciniis penultimis et antepenultimis maximis æqualibus, apice fere recte truncatis, fusco parce punctatis; pedibus longis gracillimis, femoribus spinosis.

Long. corp. lin.  $5\frac{1}{3}$ .

Habitat; Sierra Leone. In Mus. Hopeiano Oxoniæ (olim nostr.)

## FAMILY—TINGIDÆ.

## GENUS NOVUM — E U L O B A.

Corpus depressum: prothorace et segmentis abdominis lobis magnis membranaceis instructis; caput porrectum, angulis anticis ante oculos acutis, naso porrecto obtuso setis rigidis terminato; promuscis brevissima 3-articulata, in canali in medio faciei inferæ capitis inserta (fig. 4*a*); oculi prominentes; ocelli o.; antennæ elongatæ, 4-articulatæ, articulo primo longo, crassiori, longe setoso, secundo brevi, tertio duplo longiori gracillimo, quarto secundo paullo longiori apice parum clavato; prothorax lateribus dilatatis, lobis ad angulos anticos emarginatis; scutellum longitudine prothoracis triangulare; hemelytra abdomeni haud tegentia, cellulis duabus elongatis basalibus; membrana apicale multi-areolata; abdomen (cum lobis membranaceis segmentorum) fere circulare; lobis tenuissimis, margine et linea media incrassatis, lobis apicalibus ovalibus (fig. 4*b*, subtus visis); pedes longi graciles, femoribus spinulosis; tarsi biarticulati; prosternum simplex 2-tuberculatum; mesosternum planum conico-truncatum; metasternum magnum bipartitum (fig. 4*a*).

## SPECIES 1—EULOBA PALLIDA.

## PLATE XXXVI, FIG. 4.

Pallide fulvo-albida, brunneo-parum variegata: abdomine supra in medio tuberculis inflatis instructo; prothorace antice et postice transverse impresso, linea transversa media parum elevata notato.

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

Habitat; Amazonia, Ega (Bates). In Mus. Britann.

## GENUS—HOLOPTILUS. St. Fargeau.

The following species are supplemental to those contained in my Monograph of the Group published in the Transactions of the Entomological Society, vol. ii. p. 248 (1838), and vol. iv. pl. VII.

## SPECIES 1—HOLOPTILUS NEBULOSUS.

## PLATE XXXVI, FIG. 5.

(Stål, Hemiptera Africana, vol. iii. p. 46.)

Mas. 'Testaceo-griseus, griseo vel fusciscente-griseo setosus; rostro, femoribus basin versus abdomineque (disco ventris excepto), fusco-testaceis; hemelytris sordide albido-hyalinis, membrana fusco conspersa, nebulis duabus, una magna anteriore, altera minore apicali, fuscis notata, maculis nonnullis parvis marginis exterioris nigro-fuscis; metasterno magno (pedibus posticis inter se longe distantibus) postice emarginato et in tuberculum rotundatum longe setosum elevato, lateribus squamulis obtectis; basi in medio bifasciculato (fig. 5*a*, metasterno et basi abdominis e latere visis).

Long. corp. lin.  $2\frac{1}{2}$ ; expans. alar. antic. lin.  $8\frac{1}{2}$ .

Habitat; Caffraria. In Mus. Reg. Holm. et Hopeiano Oxoniæ (mecum communic. D. Stål).

*H. Vulpes* maxime affinis quoad longitudinem antennarum pedumque; membrana anterie macula transversa interrupta nigro-fusca destituta, sed hujus loco nebula magna dilute fusciscente ornata differt.

## SPECIES 2—HOLOPTILUS DIMIDIATUS. Westw.

PLATE XXXVI, FIG. 8.

Brunneo-fulvus, fulvo-setosus: antennis tibiisque posticis setis longissimis brunneis indutis; hemelytris dimidio basali albido venis fulvis, dimidio apicali obscure brunneo, medio et apice magis fuscis; cellula ovali distincta ante apicem hemelytrorum venulas abbreviatas transversas antice emittenti, venulis etiam transversis e vena tertia longitudinali discoidali emissis cellulaque altera oblonga prope angulum internum membranæ apicalis; prothorace lobis lateralibus rotundatis, medioque linea longitudinali dorsali impresso.

Long. corp. lin.  $2\frac{1}{2}$ ; expans. hemelytr. lin.  $7\frac{1}{4}$ .

Habitat; Ternate. In Mus. Reg. Lugdun. et Hopeiano Oxoniæ.

## SPECIES 3—HOLOPTILUS BURMANNICUS. Westw.

PLATE XXXVI, FIG. 9.

Præcedenti (*H. dimidiato*) proximus, differt magnitudine minori, hemelytrorum dimidio apicali magis variegato, venis albido-marginatis; absque cellulis discoidalibus prope apicem, et intus angulum posticum hemelytrorum; venulisque transversis nullis.

Long. corp. lin. 2; expans. hemelytr. lin. 6.

Habitat; Burmah. In Mus. Hopeiano Oxoniæ et in Insulis Philippinensibus; in Mus. Britann. et Oxoniæ.

## SPECIES 4—HOLOPTILUS AGNELLUS. Westw.

PLATE XXXVI, FIG. 10.

Reliquis speciebus major; albido-fulvescens, fulvo-setosus: prothoracis dorso in tubercula duo rotundata elevato, lobis lateralibus magnis rotundatis; hemelytrorum membrana apicali ad basin brunneo maculata et prope apicem brunneo irrorata, cellula distincta subsemiovali ante apicem hemelytrorum; venulisque nonnullis ex apice cellulae secundæ magnæ discoidalis prodeuntibus; metasterno maximo elevato apice bicurvato, et in medio postice fissura setulis incurvis obtecta; pedibus duobus posticis ad basin inter se distantibus (fig. 10 a, thorax infra visus; 10 b, metasternum e latere visum).

Long. corp. lin. 3; expans. hemelytr. lin. 9.

Habitat; Penang (D. Lamb). In Mus. Lamb. (communic. D. Pascoe).

## SPECIES 5—HOLOPTILUS VIVERRA. Westw.

PLATE XXXVI, FIG. 11.

Luteo-albidus: fusco-setosus, pronoto antice punctis duobus fuscis; hemelytris fere albis, venis fulvis, membrana apicali macula magna irregulari basali, alteraque subapicali nonnullisque parvis externo-marginalibus nigricantibus, venula transversa media venas duas longitudinales connectente; cellula nulla subapicali; (thorace infra acuo deterito); pedibus lutescentibus, tarsis fuscis.

Long. corp. (hemelytris clausis inclusis) lin. 3.

Habitat; India Orientalis (Capt. Boys). In Mus. Britann. et Hopeiano Oxoniæ (olim nostr.)



## SPECIES 6—HOLOPTILUS VULPES.

PLATE XXXVI, FIG. 6.

(Stål. *Hemiptera Africana*, iii, p. 46.)

Mas. 'Testaceo-griseus, griseo- vel fusciscente-griseo-setosus; rostro, maculis 2 anticis thoracis, femoribus abdomineque fusco-testaceis; hemelytris abdomine plus duplo longioribus, sordide albido hyalinis, membrana minute confluentem et irregulariter fusco-conspersa, maculis duabus irregularibus anterioribus, subconfluentibus maculisque marginis exterioris pluribus parvis nigro-fuscis, disco ventris pallido.'

Long. corp. lin.  $2\frac{1}{2}$ ; expans. alar. antic. lin.  $7\frac{1}{2}$ .

Habitat; Caffraria. In Mus. Reg. Holm. et Hopeiano Oxoniæ (mecum communic. D. Stål).

'*H. Urso* maxime affinis, hemelytris longioribus, antennarum articulo secundo et, uti videtur, pedibus nonnihil longioribus, pilis vel setis longioribus dilutioribus et minus numerosis instructis, differt.'

## SUB-GENUS—ARADELLUS. Westw.

ARADELLUS CYGNALIS. Westw.

PLATE XXXVI, FIG. 7.

Species nova, subgenus distinctum constituens.

Holoptilis genuinis differt antennis pedibusque breviter squamuloso-setosis; prothoracis dorso bicarinato, lateribus regulariter rotundatis nec angulis posticis in lobos rotundos dilatatis; pedibus brevioribus et crassioribus; hemelytris abdomine haud longioribus.

Fuscus, setis brevibus squamulosis vestitus; prothorace antice 4 tuberculato, dorso in medio longitudinaliter impresso; lateribus rotundatis, e dorso carinis duabus gracilibus obliquis antice abbreviatis separatis; scutello brevi transverso angulis posticis rotundatis; abdominis dorso castaneo lævi; hemelytris cellula unica magna media discoidali, nigricantibus, basi apiceque albis, hoc inter venas plus minusve irrorato, guttis in maculam subapicalem confluentibus; alis posticis hyalinis; pedibus breviter setulosis.

Long. corp. lin. 2; expans. hemelyt. lin.  $3\frac{1}{2}$ .

Habitat; Australasia, Swan River. In Mus. Hopeiano Oxoniæ.

OBS.—Plate XXXVI, fig. 12, represents the hemelytron of *Holoptilus (Orthocnemis) basalis* Westw. Trans. Ent. Soc. vol. iv. p. 122, pl. VII, fig. 5, from Adelaide;

Fig. 13 represents the hemelytron of *Holoptilus (Ptilocnemus) Lemur*. Westw. ib. vol. ii. p. 252, pl. XXII, fig. 7, from Van Dieman's Land; and

Fig. 14 represents the hemelytron of *Holoptilus (Ptilocnemus) fuscus*, ib. vol. ii. p. 252, pl. XXII, fig. 8, from Nepaul and Java.

## ORDER?—ACHREIOPTERA<sup>1</sup>. Westw.

In the course of the year 1868, the late Mr. H. Denny placed in my hands for examination a parasitic insect, found upon the beaver, which seemed at first sight half-way between a flattened flea and a diminutive cockroach, and which appeared to me to belong to none of the recognized Orders of hexapod Annulosa. I read a description of this insect with figures, under the name of *Platypsyllus castorinus*, before the Ashmolean Society of Oxford, during Michaelmas Term, November 9, 1868; but, as that Society is very dilatory in publishing its Proceedings, I sent a short notice of the characters of the insect for publication in 'The Entomologist's Monthly Magazine,' which appeared on the 1st of October, 1869, vol. vi, p. 118. By a singular coincidence, Herr Ritsema of Leyden published a notice of the same insect on the 15th of September, 1869, in the 'Petites Nouvelles Entomologiques,' under the almost identical name of *Platypsyllus castoris*, regarding it as a flattened flea, and consequently as belonging to the family Pulicidæ—an opinion which the structure of the mouth proves to be untenable. Subsequently, Dr. J. Leconte, having carefully examined my specimen, came to the conclusion that it was a Coleopterous insect ('Nature,' June 27, 1872), considering the trilobed structure of the mentum to resemble that of *Leptinus*, the lateral processes in which, however, are only narrow spines projecting over the gular plate; the antennæ resembling those of *Gyrinus* and *Parnus*, other parts exhibiting an 'unmistakable affinity' with the Staphylinidæ, Silphidæ, Corylophidæ, and especially the genus *Limulodes* of Matthews in the family Trichopterygidæ, with large and dilated sterna. The same gentleman has since obtained other specimens of the insect, and has sent a memoir on it to the Zoological Society of London, published in the Proceedings of that Society for 1872.

The abnormal economy of the insect, its remarkable structure, the apparent want of mandibles (which I have failed to discover, although I have dissected several specimens subsequently received in spirits through the kindness of Herr Ritsema), our ignorance of its transformations, and the possibility that the creature may be Homomorphous in the larva and pupa states, induced me and still induce me to hesitate in regarding it as belonging to any of the recognized orders of insects. I therefore here provisionally retain for it the original ordinal name which I proposed in 'The Entomologist's Monthly Magazine.'

Corpus ovale, valde depressum, coriaceum, setigerum; os (mandibulis?) maxillis, labio palpisque quatuor instructum; antennæ laterales, postice reflexæ, tri-articulatæ, articulo ultimo (ut in Pulice) annulato; prothorax magnus, scutiformis, margine postico sinuato; mesothoracis scutellum triangulare; alæ anticæ coriaceæ, planæ, venis carentes, breves, coalitæ, basin abdominis attingentes; sutura recta; alæ posticæ obsoletæ; sterna omnia maxima, plana; pedes cursorii (saltatorii?), tibiis calcaratis, tarsis quinque-articulatis, bi-unguiculatis; metamorphoses ignotæ; victus parasiticus in Castorem, more Pulicis.

### PLATYPSYLLUS.

Caput horizontale, semi-circulare, angulis posticis sub-truncatis, antennis in truncatura insertis; antennæ longitudine dimidium prothoracis æquant, articulo basali elongato, cylindrico, secundo cyathiformi, extus longe setoso, tertio ovali, ex annulis octo (ut in Pulice) formato; Pl. XXXVII, fig. 1 c. Clypeus? (labrum?) semi-ovalis, marginem anticum planum capitis formans. (Mandibularum vestigia nulla inveni<sup>1</sup>). Maxillæ motu transverso, lobis duobus apicalibus instructæ, externo majori, semi-ovalis, plano, apice spinuloso, extusque dense

<sup>1</sup> Dr. Leconte states that the mandibles are entirely similar to those of the Corylophides.

setigero, interno tenuissimo, membranaceo, margine sub-spinuloso; palpi maxillares quadriarticulati, articulo ultimo conico (fig. 1 a); mentum (fig. 1 b\*) oblongum, corneum, jugulo transverso antice insidens lobisque duobus corneis lateraliter instructum (fig. 1 b†); labium transversum (fig. 1 b‡), lateribus in angulum productis, margine antico emarginato; lingua seu ligula e lobis duobus tenuissimis rotundatis formata; palpi labiales breves, tri-articulati, conici, scapo parvo basali transverso insidentes; pronotum transversum, antice emarginatum, postice sensim dilatatum, lateribus curvatis, versus angulos anticos longitudinaliter fossulatis (pro receptione antennarum), angulis posticis rotundatis, setis longis instructis; sterna tria elevata, plana, cornea, sensim magnitudine decrescentia (haustellum maximum tri-articulatum simulantia), lateribus setis longis instructa; epipleura inconspicua; pedes robusti, compressi, cursorii, spinosi (an saltatorii?), coxis magnis; tarsi quinque-articulati, unguibus duobus robustis terminati; alæ anticæ elytriformes, coalitæ, angulis posticis rotundis, sutura recta; alæ posticæ obsoletæ; abdomen semi-ovale, planum, sex-articulatum, setosum.

## PLATYPSYLLUS CASTORINUS.

PLATE XXXVII, FIGS. 1, 2.

Luteo-fulvus, nitidus; capite punctis duobus (loco oculorum), marginum lateralinum medium versus sulco profundo utrinque cum margine laterali parallelo, occipite postice sulco profundo sinuato, pectinato instructo; pronoto utrinque serie punctorum ex angulis anticis scutellum versus extensa, alteraque cum margine pronoti postico sinuato parallela; abdominis segmentis singulis linea submarginali spinarum plurimarum, ut in Pulice, supra et infra armatis; tarsis quatuor anticis maris setis clavatis membranaceis indutis.

Long. corp. lin.  $1\frac{1}{2}$  = fere 4 mill.

Habitat; parasitice in Castorem Canadensem.

## ORDER—THYSANURA.

FAMILY—CAMPODEIDÆ. Westw. (CAMPODEÆ. Meinert.)

The following are the characters of this family as detailed by Dr. Meinert, of Copenhagen, in his Memoir in the Naturhistorisk Tidsskrift, 3rd Series, vol. iii. p. 403, Annals of Nat. Hist. 3rd Ser. vol. xx. p. 365:—

Pedes cursorii, tarsis distinctis, elongatis biungulatis; corpus elongatum, abdomine distincte 10-articulato; spiracula perspicua, saltem terna; abdominis laminæ ventrales septem priores appendiculatæ; cerci duo, e segmento decimo, ultimo, orientes; antennæ setacæ vel filiformes.

This family is composed of two genera only—CAMPODEA, Westw. Trans. Ent. Soc. vol. iii. p. 231; and IAPYX, Haliday, Trans. Linn. Soc. vol. xxiv. p. 441. The former is at once distinguished by having the body terminated by two long slender multiarticulated filiform appendages resembling a pair of anal antennæ. The species of which it is composed are small and elongated like narrow Staphylini, but of a white or pale colour.

They reside in the earth, and may occasionally be seen whilst digging in garden ground. They have recently received considerable attention from the fanciful theory which has been applied to them by Sir John Lubbock, that they constitute the primary type of form from which the whole of the class of insects has been evolved.

GENUS—IAPYX.

(Haliday, Trans. Linn. Soc. xxiv, p. 442.)

This Genus comprises species of larger size than the Campodeæ, which bear a striking resemblance to immature Forficulæ, the body being terminated by two exarticulate horny, forceps-like appendages. Dr. Meinert compares the motions of these insects to those of the Myriapodous Lithobii.

SPECIES 1—IAPYX SOLIFUGUS.

(Haliday, Op. cit. pl. XLIV; Meinert, Op. cit. supr.)

Inhabits mountainous districts in Italy (Tuscany, the Roman territory, and Naples); also near Toulon, Algiers, and Constantine (Lucas, Ann. Soc. Ent. France, 1867, Proc. p. 20); also taken by him in a cool plant-house in the Jardin des Plantes, Paris.

SPECIES 2—IAPYX SAUSSURII.

(Humbert in Guérin-Ménéville, Mag. Zool. 1868, 2nd Ser. vol. xx, p. 351, pl. XXII, figs. 1-5.)

Habitat; Mexico, Santa Cruz, Moyoapan, near Orizaba (M. Sumichrast).

SPECIES 3—IAPYX WOLLASTONII. Westw.

PLATE XXXVII, FIG. 3.

Capite obovato: antennis capite haud multo longioribus, articulis tribus basalibus (fig. 3 a) crassioribus, reliquis intus setosis, articulis transversis, sensim ad apicem (fig. 3 b) attenuatis; prothorace parvo ovali depresso, medio linea longitudinali tenui impresso; abdominis segmento septimo dorso postice profunde emarginato, segmento octavo infra paullo supra segmentum sequens producto; segmento nono brevissimo subtus in medio profunde inciso (fig. 3 c); segmento ultimo subquadrato; forcipis margine interno intus crenulato ante medium dente conico armato; pedibus brevibus compressis, femoribus latis et ante medium ut videtur subarticulatis.

Long. corp. lin.  $4\frac{3}{4}$ .

Habitat; the almost inaccessible island 'Bugio,' the Southern Deserts, near Madeira (D. Wollaston).

In Mus. Hopeiano Oxoniæ.

The specimens here described are in a dried condition, mounted on card. On examining the antennæ very carefully, the joints appear to be transverse, but connected together by a membranous tube as long as the joints it connects, which shrinks in drying so as to draw the disc of the second of each pair of joints into the cup formed by the cavity of the apex of the preceding joint.

## ORDER—ANOPLURA.

### FAMILY—LIOTHEIDÆ.

#### GENUS—ANCISTRONA.

Corpus valde depressum: caput fere semicirculare, margine postico valde emarginato; subtus pone mentum processu magno corneo bipartito, utrinque cornu latum profunde incisum, sub prosternum reflexum formante (fig. 4 *a*, caput infra visum; 4 *b*, processus pars lateralis lateraliter visa); antennæ obsoletæ? (haud discernendæ, in orbita suborbitali absconditæ?). Mentum magnum, parte antica (labium?) paullo dilatata, setis 4 longis retro extensis instructum; palpi labiales haud discernendi; labrum parvum transversum; mandibulæ validæ corneæ subtrigonæ apice bifido (fig. 4 *c*); maxillæ lobo elongato ovali terminatæ, palpis maxillaribus brevibus 4-articulatis (fig. 4 *d*); prothorax semicircularis, capitis magnitudine, medio lateribusque sulcatis, his longe setosis, setis retro porrectis; metathorax abdomine continuus; abdomen e segmentis 10 constans; pedes breves, femoribus, præsertim anticis, dilatatis.

The remarkable corneous apparatus on the under side of the head occurs in no other species of the order hitherto described.

There is a curious organ with a horny central rib, furcate at its extremity, within the mouth, represented in fig. 4 *e*.

#### SPECIES 1—ANCISTRONA PROCELLARIÆ.

##### PLATE XXXVII, FIG. 4.

Piceo-nigra, nitida, lævissima: capite castaneo, angulis posticis rotundatis, retro porrectis et longe setosis, foveis duabus rotundatis prope marginem anticum, maculis duabus pallidis prope basin capitis; thorace castaneo suturis piceis; margine laterali segmentorum ultimorum abdominalium pallide castaneo.

Long. corp. lin. 2½.

Habitat in Procellariam Capensem (DD. Rob. Brown et W. Baird). In Mus. Britann. et Hopeiano Oxoniæ (olim nostr.)

### FAMILY—POLYCTENIDÆ.

Insecta parasitica, anomala, affinitatem cum Hemipteris exhibentia.

Caput magnum depressum, antice subtrigonum rotundatum, divisione magna lunata inermi (clypeo?) antice instructum; angulis posticis prominentibus; subtus antice (sed pone clypeum) antennis 4-articulatis lateraliter et retro extensis, basi ad basin impressionis profundæ reniformis lateralis (cujus margines sunt valde serratæ—an trabeculis Docophori, etc. analogæ?) affixis; proboscis cylindrica fere capitis longitudine 3-articulata, intus setis armata ut in Hemipteris; prothorax magnus; meso- et metathorax transversus; mesonoto appendiculis duabus elytriformibus brevibus subquadratis aut postice rotundatis instructo, sutura recta coalitis; abdomen distincte multi-(8-9)-annulatum, setosum, in uno sexu (fœmina?) appendice longo tenui curvato corneo canaliculato; pedes antici breves crassi, postici 4 elongati setis longis; tarsi 3-articulati, articulo basali in pedibus 4-posticis ad basin subtus lobo membranaceo basali prædito; ungues 2 validi acutissimi curvati.

In the year 1863, Signor H. Giglioli forwarded to me specimens mounted in Canada balsam of two insects of different sexes which he had taken at Amoy, China, upon a bat of the Genus *Molossus*. From the fact of their being uniques, and from being rendered very transparent by the manner in which they were preserved,

it was very difficult to determine the precise differences between some portions of the dorsal and ventral surfaces of the insects. They were sent to me by Giglioli as a new species of *Nycteribia*, but a slight examination convinced me they had no affinity with that genus beyond their apterous condition and bat-parasitism; whilst a more careful investigation of them, and of a closely allied species captured upon another species of *Molossus* bats in the West Indies, shewed that they possessed a haustellum very similar in form to that of the genuine Hemiptera-Heteroptera. From the rows of strong flat spines with which they are armed, I proposed the generic name of *Polyctenes*, which Sig. Giglioli adopted in his short description of this and some other parasitic insects published in the 'Journal of Microscopical Science,' with small and quite unsatisfactory figures.

GENUS—POLYCTENES. Westw. MS.

Antennæ capite paullo longiores 4-articulatæ, articulo primo magno, supra versus basin angulato et seta longa instructo, apice antice setosa; articulis tribus ultimis longitudine et latitudine paullo decreescentibus, articulo tertio prope basin extus seta longa instructo; proboscis capite brevior 3-articulata, articulo primo ad basin paullo dilatato; setis, saltem duabus, internis; tarsi ad apicem interdum pulvillo spinuloso instructi.

SPECIES 1—POLYCTENES FUMARIUS. Westw.

PLATE XXXVIII.

Clypeo rotundato; antennis gracilioribus; capite striolis duabus obliquis dorsalibus impressis, angulis posticis prominentibus; prothorace transverso, lateribus parum rotundatis, utrinque seta longa ad angulum posticum; elytris magis quadratis, angulis posticis setigeris; abdomine lateribus parallelis; pedibus elongatis setis longis instructis, unguibus tarsorum posticorum haud profunde incisus; pulvillo obsoleto?

Long. corp. lin. 2.

Habitat parasitice in *Molossus fumarium* Jamaicae (Gosse). In Mus. Hopeiano Oxoniae et Britann.

Plate XXXVIII, fig. 1, *Polyctes fumarius*, upper side.

Fig. 2. The same, under side.

Fig. 3. The front of the head seen from above, shewing the large semilunate clypeus (?) the base of the antennæ (the position of the inferior insertion of the basal joint being indicated by dots), the trabeculæ (?) seen from above, the two deep dorsal converging impressions and the insertion of the proboscis on the under side.

Fig. 4. The under side of the head and basal portion of the prosternum, shewing the very delicate longitudinal striæ and the lateral spines of the clypeus; the proboscis, with two of its internal setæ drawn out (one recurved, the other extending to the right side of the head); the basal and portion of the second joint of the antennæ; the trabecula (?) with its row of broad flattened spines on the fore margin, and its row of finer spines on its hind margin; portion of the patch of strong spines in the middle of the front of the prosternum, with the extremity of the two fore legs *in situ*, shewing the dilated base of the ungues in this pair of legs.

Fig. 5. One of the fore legs seen obliquely.

Fig. 6. One of the anterior tarsi seen in an oblique direction from the front.

Fig. 7. The posterior tarsi.

SPECIES 2—POLYCTENES MOLOSSUS. Westwood et Giglioli.

PLATES XXXIX and XL.<sup>1</sup>

Clypeo rotundato; antennis brevioribus crassioribus articulo primo spinoso; capitis angulis posticis minus porrectis; capite subtus ante basin proboscidis spinis, in duplici serie curvata, dispositis serieque transversa postica spinarum armato; trabeculæ spinis planis obtusis (pl. XXXIX, fig. H), singula in cavitate parva rotun-

<sup>1</sup> All the details in plate XXXIX are taken from the top left-hand figure, lettered B, on that plate. The whole of the figures in plate XL are taken from the top right-hand figure of plate XXXIX, lettered A. All the figures were sketched with the camera lucida.

data inserta, fig. G); prothorace fere rotundato; dorsi margine postico serie transversa spinarum armato; pedibus brevioribus et crassioribus; abdomine pone medium paullo dilatatum; elytris(?) in mare(?) magis rotundatis quam in individuo stylum apicalem gerente.

Long. corp. fere lin. 2.

Habitat parasitice in *Molossus Chinensem* (Giglioli).

Plate XXXIX, fig. B, *Polyctenes Molossus* male(?).

Fig. B\* represents the head seen from beneath, shewing the lunate clypeus (?) the double curved row of spines in front of the proboscis, the two antennæ, and the two trabeculæ, the lower row of spines of which is bent inwards towards the proboscis; the three-jointed proboscis, shewing an oval portion at the base, which seems to represent the labrum and two of the elongated internal setæ. Also the transverse row of spines along the posterior margin of the head, with two strong spines at the outer angle.

Fig. A, one of the thick fore legs, in which the tarsal joints appear soldered together, probably owing to the dilatation of the outer covering by the growth of the inclosed limb. Fig. B exhibits the tarsus of one of the fore legs, and fig. C the extremity of the tarsus of the other fore leg: in both figures are to be seen, within the terminal joint, the unguis of an inclosed tarsus, shewing that the specimen was about to cast its skin<sup>1</sup>, and consequently proving that the species undergoes the metamorphosis dimidiata, with either a complete or semicomplete pupa.

Fig. D represents one of the four posterior tarsi, shewing the pulvillus as well as the unguis of a different form to those of the fore leg, one being simple and slightly bent, whilst the other is very deeply notched.

Fig. E represents the extremity of the same tarsus, shewing the unguis and pulvillus of the inclosed limb.

Fig. F shews one of the spines of the lateral margin of the clypeus, with the cup-like tubercle in which it is inserted.

Fig. G, the cup of one of the flattened spines (fig. H) of the anterior margin of the trabecula.

Plate XXXIX, fig. A, represents the other sex, having a larger body and a curved horny appendage at its extremity beneath.

Plate XL, fig. A, represents the under side of the head and prothorax, with the fore legs (the apical half of the tibiæ and tarsi cut off). In this figure the transverse row of comb-like spines (29 in number on the posterior margin of the head), and the similar row with 49 spines, are represented, having been rendered visible by the treatment with Canada balsam in which the specimen was immersed. The delicate transverse striature of the clypeus, the partial withdrawal of one of the setæ of the mouth from the proboscis at \*, as well as that of three of the setæ from the longitudinal opening of the proboscis towards its apex, and the two strong pairs of muscles for the movement of the fore leg, are shewn. In this sex (as seen also in pl. XXXVIII, fig. 4) the lower row of spines of the trabeculæ is not developed into a comb as in the opposite sex.

Fig. D shews the anterior tibia and tarsus, the triarticulation of the latter being more distinctly shewn than in the other specimen.

Fig. E, one of the four posterior tarsi, shewing the lobed base extending to the tip of the first joint.

Fig. C, three of the spines of the upper margin of the trabecula.

Fig. B, the extremity of the body seen beneath, shewing a transverse oval lobe with two setose pupillæ and the strong curved horny appendage (ovipositor?).

<sup>1</sup> The question here naturally arises whether, upon the next shedding of the skin, indicated by the already perfect state of the distal extremities of the inclosed limbs, the dorsal scales resembling elytra would be further developed either into elytra or hemelytra?

# CLASS ARACHNIDA.

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## ORDER—ADELARTHROSOMATA<sup>1</sup>. Westw.

### FAMILY—CYPHOPHTHALMIDÆ.

This family, hitherto composed of a single genus, *Cyphophthalmus*, founded upon a single species, *C. duricornis*, inhabiting the caves of Carniola, was proposed by Herr Joseph in the *Berlin Entomologische Zeitung*, vol. xii, p. 241 and p. 269, pl. i. It is nearly allied to *Phalangium*.

A second species of the group was forwarded to me by Herr Snellen van Vollenhoven, from the Royal Museum of Leyden, as a native of Sumatra, and as a species of *Trogulus*. As it differs in several respects from the type of the family, I have formed it into the

### GENUS—STYLOCELLUS.

(PLATE XXXVII, FIGS. 7, 7 *a*, corpus infra visum; fig. 7 *b*, idem e latere.)

Cephalothorax dorso integro, absque impressione semicirculari dorsali; lateribus in cornua duo brevia porrecta, apice ocelligero; chelicerae palpis breviores, articulo basali dimidium articuli cheliferi longitudine æquanti; chelæ simplices nec serratæ: spiracula ad basin abdominis rotundata nec lunata; pedes 8, fere æquales, tibiis biarticulatis, tarsis biarticulatis, articulo basali brevi, secundo multo longiori crassiori subtus fisso, ungue unico terminali instructo (fig. 7 *c*); pedes antici modice elongati absque spina ad angulum internum articuli basalis; abdomen ovale convexum e segmentis septem coalitis, formatum.

### SPECIES 1—STYLOCELLUS SUMATRANUS.

PLATE XXXVII, FIG. 7.

Convexus totus purpurascenti-piceus, opacus, undique granulis minutissimis creberrimis indutus, haud setosus.

Long. corp. lin. 3½.

Habitat; Sumatra. In Mus. Reg. Lugdun. et in Mus. Hopeiano Oxoniæ.

I have seen a closely-allied species of a ferruginous colour from Java in the collection of the British Museum.

<sup>1</sup> Forty years ago I proposed this term for those Trachearian Arachnida which have the 'abdomen annulated, although occasionally in an indistinct manner,' the other orders of Arachnida being named by Dr. Leach—1. *Dimerosomata* (spiders); 2. *Polymerosomata* (scorpions); 3. *Monomosomata* (mites); and 4. *Podosomata* (*Pyconogonum* and *Nymphon*). The term *Arthrogastra* has recently been applied to my *Adelarthrosomata*, to which, notwithstanding their different mode of respiration, the scorpions have been unsatisfactorily added.



## FAMILY—CRYPTOSTEMMIDÆ.

The Genus *Cryptostemma* of Guérin-Ménéville is formed of a single species received by M. Guérin from the late Herr Westermann as a native of Guinea.

It is nearly allied to *Phalangium* and *Trogulus*, but the eyes are wanting and the chelicerae are porrected and pediform; the cephalothorax is square, with the anterior margin porrected in form of a clypeus; the abdomen is as wide as the cephalothorax, and twice its length, being oblong, with the posterior angles rounded. The legs are very unequal in length, the second pair being the longest, with 4- or 5-jointed tarsi (Guérin-Mén. Rev. Zool. 1838, p. 11; Dict. Pittor. d'Hist. Nat. pl. DXXXIX, fig. 7; Walckenaer, Apt. iii. p. 131, pl. XLVII (not XXXIX), fig. 4).

An allied form was captured by Mr. H. W. Bates in his Amazon researches, which constitutes a distinct genus, which I have named

## GENUS—CRYPTOCELLUS.

Corpus breve depressum; abdomine fere circulare et plano; oculi vel ocelli obsoleti; cephalothorax antice labro distincto, mobili, verticali instructus, os omnino claudenti; os in cavitate antica occultans, chelicerae duabus minimis (fig. 5 *b*), margine interno chelarum denticulato, interna brevior intus dente medio majori armata. Palpi cum sterno segmenti, pedes anticos gerentis, arcte coaliti, 4-articulati, articulo secundo minuto, tertio et quarto longitudine fere æqualibus, ultimo graciliori ad apicem ungue parvo instructo (fig. 5 *a*, os cum labro elevato, cavitatem oralem, palpum et basin pedis primi paris ostendenti); dorsum cephalothoracis breve-obovatum, subconvexum, linea longitudinali media depressa notatum; abdomen quasi e segmentis 4 compositum, primo brevi; tribus ultimis fere æqualibus, apice tuberculo parvo (ano?) aperto instructo; pedes 8 mediocres, primi paris breviores, secundi paris longiores, tarsi anticis 1-articulatis; secundi et quarti paris, 5-articulatis; tertii paris 4-articulatis; articulo ultimo compresso apice truncato et profunde impresso, ungueulis duobus in margine supero impressionis affixis, coxis pedum singuli paris planis, in medio coalitis, sternum formantibus.

## SPECIES 1—CRYPTOCELLUS FÆDUS.

## PLATE XXXVII, FIG. 5.

Totus fuscus, obscurus: cephalothoracis margine, margineque abdominis parum elevato; segmento secundo abdominis supra impressionibus duabus parvis discoidalibus lineaque laterali obliqua, ex angulo antico laterali prodeunte, notato; segmentis duobus ultimis longitudinaliter inter medium et latera biimpressis; pedibus paulo setosis.

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

Habitat; Amazonia (Bates). In Mus. Hopeiano Oxoniæ.

## FAMILY—TROGULIDÆ.

## GENUS—TROGULUS.

It is with great pleasure that I am here enabled to introduce this interesting Genus into the British Fauna, a new species having been captured in Dorsetshire by the Rev. Pickard Cambridge, who has kindly placed it in the Hopeian Collection, and allowed me to describe and figure it in this work.

The Genus is composed, for the most part, of European species, the type being the *Phalangium tricarinatum*

of Linnaeus (*Acarus nepiformis* Scopoli Ent. Carniol. fig. mala). A number of European species are described and figured in 'Die Arachniden' by Hahn and Koch, namely,

<i>Trogulus nepiformis</i> , Latr. ( <i>tricarinatum</i> , Linn., <i>carinatum</i> , Fab.)	Germany, France,	Hahn, vol. ii, p. 6, fig. 97.
„ <i>coriziformis</i> , Koch . . . . .	———— ?	„ vol. v, p. 128, fig. 420.
„ <i>coreiformis</i> , Koch . . . . .	———— ?	„ „ p. 133, fig. 422.
„ <i>nepiformis</i> , Latr., Koch . . . . .	France	„ „ p. 137, fig. 423.
„ <i>niger</i> , Koch . . . . .	Alps, Trieste	„ „ p. 138, fig. 424.
„ <i>squamatus</i> , Koch . . . . .	Dalmatia	„ „ p. 140, fig. 425.
„ <i>squalidus</i> , Koch . . . . .	Germany	„ „ p. 143, fig. 426.
„ <i>tricarinatus</i> , Linn. . . . .	Germany	„ „ p. 145, fig. 427.
„ <i>asperatus</i> , Koch . . . . .	Bavaria	„ „ p. 148, fig. 428.
„ <i>melanotarsus</i> , Koch, Herrman . . . . .	France and Germany	„ p. 148, fig. 429.
„ <i>tingiformis</i> , Koch . . . . .	Bavaria	„ vol. xvi, p. 70, fig. 1546.

To these is to be added, the *Trogulus Templetonii*, which I described in the Zoological Journal, vol. v, p. 453 (1833), from Valparaiso, and

## SPECIES NOVA—TROGULUS CAMBRIDGEI.

## PLATE XXXVII, FIG. 6.

Totus nigricans undique subluteo-squamoso-setulosus: abdomine ovali convexo, haud carinato, cephalothorace latiori; pedibus setulosis tarsis rufescentibus, anticis et posticis 4-, secundi paris 3-articulatis; chelicericis minutis intus setis rigidis curvatis instructis (fig. 6*a*); palpis parvis, articulo primo longo (fig. 6*b*).

Habitat in muscis apud Bloxworth, prope Blandford, Dorsetensis, Rev. D. P. Cambridge captus et cum nomine ejus bene merito, inscriptus. In Mus. Hopeiano Oxoniæ.

The palpi in this species have the three terminal joints more equal in size than in the large typical species of the genus, the third being but little longer than the second, and nearly equal in size to the fourth (fig. 6*b*); the tarsi are irregular in the number and size of their joints; those of the first feet being four-jointed (fig. 6*c*); those of the second feet are three-jointed: the first joint very short, the second about twice as long as wide, and the third long and broad; whilst the tarsi of the third and fourth legs are four-jointed like the first pair, but the second joint is nearly as long as the fourth, and the third is as small as the basal joint. The junction of the cephalothorax and abdomen, and the segmentation of the latter, are very indistinct owing to the squamosity with which they are covered, and which appears to be caused by minute elevated tubercles emitting broad setæ, which in some specimens appear to become matted together, giving them a less rugose appearance than the others.

## ADDENDA ET ERRATA.

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System. Index, page viii, mid. col., line 31, *for* hilaris . . . 204 *read* Castelnaudii . . . 96.

————— third col., *omit* line 17. Castelnaudii . . . 96.

Page 2. Species 2. *For* Goliathus Higginii *read* G. Higginsii.

Page 22. OPLOSTOMUS BOCANDEI. Thomson, Mus. Scientif. i. (1860), p. 37.

‘Patria: Guinea Lusit. Corpus depressum (*Osmoedermæ* paulo similis), supra griseo-nigrum, subtus nigrum, ubique impressionibus rotundatis vel ovalibus sat fortibus et conditis lateraliter validioribus instructum, his impressionibus super pygidium et subto lævioribus; pedes condite et sat valde punctulati; caput magnum, antice erectum, rotundatum, ubi, latius videtur, in medio prominens; prothorax sub-hexagonalis, transversus, antice paulum angustior et lunatus, angulis anticis acutis, paulum projectis, lateraliter angulatis, postice valde sinuatis, angulis posticis acutis, projectisque; in medio longitudinaliter et obsolete sulcatus; scutellum magnum, triangulare; elytra ampla, depressa, prothorace multum latiora, illo plus quam duplo longiora, post humeros versus suturam depressionibus duabus, et costis quatuor obsoletissimis, instructa, ad extremitatem et ad latera valde et abrupte dehiscentia, apice subrotundata; projectura mesosternalis triangularis, parva, haud producta; abdominis stigmæ ultimæ tubulosæ; tibiæ intermediæ post medium singulæ unidentatæ.’

‘Hæc species inter *H. fuliginosum* [*fuligineum*] et *H. erytrosomum* [*cribrosomum*] media est. Illam verum appropinquat, sed: primo, corporis forma altera majoreque; secundo, capite antice latior; tertio, elytris amplioribus, haud rugosis; præcipue et maxime differt.’

‘Long. corp. 19 mill.; lat. 9½ mill.’

Page 44. *Cenochilus trabecula*. Plate XIII, Fig. 18, *read* Plate XIII, Fig. 10.

Page 49. GENUCHUS ELONGATULUS. PLATE X, FIG. 1.

This figure was drawn by me from M. Gory's original type specimen.

GENUCHUS NIGRICLAVIS. PLATE X, FIG. 3.

This figure and the details were drawn from a type specimen sent me from the Royal Museum of Stockholm by M. Boheman for that purpose.

Page 50. GENUCHUS PERDITUS.

This species inhabits Guinea (M. Bocande), and is in the Collection of M. Deyrolle of Paris. The clypeus, when seen in front, is transverse and emarginate in the centre. Many of the punctures are shallow, with a very minute tubercle in the centre. The prosternal mucro is acute, and is represented in Plate X, Fig. 2 c.

Page 53. *Scaptobius aciculatus* is represented in Plate X, Fig. 9, *not* Fig. 10—the former Figure, 9, being drawn from a typical specimen sent me from the Royal Museum of Stockholm by M. Boheman.

*Scaptobius Natalensis* is represented in Plate X, Fig. 10, *and not* in Fig. 9 (*the numbers being accidentally reversed in the Plate*).

Page 56. *After Cyclidinus lugubris add*

NEW SPECIES—CYCLIDINUS VELUTINUS.

Totus niger opacus: capite parvo sub lente punctatissimo, inter antennis bi-impresso; mento et maxillis ut in *Cycl. lugubre* formatis; pronoto multo latiori quam longo, lateribus in medio dilatato-rotundatis, angulis posticis lateralibus acutis, dorso depresso, utrinque impressione ovali parum profunda notato; elytris basi latis, dorso planis, leviter ovali-cicatricosis; pygidio leviter rotundato-cicatricosis; pedibus subgracilibus; corpore subtus (præsertim ventre) rudius punctato, guttisque minutis lutescentibus parum irrorato.

Long. corp. lin. 9; lat. humer. elytr. lin. 4.

Habitat; ———? In Mus. Parry.

Page 60. *Cremastocheilus squamulosus*. Omit reference to Plate X, Fig. 8.

Page 66. The following are the characters of a new species of *Cremastocheilus* obtained by Major Parry since the preceding sheets were printed off:—

CREMASTOCHEILUS CRASSIPES. Westw.

Magnus, latus, supra deplanatus, niger, capite punctato, clypei margine antico parum recurvo, semicirculari; pronoto lateribus rotundatis, versus caput angustioribus, dorso parum convexo, angulis anticis fere ad oculos porrectis, subacutis, impressione sat profunda intra angulos notato, angulis posticis in cornu breve retro productis, impressione ovali intra angulos posticos, margine postico curvato, disco punctato, punctis præsertim lateralibus majoribus et rotundo-cicatricosis; breviter setoso; elytris latis, dorso planis punctis ovalibus postice incompletis parum profundis, guttis minutis strigisque brevibus tenuissimis interdum undulatis, prope suturam, albis, parce notatis; pedibus brevibus latis crassis, fossoriis, tibiis anticis dentibus valde obtusis, tarsis tibiis multo brevioribus, articulis latioribus quam longis, mento postice integro, glabro.

Long. corp. lin.  $8\frac{1}{2}$ ; lat. humer. elytr. lin.  $3\frac{1}{2}$ .

Habitat; in California. In Mus. Parry.

This very distinct species belongs to the group with the mentum entire on the middle of its hind margin, and which have the anterior tarsi with the terminal joints not suddenly dilated, but differs from the two species hitherto described, having the legs short and fossorial (*C. Schaumii* and *angularis*), by having the legs comparatively much broader and shorter, with the joints of the tarsi broader than long.

Page 80. *Lebioderus Percheronii* and *Paussus damarinus* (p. 84), are in the Hopeian Collection, Oxford.

Page 82. *Platyhopalus vexillifer* is in Mr. Janson's Collection.

Page 91. *Paussus Parrianus*. Plate XVII, Fig. 7, not Fig. 9.

Page 100. *Bryaxis coronatus*. Plate IV, Fig. 9, not Plate XII, Fig. 1.

Page 106. *After Aglycyderes insert the following descriptions accidentally omitted:—*

FAMILY—ANTHRIBIDÆ.

GENUS—ZYGÆNODES. Pascoe.

(Annals Nat. Hist. 3rd Ser. iv, p. 328.)

'Head broadly triangular in front, expanded at the sides into a thin process bearing the eye. Antennæ slender, longer than the body, 11-jointed, the first thick and longer than the second, which is short and obscure; the remainder filiform and subequal, except the three last, which are somewhat stouter; antennal groove broad, commencing beneath the lateral process and continued to the mandible. Eye oblong. Labrum very small. Mandibles robust. Maxillary palpi moderate, pointed. Prothorax transverse; width of the elytra, semicircular anteriorly, narrowed suddenly behind, the carina distant from the base and curving shortly round to the front. Elytra short. Legs moderate. Anterior coxæ approximate, the middle distant, first tarsal joint longer than the rest together. Prosternum simple; mesosternum broad, truncate posteriorly.'

## SPECIES 1—ZYGÆNODES WOLLASTONI. Pascoe, l. c.

*Niger guttis cinereo-albis ornatus*: capite antice cinereo albo.

Long. corp. lin. 3.

Habitat; Borneo.

Dull black, pubescent, head between the eyes, prothorax, and elytra covered with small ashy-white spots; front of the head, from the eyes to the mandibles, entirely ashy-white; body beneath and legs with a pale ashy pubescence.

## SPECIES 2—ZYGÆNODES DIOPSIDEUS. Westw.

## PLATE V, FIG. 5.

Latus depressus, fuscus, opacus, squamis griseis, luteis brunneisque variegatus: capite latissimo, utrinque in cornu crassum paullo arcuatum, apice oculus gerenti productum, infra insertionem antennarum paullo angulatum; clypeo in medio impresso; antennis longis tenuissimis, articulis tribus apicalibus clavam formantibus; prothorace lato, lateribus in medio angulatis, carina media transversa inter angulos extensa, squamis in medio lineam pallidam longitudinalem formantibus; scutello albido squamoso; elytris stria lata discoidali e maculis alternatim nigris et pallidis striaque altera submarginali eodem modo colorata; pedibus griseis; tibiis basi subluteis medio nigris.

Long. corp. lin.  $2\frac{3}{4}$ ; lat. corn. capitis lin.  $2\frac{1}{2}$ .

Habitat; Borneo, Sarawak; Wallace. In Mus. Hopeiano, Oxoniæ.

## SPECIES 3—ZYGÆNODES MONSTROSUS. Pascoe.

(Journ. of Entomology, vol. i, p. 333, pl. XVI, fig. 5.)

## PLATE V, FIG. 4.

Fuscus, sparse griseo-pubescent: elytris fasciculis tribus prope suturam sitis.

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

Habitat; Natal.

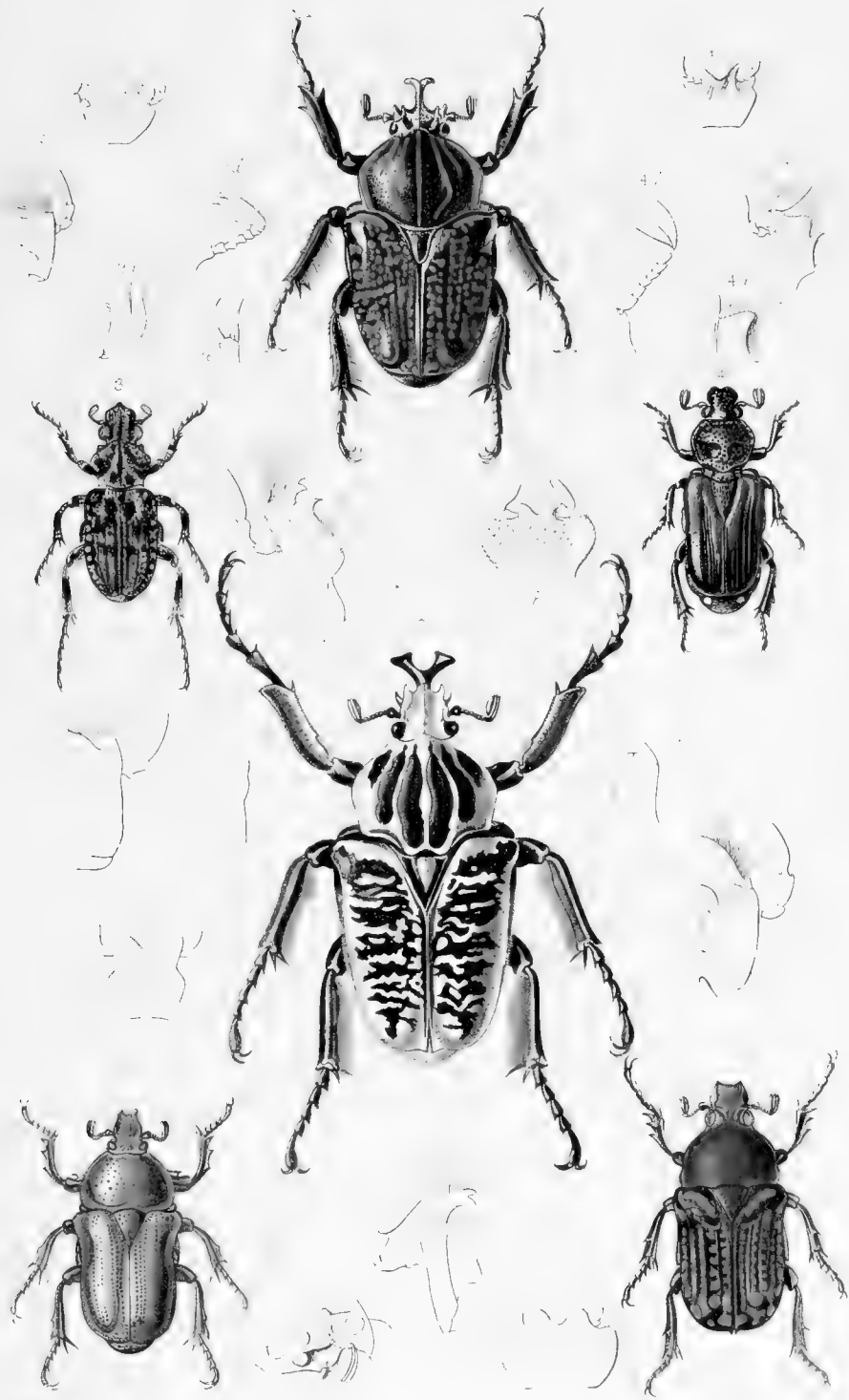
Dark brown, with a sparse greyish pile, obscurely clouded with dull fulvous; head a little broader than the prothorax, flat and triangular in front, uniformly of an obscure grey; prothorax nearly twice as broad as long, the disk irregular, subquadrituberculate, the carina prominent; scutellum triangular, 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.

Page 121. *Genus Derecyrta*. Having received from Mr. Reed, the Curator of the Museum at Santiago, Chili, since my descriptions of the species of this genus were printed, both sexes of the Chilian insect described by Philippi under the name of *Brachyziphus grandis*, I am now able to state that the specimen he gave as a female is, as I supposed, a male, and that its female, hitherto undescribed, agrees with it in having two marginal cells in the fore wings. The female measures 1 inch in length and  $22\frac{1}{2}$  lines in the expanse of the fore wings, it has six instead of five of the abdominal segments entirely orange red, and the wings are not so darkly stained with brown as in the male, being of a richer and paler uniform golden brown colour. Having cleared up these sexual differences, it will become necessary to adopt the name *Derecyrta grandis* in lieu of *D. bicolor*, notwithstanding the impropriety of Philippi's name, the species not being larger than that described by me. *Br. flavipes* will form a fourth species in the genus.

Page 158. *Epyris Halidayi*. The reference to Plate XVI, Fig. 6, should follow the *Synonym*, Haliday, Ent. Mag. iv, p. 433.

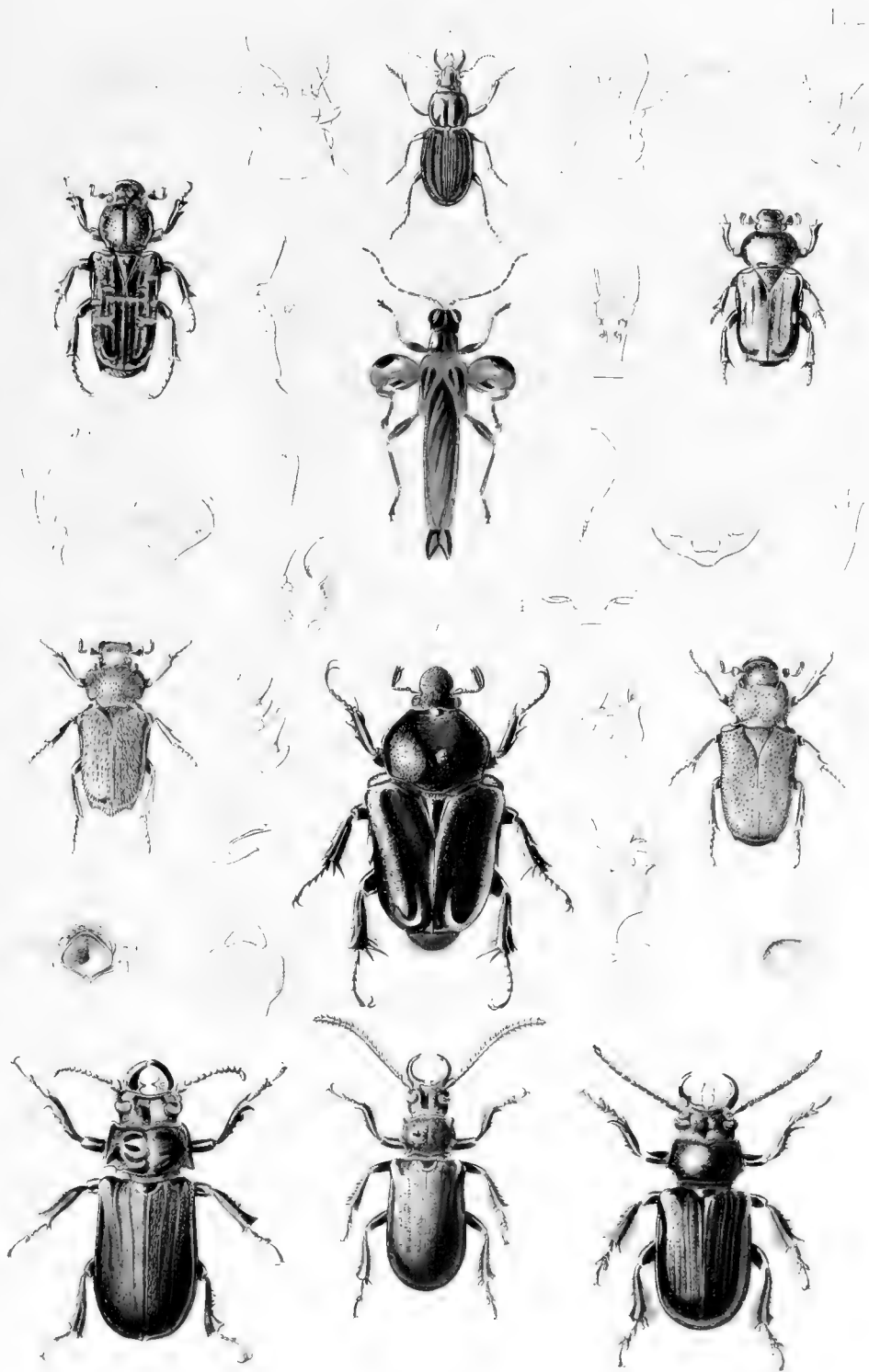
Page 165. *Pristocera fulvicollis*. Plate XXIX, Fig. 3, not Plate XXI.



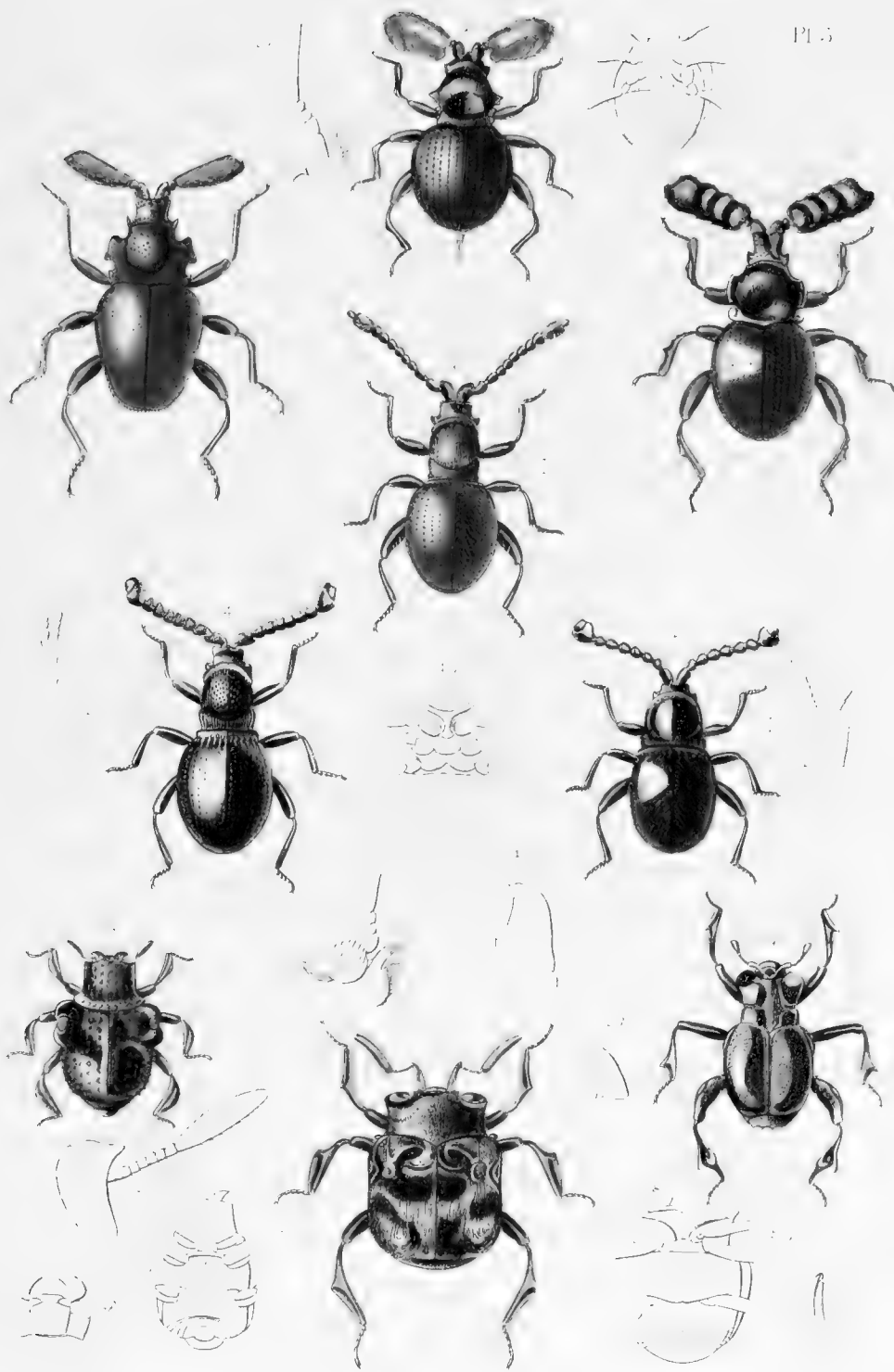




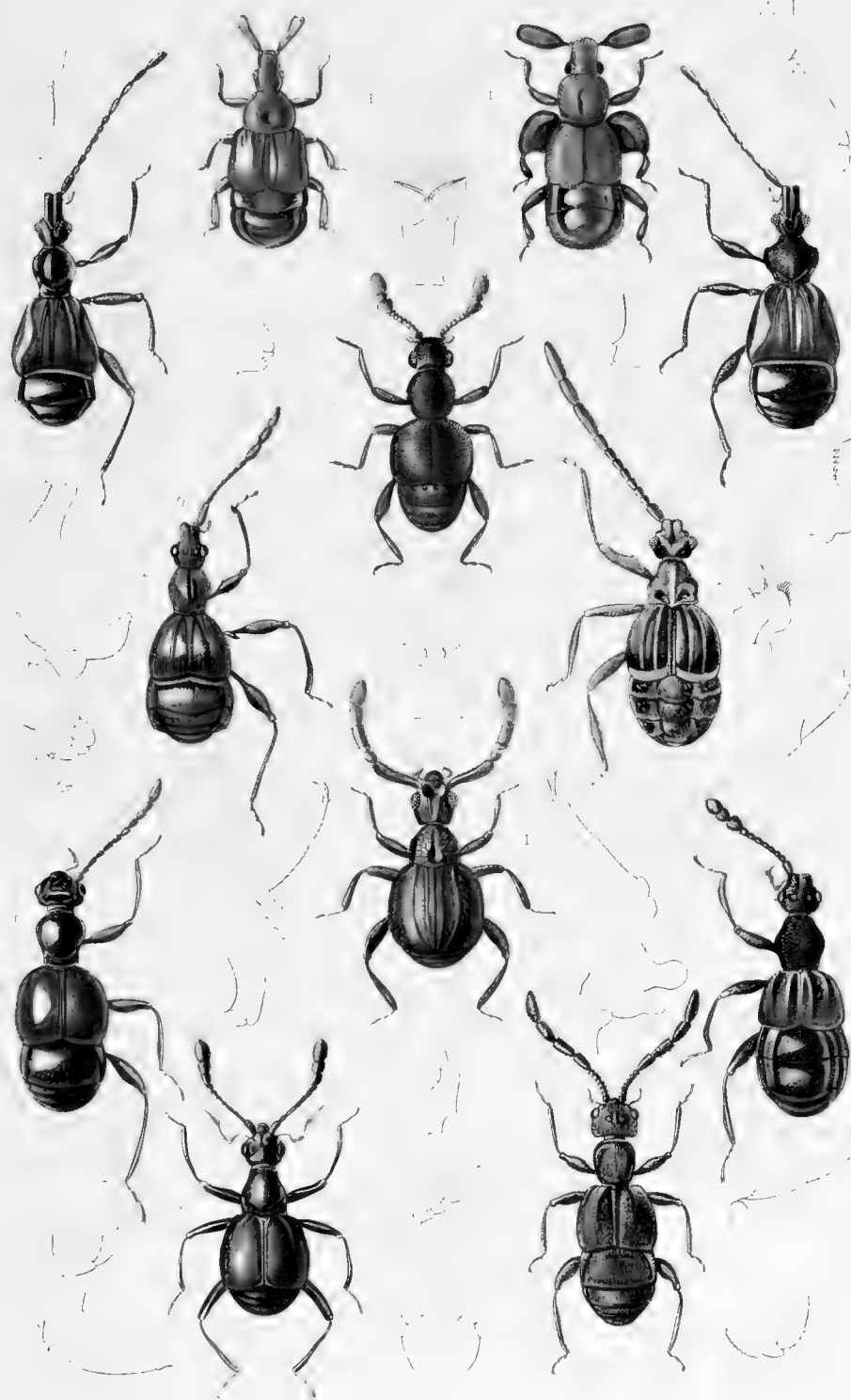




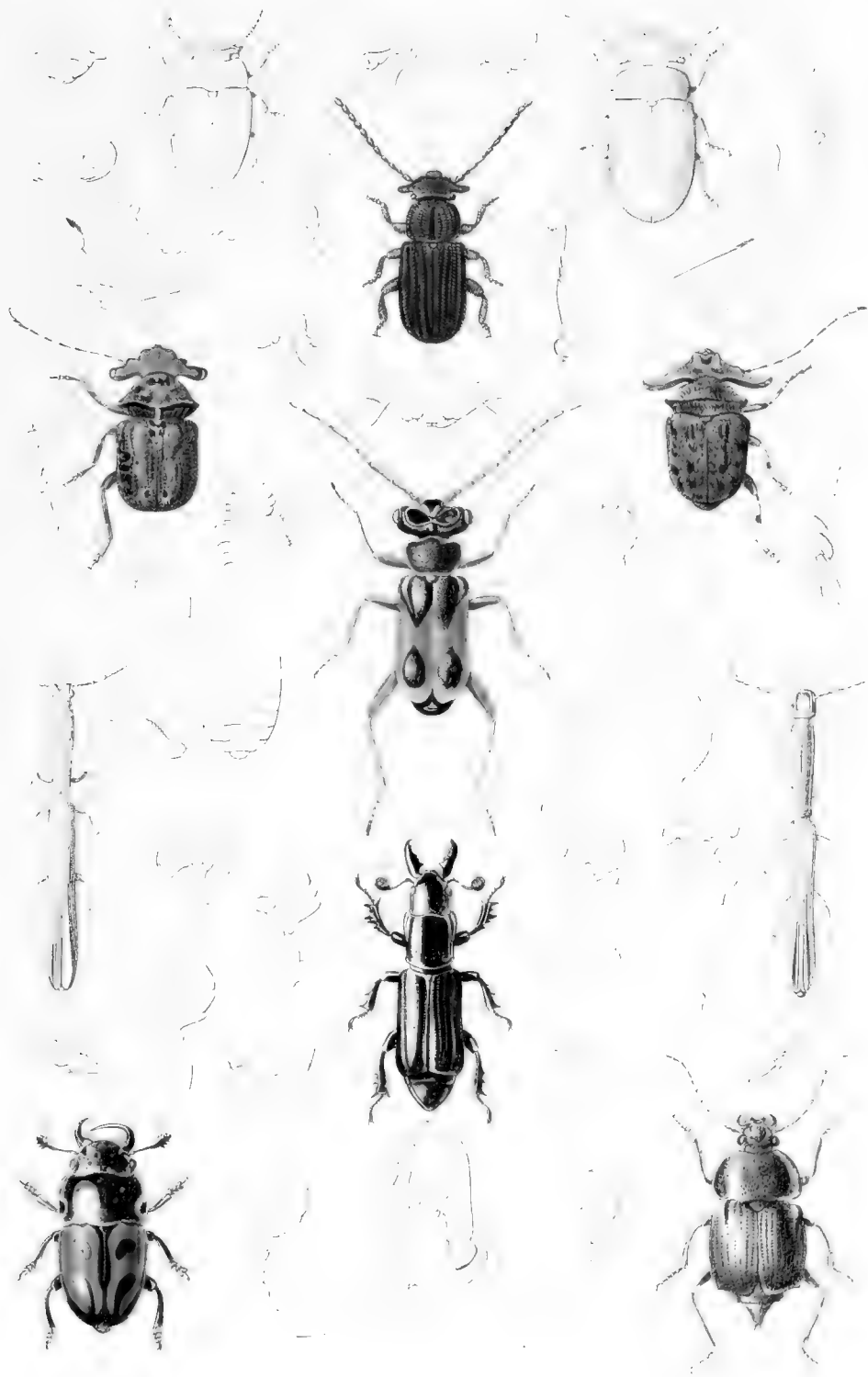






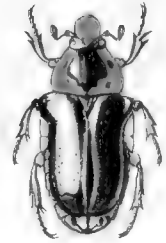
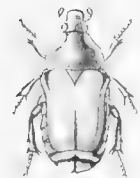
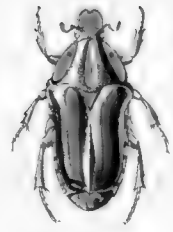


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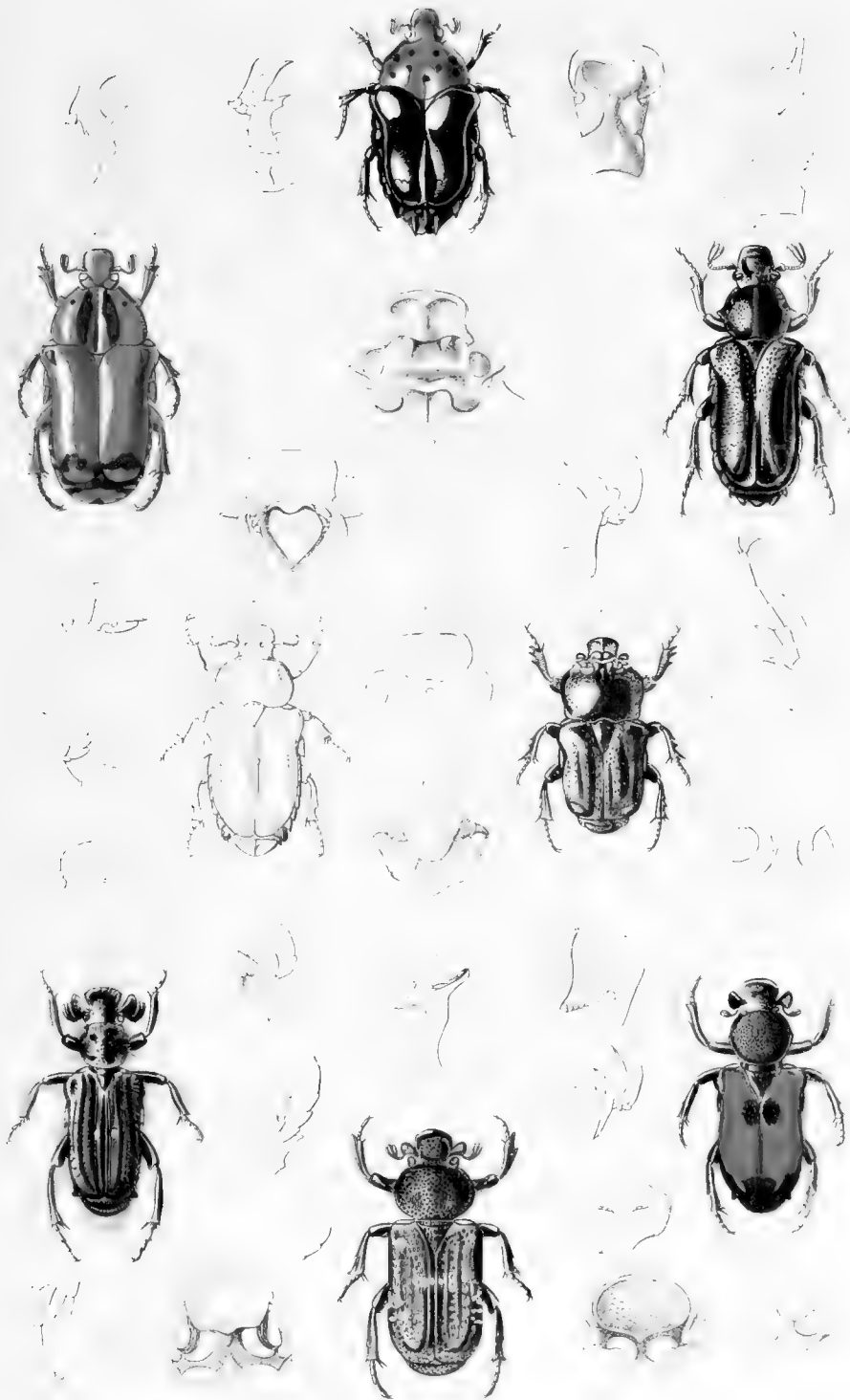




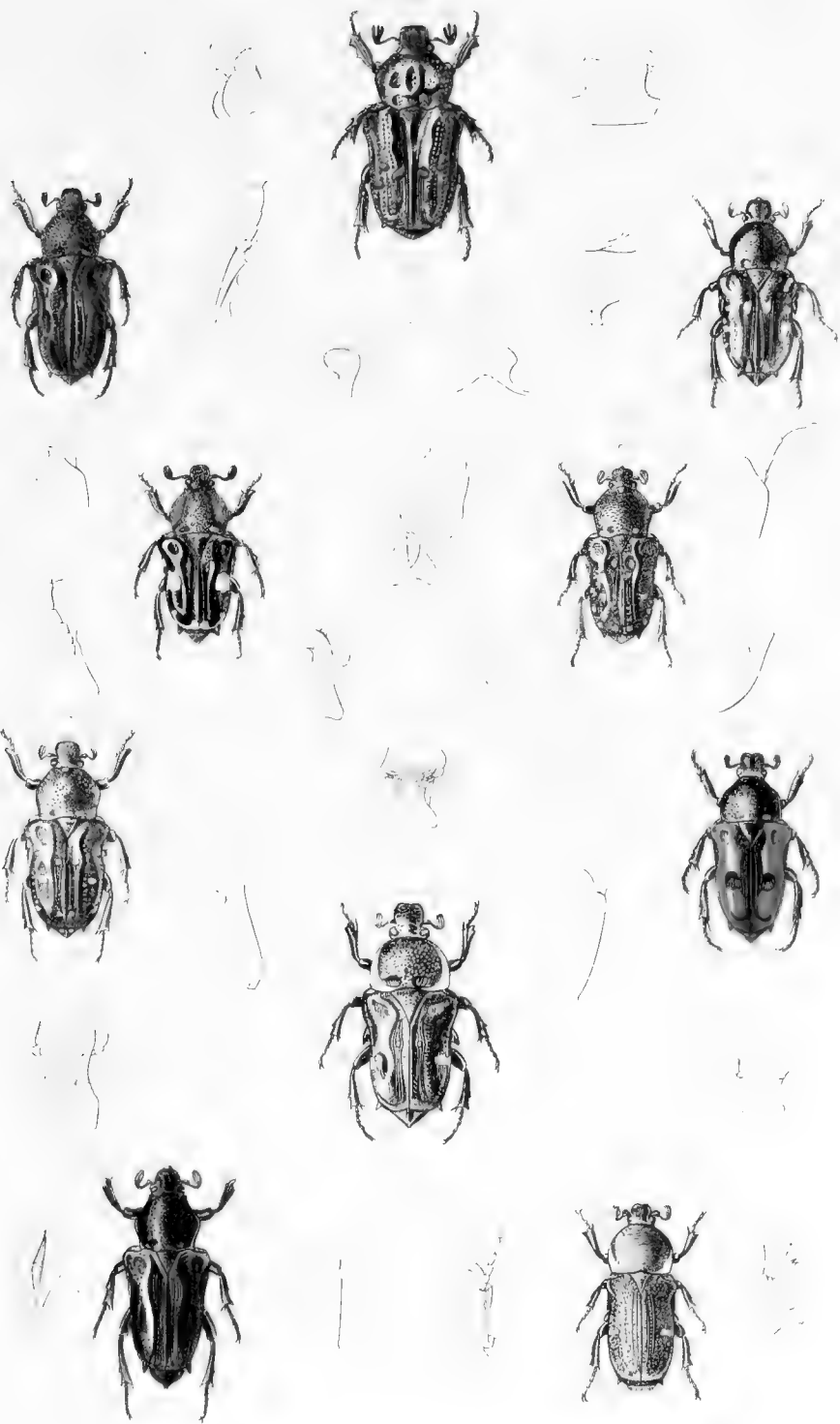




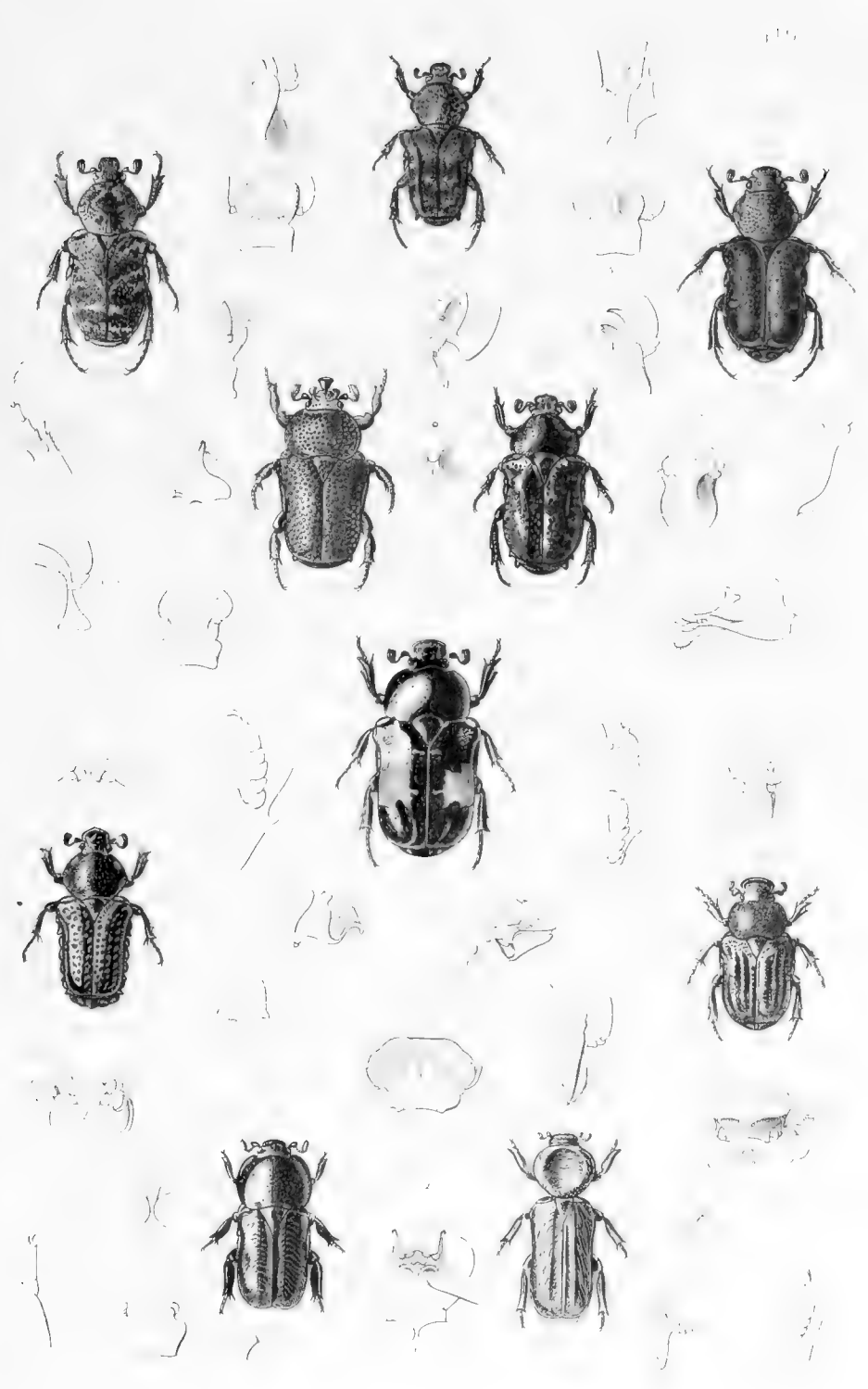






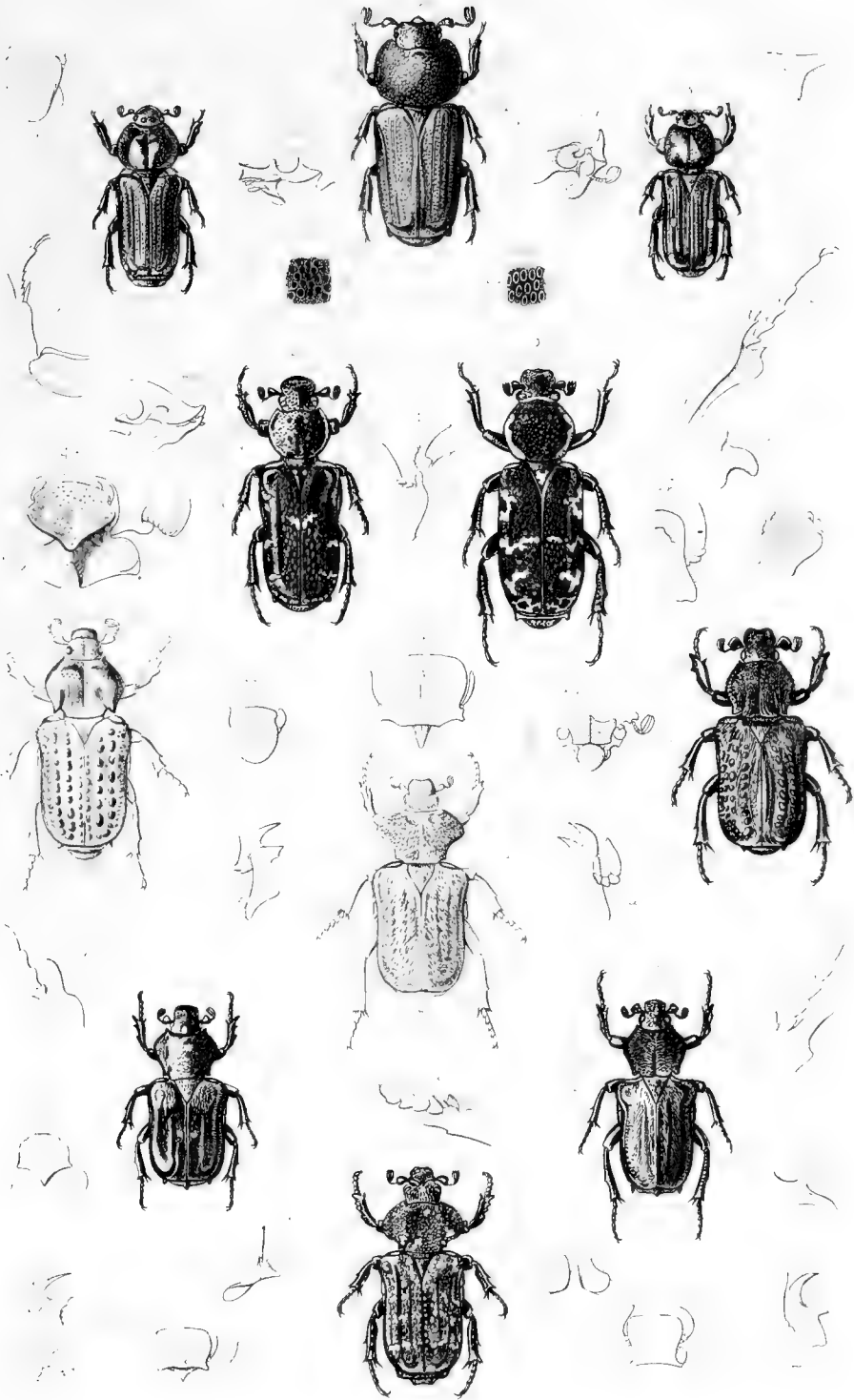




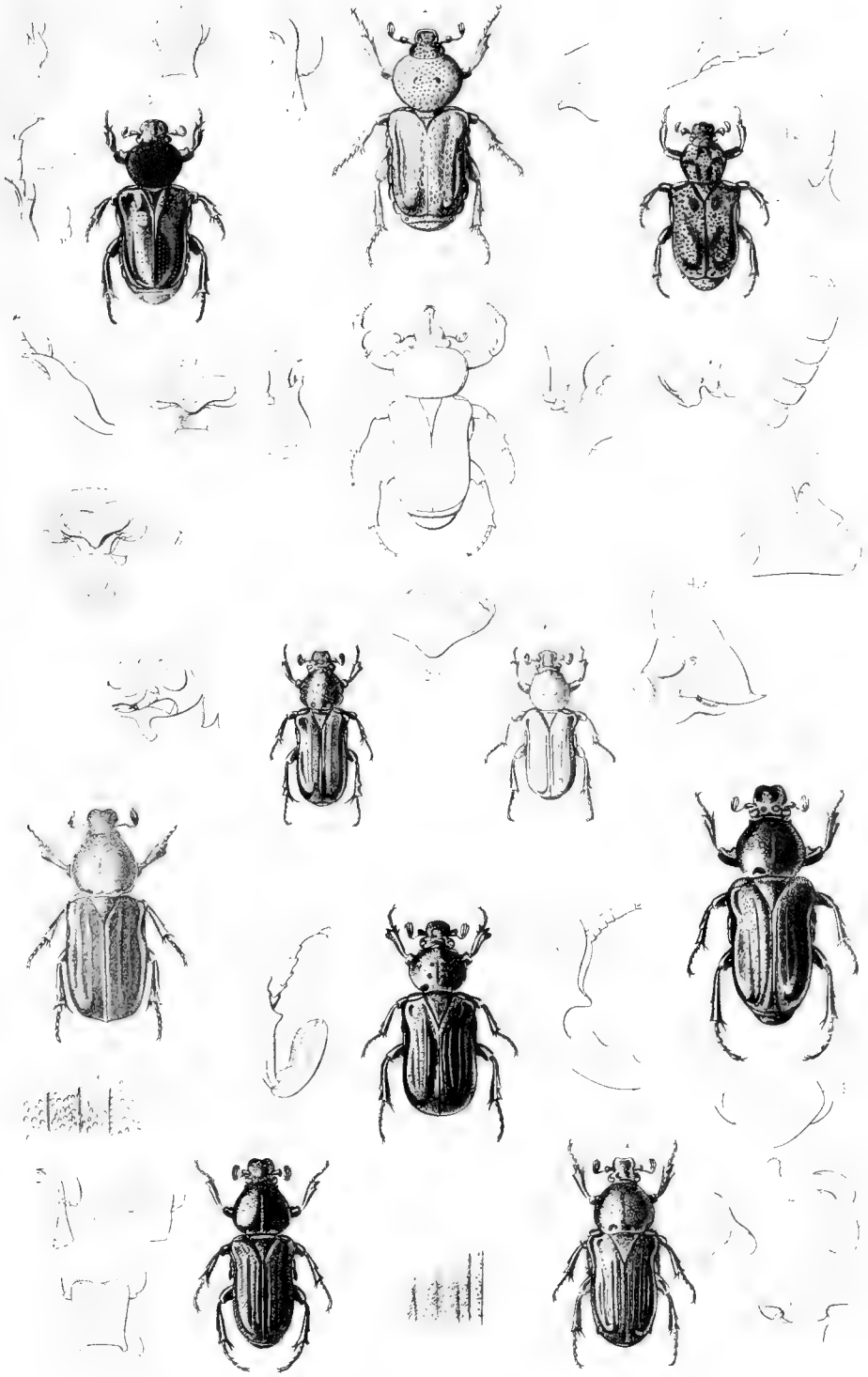




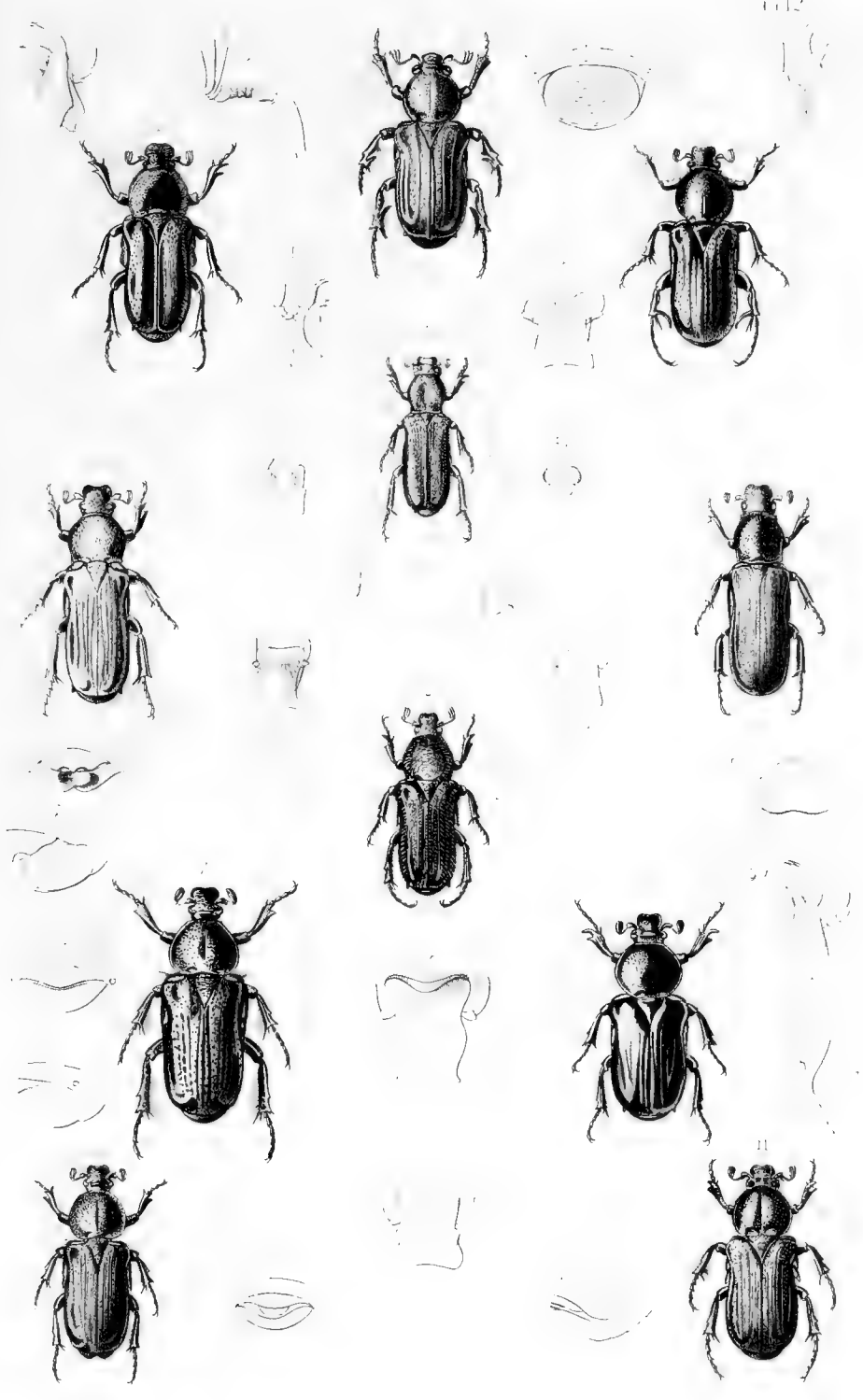




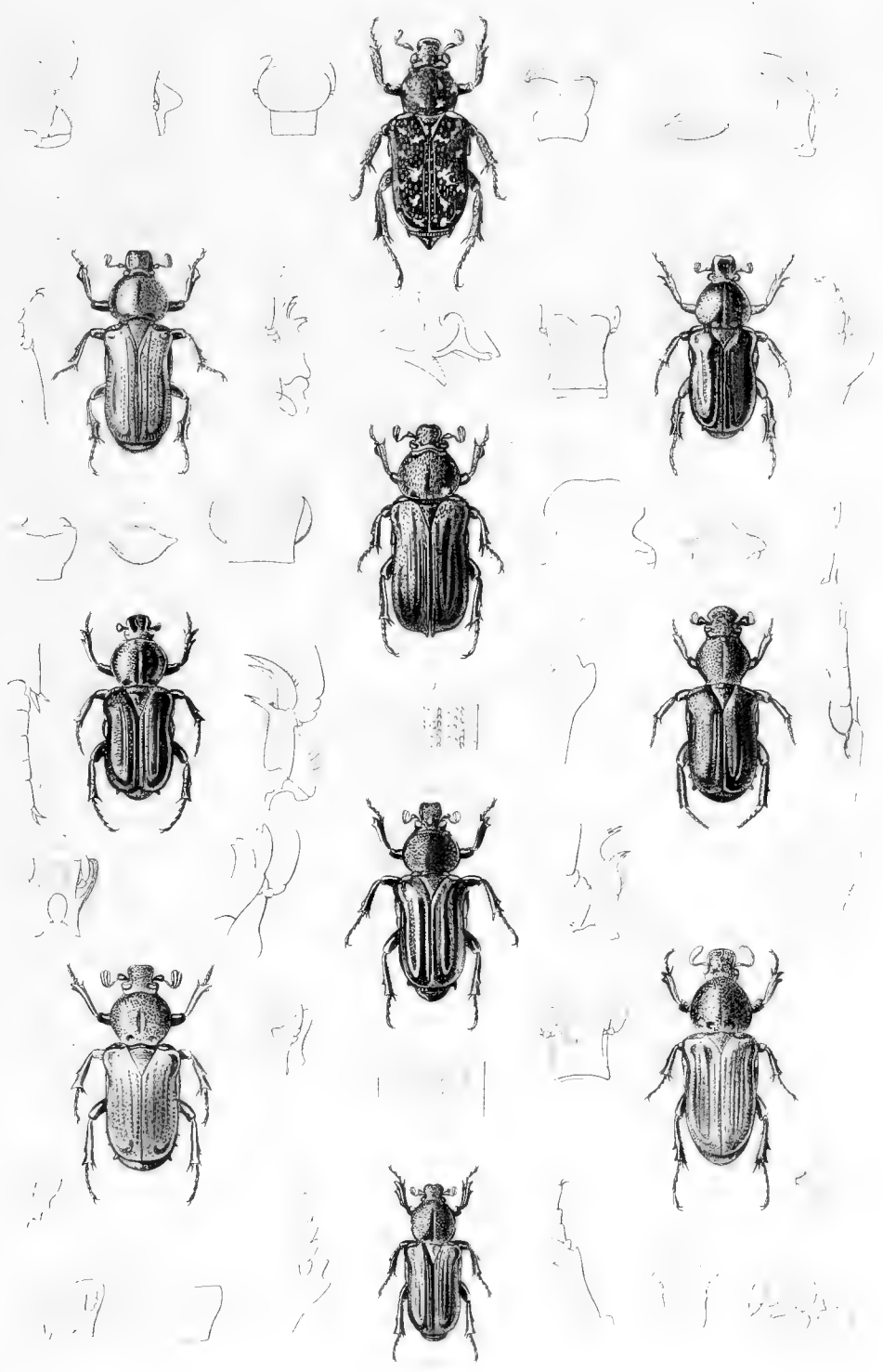
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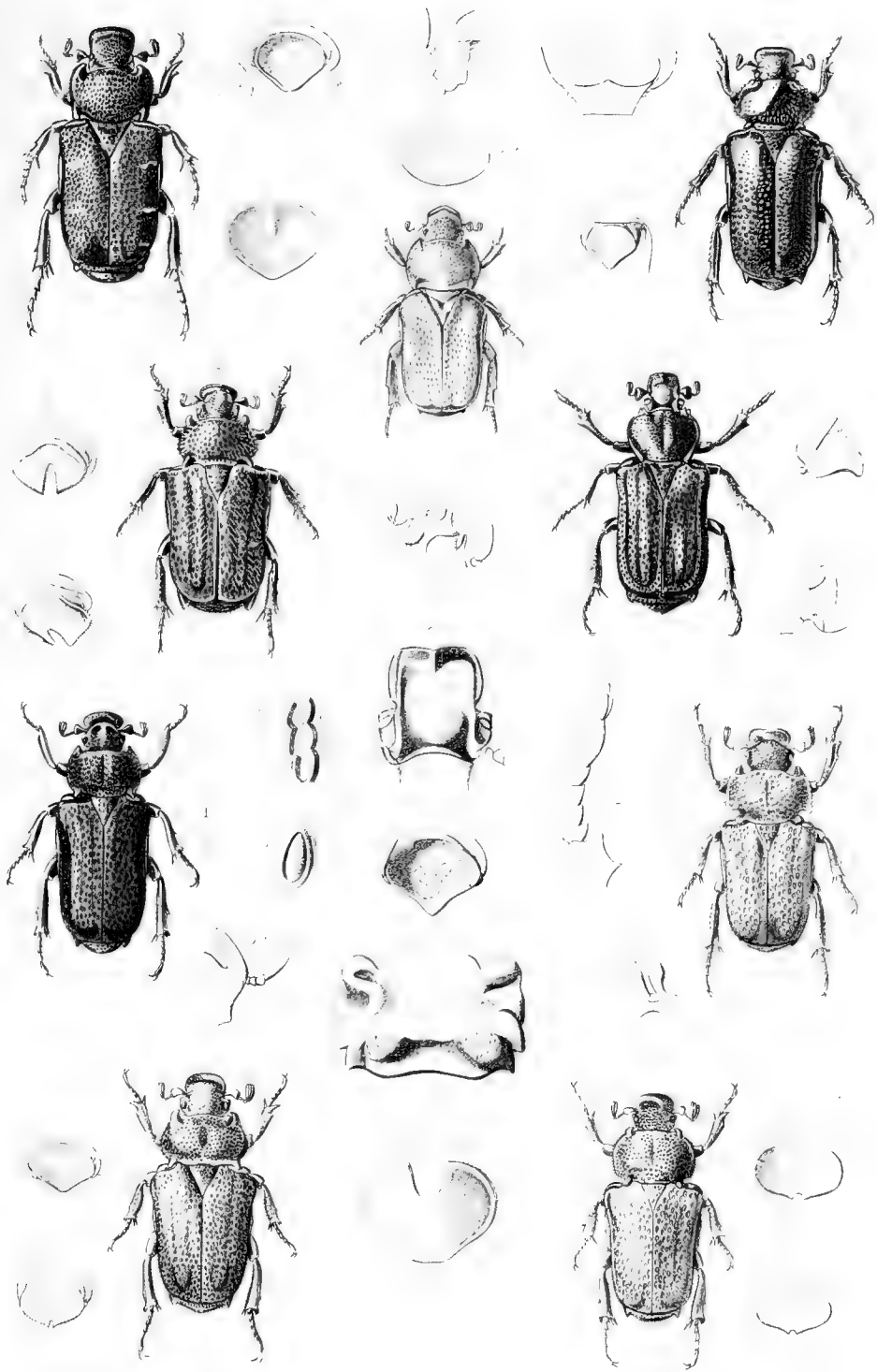




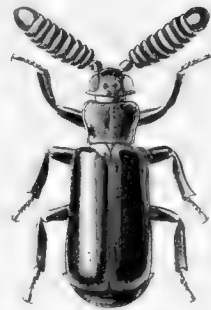
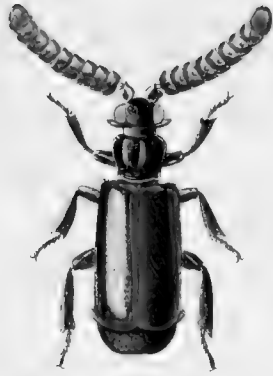








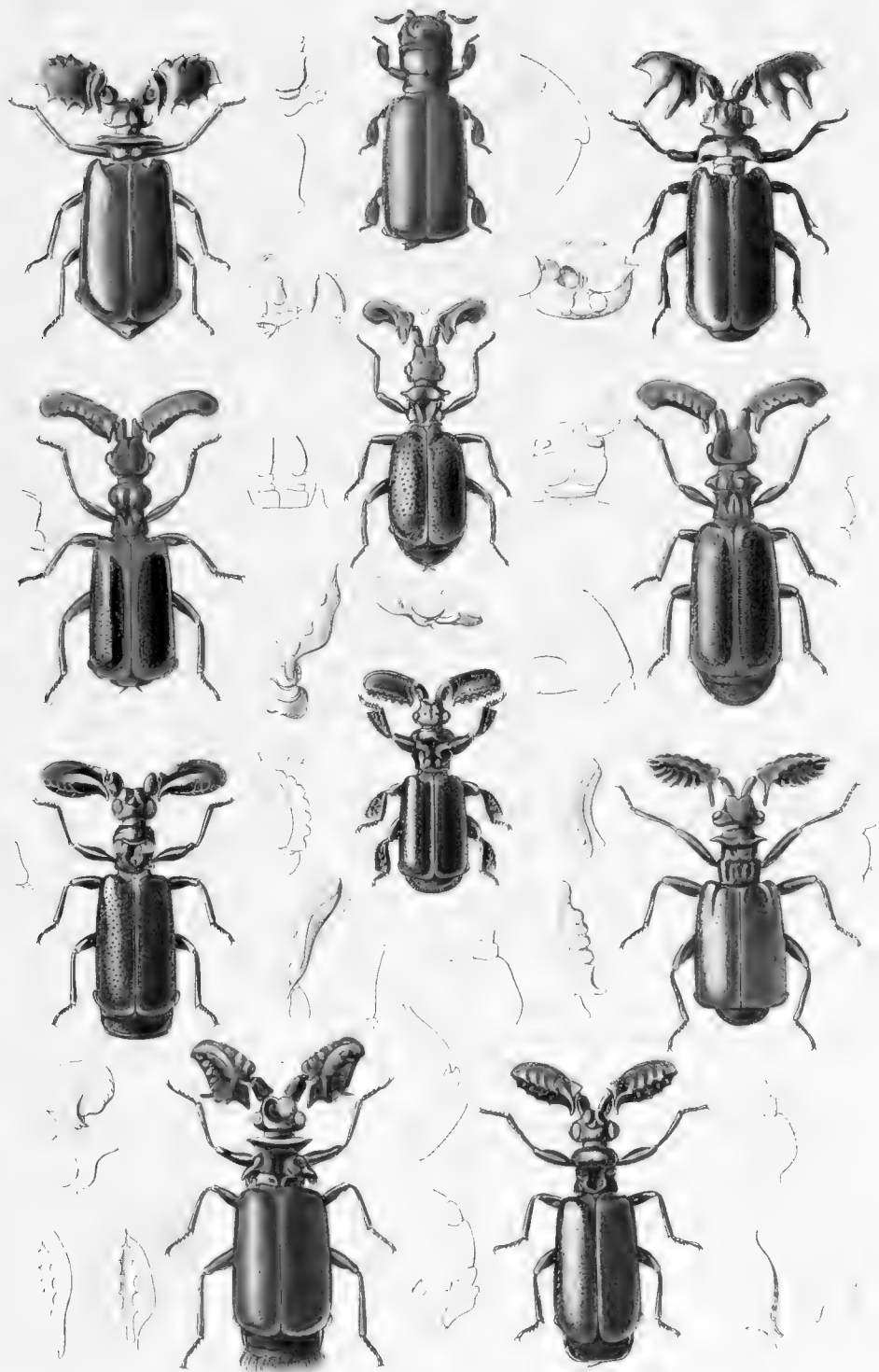






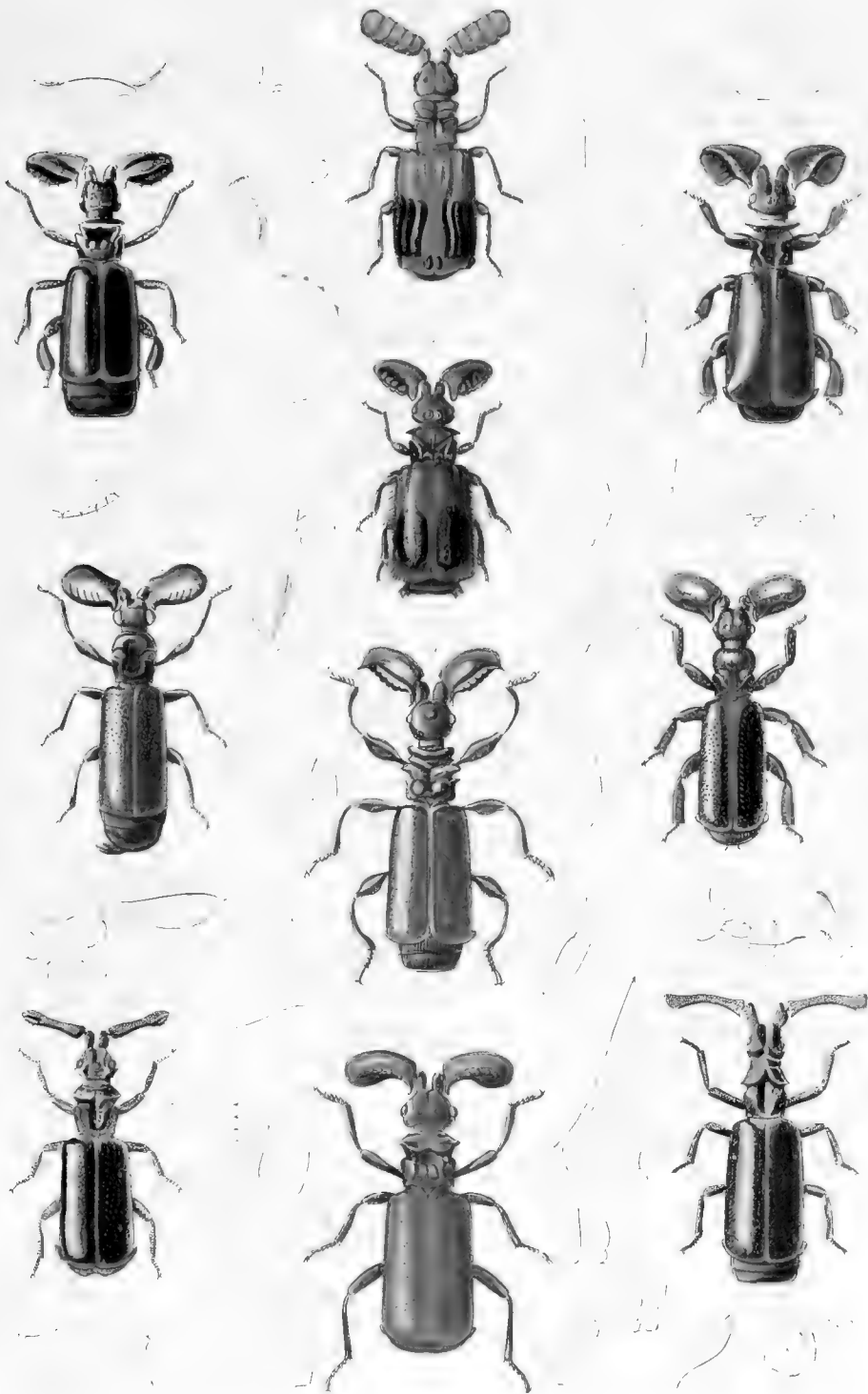


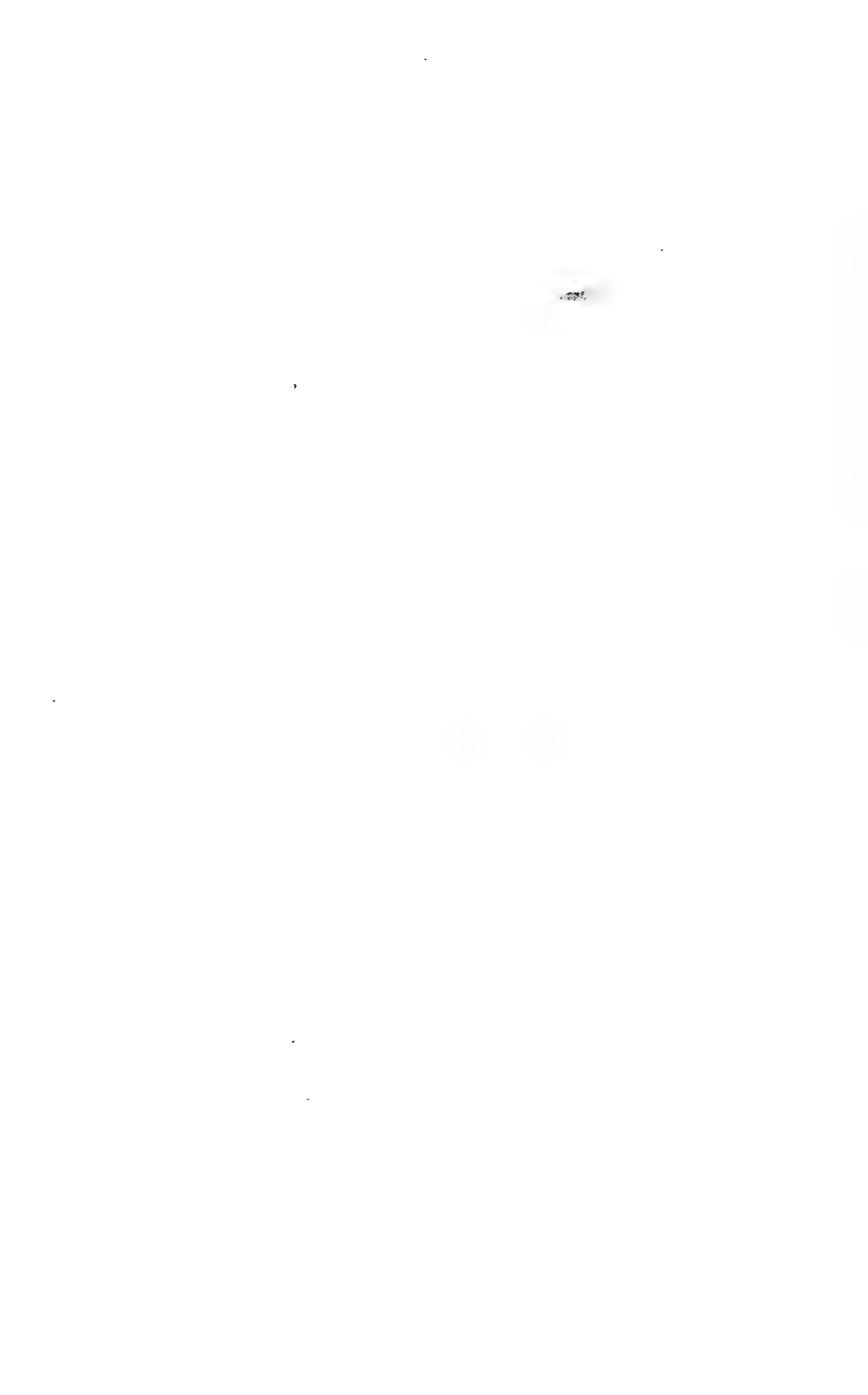


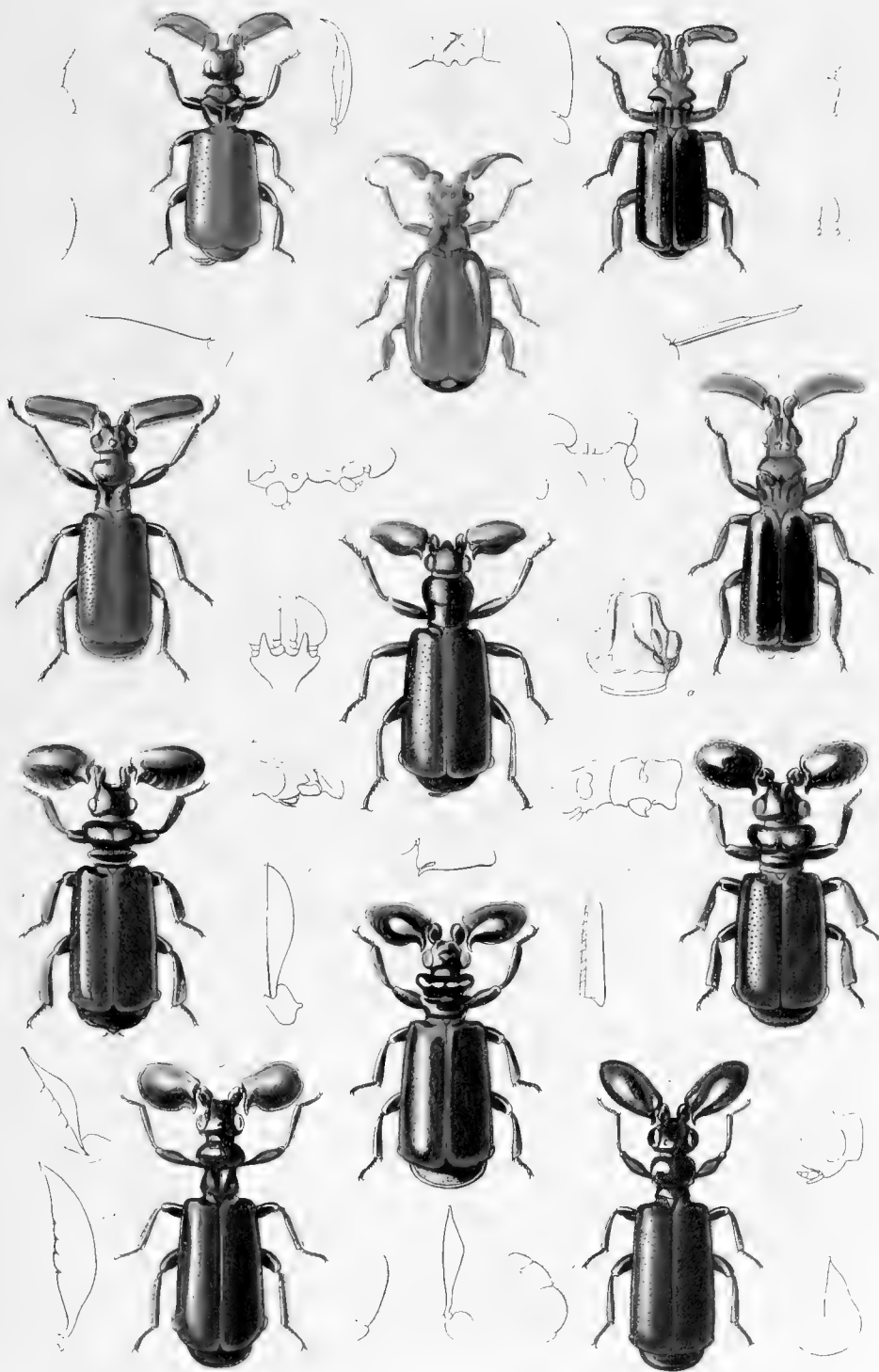




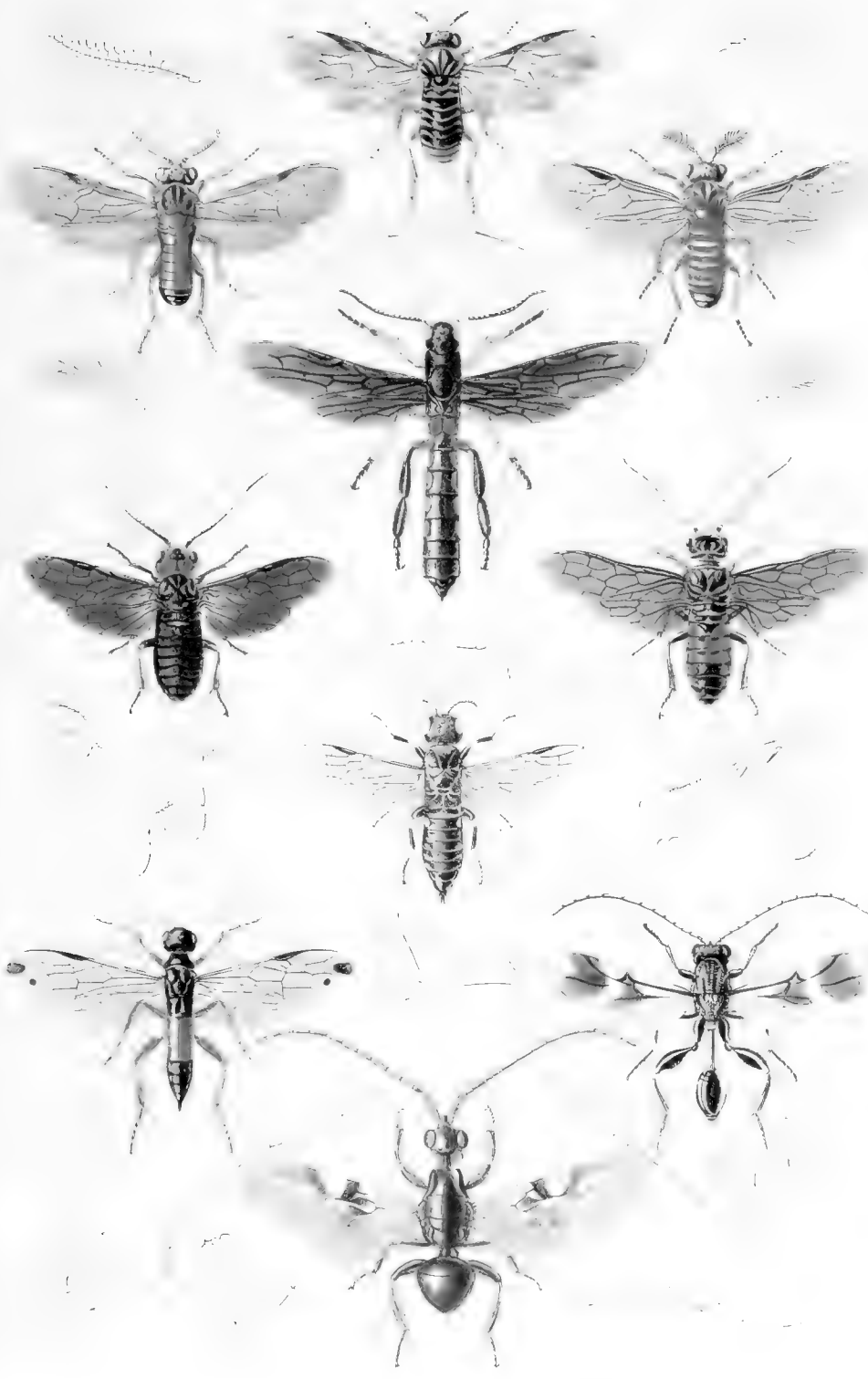










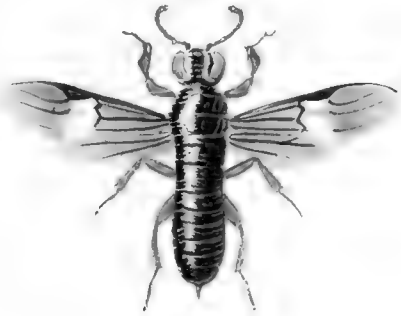
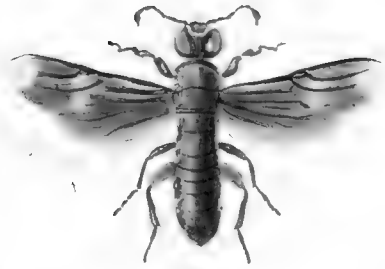




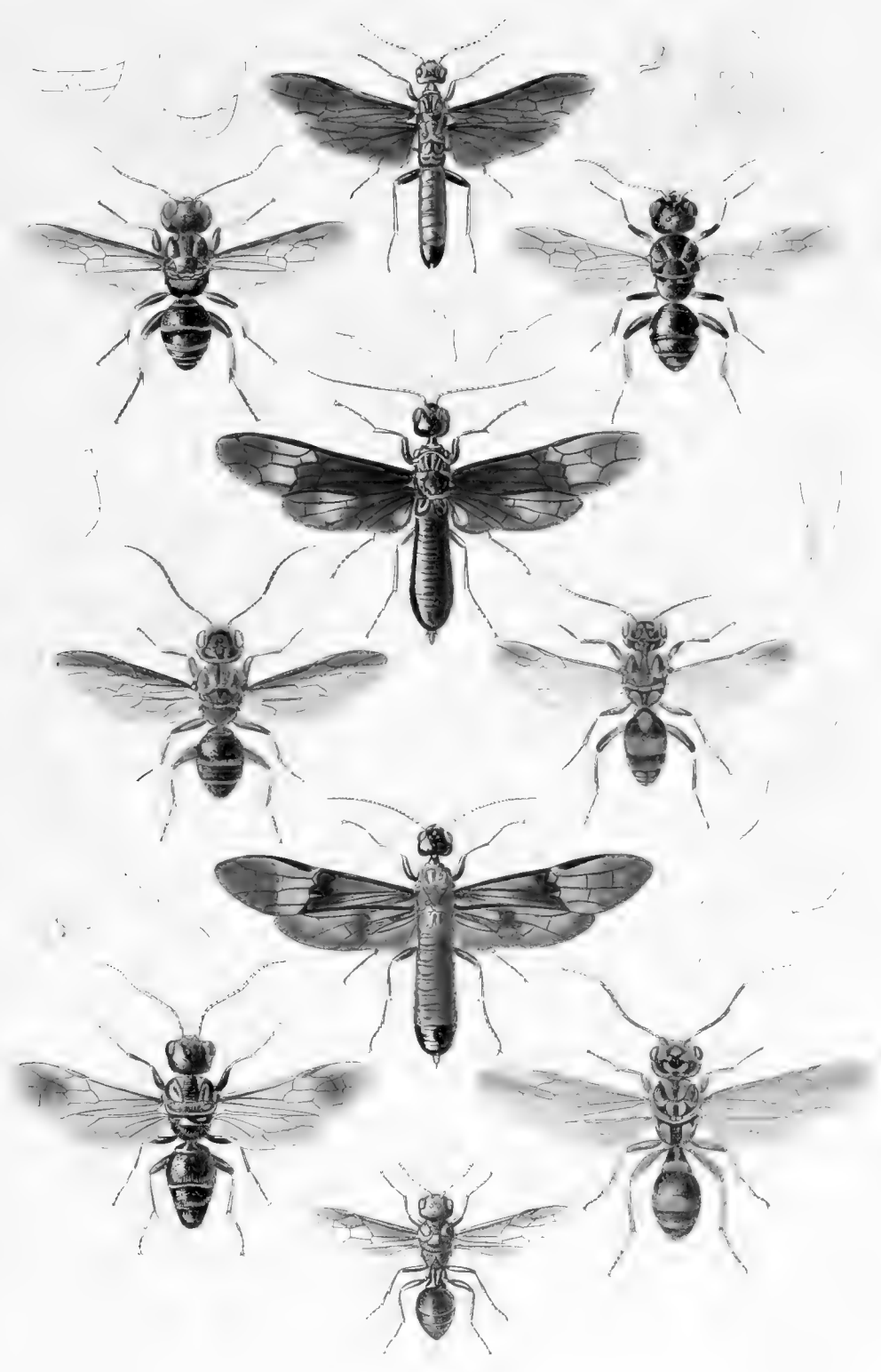


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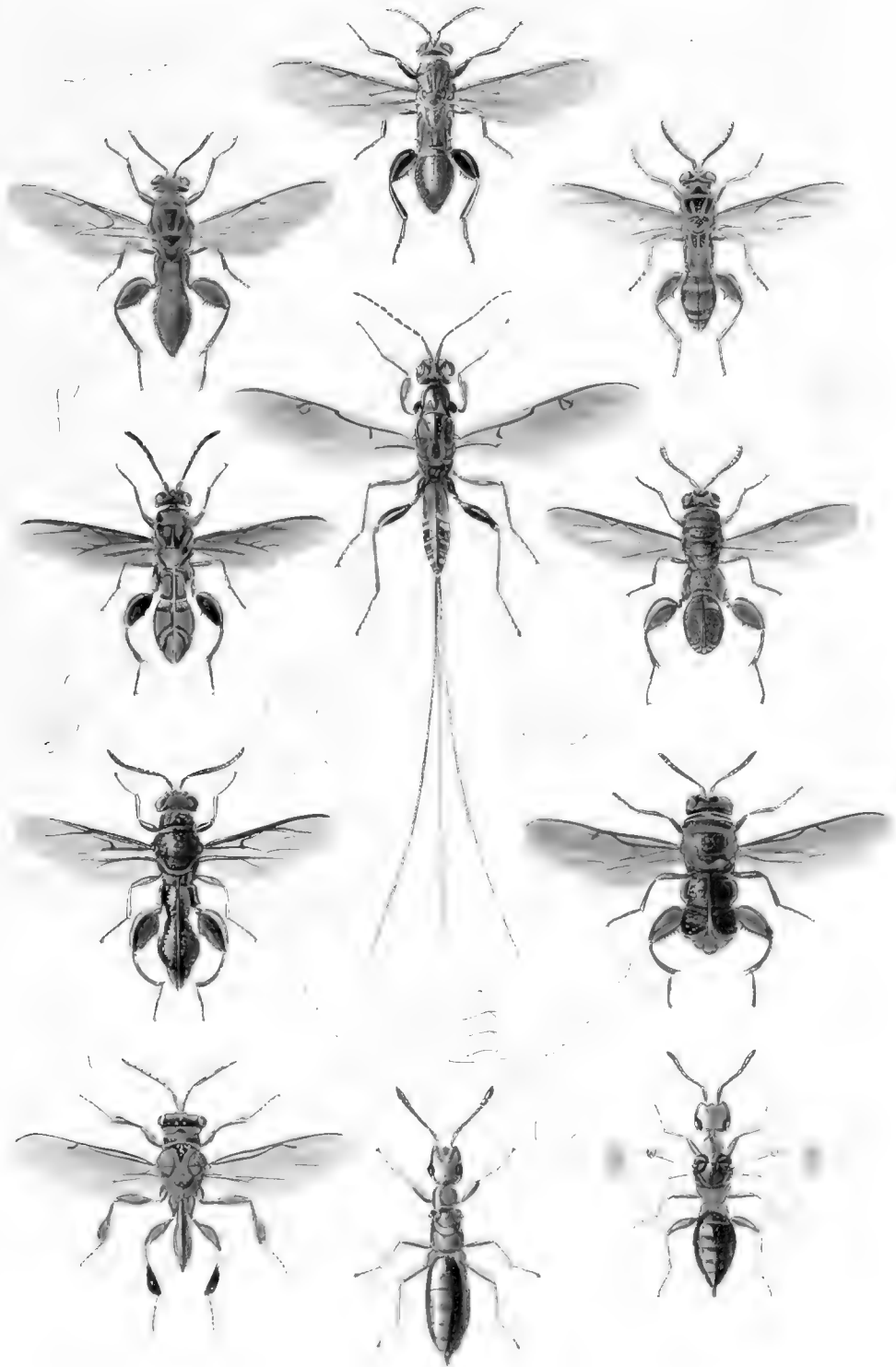






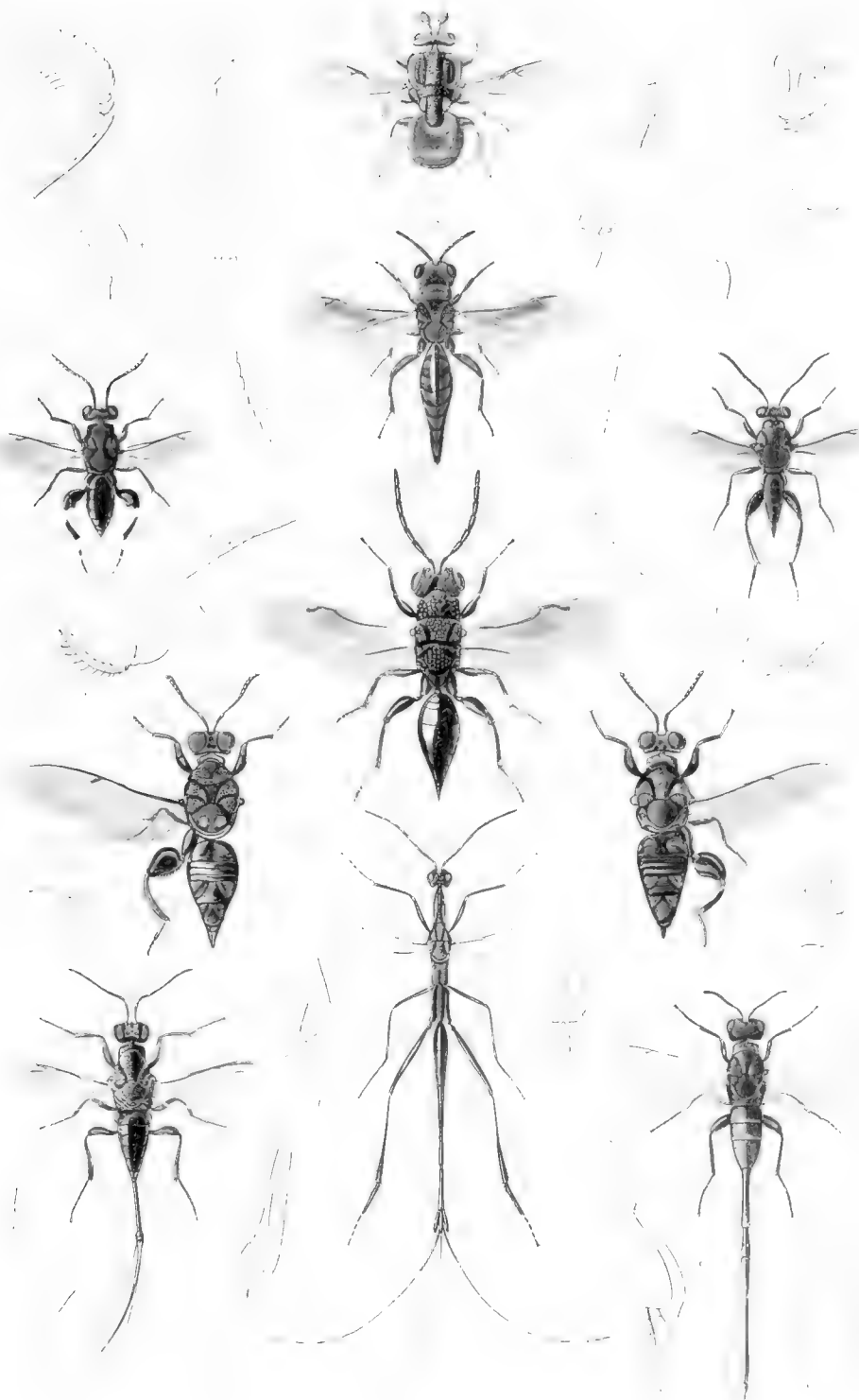




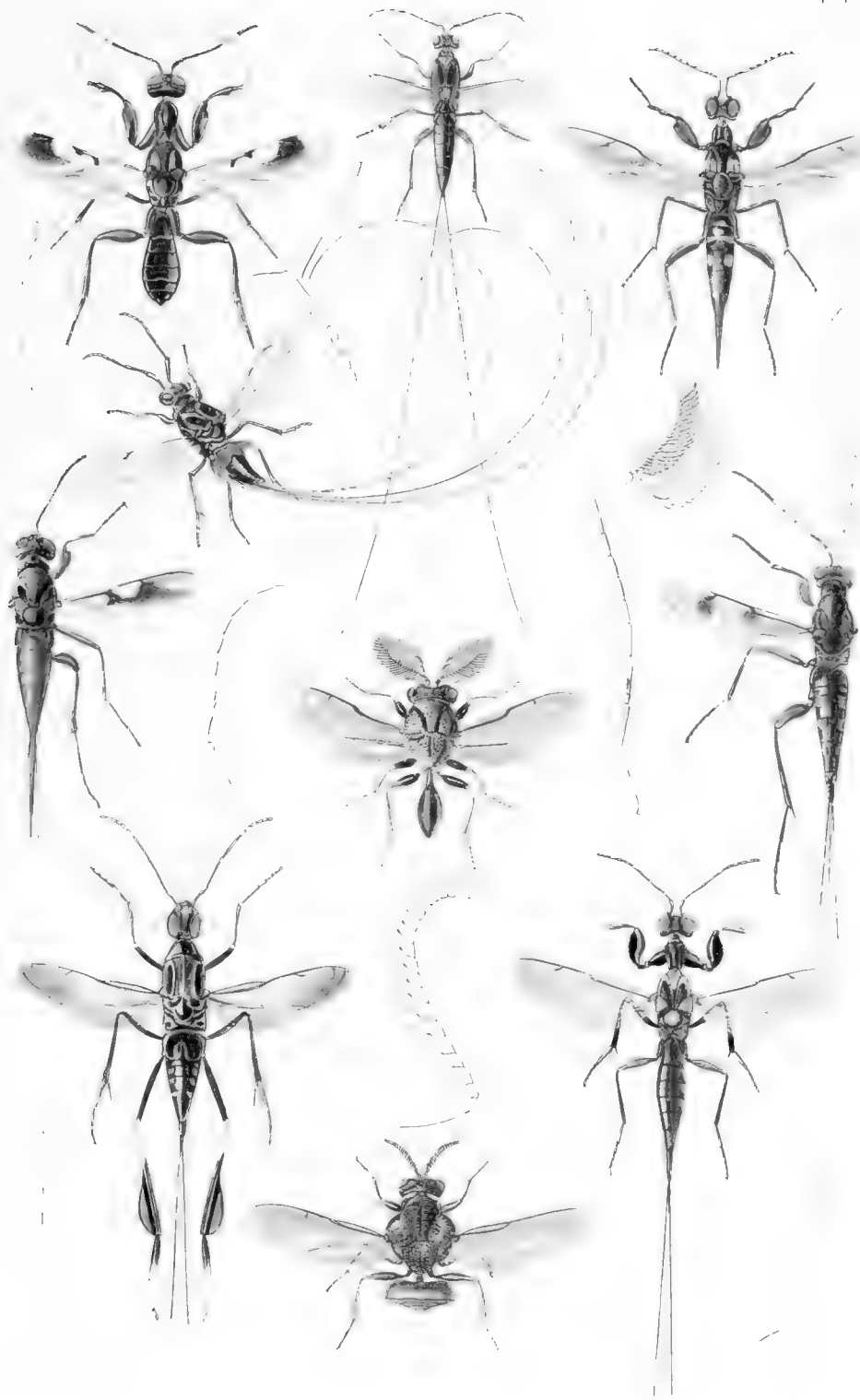




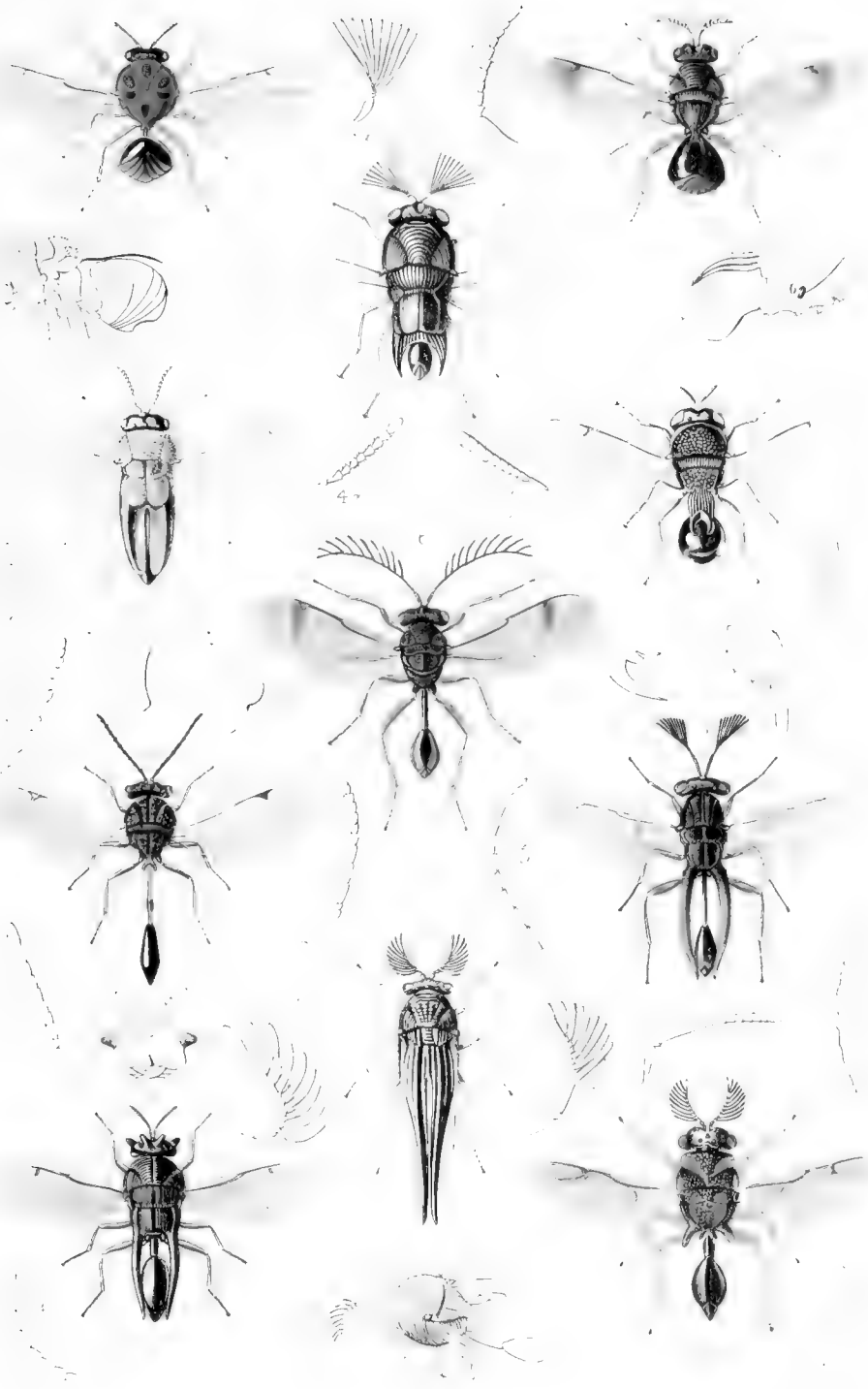




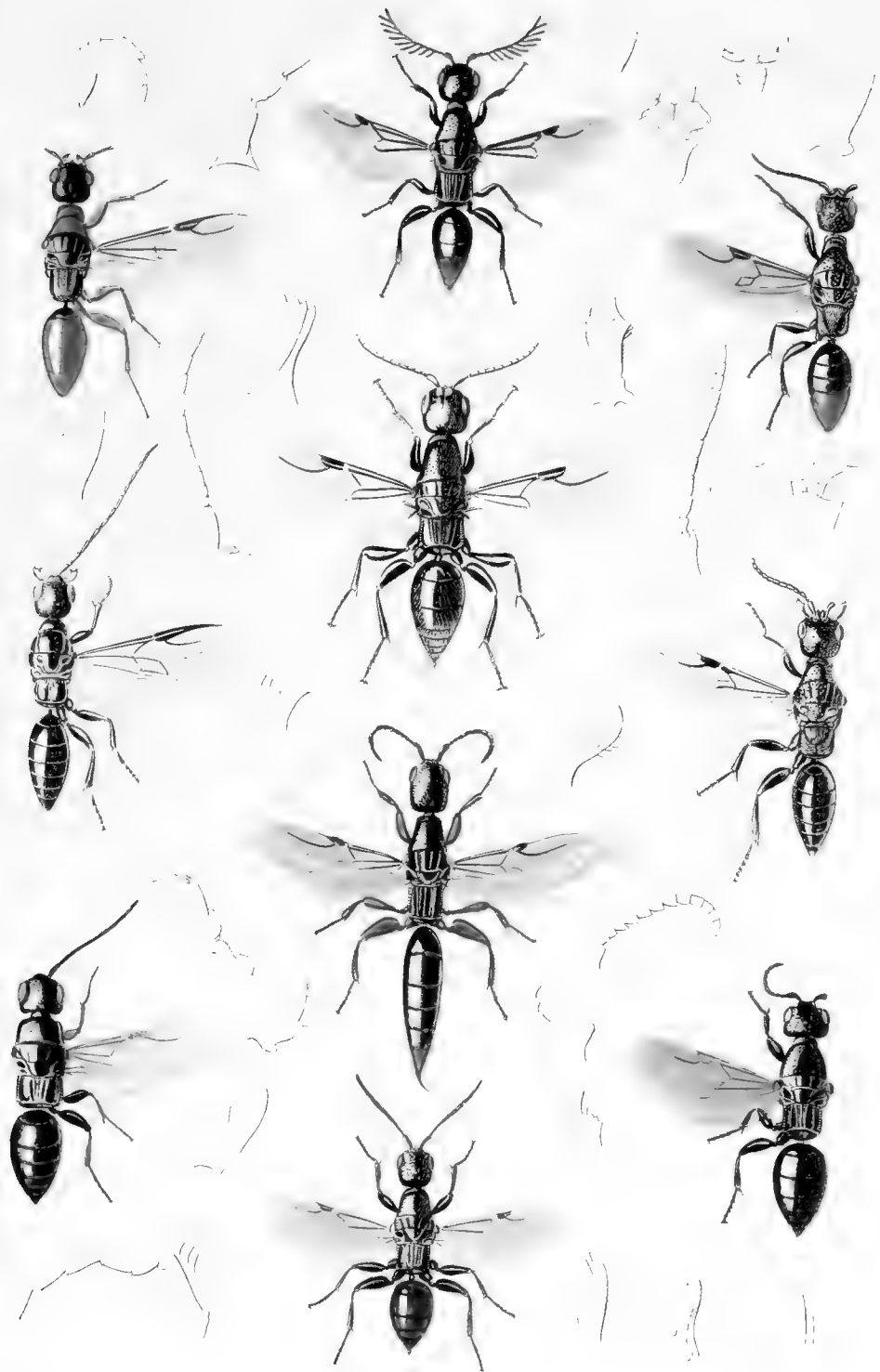






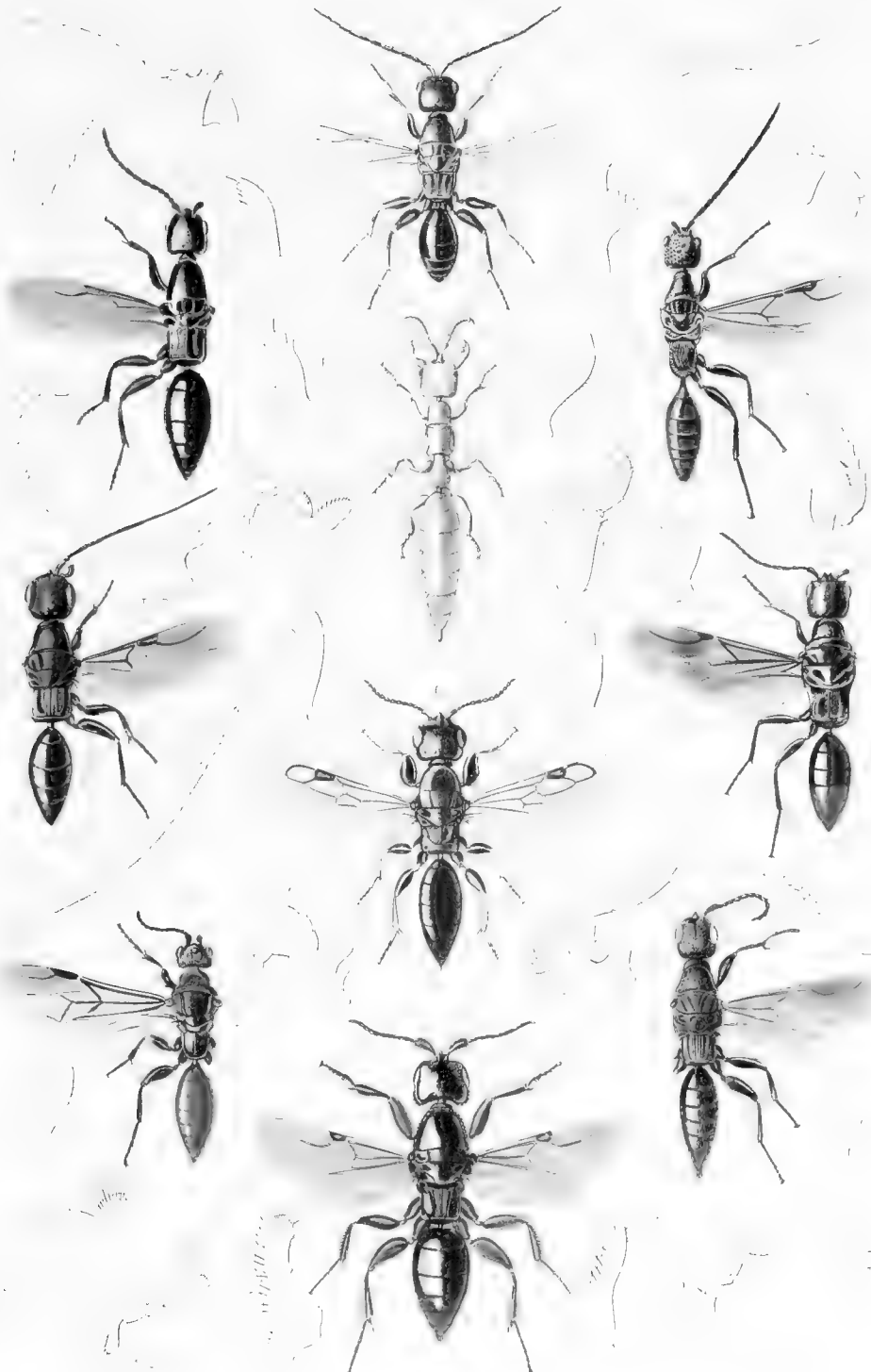


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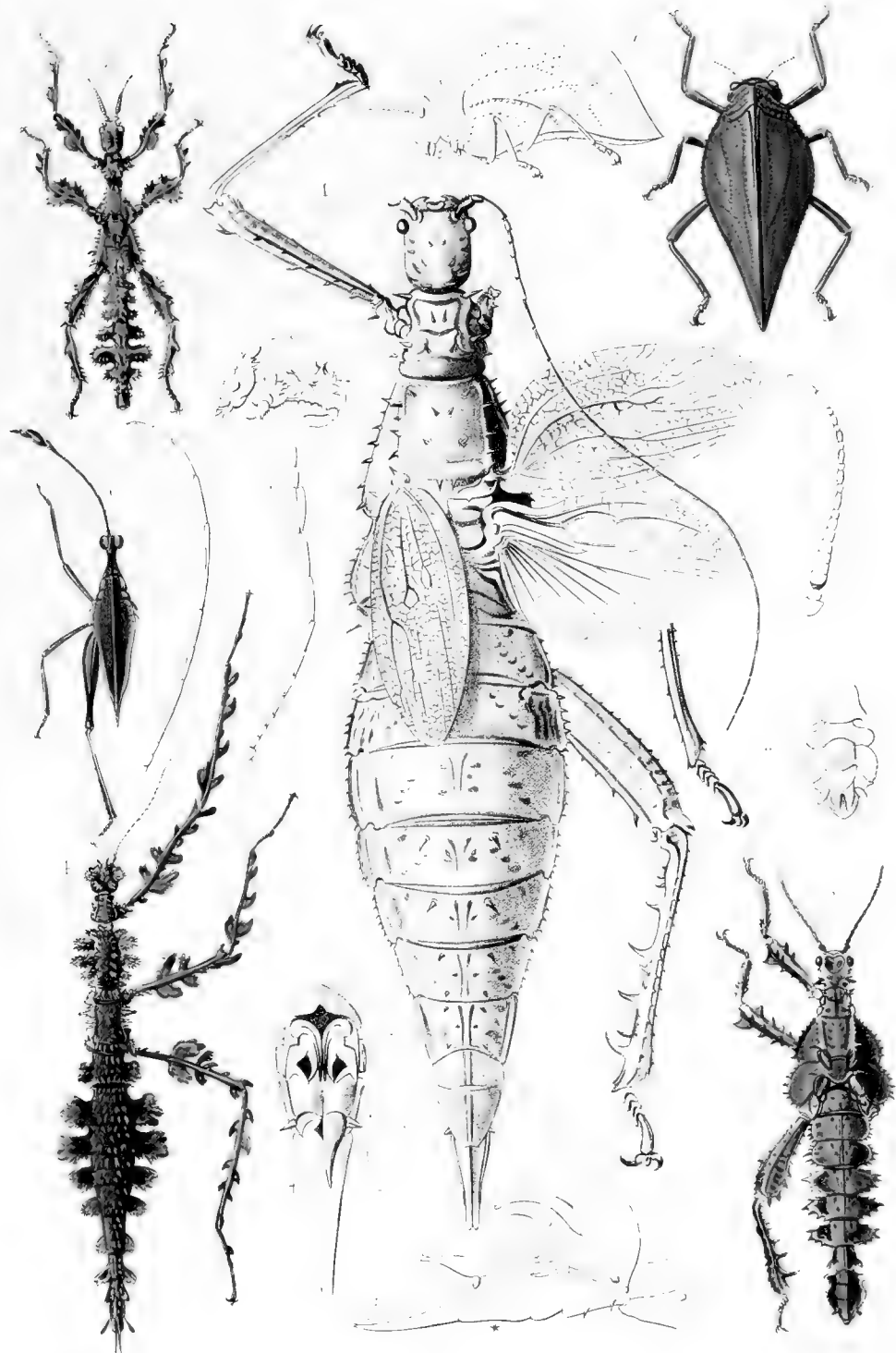














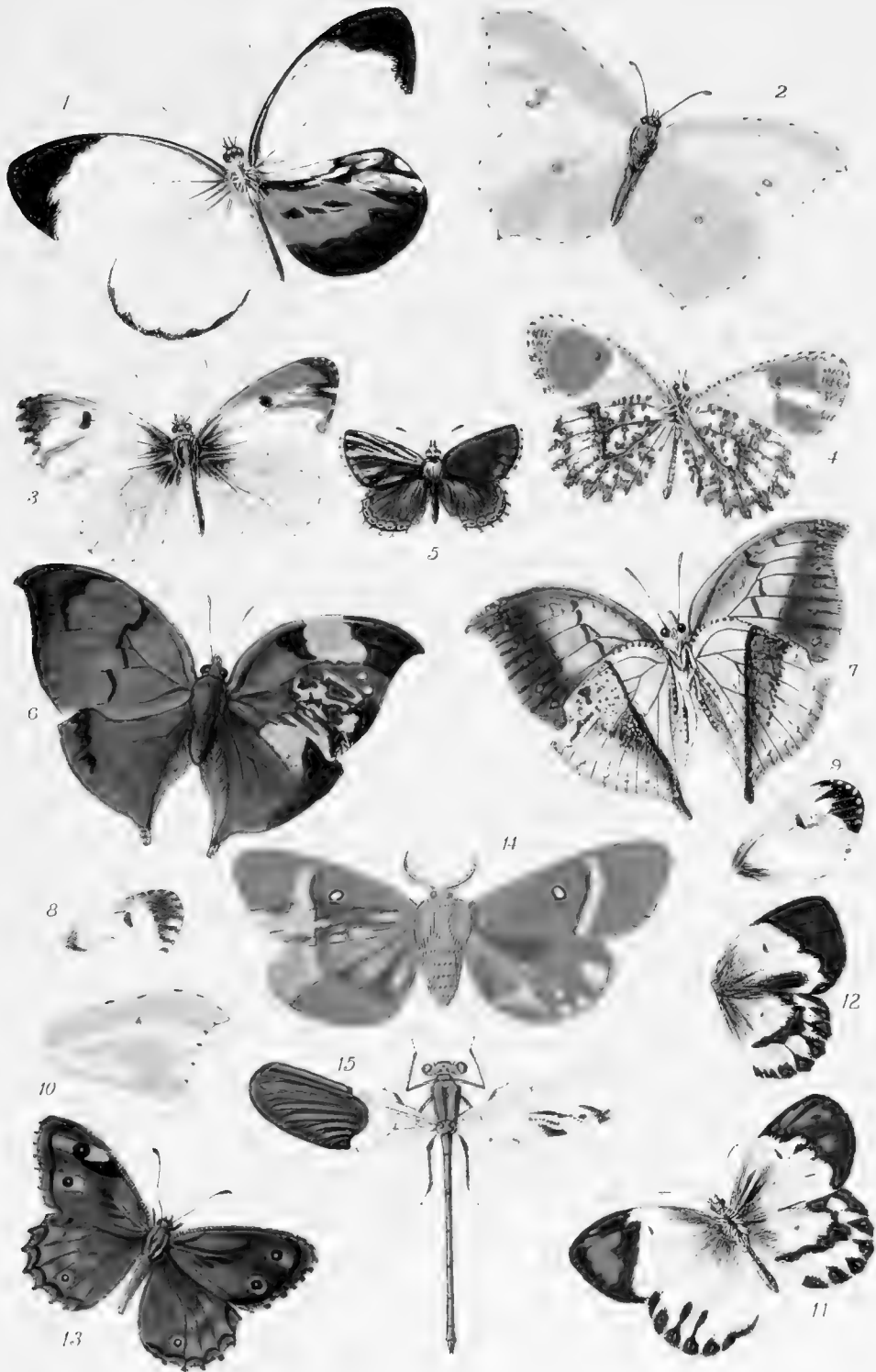




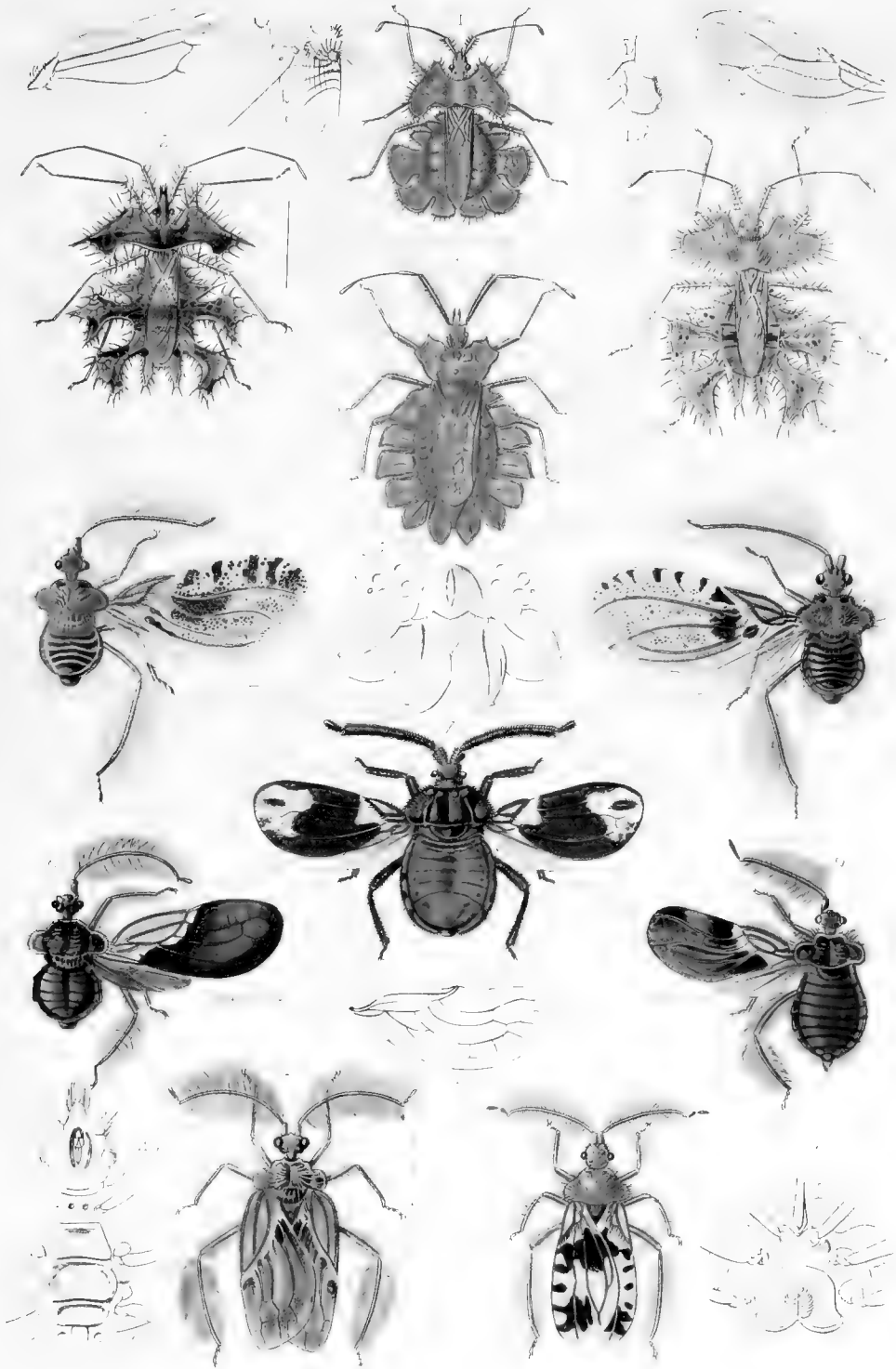




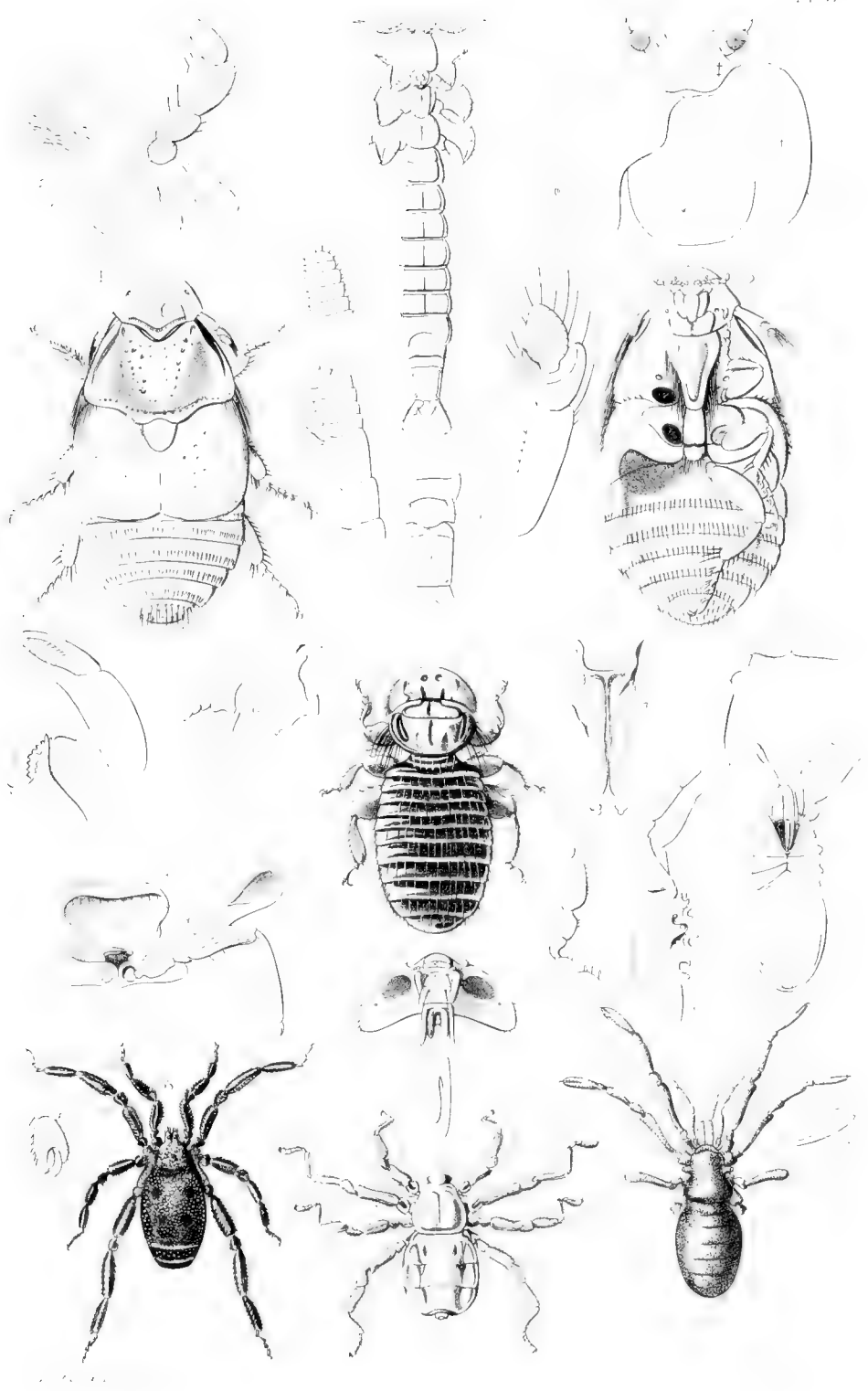






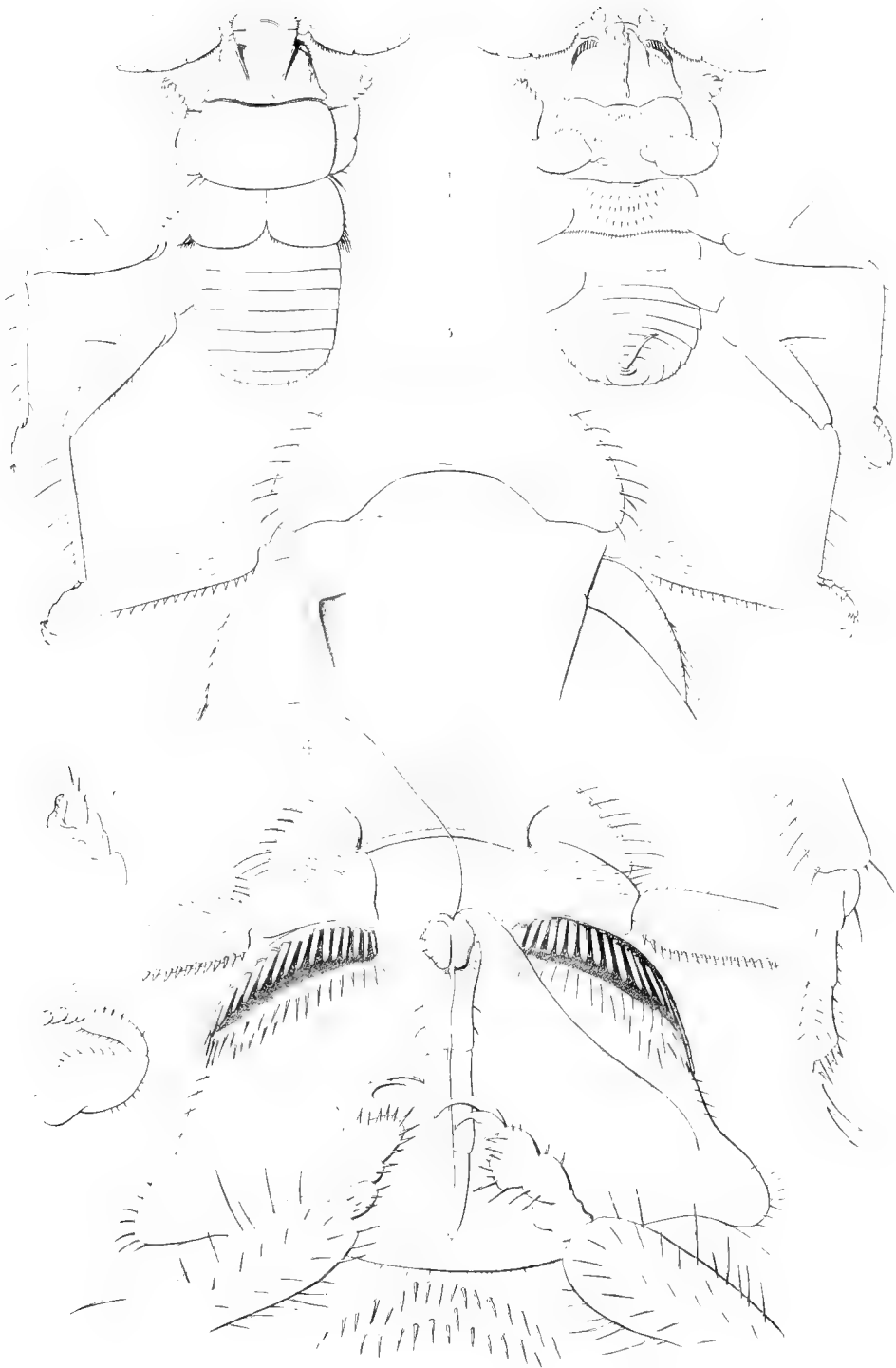




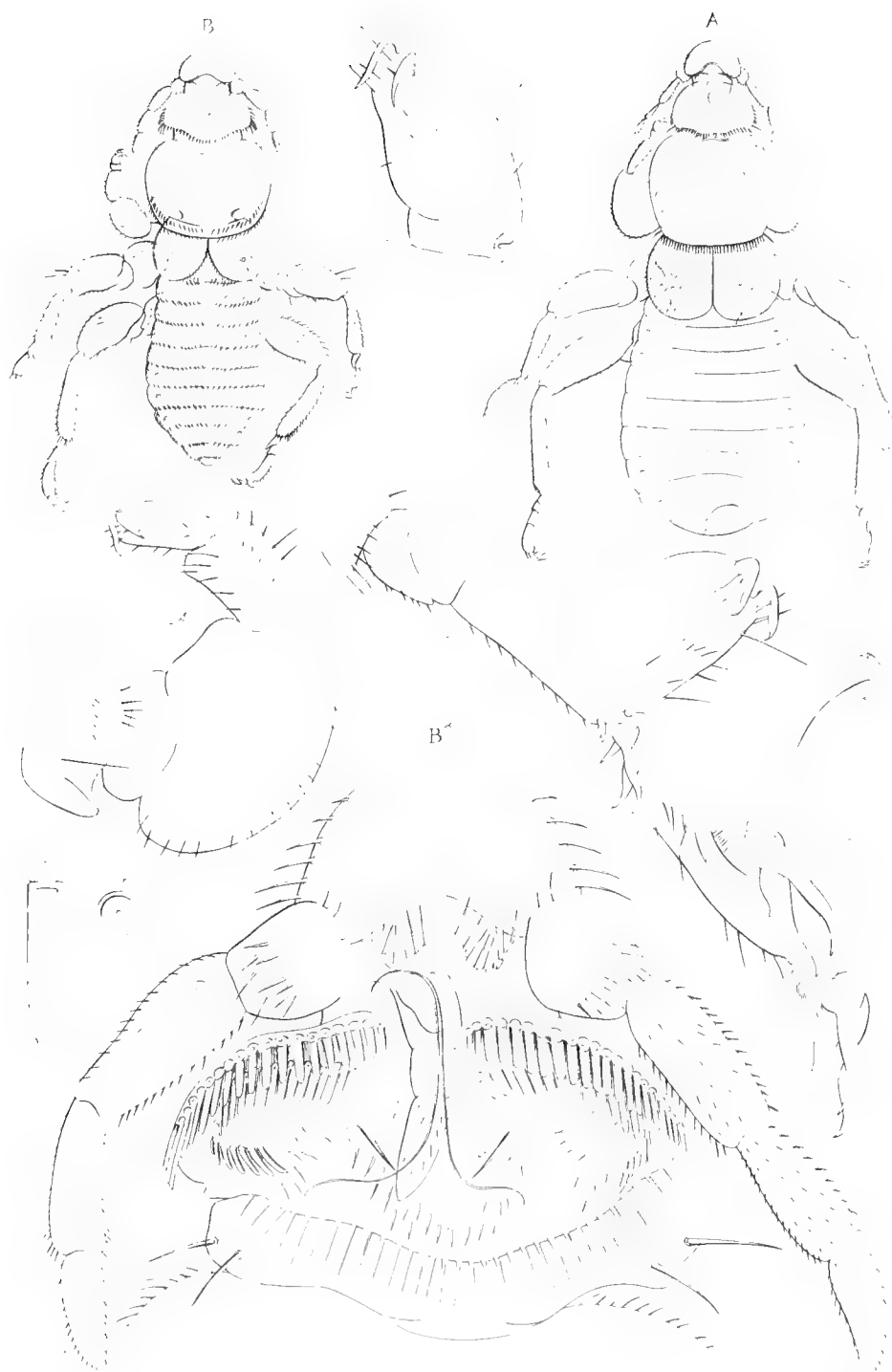




















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