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THE  
TRANSACTIONS

OF THE

Entomological Society

OF  
NEW

NEW SOUTH WALES.

VOL. I.

WITH SIXTEEN PLATES.

1854

85 ONLY

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1854





LIST OF ORIGINAL MEMBERS  
OF  
THE ENTOMOLOGICAL SOCIETY  
OF NEW SOUTH WALES.

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- BARTON, GEORGE, Esq., Cumberland-street  
BELISARIO, EDWARD, Esq., Lyons' Terrace  
BOYD, ARCHIBALD, Esq., Lyons' Terrace  
BROWN, W., Esq., Fort-street  
COX, JAMES C., Esq., M.D., Phillip-street  
CREENY, W. S., Esq., Bathurst-street  
HINDS, RICHARD, Esq., Cowper-street, Glebe  
HINDS, HENRY, Esq., Glebe-street, Glebe  
HOUSTON, HUGH, Esq., Surgeon, Infirmary, Sydney  
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ISAACS, R. M., Esq., LL.D., Pott's Point  
KING, REV. R. L., B.A., Parramatta  
KREFFT, GERARD, Esq., Sydney Museum  
MACLEAY, W. S., Esq., M.A., F.L.S., &c., &c., Elizabeth Bay  
MACLEAY, WILLIAM, Esq., M.L.A., Macquarie-street  
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MURRAY, Hon. T. A., Esq., M.L.C., Lake George  
 NORTON, HERBERT, Esq., Elizabeth-street  
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 SCOTT, Hon. A. W., Esq., M.A., M.L.C., Ash Island, Hexham  
 STEPHENS, W. J., Esq., M.A., Grammar School  
 TURNER, J. B., Esq., North Shore  
 WALL, W. S., Esq., Bridge-street

OFFICERS—1862.

WILLIAM MACLEAY, Esq., M.L.A. .... *President*  
 JAMES C. COX, Esq., M.D. .... *Secretary*  
 E. P. RAMSAY, Esq. .... *Treasurer*  
 HUGH HOUSTON, Esq. .... }  
 W. J. STEPHENS, Esq., M.A. .... } *Other Members of Council.*  
 Rev. R. L. KING, B.A. .... }

**BY - LAWS**  
OF  
**THE ENTOMOLOGICAL SOCIETY**  
OF NEW SOUTH WALES.

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I.—The Entomological Society of New South Wales is instituted for the improvement and diffusion of Entomological Science.

II.—The Society shall consist of Ordinary and Honorary Members.

The Honorary Membership shall be conferred only on distinguished naturalists not resident in Australia.

III.—The Officers of the Society shall consist of a President, Treasurer, and Secretary.

IV.—The affairs of the Society shall be conducted by a Council consisting of six members, including the office bearers, to be chosen annually, one of whom shall not be eligible for re-election.

V.—The President, Treasurer, and Secretary, shall be elected annually out of the Council by the members. The President shall not be eligible for re-election more than two years successively.

VI.—The duties of the President shall be to preside at all the meetings of the Society and Council, and to regulate all

the discussions therein, and to execute or see to the execution of the by-laws and orders of the Society.

VII.—The Treasurer shall receive all sums of money payable to the Society, and disburse all sums payable by the Society out of the funds in his hands. He shall furnish the Society annually with an account of all such receipts and disbursements. He shall demand all arrears of annual payments after such shall have been due three months. No payments shall be made by the Treasurer except for rents and taxes without the sanction of the Council.

VIII.—The Secretary shall keep a list of all the members of the Society, keep a record of all correspondence connected with the Society, also of the transactions and proceedings of the Society. The minutes shall be fairly copied into a minute book, and he shall read or cause them to be read aloud at the next monthly meeting for confirmation.

IX.—Every candidate for admission into the Society, on and after the 1st day of January, 1863, shall be proposed and seconded by members present, and shall be balloted for at the next ordinary meeting following. Two-thirds of the members balloting shall elect.

X.—All members shall pay a subscription of one pound on joining the Society, and a similar sum on the first day of January in each succeeding year.

XI.—Members having paid all fees due to the Society shall be at liberty to withdraw therefrom, upon giving notice in writing to the Secretary.

XII.—Each member present shall have the privilege of introducing one visitor, who, with the permission of the Chairman, shall be allowed to take part in the discussions.

XIII.—The Ordinary General Meetings of the Society shall be held on the first Monday in every month in the year, beginning at eight o'clock in the evening.

The order of business shall be as follows :—



1. Names of visitors present shall be read aloud by the Chairman.

2. The minutes of the last meeting shall be read, proposed for confirmation to the meeting, and signed by the Chairman.

3. Candidates for admission shall be proposed, and those proposed at the preceding meeting shall be balloted for.

4. Entomological papers to be read, and discussions invited, which may be limited by the Chairman.

5. Verbal communications and exhibitions of specimens or drawings.

XIV.—Authors of papers must notify their intention of reading such, together with the subject thereof, to the Secretary, seven days before the next monthly meeting; and the Secretary shall issue notice of the papers to be read at each meeting in the order in which he shall have received notice of the same.

XV.—Upon the requisition of any six members presented to the President and Council through the Secretary, a Special General Meeting shall be convened,—and any proposition to be submitted to such meeting shall be stated at length in the notice to members, and of any such meeting not less than seven days notice shall be given.

XVI.—The Annual General Meeting shall be held in January every year, the place and time of meeting to be fixed by the Council. The objects of the meeting shall be to choose the Council and Officers for the ensuing year, and to hear read an Annual Report on the general concerns of the Society.

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PROCEEDINGS  
OF THE  
ENTOMOLOGICAL SOCIETY  
OF NEW SOUTH WALES.

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IN accordance with resolutions agreed to at a preliminary meeting, held on the 7th April; the first monthly meeting of the Entomological Society of New South Wales, was held at 153, Macquarie-street, on the 5th of May, 1862;

WILLIAM MACLEAY, ESQ., in the Chair.

The Rules of the Society, as prepared by a Committee of the Members, were agreed to with a few amendments.

Mr. MacLeay called the attention of the Members to a Cocoon, containing a perfect female of *Thynnus variabilis*. He was unable to say where it had been found, but he hoped that the slight clue which it gave to the history and habits of the Thynnidæ, (a family about which nothing was known, though the most common of the Australian Hymenoptera), would be followed up by some of the Entomologists present.

Mr. Ramsay exhibited some fine specimens of "Phasma."

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2ND JUNE, 1862.

WILLIAM MACLEAY, ESQ., in the Chair.

The Office-bearers and Council of the Society were elected.—  
*See page ii.*

Mr. Schrader read a paper upon the Gall-making Coccidæ of New South Wales.

Mr. Ramsay exhibited specimens of both sexes of *Charagia Ramsayi* (Scott), also two other species of the same genus.

Mr. Hinds exhibited a Cocoon similar to that exhibited by Mr. MacLeay at the last meeting of the Society; it contained a male Thynnus, and was found in the Wesleyan burial ground, Sydney, but at what depth he was unable to say.

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7TH JULY, 1862.

WILLIAM MACLEAY, ESQ., PRESIDENT, in the Chair.

Mr. Schrader read a continuation of his paper on the Gall-making Coccidæ of New South Wales.

Mr. Hinds exhibited a male and female Coccus, apparently of the genus *Monophlebus* (Leach.) The female, a large black insect, he had found, and placed in a cage in an exposed position in the hope of attracting a male, which, in a few days, he succeeded in doing. The male insect had reddish wings, and the asbestos looking tuft at the tail was very large.

Mr. Ramsay exhibited a specimen of the larva of the New Zealand *Charagia virescens* (Taylor), and also specimens of another caterpillar which produces the plant called Sphæria. He pointed out the evident difference between those two larvæ.

The President exhibited a number of new species belonging to the families Cicindelidæ, Carabidæ, Anoplognathidæ, and Cetoniidæ, which he had just received among a large collection of insects from Port Denison. He also exhibited from the same place a female *Orithoptera*, measuring 8 inches across the wings, which he said was quite distinct from any known species, but approaching nearest to *O. Euphorion*, of which species also the male is unknown.

The President also exhibited from the same locality specimens of *Nyctalemon Orontes*, *Papilio Agamemnon* now for the first time found in Australia, and *Diadema Alimena*. The collection of Port Denison Insects, the President informed the Society, had been made by Mr. Masters, whom he introduced to the members, he also introduced to them Mr. Damel, who had just returned from the Feegees, after a year spent in the collection of objects of Natural History in these Islands.

Mr. Schrader exhibited a new and beautiful insect of the family Lucanidæ, apparently a *Syndesus*, which he had bred from a larva found in a piece of wood at Manly Beach.

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4TH AUGUST, 1862.

WILLIAM MACLEAY, ESQ., PRESIDENT, in the Chair.

The President read a paper containing descriptions of twenty new species of Australian Coleoptera, belonging to the families Cicindelidæ and Cetoniidæ.

Dr. Cox exhibited a number of insects, chiefly Coleoptera from Dabee, near Rylstone: among the novelties was a very fine and new species of *Helæus*.

Mr. Salting exhibited a very curious insect allied to *Scyrtes*, which he had found near Lambing Flat, under bark.

Mr. Schrader exhibited a specimen of a Curculionideous insect, which he said he had frequently found in the old galls of *Brachyscelis ovicola*, (Schrader.)

Dr. Cox stated that he had received a letter from Mr. Edwards of Ballaarat, expressing his wish to enter into a system of exchange with any of the members of the Society.

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1ST SEPTEMBER, 1862.

WILLIAM MACLEAY, ESQ., PRESIDENT, in the Chair.

The President read a paper descriptive of twenty new species of *Stigmoptera* from the northern parts of Australia.

The Honorable A. W. Scott, Esq., M.A., read a paper on the history and habits of an Ovo-viviparous Moth of the genus *Tinea*.

Mr. Scott also exhibited some beautiful drawings by the Misses Scott, of *Charajia virens*, *Ramsayi*, and *scripta*.

Mr. Schrader exhibited a drawing of a species of *Psylla*, obtained from a gall of *Eucalyptus hæmastoma*.

An Entomological excursion was arranged for Saturday, 21st September, in the neighbourhood of Penrith.

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6TH OCTOBER, 1862.

WILLIAM MACLEAY, ESQ., PRESIDENT, in the Chair.

A lengthened discussion took place as to the best mode of recording the proceedings of each monthly meeting.

Several fine collections were exhibited.

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3RD NOVEMBER, 1862.

WILLIAM MACLEAY, ESQ., PRESIDENT, in the Chair.

Some resolutions were passed relative to the future conduct of the proceedings.

The Rev. Mr. King read a paper on the Pselaphidæ of Australia.

Mr. Salting exhibited (among a large collection from the northern interior of Queensland, and from Rockhampton, Brisbane, and Maryborough,) a specimen of a *Papilio Anactus*, from the Nogoia River, the only instance known of that rare species being found in Northern Australia.

The President exhibited his collection of Australian Cantharidæ, consisting of twenty-five species, belonging to the genera *Tmesidera* (Westw.), *Palæstru* (De Castel), *Zonitis* (Fab.), *Palæstrida* (White), and a new genus allied to *Sitaris*.

The President also exhibited his collection of Australian Ædemeridæ, consisting of upwards of twenty species, belonging to the genera *Selenopalpus* (White), *Nacerdes* (Schmidt), *Pseudolychnus* (Guer. Menne.), and probably other genera.

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1ST DECEMBER, 1862.

WILLIAM MACLEAY, ESQ., PRESIDENT, in the Chair.

A conversation took place relative to a suggestion made by the Rev. Robert King, at a previous meeting, that the Society should have a Cabinet in which all species of Australian Insects, described by Members, should be kept as an authentic record of the labours of the Society. The President was requested to

ascertain from the Trustees of the Museum whether they would allow Mr. Kreff, the Acting Curator of the Institution, to take charge of such Cabinet.

The President exhibited a very remarkable insect allied to *Eledona*, found by Mr. Ramsay under the bark of a dead tree, at the Blue Mountain Inn. He stated that in some respects it bore a resemblance to *Ulodes*, a genus formed by Erichson on an insect of Van Dieman's Land, but it differed from it and all the other Bolitophagidæ by its very minute head and Hispa-like position of the Antennæ. With a view to the more distinct understanding of the relations of this very curious form, he exhibited a number of Australian Bolitophagidæ, including nine species of a new genus, which he proposed to call *Leparyus*.

The President also exhibited a new form of *Malachins*, from the Upper Darling, in which the apex of the thorax is prolonged into a spine which extends beyond the head, also a new *Scarites*, *Arthropterus*, and *Hybosorus* from the same locality.

The President also exhibited an *Elater* from the Blue Mountains, in appearance very much like the South American genus *Semiotus*.

Mr. Ramsay exhibited a number of Insects collected at the Blue Mountains, including a new *Telephorus*, and a new species of the family of Cephaleidæ.

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5TH JANUARY, 1863.

WILLIAM MACLEAY, ESQ., PRESIDENT, in the Chair.

The President read a Paper on the Scaritidæ of New Holland.

Mr. Stephens exhibited a new species of *Chrysodema*, which he had found on the Blue Mountains; he also exhibited a male and female specimen of the *Stigmodera Klugii*, showing the great difference between the sexes.

Mr. Masters exhibited a specimen of that rare insect *Campylocnemis Schræteri*, which he had found under a log at Burwood.

Mr. Hinds exhibited a *Cephaleus Iopterus*, which he had found in Kent Street, Sydney, and a very large species of *Leucospis*.

Mr. H. Hinds exhibited a Buprestis, apparently of the genus *Stijmodera*, which was cut out of a piece of Kauri Pine, which had been used as a bench in a Saddler's shop for at least four or five years.

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## ANNUAL GENERAL MEETING.

30TH JANUARY, 1863.

WILLIAM MACLEAY, ESQ., PRESIDENT, in the Chair.

The following gentlemen were elected the Members of the Council for 1863, viz. :—James C. Cox, William MacLeay, W. J. Stephens, Hugh Houston, E. P. Ramsay, and Gerard Krefft, Esqrs., and out of these Mr. MacLeay was re-elected President, Dr. Cox was re-elected Secretary, and Mr. Stephens was elected Treasurer.

A letter was read from the Treasurer, stating the amount of subscriptions he had received from Members, and stating that he had as yet made no payments on behalf of the Society.

The President read an Address on the state and prospects of the Society.

The meeting passed a vote of thanks to the President for his Address, and ordered it to be published with the Proceedings of the Society.

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## THE PRESIDENT'S ADDRESS.

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GENTLEMEN,

As the first stage in our history has now been reached, it may not be amiss that I should take the opportunity of saying a few words on the objects and prospects of the Society.

The advantages which the original promoters of the Institution anticipated were of a two-fold character. They wished to give all who were interested in the Science of Entomology opportunities of social intercourse; and they also wished to be the means of assisting in the publication of such Papers connected with the Science as might be deemed worthy of their sanction.

Viewing these as the main objects of the Society, I think I am justified in saying, that it has already been as successful as its most sanguine promoter could have desired. A number of gentlemen, previously unknown to each other, have been afforded opportunities of meeting together, which, without the intervention of the Society, would, perhaps, never have existed; an impetus has been given to collecting in a degree hitherto unknown in the Colony; and from the facilities given of communicating information, an unusual amount of observation has been concentrated on the history and habits of the Insect tribes.

During the few months of the Society's existence, six Papers have been read. Mr. Schrader's Paper on the Gall-making Coccidæ of Australia was the first in point of date, and, perhaps, the first also as regards the interest and originality of the subject; since the knowledge which entomologists have as yet acquired of the Insects which produce



Manna may be considered as very restricted. The Rev. Mr. King has contributed a most valuable Monograph on the Pselaphidæ of New Holland. The Hon A. W. Scott, Esq., has given us an interesting account of the habits of an Oviviparous Moth of the genus *Tinea*. And I have read three Papers on Coleoptera, mostly descriptive of new species.

These Papers will be immediately published, and will, along with an abridged account of the proceedings of each Monthly Meeting, the Rules of the Society and the list of Original Members, form Part 1 of Vol. 1 of the Transactions of the Entomological Society of New South Wales.

As regards the Monthly proceedings, I may observe, that the Members generally, have derived much pleasure and information from the ample collections of Insects exhibited at each Meeting, and it is to be hoped that a practice which adds so much to our knowledge of species and their habitats will be continued; but the Council have, while entering these exhibitions in their minutes, not thought it necessary to mention them in their published proceedings, except in those instances where some specific information has been derivable from the exhibition. The mere mention of the exhibition of a fine collection conveys no information to the reader, nor is even the recital of a list of names of any value unless accompanied by a statement of some peculiarity of habit or structure.

With respect to our Financial position, I may state that the sum which the Treasurer's Report shows to our credit, though small in appearance, is sufficient for our wants, and the Council calculates upon being able to bring out the first part of our transactions without exceeding our small means, and to present each Member of the Society with a copy free of charge.

While success, therefore, may truly be said to have crowned our efforts hitherto, I regret to say, that our path has not been altogether unclouded. Though the number of our Members is small, the hand of Death has already snatched

away two, Mr. J. B. Turner, and Dr. William Houston. While the former gentleman was but little appreciated beyond the small circle of his immediate acquaintance, the latter was almost universally known and respected throughout Sydney. Both, however, were devoted to Entomology, and are deeply lamented by every Member of the Society.

As to our prospects, I can scarcely doubt that the efforts of the Members will be followed by the same success which has hitherto attended them ; and I believe that an increased acquaintance with the Science will be evinced in the number and character of the contributions to our next publication.

The chief difficulty which the Entomologist has to encounter in this country, is the impossibility of ascertaining what has already been done with respect to the nomenclature and description of its Insect Fauna. Insolated descriptions of species are to be found in the Natural History Periodicals of almost every country in Europe, but few attempts have been made to consider the Australian Fauna as a whole. Boisduval's "Faune de l'Océanie" is, I believe, the latest work of the kind published, and it is of little use as a means of investigating species ; the descriptions are short, and would for the most part apply to all the species of the particular genus mentioned. The number of Insects, moreover, described in this work is scarcely a tithe of those to be found in the most ordinary collections. To obviate such difficulties should be our first endeavour. In order to enable us to make our observations on the habits of an Insect known, we have to ascertain the name by which it would be at once universally recognized by Entomologists, for I need scarcely say, that an acquaintance with the names of species greatly increases our powers of observation. Nevertheless, though a correct knowledge of the nomenclature of Insects is indispensable to the Entomologist, it ought only to be regarded as a means towards an end, that is, as the Dictionary by which the Science is to be acquired, and, therefore, the first, but not the ultimate subject of our investigation.

It may, possibly, be expected by the younger Members of the Society, and by those about to commence the Science of Entomology, that I should give them some advice on the proper course of study. Such persons must recollect that every Science is to be studied analytically and synthetically. We begin always by analysing, that is, by resolving into parts, because, until we have an accurate knowledge of parts, it is impossible to synthesize, *i.e.*, to put them together. Thus, before a Student can think of arranging objects of Natural History, he must be conversant with the structure and habits of these objects. He ought, for instance, to be able to make out the name of an Insect by its scientific description, and then to try his hand in describing new species. It is only when he has thus made himself familiar with what may be termed the grammar of the Science, that he can safely proceed to attempt to arrange. Two books are quite sufficient to enable him to attain both these objects. The first is Kirby and Spence's Introduction to Entomology, in *four Volumes*; the late editions of the two first volumes are useless to the Entomologist, the last two volumes of the complete work being those that give the general history of the Science, and what is still more useful, the Orismology, or definition of those technical terms which will enable the Student to make out the name of an Insect, and to describe his new species. The other book is "Cuvier's Regne Animal." The French editions of which, are, of course, the best, but in the event of the Student not being familiar with the French language, there are plenty of English translations procurable. The use of this work is not merely to make him familiar with that arrangement of Insects hitherto made use of by Scientific men, particularly on the Continent of Europe, but also to show him the relations which Insects bear towards the other departments of Zoology. I would, therefore, I repeat, recommend Kirby and Spence for analysis; and for synthesis, I would recommend Cuvier, or rather Latreille, since it was the latter eminent

Naturalist who wrote the volumes on Insects, which form so bright a part of the far-famed Animal Kingdom of Cuvier.

There is another matter to which I must allude before I conclude. When this Society was first formed, it was unanimously resolved that Mr. W. Sharp MacLeay should be our Honorary President. This idea was suggested by the example of the Entomological Society of London, the Members of which had elected the late Mr. Kirby as their Honorary President. It was thought that, while it was only due to Mr. MacLeay as the most eminent of living Entomologists, that such a compliment should be paid to him, the Society itself would benefit by having associated with it a name so distinguished in the scientific world. However, while Mr. MacLeay has joined us as an ordinary Member, and, with most cordial expressions of goodwill towards the Society, has offered it the invaluable advantages of his advice and assistance; he has, nevertheless, I regret to say, judged it desirable for several reasons, that he should decline to accept the responsibilities of any office in the Society.

And now, Gentlemen, I have only to add, that, should I be spared to occupy the Chair at our next Annual Meeting, I hope to be able to point to the efforts of our Society as not the most insignificant or the least useful in the history of Entomological Science for 1863.

2ND FEBRUARY, 1863.

WILLIAM MACLEAY, ESQ., PRESIDENT, in the Chair.

The President offered for distribution among the Members specimens of a *Bembidium*, which he said was evidently very near both in habit and appearance to the *Gillenium laterale* of Haliday; Ent. Mag. IV., p. 251. He stated that the species on the table to which he proposed to give the name *flavescens*, had been frequently found by him, and always in the same locality, in Middle Harbour. He had first seen the insect on the 10th October, 1861, and he had twice captured some on the same spot within the last month. They seemed to be abundant in the early part of summer on sandy beaches, in certain localities, but always so far below high water mark, that they must be immersed quite 12 hours out of the 24,—6 hours at a time. Haliday had stated, that the species which he had observed and described, *C. laterale*, actually seemed to be nearly drowned twice in every 24 hours.

Dr. Cox exhibited a collection of Coleoptera from the district of Rylstone, containing a new *Phalidura*, a new *Amycterus*, and many rare insects.

Mr. W. J. Stephens exhibited a collection of insects which he had lately made at Fernhill, Mulgoa, containing several rare species, such as *Stigmodera Goryi*, *Passandra cylindrica*, and the *Omma Stanleyi* of Newman, an insect remarkable not only for its extreme rarity, but from the difficulty of defining its true affinities.

Mr. Masters exhibited a well filled box of very choice insects, containing, among the more remarkable novelties, a *Panops* from Double Bay, a *Prophanes* from Eastern Creek, and a *Schizorkhina*, resembling somewhat the *S. obliquata* of Westwood, a *Callirhipis*, and specimens of *Schizorkhina palmata*, from the neighbourhood of Windsor.

2ND MARCH, 1863.

WILLIAM MACLEAY, ESQ., PRESIDENT, in the Chair.

Dr. Cox exhibited a fine specimen of an Heteromeroous insect from Dabee, which he said bore a striking resemblance to the *Asida assimilis* of North Africa; he had no doubt that the species exhibited was an *Asida*, and he believed this to be the first instance of that genus being found in Australia; the insect described by the late Rev. F. W. Hope as *Asida serraticollis* having nothing to do with that genus.

The President exhibited three new species of the *Anoplognathidae* from Port Denison, North Australia, and read the following descriptions of the same.

“ANOPLOGNATHUS LINEATUS.

“Viridi-æneus, capite punctulato, thoracis lateribus subtilissimè punctatis, clytris testaceis striatis striis irregulariter ustulatis interstitiis seriatim et biseriatim punctatis humeris subrugosis, corpore subtus æneo-viridi griseo-piloso, pygidio viridi, pedibus rufis tibiis posticis tarsisque violaceis.

“Long. 12 lin., lat.  $6\frac{1}{2}$  lin.

“The head and thorax of this fine species are of an intense brassy brilliancy, with very minute punctures; the base of the thorax has a narrow margin of a darker hue; the scutellum is completely encircled by a margin of the same dark hue, which extends along the suture of the elytra. The elytra are paler and less brassy than the thorax, and are marked with striæ of an uninterrupted brown appearance in some places, while in others there are merely points of that colour; between the striæ are alternate single and double rows of punctures; towards the shoulders, the striæ and punctures lose their regularity, and present a rugose appearance. The under surface is of a dark brassy green, rather closely covered, particularly towards the sides, with greyish pile. The pygidium is of a dark green,

tinged with violet, densely punctured, and slightly pilose. The legs generally, are reddish, with the exception of the hind thighs, which are brassy green, and the hind tibiæ and tarsi which have a violet hue.

“ ANOPLIGNATHUS NEBULOSUS.

“*Testaceus nitidus, capite thoraceque nebulosis, thoracis marginibus anticis posticisque viridibus, scutello viridi-cincto, elytris densè punctatis ad suturam lævibus subearinatis apice acuminatis, corpore subtus æneo parè piloso, pedibus rufis tarsisque nigris.*

“Long. 11 lin., lat. 6 lin.

“The head and thorax of this species are of a pale testaceous colour, clouded with brown, with a metallic reflection, and are both covered with fine punctures. The eyes are large, and of a light colour. The anterior and posterior margins of the thorax are green; the scutellum is also margined with green. The elytra are pale, testaceous, and are covered with shallow punctures, presenting in some places, and particularly at the sides, an appearance of regularity; they have a slightly elevated, smooth space along the suture, terminating in a sharp point on each side. The pygidium is brassy, and covered with short decumbent whitish hairs. The under surface is also of a brassy appearance, with the sides of the pro-, meso-, and meta-thorax, and the abdominal segments, pretty well clothed with white hair. The legs are coppery red, with the tarsi of a bluish black.

“ CALLOODES RAYNERI.

“*Viridis nitidus, capite thorace elytrisque subtiliter punctatis, corpore subtus æneo-viridi densè albo-piloso, antennis palpis pedibusque rufis albo-hirtis.*

“Long. 10 lin., lat. 5 lin.

“The whole upper surface of this insect is of a brilliant green, very minutely punctured. The elytra are slightly dehiscant at

the apex. The under surface is of a brassy brilliancy, closely covered, excepting in the medial line of the meta-thorax, and the abdominal segments, with white hair. The antennæ and palpi are red. The legs are also red, inclining to pitehy towards and on the tarsi, excepting the inner portion of the hind thighs, which are green, and are clothed with white hairs.

“I have named this beautiful insect after my friend Dr. Rayner, R.N., who has been my companion in many delightful Entomological excursions. The genus, if genus it can be called, was made by Mr. Adam White, for the reception of a splendid insect, to which he gave the specific name *Greyanus*. *Calloodes* appears to be the link between the genera *Anoplognathus* and *R. psimus*, and to be almost identical with the latter. Mr. White has never, I believe, published any characters of the genus.”

Mr. Masters exhibited a few choice insects lately captured by himself, including a fine specimen of *Schizorhina Phillipsii*, found on the flowers of a species of *Eucalyptus*.

Mr. Krefft exhibited a gigantic specimen of *Exstatosoma tiaratum*, from Port Macquarie.

A letter was read from the Trustees of the Australian Museum, intimating that, under certain specified conditions, they had no objection to the Society's Cabinet of specimens being placed under the charge of Mr. Krefft, the acting Curator of the Museum.

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6TH APRIL, 1863.

WILLIAM MACLEAY, ESQ., PRESIDENT, in the Chair.

Mr. William Houston, Mr. Dick, and Mr. Joseph Redford were elected Members of the Society.

Dr. Cox exhibited a very small species of *Trox*, which he had found in a *Phalidura* in his Cabinet.

He also exhibited specimens of the beautiful larva of *Agarista agricola*, which he had found feeding on the native Hop plant



*Cissus australis*; he stated that though this was the usual food of the larva, he had known instances of its feeding on the grape vine.

The President produced for distribution amongst the Members a number of specimens of a *Trogosita*, which had lately been committing considerable depredations in his Cabinet. He stated that the species in question was no doubt the *Trogosita mauritana*, an insect which seemed to be found in all parts of the world; he had himself specimens of it from Europe, Brazil, Guinea, and China. It was an insect the larva of which was exceedingly destructive in granaries, and it had probably been carried from Southern Europe, into this and other countries in ship's biscuit. According to Olivier the perfect insect was carnivorous; it was, however, only within the last few weeks that he had discovered that they could live and multiply in dried animal substances, such as insects in Cabinets. He had not, in any instance, found the larvæ, but the perfect insect was really numerous in some of the drawers, until destroyed by chloroform.

A conversation took place on the subject of the disease called Scab in Sheep, and the history of the insect which produces it.

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4TH MAY, 1863.

WILLIAM MACLEAY, ESQ., PRESIDENT, in the Chair.

Mr. William Norton was elected a Member of the Society.

Dr. Cox exhibited drawings, and read a description of the Scab in Sheep *Acarus* by Mr. Waltz; some discussion ensued as to the identity of the species of Europe, with that now infesting the Australian flocks.

Dr. Cox exhibited, on behalf of Mr. Krefft, a box containing a few insects from Rockhampton: among them several rare *Arachnidae* and a fine *Helæus*.

Mr. Masters exhibited some very choice insects, including amongst the more interesting rarities, a number of *Cerapteri*, of *Pselaphidae*, and of a new species of *Tibena*.

Mr. Boyd exhibited a very remarkable *Cerapterus*, found under a stone on the North Shore. The insect differed from *Arthropterus* in the shortness and breadth of its elytra, and the roundness of its thorax, and would probably be found to belong to the subgenus *Phymatopterus* of Westwood.

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1st JUNE, 1863.

WILLIAM MACLEAY, ESQ., PRESIDENT, in the Chair.

The President read a Paper on the insects of Australia allied to the *Glaphyridæ*, and exhibited specimens of the new genera and species described in the Paper.

The Secretary announced to the Members that an arrangement had been made, by which the Monthly meetings of the Society would henceforth be held in the School of Arts, Pitt Street.

The President said that he wished to take the earliest opportunity in his power of pointing out an error in Doubleday and Westwood's Genera of Diurnal Lepidoptera, an error which seemed to have been adopted in all subsequent Catalogues of *Papilionidæ*. The *Papilio Antinous* of Australia, which is figured in "Donovan's Insects of New Holland," from the unique specimen in the cabinet of W. S. MacLeay, Esq., of Elizabeth Bay, is placed by Doubleday and Westwood as a synonym of *Papilio Turnus*, a well known American Butterfly. He had not noticed this circumstance until a few days ago, but he had then compared the *P. Turnus* with the *P. Antinous* in Mr. MacLeay's collection, and found, as he had expected, that there was not even a resemblance between the species.

The *P. Antinous* clearly belonged to the *Podalirius* group of *Papiliones*, and would no doubt be found (as our acquaintance with the Northern parts of Australia increased) to be, as originally stated, a New Holland insect.

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6TH JULY, 1863.

WILLIAM MACLEAY, ESQ., PRESIDENT, in the Chair.

Mr. H. Houghton Bradley and Mr. Wilcox were elected Members of the Society.

Mr. Krefft exhibited a very interesting Dipterous insect, the larvæ of which he had found parasitic in *Hyla Citropus*, and other species of Frogs. He stated that he intended to read a Paper on the subject at some future meeting of the Society.

Mr. Stephens said that he had been much struck with the incredible numbers of *Lamprolina æncipennis* which he had found in and about Picton, about a week previous—every spot under bark and elsewhere, which afforded the slightest shelter, being literally crammed with them. The *Bursaria spinosa*, upon which the species in question feeds, he also observed to be entirely denuded of leaves over a considerable extent of country, and he had no doubt that the injury had been caused by the unusual superabundance of these insects.

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3RD AUGUST, 1863.

HUGH HOUSTON, ESQ., in the Chair.

Mr. Justice Wise was elected a Member of the Society.

The Rev. R. L. King, B.A., of Paramatta read a Paper on the *Seydmanide* of Australia.

Mr. Krefft read a Paper on the history of a Dipterous insect, the larvæ of which are found in Frogs.

Mr. Masters exhibited several specimens of a species of *Catops*, which he stated he had found under a dead dog in an advanced state of decomposition. He believed that the genus was hitherto unknown in this Colony, though he was aware that Erichson had described one from Van Dieman's Land in the *Archiv für Naturgesch.* 1842, p. 243. The species now on the table was, he

believed, very different from the *Cutops Australis* of Erichson. He had brought several specimens of the insect for distribution among those Members of the Society who might wish for them.

Mr. Masters also stated that he had found under the same dog, nine species of *Staphylinidæ*, and two species of *Trichopteryæ*, the most minute of Coleopterous insects.

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7TH SEPTEMBER, 1863.

WILLIAM MACLEAY, ESQ., PRESIDENT, in the Chair.

A letter was read from the Rev. R. L. King, accompanying a second Paper on the *Psolophidæ* of Australia, which was read by the Secretary.

Mr. Masters exhibited male and female specimens of the *Gastrophora Henricaria* of Guenée, and read the following description of the male, which was unknown to that author.

GASTROPHORA HENRICARIA. ♂ Guenée.

“Antennæ half the length of the wing; strongly pectinated, and of a silvery grey colour. Thorax of the same colour, and woolly. Abdomen black above, white beneath. Upper wings above silvery grey, with a narrow fascia in the middle, and the posterior margin black; beneath, the same as the female. Lower wings above and below as in the female. Length of wings in the male, 70 millim., female, 95 millim.

“M. Guenée places this insect among the *Phalénites*, fam. *Enochromidæ*; but the larva is as yet unknown, and so far as I know, there is no reason to suppose that it is one of the *Geometridæ* at all.

“The specimens exhibited were found at Petersham, in the month of August of this year, on a fence, and a female specimen was found laying its eggs in the same place.”

Mr. Kreffft exhibited some leaves of the Moreton Bay fig, covered with the larvæ and pupæ of a species of *Psylla*, giving

them an appearance of being covered with gummy cottony flakes. He also exhibited some of the perfect insects.

A Monograph by F. Walker, Esq., on the *Chalcididae*, was received by the Society as a donation from the author.

Dr. Cox stated that Mr. Mader, of George-street, had given him to understand that he had a quantity of good cork on hand: a sample was exhibited.

Mr. Kreffl produced some pieces of a species of *Boletus*, which he had found quite equal to cork for entomological purposes.

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5TH OCTOBER, 1863.

WILLIAM MACLEAY, ESQ., PRESIDENT, in the Chair.

The Count de Castelnau, Consul-General of France in Melbourne, Mr. Waterhouse, of South Australia, and Mr. Wilson, of South Australia, were elected Members of the Society.

The President read a Paper, descriptive of fifty new species of Coleopterous insects, from Port Denison.

Mr. Masters exhibited a very fine collection of Lepidoptera made in the neighbourhood of Sydney, during this season; they were chiefly Micro-Lepidoptera, and were much admired for the purity of the specimens, and the neatness of the mounting.

He also exhibited a few Coleopterous insects, some of them new, such as a species of *Uliua*, a new genus of the *Cistelidae*, and an undescribed *Leperina*.

An Entomological excursion to Picton was arranged for Saturday, the 31st instant.

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2ND NOVEMBER, 1863.

WILLIAM MACLEAY, ESQ., PRESIDENT, in the Chair.

A communication was read by the Secretary from the Rev. R. L. King, as an addition to his former Paper on the *Pselaphida* of Australia.

The President exhibited a species of *Agarista*, named by Mr. Koch, of Frankfort, *A. MacLeayi*, with diaphanous spaces on the under wings, which makes a noise when flying, similar to that made by *Iteatesia fenestrata*. He stated that the connection of *Agarista* by *Iteatesia* to the *Sphingidae* was clearly traceable by this species.

Mr. Masters exhibited some choice Lepidoptera and Coleoptera collected near Sydney. Among the former were some fine specimens of *Agarista Casuarinae* (Scott); and among the latter, the most rare and remarkable insect was a species of *Hispa*.

Dr. Houston exhibited a species of *Bostrichus*, which had burrowed deeply into an apple-tree at Burwood.

Dr. Cox exhibited a box of insects which he had received from Dabee, near Mudgee, and a beautiful new species of *Diphucephala*, which he had found on a common wattle-tree at Bargo river, during the previous Saturday's excursion.

Mr. Kreffit exhibited some rice, much injured by the attack of *Trogosita mauritanica*, an insect which may truly be called omnivorous, as neither animal nor vegetable substances of any kind seem safe from its destructive attacks.

Mr. Stephens exhibited some insects collected on the previous Saturday at Bargo river; a specimen of *Stigmodera Pertii*, found on the flowers of a species of *Conospermum*, was the most interesting capture of the day.

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7TH DECEMBER, 1863.

WILLIAM MACLEAY, ESQ., PRESIDENT, in the Chair.

Mr. Louis Stypman was elected a Member of the Society.

The first six parts of Vol. 1 of 3rd Series of the Transactions of the Entomological Society of London were received as a donation from the Society.

The President read a Paper by the Honorable A. W. Scott, Esq., on a new *Ornithoptera*. A lithograph of the insect by Miss Helena Scott was on the table, and was much admired.

Mr. Masters exhibited a fine collection of Lepidoptera, beautifully laid out and mounted, and a number of Coleoptera, principally from Eastern Creek, among which were six new species of *Stigmodera*.

Mr. Krefft exhibited a box of insects collected by Mr. F. W. Blackman, of Warro near Port Curtis. Among the Lepidoptera there was nothing new, while the Coleoptera were almost entirely so. A fine *Pamborus*, an *Anoplognathus*, a *Scarites*, and a beautiful *Carenum* were among the most remarkable of the novelties.

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4TH JANUARY, 1864.

WILLIAM MACLEAY, ESQ., PRESIDENT, in the Chair.

Mr. Masters exhibited a fine collection of Coleopterous and Lepidopterous Insects from the neighbourhood of Sydney.

The President exhibited a very beautiful moth, allied to *Ægeria*, which had been found a few days previously at Elizabeth Bay, by W. S. MacLeay, Esq.

Dr. Cox exhibited a few Insects sent to him from Dabee, near Mudgee. Among the novelties were a *Prophanes*, a *Helcus*, an *Elaphastomus*, a *Stigmodera*, and a *Helluo*, somewhat like the *H. longipennis* of Germar.

Dr. Cox also exhibited a number of Insects collected by himself at Fernhill, Mulgoa. A large *Lasiomatta*, hitherto undescribed, being the most remarkable thing in the collection.

Mr. Stephens exhibited a collection also made at Fernhill, containing a new *Phoracantha*, and a number of fine *Hymenoptera*, among which there was a new Bee, taken while swarming.

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1ST FEBRUARY, 1864.

WILLIAM MACLEAY, ESQ., PRESIDENT, in the Chair.

The President drew the attention of the Society to an error in the 48th Part of "Hewitson's Exotic Butterflies." *Charaxes Caphontis* is therein described as being from Port Denison, and

from Mr. Damel's collection. The latter statement was no doubt correct, as Mr. Damel was, without doubt, the first discoverer of that fine species of *Charaxes*, but its habitat is the Fiji Islands, and not Port Denison.

The President exhibited specimens of an insect from Kiama, allied to *Lymecylon* and *Hylecoetus*. He stated that Erichson had described a *Lymecylon*, from Van Dieman's Land, in the *Archiv für Naturg.*, 1842, and that he had observed a species of *Hylecoetus* in the Cabinet of W. S. MacLeay, Esq., of Elizabeth Bay, marked "N.W. Coast New Holland," but that the species he now exhibited differed considerably from both of these.

The President also exhibited a very curious insect, evidently allied to *Cnpes*, found in the neighbourhood of Sydney.

Mr. Masters exhibited a fine collection of insects of different Orders, including among the rarer species of Lepidoptera, a male *Charagia Lewinii*, a large *Zenura*, and a rare *Antheraea*. The Coleopterous insects comprised some very fine Longicorns, a *Campylocnemis Schræteri*, from Eastern Creek, found in a decaying tree, a *Stigmodera Bakewellii* from the Murray, a splendid *Prophanes* from Shoalhaven, and two specimens of a *Catascopus* from the neighbourhood of Sydney.

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7TH MARCH, 1864.

WILLIAM MACLEAY, ESQ., PRESIDENT, in the Chair.

The President read a Second Paper on the *Scaritidae* of Australia; specimens of the greater number of the new species described were exhibited.

Mr. Masters exhibited, as usual, a very fine collection of insects, chiefly Coleoptera, containing a number of new and rare species.

Mr. Stypman exhibited two boxes of European Coleoptera, all named, which he stated he was willing to exchange with the Members for Australian specimens.

The Rev. R. L. King exhibited twenty species of *Buprestidae*, (all excepting two belonging to the genus *Stigmodera*) which he



had taken at Paramatta during the present season, and which he had never taken previously, although he had been a collector for many years.

The President exhibited a species of *Apotomus*, found at Pieton, by Mr. Masters. He stated that a full description of it would be given in his 3rd Paper on the *Scaritidae*.

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## ANNUAL GENERAL MEETING.

7TH MARCH, 1864.

WILLIAM MACLEAY, ESQ., PRESIDENT, in the Chair.

The Annual General Meeting of the Society was held on the 30th January, and adjourned to this date.

An abstract of the accounts was laid before the meeting by the Treasurer.

The President read an Address, which was ordered to be printed, with the proceedings of the Society.

The following gentlemen were elected the Members of the Council for 1864, viz:—James C. Cox, Esq., M.D., Hugh Houston, Esq., the Rev. R. L. King, B.A., Gerard Krefft, Esq., William MacLeay, Esq., and W. J. Stephens, Esq., M.A.; and out of these the Rev. R. L. King was elected President, Dr. Cox was re-elected Secretary, and Mr. Stephens was re-elected Treasurer.

## THE PRESIDENT'S ADDRESS.

GENTLEMEN,

The time which has elapsed since our last Annual Meeting, has, I am glad to say, not been altogether unproductive of some good results. Our Society was then in its infancy, our means were scanty, our members were few, and our actual working Entomologists were still fewer. We have now, at all events, passed beyond the difficulties that were to have been expected at the commencement of our Society, for this is now firmly established, while the number of members has increased; and although the next Part of our Transactions may not exhibit any increase in the number of contributors, yet we know that the study of the Science has extended, and that the interest excited, by increased acquaintance with the subject, is rapidly bearing fruit.

It is not unusual for the President of a Scientific Society to review at each Annual Meeting, the Papers which have been read at the Ordinary Meetings during the preceding year, and also the progress that has been made generally in the Science during that period. In conforming to the best of my ability with this custom, it must be clearly understood, that I do not pretend to be able to notice all the works published during the past year on Entomological subjects; and in fact it would be impossible, for any one out of Europe, to procure even an accurate list of them.

Before, however, I proceed to notice the events of the past

year, I think it well to lay before you a brief summary of the earlier history of Australian Entomology.

To Sir Joseph Banks, Bart., we are indebted for the little that was known of the Entomology of New Holland prior to the commencement of this Century. He was the companion of the celebrated Captain Cook, when that great navigator cast anchor in Botany Bay on the 29th April, 1770; and upon the collections which he made during that expedition, with the assistance of his friend Dr. Solander, a pupil of Linnæus, was founded all the knowledge which the world of Science for a long time possessed, of the Zoological and Botanical productions of the then *Terra Australis incognita*.

Fabricius, in the year 1775, published descriptions in his "*Systema Entomologiæ*" of the insects contained in the Banksian collection, and Olivier in his "*Histoire Naturelle des Insectes*" published in 1779, for the most part derived his knowledge of the Australian species therein described from the same source.

The Colony of New South Wales was founded in the year 1788, and from that period our knowledge of the Australian Fauna became gradually developed.

In the year 1802, Dr. Schreibers, of Vienna, described a few Australian *Colcoptera* in the 6th volume of the Linnean Society's Transactions.

In 1805, Donovan published his "*Insects of New Holland*," accompanied by figures of a number of species; and in the same year John W. Leewin, of Paramatta, published a small work entitled "*Natural History of Lepidopterous Insects of New South Wales collected, engraved, and faithfully painted after Nature*."

In the years 1806 and 1807, Latreille published his "*Genera Crustaceorum et Insectorum*," in which a few Australian genera are described.

In 1808, Mr. Marsham described 20 species of the genus *Notoclea* in the 11th volume of the Linnean Transactions. The Naturalist's Miscellany, by Dr. Leach, of the British Museum, was published periodically about this period, and contained the

descriptions with figures of some of the more interesting of our Australian forms.

In 1818, in the 12th volume of the Linnean Transactions, we find a Paper by the Rev. W. Kirby, entitled "*A description of several new species of Insects, collected in New Holland, by Robert Brown, Esq., F.R.S.* ; also in the same volume there is a Paper by the same author, entitled "*A Century of Insects,*" seventeen of which were from New Holland.

In 1819 Mr. W. S. MacLeay published the first part of the *Horæ Entomologicae*, in which a number of curious forms of Australian Lamellicorns are described ; and again in 1825 the same gentleman, in an appendix to the late Admiral King's "*Intertropical Survey of the Coast of New Holland,*" published a description of 188 species of Annulose Animals that were collected during King's several voyages.

In 1830 the Zoology of the voyage of the "Coquille," was published by the French Government, and many Australian species were figured in the Atlas of Plates, accompanying this work.

In 1832 Dr. Boisduval published the "*Faune de l'Océanie,*" a work on the Entomology of the Islands of the Pacific Ocean, which professed to comprise, with the descriptions of several new species, a complete *resumé* of all the descriptions of New Holland Insects, that had been made by his predecessors.

In 1833 M. M. Gory and Percheron published a Monograph on the *Cetoniidae*, which included a number of the Australian species.

In 1837 M. de Laporte, Count de Castelnau, and M. Gory commenced their splendid work on the *Buprestidae*, in which a large number of Australian species of that family are described.

In 1842 the insects of Van Dieman's Land were described by Erichson in the "*Archiv für Naturgeschichte.*"

In 1848 German published in the "*Linnaea Entomologica*" of Stettin, a Paper on the Insect Fauna of South Australia.

But since and even before that period, numberless writers of more or less note, and in almost all countries and lan-

guages, have contributed towards our knowledge of the Entomology of this vast country. In England I may instance, Hope, G. R. Grey, Waterhouse, Shuckard, Newman, Westwood, Saunders, Baly, Pascoe, Hamlet Clark, Walker, F. Smith, White, &c.

In France, Lamarck, Dejean, Blanchard, Guérin Mèneville, Mulsant, de Brème, Bonvouloir, La Ferté Sénectère, de Castelnau, Chevrolat, Serville, Guenée, Marseul, Reiche, Rambur, Macquart, Waleknaer, Milne Edwards, &c.

In Belgium, Lacordaire, Candéze, &c.

In Germany, Klug, Burmeister, Schaum, Germar, Erichson, &c.

In Italy, the Marquis Spinola, Bonelli, &c.

In Sweden, Schonherr, Boheman, Stål, Wallengren, &c.

In Russia, Eschscholtz, Mannerheim, de Chaudoir, Géhin, &c.

This list of names, long though it be, must not be looked upon as complete, indeed it is not unlikely that I may have omitted names more deserving of notice than some of those mentioned, but I think it is enough to give some idea of the dispersion of the many different books and transactions of Scientific Societies in which our known Insects are described, and consequently of the difficulties which meet the Entomologists residing in New South Wales at the very commencement of their studies.

It is on account of the disadvantages which we labour under here in Sydney, from want of access to extensive libraries of Scientific Works, that we may be excused for occasionally reprinting descriptions of known species. Thus, the Rev. Mr. King's Paper on the *Pselaphidæ*, in the 1st Part of our Transactions, and my Paper on the *Scaritidæ*, instead of, as is usual, merely referring to species formerly described, repeat the specific characters in full, as given by the various authors, thereby relieving in some measure Colonial Entomologists from the difficulties above mentioned.

Among the works published during the past year, the 6th volume of Lacordaire's "*Genera des Coléoptères*" may be ranked

among the most important. It treats of the *Curculionidæ*, and, if at all equal to the previous volumes, it will form a valuable addition to our acquaintance with that extensive family. No copy, however, has yet reached us. M. Candéze also has during the last year published the 4th volume of his elaborate Monograph on the *Elateridæ*.

Of works more immediately affecting Australia, I may notice the 1st volume of the "*Journal of Entomology*," which though published in 1862, did not reach this country until 1863, and may fairly therefore be included in this Summary. Many Australian Coleoptera have been described by Mr Pascoe in this volume, chiefly *Colydiidæ* and Longicorns. Mr Baly also has added in it, the description of a few Australian *Phytophaga*. The volume also contains a Paper by the Rev. Hamlet Clark on the *Dytiscidæ* and *Gyrinidæ* of Australia; and one by Mr F. Walker descriptive of a number of Homopterous insects, some of which are from this country.

In the Transactions of the Entomological Society of London, which have been published, or which have reached this country during the year 1863, there are several Papers bearing on the Entomology of Australia. Mr F. Walker has, in a Paper entitled "*Characters of undescribed Lepidoptera*," included the descriptions of some Australians; the same author has also contributed a long Paper on the *Chalcididæ*, which includes a few Australian species. Several new Australian Bees have been described by Fred. Smith, Esq., the President of the Society. Professor Westwood has also contributed two Papers on *Lucanidæ*, which are principally applicable to this country; and Mr Pascoe has added in the last published Part a description of sixty new species to his previous extensive labours on the Longicorn Coleoptera of New Holland.

In our own Society seven Papers have been read, which will be immediately published in the 2nd Part of the Transactions. The Rev. R. L. King has contributed two of these, the first, a monograph on the *Scydmaenidæ* of Australia, in which several new genera and species of that interesting family are described; the second is an addition to his former valuable

Paper on our *Pselaphida*. Mr. Krefft, the Acting Curator of the Australian Museum, has given us in another Paper an account of the habits of a Dipterous Insect, the larva of which lives under the cuticle of various species of Frogs. The Honorable A. W. Scott, Esq., has also given a Paper descriptive of a new species of *Ornithoptera* from Port Denison, accompanied by an admirable drawing of the Insect by his daughter, Miss Helena Scott. The other three Papers have been contributed by me; the first is a review of the genus *Phyllotocus* of Fischer, with a description of the genera and species immediately allied to it. The second is one of a series of Papers intended to describe the many novelties in my Port Denison collection, and contains descriptions of four new genera and fifty new species from that locality. The third is a supplement to my Paper on the *Scaritida* of New Holland published in the 1st Part of the Transactions, and adds a number of new species to the genus *Carenum*, which had hitherto been considered rare in species.

In addition to these Papers, a large amount of information with descriptions of new species, will be found in the Proceedings, of the Society, which are now about to be published, and I cannot permit this opportunity to pass without expressing the obligations which the members generally are under to Mr. Masters, for the exhibitions, at each monthly meeting, of his rare and beautiful collections.

In my address at the last Annual Meeting, I ventured to point out to the young Entomologist the proper course of study which he ought to pursue on commencing the Science, and I would now further suggest that the Papers read at our meetings in future, should be less confined to the bare description of new species belonging to genera already well known. This laborious and rather dry department of the Science is, without doubt, very useful; but it is one that obviously may be as easily worked out in Europe, as in New South Wales. On the other hand, observations of the habits, manners, metamorphoses, geography, &c., of the insect forms peculiar to New Holland can only be made on the spot; and I need scarcely say that any infor-

mation on such subjects will be sure to engage the especial interest of our brother naturalists at home. To ourselves also as cultivating the true science of Entomology, such observations, if accurately made, will be invaluable for purposes of Classification.

I will only now add that Papers at our Meetings will also be very acceptable, which may treat of the external and internal anatomy of insects, their commercial uses and the remedies for the various injuries which some of them inflict on man. It must be borne in mind, however, that while these last are subjects of research, that require on the part of the investigator, no great proficiency in Nomenclature or Classification, they nevertheless absolutely demand that he should have some acquaintance with what has been previously effected in such branches of Entomology. Of this, up to the year 1826, an able compendium may be found in the pages of Kirdby and Spence. Were I to attempt to offer you a similar compendium of what has been done since the publication of their work, I should have to refer to a multitude of books; since of late years the comparative Anatomy of Insects, for instance, has attracted very considerable attention, particularly on the Continent of Europe, as may be seen by the numerous able Papers published in the "*Annales des Sciences Naturelles*."

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4TH APRIL, 1864.

THE REV. R. L. KING, PRESIDENT, in the Chair.

Mr. Michael was elected a Member of the Society.

Mr. W. MacLeay, Jun., read some notes on the modern nomenclature of the Longicorns described in MacLeay's appendix to King's intertropical survey of the Coasts of Australia.

Dr. Cox exhibited a collection of Insects from Mr. Waterhouse, South Australia, including a number of fine *Buprestidæ*, *Stigmodera Bakerwellii*, a beautiful *Tetracha* from the interior of the Continent, and some fine *Longicorns* and *Phytornshaga*.

The second part of the Transactions of the Society was laid on the table.

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2ND MAY, 1864.

WILLIAM MACLEAY, ESQ., in the Chair.

Mr. Holroyd, and Mr. K. Cox, were elected Members of the Society.

Miss Scott, of Ash Island, and Mrs. Edward Forde, were elected Honorary Members.

Mr. MacLeay exhibited a minute insect, with the body of a *Pselaphus*, and antennæ approaching those of *Panissus*, evidently a link between the two families.

Mr. Scott exhibited specimens of three species of large *Dynastidæ* from Manilla.

Mr. Kreffit exhibited a piece of wood taken from the Museum, entirely destroyed by dry rot, and the ravages of a small species of *Colyidium*. Some discussion arose as to whether the dry rot preceded or followed the attack of the insects.

Dr. Cox exhibited a large nest of a species of *Polistes* from the Nepean.

6TH JUNE, 1864.

WILLIAM MACLEAY, ESQ., in the Chair.

Mr. MacLeay read a paper descriptive of a new genus of blind insects, to which he gave the name of *Illaphanus*.

A paper, written by the President, was read on a new genus of *Pselaphidae*, named *Cyathiger* from the remarkable shape of the terminal joint of the antennæ.

Mr. Masters exhibited some choice collections of Coleoptera, Lepidoptera, Orthoptera, and Neuroptera, from various places.

Mr. Krefft also brought some insects for exhibition.

Mr. Masters also exhibited a curious Scydmaenideous insect, resembling a *Megaloderus*.

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 1ST AUGUST, 1864.

THE HON. A. W. SCOTT, in the Chair.

Mr. Patrick Mackay, of Hunter's Hill; Mr. Long, Barrister at Law; Dr. R. L. Jenkins, of Nepean Towers; Mr. Edward Forde, of Craigend Terrace; and Mr. Daniel Melhado, of the Victoria Club, were elected Members of the Society.

A Paper by the President on the *Georyssidae* and *Parnidae* of Australia, was read by the Secretary.

Mr. Scott exhibited a box of very rare and beautiful Lepidoptera, including male and female specimens of *Xylopsyche Stueyi*, Scott M.S.S.; the male from Clarence River, the female from Port Macquarie. A female *Papilio Erceheus*, from Ash Island, showing an interesting variety in the ordinary colouring. *Cerura Australis*, Scott M.S.S., male and female from Ash Island. *Sesia Kingii*, MacLeay, with drawings of larva and chrysalis, from Ash Island. A new species of *Agarista*, from Ash Island, with drawings of larva and chrysalis. *Kallima Bisaltica*, Clarence River, with drawings of larva and chrysalis. *Pamphila Palmarum*, Scott M.S.S., from Ash Island. *Hesperia Coreeba*,

Scott M.SS., from Ash Island. *Hesperia* nov. sp., Ash Island and Port Denison. *Charagia Ramsayi*, male and female, from Ash Island. *Charagia lignivora*, Lewin, male and female; the female was unknown to Lewin. *Charagia splendens*, Scott M.SS., male and female, from Ash Island, &c.

Mr. Kreffit exhibited a frog, with a number of parasitic Dipterous larvæ.

Mr. Masters exhibited a remarkable pupa, composed of insects' wings.

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5TH SEPTEMBER, 1864.

THE REV. R. L. KING, PRESIDENT, in the Chair.

Mr. W. Forde and Mr. Catlett, were elected members of the Society.

The President read a Paper on the fresh water Entomostraca of New South Wales.

Mr. Masters exhibited, among collections of Coleoptera from the Clyde River and Eastern Creek, a Carabideous insect resembling *Zuphium*, which he had found in an ants' nest.

Dr. Cox exhibited some Lepidoptera and Coleoptera, which he had received from Port Curtis.

Mr. Kreffit exhibited a specimen of *Pseudophryne Bibronii* from the Clyde River, having two swellings on the back containing larvæ of *Batrachomyia*.

Mr. Kreffit also exhibited a large mass of sphecoma of a small wasp, sent from Rockhampton by Mr. Thomas Nobbs.

Mr. MacLeay exhibited forty-six species of Carabidæ, taken by himself during the previous month, on the Lower Murrumbidgee. He stated that, though almost all of them were ground beetles, he had taken them all under the bark of trees, to which they had been driven by heavy floods, which had inundated all the low lands.

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3RD OCTOBER, 1864.

WILLIAM MACLEAY, ESQ., in the Chair.

Vicomte Henri Bonvouloir was elected an Honorary Member of the Society.

The Secretary exhibited an insect sent to him by W. Sharp MacLeay, Esq., with the following communication :—

“ Mr. Fulkare, a fruit-grower and proprietor of an orange plantation at Kissing Point, brought me a branch of an old blue gage Plum. swarming with this species of *Apate*. He said that he had lost all his Plum trees through these insects, particularly where the trees had been planted in low damp ground. In the same branch were found another and a very different species of *Apate*, and also, but very mutilated, a species of the corticarius *Histeride*. In like manner, I have got in my own garden, old Fig-trees from the South of Europe, old Cherimoyas from Peru, and woody Heaths from the Cape, all killed by *Orthorhinus cylindrirostris*. I therefore infer, that when an introduced tree becomes unhealthy through extreme wet, low situation, or other causes, it will immediately be attacked by our indigenous Xylophagous Coleoptera, for the species abovenamed are all truly Australian.

It will be difficult to find a remedy for this evil, as the insect seems to live in the imago, as well as larva state inside the branches. However, as the present is evidently the breeding season, which appears from the abundance of the perfect insect ; I have advised Mr. Fulkare, forthwith to burn all his infected Plum-trees, whether alive or dead, and to plant new ones only in the very highest parts of his garden, due attention, of course, being paid to the suitability and depth of the soil.”

Dr. Cox exhibited a few insects from the Clarence River.

An excursion was arranged for Saturday, the 22nd November.

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7TH NOVEMBER, 1864.

THE REV. R. L. KING, PRESIDENT, in the Chair.

The President read a third Paper on the Pselaphidæ of Australia.

Mr. Masters exhibited a collection of about 2000 insects, chiefly Coleoptera from Moreton Bay, containing many new species.

Mr. Stephens exhibited four species of *Carenum* found by him at Wingelo during the previous month, viz.: *Carenum interruptum*, MacLeay Jun., *C. carinatum*, MacLeay Jun., *C. Spencii* Westw., and *C. Bonellii*, Westw., also specimens of *Cerapterus brevis*, Westw., which he had found collected in companies of 30 or more, in wet ground near Sutton Forest, under the bark at the roots of trees. He also exhibited a species of *Dyschirius*, found under a log among white ants.

Mr. Bradley exhibited a collection which he had made in the neighbourhood of Sydney during October.

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## ANNUAL GENERAL MEETING,

30TH JANUARY, 1865.

THE REV. R. L. KING, PRESIDENT, in the Chair.

The Treasurer's Report was read and his accounts audited.

The President read an address which was ordered to be printed with the Proceedings of the Society.

The following gentlemen were elected Members of the Council for the year 1865, viz.: the Rev. R. L. King, B.A., James C. Cox, M.D., W. J. Stephens, M.A., the Hon. A. W. Scott, M.A., Gerard Krefft, Esq., and William MacLeay, Esq.; and out of these the Rev. R. L. King was re-elected President; Dr. Cox was re-elected Secretary; and Mr. Stephens was re-elected Treasurer.

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## THE PRESIDENT'S ADDRESS.

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GENTLEMEN,

In compliance with the precedent already established, I have prepared a few remarks upon the work accomplished by the Society during the past year, together with a reference to other matters interesting to Entomologists.

As regards the number of our members and the state of our finances, the Society has made satisfactory progress. The monthly meetings have been kept up, and the interest in them sustained by a large number of interesting collections exhibited. The information diffused on such occasions is often extremely valuable.

During the last few days the interests of the Society in all its functions have been very materially affected in the lamented decease of our friend and member William Sharp MacLeay, Esq. The assistance ever so readily afforded by one, whose knowledge of natural history in all its branches was so extensive and accurate, was an advantage to our infant Society which cannot be over estimated ; and the loss of that assistance is a corresponding misfortune. The event itself is so recent, the loss so great, and the memory of very many acts of kindness which I have personally experienced at his hands so fresh in my mind, that I feel quite unable to offer that worthy tribute to his memory, which common justice towards one so distinguished, as well as the wishes of the members of our Society, requires of the President for the year. It will long be accounted an honour to the Entomological Society of New South Wales that its first list

of members included the well-known name of William Sharp MacLeay.

The following memoir I have taken principally from a notice which has lately appeared from the pen of an old friend :—

Mr. MacLeay was born in London on the 21st day of July, 1792, and was therefore seventy-three years of age at the period of his decease. He was the eldest son of the late Alexander MacLeay, Esq., F.R.S., F.L.S., so long known and respected as the Colonial Secretary of this Colony; and who, before entering upon the arduous duties of that appointment, had acquired a high reputation as a zealous and able administrative officer, when Secretary to the Transport Board during the war with France under the first Napoleon, and who was also well known and appreciated in the scientific world as the Honorary Secretary to the Linnean Society. He was educated at Westminster, and passed with credit through the full course of study in that celebrated school. He subsequently graduated in honours at Trinity College, Cambridge. Shortly afterwards he received the appointment of Secretary to the Board of British Claims on the French Government, established at the peace of 1815. In the performance of this duty he spent several years at Paris, during which period he became the friend of Cuvier, and other celebrated men of science in France. Having successfully performed the duties entrusted to him in the capacity referred to, he was, on their completion, and on his return to England, promoted, in 1825, to the higher and more responsible office of H.B.M. Commissioner and Judge in the mixed tribunal of Justice at the Havannah. He remained in that sickly climate for ten years; and there is strong reason to believe that, although he had accomplished the usual period allotted to man, his life might have been spared for several years more, but for the deteriorating effects of so long a residence in the tropics. On relinquishing the office of Commissioner and Judge at the Havannah, he retired from the public service, upon a pension of £900 a year. In 1839 he arrived in this Colony, where he resided ever since. After his arrival he was appointed one of the Trustees of the Australian Museum; and until the state of his health compelled him reluctantly to retire, he was the life and soul of that Institution. It was under his advice, and with his able co-operation, that the Act for establishing and endowing the Australian Museum was introduced, and subsequently passed into law. Mr. MacLeay also acted for several years as a member of the National Board of Education, and for a short period as a member of the Executive Council, during Sir William Denison's administration, and before the inauguration of responsible government.

Mr. MacLeay's health began to decline about three years ago, when he was attacked with that insidious and wasting disease, *diabetes*. During the last few months he suffered also from jaundice, and under the combined

influence of these distressing complaints his naturally strong constitution gradually gave way. He retained his faculties up to the last, and even on the morning of his dissolution he continued cheerful. It became evident in the early part of Thursday, January 26, from his extreme weakness, that his end was near at hand. Late in the afternoon he became unconscious, and in the evening about seven o'clock his spirit passed away without a struggle. He was buried on Saturday in the family vault at Camperdown. His funeral, according to his own directions, was of a humble and unostentatious character; but it was attended by many of his relatives and friends, as well as those who had been his coadjutors in the cause of Science.

Possessed of great ability, and with a highly-cultivated mind, to which he continued to the very last to add fresh stores, as well from the recorded labours of others as from his own keen observance of Nature in all its various branches, there are few men who surpassed him in general knowledge and acquirements. As a naturalist we believe that he ranked as high, if not higher, than any other now living; and his collection of insects, especially those belonging to Australia and the other portions of the Southern hemisphere, is the finest, the most extensive, and the most valuable now extant. We are indebted in this colony to his keen eye and practical skill in this his favourite branch of science, for numerous additions to the large catalogue of insects previously known, and for clearing up many doubts and difficulties respecting them, which had baffled the penetration of other observers.

Yet it was by no means in Entomology alone that he delighted; although in that branch of natural history he stood in the very first rank. His knowledge and acquirements in almost every branch of Zoology and Geology, and especially of Botany, were very considerable. The mere list subjoined of the works and papers written by him, imperfect as that list is, will of itself show how very extensive was the range of his studies; while it may be truly said of him, what was once said of another, *Nihil attigit quod non tetigit, nec tetigit quod non ornavit.*

He was not one of those who are anxious to reserve all their information for their own use. Although of retiring habits, he was always accessible to those who desired to obtain information on those scientific subjects which had been the study of his life: and he continued to the last to carry on an extensive correspondence with all who were anxious to consult him. Few men possessed in so eminent a degree the power of agreeable conversation. From the literary and scientific society in which he had moved for so many years, the numerous countries which he had visited, and his extensive reading, he had acquired a large fund of information, which it was his delight to communicate to his numerous circle of friends. It was impossible to pass a few hours with him without feeling that he was a man of superior genius, and that he had allowed no opportunity to pass without acquiring accurate information on every subject presented to his notice, and without feeling also instructed by a friendly intercourse with him.



The following is a brief list of the works to which he added his name, so far as I have been able to ascertain them:—

1. *Hora Entomologicae*, or Essays on the Annulose Animals. Vol. I., Svo., in two parts—Part I., 1819; Part II., 1821.
2. Letter on the devastation occasioned by the *Hyllobius abietis* in Fir Plantations. Zool. Journal, 1821.
3. Paper on the Insect, called *Οίστρος* by the ancient Greeks, and *Asilus* by the Romans. Trans. Linn. Soc., 1824.
4. Paper on the structure of the *Tunicata*, with descriptions of three new species collected in Fox Channel during the late Northern Expedition. Trans. Linn. Soc., 1824.
5. Paper on the general construction of the wing in Dipterous Insects, undergoing co-arectate Metamorphosis, with a description of some new genera. Trans. Linn. Soc., 1821.
6. *Annulosa Javanica*, or an attempt to illustrate the nature, affinities, and analogies of the insects collected in Java by Dr. Horsfield 4to., 1825.
7. Paper on the structure of the Tarsus in the Tetramerous and Trimerous Coleoptera of the French Entomologists. Trans. Linn. Soc., 1825.
8. Remarks on the identity of certain general laws which have lately been observed to regulate the natural distribution of insects and Fungi. Trans. Linn. Soc., 1825.
9. Descriptive catalogue of the insects collected by Capt. King, R.N., on the coast of New Holland. Appendix, King's Survey of the Intertropical and Western Coast of Australia, 1826.
10. Papers on the Comparative anatomy of certain birds of Cuba, with a view to their respective places in the system of nature, or to their relation to other animals. Trans. Linn. Soc., 1826 and 1833.
11. Letter in reply to some observations of M. Virey in the "Bulletin des Sciences Naturelles," 1825. Zool. Journal, 1826.
12. Notice of the Larva of Diptera. Phil. Mag., 1827.
13. Ueber die Nothwendigkeit und den Nutzen des *Generalisirens*, vornämlich in der Ordnung der Dipteren. In *Fror. Not.*, 1828.
14. Notes on the genus *Capromys* of Desmarest. Zool. Journal, 1828.
15. Remarks on Mr. Bichenov's paper on Systems and Methods in the Linn. Trans. Zool., Journal, 1829.
16. Notes on *Ceratitis citripes*, an insect very destructive to oranges. Zool. Soc. Journal, 1829.
17. Paper on the explanation of the comparative anatomy of the Thorax in winged insects, with a review of the present state of the nomenclature of its parts. Zool. Soc. Journal, 1830.
18. On the dying struggle of the Dichotomous System. Phil. Mag., 1830.
19. Paper on impediments to the study of Natural History, illustrated by

- a reference to certain technical and incidental obscurities in the arrangement of the diurnal family of Lepidopterous insects. Phil. Mag., 1831.
20. Paper on two new species of *Sphariodactylus*. Zool. Soc. Journal, 1834.
  21. A few remarks tending to illustrate the Natural History of two annulose genera, viz.: *Urania* Fab., and *Mygale* Waelkn. Zool. Soc. Journal, 1835.
  22. Illustrations of the Annulosa of S. Africa.—In Andrew Smith's "Illustrations of the Zoology of S. Africa," 1838.
  23. On some new forms of *Arachnida*. Ann. N. H., 1839.
  24. Notes on the *Annelida*. Ann. N. H., 1840.
  25. Observations on *Tritobites*, founded in a comparison of their structure with that of Crustacea. Ann. N. H., 1840.
  26. Doubts respecting the existence of bird-catching Spiders. Ann. N. H., 1842.
  27. Paper on the Natural arrangement of Fishes. Ann. N. H., 1842.
  28. Notice of a new genus of Mammalia, discovered by J. Stuart, in New South Wales, *Antechinus*. Ann. N. H., 1842.
  29. Additional particulars respecting *Antechinus Stuartii*, a new Marsupial Quadruped. Ann. N. H., 1842.

I am quite aware that the above list is incomplete. It may, however, be accepted as an *Operum prodromus*. Since 1842, as far as I am aware, Mr. MacLeay confined himself to occasional anonymous notes, as for example, the remarks which appeared in the *Sydney Morning Herald*—on *Diprotodon* and *Zygomaturus*.

During the year 1864, five Papers have been read before the Society, and will appear in the forthcoming number of our Transactions. A very important addition to our knowledge of Australian *Scaritidæ* was afforded in a second paper on that rare family by Mr. W. MacLeay, who also read a paper on a new genus of blind insects, to which he has given the name *Illaphanus*.

I was able myself to contribute a third paper on the *Pselaphidæ*, as well as papers on the *Georyssidæ*, the *Paruides*, and on the anatomy of certain forms of Australian *Entomostraca*.

It is much to be desired that more of our members would begin to describe the insects they find. By so doing, they would benefit themselves, assist others, and help to redeem the study of Entomology from being regarded as an idle collecting

of pretty looking forms, and as an amusement fit only for children.

It is worth remembering, that the advantages with which we believe this pursuit to be attended, are to be found in the cultivation of habits of exact and careful observation. Such habits are essential even in the mere collector. The eye must learn to discern, and the memory to retain the differences which exist between different species. At first, indeed, all insects appear alike. Distinctions, except in respect of size and colour, are hardly observed. Soon, however, by practice, and at last almost by intuition, in reality, as the mind is better instructed, these distinctions become exceedingly plain, and the collector will readily and correctly separate the species, even although he may be unacquainted with a single name.

A great advance upon this has evidently been made when the collector has made himself acquainted with the anatomy of his insects, and is able, by comparing any one with the descriptions given by scientific authors, to discern by what name it is known, and what is its proper position with reference to the rest. He has had much to learn in order to acquire this power. The sphere of his observation is now largely extended. The necessity of accuracy of observation is briefly brought before him, and he finds it essential to learn the exact meaning of words, a matter of greater importance and difficulty than some people are apt to imagine.

And, perhaps, to *describe* correctly, requires as great an advance upon the progress made by the classifier, as he in his turn has made upon that of the collector. The describer has to examine with care, to compare with accuracy, to select for description that which is essential, even if of less prominence, to use terms of known meaning, and to use them in that sense only which his fellow students have agreed that they shall bear. The requisite knowledge of the labours of others—the comparison of unknown with known forms—the searching out the affinities of insects new to science—the correct description—all this (and more might be added) implies no slight advance in

the cultivation of habits of observation and accuracy, and in the training of the mental powers generally. And what is this but *education*—an education none the less effective, because in the process the mind has been taught to think correctly, and to observe with accuracy on one particular subject. “The faculty of accurate discrimination, the ready perception of resemblances among diversities, and still more, the quick and accurate perception of diversity in the midst of resemblances, constitute in reality one of the most important operations of the understanding.”

I trust that what I have said may not have the reverse to the effect intended, and help to deter any from commencing to describe their discoveries. I speak feelingly when I say that our best efforts almost of necessity fail to reach the high standard which we should ever set before us. An eminent Entomologist has truly acknowledged that “there is no science to which the adage, *Dies Diem Docet*, is more strikingly applicable than to Natural History. New discoveries are daily made, and will be made, it is probable, to the end of time; so that whoever flatters himself that he can produce a perfect work in this department will be miserably disappointed.”\* The truth is, in this matter we are all only learners, and must not expect to reach, however we should strive after perfection.

Perhaps it would be well, for those who wish to take the full benefit which the study of Entomology may afford, to commence their efforts to describe upon some known forms, and then to compare their descriptions with those of more practised hands.

Happily in this country there is no want of new subjects. A few of the larger and more common forms have been already described. Nearly all the smaller species are new to science, and in most families there are many which will reward the patient search.

There are some persons who speak slightly of Ento-

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\* Kirby and Spence Introduction.

mology, because of the minuteness of most insects. It may, however, be answered with Boyle, that "nothing can be unworthy of being investigated by man, which was thought worthy of being created by God." Size is always a relative quantity. A very large diamond would make a very small corner stone. To value things according to their size alone is natural enough to the uneducated savage. Philosophy teaches us to adopt another standard; yet, even that very minuteness should, and with a well trained mind, really does add to the educational value of such objects of study. History has recorded the labours of one who made a four-wheeled coach and a set of harness for fleas. Such a work no doubt required delicate manipulation. But after all, what was his work compared with the delicacy of workmanship, the consummate skill, and wonderful power of the Creator—of which the flea itself is an evidence. The harness aforesaid would hardly have borne much critical inspection; while the animal harnessed—which no man could have made—might have been examined in every joint with the highest power of the microscope, and nothing but wisdom and goodness and perfection would have appeared.

While therefore, Entomology teaches us to value objects by another standard than size, it also points out the perfections of Him whose works are these. That which Ray called "the wisdom of God in Creation" everywhere manifest, is nowhere more plainly seen than here. I would take a single insect, and ask where is the power which could ensure so much perfection within so small a compass, and provide sufficiently, and even abundantly for its wants and conveniences, its health and comfort, its happiness and beauty? I find in it a perfect adaptation of the different parts to the whole, and of itself as a whole to the sphere which it is intended to occupy. I find a wonderful connection existing between the different members of its body, so that no one can be dispensed with, or materially altered without injury to the rest. The fluids which permeate the body, must be adapted to the size and habits of the creature. The whole apparatus for procuring food, for eating and digesting,

its means of re-production and of defence, the lavish way in which it is ornamented, these, and many other particulars excite my wonder. “*In his tam parvis tanque nullis, quæ ratio quanta vis, quam inexplicabilis perfectio!*”

Thus the thoughts are powerfully directed to the Great Creator, as the only possible source whence so much wisdom and goodness and power can proceed. And if, as it has been well said, “to see all things in God has been accounted one of the peculiar privileges of the future state; in this present life to see God in all things, and in the mirror of creation to behold and adore the reflected glory of the Creator is no mean attainment. The endeavour to do so possesses this advantage, that thus we sanctify our pursuits; and instead of loving creatures for themselves are led by our survey of them and their instincts to the love of Him who made and who endowed them.”\*

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\* Introduction to Entomology.

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6TH FEBRUARY, 1865.

WILLIAM MACLEAY, Esq., in the Chair.

Mr. Masters exhibited a new species of *Cicindela*, resembling *C. epsilon*, from Clarence River; also a new *Stigmodera* from the same locality.

Mr. Masters also exhibited a large collection of over 1000 insects of all orders from Kiama.

Mr. Stephens exhibited a few insects, chiefly *Longicorns*, which he had himself collected at Burragorang.

Mr. Masters informed the Meeting that fifteen specimens of that hitherto rare insect *Campyloenemis Schroeteri*, had lately been taken by a friend of his out of a decaying Ironbark tree.

6TH MARCH, 1865.

The Hon. A. W. SCOTT in the Chair.

Mr. MacLeay read a third Paper on the *Scaritidae* of New Holland, and at the same time exhibited 84 species of the family, the entire number of Australian species described up to that time being 102. Of 60 species of *Carenum* there were 55 exhibited. Of *Euryscaphus*, 6—all hitherto described. Of the 12 species of *Scaraphites*, 9 were exhibited. Of the genus *Scarites*, all the species—8 in number—were exhibited. 6 out of the 10 species of *Gnathoxys* were exhibited, as were also the two species of *Ceratoglossa*, and 1 of *Dyschirius*. The 6 described species of *Clivina* were unrepresented. The thanks of the Meeting were given to Mr. MacLeay for his excellent Paper; and for the almost perfect collection of the Australian *Scaritidae*, which he had, at some trouble, brought together for exhibition.

3RD APRIL, 1865.

WILLIAM MACLEAY, Esq., in the Chair.

Mr. Krefft exhibited a box of rare and new Lepidoptera from Cape York, presented to the Museum by Mr. Moore, of H.M.S. "Salamander." The collection, which Mr. Krefft stated he intended to ask the Hon. A. W. Scott to examine and describe, though not large, contained several *Papilionida*, one

*Ornithoptera*, several species of *Danaüs*, a *Messaras*, and a *Cethosia*.

Mr. MacLeay exhibited a specimen of *Damaster Fortunae* from Japan.

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5TH JUNE, 1865.

The Hon. A. W. Scott in the Chair.

Mr. Forde exhibited a collection of Insects which he had made at the MacLeay River, including a very remarkable Orthopteron Insect, and some curious *Curculionide* among them, a new *Anthrabus* and *Chrysolophus*.

Dr. Cox sent for exhibition a fine collection of Coleoptera from the Richmond River and Van Dieman's Land, particularly rich in *Carabide*, *Curculionide* and *Heteromera* generally.

Mr. Masters exhibited a very large collection of Lepidoptera and Coleoptera, made by himself during the months of April and May of the present year, at the Pine Mountains, near Ipswich, Queensland. Among the Lepidoptera there was but little new; but the Coleoptera contained many new species, and some altogether new forms, the most remarkable being an Ant-shaped *Brachelytrous* insect with an oblong head, and nearly linear thorax.

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7TH AUGUST, 1865.

HUGH HOUSTON, Esq., in the Chair.

Mr. George Wall was elected a Member of the Society.

The Secretary laid on the table the following works presented to the Society by the Smithsonian Institute, Washington, U. S. :—

1. List of Coleoptera of N. America, by L. Leconte, M.D.
2. Monograph of the Diptera of N. America, by H. Loew.
3. New species of N. American Coleoptera, by L. LeConte.
4. Catalogue of publications of Smithsonian Institute.
5. List of foreign Correspondents of the Institute.
6. Annual Report of the Institute.

Mr. MacLeay read a paper on the "Genera and species of the *Amycterite*," accompanying his descriptions with the exhibition of 145 species of the family.



The Secretary laid on the table the third part of the Society's Transactions, which had just been printed.

2ND OCTOBER, 1865.

The Hon. A. W. Scott in the Chair.

Mr. MacLeay read the subjoined list of the Lepidopterous Insects from Cape York, presented to the Museum by Mr. Moore of H. M. S. "Salamander," and which had been exhibited by Mr. Krefft at a previous meeting of the Society.

1. Ornithoptera Pronomus, *Gray*.
2. Papilio Sarpedon, *Linnaeus*.
3. Papilio Capanus, *Westwood*.
4. Pieris Scyllara, *MacLeay*.
5. Terias Heecabe, *Linnaeus*.
6. Terias Egnatia, *Godart*.
7. Euphæa Corinna, *MacLeay*.
8. Danais affinis, *Fab.*
9. Hamadryas Zoilus, *Fab.*
10. Hamadryas Moorei, nov. sp.

Nigra alis oblongis: anticis guttis submarginalibus, maculis duabus versus apicem, macula magna discali alteraque margine postico attingente albis: posticis late albofasciatis guttis submarginalibus postice ornatis, subtus pallidioribus.

Long. alar. extens. 24 lin.

I have named this species in honor of its discoverer, Mr. Moore, of H.M.S. "Salamander."

11. Cethosia Cydippe, *Linnaeus*.
12. Messaras Susanna, *MacLeay, Jun.*
13. Junonia Sabina, *Cram.*
14. Diadema Alimena, *Linnaeus*.
15. Cyllo Leda, *Linnaeus*.
16. Mycalesis remulia, *Cram.*
17. Cœnonymphe infuscata nov. sp.

Supra fusca, subtus alis versus apicem et postice subseriatim ocellatis ocellis plerumque minutis medio anguste albido-fasciatis.

Long. alar. extens. 20 lin.

18. *Danis Sebæ*, *Boisd.*

19. *Danis Salamandri* nov. sp.

Alis integris cœruleis anguste nigro-marginatis, posticis medio late albo-fasciatis subtus anticis margine antico et externo nigris lineaque angusta basali metallico-viridibus : posticis basi nigris linea brevi viridi, margine postico nigro annulisque metallico-viridibus ornatis.

Long. alar. extens. 14 lin.

This beautiful little species is scarcely half the size of *D. Sebæ*, and may be readily distinguished from it, by its scarcely having any black on the upper surface, while on the lower there is a distinct gap between the black anterior and exterior margins of the upper wings.

20. *Pamphila Krefftii*, nov. sp.

Alis luteis, anticis margine externo et vitta discali fuscis : posticis marginibus basique fuscis, subtus luteo-flavis alis anticis versus basim fuscis.

Long. alar. extens. 15 lin.

This insect a good deal resembles the *P. silvana* of Europe. I have named it after the Curator of the Australian Museum, Mr. Gerard Krefft.

21. *Damias Scottii*, nov. sp.

Nigra, alis supra olivaceo-nigris : anticis maculis duabus flavis magnis una antice versus apicem altera marginem posticum attingente : posticis late flavo-fasciatis, subtus alis pallidis postice strigis undulatis tribus fuscis ornatis.

Long. alar. extens. 20 lin.

This species I dedicate to the Hon. A. W. Scott, who has devoted much time to the investigation of the Lepidoptera of this country.

22. *Agarista Koehii*, nov. sp.

Nigra, abdomine luteo-annulato, alis anticis supra et subtus albo-quadrinaculatis : posticis supra et subtus medio irregulariter subanguste albo-fasciatis : omnibus apice anguste albis et marginibus externis albo-guttatis.

Long. alar. exten. 22 lin.

This species most resembles *A. Donovanii*. The antennæ, head, and thorax are quite black. Three of the four spots on

the upper wing are formed each of two spots, and near the apex there is an ill-defined bluish one. The fascia on the lower wings is composed of a series of about six spots. The under surface is the same as the upper. The under side of the fore thighs is covered with luteous hair. I have named the species after Mr. Koch, of Frankfort, a well-known Lepidopterist.

23. *Sphinx Erotus*, *Cram.*

24. *Darapsa Moorei* nov. sp.

Cinereo-fusca, thorace antice lateribusque olivaceis, abdomine supra subviridi basi olivaceo, alis anticis olivaceo-nebulosis macula basali et emarginatione apicali marginis exterioris olivaceis prope apicem pallide anguste fasciatis, alis posticis medio pallide fasciatis, subtus omnino cinereo-fuscis strigosis subroseis, linea media angusta ventris pallida."

Long. alar. extens. 48 lin.

Mr. MacLeay also exhibited a *Carenum* and a *Scaraphites*, which he had received from Mr. Waterhouse of South Australia, and read the following descriptions of the same.

"CARENUM MUCRONATUM.

Nigrum nitidissimum subplanum viridi-marginatum, sulcis frontalibus profundis obliquis, thorace lateribus postice rotundato oblique angustato, elytris thorace angustioribus elongato-ovatis dorso planis lateribus subverticalibus apice singulatim acute mucronatis, tibiis anticis extus bidentatis.

Long. 12 lin. lat  $3\frac{1}{2}$  lin.

Hab. Gawler, South Australia.

This is a very remarkable species. The labial palpi are largely securiform. The antennæ are rather slight. In general appearance the insect is flatter, more elongate, and altogether of a less heavy make than is usual in the genus, though the head and legs are strong and large. But the clytra present the most remarkable peculiarities. They are perfectly flat from the base to near the apex for a considerable distance on each side of the suture, while the rest or lateral portions are almost vertical. The apex of each elytron is strongly and acutely mucronate. There are a few small

punctures on the basal margin of the elytra, but none on the disc.

SCARAPHITES LATICOLLIS.

*Niger subnitidus*, capite quadrato subplano antice subrugoso sulcis frontalibus brevibus subparallelis, labro brevi, thorace longitudine duplo latiore angulis posticis submarginatis, elytris subovatis basi truncatis subtiliter subrugosis et substriatis marginibus lateralibus e basi prope apicem punctatis, tibiis intermediis extus spina subacuta subapicali dentibusque, 3 vel 4 parvis armatis.

Long. 18 lin. lat. 7 lin.

Hab. Northern Territory of South Australia.

This is the first *Scaraphites* I have seen from the North Coast of Australia. It differs from all the other species in not having any lateral punctures on the elytra, excepting in the margin. The head is broad and rectangular, the thorax is twice as broad as long, and the elytra are not widened towards the apex as is usual in the genus."

The Secretary laid Part 4 of the Transactions of the Society on the table.

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4TH DECEMBER, 1855.

THE REV. R. L. KING, PRESIDENT, in the Chair.

Mr. MacLeay exhibited specimens of *Psamatha chalybea* Schackard, and of *Diamma bicolor*, Westwood, which appear, on the evidence of G. W. Rusden, Esq. of Brighton, near Melbourne, who has had abundant opportunities of testing the correctness of his observations, to be the former the male, the latter the female of one and the same species.

The President read his fourth and concluding Paper on the *Pselaphide* of Australia, in which he described some new species, and gave a resumé of all those hitherto described, making in all seventy species.

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5TH MARCH, 1866.

THE REV. R. L. KING, PRESIDENT, in the Chair.

The President read a Paper descriptive of a new genus and

species of Coleopterous Insect allied to *Guostus*, which he named *Ampustus Kreusleri*.

On the same day the adjourned Annual General Meeting was held. The President in the Chair.

The Treasurer laid before the Meeting an Abstract of the Accounts of the Society.

The President then read an Address, which was ordered to be printed with the Proceedings of the Society.

The following gentlemen were elected the Council for the year.—The Hon. A. W. Scott, Messrs. Krefft, Cox, Houston, Stephens, and MacLeay. Out of these, the Hon. A. W. Scott was elected President, Mr. Krefft Secretary, and Dr. Cox Treasurer.

A cordial vote of thanks was then given to the retiring President.

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7TH MAY, 1866.

HUGH HOUSTON, Esq., in the Chair.

Dr. Cox exhibited a collection of insects from the Kingsmill Islands, and a number of Coleoptera from the West Coast of Australia; he also called attention to the material on which these last insects were pinned, a kind of bark, which seemed quite equal to cork. Mr. Stephens stated that the common nettle tree of the colony (*Urtica gigas*) yielded as good a substitute for cork.

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4TH JUNE, 1866.

DR. COX in the Chair.

Mr. Krefft exhibited two boxes of Coleoptera, collected by Mr. Masters during the last six months, the one at Spencer's Gulf, South Australia, the other at King George's Sound. Among the most remarkable insects in the collection made at Spencer's Gulf, were some very convex *Helvidæ*, a new *Cerypteris*, and a number of *Pselaphidæ*. The families most numerously represented were the *Curculionidæ*, about 100 species, and the *Carabidæ*, about 74 species. The box from King George's Sound

also contained many new and rare species, among others a large coprideous insect somewhat like *Aulacopris Reichii*, White. Altogether the collection,—which numbered 4000 specimens,—was pronounced to be highly creditable to Mr. Masters' skill as a collector. Dr. Cox exhibited a collection of insects from Swan River, sent to him by the Rev. Mr. Bliss.

Mr. MacLeay exhibited four Lepidopterous insects which he had taken out of a collection sent to him by Mr. Daniel from Port Denison. He said that he had selected them, as they were insects rarely met with in collections, and would most probably be new to the Members present. One was a day flying butterfly *Mynes Leucis* Boisd. The others were *Sphingidæ*, *Zonilia subvaria*, Walker. *Macroglossa errans*, Walker, and *Macroglossa micacea*, Walker. Mr. MacLeay also exhibited and read the following description of a *Tetracha* and three *Scaritidæ*.

“TETRACHA BASALIS.

Æneo-viridis, capite thoracque laevibus, elytris antice punctatis æneo-viridibus postice sublævibus brunneis punctorum serie subsuturali et vitta marginali flava post humeros dilatata instructis, labro palpis mandibulis antennis pedibus ventreque postice flavis.

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

Hab. Port Denison.

This is the smallest species of *Tetracha* I have seen. The head, thorax, and basal portion of the elytra are of a brilliant golden green, the apical portion is brown, with a yellow lateral margin and apex. Behind the shoulders the yellow marginal vitta widens almost to the suture. The basal half of the elytra is coarsely punctured, while the apical is nearly smooth. The line of punctures on each side of the suture is distinct. The labrum, palpi, mandibles, antennæ, legs, and last two segments of the abdomen are of a pale yellow.

GNATHOXYS BLISSII.

Niger subnitidus, capite leviter bisulcato, thorace convexo latitudine longiore angulis anticis producto lateribus marginato et crenulato linea dorsali transversim striato, elytris medio transversim striolatis lateribus apiceque late

granulatis subæneis, tibiis intermediis extus dentatis dente magno lateraliter compresso obtuso.

Long.  $12\frac{1}{2}$  lin., lat.  $5\frac{1}{2}$  lin.

Hab. Swan River.

This insect seems to resemble *G. granularis* Westw., very closely, so closely indeed that were it not for the very wide difference of habitat, I should be inclined to pass over the few distinctive points, and regard them as varieties of the same species.

I have never seen the insect described by Mr. Westwood, but from his description I make out that the present species has the head less distinctly bisulcated, the thorax longer, the elytra with the granulations more completely confined to the sides and apex, and the spine at the outer extremity of the intermediate tibiæ more spatulate than in *G. granularis*.

I have named this fine insect after the Rev. Mr. Bliss of Swan River, W. Australia, who lately sent two specimens of it to Dr. Cox, among a collection of other valuable Coleoptera of that settlement.

#### GNATHOXYS FOVEATUS.

Niger subnitidus, palpis labialibus securiformibus, thorace antice truncato dorso leviter canaliculato, elytris seriatim foveatis foveis punctatis lateribus apiceque granulatis.

Long.  $4\frac{1}{2}$  lin., lat.  $1\frac{3}{4}$  lin.

Hab. Swan River.

This is the smallest of the genus yet described. The labial palpi are strongly securiform. The head and thorax are smooth but not shining. The elytra have each four rows of irregular foveæ, each fovea containing three or more punctures; the sides and apex are also granulated. The bronzy appearance so usual in the genus, is scarcely observable in this species.

#### DYSCHIRIUS MASTERSII.

Niger nitidus, elytris antice crebre foveatis postice levibus substriatis.

Long. 1 lin., lat.  $\frac{1}{3}$  lin.

Hab. King George's Sound

Mr. Masters found this insect running on the mud on the margin of a fresh water lagoon at King George's Sound.

It differs from the species from Sutton Forest described by me some months ago, chiefly in the larger and closer excavations at the base of the elytra. The apex of the elytra also in the present species, though very smooth and polished, exhibits a slightly striated appearance."

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2ND JULY, 1866

WILLIAM MACLEAY, Esq., in the Chair.

Mr. Leathes was duly elected a Member of the Society.

The Chairman exhibited on behalf of Dr. Cox some portions of plants which had been or were supposed to have been killed by insects, with the following remarks.

No. 1. A *Dalichos* had traces of a small *coccus* but not apparently sufficient to cause the death of the plant.

No. 2. Were specimens of *Cupressus Lambertiana*, the larger branch presented no traces of insects, but the smaller branch exhibited under the bark numbers of the labyrinth like passages of a small longicorn larva, by which the plant had most probably been attacked after death.

No. 3. Leaves of the European Fig with specimens of a species of *Galeruca* which feeds on the leaves of the fig both in the larva and imago state. In some seasons this insect is sufficiently numerous to injure the trees, but the entire destruction of a tree from this cause must be very rare. The rest of the specimens had been kept too long to enable any opinion to be formed as to the cause of death.

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6TH AUGUST, 1866.

HUGH HOUSTON, Esq., in the Chair.

Mr. Krefft exhibited a few Coleoptera from Ulladulla collected by Mr. Masters; a white-kneed *Adelium* and an *Aterpus* were the only very novel things in the collections.

Mr. Masters exhibited specimens of *Stigmodera Fortunni*, and other rare insects sent to him by Mr. Odewahn, of Gawler Town, S. Australia.



Mr. Kreffft exhibited two collections of insects, made by the late Mr. Forde at the Darling River and Bateman's Bay, and presented to the Museum by Mrs. Forde.

Mr. MacLeay read a Paper entitled, "New Species of *Amycteridae*," and exhibited at the same time the thirty new species described in his Paper.

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3RD SEPTEMBER, 1866.

WILLIAM McLEAY, Esq., in the Chair.

Mr. Masters exhibited, as an indication of the advance of summer, a box containing 75 species of Coleoptera, which he had taken that morning in a few hours at Bondi.

Mr. Masters also exhibited the larvæ pupæ, and perfect insects of *Macratoma gemella* Pasc. and *Alaus prosectus* Cand.

A specimen was also exhibited by Mr. Masters of that remarkably rare insect, *Magamerus Kingii* MacLeay. The Chairman stated that he believed but two specimens of this insect were hitherto known, both collected by the late Admiral King; one of them was in the collection of the late Mr. W. S. MacLeay, which was now in his possession; the other he believed was in the National Museum, Paris. The present insect was found by the late Mr. Forde, during his survey of the Darling River last summer.

Mr. Kreffft exhibited a box of very handsome Lepidoptera from Cape York, presented to the Museum by Mrs. James Mitchell. The Chairman called attention to some species of diurnal lepidoptera in the collection which, though not new species were, he believed, new to the Australian Fauna, namely, *Pieris Aruna*, Boisd.; *Lybithca Myrrha*, God., *Papilio Ulysses*, Linn.; *Papilio Polydorus*, Linn., the latter insect had, however, previously been taken by Mr. MacGillivray at Rockingham Bay. There was also a fine species of *Eusemia* in the collection which was new to the members present.

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## THE PRESIDENT'S ADDRESS.

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GENTLEMEN,

The return of our annual meeting—the fourth since the formation of our Society—affords me the opportunity, before laying down my office, of making a few observations upon the results accomplished, and upon other matters connected with our work.

Although the number of our members has increased, we have to lament in common with the whole community, the early death of one of our number, the late Mr. Justice Wise. He had not been a contributor to our Transactions, although he took a deep interest in the progress of our Society. As an able Lawyer, an upright Judge, an active Philanthropist and a kind friend, his loss will be long felt by those who had the honour of his acquaintance.

Several of our new members reside in the country; the sphere of our observation may therefore be regarded as having been considerably extended. I regard every new member, especially if residing in the country, and more especially if a collector, and one accustomed to register his observations, as a considerable addition to our strength.

What we want is an increased number of *Entomologists*. It is in this particular that it must be candidly acknowledged that we are deficient. Though I trust there has been some increase in this direction also.

For we must not forget that something more is necessary to entitle one to the name, than the making a collection of showy insects of whatever tribe, and the payment of an annual subscription to an Entomological Society. Such things are no doubt important and necessary, (the latter particularly, as I am sure our Treasurer will acknowledge), but they do not in themselves make an Entomologist. This title can only be

properly applied when the powers of the mind have been brought to bear upon the Insect world, or some particular division of it, and something more is known of this part of God's glorious Creation than the colour and shape of different individuals, and the localities in which they may be found. Not that an Entomologist is, of necessity, one who *publishes* descriptions of new genera and species. But what is essential, and what alone can give one a right to the title, is actual study, careful observation, and accurate examination of the insects within his reach, and an exact comparison of them with each other so as to discover the particulars in which they are alike and in which they differ.

Our Society will have come short of one of its highest objects, if the number of such students does not increase. To form, to assist, and to encourage them is perhaps the most important work which we have before us. Collections and published descriptions have no doubt a value of their own; but one, at least, of the greatest benefits which they can confer, may be justly regarded as derived from this,—that they are means whereby the number of Entomological students may be increased, as well as encouraged and assisted.

There are some who are deterred from entering upon this course of study, by an idea of its vastness, and, in particular, of the number of the works required. Let me say a word or two with reference to each of these obstacles.

If the vastness of the study be felt to be such,—if the almost infinite variety of species in the insect world is felt to be an obstacle (though this to many is a chief attraction)—the student may well, and, properly speaking, ought, to take up some one branch and master it before he proceeds. For a commencement he should take up a single family, carefully examine each species as he adds it to his collection, compare it with others already examined, and either by sketches, or in manuscript, or in some other way, record his observations. Thus he would at once lay the foundation of a just claim to the name of an Entomologist. And if Linnè's rule, *nulla dies*

*sine linea*, were acted upon, the amount of knowledge thus accumulated would soon be very considerable.

Of course books might materially assist by pointing out the particulars most necessary for observation, and by giving the results of the observations of others. But some are deterred by an idea of the vast number of books required. It is certainly expedient that we should know what others have written, if we are about to write on the subject ourselves, and here we have not the very great advantage possessed by our friends in other places, (such for example as Melbourne) of a fine and well stocked public library. Yet this want of books need not frighten any, at least, at the beginning of his researches. With the addition of Kirby and Spence's Introduction to Entomology, our members have already in their hands quite sufficient for making a good beginning. Our Transactions already contain descriptions of several large families sufficiently complete to assist the student very materially. Monographs on the Australian species of the *Scaritidae* and the *Amycteridae*, among the larger Coleoptera, of the *Seydmanides*, the *Parnides* and *Pselaphidae* among the smaller, and of the gall-bearing *Coccidae* among the Homoptera are already accessible, and may form excellent starting points.

If this plan be adopted and our own Papers be taken as the foundation of Entomological study, much advantage will be derived not only by the student, but also by our Society generally. There are few of the families named in which it is not probable that very many species are yet to be discovered. The detection of a new or undiscovered species will always act as an encouragement to the beginner. The advantage to the Society will be the verification of the species. It is a great satisfaction to an author to find that his species are recognized by an independent observer; and any errors or ambiguities of description are often more readily discovered by another eye than that of the describer. Additional information also, with reference to described species, is often of more practical value than the bare description even of new species.

The great event of our entomological year has been the appearance of Mr. MacLeay's monograph on the *Amycteridae* of this well marked and peculiarly Australian family, three new genera, and 132 new species have been added to the four genera, and 44 species previously known. The paper is not yet completed; and we cannot but hope, that, before the second part is finished, some knowledge may be obtained of the larva and its habits. It should be remembered that it is as *larva* that the principal part of the life of most insects is passed. It is the *imago* which is usually preserved in our collections, but this state,—the reproductive state,—represents a comparatively short period of the life. There is however, a difficulty in ascertaining the connection between the imago and the larva, especially in the Coleoptera. Very many of them live in concealment, are protected by a very tender skin, are not easily supplied with food. They are therefore, generally speaking, difficult to rear. It often however occurs to collectors, and especially when the attention is drawn to the subject, that specimens are met with which elucidate the connection between larva and imago. In all such cases a note should be made of the fact, accompanied by a description, and if possible, a drawing of the larva. Should any of our members thus meet with the larva of any of the *Amycteridae*, he cannot do better than immediately communicate with Mr. MacLeay; and I for my part shall be very grateful if any have the good fortune to discover, and will kindly communicate to myself the larva of the *Pselaphidae*, which have hitherto succeeded in eluding my anxious search.

The larva of the *Pselaphidae* are no doubt small. But there are many larva of sufficient size to have an importance of their own,—even apart from Entomological science. As history is said to repeat itself, so it may be noticed that as the *Cossus* of the ancients (probably the larva of *Lucanus Cerrus* or *Prionus Coriarius* or both) was esteemed a delicacy by the luxurious Romans, especially when it had been fattened with flour, so the larva of many of the *Longicornes* and the larger

*Rhyncophoræ* are esteemed a special luxury by the not very delicate aborigines of Australia. Indeed under certain circumstances a knowledge of Entomology might be of essential service. It is but lately that a young man lost in the bush was enabled to sustain life on the boiled leaves of the nettle. He said that he felt the want of more substantial food; had he been an Entomologist he might have known where to find various large larvæ, which would have made a very agreeable and strengthening addition to his bill of fare.

The larva of *Passalus* and of the *Lamellicornes* found so commonly under logs and stones:—of various *Longicornes* under the bark of dead or dying Wattles (*Acacia decurrens*):—of the butterflies, the common *Cicada* (or “Locust”) in all its stages, and grasshoppers of all kinds; all these are edible, especially if boiled, though some are perhaps more savoury than others. While if the nest of the white ant is found, the little creatures may be eaten either boiled or raw. It is said that in South Africa the natives sometimes get quite fat by the side of a colony of *Termes*.

Besides Mr. MacLeay's Paper which has suggested these discursive remarks, others have been read at the monthly meetings of the Society by the President upon the *Pselaphidæ*, and upon a new genus of the Coleoptera inhabiting ants' nests and named by him *Anapestus Kreusleri*.

It will be the duty of the Members present this evening to elect a new President, as well as other officers to conduct the affairs of the Society. I will not, by apologising, excuse myself of not having attended to the duties of the office which I now resign. But this I will say, that it has often been a subject of regret with me that I have been able to do so little for the Society, and that my position in the country and parochial duties and engagements have prevented my regular appearance at the monthly meetings; being quite aware that I have lost much valuable information and many hints of great advantage in the pursuit of our Science.

TRANSACTIONS  
OF THE  
ENTOMOLOGICAL SOCIETY  
OF  
NEW SOUTH WALES.

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*Observations on certain Gall-making Coccidæ of Australia,*  
by H. L. SCHRADER.

[Read 2nd June, 1862.]

As a preface to my observations upon this family of the *Homoptera* it will perhaps be as well to give a short review of the modern classification of the Order.

Westwood, following the views of Latreille, divides the *Homoptera* of MacLeay into three primary Sections.

1. TRIMERA. *Tarsi* 3—jointed; *antennæ* minute, setigerous; *wings* areolate.

(The *Cicada* may be taken as the type of this Section.)

2. DIMERA. *Tarsi* 2—jointed; *antennæ* moderate, filiform, 5—10—jointed; *wings* subareolate.

(The *Aphis*, so well known as the destroyer of our most useful and admired vegetable productions, may be considered as the type of this Division.)

3. MONOMERA. *Tarsi* 1—jointed; *antennæ* 6—25—jointed; *wings* not areolate.

This last Section is composed of one family of *Coccidæ* or Cochineal insects, and as the insects which I am about to describe, show such a great difference in habits, as well as in structure, from those already known, I believe there is sufficient reason to form a second family of *Monomera*, characterized by making galls.

When I came to this Colony, I was astonished to find so great a number and variety of galls. At first I thought they were produced by *Cynipidæ*, but I soon ascertained that there were comparatively few *Hymenopterous* gall-makers here. Most of the *Hymenoptera* which I found in galls, were parasites upon gall-making *Diptera* and *Homoptera*.

The *Coccus-Galls* very frequently exhibit monstrosities in their growth, caused sometimes by the early death of the female inhabitant, in which case the orifice of the gall closes up, but sometimes they are owing to the parasitic attacks of numerous minute *Hymenoptera*.

The inhabitants of these galls are often exposed to the attacks of insects, particularly of *Hymenoptera*, allied to *Chalcis*.

I have also found a Curculionideous insect, which makes a large round hole in the galls of *Brachyseelis ocicola (mih)*, but with what object I have not ascertained. The old galls become frequently the residence of spiders, and of some families of small ants with their eggs and larvæ.

The greater number of the galls of my genus *Brachyseelis*, I found on *Eucalyptus hæmastoma*; but other species, as *Eucalyptus corymbosa*, and *Angophora lanceolata*, are also infested by them.

Some of these galls attain an enormous size. I found one of the species *B. munita (mih)*, where the length of the whole gall was eleven inches, and the thickest part eight lines wide. One gall of my species *B. duplex* was six inches and a-half long, and the greatest width eighteen lines. The living female which I took from it was fifteen lines long, the largest I ever saw; I found it on a sapling of *Eucalyptus hæmastoma*, but I have seen them also on other species of *Eucalyptus*.

All these insects, when they appear in great numbers, become



very destructive to the young *Eucalyptus* branches. I have seen whole patches of ground, often a hundred feet square, where the young trees were totally destroyed by the attacks of *B. pharetrata* and *ovicola*. In such a case the leaves remain small, the branches become crippled, and finally die, on account of the number of *Coccus* galls which take up the sap of the plant.

Pl. I. fig. 1. Shows a branch of *Eucalyptus hæmastoma*, with excrescences made by *Brachyscelis pileata*. The trumpet-shaped excrescences fig. 1. a. contained each one winged male, and each of those upon the stem, contained one apterous female. The sketch shows the gall in different stages. Fig. 1. b. is a young gall; Fig. 1. c. one which perished early, for want of nourishment. Fig. d. shows one more developed, and of which the outside shell, together with its pointed cap, is coming off. (Owing to this peculiarity I gave the species the name of *pileata*.)

As soon as this cap has fallen off, the gall appears in its ultimate form Pl. I. e. & g. This takes place in March or April. At the end of the gall is found an opening or notch, such as might be made with a knife. Through this orifice the female receives air, and also the larvæ escape.

The female *Brachyscelis* is placed with its abdominal appendages, which consist of two spines, furnished on the end with some hairs, towards the orifice Fig. g., and on the approach of any insect, it immediately assumes a rotatory motion, and cleans the orifice with those two horny points. The orifice is always surrounded with a white farinose matter, or manna, which the animal continually reproduces. Fig. g. will show such a gall, and Fig. f. the *ovo-viviparous* female (natural size) taken from it, in the act of bringing forth the young larvæ. It produces countless numbers; the whole animal is filled with them, and when they are all deposited, nothing remains but the bladder-like skin. This female is of a dirty yellowish colour, and is also covered with a white powder. The anal orifice is situated between the two spines, and the manna or farinose matter which exudes therefrom, I consider as nothing but the excrement of the animal.

The two anterior legs are situated above the mouth, which appears to be obsolete, as I could not distinguish any *promuscis*. A little higher than the anterior legs, are situated the minute

antennæ, while again higher and wider apart, we find the eyes, set in a kind of furrow.

Pl. I. h. Is a larva as it appears shortly after birth, and fig. 1. the larva in the perfect state, one day old, (both greatly magnified.) The larva is flat, nearly transparent, and of a yellow colour. The sides are ornamented with hairs formed into one row, and two long anal setæ. The antennæ are about half the length of the body, consisting of seven joints, and on the tip armed each with two small and two long hairs. The tarsi consist of three joints, the last joint forming a claw, also furnished with some small hairs.

In some species, as *Brachyscelis pileata*, *B. ovicola* and *B. duplex* the male larvæ settle on the leaves, and produce trumpet-like swellings. Pl. I. a. and Pl. II. a.

The excrescences caused by the female larvæ, are generally to be found on the sprays of young branches, (Pl. I. fig. e. and r.) evidently a provision of nature to secure an ample supply of sap for the future growth of the insect, as these females occupy their galls for a year.

In the species *B. pharetrata* (Pl. I. 2.) the young male larvæ abandon the home of the mother, and settle in great numbers on the outside crust, but always on the under side; here they produce a swelling through irritation, which soon becomes a crimson gall. It then opens like a flower, and often in the shape of a cockscomb. (Pl. I. o.) The old gall has to provide sufficient juice to nourish the new one, which becomes even larger than the house of the parent. This last formed gall is throughout of the same colour, and as it consists of a soft matter, the larvæ dig easily into it, and after having there changed into a second active form, with short antennæ, and very short anal setæ, they soon become transformed into pupæ, and perfect male insects. (Pl. I. p. greatly magnified.)

As soon as the male insect becomes mature, the upper surface of the new excrescence shows a number of small cells, and from each a male escapes, with its anal setæ foremost, and the wings extended over the head.

This male is about two lines long, of a yellow colour, and having monomerous tarsi, (Pl. I. s.) ending in two claws, one

being stronger than the other. The anal setæ are nearly twice as long as the body; the wings contain two longitudinal nerves. The antennæ have ten principal joints, which are neither very distinct nor regular. The eyes are prominent. The mouth, (Pl. I. q.) contains organs, the use of which I have not been able to ascertain.

The young larvæ make their appearance in November, and the perfect males in the following March. This shows that the females live about eight months, after being impregnated by the winged males, which live only a very short time.

Pl. I. r. Shows female galls of *B. pharetrata* three months old, and one month after what I suppose to be the period of impregnation.

The female larva digs into the young shoots, not so often into the leaf, and changes into the pupa state; it then becomes inactive, and assumes the shape of a heart. The legs are in rather longer proportion, than those of the insect in the other stages. With the growth of the gall the pupa changes into the perfect female; it is at that time still very small, but lively, and grows larger and larger with the gall, till it attains the full size. (Pl. II. g. female *B. pharetrata* magnified.)

The different names of species, as *pileata*, *pharetrata*, *ovicola*, *munita*, *citricola*, *duplex*, &c., I gave chiefly in relation to the external appearance of the galls, as the insect itself does not always show sufficiently marked distinctions, except in point of size and colouring, two points upon which but little dependence can be placed.

Pl. II. fig. a. Shows a branch of *Eucalyptus haemastoma* with several male galls and one young female gall of *B. ovicola*.

Pl. II. e. A longitudinal section of a full-grown gall, showing the position of the female. Fig. f. Is the female taken from it (greatly magnified.)

The male of the species *ovicola* is larger than that of the *pharetrata*, stronger in the abdomen, the first 4 or 5 segments being as broad as the thorax; the others are tapered, terminating with an elongated style, and two long anal setæ. It is of a yellow colour.

Pl. II. fig. h. Shows the female gall of *B. Duplex*. Fig. I. the

shape of the cavity occupied by the female, and fig. o. the female taken therefrom, natural size. Fig. s. the gall of the male insect.

The sketch x. shows a gall of *B. muricata*.

There are other species of smaller gall-making *Cocci*, in which both male and female excrescences are on the same leaves. The males are of a red colour, some with and some without anal setæ, and the females with very long posterior legs, the anterior and intermediate missing.

I intend to make these insects the subject of my next paper, which will also include another genus of gall-makers, in which the male larvæ undergo their metamorphosis, in the gall of the mother, and where the females lose nearly all traces of articulation, becoming fixed masses of animal matter, without apparent limbs, or sign of vitality.

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*Further communication on the gall-making Coccidæ,*  
by H. L. SCHRADER.

[Read July 7th, 1862.]

In my last paper I gave you the result of my observations on the genus which I have named *Brachysecelis*. I now proceed to the description of some insects so remarkable in their form, that I have ranked them as composing distinct Genera.

I propose therefore to divide the gall-making *Coccidæ* as follows:—

1. Genus. *Brachysecelis*. Where the females have six legs complete, but short, and unfit for use.
2. Genus. *Opisthoscelis*. Where they have only two long posterior legs.
3. Genus. *Ascelis*. Where there are no vestiges of legs.

The galls of the insects of the genus *Opisthoscelis* are often

found, male and female, under the same leaf. (Pl. III. l.) The female gall is in the shape of a pea, but somewhat larger, the male gall, very small and conical.

The female *Opisthoscelis subrotunda* (Pl. III. n.) is of a crimson red colour, nearly round, but the terminal segment of the abdomen very much tapered; it has very long posterior legs, but no trace of the anterior and intermediate legs.

Fig. o. A longitudinal section of a full-grown female gall, with the female inside, (natural size.)

The male Pl. III. m. is of a red colour, with anal setæ, the body, legs, and antennæ, are very hirsute; length about two lines.

In another species *O. gracilis*, which I have observed, the oviparous female is rather slender, and the legs are still longer and thinner than in the species before noticed, and the male has no anal setæ.

The larvæ resemble those of *Brachyscelis*, but have very short anal setæ.

In the third genus, which I have named *Ascelis*, the female larvæ alone form galls. Pl. III. Fig. q. and r. show sections of the gall of *A. præmollis* with the full grown female inside. The male larvæ undergo their metamorphoses, in the gall of the mother.

The females, Pl. III. p. (magnified), which are of a pale yellow colour, lose nearly all traces of articulation, becoming fixed masses of animal matter, apparently without life or exterior members. There are only dark spots to be seen, in the places where the feet should be found. But on the back of the animal is situated a horny instrument with three points: Fig. s. This curiously shaped instrument, which always holds some gum between its three points, (as in Fig. t.) seems to serve for closing up the hole or entrance of the gall, to prevent strange insects from entering.

The opening of the gall is not, as with *Brachyscelis*, in the top of the gall, but on the other side of the leaf, as Fig. v. will illustrate.

The larva Pl. III. Fig. u. which is flat and of a transparent yellow, resembles that of *Brachyscelis*, except that it is more

pointed at the apex, has shorter antennæ, shorter anal setæ, and not so much hair fringing the abdomen.

The male larva changes in the abode of the mother, into a second form, Fig. v. ; in this it is red, active, and somewhat longer than in its first metamorphosis, but narrow, and with very short anal setæ. After this it changes to a pupa (Fig. y.) and then into the perfect male insect, (Fig. x.) which is also of a crimson colour.

The galls of *Ascelis* are generally of a large globose form, and also in the shape of large flat swellings on both sides of the leaves ; in either case I found the perfect males, together with the larvæ in different stages, in the month of June. But as I have observed on the same trees galls of all sizes, both young and full-grown, I hold it difficult to fix the time of their transformation.

I observed also very minute specimens of *Ascelis* under the tender bark of young shoots ; some were white, others black, resembling little bags filled with ova. Owing to these attacks the young twigs exhibited a very crippled appearance.

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*Description of Twenty new Species of Australian Coleoptera, belonging to the families Cicindelidæ and Cetoniidæ,*  
by WILLIAM MACLEAY, JUNR., Esq., M.L.A.

[Read 4th August, 1862.]

THE following Paper contains descriptions of Twenty hitherto undescribed species of *Coleoptera*, principally selected from a large collection of Insects, which, as I mentioned at the last meeting of this Society, I have lately received from Port Denison. I have not, however, confined myself to Insects from that locality, but have included several species from other parts of Australia, which I believe to be undescribed.

Family CICINDELIDÆ.

Genus MEGACEPHALA, Latr.

Subgenus TETRACHA, Hope.

1.—TETRACHA HUMERALIS.

Viridi-anea mandibulis labro antennis pedibus anoque ferrugineis, elytris atro-cyaneis granulatis punctorum lineâ irregulari subnaturali pone scutellum retrorsuâ incurvâ vittâque ferrugineâ marginali pone humerum dilatatâ.

Long. 9 lin., lat.  $3\frac{1}{4}$  lin.

Hab. Port Denison.

The head, thorax, and under part of the body are of a brassy green, tinged towards the edges with blue; the elytra, which are roughly granulated, are of a very dark blue, without metallic brilliancy; an irregular line of small punctures extends along the whole length of each elytron at a short distance from the suture, turning inwards at the base, and forming a second line for a short distance near the scutellum. The margins of the elytra from the shoulders to the apex are of a reddish yellow, a patch of the same colour extending from the marginal vitta, almost into the centre of the disc, a little behind the shoulders. The mandibles, labrum, antennæ, legs, and terminal segment of the abdomen, are ferruginous.

This insect was found in considerable numbers under rubbish in the dry sandy bed of the river "Don." It is probably a nocturnal insect, as the two following species certainly are. Mr. Bates describes all those he found in the valley of the Amazon as nocturnal.—(*Vid. Trans. Ent. Soc., Vol. 2, new series.*)

### 2.—T. SCAPULARIS.

*Æneo-viridis* elytris granulatis flavo-marginatis punctorum lineâ irregulari subsuturali, mandibulis labro antennis pedibusque luridis.

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

Hab. Port Denison.

The head, thorax, and under side of the body are of a brilliant metallic green; the elytra, which are finely granulated, are also green, but with less metallic brilliancy. The irregular line of punctures near the suture of each elytron is not so well marked in this species as in the last. The mandibles, labrum, antennæ, legs, lateral margins of the elytra, and, in the females, the terminal segment of the abdomen, are of a dirty yellow.

I have only two specimens of this species, both captured on the wing, at night, in a lighted room.

### 3.—T. CRUCIGERA.

Flava capite thorace elytrorumque vittâ suturali usque ad apicem haud extendente fasciâque dimidiatâ æneo-viridibus.

Long. 8 lin., lat. 3 lin.

Hab. Port Denison and Rockhampton.

The head and thorax are metallic green above and below, the elytra and abdomen are yellow; the former, which are punctate, having a green cruciform mark, formed by a sutural vitta, extending from the base to near the apex, crossed by a fascia a little behind the middle, which reaches half across each elytron; the mandibles, which are only bidentated, labrum, antennæ and legs are yellow.

Mr. de Chandoir (*Bullet. de Moscou, 1850, p. 7*), has separated the yellow group of *Megacephalide*, to which this insect seems to belong, from the others under the generic name of *Phæosantha*, and Mr. Westwood subsequently gave the name



of *Anomosit* to the same section. If divisions founded on the number of the apical teeth of the mandibles be adopted, as suggested by Westwood, ("Ent. Soc., Trans., Vol. 2, new series,") this will probably be found to form a new sub-genus. I very much doubt, however, the value of such characters. I have three specimens of this insect, two from Port Denison, captured like the preceding, by night, and the other from Rockhampton.

The *Megacephala Australasiv*, (Hope, Trans. Ent. Soc., Vol. 4) from Port Essington, evidently belongs to this group.

#### Subgenus MEGACEPHALA, Latr.

##### 4.—MEGACEPHALA CYLINDRICA.

Cyaneo-viridis mandibulis antennis pedibus abdomineque piecis, elytris cylindricis punctis ad basin excavatis.

Long. 10 lin., lat. 3 lin.

Hab. Peak Downs.

The whole upper surface, and the under surface of the head and thorax are of a brilliant bluish green; the basal half of the elytra is covered with small roundish depressions, and the remainder is quite smooth. The mandibles, antennæ, legs, and abdominal segments, are of a ruddy brown hue.

This beautiful insect was brought from Peak Downs, many years ago, by Sir T. S. Mitchell. In its cylindrical, shoulderless form, and brilliant colour, it closely resembles the type of the genus *M. Senegalensis*. It seems remarkable that we should possess here in Australia, insects of which the types are to be found in Tropical Africa and South America, as is the case with the genera *Megacephala* and *Tetracha*. It is, perhaps, still more remarkable, that while all the Australian species known come from the far North, not a single species of the family has ever been found in India, or the Indian Archipelago, or indeed, in any part of Asia.

#### Genus DISTIPSIDERA, Westw.

(Mag. of Zool. and Bot., p. 251.)

##### 5.—DISTIPSIDERA VOLITANS.

Nigra nitida subtus atro-cyanea, labri disco lurido, elytrorum

vittâ obliquâ humerali fasciâ mediâ undulatâ apiceque lactifloreis.

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

Hab. Port Denison.

Upper surface black, with a slight bronzy splendour about the head and thorax. Beneath very dark blue. Palpi and labrum pale yellow, the latter margined with black. The elytra have a short vitta sloping inwards from the shoulder, a wavy fascia behind the middle, not reaching the suture, and the apex cream coloured, while the legs are black.

This species seems to be tolerably abundant about Port Denison.

#### 6.—D. CURSITANS.

*Æneo-olivacea* mandibulis labro antennarum articulo basali pedibusque luridis; elytrorum humero fasciâ mediâ apiceque flavis.

Long. 5 lin., lat.  $1\frac{1}{4}$  lin.

Hab. Clarence River.

Upper surface of head, thorax, and elytra, bronze; beneath bluish black, with a metallic brilliancy. The palpi, mandibles labrum, basal joint of antennæ and legs, are of a dirty yellow colour. The elytra have a patch on the shoulders, a waved post-median fascia, not reaching the suture, and the apex, yellow.

The only other species of this genus known to me, is a large and well-known insect, which has been described by Westwood, (*Mag. Zool. Bot.*, p. 291), under the name of *undulata*, from its peculiar transverse wavy sculpture. The two species I have now described have the same peculiarity of sculpture: I have not, however, made any mention of that peculiarity in the specific descriptions, as I believe it to be a generic character. The large labrum, and general form of these insects, show a close affinity to the genus *Therates*, which is still further indicated by their similarity of habit, both genera frequenting trees, and running rapidly over their leaves.

## Family CETONIIDÆ.

## Genus SCHIZORHINA.

## 7.—SCHIZORHINA MARGINIPENNIS

*Atra* thorace subtilissimè punctato, elytris sulcatis sulcis punctatis vittâ latâ marginali lactifloreâ, corpore subtus pilis viridi-albis tecto.

Long. 16 lin., lat. 9 lin.

Hab. Port Denison.

The whole insect is of an uniform, not very shining black; the head and clypeus, which are punctured, are thinly clothed with a greenish white pubescence; the thorax is very finely punctured and almost smooth towards the scutellum, which is quite smooth, with the exception of some punctured striolae at the base; the elytra are broadly sulcate, the depressions punctured, a broad margin of yellow pubescence extends from the humeral projection on each side to the apex; the underpart of the head and thorax is clothed with greenish yellow pile; the pygidium, abdominal segments, and thighs, are covered with a short greenish white pubescence.

I have only one specimen of this, the most beautiful insect of the family. Mr. W. S. MacLeay has, however, in his collection an insect from Wellington Valley, which appears to be identical with it.

## 8.—S. ATRIPENNIS.

*Atra* nitida, thorace rufo. elytris subtilissimè punctatis apud suturam posticè carinatis carinis acuminatis, pedibus rufis tarsisque nigris.

Long. 15 lin., lat.  $6\frac{1}{2}$  lin.

Hab. Clarence River.

Shining black; the penicils at the extremity of the external lobe of the maxillae are large and ferruginous; the clypeus is deeply emarginate, and, with the head, is punctured; the thorax is dark red and finely punctured; the scutellum and elytra are also finely punctured, the latter having the suture elevated posteriorly into a ridge, which terminates in a sharp point at the apex; the legs are red, with the knee points and tarsi black.

This insect has been known for some time ; but I have not been able to find it described anywhere. The elytra appear more truncate and the pygidium more acuminate than is usual in the group.

9.—*S. VELUTINA.*

*Crocea opaca, subtus nigra pilosa, thorace maculis duabus magnis triangularibus, elytrisque maculis sex atris, scutello atrocincto, pedibus luteis.*

Long. 10 lin., lat. 5 lin.

Hab. Port Denison.

The upper surface is of a velvety looking saffron or orange, spotted with the deepest black ; the clypeus is punctured ; the top of the head and eyes are black ; the thorax has two large discal, somewhat triangular patches, and a small spot behind, jet black ; the scutellum has a narrow border of the same colour ; the elytra have three black spots on each side, one near the apex of the scutellum, the second a zigzag one, half way between that and the apex, and the third, a small one near the apex ; the pygidium has a black mark in the centre, and two small spots on each side ; the under surface is of a dark hue, covered with a whitish pubescence, each segment of the abdomen having a yellow spot on the side ; the legs are reddish ; the fore tibiae are without external dentations.

I have only one specimen of this beautiful insect.

10.—*S. IMPAR.*

*Testacea nitida, capite nigro, thorace leviter punctato, elytris irregulariter striato-punctatis, suturâ nigrâ, pedibus mesosternoque nigris.*

Long. 11 lin., lat.  $5\frac{1}{2}$  .

Hab. Rockhampton.

The head is black and closely punctured ; the thorax testaceous and finely punctured ; the scutellum is black and smooth ; the elytra are testaceous and striato-punctate ; the striae most regular near the suture, along which there is a black vitta, gradually narrowing as it approaches the apex. There is a good deal of ferruginous hair on the under surface ; the mesosternum and legs are shining black.

In general appearance this insect very much resembles *S. dorsalis*; the sculpture of the elytra is, however, very different.

#### 11.—*S. VIRIDISIGNATA*.

Nigra nitida thorace punctato, elytris subsulcatis punctatis vittâ versus scutellum obliquâ fasciâ nudulatâ maculisque apicalibus viridibus, pygidio flavo-guttato.

Long.  $10\frac{1}{2}$  lin., lat.  $5\frac{1}{2}$  lin.

Hab. King George's Sound.

Black, shining; the head and thorax finely punctured; the elytra coarsely punctured and slightly sulcated, with an oblique green band on each side of the scutellum, a wavy transverse band of the same colour behind the middle, and a small spot at the apex; there are one or two small yellow spots on each side of the pygidium; the under surface and legs are black and hairy, the latter are strong and dentated.

I have only one specimen, and that imperfect, of this species. It bears a strong resemblance to *S. frontalis*.

#### 12.—*S. UNICOLOR*.

Nigra obscura capite thorace scutelloque densè punctatis, elytris crassè punctatis pilosis, corpore subtus cinereo-hirto.

Long.  $9\frac{1}{2}$  lin., lat. 5 lin.

Hab. King George's Sound.

This insect is of an uniform dull black; the head, thorax, and scutellum, are closely punctured; the elytra, which are clothed with long decumbent hairs, are covered with coarse elongated punctures; the under surface is cinereo-villose. There cannot be a doubt of the near affinity of this insect to the last, notwithstanding its very different aspect. It has the same strong dentations on the intermediate and hind tibiæ, with the dilated apical processes of the latter. They are both from King George's Sound, and are, almost the only Cetoniidæ I have seen from Western Australia.

#### 13.—*S. VARIABILIS*.

Nitida capite thoraceque leviter punctatis, elytris punctatis lineis duabus longitudinalibus suturâque subelevatis glabris femoribus tibiisque posticis subtus villosis.

Long.  $8\frac{1}{2}$  lin., lat  $4\frac{1}{4}$  lin.

Hab. Port Denison.

Var. 1. Tota nigra.

Var. 2. Rufa, subtus nigra, thoracis maculis duabus, scutello elytrorumque suturâ nigris.

Var. 3. Nigra, thorace elytrisq̄ue piceo-marginatis.

There are three distinct varieties as described above. 1st. Black, entirely. 2nd. Red, with two spots on the thorax, the scutellum and the suture of the elytra black, the under part of the body black, the legs red: and, 3rd. Black, with the lateral margins of the thorax and elytra of a piteby red. They are all shining. The head and thorax are finely punctured, the latter almost smooth on the disk; the elytra are punctured in imperfect striæ; the inferior margin of the hind thighs and tibiae are clothed with an uniform thick brush of cinereous hair.

The resemblance to *S. gymnoptera* is here exemplified, not only in appearance, but in the tendency to vary. The difference seems chiefly to consist in the more elongated form, less punctured thorax, and less villose under surface of this insect.

#### 14.—*S. OCELLATA.*

Flava nitida thorace guttis duabus lateralibus maculisque duabus magnis discalibus versus basin connexis nigris, elytris rubris vel nigris subsulcatis punctatis maculis circa scutellum ovatis rotundatis versus apicem nigris flavo-cinctis.

Long.  $6\frac{1}{2}$  lin., lat.  $3\frac{1}{2}$  lin.

Hab. Port Denison.

Yellow; the top of the head is black; the thorax is finely punctured, and has a small black patch near the centre of each lateral margin, and two large somewhat triangular patches of the same colour on the disk, sometimes only slightly joined behind, and having some resemblance to the letter M. in other instances completely joined and forming one large mass; the scutellum is black, margined with yellow towards the apex; the elytra are slightly sulcate and coarsely punctured, generally of a reddish colour margined with yellow, as are also a black patch on each

side of the scutellum, and a round ocellus looking spot near the apex of each elytron; the pygidium has the centre and several small spots, black; the legs and abdominal segments are reddish, variegated with yellow; the under surface is but slightly pilose.

15.—*S. DECORTICATA.*

*Atra nitida punctata maculis glabris decorticatis, thoracis lateribus elytrorumque maculis duabus discalibus lactifloreis; mesosterno utrinque maculis duabus, segmentorumque abdominalium lateribus albis.*

Long. 6 lin., lat. 3 lin.

Hab. Port Denison.

Deep shining black; head and thorax punctured; scutellum smooth; elytra striato-punctate. Along the lateral margins of the thorax, and on the disk of each elytron, is a dull depressed cream-coloured patch; spots of the same character, but nearly white, are to be found on the sides of the mesothorax and abdominal segments, and generally two on the pygidium, which is finely acuducted.

16.—*S. ASSIMILIS.*

*Atra nitida thorace punctato lateribus lactifloreis, elytris striato-punctatis, pygidio mesosterni segmentorumque abdominalium lateribus albo-guttatis.*

Long. 6 lin.; lat. 3 lin.

Hab. Port Denison.

Black, shining; head and thorax punctured, the latter with two yellow depressed spots, running into one another on each lateral margin. The elytra are coarsely and indistinctly striato-punctate. The mesosternum and abdominal segments have each a lateral white spot; the pygidium has two small spots of the same hue.

This is, probably, a variety of the last described species, the sculpture seems to be identical, and the main difference seems to be that there is not a vestige of the decorticated patch on the elytra, which is such a distinguishing feature in *S. decorticata*.

The four following species differ considerably in form and general appearance, from the rest of the Australian Cetonidae.

All agree in having the body elongated, the thorax forming an almost elevated point over the top of the head, the elytra short and narrowed behind, the tarsi long and slender, and both the upper and under surface of the body lanuginose.

They seem to connect *Schizorhina* with that hairy section of the subgenus *Cetonia*, which is named by MacLeay *Trichioidea*.

I propose to give them the subsectional name of *LENOSOMA*.

Subgenus *CETONIA*.

Section, *TRICHIOIDEÆ*, MacLeay.

Sub-section, *LENOSOMA*, Mihi.

17.—*CETONIA FULGENS*.

*Viridi-cuprea nitida hirta thorace punctato, elytris posticè disco subcarinato fossulâque discoidali punctatâ, corpore subtus viridiori cinereo-piloso, tibiis tarsisque piccis.*

Long. 6 lin., lat. 3 lin.

Hab. Rockhampton.

Viridi-cupreous, with short erect hairs on the upper surface, beneath cinereo-pilose. The head and thorax are punctured; the scutellum smooth. The elytra are somewhat sulcate posteriorly, with a central depression; they are punctured, with fine striolæ transverse near the margins, and longitudinal near the suture; the under surface is greener than the upper; the tibiæ and tarsi are piccons. The lamellated external lobe of the maxillæ is unusually large in this species.

18.—*C. TIBIALIS*.

*Atra nitida incano-pilosa thorace punctato lineâ dorsalî glabrâ, elytris sulcatis sulcis subtilissimè punctatis fasciâ luteâ ornatis; tibiis posticis spatuliformibus.*

Long. 6 lin., lat.  $2\frac{3}{4}$  lin.

Hab. Port Denison.

Black, shining, and incano-pilose on the upper and under surface; thorax punctate, with the dorsal line smooth; elytra sulcate, the depressions very finely punctured; a broad luteous fascia occupies the middle of each elytron, but does not extend to the suture. The short, broad, compressed and arcuated form of the hind thighs and tibiæ. (which is apparent in all of the group



I have seen except *C. fulgens*) is most strongly exhibited in this species, the tibiæ being quite spatuliform.

19.—*C. FASCICULATA.*

*Nigra nitida pilosa elytris rufo-fasciatis disco posticè subcarinato, apiceque fasciculato, corpore subtus testaceo-piloso.*

Long. 6 lin., lat. 3 lin.

Hab. Illawarra.

Black and shining; the head is covered with yellowish hair; the thorax and elytra with black; the dorsal line of the thorax is much elevated in front, forming a protruded point. The elytra, which have a wavy red fascia in the middle, are depressed behind the scutellum, and carinated towards the apex, near which are two bundles of long reddish hair; the under surface is testaceo-pilose, with tufts and brushes of the same colour on the mesothorax and abdominal segments.

I have one specimen of this insect from Illawarra. I have never seen it elsewhere.

20.—*C. INCANA.*

*Nigra nitida incano-pilosa thorace punctato, elytris sulcatis punctatis octoguttatis guttis flavis, pygidii disco piloso.*

Long.  $6\frac{1}{2}$  lin., lat.  $2\frac{3}{4}$  lin.

Hab. Rockhampton

Upper and under surface black, shining, and incano-pilose, the thorax is punctate, the scutellum is long, narrow, pointed, and smooth, the elytra have a longitudinal discal depression, which is densely punctured, with scattered punctures over the rest of their surface. There are four small yellow spots on each elytron, two discal, of which, one is above, the other below the middle, and two lateral, one just below the humeral swelling, the other in the middle; the pygidium has a narrow line of gray hair down the centre, and there are tufts of the same over the entire under surface.

I have seen another insect evidently belonging to this subsection in the Cabinet of Mr. W. S. MacLeay, at Elizabeth Bay. It is labelled *Howittii*, MacLeay, and is from Port Phillip.

Since writing the foregoing descriptions of new Australian Cetonidae, it has occurred to me that the annexed tabular view

of all the known species of the subgenus *Schizorhina* may be acceptable to some of our Entomologists.

In order, however, to make it satisfactory to myself and intelligible to others, I must, as succinctly as I can, explain the position and divisions of the group we have been considering.

Mr. MacLeay, in the 3rd No. of "Smith's Illustrated Zool. of South Africa," in an admirable review of the whole family of *Cetoniidæ*, divides them into five genera, viz., *Trichinus*, *Cryptolinus*, *Macrominus*, *Gymnetinus*, and *Cetoniinus*. It is with the last of these only, the typical and most numerous genus, that we have now to do.

*Cetoniinus* is divided by Mr. MacLeay into the subgenera *Schizorhina*, *Coryphe*, *Goliathus*, *Ischnostoma*, and *Cetonia*. It is the first and last of these sub-genera only, in which any Australian insects are to be found. The first is entirely Australian, while *Cetonia* contains of Australians, only the group which I have named *Lenosoma*, and a species *C. brun-nipes*, which is apparently of the same section as the European *C. stictica*. The subgenus *Cetonia* is evidently by means of *Lenosoma* connected with *Schizorhina*, which subgenus Mr. MacLeay further sub-divides into five sections, viz., *Brunoniæ*, *Phillipsiæ*, *Integræ*, *Gymnopleuræ*, and *Insulares*.

Burmeister, subsequently in his "*Handb. d. Entom. III.*" adopted the characters Mr. MacLeay had given to these sections, but gave them names of his own, and called them genera.

These sections are susceptible of further sub-division. Indeed Mr. MacLeay has divided into sub-sections some of the more numerous sections of *Cetonia*. In *Schizorhina*, however, the number of species in each section is not so great as to render further sub-division necessary. Still any one acquainted with the subgenus must have noticed the natural grouping of the species, and the ease with which further sub-division might be made; for instance, the section "*Integræ*" at once resolves itself into at least three groups, which I have marked in the next page, the first consisting of four species, remarkable for the rounded yellow apex to the mesosternum; the second, of those which resemble *dorsalis* in form and colour; and the third, the group of which *frontalis* is the type, and of which there are, I believe, some undescribed species in the collection of Mr. MacLeay.

Family CETONIIDÆ.—“MacLeay.”

Genus CETONINUS.—“MacLeay.”

Sub-genus.—SCHIZORHINA.—“Kirby.”

SECTION.

|   |      |  |   |   |  |      |
|---|------|--|---|---|--|------|
| Normal Group.<br>Clypeus, deeply cleft.                 | {    | BRUNONIÆ, <i>M'L.</i><br>Hemipharis, <i>Burm.</i>    | } Mesosternum produced, narrow flat. Elytra spinose at the apex.                              | { | Brownii, <i>Kirby</i> . <sup>*</sup><br>atripeennis, <i>mih.</i> |      |
|   |      | PHILLIPSIÆ, <i>M'L.</i><br>Schizorhina, <i>Burm.</i> |   |   |  |      |
| Aberrant Group.<br>Clypeus, not deeply cleft.           | {    | INTEGRÆ, <i>M'L.</i><br>Diaphonia, <i>Newm.</i>      | } Mesosternum short, flat. Elytra, with sinuated sides, and no spines at the apex.            | { | velutina, <i>mih.</i>  | } 1. |
|   |      |  |   |   | Bassii, <i>White.</i>  |      |
|   |      |  |   |   | obliquata, <i>Westw.</i><br>ocellata, <i>mih.</i>                |      |
|   |      |  |   |   | dorsalis, <i>Don.</i>  | } 2. |
| impar, <i>mih.</i>                                      |      |  |   |   |  |      |
| palmata, <i>Schaum.</i>                                 | } 3. |  |   |   |  |      |
| Bakewellii, <i>White.</i><br>cineta, <i>G. &amp; P.</i> |      |  |   |   |  |      |
| Sub-Section.  | {    | GYMNOPLURE, <i>M'L.</i><br>Eupæcila, <i>Burm.</i>    | } Mesosternum produced, flat. Elytra, with sinuated sides, and no spines at the apex.         | { | frontalis, <i>Don.</i>   | } 3. |
|   |      |  |   |   | viridi-signata, <i>mih.</i>                                      |      |
|   |      |  |   |   | unicolor, <i>mih.</i><br>Cunninghamii, <i>G. &amp; P.</i>        |      |
|   |      |  |   |   | Australasie, <i>Don.</i>   | } 1. |
| punctata, <i>Don.</i>                                   |      |  |   |   |  |      |
| ochracea, <i>Westw.</i>                                 |      |  |   |   |  |      |
| gymnopleura, <i>Fisch.</i>                              |      |  |   |   |  |      |
| variabilis, <i>mih.</i>                                 |      |  |   |   |  |      |
| decorticata, <i>mih.</i>                                | } 2. |  |   |   |  |      |
| assimilis, <i>mih.</i>                                  |      |  |   |   |  |      |
| Sub-Section.  | {    | INSULARES, <i>M'L.</i><br>Hemipharis, <i>Burm.</i>   | } Mesosternum produced, narrow, cylindrical. Elytra spinose at apex, and with parallel sides. | { | insularis, <i>G. &amp; P.</i>                                    | } 1. |
|   |      |  |   |   | Whitei Aru.<br>Emilii? <i>Ancitum.</i>                           |      |

The following species are named, but as I have never seen them, I have not placed them in any of the above sections,—they will probably be found to rank as follows:—

INTEGRÆ.

- S. dispar, *Newm.* Lond. Mag., New Series, 4, p. 366.
- xanthopyga, *Germ.* Linn., Ent. 3, p. 195.
- notabilis, *White*, Stok. Voy. Ins., p. 1, f. 5.
- Bestii, *Parry*, Westw. Arc. Ent.
- rugosa, *Schaum*, Trans. Ent. Soc., 5, p. 73.
- gratiosa, *Blanch*, Cat. Mus. Par.

GYMNOPLURE.

- S. succinea, *Westw.* Trans. Ent. Soc., vol. 3.
- eburneo-guttata, *Blanch*, Cat. Mus. Par.
- nigriceps, *Blanch*, Cat. Mus. Par.

\* Two other species of this section in the collection of Mr. MacLeay, at Elizabeth Bay, are undescribed.

*Description of Twenty New Species of Buprestidæ, belonging to the genus Stigmodera, from the Northern parts of Australia, by WILLIAM MACLEAY, JUN., ESQ., M.L.A.*

[Read 1st September, 1862.]

The genus *Stigmodera* of Eschscholtz, though not entirely Australian, contains comparatively but few foreign species, and these I believe exclusively South American; while the number of those of New Holland may almost be said to be endless.

About one hundred and twenty species have already been described from this country; and it is rare indeed to find a collection, however small, of Sydney Insects which does not contain new species.

In the following paper I have described 20 species from Port Denison and other northern parts of the country, all of which are quite new to collections.

#### 1.—STIGMODERA FULVIVENTRIS.

Cupreo-anea, capite longitudinaliter impresso, thorace punctato, scutello aneo, elytris flavis striatis striis punctatis lateribus posticè serratis apice bidentatis suturâ ad basin maculâ utrinque quadratâ fasciâ pone medium latâ apiceque cyaneis, corpore subtus punctato parè pubescente, ventre fulvo.

Long. 8 lin., lat. 3 lin.

Hab. Port Denison.

The head is brassy, and closely covered with punctures; the antennæ are of the same hue, with the exception of the peduncle of the first joint, which is red. The thorax, which is also brassy, with a coppery tinge, is covered with close fine punctures, excepting the basal part of the medial dorsal line; the scutellum is brassy, with a few very small punctures in the centre. The elytra are yellow, rather deeply striated, and covered with punctures; the sides for some distance from the apex are finely serrated, and the apex itself is minutely bidentated. The suture for nearly a fourth of its length from the scutellum is blue, and on each side there is a square spot of the same color. A post-medial, and an apical fascia joined together at the literal margins, are also blue.

The under surface and legs are brassy, with the exception of the belly, which is fulvous; the whole is punctate, and sparingly covered with a very short white pubescence.

### 2.—STIGMODERA VIOLACEA.

*Æneo-violacea, capite profundè canaliculato, thorace punctato lineâ dorsali plagâque basali utrinque lævibus, scutello æneo, elytris punctato-sulcatis posticè unidentatis maculâ rotundatâ utrinque prope scutellum lineâ humerali fasciâque mediâ subapicalique flavis.*

Long.  $7\frac{1}{2}$  lin., lat.  $2\frac{3}{4}$  lin.

Hab. Port Denison.

The whole insect is of a purplish brassy hue, the head is punctured, and deeply cleft in the middle; the thorax is closely punctured all over, with the exception of a narrow medial line, which is somewhat impressed near the base, and a small, somewhat triangular patch resting on the base on each side, about half-way between the dorsal line and the lateral margins; the scutellum is smooth and shining, the elytra are sulcate, or deeply striate, and punctured all over; the apex is unidentated with a small oblique truncation towards the suture. There is a round yellow spot at the base, on each side of the suture, and a short marginal posthumeral vitta of the same colour, two fascias extending from the sides to within a short distance of the suture, one medial, the other subapical are also yellow. The under surface, which is of the same color as the upper, only more brilliant, is punctured and clothed with a thin, short, white pubescence.

### 3.—STIGMODERA RUFIPES.

*Nigro-ænea, capite flavo-lineato, thorace punctato lateribus maculâque basali mediâ parvâ lævi flavis, elytris flavis striato-punctatis posticè unidentatis maculâ humerali semicirculari basi suturâ fasciâ mediâ apiceque nigro-violaceis, corpore subtus flavo segmentorum abdominalium marginibus posticis maculisque lateralibus viridibus, femoribus rufis, tarsis cyanicis.*

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

Hab. Port Denison.

The head, which is of a brassy black, is punctured, and the

longitudinal impression between the eyes, so usual in the genus, seems in this species to be filled up with a yellow mass; the antennæ are blue, the thorax which is also of a brassy black, is punctured very finely, the dorsal line is smooth, and yellow towards the base, the sides are also yellow, as is a small part of the anterior margin near the anterior angle; the posterior angles are slightly tipped with black, the yellow margin also widens gradually towards the base. The elytra are yellow, and striatopunctate, rather broadly truncated, with a minute tooth at the external angle of the truncature, on each side behind the shoulder, there is a long semicircular spot of a violet black, a narrow basal margin, the suture, the apex, and a post-medial fascia are of the same colour; the sutural vitta swells out into a lozenge shaped spot, immediately behind the scutellum, and the dark apical portion is one-fourth of the whole length of the elytra. The under surface is mostly yellow, the sides of the mesosternum and abdominal segments are spotted with green, and the hinder margin of these last are of the same colour; the thighs are red; the tibiæ blue and red; the tarsi blue.

#### 4. STIGMODERA BIGUTTATA.

Miniata, capite nigro-æneo latè impresso, thorace subtiliter punctato disco nigro-æneo, elytris striatis punctatis maculâ basali triangulari guttis duabus apiceque nigro-cyaneis, corpore subtus chalybeo.

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

Hab. Port Denison.

The head is brassy black, and punctured, a broad impression extends along the face from near the vertex; the antennæ are blue; the thorax, which is very finely punctured, has a rounded transverse gibbosity in the centre, as in *S. gibbosa*, though not to such an extent; the centre of the thorax is of a brassy black, broadly margined laterally with red; the elytra are of a miniatous red, striated and punctured, towards the apex rounded and serrated with two very minute approximate dentations at the sutural angles, a large triangular almost black patch extends from the base to the middle of the elytra, a small spot a little behind the middle of each elytra, and the apex, are of the same hue. The whole under surface is of a brilliant steel blue.

## 5. STIGMODERA STRAMINEA.

Olivaceo-ænea capite latè impresso, thorace crebrè punctato, sentello parvo punctato, elytris stramineis striato-punctatis striis geminatis impressis posticè sub-bidentatis maculâ parvâ laterali pone medium apiceque nigro-violaceis, ventre flavo.

Long. 6 lin., lat  $2\frac{1}{4}$  lin.

Hab. Port Denison.

The head and thorax are of a brilliant golden olive, the former is punctured, and has a broad but not very deep frontal impression; the latter is thickly punctured and presents a somewhat granulated appearance; there is a deepish impression on the basal part of the dorsal line near the scutellum, the scutellum itself is small, and has a few punctures in the middle; the elytra are of a pale straw colour, striato-punctate, (the striae appearing to run in pairs) and rounded towards the apex, which is indistinctly bidentated, the two indistinct dentations being very close together; a narrow dark coloured beading occupies the basal margin of the elytra, the tips are of a violet black, as are also two small lateral spots, one on each side, behind the middle. The under surface is more brilliant than the upper, the belly excepted, which is of a reddish yellow.

## 6.—STIGMODERA CINNAMOMEA.

Viridi-ænea capite profundè impresso, thorace punctato, scutello viridi disco punctato, elytris punctatis striatis cinnamomeis apice nigris posticè serratis, ventre flavo.

Long. 7 lin., lat.  $2\frac{3}{4}$  lin.

Hab. Port Denison.

Head and thorax brassy green, the former finely punctured and with the face rather deeply cleft, the thorax is densely punctured, the dorsal line is indistinct with a slight impression at the base, the scutellum is green with a few punctures in the middle. The elytra are of a cinnamon colour, with the apex black; they are closely and deeply striated and covered with punctures, the lateral margins for some distance from the apex are serrated. The legs and whole under surface with the exception of the belly, which is yellow, are of a brilliant brassy green.

## 7.—STIGMODERA GIBBOSA.

Æneo-viridis capite latè impresso, thorace gibbo punctato sanguineo maculis duabus semicircularibus discalibus viridibus, scutello viridi-æneo medio impresso, elytris posticè bidentatis striato-punctatis flavis extus subsanguineis humeris guttulâ discali guttâ laterali maculâ suturali subapicali apiceque extremo viridibus, ventre sanguineo.

Long. 5 lin., lat. 2 lin.

Hab. Port Denison.

Head dark brassy green, pointed, broadly impressed in front and punctured; thorax deep blood red, with two green semicircular spots in the centre, it is elevated gradually across the middle and is covered with punctures, the scutellum, which is green, has a few punctures or impressions in the middle. The elytra are striated punctated, and yellow, with a blood-red lateral and apical margin; the basal margin, the shoulders, a small spot near the centre, a larger one near the side and behind the centre, and another on the suture near the apex, and the extreme point of the apex are green; two teeth terminate each elytron, the exterior one longest. The legs mesothorax and metathorax are green, the remainder of the under surface is sanguineous.

## 8.—STIGMODERA CARINATA.

Nigro-ænea capite latè impresso, thorace subtiliter punctato dorso subcanaliculato, elytris ad suturam carinatis striatis punctatis rufis subsericeis suturâ fasciis duabus apiceque nigro-cyaneis, corpore subtus viridi pubescente.

Long.  $5\frac{1}{2}$  lin., lat.  $2\frac{1}{4}$  lin.

Hab. Port Denison.

Brassy black; the head punctured; the frontal impression broad but not deep; the thorax is densely covered with fine punctures; the dorsal is line slightly but distinctly canaliculate; the scutellum is rather deeply impressed in the middle. The elytra are punctate and striated with a distinct elevated line on each side near the suture, they are of a silky dark red colour, with the suture, two fascias, and the apex dark blue, the latter part is rounded and almost without a trace of dentation. The whole under surface is green, thinly clothed with a short white pubescence



## 9. STIGMODERA VIRIDIVENTRIS.

Viridi-ænea capite latè impresso, thorace posticè sinuato subtiliter punctato linea dorsali posticè profundè impresso, elytris punctatis sulcatis rufis apice nigris, corpore subtus viridi.

Long.  $4\frac{1}{4}$  lin., lat.  $1\frac{3}{4}$  lin.

Hab. Port Denison.

Brassy green, the head is punctured with the frontal impression broad and rather deep, the thorax is rather deeply sinuated at the base, and is finely punctured, the dorsal canal is distinct and deeply impressed towards the scutellum, which is punctured all over. The elytra are punctate, deeply striated, and bidentated at the apex, which is black, while the rest of the elytra is red. The whole under surface is of an uniform brilliant green.

## 10.—STIGMODERA NGRIVENTRIS.

Nigra capite nigro-æneo canaliculato, thorace subtiliter punctato, elytris posticè bidentatis punctatis striatis testaceis apice latè nigris.

Long. 5 lin., lat. 2 lin.

Hab. Port Denison.

Black, the head somewhat brassy with the frontal impression small and canaliculate; the thorax is densely and finely punctured the dorsal line is indistinctly marked. The scutellum is small and punctured; the elytra, which are of a red color with the apical third black, are punctate, striated, and broadly bidentated at the apex. The whole under surface is of a shining black.

## 11.—STIGMODERA STRIGATA.

Viridi-ænea capite latè impresso, thorace punctulato, elytris striato-punctatis luteis fasciâ angustâ pone medium apicæque viridibus, corpore subtus viridi ventre subpurpureo.

Long. 6 lin., lat.  $2\frac{1}{4}$  lin.

Hab. Port Denison.

Head and thorax brassy and punctured, the former broadly impressed in front, the scutellum is also brassy and punctured. The elytra are striato-punctate and of a reddish yellow colour, with a very narrow basal marginal band, a narrow fascia behind the middle and the apex bluish green; for some distance from

the apex the sides are indistinctly serrated, and there is a small notch at the sutural angle which may be considered to form a minute bidentation. The legs and whole under surface are green, with the exception of the belly which is of a purplish yellow.

12.—*STIGMODERA QUADRIGUTTATA*.

*Nigro-ænea capite canaliculato, thorace subtiliter punctato lineâ dorsali impresso, clytris posticè bidentatis subtiliter punctatis sulcatis testaceis guttis duabus lateralibus apiceque nigris.*

Long. 4 lin., lat.  $1\frac{1}{2}$  lin.

Hab. Port Denison.

The head, thorax, and scutellum are of a brassy black hue, the first of these is canaliculate in front and punctured, the thorax is finely punctured with the dorsal line distinctly impressed, the scutellum is also impressed. The elytra are finely punctured, deeply striated, and of a testaceous colour with two small round black spots on each lateral margin, (one a little before, the other a little behind the middle); the apex is also black and is bidentated, the dentations are at the sutural angle and rather close together, the exterior one is the longest.

The under surface is of an uniform brassy black with a little short whitish pubescence.

13.—*STIGMODERA TRIGUTTATA*.

*Æneo-viridis capite profundè impresso, thorace punctato posticè in medio impresso, clytris posticè bidentatis punctatis striatis testaceis maculâ suturali pone medium guttula utrinque apiceque nigris.*

Long.  $3\frac{3}{4}$  lin., lat.  $1\frac{1}{2}$  lin.

Hab. Port Denison.

The head and thorax are of a brilliant metallic green, and closely punctured; the former has the face deeply and broadly impressed, the latter has the dorsal line deeply marked near the base; the scutellum is also punctured, impressed, and of a green colour. The elytra, which are bidentated at the apex much in the same way as in the last species, are punctured, striated, and of a testaceous colour, with a spot on the suture about one-third from the apex, a small spot on each side, and the apex black. The under surface is entirely green.

## 14.—STIGMODERA SEXGUTTATA.

*Æneo-viridis capite latè impresso, thorace subtilissimè punctato, elytris punctatis striatis flavis suturâ guttisque duabus suturalibus æneo-viridibus guttis duabus lateralibus nigris.*

Long. 3 lin., lat. 1 lin.

Hab. Port Denison.

The head and thorax are of a brilliant metallic green, and very finely punctured, the former with the face broadly impressed; the scutellum is also green, and punctured. The elytra, which are scarcely bidentated at the apex, are punctato-striate, and of a yellow colour, with the suture and two spots on the suture, one behind the middle the other apical, of a brilliant green; and two small marginal black spots, one a little behind the shoulder, the other behind the middle. The under surface is bright green, and slightly pubescent.

## 15.—STIGMODERA TRICARINATA.

*Aurantia capite bimaiculato fronte impresso, thorace punctato medio posticè depresso subcarinato vittâ mediâ guttisque duabus utrinque nigris, elytris punctatis tricarinatis posticè unidentatis suturâ posticè apiceque nigro-cyaneis, mesothorace metathorace ventreque subtus cyaneis, femoribus anticis ad basin flavis.*

Long. 7 lin., lat.  $2\frac{1}{2}$  lin.

Hab. Rockhampton.

The upper surface is orange coloured; the head is punctured with a deep impression, and a black spot in the middle of the face, there is also a black spot on the top of the head; the antennæ are black. The thorax is closely and minutely punctured; the medial dorsal line is broadly depressed, particularly towards the base, and is finely carinated in the centre, there is also a well marked impression near the posterior angles, a black vitta occupies the centre, with a small round spot on each side near the middle, and another on and almost below the lateral margin. The scutellum is impressed and punctured. The elytra are punctured, and have three elevated ridges extending along their whole length, one near the suture, the second taking its rise from the same place at the base, and running parallel to and near the first; and the third about half-way between the second and the

lateral margin, which is also a little elevated, the interstice between the first and second ridges is occupied by another towards the apex; there is a deep excavation at the humeral angle on each side; the apex is so slightly notched, as to give the appearance of only one tooth; the hinder part of the suture and the apex are of a bluish black. The whole under surface is blue, with the exception of the prothorax, and anterior thighs, which are orange coloured.

16.—*STIGMODERA FLAVO-SIGNATA.*

Nigro-viridis capite punctato latè impresso, thorace punctato flavo maculâ magnâ tridentatâ transversali basi que nigro-viridibus, elytris striatis subtiliter punctatis fasciâ mediâ obliquâ strigâ subapicali lateribusque anticè flavis, corpore subtus flavo maculis lateralibus segmentisque abdominalibus anticè cyaneis.

Long. 7 lin., lat.  $2\frac{1}{2}$  lin.

Hab. Rockhampton.

Dark green and but slightly brassy, the head is punctured and broadly impressed in front, the thorax is also punctured, but finely, its colour is yellow with a broad transverse patch of dark green near the apical margin, and apparently extending to the margin in the centre, the patch is straight in front and trilobate behind, the basal margin is dark green, there is a deepish depression in the centre at the base, which extends over the scutellum. The elytra, which are dark green, have two narrow fascias and the lateral margins as far as the hinder fascia yellow; the first of these fascias is about the middle and slopes forward on each side towards the suture forming a kind of flat arch, the other fascia is near the apex, is still narrower and forms a sort of reversed arch. The elytra are closely punctured all over, striated, and rounded at the apex. The under surface is yellow with the exception of the head. The legs and some spots on the body and the anterior margins of the abdominal segments which are dark green, are black.

17.—*STIGMODERA VITICOLLIS.*

Testacea capite punctato viridi-æneo, thorace subtilissimè punctato basi utrinque emarginato vittâ mediâ nigrâ, elytris punctulatis striatis posticè bidentatis ad humerum lobatis

rugosis indeque punctorum lineis duabus ad apicem extensis margine basali fasciâ postmediali apiceque nigro-cyaneis, corpore subtus nigro-viridi, abdominis lateralibus apiceque flavis.

Long. 18 lin., lat. 7 lin.

Hab. Port Denison.

The head is of a dark brassy green, punctured, and but slightly depressed in the middle; the thorax is testaceous, finely punctured with a broad black central dorsal vitta, spreading out at the base, and an excised looking emargination at the base on each side of it. The scutellum is small, with a deep impression in the centre. The elytra are marked with 10 distinct striæ finely punctured; at the base are two rather pointed lobes fitting into the emarginations at the base of the thorax; there is a coarsely punctured and somewhat rugose patch near each shoulder, from which proceed two rows of coarse punctures, the outer reaching the apex, the other about two-thirds of the length of the elytra, the apex is broadly bidentated and almost truncated. In colour, the elytra are testaceous, with a very narrow basal fascia, a broad medial fascia, and the apex blue. The body beneath is dark green with the exception of the sides of the prothorax, a patch on the metathorax, and the apical segments of the abdomen and the sides of the others, which are yellow.

#### 18.—STIGMODERA EXCISICOLLIS.

Æneo-viridis capite punctato canaliculato, thorace punctulato dorso subcanaliculato basi utrinque exciso, elytris striato-punctatis flavis apice subsanguineis bidentatis punctorum rugosorum lineâ ab humeris extensâ margine basali suturâque ad apicem cyaneis.

Long. 12 lin., lat.  $4\frac{1}{4}$  lin.

Hab. Port Denison.

The whole upper and under surface, with the exception of the elytra, are of a brilliant metallic green; the head is punctured and canaliculated, the thorax is finely punctured, the dorsal line is not distinctly marked, and the base on each side of the central line is excised or acutely emarginated. The elytra are striated and finely punctured, a row of coarse rugose punctures extends from the shoulders down the middle of each elytron to the apex, which is

acutely bidentated, they are of yellow colour verging on sanguineous near the apex, with a very narrow basal margin and the apical portion of the suture blue.

19.—*STIGMODERA MACULIVENTRIS*.

Nigra capite punctato flavo-hirto, thorace punctato lineâ dorsali levi basi utrinque impresso, elytris punctatis striatis ad humerum subrugosis posticè rotundatis flavis suturâ maculâ suturali pone scutellum fasciâ postmediali apicèque nigro-cyaneis, corpore subtus nigro-aeneo ventre flavo-maculato.

Long. 11 lin., lat. 4 lin.

Hab. Rockhampton.

The head and thorax are of a deep bluish black and punctured, the former with the forehead almost flat and covered with yellowish pubescence, the base of the thorax is slightly excised near the posterior angles. The elytra are striated, punctured, and of a yellow colour, verging upon sanguineous towards the apex, with a spot on the suture behind the scutellum, a broadish fascia immediately behind the middle, and an apical patch, of a dark blue; there is no vestige of dentation at the apex. The under surface is of a dark brassy green, with spots of yellow on the sides of all the abdominal segments, and on the middle of the two terminal ones.

20.—*STIGMODERA IMPRESSICOLLIS*.

Nigra capite profundè canaliculato, thorace punctato lineâ dorsali anticè posticèque profundè impresso foveolâ utrinque magnâ, elytris punctatis costatis testaceis suturâ fere ad apicem nigrâ.

Long. 5 lin., lat. 2 lin.

Hab. Manning River.

The head and thorax are of a brassy black and punctured, the former deeply impressed in the centre, the latter with very large deep impressions at the apical and basal portions of the central dorsal line and with two others larger and rounder, one on each side near the basal angles. The elytra are sulcated, the interstices, five in number, are prominent; the sulci are punctured. The colour is of a dull red with the suture black to within a very short distance of the apex.

*Description of an Ovo-viviparous Moth, belonging to the  
genus Tinea, by A. W. SCOTT, Esq., M. A.*

[Read 1st September, 1862.]

TINEA VIVIPARA. (Pl. 4.)

I am induced from the novelty of the subject to lay before the Society a short description, accompanied by illustrations, of a Moth recently found on Ash Island, which possesses the remarkable and I believe unique quality of being ovo-viviparous; a quality hitherto known to exist only in some few groups of the Insecta, but never attributed to any species of the Lepidoptera. Those admirable writers, Kirby and Spence, in the 3rd volume of their "Introduction to Entomology," page 63, express themselves thus, "By far the larger portion of Insects is oviparous in the ordinary acceptance of the term. The ovo-viviparous tribes at present known are scorpions; the flesh fly, and several other flies; a minute gnat belonging to Latreille's family of Tipulariæ; some species of Coccus; some bugs, (Geocorisæ, Lat.) and most Aphides, which last also exhibit the singular fact of individuals of the same species being some oviparous, and others, ovo-viviparous; the former being longer in proportion than the latter." You will perceive that no mention is made by these scientific gentlemen in 1828, the date of the work from which I have quoted, of any Lepidopterous insect possessing the faculty of ejecting the living larva; and I cannot find on careful reference to many subsequent publications, some of recent date, any notice to the effect that this peculiar function appertains to any species of Butterfly or Moth. I therefore take the liberty to submit this singular fact for your consideration and future investigation, trusting that such information, however small in itself, but tending nevertheless towards the perfecting of that branch of Natural History, to which this Society exclusively devotes itself, will be received by the Members with some degree of interest.

As my family take an equal part with myself in all matters

connected with Natural History, I will, with your permission, use the pronoun, we, as I now proceed to describe more accurately and at greater length the economy of this curious little creature.

The Lepidopterous insect brought under your consideration is closely allied to the genus "Tinea" of modern Authors, is of small size, and boasts of no outward singularity of form, nor extraordinary beauty of coloring to distinguish it from others of that group. It was after dark in the early part of the month of October, 1861, that we first captured a specimen with the hand, being attracted at the moment by its elegant coloring, and wishing to secure it for the cabinet. Fearful that the plumage might be injured by the struggles of the Moth while endeavouring to escape, it was gently compressed, and on opening the hand we observed numbers of minute but perfect larvæ being ejected from the abdomen in rapid succession and moving about with considerable celerity, evidently in search of suitable shelter and food. This incident so singular and new to us, required further confirmation and consequently many more of a similar kind (of course all females) were caught and attached to corks previously covered with black paper and subjected to the closest scrutiny. These Moths shortly commenced to deposit their living progeny with rapidity, the small white fleshy larvæ being seen with great distinctness on the black surface of the paper; thus affording clear and satisfactory proof that this Insect, the only one of its order at present known, is unquestionably ovo-viviparous, and will represent in future this peculiarity among the Lepidoptera; similarly to those few species existing in the Hemipterous and Dipterous orders. This fact having been ascertained, our attention was incited to the care of the little strangers and to procure suitable shelter and food for them, in the hope that we should be able to rear them and thus to supply a correct account of all their metamorphoses. In this we were guided by the form of the perfect insect, and accordingly placed before them grains of maize, pieces of flannel and woollen cloth, shreds of partially decayed paper, some fungus and lichen, and other materials known to be the food of caterpillars belonging to the genus "Tinea" and neighbouring genera. Unfortunately they turned with distaste from all these supplies with the exception of the cloth and flannel, and even to these they attached themselves



with reluctance. We however persevered and put them in a dark and roomy box, aware of the marked dislike to light of larvæ possessing predatory habits, and left them undisturbed for a week; at the end of which we were pleased to find that small silken tunnels or tubes had been constructed on the surface of the brown cloth and that the denuded appearance of several places exhibited signs of their ravages. From this cloth they shortly afterwards transferred themselves to the flannel, where they fabricated small portable cases, composed of two separate pieces of an irregular oval form, joined at the sides, but leaving apertures at each end, and being thus comfortably housed, we entertained sanguine hopes of rearing them. These hopes, however, were not to be realized, for towards the end of November (nearly two months from their birth) they ceased to thrive, and eventually all perished.

The larva (Fig. 1, natural size, Fig. 2, magnified) attained to the length of  $2\frac{1}{2}$  lines, but this manifestly is under its full growth; the head large, somewhat depressed, and with the first segment of the thorax slightly corneous and of a brownish color, the rest of the body soft, cylindrical and almost colorless, possessing a lateral row of small brownish points, emitting delicate hairs. 16 feet, the thoracic ones being large compared with the others.

The imago ♀ (Fig. 3.) measures in expanse of wings, 9 lines, the fore wings are elongate, somewhat lanceolate, with the costal margins arched. A broad transverse, rather oblique, glossy brown bar, bifurcate towards the costal margin, occupies the centre and a triangular patch of the same color at the tips; the remaining portion, or ground color, being silvery white. The inferior wings are pale brown glossed over with a golden tint; a deep marginal fringe surrounds all the wings. Head tufted in front with white; thorax brownish, having a white spot on the centre of the collar; abdomen and legs pale shining brown.

The under surface of the insect, pale golden brown, clouded with darker on the superior wings.

The male unknown to us.

Wings deflexed in repose.

*Maxille*.....very small, almost rudimentary.

*Mucillary palpi* (Fig. 4 and 4,) distinct, separated, composed apparently of several joints, and bending down in front of the mouth, which they almost conceal; partly clothed with scales.

*Labial palpi*.... (Fig. 5, 5, and 6, divested of hair), large, divergent, porrected forwards and slightly upwards; 3-jointed, the middle joint being the longest, the whole covered with scales and with a few setæ on the 2nd joint.

*Antennæ*..... (Fig. 7,) long, filiform, scaly.

*Legs* ... .. differ greatly in size, the tibiæ and tarsi of anterior pairs (Fig. 8,) being only about equal in length to the tarsi of the 2nd pairs (Fig. 9,) which again bear the same relative proportion to the posterior pairs (Fig. 10,) which are large and powerful. 2nd pair with two, and posterior with four large spurs, at apex of tibiæ which is covered with longish hairs. Tarsi 5-jointed, slender, scaly.

We have retained in this instance the generic name of *Tinea*, as our Moth agrees in all its characteristics with that genus, with the exception of the labial palpi being larger than usual, and that our insect is ovo-viviparous. As we failed in affording proper nourishment to the larvæ, we think it probable that they exist in their natural state upon decaying animal or vegetable matter, as found to be the case with the *Sarcophaga carnaria* (or common blow fly,) and some others, which produce their young in a living state.

*On the Pselaphidae of Australia, by the*  
**REV. R. L. KING, B.A.**

[Read 3rd November, 1862.]

ALTHOUGH the family which is to be the subject of this paper may be almost regarded as cosmopolitan, the total number of species known is not great. It may, however, well be believed that, owing to the small size of at least all the *known* species, as well as to certain peculiarities in their habits, many more exist than have hitherto been described. Indeed, when it is remembered that of the new species, seventeen in number, recorded in this paper, all but one were found within the limits of a single square mile, we are warranted in expecting that other localities which may not have yielded any species hitherto, will, when carefully scrutinized, be found to be equally prolific.

The favourite abodes of these minute Coleoptera are the nests of certain ants, and the under-sides of stones and pieces of wood lying on the ground. I have not yet succeeded in finding them in the nests of ants: but others have. Under stones, &c., they are in this neighbourhood, from July to October, rather abundant. I have captured a few of an evening flying, and many more on the top of fences just preparing to fly. On a thundery evening, about sunset, they are very active and numerous.

I have only to add that half of the new species described in this paper were found in and about my own small garden, stable, and wood-yard; and the rest (with the exception of *Tmesiphorus Macleayi*) within a mile of the house.

TABLE OF GENERA.

|  |  |                     |
|--|--|---------------------|
| A.—Antennae, eleven-jointed—                   |  |                     |
| a. antennae, approximating at their bases.     |  |                     |
| a'. two hooks to the tarsus.                   |  |                     |
| a". last joint of max. palp. lateral . . . . . |  | <i>Narceus.</i>     |
| b". " " terminal triangular ..                 |  | <i>Tmesiphorus.</i> |
| c". " " " fusiform . . . . .                   |  | <i>Tyrus.</i>       |
| b. one hook to the tarsus . . . . .            |  | <i>Pselaphus.</i>   |
| b. antennae, distant at their bases.           |  |                     |
| a'. two tarsal hooks (unequal) . . . . .       |  | <i>Batrachus.</i>   |
| b'. a single hook . . . . .                    |  | <i>Bryaris.</i>     |
| B.—Antennae, a single joint . . . . .          |  | <i>Acticus.</i>     |

## NARCODES. Nov. Gen.

*Palpi macillares*, 4-articulati, 1<sup>mo</sup> minimo, 2<sup>do</sup> elongato post-medium inflato, 3<sup>tio</sup> ad basin inflato leviter-setoso, 4<sup>to</sup> clavato tertii lateri imposito. Antennæ, 11-articulatæ, ad bases approximatae. Tarsi breves, unguibus duabus æqualibus instructi. Corpus setis squamiformibus tectum.

This genus comes next to *Centrotoma*, with which it curiously agrees in the scaly shape of the setæ. It differs, however, from that genus in having four joints in the maxillary palpi, as well as in the shape of those organs. The position of the fourth joint, which is attached *laterally* to the third (fig. 1 a.) at once distinguishes this genus from other members of the family.

Two species have occurred to me, both in the one locality, and living under the same circumstances.

Sp. 1. *N. varia*. R. L. King.

Fumosus, maculis nigris irregularibus; antennarum articulo 10<sup>mo</sup> truncato-globooso; Thorace capite breviori, angulis anticis acutis; Palporum maxillarium articulo 4<sup>to</sup> juxta medium partis 3<sup>iii</sup> inflatæ imposito.

Long.  $\frac{20}{100}$  poll., fig. 1.

Under stones. Parramatta, July-September, 1862.

Head somewhat square, contracted in front, carrying a tubercle from which the antennæ spring; the back part is somewhat flat, occasionally carinate at the sides; a second carination extends from the back of the head to a little beyond and below the eye. Antennæ covered at their very approximate bases by the prolongation of the frontal plate. They are of the ordinary form, eleven-jointed. The first joint equals the second and third together, the third being longer than the second; from the third to the eighth the joints gradually decrease in length, the eighth being the shortest in the whole antennæ, joints nine—eleven (Fig. 1 b.) form a moderate club, the eleventh being as long as the two preceding and of a pitchy colour; the squamiform setæ are here replaced by setæ of the ordinary form; the mouth is very inferior. Mandibles strong, armed at the extremity with four blunt teeth, a strong tooth being also visible on the outside near the base. Maxillary Palpi of four joints (Fig. 1. a.) first very small, second elongated, thin at the base, curved in the middle, and

then much swollen; third much swollen at the base, terminated by a thin and somewhat setose point; the fourth is attached to the middle of the swollen part of the third, to which it is ordinarily perpendicular, thin at the base, swollen at the extremity where it is clothed with a few setæ and ends in a thin membranous point, (sometimes wanting); the first three joints are about the length of the head. The longitudinal angles of the head are continued, where they exist, to the base of the Thorax; this is not wider than the head, and is somewhat shorter, the angles in front being acute and the sides very variable, but generally somewhat sinuated. Elytra convex, having a stria parallel to the suture and a strong line on the disk. Abdomen wider than the elytra, strongly bordered at the sides, and having five nearly equal segments. Thighs swollen in the middle, the front thighs having a prominent tubercle on the inner side. Tibiæ curved, two rows of small tubercles in the inner side of the four anterior legs, a short stout spine curved inwards on the extremity of all. Tarsi short, stout, three jointed; the third joint as long as the two first, and ending in two equal curved and widely diverging hooks. The setæ which cover the whole body, except the club of antennæ the palpi and tarsi, are short and flattened at the extremity. Each is marked by three—six diverging striæ; they differ slightly in their shape in different parts, those, for instance, at the edge of the elytra being longer than those on the thorax.

Sp. 2. *N. pulchra*. R. L. King.

Fumosus, maculis nigris irregularibus; capitis vertice rotundato, antennarum articulo 10<sup>mo</sup> transverso truncato-obconico; Thorace subovali capite paululum latiori; Palporum articulo 4<sup>to</sup> juxta tertii extremitatem posito.

Long.  $\frac{1}{10}$  poll. fig. 2. a.

Under stones in grass; September-October. Parramatta.

This species is very near *N. varia*. It may, however, be readily distinguished by the rounded contour of the thorax, the position of the fourth joint of the maxillary palpus. There are generally two small impressions between the eyes.

Both species appear very sluggish, feigning death when touched (*παρκαῶδης*). All my specimens were found in the space of a few square yards, under stones, on a piece of

grass land between a newly cultivated field and the bush; a number of thorny bushes (*Bursaria spinosa*) afford a little shade. I describe the place with this minuteness, because from the same small locality I obtained a large number both of species and individuals of Pselaphidæ, besides many other interesting Coleoptera.

TNESIPHORUS. Le Cont.

Sp. 3. *T. hesperi*. R. L. King (fig. 3 a.)

Castaneus, clytris pallidioribus; articulo antennæ ultimo duobus precedentibus longiori; Thorace ad basin depresso, lateribus antice contractis posticè subparallelis; abdomine marginato.

Long.  $\frac{11}{100}$ .

Under stones in meadows, on fences at sunset, &c., Parramatta.

The antennæ are of the ordinary form, the last three joints forming a moderate club.

Sp. 4. *T. vernalis*. R. L. King.

Castaneus, articulis antennarum 4 ultimis fere æqualibus; Thorace ad basin depresso, lateribus antice valde contractis posticè minus contractis; abdomine marginato.

Long.  $\frac{12}{100}$ .

Under stones in grass meadows, and on fences at sunset, Parramatta.

The club of the antennæ is formed of the four last joints, which are elongated in shape.

Sp. 5. *T. Macleayi*. R. L. King.

Ferrugineus; antennarum articulis 9 & 11 fere æqualibus, 10<sup>mo</sup> breviori; Thorace obovato convexo, lateribus antice convexis posticè contractis; abdomine marginato convexo bicarinato.

Long.  $\frac{20}{100}$ .

Lane Cove, from the collection of W. MacLeay, Esq.

Of this very distinct species I have only seen a single specimen. It comes nearer to *T. carinatus* (Say) than the two preceding species. It is readily distinguished from them by its greater size, the bicarinations on the abdomen, the convexity of the thorax, and the club of the antennæ being composed of three joints, the middle being the shortest of the three.

I have named it after W. MacLeay, Esq., M.L.A.; to whose kindness my cabinet is indebted for many of its choicest Coleoptera.

TYRUS. Aubè.

Sp. 6. *T. spinosus*. J. O. Westwood.

Niger, permitidus et sub lente setosus; capitis vertice anticè truncato et declivi inter oculos, impressionibus duabus minutis instructo, angulis anticis ad basin antennarum elevatis, clypeo semiovali, facie anticè picea; antennis castaneis, articulis 7—10<sup>mo</sup> obscure piceis; prothorace piceo; elytris sanguineis, humeris valde elevatis, sutura et apice nigricantibus; abdomine nigro, apice piceo-rufo; pedibus castaneis, coxis et basi femorum anticorum bispinosis.

Long. corp., lin. 1½.

Ants' nests, Melbourne.

*T. bispinosus*. Westwood. In Trans. Entom. Soc., vol. III., N.S., page 271. (Pl. XVI., fig. 4.)

The prothorax is a little broader than the head. Elytra semiovate, much broader than the thorax; a thin stria at the suture, and a deep fold at the shoulders.

Sp. 7. *T. humeralis*. Westwood.

Castaneus, nitidus, creberrime punctatus et setosus; antennarum articulis tribus ultimis castaneo-nigris; capite subrotundato; prothorace truncato-cordato, fossula parva media postica; elytris magnis, semi-ovatis.

Long. corp., lin. 1.

Ant's nests, Melbourne.

*T. humeralis*. Westwood. Loc. cit. (Pl. XVI., fig. 5.)

Prothorax, with a minute oval impression near the base. Elytra semiovate, thickly punctate and setose, with a stria near the suture and another in the disk, and a fold at the shoulders. Abdomen oval, with broad segments, laterally margined, the second with two longitudinal impressions above.

Sp. 8. *T. formosus*. R. L. King (fig. 4. a.)

Castaneus, elytris pallidioribus, nitidus leviter punctatus et setosus; capite impressionibus duabus minutis (quandoque

quatuor) instructo; antennis totis castaneis; prothorace truncato-cordato, fossula parva media postica; Elytrorum humeris valde elevatis stria subsuturali altera discoidali: segmento abdominis secundo magno longitudinaliter bi-impresso.

Long.  $\frac{1\frac{3}{10}}{100}$  poll.

Parramatta, common under stones in grass.

This species comes very near *Tyrus humeralis*. The sculpture of the head distinguishes it from the description given, as well as the colour of the antennæ, the ordinary size of the elytra, and the great size of the second abdominal segment. There is an important difference in the tibiæ of the fore legs; those in *T. humeralis* having a decided notch, (according to the figure) which does not occur in any specimens of *T. formosus*. I am not sure that there may not be even two species in this very common form.

Sp. 9. *T. palpalis*. R. L. King (fig. 5. a.)

Picco-castaneus; palpis maxillaribus capite longioribus articulo ultimo sublanceolato thorace truncato-cordato valde punctato et sub lente setoso; elytris convexis valde punctatis stria discoidali carentibus, abdominis segmentis fere æqualibus.

Long.  $\frac{1\frac{2}{10}}{100}$  poll.

Under wood and stone, in grass, Parramatta.

A very rare species. The length of its palpi, fig. 5. a. (about  $\frac{2}{3}$  rds. the length of the antennæ), as well as the shape of the last joint (which almost removes the species from this genus) the deeply punctate surface of thorax and elytra, and the absence of the usual stria on these latter organs at once distinguish it.

PSELAPHUS. Herbst.

Sp. 16. *P. geminatus*. Westwood.

Totus castaneus. pedibus fulvescentibus; antennis gracilibus, nodis palporum maxillarium crassis; capite inter oculos excavato et bipunctato; prothorace versus basin 3-impresso, impressionibus striola curvata transversa conjunctis; elytris sub-trigonis, singula striola suturali alterisque duabus approximatis discoidalibus notato.

Long. lin. 1.



*P. geminatus*. Westwood. Loc. cit. (Pl. XVI. fig. 9.)

Ants' nests, Melbourne.

The two impressions between the eyes, together with the deep central longitudinal furrow on the head reaching to the eyes, the double striæ on the surface of the elytra, as well as the three deep impressions on the base of the thorax, united by a narrow curved line, appear to be the distinguishing marks of this species.

Sp. 11. *P. antipodum*. Westwood.

Totus ferrugineo-castaneus; palpis gracilibus; capite fossula longitudinali e margine anteo ad medium verticis extensa, ubi in foveam magnam rotundam inter oculos dilatatur; prothorace sub-hexagono, fossula curvata prope basin notata; elytris sub-conicis striola suturali alteraque discoidali curvata impressis.

Long. lin. 1.

*P. antipodum*. Westwood. Loc. cit. (Pl. XVI. 8.)

Ants' nests, Melbourne.

Mr. Westwood describes this species as distinguished by the angularity of the prothorax; the longitudinal furrow of the head extends to the middle of the upper part, where it ends in a large round impression between the eyes.

Sp. 12. *P. lineatus*. R. L. King.

Ferrugineo-castaneus elytris pallidioribus; capite fossula longitudinali e margine anteo usque ad collum extensa inter oculos dilatata notata; prothorace sub-hexagono, fossula lata transversa curvata ad basin notata. Elytris striola suturali altera discoidali curvata impressis.

Long.  $\frac{1}{100}$  poll.

Parramatta, under wood, in grass.

This species comes very near *P. antipodum*, from which, however, the remarkable longitudinal furrow on the head, extending from between the antennæ quite to the base of the head at once distinguishes it. It is also larger. The setæ on the elytra are arranged in four regular longitudinal lines, three on the surface and the 4th at the suture of each elytron, the base of the elytra being thinly fringed with setæ. The second segment of the abdomen very large, thinly setose.

This species is apparently very local. I have hitherto met with it in only one corner of my stable yard—a single specimen in 1860, and 8 or 10 in 1862. (I have since captured a single specimen at East Maitland, January, 1863.)

BATRISUS. Aubè

Sp. 13. *B. Australis*. Erichson.

Oblongus, castaneus, fulvo-pubescent; vertice carinato; thorace basi utrinque dentato et medio impresso; clytris pedibusque rufis.

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

Antennæ, as long as the head and thorax; head smooth in front, somewhat furrowed, and marked at the base with impressions on both sides, the vertex somewhat elevated, and acutely carinated. Thorax oblong sub-cylindrical, the sides before the middle rotund-dilated, slightly margined at the base, an impression in the middle and one on each side. The lateral impressions terminate in a kind of carination, like a tooth.

Erichson Archiv. für Natur. Geschichte, vol. 8., p. 243.

Sp. 14. *B. angulatus*. Westwood.

Totus obscure castaneo-rufus, vix nitidus punctatissimus, longe setosus; oculis nigris; antennarum articulis simplicibus; palporum maxillarium articulis 2, 3, & 4 globoso-inflatis; prothorace sub-hexagono fossula abbreviata media; tibiis intermediis in mare intus spina subapicali armatis.

Long. corp. lin. 1. Ants' nests, Melbourne.

*B. angulatus*. Westwood. Loc. cit. (Pl. XVI., fig. 6 mas. 7 fem.)

Maxillary palpi, with second, third, and fourth joints globose-inflated at the apex, the last joint having a minute point on the apex. Prothorax oblong sub-hexagonal, having three deep oval impressions on the surface towards the base.

Sp. 15. *B. barbatus*. R. L. King (fig. 6 a.)

Totus ferrugineus vix nitidus; prothorace irregulariter punctato, truncato-rotundato, linea longitudinali et foveolis 2<sup>bus</sup> lateralibus linea curvata conjunctis instructo; clytris stria suturali et 2<sup>bus</sup> dimidiatis discoidalibus ornatis.

Long.  $\frac{1\frac{1}{2}}{100}$  poll.

Parramatta, under stones, on fences at sunset

This species, which is not uncommon in certain localities, differs from *B. angulatus* in several important particulars. The maxillary palpi has the third joint minute cyathiform, and the fourth fusiform. The shape of the thorax and the median line, which is very distinct, at once separate it from that species. The under part of the head is covered with stiff perpendicular setæ; antennæ, as long as the head and thorax, and of the ordinary form; elytra punctate, somewhat broader than the thorax, with parallel sides, a sutural striæ and an indistinct one in the middle; abdomen weakly margined, hardly broader than elytra,—second segment the largest.

Sp. 16. *B. hamatus*. R. L. King (fig. 6. c.)

Castaneus vix nitidus setosus; capite post oculos rotundato in breve collum contracto, vertice elevato leviter carinato, linea transversa curvata inter antennas impresso; thorace ad medium latissimo anticè conico posticè subitò contracto, linea media leviter impresso et 2<sup>bis</sup> carinulis in dentibus dorsalibus acutis posticè desinentibus instructo; clytris convexis, plicatura humerali striâ suturali altera dimidiata discoidali instructis, lateribus posticè parallelis; abdomine parum marginato, pedibus gracilibus, coxis posteriorum elongatis curvatis.

Long.  $\frac{2.0}{100}$  poll. Parramatta, September.

Var. "*speciosus*," the Currajong.

This is a very distinct species. Its elongated form, the shape and dorsal teeth of the thorax, and the curved coxæ of the posterior legs, fig. 6. c., are very remarkable. The head is rounded behind, the vertex being carinated; between the termination of the carinæ and the base of the antennæ is a flattened space bounded towards the antennæ by a thin curved line. The sides of the head and face are crowded with stiff perpendicular setæ. The terminal joint of the antennæ is acute.

*B. hamatus*, variety, *speciosus*, may eventually prove to be a different species. I have seen but a single specimen from the cabinet of W. MacLeay, Esq.; it is larger than *B. hamatus*; the dorsal teeth of the thorax are less prominent, and the elytra are contracted behind as well as in front; the coxæ of the posterior

legs are elongated, but whether curved or not I cannot distinguish. I prefer therefore to have this as a well marked variety, until I can procure specimens for more minute examination. Length,  $\frac{2.3}{100}$ .

BRYAXIS. Leach.

Sect. 1.

Having eleven joints to the antennæ.

Sp. 17. *B. linearis*. R. L. King (fig. 7. b.)

Pallide castaneus setosus; capite posticè truncato, fossula curvata inter oculos verticem elevante impresso; prothorace obcordato foveis 3<sup>bus</sup> ad basin linea transversa conjunctis instructo, et linea longitudinali impresso; elytris stria suturali altera discoidali impresso.

Long.  $\frac{1.2}{100}$ .

Parramatta, on fence at sunset.

The penultimate joint of the antennæ is transverse, the last acuminate; this species is distinguished by its linear form, light colour, and setose thorax.

Sp. 18. *B. sculpta*. R. L. King.

Ferrugineus elytris rubris; capite subquadrato fossula alta transversa inter oculos verticem elevante impresso; prothorace obcordato non setoso, foveola elongata media anticè, et foveis 3<sup>bus</sup> confluentibus fossulam altam curvatam transversam formantibus posticè instructo; elytris sub lente setosis, plicatura humerali stria suturali altera discoidali impressis, humeris elevatis lateribus parallelis; abdominis segmentis æqualibus.

Long.  $\frac{1.0}{100}$  poll.

Parramatta, under bark of decayed tree.

I have hitherto obtained but a single specimen of this pretty species. The red colour of the elytra disappears in the cabinet and the whole animal becomes almost picuous. It comes near *B. linearis*, having the same linear form, and somewhat similar markings, though much deeper, on the head and thorax: the antennæ are much alike in the two species, though the penultimate joint is, in *B. sculpta*, rather globose, the last acuminate. The

impressed line of the thorax in *B. linearis* is a deep elongated impression (foveola) in *B. sculpta*, while the three basal impressions are so continuous as to form a deep fossula. The thorax is not setose under the lens, while, in *B. linearis*, it is covered with short and a few longer setæ. Previously to microscopic examination, the median impressed line or elongated foveola on the thorax led me to class these two species with *Batrissus*, many species of that genus having this peculiar marking.

Sp. 19. *B. strigicollis*. J. O. Westwood. Soc. cit.

Castaneus, elytris pone medium pallidioribus, capite obscuriori; antennis, palpis et pedibus castaneo-fulvis, articulis 9 et 10 antennarum nigris; capite posticè profunde bi-impresso; prothorace transverso-rotundato, supra striolis minutis, lineaque curvata postica cum punctis duobus magnis lateralibus, elytris linea profunda submedia impressis.

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

Ants' nests, Melbourne.

The foveæ on the head are behind the eyes. The Prothorax is hardly as long as the head but somewhat broader, transversely ovate, with the sides regularly rounded, the disk thickly striolate. The second joint of the tarsi in all the feet broader than the rest.

Sp. 20. *B. hortensis*. R. L. King.

Castaneus sub lente setosus, antennarum clavis piccis; capite foveis inter oculos duabus magnis; thorace breviter obcordato, foveis 2<sup>bus</sup> lateralibus linea curvata conjunctis instructo; elytris stria suturali altera discoïdali impressis; abdomine marginato elytris paulo latiori, segmentis aequalibus.

Long.  $\frac{12}{100}$  poll.

Flying at sunset and under stones, Parramatta.

Foveæ on the head rather more forward than the eyes. Prothorax as long as the head—a little broader at its widest part, posterior angles somewhat acute. Tarsal joints 2 and 3 nearly equal in width. The base of the elytra is notched near the exterior angle.

Sp. 21. *B. lunatica*. R. L. King, (fig. 8. *b.*)

Ferrugineus setosus; capite 4 foveolis impresso; thorace breviter obcordato foveis 3<sup>bis</sup> linea conjunctis impresso; elytris stria suturali altera discoidali impressis, lateribus subparallelis. Abdomine marginato, segmento 2<sup>do</sup> reliquis majori.

Long.  $\frac{1.2}{100}$  poll.

Under stones, Parramatta.

This species somewhat resembles *B. hortensis*, from which it is distinguished by its being narrower in proportion to its length, as well as by the markings of the head and thorax. The thorax is longer than the head and a little wider. In the antennæ, (8. *b.*) the tenth joint is decidedly wider than the base of the eleventh.

Sp. 22. *B. electrica*. R. L. King, (fig. 9. *b.*)

Castaneus, nitidus, sub lente setosus; capite 4 foveis impresso, thorace obcordato 3<sup>bis</sup> foveis ad hansi linea transversa conjunctis instructo; elytris stria suturali altera discoidali impressis cum plicatura humerali; abdomine marginato elytrorum latitudine, segmentis inæqualibus.

Long.  $\frac{1.0}{100}$ .

On fence at dusk, Parramatta.

There is a remarkable similarity between this species and the preceding (*B. lunatica*). It is, however, readily distinguishable from that species by its smaller size, lighter colour, and the fineness of its setæ, which indeed are hardly distinguishable, except with a powerful magnifier. The terminal joint of the antennæ, fig. 9. *b.*, in this species is comparatively larger and the penultimate smaller than in the preceding—so much so that, except upon close inspection, the club appears to be formed of the terminal joint alone, the penultimate being narrower at its widest part than the base of the last joint.

I have only found it, hitherto, on fences at sunset when the air is charged with electricity; when a thunderstorm is rising of an evening it may almost with certainty be looked for on the summit of my paling fence.

Sp. 23. *B. quadriceps*. J. O. Westwood.

Rufo-castaneus, politus; sub lente forte-punctatissimus et setosus; antennarum articulis 7, 8, 9, & 10<sup>mo</sup>. nigricantibus; abdomine setulis minutissimis parce vestito; antennarum articulis 7 & 8 intus uncinatis; capite oblongo, vertice anticè in medio declivi fossulisque duabus inter oculos; prothorace truncato-ovato, linea curvata impresso postica cum punctis 2<sup>bus</sup>. magnis lateralibus; tibiis anticis pone medium late emarginatis (mas.)

Long. fere., 1½ lin.

Ants' nests, Melbourne.

*B. quadriceps*. Westwood. Loc. cit. (Pl. XVI. fig. 2.)

Antennæ rather long, basal joint long and curved; sixth suboval rather less than the preceding, seventh and eighth acutely produced inwards, ninth transverse, tenth subquadrate, eleventh oval produced into an acute apex; the tibiae of the fore legs broadly emarginate behind the middle the emargination extending to the apex.

Sp. 24. *B. atricentris*. J. O. Westwood.

Obscure castaneus, pernitidus, abdomine nigricante; pedibus antennis et palpis fulvioribus; antennarum articulis 3<sup>bus</sup> ultimis precedentibus multo majoribus; capitis angulis anticis porrectis; prothorace subovali, pone medium linea curvata profundè impressa; elytris striola submedia profunda notatis.

Long. 1. lin.

Ants' nests, Melbourne.

*B. atricentris*. Westwood. Loc. cit. (Pl. XVI. fig. 3.)

Head oblong, with a deep longitudinal line from the anterior margin to the vertex, where it widens into a large round impression between the eyes; antennæ of ordinary form with the three last joints much enlarged.

Sp. 25. *B. polita*. R. L. King.

Piceus, pernitidus, abdomine solum setoso; capite rotundato 2<sup>bus</sup> impressionibus minutis inter oculos notato; thorace obcordato capite paulum longiori; elytris magnis, thoracis

et capitis longitudine, stria suturali nulla discoidali; abdomine sub lente setoso, elytris angustiori, marginato.

Long.  $\frac{9}{100}$  poll. Common under stones in grass. Parramatta.

The head and thorax are free from setæ, and the thorax is also free from the impressions so common in this genus. The large size of the elytra at once distinguish this species from all the preceding; the antennæ are of the ordinary form. The tibia of the fore-legs of the males are thickened at about the middle. After death this species becomes almost black in many specimens.

Sp. 26. *B. exigua*. R. L. King.

Pallide castanens, capite polita non impresso; collo brevi; thorace breviter obcordato; elytris magnis, capitis et thoracis longitudine; abdomine setoso.

Long.  $\frac{7}{100}$ . Under stones. Parramatta.

This species closely approaches *B. polita*; its small size, light colour, and the absence of the characteristic impressions on the head, together with the shortness of the thorax and of the antennæ, clearly distinguish it. The antennæ have the first joint long; second globose; the five following (3-8) very short; the ninth is transverse; tenth also transverse and large, nearly as wide as the eleventh, which is large and oval truncate; the three last forming the club, are longer than the five preceding. I have found but a single specimen, under a stone in the grass.

## Sect. 2.

Having ten joints to the antennæ.

*B. Elizabethæ*. R. L. K.—(See note.)

ARTICERUS. Dalman.

Sp. 27. *A. Fortunæ*. Hope.

Sanguineus, capite elongato ovato fronte rotundato. Thorax fere quadratus, angulis antice rotundatis medio impressus. Elytra thorace latiora marginibus posticis nigricantibus. Abdomen postice rotundatum, utrinque macula nigra insignitum; pedibus robustis et incrassatis.

Long.  $\frac{1}{2}$  lin., lat.  $\frac{1}{4}$ .

Adelaide.



*A. Fortunni.* Hope. (Trans. Ent. Soc. IV.)

The antennæ are straight—rather longer than the head, and somewhat narrowed in the middle, (placenticornis.)

Sp. 28. *A. curvicornis.* J. O. Westwood.

Ferrugineo-fuscus, obscurus, punctatus, luteo-setosus (præsertim ad apicem elytrorum) hoc et sutura obscurioribus: abdomine nitido magis castaneo; antennis maris elongato-obconicis curvatis, tibiis intermediis maris extus in medio angulatis, intus prope apicem in spinam acutam productis; prothorace subquadrato, angulis anticis lateralibus rotundatis.

Long. lin. 1. Melbourne. Ants' nests.

*A. curvicornis.* J. O. Westwood. Loc. cit. (Pl. XVII., fig. 2.)

The antennæ of the male are as broad as the head, and nearly twice as long as broad, sensibly dilated from the base to the apex; at the middle curved inwards (concave in the inner side, convex on the outer side); the antennæ of the female are rather shorter, on the internal side almost straight—on the outer side a little curved, towards the apex (for one-third of its length) the sides are parallel; apex truncate; prothorax subquadrate, anterior angles rounded, the sides behind the middle a little converging inwardly, a short longitudinal fossula on the middle, not touching either the base or the apex of the thorax.

Sp. 29. *A. angusticollis.* J. O. Westwood.

Rufobrunneus obscurus punctatus luteo-setosus; capitis lateribus ante oculos subconvergentibus; antennis rectis, sublatis; prothorace oblongo, fossula discoidali; pedibus simplicibus tibiis curvatis, extus rotundatis.

Long. lin. 1.

Melbourne. Ants' nests.

*A. angusticollis.* J. O. Westwood. Loc. cit. (Pl. XVII., fig. 1.)

The antennæ rather broad, straight, sensibly dilated from the base to the middle, hardly longer than the head. Apex truncate, tibiæ simple (without spines at apex).

Sp. 30. *A. dilaticornis*. J. O. Westwood.

Rufo-brunneus vel subcastaneus; antennis pedibusque magis rufescentibus, obscurus, undique nisi abdomine squamis luteis obsitus; capite oblongo antice parum latiori angulis anticis rotundatis; antennis brevibus subovalibus; prothorace subquadrato, tibiis 4 anticis intus prope apicem spinula parva incurva armatis.

Long. lin.

Melbourne. Ants' nests.

*A. dilaticornis*. J. O. Westwood. Loc. cit. (Pl. XVII., fig. 4.)

The head is wider at the insertion of the antennæ than before the eyes and has a longitudinal impression between the eyes. Antennæ short, ovate, almost as large as the head. Prothorax rather longer than broad, with straight sides, sensibly converging towards the base, and having a longitudinal dorsal impression. Elytra densely squamose. Thighs and tibiæ broad, the intermediate thighs and the four front tibiæ armed with a minute spine near the apex.

Sp. 31. *A. setipes*. J. O. Westwood.

Brunneo-castaneus punctatus, luteo-squamosus, capite parvo; antennis ovalibus, basi constrictis; prothorace truncato-cordato foveo brevi centrali pone medium posita; elytris absque striola suturali, tibiis ad apicem longe setosis.

Long. lin. 1.

Melbourne. Ants' nests.

*A. setipes*. J. O. Westwood. Loc. cit. (Pl. XVII., fig. 3.)

Head small, somewhat narrower in front, lightly impressed between the eyes. Antennæ suboval, somewhat more narrow than in the last species; internal margin more straight, constricted at the base. Prothorax cordate-truncate, marked with a small oval impression. Tibiæ narrowed at the base, very setose at apex, the four anterior are armed near the apex with a small spine curved inwards.

I subjoin a general view of the species described in the foregoing pages.

- NARCODES—*a.* Thorax angular ..... *caia*.  
*aa.* „ rounded..... *pulchra*.
- TMESIPHORUS—*a.* antennæ of ordinary form ..... *lesperi*.  
*aa.* four last joints elongate ..... *vernalis*.  
*aaa.* three „ „ elongate ..... *Macleayi*.
- TYRUS—*a.* basal joints of last legs spiny..... *spinosus*.  
*aa.* „ „ „ not spiny.....  
*b.* clytra, with discoidal striae .....  
*c.* abdominal segment subequal ..... *humeralis and subulatus*.  
*cc.* 2nd „ „ larger ..... *formosus*.  
*bb.* clytra, without discoidal striae..... *pulpalis*.
- PSELAPHUS—*a.* longitudinal furrow of head up to the eyes.  
*b.* thorax, with three impressions..... *geminatus*.  
*bb.* „ „ a deep transverse fossa ..... *antipodan*.  
*aa.* longitudinal furrow of head extending to the neck ..... *tinatus*.
- BATRIS—*a.* thorax, without median line..... *angulatus*.  
*aa.* „ with median line .....  
*b.* „ dentate at base ..... *Australis*.  
*bb.* „ „ at back..... *lanatus*.  
*bbb.* „ not dentate ..... *barbatus*.
- BRYAXIS—*A* antennæ 11-jointed.....  
*a.* thorax foveolate .....  
*b.* „ longitudinally furrowed ....  
*c.* „ setose..... *linearis*  
*cc.* „ glabrous ..... *sculpta*.  
*bb.* „ not longitudinally furrowed ..  
*d.* „ transversely rounded ..... *strigicollis*.  
*dd.* „ obcordate .....  
*e.* head, with two foveoles..... *hortensis*.  
*cc.* head, with four foveoles.....  
*f.* tenth joint of antennæ larger than base of eleventh..... *lanatica*.  
*ff.* tenth joint not larger than base of eleventh ..... *electrica*.  
*ddd.* thorax ovate.....  
*g.* seventh and eighth joints of antennæ uncinata ..... *quadriceps*.  
*gg.* antennæ of ordinary form..... *atriventris*.  
*aa.* thorax, not foveolate .....  
*h.* antennæ 9-11 shorter than 3-8 joints. *polita*.  
*hh.* „ 9-11 longer than 3-8 joints. *criqua*.  
*AA.* „ ten-jointed..... *Elizabethæ*.
- ARTICERUS—*a.* body setose .....  
*b.* antennæ placentiform ..... *Fortuami*.  
*bb.* „ curved ..... *curvicaulis*.  
*bbb.* „ ovate..... *angusticollis*.  
*aa.* body squamose .....  
*c.* thorax wider in front than behind .. *dilatatoris*.  
*cc.* „ truncate cordate ..... *scitipes*.

NOTE.—Since the above paper was read, an interesting addition has been made to the Australian Pselaphidæ by the detection of a *Bryaxis* belonging to the division with 10 joints. I have provisionally named it *B. Elizabethæ*; it having hitherto been found only at Elizabeth Bay, by my friend W. S. MacLeay, Esq. It much resembles in size and general appearance *B. exigua*. But the number of joints of the antennæ and the large size of the penultimate joint, clearly separate it from that species. The palpi are very short.

I have also met with a new *Tyrus*, (which I have named *Tyrus subulatus*). It is at once distinguishable from the species described in this paper by the fourth joint of the Max. Palp., which is swollen at the base and terminates in a long subulate point.

These species will be described in a future number.

R. L. K.

#### EXPLANATION OF PLATE V.

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|                                 |                     |   |
|---------------------------------|---------------------|---|
| 1. <i>NARCODES varia</i> ;      | 1 <i>a.</i> palpus; | 1 <i>b.</i> club of antenna.                |
| 2. „ <i>pulchra</i> ;           | 2 <i>a.</i> palpus; | 2 <i>b.</i> club of antenna.                |
| 3. <i>TMESIPHORUS hesperi</i> ; | 3 <i>a.</i> palpus. |   |
| 4. <i>TYRUS formosus</i> ;      | 4 <i>a.</i> palpus; | 5 <i>a.</i> <i>Tyrus palpalis</i> .         |
| 6. <i>BATRISUS barbatus</i> ;   | 6 <i>a.</i> palpus; | 6 <i>e.</i> last leg of <i>B. hamatus</i> . |
| 7. <i>BRYAXIS linearis</i> ;    | <i>b.</i> antenna.  |   |
| 8. „ <i>lunatica</i> ;          | <i>b.</i> antenna.  |   |
| 9. „ <i>electrica</i> ;         | <i>b.</i> antenna;  | <i>a.</i> palpus.                           |

*On the Scaritidæ of New Holland, by WILLIAM MACLEAY,  
Junr., Esq., M.L.A.*

[Read 5th January, 1863.]

THE Scaritidæ of New Holland have been made the subject of an interesting Paper, by Mr. Westwood, in the first volume of his "Arcana Entomologica," page 81, to which Paper he has added considerably in pages 157 and 192 of the same work, and in vol. 5, Trans. Ent. Soc., page 202.

I propose in the following Paper to describe all the new species of the family which I have been enabled to procure, and at the same time, for the convenience of the Student, to recapitulate, and give the specific descriptions of all those previously known.

The Australian genera of the Family may be thus divided:—

|  |   |  |
|--|---|--|
| <i>Maxillæ apice obtusæ</i> .....      | { | Carenum, <i>Bonelli</i> .<br>Scaraphites, <i>MacLeay</i> .   |
| <i>Maxillæ apice acutè arcuatæ</i> ... | { | Scarites, <i>Fab.</i><br>Gnathoxys, <i>Westwood</i> .<br>Ceratoglossa, <i>nihil</i> .<br>Clivina, <i>Latr.</i> |

Genus CARENUM, Bonelli. (Observ. Entomol. 2nd part. p. 47.)

Arnidius, *Leach, Boisd.* Entoma, *Newm.*

This genus is the most numerous in species of the family, and, indeed, may be considered typical of the Australian *Scaritidæ*. It is readily distinguishable from the other genera by the enlarged triangular form of the terminal joint of the labial palpi, and the shortness of the basal joint of the antennæ. I propose to divide the genus into two groups, those with two teeth on the fore tibiæ and those with three.

A. *Tibiæ anticae extus bidentatae.*

## 1. CARENUM BONELLI, Westw. (Arc. Ent. 1, page 53.)

*Carenum cyanicum*, *Bonelli*. (op. cit.) Brulle, Hist., Nat. Ins. t. 5, p. 63, pl. 2, fig. 6.

“Nigrum, pronoto et elytris viridi latè marginatis, horum carina marginali violacea; disco laevi, punctis duobus versus basin alterisque duobus subapicalibus, pronoto in medio fossula longitudinali et transversè striato, basi utrinque obliquè impresso: tibiis anticis externè bidentatis.”—Westwood.

Long. 10 lin., lat. 3 lin.

Hab. New South Wales.

This is the most common species of the family and seems to be found under logs and stones throughout all the Eastern part of Australia. Bonelli believed it to be identical with the Fabrician species *cyaneum*. Westwood, who, on reference to the Fabrician specimen in the Cabinet of the Linnean Society, discovered this to be a mistake, has named this species after Bonelli.

## 2.—CARENUM MARGINATUM, Westw. (Arc. Ent. 1, page 84.)

*Amidius marginatus*, *Leach*.

“Nigrum, nitidum, laeve; pronoto elytrisq̄ue marginatis, margine viridi; palpis piceis, elytris ovalibus punctis duobus subapicalibus, tibiis anticis externè dentibus duobus magnis alterisque duobus minutis mediis.”—Westwood.

Long. 10 lin., lat. 4 lin.

Hab. New South Wales—South Australia.

This species seems also to have an extensive range, but it is not by any means so common as the last. I have a *Carenum* from South Australia, which resembles this insect, and which I have placed with it, but being entirely of a glossy black, it may prove to be a distinct species.

## 3. CARENUM PERPLEXUM, White. (App. Grey's Voy. 2, page 456.)

“Nigro-cyanicum, elytris subviridescens, basi subquadratis, dorso impunctatis; tibiis anticis extus bispinosis.”—White.

Long. 8 lin., lat. 2½ lin.

Hab. King George's Sound.

4.—*CARENUM POLITUM*, Westw. (Arc. Ent. 1, p. 84.)

“Nigrum, nitidum; pronoto lato, dorso longitudinaliter canaliculato basi que bi-impresso lateribus rotundatis et cum elytris marginatis, margine late cæruleo; horum disco impunctato.”—Westwood.

Long.  $7\frac{1}{4}$  lin., lat. 3 lin.

Hab. Vau Dieman's Land.

5.—*CARENUM VIRIDIPEÑNE*, Westw. (Trans. Ent. Soc. 5, p. 202.)

“C. prothorace subquadrato, angulis posticis rotundatis; nigrum, læve, nitidum, prothoracis lateribus viridi tenne marginatis: elytris viridibus, punctis duobus prope basin alterisque duobus ante apicem notatis; tibiis anticis extus bidentatis.”—Westwood.

Long. lin. 8.

Hab. Mundarra River.

6.—*CARENUM SCARITIOIDES*, Westw. (Arc. Ent. 1, p. 192.)

“Nigrum nitidum subangustum, elytris violaceo tenuissime marginatis, punctis duobus humeralibus alterisque duobus subapicalibus, pronoto linea tenne centrali impresso, tibiis anticis externè bidentatis.”—Westwood.

Long.  $9\frac{1}{2}$  lin., lat. 3 lin.

Hab. New South Wales, Victoria, South Australia, and King George's Sound.

This insect is found all over the Southern Interior; as its name implies, it has a strong resemblance to a true Scarites.

7.—*CARENUM GEMMATUM*, Westw. (Arc. Ent. 1, p. 85.)

“Viride, elytris cupreo-tinctis, punctis magnis distantibus triplice serie in singulo elythro ordinatis, tibiis anticis dentibus duobus magnis alteroque minuto externis.”—Westwood.

Long.  $4\frac{1}{2}$  lin., lat.  $1\frac{1}{2}$  lin.

Hab. Port Essington

I have never seen this species, but I suspect from the description that it should go with my division of *Carenum*, having three teeth on the fore tibia, indeed Mr. Westwood says that it appears

most to resemble *C. Spencii*, which is undoubtedly a tridentate species.

8.—*CARENUM SUMPTUOSUM*, Westw. (Arc. Ent. 1, p. 86.)

“*C. angustius nigrum, igneo colore varium, elytris lævibus punctis duobus versus basin alterisque duobus subapicalibus, tibiis anticis externe bidentatis.*”—Westwood.

Long. 10 lin., lat. 3 lin.

Hab. Port Essington.

9.—*CARENUM MEGACEPHALUM*, Westw. (Arc. Ent. 1, p. 86.)

“*Cylindricum nigrum, nitidum, capite maximo, pronoto viridi, elytris lævibus cupreo-viridibus, tibiis anticis dente unico apicali externo.*”—Westwood.

Long. 8 lin., lat.  $1\frac{3}{4}$  lin.

Hab. Port Essington.

In form, this species resembles the following one, but its unidentate tibiæ if rightly described, seem to remove it far from any other known species.

10.—*CARENUM TINCTILLATUM*, Newm. (Arc. Ent. 1, p. 86.)

*Eutoma tinctillatus*, Newm. (Ent. Mag. 5, p. 171.)

“*Cylindricum nigrum, elytris lateribus cæruleis, punctisque duobus subapicalibus, tibiis anticis extus bidentatis.*”—Newman.

Long. 8 lin., lat. 2 lin.

Hab. Australia.

I have an imperfect specimen of what I believe to be this insect, but I do not know the exact locality where it was found. The narrow cylindrical species of *Carenum*, such as this and the last described insect, ought perhaps to constitute a subdivision as suggested by Reiche, to which Newman's name of *Eutoma* may be affixed.

11.—*CARENUM INTERMEDIUM*, Westw. (Trans. Ent. Soc. 5, p. 203.)

“*Nigrum, nitidum, subangustum, parallelum, capite utrinque linea curvata impressa notato, pronoto linea media impresso (in medio disci fere obsoleta), elytris 4-punctatis, tibiisque anticis bidentatis.*”—Westwood.

Long.  $9\frac{1}{2}$  lin., lat.  $2\frac{3}{4}$  lin.

Hab. Adelaide, South Australia.



12.—*CARENUM LEVIPENNE*. (n. sp.)

*Nigrum nitidum*, thorace semicirculari angulis anticis productis posticè submarginato dorso canaliculato, elytris glaberrimis marginibus violaceis angulisque humeralibus subacuminatis.

Long.  $9\frac{1}{2}$  lin., lat.  $3\frac{1}{2}$  lin.

Hab. King George's Sound.

The head in this species has, like all others of the genus, a deep longitudinal impression on each side, which, as it approaches the labrum, turns almost at right angles towards the anterior angles of the head. The thorax is wider than the head, smooth, shining, jet black, and of a semicircular form; the anterior angles project forward, the base is slightly emarginate and reflexed in the middle, and the dorsal medial line, which is distinct, is not continuous to the apex and base. The elytra are very smooth and shining, entirely black, excepting the margin, which is of a violet hue; the base is truncate, the humeral angles are rather pointed upwards; the general form is oval, considerably narrowed towards the apex. The under surface is black and shining, but not so brilliant as the upper. The legs are in every respect, apparently, like those of the other species of the group.

13.—*CARENUM QUADRIPUNCTATUM*. (n. sp.)

*Nigro-cyaneum nitidum* thorace subquadrato posticè rotundato dorso canaliculato, elytris convexis lateribus subparallelis thorace paullo angustioribus marginibus basi que punctatis punctis duobus discalibus uno versus humerum altero versus apicem impressis.

Long.  $9\frac{1}{2}$  lin., lat.  $2\frac{1}{2}$  lin.

Hab. Port Denison.

The longitudinal impressions on each side of the head take their rise in this species almost behind the eyes, near the posterior angles of the head; they form two very deep semicircular canals round those portions of the head where the eyes are situated. The thorax is truncate at the apex, rather broader than long; the sides parallel, the posterior angles rounded, and the base prominently margined and rather reflexed; the dorsal line

is not extended to the apex. The elytra are about twice the length of the thorax, and slightly narrower, they are rather convex, with the sides parallel; a line of small punctures extends along the base and the lateral margin; there is a deeply impressed puncture near the shoulder and another not far from the apex of each elytron. The under surface is black; the legs present no character not common to the genus.

14.—*CARENUM BIPUNCTATUM*. (n. sp.)

Nigrum nitidum thorace subquadrato dorso canaliculato angulis posticis rotundatis, elytris nigro-violaceis cylindricis punctis setigeris marginalibus et versus apicem utrinque puncto discali impressis.

Long. 7 lin., lat.  $1\frac{1}{2}$  lin.

Hab. Port Denison.

The impressions on each side of the head are less semicircular than in the last species, they proceed from the back of the head forwards and inwards until they approach the labrum, where they turn a little outwards at an obtuse angle. The thorax is slightly broader than the head, truncate at the apex, parallel at the sides, rather longer than broad, and has the posterior angles rounded; the basal margin is small, the dorsal line does not extend to the anterior margin, and the whole surface is black, smooth, and shining. The elytra are slightly narrower than the thorax, and about twice the length, not very convex, slightly truncated at the base, and rounded at the apex; the sides are parallel, the humeral angles rather sharp and elevated; the edge of the base is punctured, as are also the lateral margins, each puncture being setigerous; on the disc of each elytron, near the apex, is a large puncture. The under surface is black, the legs being as in all the species of the group that I have seen.

15.—*CARENUM SPLENDIDUM*. (n. sp.)

Chalybeum capite lato, thorace longiore quam lato apice truncato posticè subrotundato dorso canaliculato ad basin utrinque impresso, elytris subcylindricis marginibus punctatis.

Long.  $4\frac{1}{2}$  lin., lat. 1 lin.

Hab. King George's Sound.

The head is as broad if not broader than the thorax, of a pitehy or black colour; the lateral impressions are short, but deeply marked, and semicircular. The thorax is truncated at the apex, parallel at the sides, and rounded at the posterior angles. it is somewhat longer than broad, and has the dorsal line well marked; there is a distinct broad impression at the base on each side of the medial line. The elytra, which, with the thorax, are of a chalybeate hue, are about one half longer than that portion of the body; they are convex, cylindrical, rounded at the apex, and punctured along the lateral margins, particularly near the shoulders. The under surface is of a pitehy red or black. The legs present no peculiar characters.

16.—*CARENUM CUPRIPEXNE.* (n. sp.)

*Violaceum nitidum capite lato, thorace longiore quam lato apice truncato lateribus subparallelis angulis posticis rotundatis dorso canaliculato basi que utrinque foveolato, elytris striato-punctatis cupreis marginibus violaceis.*

Long. 4 lin., lat. 1 lin.

Hab. King George's Sound.

The head is, if anything, broader than the thorax; the lateral impressions are deep and nearly straight, commencing near the base of the occiput. The thorax is longer than broad, truncated in front and rounded behind; the sides are parallel; the dorsal line is well marked, and on each side, near the base, is a broad, but not very deep depression; both thorax and head are of a dark violet hue. The elytra are of a golden copper colour, marked with distinct rows of rather large punctures; the margins are of a violet colour and punctured; in size, the elytra are about one-half longer than the thorax and rather narrower; in shape they are convex, and with parallel sides. The under side of the head is chalybeate; the rest of the under surface and the legs are of a pitehy black.

*B. Tibiæ anticæ extus tridentatæ.*

17.—*CARENUM CYANEUM,* Fab.

*Carenum Fabricii, Westw., Arc. Ent. 1, p. 85. Scarites cyaneus, Fab. Ent. Syst. 1, p. 95. Syst. El. 1, p. 125. Oliv. Ent. 3,*

No. 36, p. 11, pl. 2, fig. 17. *Laporte, Hist. Nat. Ins. Col. 1, p. 66.*

“Nigro-cyaneum glaberrimum, elytris sub-purpurascensibus, et versus basin et apicem bipunctatis, tibiis anticis extus tridentatis.”—Fabricius.

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

Hab. North Australia?

This is the original species described by Fabricius. I believe the only specimen known is in the museum of the Linnean Society. Mr. Westwood has proposed to change the name to *Fabricii* because Bonelli confounded it with another species, I can scarcely however see the justice of depriving Fabricius of his name, because a subsequent writer may have made a mistake.

18.—CARENUM SMARAGDULUM, Westw. (*Arc. Ent. 1, p. 84.*)

“C. pronoto transverso elytrisque nitidissimè cæruleo-viridibus, his versus apicem bipunctatis, tibiis anticis extus tridentatis.”—Westwood.

Long.  $8\frac{1}{2}$  lin., lat. 3 lin.

Hab. Swan River.

19.—CARENUM SPENCII, Westw. (*Arc. Ent. 1, p. 85.*)

“Nigrum, subopacum, tibiis anticis extus tridentatis, elytris excavationibus numerosis rotundatis, triplice serie in singulo elytro ordinatis, spatiis intermediis elevatis.”—Westwood.

Long. 9 lin., lat. 3 lin.

Hab. Hunter's River District.

20.—CARENUM LOCULOSUM, Newm. (*Entomologist, p. 369.*)

“Nigrum fronte profunde longitudinaliter bisuleata, prothorace transversè luato medio longitudinaliter sulateo: elytris foveis magnis pravè dispositis asperis; tibiis anticis dentibus 2 longis externis spinisque 2 internis armatis; tibiis intermediis dentibus 5—6 externis minutis spinis 2 apicalibus.”—Newman.

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

Hab. Port Phillip?

As far as I can make out by the above description, this species is identical with an insect which I have received in a collection

from Melbourne under the name of *Scaraphnia Howittii*. No genus of the name of *Scaraphnia* has to my knowledge been described, but I am not at all prepared to deny the propriety of forming a genus for the reception of this species, but any such genus must necessarily include the last named species *Spencii* and the following one *tuberculatum*.

21.—CARENUM TUBERCULATUM. (n. sp.)

Nigrum, thorace lunulato capite latiori subrugoso dorso canaliculato, elytris ad basin truncatis ad apicem rotundatis tuberculis quinque striatis marginibusque lateralibus profundè sulcatis.

Long 12 lin., lat. 5 lin.

Hab. Murrumbidgee.

The head is broad and somewhat flat; the frontal impressions are deep and near the centre of the head, curving outwards towards the anterior angles of the head at almost right angles. The thorax is much broader than the head, and has the anterior angles much produced; the posterior angles are rounded, and the base is narrow, rounded, and slightly reflexed; the dorsal channel is not deeply marked, and there are a number of transverse rugæ over the dorsal surface. The elytra are twice the length of the thorax, but scarcely so broad, they are truncated at the base, and rounded towards the apex, and rather flat; the sculpture may be described as consisting of small flattish tubercles which cover the whole surface pretty closely, they are placed in five tolerably regular rows, a deep lateral groove extends from the humeral angle to within a short distance of the apex; the under surface of the body is of an uniform shining black; the legs are not so strong and palmated as in the other species of the group.

Genus SCARAPHITES, MacLeay, (Westw. Arc. Ent. 1, p. 157.)

This genus is easily distinguishable from the last by the great dilatation of the body, and the cylindrical form of the terminal joint of the labial palpi. The species are all rare, and if we may judge of the habits of the whole, by what we know of those of one species, their rarity may be accounted for by the

difficulty of reaching their haunts. *S. MacLeayi*, Westw., was found some years ago in considerable numbers at Elizabeth Bay, near Sydney, some feet under the surface, in trenching loose sandy soil. As, like *Carennum*, they are apterous, they probably never, except by accident, approach the surface of the ground. It is singular, and may have something to do with their deep subterranean habits, that both this genus and *Carennum*, (which I also believe to be deep diggers,) are not only apterous, but agree also in having toothless maxillæ, while all the other genera of the family are winged, and have their maxillæ acutely arcuated.

1.—SCARAPHITES BACCHUS, Westw. (Arc. Ent. 1, p. 87.)

“Niger nitidus latissimus, capite puncto circulari medio foveisque duabus lateralibus impressis, elytris circularibus tibiisque intermediis dente acuto subapicali externe armatis.”—Westwood.

Long. 19 lin., lat. 9 lin.

Hab. Swan River.

2.—SCARAPHITES LEXEUS, Westw. (Arc. Ent. 1, p. 87.)

“Niger nitidus latus, capite inter oculos foveis duabus ovalibus impressis et strigosis, pronoto utrinque versus angulos anteriores puncto impresso, elytris obovatis, tibiisque intermediis dente magno curvato oblique truncato subapicali armatis.”—Westwood.

Long. 14½ lin., lat. 5½ lin.

Hab. New Holland.

I have seen a specimen of this insect from Illawarra.

3.—SCARAPHITES SILEXUS, Westw. (Arc. Ent. 1, p. 87.)

“Niger nitidus latus, capite inter oculos foveis duabus profundis punctoque utrinque pone oculos; pronoto vix foveato, elytris obovatis sublevibus, tibiisque intermediis dente acuto subapicali externe armatis.”—Westwood.

Long. 13½–15¼ lin., lat. 5¼–6½ lin.

Hab. Swan River.

4.—SCARAPHITES MACLEAYI, Westw. (Arc. Ent. 1, p. 157.)

“Niger subnitidus, elytris obovatis, singulo striis 6-tennibus

punctatis serieque sublaterali punctorum majorum, pedibus anticis obtusè dentatis, tibiisque intermediis spina acuta apicali externa armatis.”—Westwood.

Long. 13 lin., lat.  $5\frac{1}{2}$  lin.

Hab. Elizabeth Bay, Sydney.

5.—SCARAPHITES ROTUNDIPENNIS, Dej. (Spec. Coleop., vol. 1, p. 101.)

“Niger; tibiis anticis tridentatis; elytris ovatis, subrotundatis, obsoletè striatis, interstitiis subtilissime reticulatis.”—Dejean.

Long. 15 lin., lat.  $5\frac{1}{2}$  lin.

Hab. Port Phillip.

The above is the description given by Comte Dejean of *Scarites rotundipennis*, an insect, as he thought from the Cape of Good Hope. It has long however been believed that the insect so described was really from Australia, and in a note which I have just received, Dr. Howitt, of Melbourne, mentions that he had been assured by Professor Schaum that the Melbourne Insect is identical with the insect described by Dejean. I may add that I find the detailed description in Dejean's work to agree exactly with *Scaraphites Howittii* MacLeay, the name by which this species has been known for some time. It differs from *Lenæus*, which it most resembles in its smoother labrum, less distinctly striated elytra and more acute dentation on the intermediate tibiae, also in the number and position of the punctures on the elytra.

6.—SCARAPHITES OBESUS. (n. sp.)

Niger nitidus, capite medio vix canaliculato foveis lateralibus profundis, thorace sublunulato basi marginato, elytris convexis subcircularibus basi subsinatis thorace latioribus marginibus lateralibus punctulatis, tibiis anticis externè bidentatis intermediis dente subacuto.

Long. 18 lin., lat. 8 lin.

Hab. Swan River?

The upper surface is broad, black, shining, and convex; the head is square, with a small longitudinal mark in the centre of the forehead, and a deep incision on each side, which turns out-

wards at right angles, towards the anterior angles of the head; the occiput is smooth; the eyes are white. The thorax is wider than the head, broader than long, and somewhat semicircular in shape; the anterior angles are rather produced; the posterior are round; the base has a small, slightly reflexed, margin within the entire margin of the thorax; the medial line is not deeply marked, and there is a row of short striolæ along the anterior margin. The elytra are broader than the thorax and nearly circular, excepting at the base, which is depressed and hollowed out; the surface is smooth; a line of small punctures extends along the base and lateral margins; there is also a small impressed puncture on the disc of each elytron, about one third from the apex. The under surface is black and shining; the fore tibiae have two long external spines, and two short ones immediately above them; the intermediate tibiae have a short subacute spur on the outside, near the apex.

7.—SCARAPHITES LATIPENNIS. (n. sp.)

*Niger subnitidus subdepressus, capite utrinque profundè impresso, thorace capite latiori subsemicirculari basi subemarginato medio canaliculato utrinque ad basin impresso, elytris latis posticè thorace latioribus striis septem subtiliter punctulatis marginibus punctatis punctis prope marginem versusque apicem impressis, tibiis anticis extus tridentatis intermediis dente magno obtuso compresso.*

Long. 15 lin., lat. 6 lin.

Hab. King George's Sound.

The head is somewhat square, rather convex, and under a lens presents a rather rugose appearance, there is a deep rugose longish depression on each side of the face; the labrum seems short, and the mandibles not deeply channelled. The thorax is truncated at the apex, and rounded obliquely towards the base, which is slightly emarginated and reflexed; the medial dorsal line is distinct, and there are two impressions and some transverse rugæ at the base. The elytra are convex and rounded, marked rather distinctly with 7 rows of fine punctures, they have a row of impressed points along each lateral margin, with smaller punctures to the number of six, along nearly the line of



the seventh stria, at irregular distances apart, and closest towards the apex, and three or four also near the apex, about the line of the third stria; the three teeth on the fore tibiæ are blunt; the tooth on the intermediate tibiæ is large, flattened laterally, and rounded at the apex.

Genus SCARITES, Fab. (Syst. El. 1, p. 249.)

This genus, the most numerous of the family in other parts of the world, (upwards of one hundred species having been described,) has not, I believe, until now, been clearly proved to be an Australian genus. Mr. Westwood, certainly, (Arc. Ent. 1, p. 88), describes an Insect from Van Diemen's Land, as *Sc. sculptilis*; but as the head of his specimen was wanting, it is difficult to determine on what grounds he could have judged it to be a true *Scarites*.

This is the only one of the five genera mentioned in this Paper, which is not exclusively Australian. It may be readily distinguished from the two genera last described, by its pointed maxillæ, large size of basal joint of antennæ and winged body; and from the two following genera, by its strongly toothed transversely striated mandibles, and general form.

1.—SCARITES CACUS. (n. sp.)

Niger nitidus thorace anticè subquadrato posticè subrotundato basi submarginato dorso tenuiter canaliculato disco subgranuloso foveâque parvâ utrinque versus basin impresso, clytris subconvexis thorace bis longioribus anticè subtruncatis posticè rotundatis lateribus parallelis punctis duobus versus apicem utrinque impressis.

Long.  $10\frac{1}{2}$  lin., lat.  $2\frac{1}{2}$  lin.

Hab. Port Denison.

The whole body is black and shining, with the exception of the antennæ, palpi and tarsi, which are pitchy; the mandibles are coarsely striated; the head is smooth, the frontal impressions do not reach the occiput. The thorax is slightly broader than the head and about as broad as long; the apex is almost truncate, the basal angles are round, the base itself is slightly emarginated;

the dorsal line is distinctly but not deeply marked, and there is a slightly marked impression on each side near the base, the disc presents a somewhat gritty appearance when examined with a lens. The elytra are twice the length of the thorax and scarcely so broad, the sides are parallel, the base truncate and the apex round; the base and lateral margins are covered with small setigerous punctures; there are also two deep punctures on each side near the apex one above the other; each segment of the abdomen beneath has two setigerous points. The fore tibiæ are palmated and strongly tridentated externally; the intermediate tibiæ have a short pointed tooth near the extremity, with another very small one immediately above it.

2. —SCARITES GERYON. (n. sp.)

Niger nitidus thorace anticè subtruncate posticè subrotundato basi subemarginato dorso canaliculato subrugoso vel acducto, elytris subdepressis thorace bis longioribus subtilissime striato-punctatis striâ tertiâ punctis duobus magnis versus apicem impressis.

Long. 12 lin., lat.  $3\frac{1}{2}$  lin.

Hab. Upper Darling.

This insect is so much flatter than the last that it cannot be mistaken for it, the head is smooth posteriorly, and covered with short striolæ anteriorly, the two depressions are neither deep nor long. The thorax is rather broader than long, almost truncated anteriorly, rounded behind, and with the base slightly emarginated; the dorsal line is distinct, and with the assistance of a lens very fine transverse striolæ may be observed near the sides. The elytra are flat, and of a shining black, more than twice the length of the thorax, and marked with punctured striæ so minute as to be indistinct even with a lens; there are two deeply impressed punctures on the third stria, both near the apex. There are several minute punctures on the basal margin, and a row of the same along the lateral margins. The under surface and legs are as in the last species.

3.—SCARITES DAMASTES. (n. sp.)

Niger nitidus depressus thorace anticè vix truncato posticè rotundato basi subemarginato dorso tenuiter canaliculato,

elytris basi truncatis apice rotundatis lateribus parallelis basi marginibusque densè punctulatis punctis duobus versus apicem utrinque impressis.

Long.  $11\frac{1}{2}$  lin., lat.  $3\frac{1}{2}$  lin.

Hab. Murrumbidgee.

This species is flatter even than the last, which and the want of striæ on the elytra are almost the only distinguishing characters. The head is much the same as in *Geryon*; the thorax, which is broader than the head, is almost truncate anteriorly and is obliquely rounded towards the base, which is slightly emarginated and reflexed; the dorsal line is distinct. The elytra are twice the length of the abdomen, truncated at the base, rounded at the apex, and with parallel sides; there are two punctures near the apex, as in the other species, and a row of minute closely placed punctures extends along the basal margin and lateral groove of each elytron. The legs are as in the last species, excepting the tooth on the outside of the intermediate tibiæ, which is certainly stronger and less acute than in *Geryon*, and the upper spine on the inside of the fore tibiæ, which is thickened and obliquely truncate; this last peculiarity is traceable in the other two species.

Genus GNATHOXYs, Westw. (Arc. Ent. 1, p. 89.)

*Caput* pronoto multo augustius, pone oculos sensim paullo latius, ante oculos parum attenuatum.

*Labrum* porrectum augustum, angulis anticis rotundatis, in medio plus minusve emarginatum.

*Mandibule* capite paullo breviores subcurvatæ margine interno acuto, edentato, apiceque acuto.

*Maxille* elongatæ lobo apicali acuto curvato, intus setoso, palpi maxillares breves, articulo ultimo præcedenti parum crassiori.

*Mentum* dente medio nullo armatum, palpi labiales maxillaribus longitudine æquales, articulo ultimo vix præcedenti crassiori.

*Antennæ* capite vix longiores, gracillimæ, articulis 2<sup>do</sup>. et 3<sup>to</sup>., subæqualibus et sequentibus longioribus.

*Pronotum* convexum, posticè parum lobatum.

*Elytra* e pronoto pedunculo brevi subremota convexa, apice haud truncata.

*Pedes* breves, sat robusti; tibiis anticis extus dentatis, intus emarginatis et calcaratis, tibiis intermediis ad apicem in spinam externè productis.

I have quoted Mr. Westwood's description of this genus in full, as I am unable myself to give any information about it. I have never to my knowledge seen a specimen of it. It was founded on two species from Port Essington, and Reiche has since described two species from Swan River.

The chief distinguishing features of the genus seem to be its unarmed mandibles, porrected labrum, and mentum without any medial tooth.

1.—GNATHOXYIS GRANULARIS, Westw. (Arc. Ent. 1, p. 89.)

“Niger subnitidus, æneo parum tinctus, pronoto subquadrato, elytrorum lateribus et apice granulatis, disco haud striato-punctato.”—Westwood.

Long. 13 lin., lat. 5 lin.

Hab. Port Essington.

2.—GNATHOXYIS IRREGULARIS, Westw. (Arc. Ent. 1, p. 89.)

“Niger subnitidus, pronoto rotundato, angulis anticis haud porrectis, elytris irregulariter punctato-striatis apiceque granulatis.”—Westwood.

Long. 8½ lin., lat. 3½ lin.

Hab. Port Essington.

3.—GNATHOXYIS OBSCURUS, Reiche. (Rev. Zool. 1842, p. 121.)

“Nigro-æneus subnitidus, pronoto subrotundato canaliculato angulis anticis haud porrectis, elytrorum disco punctato-striato; striis octo geminatis interruptis; lateribus et apice crebrè et irregulariter punctatis.”—Reiche.

Long. 7 lin.

Hab. Swan River.

4.—GNATHOXYNS CICATRICOSUS, Reiche. (Rev. Zool. A. 1842, p. 121.)

“Elongatus aeneo nitidus, pronoto subovato canaliculato, angulis anticis haud porrectis, elytris profundè latè et irregulariter-impressis, apice rugoso plicatis.”—Reiche.

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

Hab. Swan River.

Genus CERATOGLOSSA. (nov. gen.)

*Antennae* capite longiores articulo primo crassiori 2<sup>do</sup>. et 3<sup>tio</sup>. reliquis gracilioribus.

*Labrum* breve setosum margine antico sinuato lateribus subrotundatis.

*Mandibulae* capite paullo breviores arcuatae intus edentulae apice acutae.

*Maxillae* apice fortiter arcuatae, acutissimae, intus setis dentiformibus densè armatae.

*Palpi Maxillares* articulis secundo et tertio obconicis, illo longiori crassiori, ultimo subulato quam tertio longiore.

*Palpi Labiales* maxillaribus longitudine aequales articulo ultimo quam penultimo brevioribus.

*Labium* apice subspatuliforme vix emarginatum paraglossis tennibus, liberis, longis.

*Mentum* dente medio magno obtuso, lobis lateralibus aequalibus subrotundatis.

*Caput* quadratum, thorace angustius.

*Thorax* quadratus lateraliter marginatus

*Pedes* tibiis anticis extus tridentatis.

This genus, which differs very widely from anything hitherto described as Australian, approaches closely, in general appearance, to two genera from Brazil and India.

From the first, *Oxystomus*, the Brazilian genus,\* it differs in the medial tooth of the mentum not being so large as the lateral

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\* A species has, I believe, lately been found in England, it has been named *O. Anglicanus*.

lobes, in the form of the labial palpi and last joint of the maxillary, in the size of the paraglossæ, and in the form of the labium. From the Indian genus *Oxygnathus* of Dejean, it is removed by the form of the mentum, which is described by Dejean in the latter genus as, "plane et légèrément trilobé." It is evident, however, that Dejean had not closely examined the trophi of *Oxygnathus*, the description being altogether so loose, and the labium stated to be unknown.

I believe that a more accurate knowledge of *Oxygnathus* will exhibit a very close affinity between it and *Ceratoglossa*.

Of the history and habits of the two species forming this genus, nothing is known, they are evidently "fossores" like all the rest of the family, but I have a species, just received from Port Phillip, which, I think, will be found to belong to this genus, and, I am assured by the collector, Mr. Masters, that it is only found under stones in very wet places.

#### 1.—CERATOGLOSSA RUGICEPS. (n. sp.)

Nigra subnitida capite subdepresso rugoso setoso ante oculos bilobato subreflexo, thorace subsetoso posticè subrotundato dorso canaliculato, elytris parallelis thorace bis longioribus 7-striatis striâ tertiâ punctis duobus indistinctis.

Long. 7 lin., lat.  $1\frac{1}{2}$  lin.

Hab. Murrumbidgee.

The head is rather longer than broad; the anterior angles consisting of a flattened, bilobed, somewhat reflexed plate, a broad longitudinal impression on each side separates this flattened extension of the head from the forehead. The frontal surface is rather flat, and covered with rugæ or lengthened setigerous punctures. The thorax is longer than broad, and rather widening towards the base; the anterior margin is slightly sinuated, and the posterior angles are rounded; the surface is of a brilliant black, with some indistinct transverse striolæ; the dorsal line is distinctly marked, as is also the transverse apical one. The elytra are twice the length of the thorax, and rather convex; the sides are parallel, and the apex is rounded; there are seven distinct striæ or channels on each elytron, the intervals are

rounded and shining; there are two or three small impressed points on the third stria, one near the apex, the other or others along the course of the stria; a deep lateral groove, inclosing a row of punctures, extends along the entire length of each elytron.

The under surface is of a shining black; the abdominal segments are convex, and have each two impressed punctures, one on each side of the medial line, towards their posterior margins. The legs, which with the antennæ and palpi are reddish, are strong and setose; the fore tibiæ are palmated and strongly tridentated externally; the two internal spurs are long and acute. The intermediate tibiæ are armed with one straight acute tooth, near the apex, externally, and they have on the inner side, at the apex, two small spurs, the hind tibiæ having only one long very acute spur on the same part.

This species I have never seen, except from the Murrumbidgee, and even there it seems to be by no means common. It may readily be distinguished from the next species by its rugose head and more distinctly channelled elytra, but, in truth, the insects are very different in many respects. I think I have another species from Melbourne, but I have not had time yet to examine it thoroughly.

## 2.—*CERATOGLOSSA FOVEICEPS*. (n. sp.)

*Nigra subnitida parè setosa, capite utrinque profundè canaliculato, thorace posticè vix ampliato rotundato dorso tenuiter canaliculato, elytris thorace bis longioribus subcylindricis 7-striatis striâ tertiâ punctis duobus uno in medio altero versus apicem impressâ.*

Long. 8 lin., lat. 2 lin.

Hab. Richmond River.

The head in this species is rather flat and smooth, with two very deeply cut longitudinal canals on each side. The thorax is longer than broad, and evidently gets thicker towards the base; the anterior margin is slightly sinuated, and the posterior angles are rounded; the dorsal line is but slightly marked. The elytra are twice the length of the thorax, rather convex and rounded at the apex; there are seven narrow striæ or channels on each

elytron, with the intervals wide and smooth, two impressed but minute punctures are visible in the third stria, one about the middle, the other near the apex. The legs are as in the last described species, but of a darker colour.

The remainder of the Scaritidæ I must make the subject of another paper. They are all small insects, allied, if not belonging to the genus *Clivina*. Two only, so far as I know, have been described,—*Clivina basalis*, Chaud. (Bull. Mosc. 1843, p. 733); and *Clivina Australasie*, Bohem. (Voy. de la Freg. Eugen. 2, p. 8). There are at least six species not uncommonly met with in collections: which are to be found under logs and stones in moist places.



*On the Insects of Australia allied to the Glaphyridæ, by*

WILLIAM MACLEAY, Junr., Esq., M.L.A.

[Read 1st June, 1863.]

The genus *Phyllotocus* of Fischer contains a number of species which, though they agree in habit and other characters, differ considerably in important parts of their anatomy.

That such differences should have been hitherto overlooked in a group somewhat homogeneous is, however, less a matter of surprise than that Insects, so completely anthobious in habit and structure, should be placed by authors among so phyllophagous a family as the *Melolonthidæ*.

I find that Dejean, Blanchard, Burmeister, Erichsen, and Lacordaire, all unite in placing *Phyllotocus* near *Serica*, *Diphucephala*, *Liparetrus*, and other undoubtedly phyllophagous genera.

To oppose the opinion of such distinguished Naturalists may appear presumptuous on my part; but it cannot be said that *Phyllotocus* is in any very immediate connexion with the *Melolonthidæ*. In *Phyllotocus*, the maxillæ are membranaceous and penicillate, and in some instances, even the membranaceous rudiment of the external lobe is wanting. In the *Melolonthidæ* they are always corneous and toothed. In fact the former is in every respect anthobious, *i.e.* living in flowers: while the others are as decidedly phyllophagous. It appears to me that the link between the two groups must be looked for among the insects allied to *Hoplia*, since the teeth on the maxillæ of some of such genera, indicate a phyllophagous tendency.

The strongest point of resemblance to the *Melolonthidæ* in *Phyllotocus* is the transverse suture which divides the clypeus from the forehead; but that, though perhaps a constant character of the *Melolonthidæ*, is also to be found in *Amphicoma* and other genera of *Glaphyridæ*.

I believe, therefore, that I am justified in asserting that so far from *Phyllotocus* being properly classed with the *Melolonthidæ*,

a more strictly anthobious group of insects cannot be found among the *Glaphyridæ*.

No doubt the characters given by Mr. MacLeay to the family of *Glaphyridæ* may require some extension in order to enable it to include the genus *Phyllotocus* of Australia, and a portion of the South African insects allied to *Hoplia*; for it must be remembered that Mr. MacLeay's characters of the group were defined long before the genus *Phyllotocus* was known to Entomologists.

Such extension of character will, however, in no way interfere with Mr. MacLeay's plan of arrangement, which, I must say, seems so simple and natural, and founded on such obvious distinctions of structure and habit, as to make it contrast very favourably with some of later date.

Without attempting to explain the very ingenious system of classification which Mr. MacLeay has the merit of originating, I will merely refer to the "*Horræ Entomologicæ*" in so far as it may be necessary to show the relative positions of the *Glaphyridæ* and *Melolonthidæ*.

The Lamellicornes, according to that author, consist of two great divisions, the RECTOCERA consisting of the Lucanidæ and Histeridæ, and the PETALOCERA or true Lamellicorns.

These last he subdivides into SAPROPHAGA, or insects feeding on putrescent and excrementitious matter; and THALEROPHAGA, or those which feed on living vegetable substances.

The first subdivision contains the families *Geotrupidæ*, *Scarabeidæ*, *Aphodiidæ*, *Trogidæ*, and *Dynastidæ*. The second consists of the *Rutelidæ*, *Cetoniidæ*, *Glaphyridæ*, *Melolonthidæ*, and *Acoplognathidæ*.

By this arrangement it will be seen that the *Glaphyridæ* occupy what is clearly their natural position between the *Cetoniidæ* and *Melolonthidæ*.

Lacordaire on the other hand, following I believe Erichsen's plan, divides the PETALOCERA into *Les Lamellicornes Japrostictiques* or those which have the stigmata situated on the membrane which connects the dorsal and ventral arches of the abdomen, and *Les Lamellicornes Pleurostictiques*, where the stigmata are placed partly on the aforesaid membrane and partly on the ventral arches.

The first of these contains the SAPROPHAGA of MacLeay;

and the other the THALEROPHAGA of the same author, with this exception, that the *Glaphyridæ* are joined with the SAPROPHAGA and the *Dynastidæ* with the THALEROPHAGA.

Such an arrangement is a palpable forcing of nature to suit the imaginary importance of a peculiar structure, and without wishing to undervalue the importance in animal economy of the organs of respiration, or of characters founded upon their position, number, &c., I must say that the result in this case affords another illustration of a truth long since pointed out by Mr. MacLeay, viz: that no one character can be universally trusted, and that characters which appear constant in one group are frequently found to give way in another. The tarsal system of Latreille is an illustration of this axiom; since, excellent and natural though the tarsal distinctions have been found to be in many cases, Mr. MacLeay (Linn. Trans. vol. XIV.) has clearly shown that in certain groups the system breaks down altogether, and that the tarsi vary in species and even in the sexes. Another illustration of the axiom is to be found among the *Mammalia*: on the dentition of the animals of that division of the *Vertebrata* has been based a most constant, correct, and natural mode of classification; but it also breaks down completely in the genus *Rhinoceros*, where almost every species is found to have a distinct system of teeth.

The position of the *Glaphyridæ* in the Animal Kingdom, may, according to Mr. MacLeay (Smith's Zool. of S. Africa, No. III.) be defined as follows—

*Regnum* ANIMALIA.

1. *Subregnum* ANNULOSA.
2. *Classis* MANDIBULATA.
3. *Ordo* COLEOPTERA.
4. *Tribus* CHILOGNATHOMORPHA.
5. *Stirps* PETALOCERA THALEROPHAGA.
6. *Familia* GLAPHYRIDÆ.

Before proceeding to what is really the object of the present paper, viz., to describe the Australian genera and species of this family, I will take the opportunity of making a few observations on the sub-divisions of the entire family.

Mr. MacLeay has pointed out in the *Horæ Entomologicæ* that all natural groups whether Kingdoms, Classes, Orders, Families, or

Genera, return into themselves ; that is, that the series of natural affinities will, if followed, invariably lead back to the point started from, which fact may be represented by a circle, ellipse, or any curve that returns into itself. He has also, in the same work, shown that in general the number of groups, into which such a natural group as above described, may be subdivided, is five.

The applicability of this theory to the present family is remarkable. I observe, moreover, that the five typical groups, whether called families or genera, have each a geographical as well as a structural character.

Thus starting from *Anisonyx* as the type of the South African group, which, through the European genus *Hoplia*, connects the *Glaphyridæ* with the *Melolonthidæ*, we pass to *Phyllotocus* as representing the Australian group, at which point I believe the connexion of the family with the *Cetoniidæ* will be found to occur, probably by the genera *Cheiragra* and *Falgus*; thence by the genus, to which I have given the name *Macrothops*, to the South American group, of which we may take the genus *Cratosceñis* as the type; thence to the North American genus *Lichnanthe*; thence to the Mediterranean group, of which *Glaphyrus* or *Amphicomma* may be taken as the type, from which the passage to *Anisonyx* is easy, thus completing the circle.

I mentioned at the commencement of this paper that the insects grouped together under Fischer's genus *Phyllotocus* differ considerably in important parts of their external anatomy; indeed, we find in species of this genus, variations in the form of the maxillæ, mentum and palpi, which, in most families of the *Coloptera* would mark very distinct genera.

To avoid, however, unnecessary subdivision, I intend to retain in the genus *Phyllotocus* all the species of the Australian *Glaphyridæ* which have the epistome double, subdividing them as follows: 1st, those with bodies more or less smooth, palpi long, and maxillæ with the outer lobe membranaceous, trigonal and ciliated, the inner lobe being dentiform. 2nd, those with bodies more or less hairy, palpi not long, and maxillæ for the most part consisting only of pencils of hair with scarcely a rudiment of either lobe. *P. MacLeayi* of Fischer is the type of the first subdivision, and *P. capipennis* may be taken as the type of the second.

Genus PHYLLOTOCUS. Fisch. (Mem. des Nat. de Moscou, t. VI. p. 255.)

Macrothops, *MacL. Dej. Bois.*

*Antennæ* breves, articulis novem, basilari magno apice inerassato setoso, 2<sup>o</sup> subglobose, 3<sup>o</sup> obconico, 4<sup>o</sup>—6<sup>o</sup> pateriformibus, 7<sup>o</sup>—9<sup>o</sup> lamellatis.

*Labrum* inconspicuum.

*Mandibule* membranacæ, clypeo occultatæ.

*Maxillæ* lobo externo parvo membranaceo penicillato, interno dentiformi aut nullo.

*Palpi Maxillares* articulo basilari brevi, reliquis elongatis sub-æqualibus.

*Palpi Labiales* breves articulo ultimo longiori subtruncato.

*Labium* membranaceum bilobatum hirtum.

*Mentum* elongatum valide setosum apice plerumque emarginatum.

*Caput* parvum elongatum apice angustatum subrotundatum, suturis duabus transversalibus unâ clypeum à fronte dividente, alterâ subapicali.

*Corpus* convexum ovatum, pygidio triangulari.

*Pedes* elongati graciles spinosi tibiis anticis extus tridentatis.

MAS. ungue pedum anticorum interno tarsisque interdum tumidis.

I have never seen the characters given by Fischer to this genus; indeed, the only description I have seen is that given in the Gen. Coleopt. III. p. 201, of Lacordaire, and I find that in some points the description given above differs from his. He makes the antennæ 8-jointed, whereas I find them to be 9-jointed; he makes the mentum truncate at the apex, whereas it is almost uniformly emarginate; he makes the last joint of the labial palpi to be a short oval, whereas I have generally found it an oblong oval, and always the longest of the three joints; while the maxillary palpi are certainly not truncate at the apex as he states, and least of all in the section of which *P. MacLeayi* is the type, which is the insect on which the genus was founded. I have also been unable to discover the difference mentioned by La-

cordaire between the male and female in the club of the antennæ ; but I have uniformly observed that the male has the interior unguis of the fore feet, and sometimes the terminal joint of the tarsi more or less enlarged.

The larvæ of the insects of this genus are as yet unknown, but there is no reason to suppose that they differ in habit from those of their allies in other parts of the world ; indeed, I know of instances in which the perfect insects of some of the species have been found in numbers under the surface of the ground.

The perfect insects frequent flowers, and in the early part of summer they may be found in immense numbers on those of the *Leptospermum* and other Myrtaceous plants which blossom so abundantly at that season. Though some species are to be found in all parts of Australia, the eastern coast of New South Wales is evidently what the late Mr. Kirby would have called their Metropolis.

#### Sect. I.

Maxillæ with the inner lobe curved and dentiform. Palpi long and filiform. Body not hairy.

Sp. 1. *PHYLLOTOCUS MACLEAYI* Fisch. (Mem. des Nat. de Moscou, t. VI. p. 255.)

*Macrothops præusta* Boisd. (Voy. de l' Astrol. p. 210.)

“Testaceus nitidus, elytris striatis apice ventreque fuscis.”  
Burm.

Long. 4 lin., lat.  $1\frac{3}{4}$  lin.

Hab. New South Wales and Victoria.

The description of this species given above is taken from Burmeister's *Handb. der Entom.*, Vol. 3, p. 183. It is meagre enough and in one particular incorrect, for the fuscous venter is not invariably present. The species is found clustered on flowers in immense numbers about the middle of summer, and seems to be more general in its taste than most of the other species, which are seldom found on any flowers but those of *Leptospermum* and allied genera. I have seen specimens from Melbourne, but have never got them from any place far north of Sydney.

2.—*PHYLLOTOCUS ASSIMILIS*. (n. sp.)

Testaceus nitidus, fronte tenuiter canaliculato, elytris punctato-striatis posticè fuscis.

Long. 5 lin., lat. 2 lin.

Hab. South Australia.

It is extremely difficult to find a good specific character for this insect, to distinguish it from the last named species, and the only one which I can hit upon, is the slight groove on the forehead. This insect is altogether larger, broader, and more depressed, the spines on the legs are longer and stronger, the brown patch on the apex of the elytra is smaller and more confined to the outer angle, while the pygidium and belly are never coloured brown as is generally the case in *P. MacLeayi*.

3.—*PHYLLOTOCUS BIMACULATUS*, Erichs. (Wieg. Arch. 1842, p. 170.)

“Testaceus nitidus, elytris striatis nigris maculâ mediâ lateâ.”  
Erichs.

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

Hab. Van Diemen's Land.

I have not dissected this species, but from its appearance I have no hesitation in placing it in this section.

4.—*PHYLLOTOCUS USTULATUS*. Blanch. (Cat. du Mus. de Paris, p. 97.)

“Niger, capite acuminato punctato antennis nigris, prothorace cum scuto nigro, subtilissimè punctato parè piloso, elytris sulcatis testaceo-rufis maculâ posticâ circulari nigrâ, pedibus nigris tibiis anticis tridentatis.”—Blanchard.

Long. 5 lin.

Hab. Swan River.

Burmeister has varied Blanchard's description of this insect in his Handb. der Ent. 3, p. 184, and I suspect has in reality described another species; but not having the insect before me I cannot speak with confidence.

5.—*PHYLLOTOCUS NAVICULARIS*, Blanch. (Cat. du Mus. de Paris, p. 97.)

“Niger subnitidus, parè pilosus, capite protracto subtiliter punctato, antennis testaceis clavâ obscurâ, prothorace

subtilissimè punctato nigro-piloso, elytris profundè sulcatis testaceo-rufis apice plus minusve nigris, pedibus anticis testaceis intermediis et posticis nigris.”—Blanchard

Long. 3 lin., lat.  $1\frac{1}{2}$  lin.

Hab. Camden, New South Wales.

I have never taken this species except at Camden; and I believe it is abundant on the *Bursaria spinosa* throughout all the valley of the Nepean. There is a decided approach to the next section of the genus in this insect.

#### Sect. 2

Maxillæ with outer lobe penicillate, and inner very small or none. Palpi not long. Body for the most part hairy.

The insects of this section are shorter, and more convex than the last, and have the body thicker and more exposed; the palpi are shorter and less filiform; but, owing to the lengthened stipes of the maxillæ and the elongated mentum, the four palpi and the pencils of the maxillæ extend beyond the almost pointed clypeus. The species of this group are, scarcely ever found except on *Leptospermum* and in early summer.

6.—*PHYLLOTOCUS RUFIPENNIS*, Boisd. (Voy. de l’Astrol. p. 210.)

“Niger opacus, pedibus abdomineque nitidis, elytris striatis rufo-testaceis, tibiis anticis tridentatis.”—Burmeister.

Long. 4 lin., lat. 2 lin.

Hab. Victoria and S. Aust.

I have received specimens of this species frequently from South Australia, and I believe it is common enough about Victoria.

I think I have specimens in my collection found in New South Wales, but of this I am not sure.

7.—*PHYLLOTOCUS ERYTHROPTERUS*, Blanch. (Cat. du Mus. de Paris, p. 97.)

“Niger, thorace opaco densius piloso, elytris latè ferrugineis nigro-pilosis limbo apicis nigro, pedibus abdomineque nigris nigro-pilosis.” Blanchard.

Long. 3 lin., lat.  $1\frac{1}{4}$  lin.

Hab. New South Wales and Victoria



This species is easily known from the last by its extreme hairiness, smaller size, deeper colour, and black apical margin to the elytra. I have specimens in my cabinet marked "New South Wales," but the exact locality I am ignorant of. The species seems to be abundant in Victoria.

8.—*PHYLLOTOCUS KINGII*. (n. sp.)

*Niger subtus nitidus, thorace punctato, elytris rufis velutinis subporcatis.*

Long.  $3\frac{1}{2}$  lin., lat.  $1\frac{1}{2}$  lin.

Hab. New South Wales.

I have named this species after my friend, the Rev. Robert Lethbridge King. It is easily distinguishable from the neighbouring species by the thick red velvet pile on the elytra. It is not uncommon in the neighbourhood of Sydney.

9.—*PHYLLOTOCUS MARGINIPENNIS*. (n. sp.)

*Niger nitidus, capite punctato, thorace glabro, elytris rufis sericeis sulcatis suturâ margineque laterali posticè nigris, femoribus tibiisque anticis piceis.*

Long.  $3\frac{1}{2}$  lin., lat.  $1\frac{1}{2}$  lin.

Hab. New South Wales.

This species is also abundant in the neighbourhood of Sydney. The surface almost free of hair, with the black suture and black outer margin of the hinder part of the elytra sufficiently mark the species.

10.—*PHYLLOTOCUS IRIDESCENS*. (n. sp.)

*Niger iridescens, thoracis lateribus elytrorumque disco latè testaceis.*

Long. 3 lin., lat.  $1\frac{1}{4}$  lin.

Hab. New South Wales.

The beautiful sericeous lustre of this insect at once distinguishes it from all of the genus hitherto described. The sides of the thorax and disc of each elytron are testaceous, while the surface is but lightly clothed with hairs. The species is rather abundant in the early part of summer.

11.—*PHYLLOTOCUS PALLIATUS*. (n. sp.)

*Niger nitidus*, thorace rufo anticè nigro, elytris sulcatis discis latè sericeo-rufis.

Long. 3 lin., lat.  $1\frac{1}{2}$  lin.

Hab. New South Wales.

The black mark immediately behind the head, which presents the appearance of a hood, is sometimes prolonged into a narrow line to the base of the thorax. This species may possibly be the female of *P. iridescens*.

12.—*PHYLLOTOCUS MARGINATUS*. (n. sp.)

*Niger subnitidus*, frontis semicirculo punctato, thoracis lateribus testaceis, elytris sulcatis rufo-testaceis suturâ margineque externo nigris.

Long.  $3\frac{1}{2}$  lin., lat.  $1\frac{1}{2}$  lin.

I think it very probable that this is the female of the species I have named "*marginipectus*." I describe it separately, as I am by no means certain of the fact.

13.—*PHYLLOTOCUS RUFICOLLIS*. (n. sp.)

*Niger opacus hirtus*, thorace testaceo, elytris sulcatis atro-rufis.

Long.  $3\frac{1}{2}$  lin., lat.  $1\frac{3}{4}$  lin.

Hab. New South Wales.

The thorax and elytra are of a very dark red, with black hairs. Some of the specimens in my cabinet are labelled "Manning River," and it is probable that the northern part of the Colony is the true habitat of the species.

14.—*PHYLLOTOCUS AUSTRALIS*, Boisd. (Voy. de l'Astrol. p. 211.)

"*Ruber ferrugineus hirtus*, capite nigro, elytris sulcatis concoloribus vel suturâ nigrâ, subtus ater."—Boisduval.

Long.  $2\frac{1}{2}$  lin., lat. 1 lin.

Hab. New South Wales and Victoria.

This species varies considerably, and seems to be considered identical with the *P. discoidalis* of MacLeay. If the species be iden-

tical, the latter insect is probably the male, as I have noticed throughout this genus that the male is always blacker than the female.

15.—*PHYLLOTOCUS SCUTELLARIS*. (n. sp.)

Niger nitidus, thorace testacco punctis duobus nigris, elytris sulcatis sericeo-testaceis suturâ limboque postico nigris.

Long.  $3\frac{1}{2}$  lin., lat.  $1\frac{3}{4}$  lin.

Hab. New South Wales.

This insect, though larger, is not unlike some varieties of *P. Australis*: and has probably, from its not having been described, been mistaken for it, as there is no species more common in Illawarra, the Currajong, and other places near Sydney. The small spot on each side of the thorax may possibly not be regarded as constant.

16.—*PHYLLOTOCUS APICALIS*. (n. sp.)

Rufo-testaceus subsericeus, elytrorum apice metathorace pygidio pedibusque posterioribus nigris.

Long. 3 lin., lat.  $1\frac{1}{4}$  lin.

Hab. Port Denison.

This is the only *Phyllotocus* I have seen from the North of New Holland, and it is very readily distinguishable from the rest of the tribe.

17.—*PHYLLOTOCUS MÆSTUS*, Boisd. (Voy. de l'Astrol. p. 212.)

“Niger, elytris subdilutioribus striatis.”—Boisduval.

Long. 3 lin., lat.  $1\frac{1}{4}$  lin.

Hab. New South Wales and Victoria.

The description given of this species by Boisduval is so very imperfect, that numerous mistakes have been the consequence. Burmeister seems to confound it with *P. ustulatus* and Boheman (Zool. du Voy. de l' Eugenie.) has given no less than three descriptions of the same insect under the names of *Phyllotocus oblongus*, *velutinus*, and *marginicollis*, the first of these being evidently the description of a large male of *P. moestus*, and the other two of females of the same species.

The male has the clytra rather smooth and sericeous, while in the female, they are always more or less striated and testaceous : the difference, however, is only in degree. The thorax in the male is always black, while in the female it is sometimes black, as in the *P. velutinus* of Boheman, and sometimes testaceous at the sides, as in his *marginicollis*.

These are all the *Phyllotoci* with which I am acquainted ; that named *P. pusillus* by Blanchard, belongs to the next genus, while the *P. pectoralis* of Burmeister from West Australia, is, as I suspect, from its emarginate clypeus and other peculiarities, not even a species of the family.

Genus CHEIRAGRA. (nov. gen.)

*Antennæ* articulis octo, primo magno, 2<sup>do</sup> subglobo, 3<sup>o</sup>—5<sup>o</sup> parvis, 6<sup>o</sup>—8<sup>o</sup> lamellatis.

*Labrum* inconspicuum.

*Mandibulæ* membranaceæ sub clypeo latentes.

*Maxillæ* lobo externo coriaceo globuliformi penicillato, interno dentiformi.

*Palpi Maxillares* articulo basilari brevi, 2<sup>o</sup> et 3<sup>o</sup> longioribus, ultimo longiori.

*Palpi Labiales* articulo ultimo majori.

*Labium* membranaceum bilobatum hirsutum.

*Mentum* subelongatum subobconicum apice subrotundatum.

*Caput* parvum anticè rotundatum haud angustatum.

*Corpus* subconvexum ovatum pygidio triangulari.

*Pedes* spinosi femoribus posticis crassis, tarsi unguibusque anticis in mare incrassatis.

The insects of this genus are smaller and more depressed than those of the last ; there is, however, a strong resemblance between them. The main point of difference is in the clypeus, which, in the last genus was produced almost to a point with a subapical suture, while in this it is round and without suture. The fore tarsi and anterior fore ungues of the male are also enlarged in a remarkable degree.

These insects are found on the flowers of *Leptospermum* in the early part of summer.

## 1.—CHEIRAGRA PUSILLA.

*Phyllotocus pusillus*. Blanch. (Cat. du Mus. de Paris, p. 97.)

“Ovata plana nigra, pareissime pilosa, capite parum producto clypeo rotundato, antennis testaceis clavâ obscurâ, prothorace nigro opaco haud punctato vix piloso, elytris subsulcatis ferrugineis limbo externo latè nigro, pedibus nigris anticis testaceis.” Blanchard.

Long.  $1\frac{3}{4}$  lin., lat.  $\frac{3}{4}$  lin.

Hab. New South Wales.

I have adopted Blanchard's description of this species; though as he placed it in the genus *Phyllotocus*, his description seems to contain some of the truly generic distinctions. The female is larger than the male, and has the black margin of the elytra considerably more extended.

## 2.—CHEIRAGRA RUFICOLLIS. (n. sp.)

Testacea subsericea, elytris punctato-striatis, metathorace pedibus posticis pygidio et maris abdomine piceo-nigris.

Long. 2 lin., lat. 1 lin.

Hab. New South Wales.

The female of this species has the abdomen large, and sometimes a light patch on the disc of each elytron; the male has for the most part the segments of the abdomen dark.

## 3.—CHEIRAGRA PALLIDA. (n. sp.)

Flava subnitida, elytris punctato-striatis, in mare subsericeis nigro-marginatis.

Long.  $1\frac{3}{4}$  lin., lat.  $\frac{3}{4}$  lin.

Hab. Parramatta.

I am indebted to my friend the Rev. R. L. King, for the two specimens of this insect which I possess; the female is entirely of a pale yellowish red, while the male has the elytra margined with black, and the abdomen clouded.

## 4.—CHEIRAGRA LURIDA. (n. sp.)

Nigra sericea, capite punctato, clypei marginibus elevatis,

thorace subtiliter punctato, elytris striatis discis latè luridis, pedibus anterioribus testaceis, abdomine incano-hirto pygidio magno.

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

Hab. Currajong.

This insect presents many peculiarities of form; in the shape of the head and clypens, and the depth of the last segment of the abdomen, it differs from all the other species of this genus I know. The male and female differ very little. I have not dissected the species.

5.—CHEIRAGRA APHODIODES. (n. sp.)

Picca, capite punctato, thorace posticè testaceo, elytris striatis in femina testaceis, pedibus testaceis.

Long.  $1\frac{1}{2}$  lin., lat.  $\frac{2}{3}$  lin.

Hab. New South Wales, near Sydney.

The male of this species has the elytra black or pitchy, instead of red, as in the female, and the dilatation of the fore tibiæ is slight in comparison to that in other species. I have named the insect, from the resemblance in the form of the male to an *Aphodius*.

6.—CHEIRAGRA ATRA. (n. sp.)

Nigra subnitida, clypeo punctato, elytris punctato-striatis, pedibus piceis.

Long.  $1\frac{1}{2}$  lin., lat.  $\frac{3}{4}$  lin.

Hab. Illawarra.

I have only one specimen of this insect—a male: the female will probably have the elytra testaceous, in whole or in part.

7.—CHEIRAGRA PYGMEA. (n. sp.)

Nigra subnitida, elytris subporcatis testaceis nigro-marginatis, pedibus piceis.

Long.  $1\frac{1}{4}$  lin., lat.  $\frac{2}{3}$  lin.

Hab. New South Wales.

I cannot give the exact habitat of this species; it is the smallest of the genus. My specimens which seem to be all males, most resemble the male of *C. pusilla*, but they have neither the size nor silkiness of that species.

Genus *MACROTHOPS*. (nov. gen.)

*Antennæ* novem-articulatæ breves articulo primo magno apice incrassato valde setoso, secundo subgloboso, 3<sup>o</sup>—6<sup>o</sup> brevibus sub-pateriformibus, 7<sup>o</sup>—9<sup>o</sup> clavam formantibus.

*Labrum* inconspicuum.

*Mandibulæ* inconspicuæ.

*Maxillæ* lobis membranaceis ensatis barbatis lobo interno minore.

*Palpi Maxillares* graciles, valdè elongati articulo secundo longiore intus barbato.

*Palpi Labiales* breves articulo ultimo reliquis longiore subtruncato.

*Labium* membranaceum bilobatum hirsutum.

*Mentum* elongatum angustum extus convexum, valdè setosum.

*Caput* clypeo valdè producto versus apicem carinato sub-reflexo.

*Corpus* subdepressum hirtum pygidio distincto.

*Pedes* validi tibiis anticis extus tridentatis, femoribus posticis suberassis, tibiis tarsisque subelongatis.

I have confined the name of *Macrothops*, (a name previously given by Mr. MacLeay to the genus *Phyllotocus*) to this genus, on account of its remarkably long filiform maxillary palpi; these and its very curious snout-like clypeus, distinguish it at once from any other Australian insect. In general aspect, and even in the character of the maxillæ, it seems to approach the South American group of *Glyphyridæ*, in particular the genus *Dasycheila* Erichs. from Peru. In the form of the clypeus the genus *Macrothops* approaches *Anisonyx*.

*MACROTHOPS* *ROSTRATA*. (n. sp.)

Nigra nitida, capite punctato hirsuto, thorace sub-punctato hirtio, elytris luridis nigro-marginatis nigro-hirtis punctis setigeris, corpore subtus incauo-piloso, antennis palpis pedibusque anterioribus piccis.

Long.  $3\frac{1}{2}$  lin., lat.  $1\frac{1}{2}$  lin.

Hab. King George's Sound.

The head of this insect is densely covered with long brownish hairs, sticking out like porcupine quills, and is prolonged into a kind of snout, carinated in the middle, deflexed at the sides, and hollowed beneath; near the point this snout is turned up, and has an elevated ridge in the centre; the thorax is black, and covered with scattered punctures and short setæ; the elytra are of a lurid hue with black margin, and are covered with punctures, from which spring black setæ. The whole under surface is covered with long grey hair; the pygidium is punctured, with a black seta proceeding from each puncture. The antennæ, palpi and anterior legs are of a reddish or pitchy hue.

I received three specimens of this very remarkable insect from King George's Sound, and it was the only Glaphyridæous species I got from that settlement, out of a very large collection: nevertheless, species of *Phyllotocus* must be found there, as we know of one peculiar to Swan River.

2.—*MACROTHOPS PALLIDIPENNIS*. (n. sp.)

Nigra subnitida subdepressa hirsuta, capite thoraceque punctatis, elytris pallidè testaceis punctis setigeris, pedibus anticis piceis.

Long. 2 lin., lat. 1 lin.

Hab. Victoria River.

There are four specimens of this insect in the Australian Museum, all in a very imperfect state, being without palpi, tarsi, &c. This species closely resembles *M. rostrata*, differing chiefly in being smaller and less hairy, and in having the clypeus rather shorter; while the elytra are of an uniform pale lurid hue, with a slight brown suture.



*On the Scydmenides of New South Wales, by the*

REV. R. L. KING, B.A.

[Read 3rd August, 1863.]

THE species described in the following paper were nearly all captured in the immediate neighbourhood of Paramatta. Most of them have probably a wide range; but, owing to their very minute size, they generally escape the notice of collectors. The genera *Scydmenus* and *Megaloderus* are found under wood in grass, in dry places, feeding upon the minute Acari which frequent such situations. The other genera are found under the dead bark of trees lying upon the ground, particularly the species of "Ironbark" and Stringy Bark, (*Eucalyptus resinifera* and *E. acervula* ?) Two species, *Heterognathus carinatus* and *H. princeps*, were found in an Ant's nest, running about among the eggs, and apparently unnoticed by the ants. I cannot discover whether there was any peculiar attraction which drew them to so crowded a dwelling place.

The Australian species hitherto detected naturally range themselves under six genera, two only of which have been hitherto described. The three former of the new genera are remarkable on account of the contiguity of their posterior legs. The minute size of the terminal joint of the Maxillary Palpus, so characteristic of the family (Pl. VI. fig. A. 3.) is well marked in all the species. All are winged.

The following is a synopsis of the (Australian) genera:—

A.—Posterior legs contiguous.

- a.* labial palpi bi-articulate.
  - aa.* mandibles with two teeth and membranous edge..... *Phagunophara*.
  - bb.* mandibles with one tooth..... *Scydmenilla*.
- b.* labial palpi tri-articulate..... *Psepharobius*.

B.—Posterior legs distant.

- c.* the 4th joint of max. palpi conical..... *Scydmaenus*.
- d.* the 4th joint of " " " globular.
  - dd.* mandibles alike..... *Megaloderus*.
  - ee.* " unlike..... *Heterognathus*.

## PHAGONOPHANA. Nov. Gen.

*Mentum* bilobatum.

*Palpi labiales* breves 2-articulati, articulo 1<sup>mo</sup> robusto, 2<sup>do</sup> aciculari.

*Palpi Maxillares* ut in Scydmano.

*Mandibulæ* robustæ, dentibus 2<sup>bus</sup> fortibus, ad basin setis membranaceis fimbriatæ.

*Labrum* ad latera rotundatum.

*Caput* collo brevi instructum.

*Antennæ* oculis proximæ.

*Coxæ* posteriores contiguæ.

*Pedes* graciles, femoribus clavatis.

*Tarsi* articulis 1-4 brevibus 5<sup>to</sup> longiori.

*Corpus* setosum, alatum.

Although this genus has the general appearance and Maxillary Palpi of Scydmaenus, it is clearly separated from it by the labial palpi, the shape of the Mandibles, and particularly by the contiguity of the posterior legs. The Coxæ are quite close together. In this particular it resembles the Cholevidæ, and adds a link between this family and those minute Coleoptera.

## PHAGONOPHANA KINGI.

Castaneo-picea setosa; antennis capitis et thoracis longitudine, articulo 1<sup>mo</sup> longiori, 2<sup>do</sup> brevi, 3-10 sub-aequalibus 11<sup>mo</sup> vix latiori acuminato; thorace ovato antice latiori; elytris ovatis.

Long.  $\frac{1}{16}$  poll. Pl. VI. fig. A. 1-4.

Paramatta; Petersham, *Mr. Masters*.

Under the bark of dead trees of Eucalyptus resinifera (Iron-bark) in company with *Passalus*, *Dendrophilus*, &c., I have met with but four specimens at Paramatta. Mr. Masters has captured a few specimens near Sydney. It is the largest of all the Australian species of the family known to me. I have ventured to name it after my father, the late Rear-Admiral P. P. King, F.R.S., &c.; whose contributions to science in various branches, entomology included, stand in no need of my feeble praise.

## SCYDMENILLA. Nov. Gen.

*Mentum* truncatum.

*Palpi labiales* connati bi-articulati articulo 1<sup>mo</sup> robusto 2<sup>do</sup> aciculari.

*Palpi Maxillares* ut in Scydmeno, articulo ultimo acutissimo.

*Mandibulae* unidentatae non fimbriatae.

*Labrum* ad latera angulatum.

*Caput* collo instructum.

*Coxae* posteriores contiguae.

*Mesosternum triangulare* coxas medias subtegens.

*Pedes* femoribus clavatis.

*Tarsi* articulis 1-4 brevibus 5<sup>to</sup> longiori.

*Corpus* setosum alatum.

I have separated this genus from the preceding, in consequence of the connate labial palpi and large triangular mesosternum. The mentum is truncate; the mandible have a single tooth, and are not fimbriated. I have found but a single species and that a very minute one.

## SCYDMENILLA PUSILLA.

Capite piceo, parum setoso; collo brevi, capite vix angustiori; mandibulis acutis, dente acuto prope medium instructis; antennarum clava 3-articulata; thorace piceo-castaneo setoso oblongo, antice rotundato angulis posticis subaentis, fossula transversa prope basin notato; elytris setosis ovalibus humeris plicatis.

Long.  $\frac{3}{100}$ . Pl. VI. fig. B. 1, 2.

Two specimens were found under the bark of a dead eucalyptus, ("Stringy Bark.") Paramatta.

## PSEPHAROBUS. Nov. Gen.

*Mentum* truncatum.

*Palpi labiales* remoti 3-articulati, articulo 1<sup>mo</sup> secundo minori, 3<sup>to</sup> aciculari.

*Mandibulae* unidentatae.

*Mesosternum* inconspicuum

In other particulars this genus greatly resembles the preceding. The labial palpi are distant at the base from each other. I have found but a single species, and indeed but a single specimen, which I have named.

PSEPHAROBIVS ELONGATUS.

Capite seroso postice prominente, collo elongato, antennarum clava 4-articulata: thorace elongato angulis posticis acutis, transverse et obsolete fossulato.

Long.  $\frac{3}{100}$ . Pl. VI. c. 1, 2.

On the underside of a log half buried in the soil, Paramatta.

SCYDMENUS. Latr.

The species which I have hitherto met with belonging to this genus, so largely represented in the Northern Hemisphere, are only four in number. They all belong to the 4th race of M. Schaum. With the exception of *S. corticis*, they were all found under wood and stones in grass. It is very probable that many other specimens will yet be detected.

SCYDMENUS GULOSUS.

Capite nigro postice angulato; antennarum clava 4-articulata, articulis 8-10 globosis subæqualibus, 11<sup>mo</sup> vix longiori globoso —acuminato; thorace piceo antice contracto, 2<sup>his</sup> foveis ad basin notato; elytris castaneis. ad basin piceis; tibiis anticis clavatis.

Long.  $\frac{1}{100}$ .

Paramatta, Sydney, Camden.

This species is not uncommon under stones and wood in grass, especially in the spring and autumn months of a dewy morning. It is a very voracious species, being often found with an acarus in its mandibles, and not easily persuaded to relinquish its prey.

The extremity of the fore tibiæ is much enlarged and covered with stiff bristles.

SCYDMENUS CORTICIS.

Piceo-castaneus, antennarum clava 4-articulata articulis sub-globosis; thorace ante medium latiori, antice rotundato pos-

tice vix contracto, ad basin 2-foveolato; tibiis anticis ad basin contractis.

Long.  $\frac{3}{100}$ .

Paramatta.

This species is smaller than *S. gulosus*. The thorax is more elongated, and the fore tibiæ are widest at the middle. I have found but two specimens in the decaying wood of a dead Ironbark tree. In its external appearance it very closely resembles the genus *Scydmenilla*.

#### SCYDMENUS PARAMATTENSIS.

Piceus setosus, antennarum articulis a sexto crescentibus; thorace ad medium latiori antice contracto ad basin minus contracto, 2<sup>bus</sup> foveis magnis elongatis transversis contiguus notato.

Long.  $\frac{5}{100}$ . Pl. VII. fig. 5.

Paramatta.

This species is found in similar situations with *S. gulosus*. It is readily distinguished from that insect by its larger size, and by the character of the club of the antennæ, which, as the 6th joint is the smallest of all, appears to be composed of 5 somewhat close joints; the 8th, 9th, and 10th, are somewhat transverse and nearly equal, the 11th considerably longer. It is not so common as *S. gulosus*, but quite as voracious.

#### SCYDMENUS NEGLECTUS.

Piceus, thorace ad basin latiori antice contracto, transverse foveolato; elytris castaneis breviter ovalibus.

Long.  $\frac{4}{100}$ .

Paramatta.

This species comes near *S. Paramattensis*. It is smaller, and the thorax is widest at the base, and gradually contracted from the base to the neck. The elytra are shorter in proportion to their breadth, and are indeed almost globose. It appears to be a scarce species.

#### MEGALADERUS. (Stephens.)

Of this genus I have met with but a single species, and of it but four specimens. Probably it is not uncommon, but not easily detected on account of its extreme minuteness.

## MEGALADERUS INCONSPICUUS.

*Piceus elytris castaneis*; thorace elytris angustiori ante medium latissimo lateribus antice rotundatis postice contractis, ad basin 4 impressionibus linea conjunctis notato.

Long.  $\frac{2}{100}$ . Pl. VI. fig. 1, 2, 3.

Paramatta, under wood in grass.

This minute species differs from *M. thoracicus* not merely in the colour of the thorax, but in the shape and smaller size of that organ, it being in the present species evidently narrower than the elytra. The surface of thorax and elytra is covered with very minute dots, and is microscopically setose. The antennæ have the first joint almost globose, 2 as long, but more narrow, 3—7 short, nearly equal, 8 rather shorter than 7, 9—11 the club gradually increasing; the fore tibiæ are setose and slightly thickened at the extremity.

## HETEROGNATHUS. Nov. Gen.

*Mentum truncatum.*

*Palpi labiales* 3-articulati articulo 1<sup>mo</sup> minimo, 2<sup>do</sup> longiori, 3<sup>tio</sup> aciculari.

*Palpi Maxillares* 4-articulati, 1<sup>mo</sup> minimo, 2<sup>do</sup> elongato clavato, 3<sup>tio</sup> longiori fusiforme, 4<sup>to</sup> minuto globoso interdum laterali.

*Mandibulæ* ad basin lentissime fimbriatæ, dextræ dente unico bifido, sinistrae dentibus duabus.

*Labrum* medio emarginatum.

*Caput* collo instructum.

*Antennæ* clavatæ—articulo primo longitudinis ordinarii.

*Pedes* graciles femoribus clavatis.

*Corpus* setosum alatum.

This genus, of which I have met with several species, differs materially from any which have been hitherto discovered. The right mandible is armed with a strong bifid tooth, while the left has two teeth, one on the upper, the other on the lower edge of the mandible, and both at nearly the same distance from the base. All the species which I have hitherto detected are found

under the bark of dead logs of Iron Bark and Stringy Bark, and often associated (whether by accident or intention I know not) with the small black ants which frequent such situations.

#### HETEROGNATHUS CARINATUS.

Castaneus; thorace ad basin piceo, elongato, ad medium latiori postice longitudinaliter carinato;

Long.  $\frac{6}{100}$ . Pl. VI. fig. D. 1, 1 *d.* 2, 4. Pl. VII. 4.

Paramatta.

This species was discovered under the bark of a dead "Stringy Bark," in the nest of small black ants. The thorax is slightly contracted from the middle towards the base, (but more so in front.) The antennæ have the club composed of three joints, the middle joint being the broadest, especially in the males, and the last the longest. The carina on the base of the thorax distinguishes this species from all the rest which have hitherto been met with.

#### HETEROGNATHUS GRACILIS.

Piceo-castaneus; antennarum articulo 5<sup>to</sup> elongato, clava elongata; thorace antice rotundato postice contracto 2-foveolato; elytrorum humeris rotundatis.

Long.  $\frac{6}{100}$ . Pl. VII. 3.

Paramatta,—South Creek,—Brownlow Hill. Under bark of dead trees.

The club of the antennæ is more elongated than in the preceding species, and the joints are narrower, the 10th being hardly wider than the 11th. The 7th and 8th are very small, while the 5th is as long as the 2nd. The species appears to be common.

#### HETEROGNATHUS ASSIMILIS.

Piceo-castaneus; antennarum articulo 5<sup>to</sup> elongato penultimo subgloboso; thorace ad medium latiori antice rotundato postice contracto.

Long.  $\frac{5}{100}$ .

Paramatta.

This species has a very close resemblance to the preceding, of which it is possibly only a variety. It differs principally in being

of a smaller size, and in having the club of the antennæ less elongated, the penultimate joint being almost globose. The penultimate joint of the max. palp. is thicker in proportion in the present than in the preceding species.

#### HETEROGNATHUS GENICULATUS.

Piceo-castaneus; antennarum articulo penultimo ultimo valde latiori et cum antepenultimo alte emarginato; thorace ad basin piceo 4-foveolato, ante medium latiori, antice rotundato postice contracto.

Long.  $\frac{7}{100}$ .

South Creek.

The large size of the club and the smallness of the three preceding joints give to the antennæ of this and the next species *H. princeps*, a geniculate appearance. The 5th joint is thicker and longer than the 3rd or 4th. The last joint of the max. palpi is hardly distinguishable.

#### HETEROGNATHUS PRINCEPS.

Castaneus; antennarum clavæ articulo penultimo ultimo latiori obsolete emarginato, antepenultimo alte emarginato: thorace antice rotundato postice contracto, ad basin 2-foveolato.

Long.  $\frac{7}{100}$ . Pl. VII. 1, 2.

Paramatta.—Lane Cove.

This species may readily be distinguished from the preceding, which however, it much resembles, by the obsolete notch on the 10th joint of the antennæ. It was found associated with *H. Carinatus* in an ant's nest.

#### HETEROGNATHUS ARMITAGEI.

Pallide castaneus; antennarum clava 4-articulata, articulis 8, 9, et 10 subæqualibus, ultimo longiori acuminato; thorace fossula transversa basali.

Long.  $\frac{6}{100}$ .

Pennant Hills, under dead bark.

I discovered this very distinct species in an entomological excursion with the Rev. F. Armitage, over his farm at the



Pennant Hills. Its four jointed club distinguishes it from its congeners. I place it however in this genus with some hesitation, as I have not yet obtained a specimen for dissection.

#### HETEROGNATHUS MACLEAYII.

Picens politus, thorace transverse fossulato; elytris castaneis humeris plicatis, plicatura longitudinali ad medium extensa.

Long.  $\frac{7}{100}$ .

Mr. W. MacLeay found a single specimen at Illawarra. It differs in size and colour from the preceding species, as well as in the marking of the elytra. It is not, however, in a favorable position for examination.

#### DESCRIPTION OF PLATE VI.

- A. *Phagophana Kingii*.  
 1. Mandible; 2. Labial Palpi; 3. Maxilla; 4. Under view of abdomen and posterior legs.
- B. *Scydmænilla pusilla*.  
 1. Mandible; 2. Labial Palpi.
- C. *Psepharobius elongatus*.  
 1. Mandible; 2. Labial Palpi.
- D. *Heterognathus gracilis*.  
 1. Under view of right mandible; 1*d*. Under view of left mandible; 2. Labial Palpi; 4. The posterior legs.
- E. *Megaladerus inconspicuus*.  
 1. Max. Palp.; 2. Thorax; 3. Mandible.

#### PLATE VII.

- 1—2. *Heterognathus princeps*.  
 3.            "       *gracilis*.  
 4.            "       *carinatus*.  
 5. *Scydmænus Paramattensis*.
-

*Notes on the metamorphosis of a dipterous insect of the genus*  
*Batrachomyia*, (MacLeay) the larva of which is Parasitical  
upon various species of Australian Frogs, by GERARD KREFFT,  
ESQ.

[Read 3rd August, 1863.]

In the course of my inquiries into the Batrachian Fauna of Australia, I have frequently captured frogs infested with a number of parasites, seeming to be larvæ of dipterous insects; they are generally found between the skin and flesh, just behind the tympanum, but in cases where from three to four exist upon a single individual, they reach as far back as the anus; these larvæ may be taken for glands at first sight, but closer examination soon reveals a small opening, and a gentle pressure will quickly exhume the yellow parasite. In all cases where the larva was forcibly ejected, the death of the frog, whether large or small, was caused thereby; and in fact these creatures generally die after the larvæ have worked their way out.

The perfect insect, a small yellow fly, called by Mr. W. S. MacLeay *Batrachomyia*, was first reared by Mr. George French Angas; the typical specimen is now in the Australian Museum, and was obtained from a species of *Cystignathus* (*C. Sydneyensis*, Kr.) the most diminutive of our Frogs; the specimen which I reared lived on another small Batrachian (*Uperoleia marmorata*) and is to all appearance a different species. Having obtained a frog in the beginning of April, when the larva had almost reached its full size, and deposited it in a glass vessel with some moist earth and moss, I found that the parasite left its shelter a few days afterwards, the frog dying as usual in consequence. I observed the yellow larva for more than 24 hours traversing the moss, and found it after a lapse of 36 hours completely ensconced in a black covering, but without being attached to any object; whilst in a state of nature the Chrysalis is generally fastened to the under side of some piece of rock in damp localities. Thirty-two days afterwards the perfect insect emerged.

I have subsequently attempted to breed other specimens, but without success; all my larvæ went into the chrysalis state, but they always died afterwards.

It appears that some frogs are more infested with this parasite than others; it is most common upon *Cystignathus Sydneyensis* in this neighbourhood, a remarkable fact, as this species is the smallest of the tribe and frequents the water much.

At Shoalhaven I found *Pseudophryne Bibrenii* much infested, some specimens not more than  $\frac{1}{3}$  in. long in the body, having from 2 to 4 larvæ to support; and whenever I found *Hyla Citropus* I have always observed the larvæ of a fly upon them. I believe that the insect living upon *Hyla Citropus* will prove to be different from the present species, as its larva varies in structure considerably from all others.

The accompanying Plate VIII. represents the different stages of growth of this Parasite, all natural size.—

- Fig. 1, *Uperoleia marmorata* with larva on the right side of body.
- Fig. 2, Skin turned back showing the position of the larva.
- Fig. 3, Chrysalis fastened to a piece of stone.
- Fig. 4, Perfect insect.
- Fig. 5, Wing of the same.
- Fig. 6, Head of *Hyla Citropus*; the cavity from which the larva emerges laid open.
- Fig. 7, The larva found in *Hyla Citropus*.

*On the Pselaphidae of Australia, by the*

REV. R. L. KING, B.A.

2ND PAPER.

[Read 7th September, 1863.]

In the paper on this subject, which I had the honour to read before the Society in November last, there was an unfortunate mistake which I did not discover until it had been printed in the first Part of the Transactions. The new species described by myself are all stated at twice their proper size.

From subsequent observations, I am of opinion that the species described as *Tmesiphorus hesperi* is the female form of *T. vernalis*. I propose to retain the latter name, and to supply the following amended description.

TMESIPHORUS VERNALIS.

Castaneus, elytris pallidioribus : thorace ad basin depresso, lateribus anticè contractis posticè subparallelis ; abdomine marginato.

*Mas* :—antennarum articulis 4 ultimis elongatis.

*Femina* :—antennarum articulo ultimo 2<sup>bus</sup> precedentibus longiori.

Long.  $\frac{6}{100}$ .

Paramatta.

The male is slightly larger than the female.

Since my former paper was written, the female of *Tmesiphorus MacLeayi* has been found by W. MacLeay, Esq., and also by Mr. Masters. This enables me to amend my description of that fine species, of which I had previously only seen the male form.

TMESIPHORUS MACLEAYII.

Ferruginens vel piceo-castaneus ; antennarum maris articulis 9 et 11 longitudine subæqualibus, feminae antennarum clava 3-articulata articulo ultimo majori ; thorace obscuro.

dato, convexo, lateribus antice convexis postice contractis ; abdomine marginato bicarinato.

Long.  $\frac{1.0}{100}$ .

Lane Cove and Illawarra by W. MacLeay, Esq.

Petersham by Mr. Masters. Paramatta, R.L.K.

The Illawarra specimen, a female, was found under bark, in company with *Heterognathus Armitagei*, and some small ants.

#### TYRUS SUBULATUS.

Piceus creberrime punctatus sub lente setosus ; capite ante oculos excavata ; antennarum clava sub-triarticulata articulo ultimo magno ; palporum maxillarium articulo ultimo prope basin inflato, ad apicem subulato ; thorace ante medium latiori, antice rotundato, postice leviter contracto ; elytris linea suturali altera discoidali dimidiata notatis ; abdominis segmento 2<sup>do</sup> magno.

Long.  $\frac{7}{100}$ . Pl. VII., fig. 6.

Paramatta, Dunheved. Not infrequent in Autumn under stones, &c.

The last joint of the maxillary palpus clearly distinguishes this fine species from its congeners.

#### TYCHUS NIGRICOLLIS.

Niger, elytris castaneis, sutura nigri cante ; capite polito, 2<sup>bas</sup>. inter oculos impressionibus, antennarum maris articulo 10<sup>mo</sup> denticulato 11<sup>mo</sup> excavato ; thorace obeordato non foveolato ; elytris linea suturali nulla discoidali.

Long.  $\frac{6}{100}$ . Pl. VII., fig. 7.

Paramatta. Sydney, Mr. Masters.

I captured a few individuals of this species under the trunk of a dead tree in a very moist situation ; October 12th. It is more agile than most of the Pselaphidæ.

The 5th joint of the antennæ in the male is almost globular and has a rather prominent tubercle. The corresponding joint in the female is as long as that in the male, but hardly thicker than the other joints.

Eight species of this genus appear to have been described — four of which are European, and four from North America.

## BATRISUS ELIZABETHÆ.

Piceo-castaneus setosus; capite subquadrato ad basin antennarum elevato, linea curvata transversa, foveis inter oculos duabus; thorace 2<sup>bus</sup> lineis longitudinalibus in 3 partes diviso, inter lineis gibboso; elytris linea suturali altera discoidali notatis; abdominis segmento 2<sup>do</sup> magno.

Long.  $\frac{7}{100}$ .

Sydney.

This species was found by W. S. MacLeay, Esq., in his garden at Elizabeth Bay. The thorax is widest at the middle, from which point it is somewhat suddenly contracted in both directions. The central space between the longitudinal lines is very convex. The neck is rather long; the antennæ and maxillary palpi are very like those of *Batrisus hamatus*. Not having had the opportunity of subjecting this species to microscopical inspection, I refer it to the genus *Batrisus* with some degree of hesitation.

## BRYAXIS ARMITAGEL.

Polita piceo-castanea elytris pallidioribus; capite thorace latiori, 2<sup>bus</sup> impressionibus inter oculos minutis, fossula transversa pone antennarum basin; antennarum clava 2-articulata; thorace obcordato glabro, impressione parva media prope basin unico; elytris politis stria suturali nulla discoidali; abdomine setoso, segmento 2<sup>do</sup> reliquis multo majori.

Long.  $\frac{6}{100}$ . Pl. VII., fig. 15.

Under dead wood on the ground, Paramatta.

The antennæ are of the ordinary form, except that the 9th joint is narrower than the 8th, but longer,—a character which makes the club apparently biarticulate.

The logs under which this species (several specimens) was found were half buried in the ground.

## BRYAXIS CLAVATULA.

Pallide castanea polita non setosa; antennarum articulo 9 decimo longiori, articulo ultimo longe maximo; thorace obcordato elytris magnis linea nulla discoidali; abdominis segmentis subæqualibus.

Long.  $\frac{3}{100}$ . Pl. VII., fig. 12.

Sydney.

This minute species was discovered under wood and stones, in the grass at Elizabeth Bay, by W. S. MacLeay, Esq. I captured a single specimen under a stone near the sea beach in the same locality, August 3rd, 1863. The species comes very near *B. polita*, but is much smaller. The antipenultimate joint of the antennæ is considerably longer but narrower than the penultimate, while the last joint is very large in comparison.

BRYAXIS ELIZABETHÆ.

Piceo-castanea polita non setosa; antennis 10-articulatis, articulo penultimo 8<sup>vo</sup> et 10<sup>mo</sup> latiori, appendiculato; clytris magnis; abdominis segmentis sub-æqualibus vix marginatis.

Long.  $\frac{3}{100}$ . Pl. VII., fig. 8, 9.  
Sydney.

This very distinct and interesting species was also discovered by W. S. MacLeay, Esq., in his garden at Elizabeth Bay, and to him I am indebted for specimens and permission to describe it. Its 10-jointed antennæ at once distinguish it from all its Australian congeners hitherto discovered. There are three species of the genus which agree with it in this character, (which indeed when considered in connection with the scarcely margined abdomen is almost of such importance as to indicate a new genus) described from North America. Seen with a lens the antennæ are remarkable for the shortness of the joints, 3 to 7, and for the large size of the penultimate joint. The former of these peculiarities, as well as its general form, brings it near to *B. Esiqua*: when mounted for microscopical inspection in Canada Balsam it is easily seen that the external part of the 9th joint is curved downwards until it almost touches the preceding joint.

It is probable that this and the preceding species are common enough near the beach. But their extreme minuteness enables them to escape any but a practised eye.

Mr. William MacLeay has in his extensive collection a Pselaphidæous insect from the Cataract River, found under a stone. It resembles the description given of *Tyrus humeralis* of Westwood, a species found at Melbourne in ant's nests. The specimen however is not in a good position for examination.

P.S.—Since the above paper was presented to the Society, I have obtained proof that *Narcodes pulchra* is (as suspected before) the male of *N. curia*: also that *Bryaxis linearis* and probably *B. sculpta*, properly belong to the genus *Euplectus*. Descriptions of these species, with those of several new forms from the Currajong and other places, will supply matter for a third paper on this interesting family.

## DESCRIPTION OF PLATE VII.

- Fig. 6. Palpus of *Tyrus subulatus*.  
 7. Antenna of *Tychtus nigricollis*.  
 8, 9. Antenna and thorax of *Bryaxis Elizabethæ*.  
 10, 11. Ditto ditto of *Bryaxis exigua*.  
 12. Antenna of *Bryaxis clavata*.  
 13, 14. Antenna and thorax of *Bryaxis polita*.  
 15. Antenna of *Bryaxis Armitagei*.

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*Descriptions of new genera and species of Coleoptera from Port Denison, by WILLIAM MACLEAY, JUNR., Esq., M.L.A.*

[Read 5th October, 1863.]

It is now considerably more than a year since I became the possessor of a very fine collection of insects from Port Denison, North Australia. That collection, which was made by Mr. Masters, a member of our Society, comprised Insects of all orders, and, as might have been expected from the latitude and character of the country in which they were found, was composed for the most part of new species.

Of these, I have already described a considerable number in the several Papers which I have contributed to this Society, and I now purpose to include in this and subsequent Papers all the species not yet noticed which appear to me to differ from those inhabiting other parts of Australia. I have passed over in this Paper the *Philhydridae* and *Brachelytra* of the collection, as I intend to place the novelties of the former group in the hands of



the Rev. Hamlet Clark, M.A., F.L.S., of London, who has made the water insects of Australia his particular study, and the new species of the latter I have reserved for the Rev. R. L. King, B.A., from whose pen I hope soon to see a valuable monograph on the *Bruchelytra* of this country.

I.—*CICINÆELA NIGRINA*.

*Nigra æneo-micans, capite longitudinaliter thoraceque transversim striolatis, elytris punctatis ad suturam acuminatis maculis duabus lateralibus alteraque apicali albis, corpore subtus pedibusque æneo-viridibus.*

Long.  $4\frac{1}{2}$  lin., lat.  $1\frac{1}{2}$  lin.

The upper surface of this insect is almost black, with a greenish tinge about the head and thorax. The under surface and legs are of a brilliant metallic green. The mandibles, palpi, and tarsi are of a pitchy hue; the head is marked with very fine striæ. The thorax has the medial line slightly but distinctly impressed, and is very finely marked with transverse striolæ. The elytra are coarsely punctured all over, and are truncated at the apex obliquely, each having an acute elevated tooth at the suture. The elytra have also a smooth white spot at the middle of their lateral margins, another at their posterior angles, and a third, the smallest, at the truncated part of the apex.

Found on the sea beach about high water mark.

2.—*ODACANTHA MICANS*.

*Picea nitida, thorace punctato, elytris anticè striato-punctatis posticè levibus, pedibus testaceis femoribus albis.*

Long. 3 lin., lat.  $\frac{3}{4}$  lin.

The whole insect is of a shining pitchy hue, which is darker on the elytra. The head is deeply impressed, and wrinkled on each side from the eyes towards the clypeus. The thorax is closely punctured, with the medial line deeply marked, and a longitudinal ridge on the sides. The elytra, which are twice the width of the thorax, are punctured in striae very distinctly near their base; but towards the apex these marks become obliterated. The legs have the upper half of the thighs and tibiæ of a pale yellow.

Found under dried cow dung.

3.—*ODACANTHA LATIPENNIS*.

Olivaceo-nigra, capite thoraceque punctatis, elytris pubescentibus striato-punctatis apice testaceis, palpis pedibusque flavis.

Long. 4 lin., lat.  $1\frac{1}{2}$  lin.

The antennae of this insect are testaceous. The head and thorax are black, and coarsely punctured: the latter, which is of the same width as the head, has a longitudinal ridge on the sides, and is but slightly narrowed behind. The elytra are of a dull greenish black, with the apex of a yellowish brown; they are twice the width of the thorax, are striated, coarsely punctured, covered with light-coloured decumbent hairs, and, at the apex, are but slightly truncated. The legs are of a pale yellow.

I have some doubt as to the genus of this insect. The organs of manducation agree with those of *Odacantha*, but the general habit is rather robust for that genus. The specimens obtained were found floating down the River Don during a flood.

4.—*HELLUO SULCATUS*.

Niger, capite punctato, thorace punctatissimo medio levi, elytris octo-sulcatis sulcis biserialiter punctatis.

Long.  $9\frac{1}{2}$  lin., lat. 3 lin.

The upper surface is of an uniform brownish black. The head is coarsely punctured, with an impression in the middle of the clypeus. The thorax is densely and closely punctured, with the medial line smooth and not deeply marked. The elytra have each eight furrows, with a double row of deep punctures in each. The under surface is of a pitchy hue.

I have not been able to dissect a specimen of this insect, but its appearance is completely that of a *Helluo*, and it seems to agree with that genus in every thing, except in the shape of the mentum.

5. *HELLUO GRANDIS*.

Niger subnitidus, thorace anticè subobtusato marginibus punctatis, elytris striatis subtiliter punctatis.

Long. 17 lin., lat. 5 lin.

This insect has a strong resemblance to the *H. longipennis* of Germar; the most conspicuous point of difference being in the

thorax, which in the South Australian species is truncated or almost emarginate in front, causing the anterior angles to appear to be produced forwards. In this species, on the other hand, the anterior angles are rather obtuse, and the thorax is slightly rounded in front. The head and thorax are black and glossy. The former is transversely striolated, and the latter has the medial line slight, but distinct, and the recurved lateral margins finely punctured. The elytra are long, parallel at the sides, and closely striated and punctured throughout. The mentum of this species has the medial tooth very minute and bifid, in this it agrees with *H. longipennis* of Germar, and differs much from the type of the genus, which is the *H. costatus* of Bonelli.

Nov. Gen. ACROGENYS.

*Antennæ* submoniliformes, articulo primo crasso, secundo parvo, reliquis subæqualibus.

*Labrum* subquadratum.

*Mandibulæ* validæ arcuatæ vix dentatæ.

*Maxillæ* arcuatæ acutæ.

*Palpi Maxillares* subcrassi, articulo penultimo brevi, ultimo truncato.

*Palpi Labiales* subelongati, articulo ultimo subtruncato.

*Labium* membranaceum vel coriaceum ad basin angustius apice truncatum, paraglossis longis introrsum curvatis.

*Mentum* lobis lateralibus acuminatis medio lobato.

*Caput* posticè subangustum.

*Thorax* subcordatus angulis posticis prominulis.

*Corpus* planum.

♂.—ACROGENYS HIRSA.

Nigra pilosa, capite thoraceque creberrimè punctatis, elytris punctulatis sulcatis sulcis punctatis punctis setigeris.

Long.  $5\frac{1}{2}$  lin., lat.  $1\frac{3}{4}$  lin.

This insect is of an uniform dull black, and is rather thickly clothed with long flexible hairs. The head and thorax are thickly covered with close punctures; the latter has the medial line

distinctly marked. The elytra are covered with minute punctures and longitudinally grooved, the grooves bearing setigerous punctures. The general appearance of this insect is that of a *Hellus*, to which genus it is no doubt nearly allied, notwithstanding the wide differences which the parts of the mouth show.

Nov. Gen. TRIGONOTHOPS.

*Antennæ* filiformes, articulo primo longiore, secundo minore, reliquis æqualibus.

*Labrum* longius quam latius, apice subrotundatum vix emarginatum.

*Mandibulæ* latæ breves subarcuatæ acutæ.

*Maxillæ* subtenuæ apice acutæ.

*Palpi Maxillares* subacuto articulo penultimo brevior, ultimo obtuso.

*Palpi Labiales* subsecuriformes.

*Labium* subquadratum angulis rotundatis.

*Mentum* dente medio magno obtuso, lobis lateralibus obtusis.

*Caput* thorace angustius, posticè attenuatum.

*Thorax* subquadratus, latior quam longior, angulis posticis rectis.

*Corpus* subdepressum.

*Tarsi* plerumque articulo penultimo bifido.

The *Calleida pacifica* of Erichson belongs to this genus, and may be taken as the type of it.

7.—TRIGONOTHOPS PALLIDICOLLIS.

Testacea, thoracis lateribus setigeris, elytris punctato-striatis nigris plagâ subhumerali margine apiceque testaceis.

Long.  $3\frac{1}{4}$  lin., lat.  $1\frac{1}{4}$  lin.

The head and thorax are testaceous, and roughly punctured, having the margins armed with a few long spiny hairs. The elytra are striated, with a line of punctures in each stria, and with the intervals broad and smooth; they are also mostly black, but a large yellow patch extends from the humeral angles into the middle of each elytron, where it occupies a considerable part

of the disc ; the apical extremities of the elytra are also yellow. The antennæ, under surface of the body, and legs are pale yellow.

8.—TRIGONOTHOPS NIGRICOLLIS.

Nigra, thoracis lateribus setigeris, elytris punctato-striatis, plagâ humerali apiceque testaceis, pedibus flavis.

Long.  $3\frac{1}{4}$  lin., lat.  $1\frac{1}{4}$  lin.

The upper surface is black ; the antennæ are pitchy, as are also the sides of the thorax, which are armed with two setæ on each side. The elytra, which are striated and punctured, have their apex testaceous, and a long patch of the same colour extending from the shoulders to the middle of each elytron. The under surface is of a pitchy black, with the legs pale yellow.

9.—SARATHROCREPIS MINIMA.

Nigra subnitida, thorace punctato, elytris leviter striato-punctatis maculâ versus basin magnâ alterâque suturali subapicali rufis, antennis palpis pedibusque flavis.

Long.  $1\frac{1}{2}$  lin., lat.  $\frac{1}{2}$  lin.

This minute species is of a somewhat shining black colour, the thorax is punctured and has a rather wrinkled appearance ; the medial line is very distinctly marked. The elytra are slightly striated and covered with fine punctures, each furnished with a short decumbent hair of a lightish hue. They have one reddish spot near the base of each elytron, and another common to both, near their apex. The antennæ, palpi, and legs are yellow.

10.—CYMINDIS LONGICOLLIS.

Brunnea subnitida, elytris sulcato-punctatis subprempressis, corpore subtus pedibusque pallidioribus.

Long. 4 lin., lat. 1 lin.

The upper surface is of a pitchy brown, the under of a lighter colour. The head is wrinkled, and intricately sculptured in front. The elytra are deeply channelled and slightly punctured, with a curved truncature at the apex.

I have not dissected either this or the following species, but I have no doubt that I am right in referring them to this genus.

11.—*CYMINDIS ANGUSTICOLLIS*.

*Cervina* subnitida, thorace sparsim punctato punctis setigeris, clytris sulcato-punctatis.

Long.  $3\frac{1}{2}$  lin., lat. 1 lin.

The whole insect is of a pale reddish colour. The head and thorax are slightly punctured, the latter with short setae arising from each puncture. The elytra are deeply channelled as in the last described species, but differ in being coarsely punctured.

12.—*SCOPODES DENTICOLLIS*.

*Æneo-niger*, thorace leviter rugoso vix marginato lateribus unidentatis, clytris punctato-striatis striâ secundâ profundè tripunctatâ.

Long. 2 lin., lat.  $\frac{1}{3}$  lin.

The whole surface is of a dark bronze colour finely granulated. The thorax has a somewhat wrinkled appearance with the medial line deeply marked, and with a tooth in the middle of each lateral margin. The elytra are striated and punctured in the striae, with three large roundish impressions about the line of the second stria.

13.—*SILPHOMORPHA MASTERSII*.

*Nigra* subnitida, clytris striato-punctatis picco-marginatis, corpore subtus pedibusque piccis.

Long. 6 lin., lat.  $3\frac{1}{4}$  lin.

This species closely resembles the *S. Oretocheiloides* (Hope) from South Australia, differing from it chiefly in having the thorax smoother, and the elytra more distinctly striated. The head is somewhat protuberant at the summit; the thorax presents no appearance of punctures except under a powerful lens; the elytra are distinctly striated with a few punctures along the striae. Their recurved margins are of a pitchy hue, as are also the legs and under surface of the body. I have named the species after Mr. Masters, a member of our Society, and a most indefatigable and intelligent collector.

## 14.—SILPHOMORPHA MACULIGERA.

Nigra subnitida subtilissimè punctata, elytris leviter striato-punctatis maculâ magnâ flavâ suturali, corpore subtus pedibusque piccis.

Long.  $4\frac{1}{2}$  lin., lat.  $2\frac{1}{2}$  lin.

The upper surface is black, slightly polished and covered with very minute punctures, presenting under the lens a shagreen appearance. The elytra, which are slightly striato-punctate, have a large patch of yellow, common to both, extending from near the scutellum almost to the apex. The under surface and legs are of a pitchy hue.

The *S. guttigera* of Newman is, perhaps, the nearest to this species of any yet described, but the polished surface and the resemblance to an *Adelotopus* distinctly mark the former.

## 15.—SILPHOMORPHA QUADRIMACULATA.

Nigra nitida, thoracis lateribus flavis, elytrorum lateribus maculisque quatuor flavis, corpore subtus pedibusque piccis.

Long.  $2\frac{1}{2}$  lin., lat.  $1\frac{1}{4}$  lin.

This species somewhat resembles the *S. hydroporoides* of Westwood. The upper surface is of a brilliant shining black and perfectly smooth. The thorax and elytra have their lateral margins of a reddish yellow, the latter have also four large yellow spots, one near the base of each elytron, the other at the apex. The under surface of the body and the legs are of a pitchy hue.

## 16.—ADELOTOPUS APICALIS.

Niger nitidus lævis, elytris apice rufis, corpore subtus picco.

Long. 3 lin., lat.  $1\frac{1}{2}$  lin.

The upper surface is smooth, black, and shining, with the apex of the elytra reddish. The under surface is of a pitchy red. This species is broader and less oblong than the *A. leuorrhoidalis* of Erichson.

## 17.—ADELOTOPUS BIMACULATUS.

Niger nitidus lævis, elytris maculis duabus sanguineis, abdomine rufo.

Long.  $2\frac{3}{4}$  lin., lat. 1 lin.

This species is narrower than the last, and is of an uniform shining black, with a large red spot on the disc of each elytron. The under surface is of a pitchy hue with the abdomen red.

18.—CRASPEDOPHORUS CONVEXUS.

Niger subnitidus, thorace profundè punctato angulis posticis subrotundatis, elytris convexis sulcato-punctatis maculis subhumeralibus subapicalibusque aurantiis.

Long. 10 lin., lat.  $4\frac{1}{4}$  lin.

The head is smooth in front, with a punctured depression on each side. The thorax is coarsely and densely punctured with the medial line distinctly traceable, and is very much narrowed before and behind, forming almost an obtuse angle in the middle of each side. It has also the lateral margins considerably reflexed towards the posterior angles, which are somewhat rounded.

The elytra are convex, and widest towards the middle, they have each eight deeply punctured furrows with the interstices elevated and smooth, and two orange coloured spots, one near the shoulders, the other near the apex; these spots are arranged as follows, on the fourth interstice from the suture, both spots commence with orange marks of equal length, on the fifth, the marks are both shorter, on the sixth, they are both about the length of those on the fourth, on the seventh, the mark on the upper spot is a little shorter than that on the sixth, and on the lower spot much shorter; while on the eighth interstice, the orange mark is confined to the upper spot, and is very small.

19.—CHILENIUS SUBCOSTATUS.

Subnitidus, capite thoraceque atro-viridibus sparsim punctatis, elytris nigris flavo-marginatis striatis interstitiis subelevatis punctis minutis setigeris, antennis palpis pedibusque flavis.

Long.  $6\frac{1}{2}$  lin., lat.  $2\frac{1}{2}$  lin.

The antennæ and palpi are of a pitchy yellow colour. The head and thorax are of a dark green, and sparsely punctured. The elytra are greenish black, margined with yellow, and are striated, with the intervals between the striæ rather elevated, presenting a ribbed appearance. The whole of the surface of the elytra is covered with very minute points, seen only under



a powerful lens. There is also between the striae a double row of somewhat larger punctures, each producing a small white decumbent hair. The under surface is of a pitchy black with the legs yellow.

20.—*CHEILENIUS BIMACULATUS.*

Niger, capite levi subcyaneo, thorace punctato medio vix canaliculato, elytris striatis subtiliter punctatis punctis setigeris maculâ aurantiâ subapicali, antennis palpisque rufis, pedibus flavis.

Long.  $8\frac{1}{2}$  lin., lat.  $3\frac{1}{4}$  lin.

The head is smooth and of a shining bluish black; the thorax, which has also a bluish tinge, is covered with coarse punctures running into one another; the medial line is scarcely traceable, but the impressions on each side of the base are long and distinct. The elytra are dull black with a subapical orange spot on each; they are striated and have the interstices flat. Their whole surface is seen under a powerful lens to be closely punctured, and covered with short decumbent hairs. The under surface is of a pitchy black with the legs yellow.

Nov. Gen. *STOMATOCELUS.*

*Antennæ* breviores filiformes articulo basilari magno, secundo parvo, tertio longiore, reliquis longioribus subæqualibus hirtis.

*Labrum* quadratum profundè emarginatum.

*Mandibulæ* validæ arcuatæ subacutæ.

*Maxille* arcuatæ acutæ.

*Palpi Maxillares* longi tennes articulo ultimo subtruncato.

*Palpi Labiales* longi tennes articulo ultimo truncato.

*Labium* medio corneum bisetosum paraglossis liberis longis.

*Mentum* profundè emarginatum dente medio nullo, lobis lateralibus intus acutè unidentatis.

*Caput* planum vix posticè angustatum, clypeo leviter emarginato.

*Thorax* planus anticè submarginatus postice truncatus lateribus convexis.

*Corpus* ovatum subdepressum.

*Pedes* subgraciles tarsis simplicibus.

21.—STOMATOCÆLUS LICINOIDES.

*Niger* subnitidus, thoracis margine subtiliter punctato, clytristriatis striâ secundâ punctis duobus impressâ.

Long. 7 lin., lat.  $2\frac{3}{4}$  lin.

The head is smooth with depressions in front of the eyes on each side. The thorax is finely punctured near the sides, and smooth in the middle, with a rather deep longitudinal impression on each side of the base, and the medial line distinctly marked. The clytra are striated with a row of deep punctures in a lateral channel, and two slightly marked depressions in the second stria on each side of the suture, the one a little above the other, on the posterior half of the clytra. The under surface is black and polished.

This species seems to be found in all parts of Australia. I have named it from its resemblance and proximity to the genus *Licinus*.

Nov. Gen. PACHAUCHENIUS.

*Antennæ* breves articulo ultimo crasso, secundo brevi, reliquis subæqualibus.

*Labrum* subquadratum angulis rotundatis.

*Mandibulæ* validæ triangulares extus convexæ.

*Maxillæ* dente apicali acuto.

*Palpi Maxillares* tennes articulo ultimo subacuto.

*Palpi Labiales* articulo penultimo longo, ultimo subacuto.

*Labium* magnum quadratum membranaceum, medio corneum angustum bisetosum.

*Mentum* profundè emarginatum, dente medio parvo obtuso, lobis lateralibus subacuminatis.

*Caput* latum posticè incrassatum clypeo emarginato.

*Thorax* subquadratus lateribus convexis.

*Corpus* ovatum subdepressum.

*Pedes* subtenuis setosi, tarsis anticis intermediisque ciliatis articulo primo longo, 2<sup>do</sup>. 3<sup>tio</sup>. et 4<sup>to</sup>. triangularibus gradatim brevioribus.

This genus seems to be most nearly allied to the *Cratoceridæ* of Lacordaire, though it resembles closely the genus *Acinopus* which that author places among the true *Harpalidæ*.

#### 22.—PACHAUCHENIUS LEVICEPS.

Niger subnitidus, capite lævi fronte transversim impresso, thorace leviter canaliculato, elytris striatis.

Long. 9 lin., lat.  $2\frac{3}{4}$  lin.

The head is black, smooth, and shining, with a narrow well defined transverse impression in front of the eyes, curved backwards at each end. The thorax is also smooth, with the medial line indistinctly marked posteriorly and not at all anteriorly, the impressions near the base on each side are also rather indistinct. The elytra are striated with a row of punctures along the lateral margins.

#### 23.—HARPALUS INTERSTITIALIS.

Viridi-æneus, thorace glaberrimo, elytris cupreis subsulcatis interstitio secundo posticè tripunctato.

Long. 7 lin., lat.  $2\frac{3}{4}$  lin.

The head and thorax are brassy green and smooth, the former with a slight transverse impression between the eyes, the latter with the medial line lightly marked, and the impressions on each side near the base slight. The elytra are of a copper colour with metallic lustre, and are deeply striated, with a line of punctures along the lateral margin, and with three punctures on the posterior half of the second interstee from the suture. The under surface and legs are black.

#### 24.—HARPALUS PICIPES.

Ater nitidus, elytris striatis, corpore subtus antennis palpis pedibusque piccis. tibiis posticis validè spinosis.

Long.  $4\frac{1}{2}$  lin., lat.  $1\frac{5}{8}$  lin.

The whole upper surface is of a deep black. The head and thorax are smooth, the latter with the medial line serrated

traceable. The elytra are striated with the marginal stria punctured, and with four or five small impressed punctures on the second interstice from the suture, and two or three near the apex. The under surface, antennæ, palpi, and legs are of a pitchy colour. The posterior tibiæ have the spines along their length, few and very much developed.

25.—*HARPALUS FLAVIPALPIS.*

*Ater subnitidus, elytris striatis, antennis palpis pedibusque flavis.*  
Long.  $3\frac{1}{2}$  lin., lat.  $1\frac{1}{2}$  lin.

The upper surface is black, the head is smooth with a very fine transverse line between the eyes, and a few transverse wrinkles on the forehead. The thorax is also smooth, with the medial line slightly but distinctly marked, and with the impressions on each side at the base distinct. The elytra are striated with coarse punctures in the marginal stria. The under surface is of a pitchy hue, while the antennæ palpi and legs are yellow. The spines on the posterior tibiæ are numerous and short.

26.—*SAPRINUS ATER.*

*Nigerimus nitidus, elytris leviter punctatis marginatis striâ externâ in elytrorum medio abbreviatâ striis dorsalibus tribus æqualibus dimidiatis interstitio inter primam et secundam obliquè scalpto: internâ in medio abbreviatâ: suturali vix thoracis basin attingente, tibiis anticis septemdentatis piceo-hirtis.*

Long. 3 lin., lat. 2 lin.

The whole upper surface is of a glossy black, with a slight tinge of blue on the elytra. The head and thorax are finely punctured, the latter chiefly on the sides. The elytra are also finely punctured, and are marked with striæ in the following manner:—1st, a marginal stria; 2nd, an abbreviated one about equidistant from the base and apex; 3rd, three equal dorsal striæ, extending from the base to the middle of the elytra, with oblique scratches between the first and second ones; 4th, an abbreviated one similar to the second; 5th, a sutural one not quite reaching to the base of the elytra.

The pygidium is closely punctured. The under surface is of a somewhat pitchy hue; the legs are ciliated with reddish hair, and the fore tibiæ are seven-toothed.

27.—SCAPHIDIUM BIMACULATUM.

*Nigrum nitidum, thoracis lateribus latè rubris basi que seriatim punctatâ, elytris lævibus in medio maculâ rubrâ striâ suturali basi lateribusque seriatim punctatis.*

Long.  $1\frac{1}{2}$  lin., lat.  $\frac{3}{4}$  lin.

This insect is of a brilliant black. The thorax has its sides of a deep blood red, and has a wavy line of impressed punctures near the base. The elytra are smooth, with a row of punctures along the lateral margins, a deep stria lightly punctured near the suture, and a row of strongly impressed punctures near the base, not extending to the shoulders; there is a large red spot about the middle of each elytron. The under surface of the body is black, in some places tinged with red, and punctured; the legs are of a pitchy appearance.

28.—BOTHRIDERES RECTANGULARIS.

*Piceo-fuscus, thorace confertim fossulato rectangulo in medio longitudinali fortiter impresso, elytris costatis interstitis 1—3 striatis.*

Long.  $2\frac{3}{4}$  lin., lat.  $\frac{3}{8}$  lin.

This species seems to vary much in size, some specimens being considerably larger than the dimensions given above, others again being as much smaller. The colour is of a pitchy brown. The head and thorax are closely and rather coarsely punctured; the latter has the punctures elongated, and has, on its disc, a deep canal enclosing an oblong quadrangular space, with one or two depressions running from the canal to the base of the thorax. The elytra are deeply ribbed, with two or three striæ near the suture, and with the spaces between the costæ near the sides somewhat wrinkled. The under surface is punctured.

29.—ONTHOPHAGUS LAMINATUS.

*Niger subnitidus, clypeo subtriangulari truncato, thorace anticè retuso lævi disco granulato, elytris punctato-striatis, corpore subtus fulvo-lirto.*

MAS capite posticè laminato laminâ emarginatâ angulis productis.

FEM. capite subrugoso sublaminato angulis vix productis.

Long.  $8\frac{1}{2}$  lin., lat. 4 lin.

The upper surface is black; the head is smooth in the male and slightly wrinkled in the female, with the clypeus in the male triangular, somewhat truncated and recurved at the apex, and slightly emarginate, and in the female rather rounded; the back part of the head is produced into a plate with pointed angles, and somewhat emarginate in the middle, in the female the head is less produced and the angles less pointed. The thorax is smooth and perpendicular in front, taking almost the shape of the back part of the head which seems to fit into it, the greater portion of the rest of the thorax is punctured, with the medial line distinctly but not deeply marked. The elytra are striated with a row of minute punctures in each stria. The pygidium is triangular and finely punctured. The under surface is black, punctured, and covered with tufts of reddish hair.

### 30.—ONTHOPHAGUS TABELLICORNIS.

Niger submitidus thorace anticè retuso tuberculo suprâ lato, elytris punctato-striatis, pedibus piccis subsetosis.

MAS capite posticè laminato laminâ valdè emarginatâ angulis productis recurvis.

Long.  $5\frac{1}{2}$  lin., lat. 3 lin.

This insect is of a somewhat shining black colour. The clypeus is rounded with the apex somewhat pointed and reflexed, the head is produced behind into a plate with lengthened recurved angles and a deep emargination in the middle. The thorax is retuse in front, with a broad almost emarginate tubercle, crowning the retuse portion in the middle, and with a small pointed tubercle on each side of it; the anterior part of the thorax seems in this species, as in that last described, to take the shape of the produced back part of the head; the medial line is not well marked. The elytra are marked with striae, having a row of small punctures in each. The under surface and legs are of a less deep black than the upper parts of the insect, and are thinly clothed with reddish hair.

31.—*ONTHOPHAGUS FURCATUS*.

*Niger nitidus*, clypeo subproducto subreflexo, thorace laevi anticè subretuso, clytris seriatim punctatis, corpore subtus fulvo-hirto.

MAS capite posticè bicornuto cornubus triangularibus lamina-tis contiguis apicibus acutis recurvis.

Long.  $3\frac{1}{2}$  lin., lat.  $2\frac{1}{4}$  lin.

The clypeus in this species is a little pointed and recurved, the back of the head is prolonged into two contiguous horns. The thorax is smooth and somewhat retuse in front, with two minute tubercles in the middle. The elytra are punctured in pretty regular rows, the punctures being for the most part distant. The under surface is clothed with pale red hair.

I have only the male of this species; it is of a more brilliant black than the last described insect, indeed the head and thorax in this have almost a metallic gloss.

32.—*ONTHOPHAGUS CONSPICUUS*.

*Viridi-cupreus nitidus*, capite punctato clypeo subemarginato, thorace subgranulato, clytris punctato-striatis, corpore subtus fulvo-hirto.

MAS capite posticè lævi carinâ transversâ sinuatâ, thorace anticè retuso trituberculato tuberculo medio lato subemarginato.

FEM. capite punctato carinâ transversâ, thorace leviter trituberculato.

Long. 5 lin., lat.  $3\frac{1}{2}$  lin.

This species is of a brilliant coppery green. The head in the male is punctured in front, and smooth behind, with a transverse sinuated elevation, dividing the punctured and smooth portions; in the female, the transverse elevation is large, straight, and slightly toothed on each side; the clypeus in both sexes is slightly truncated, but in the male it is also a little emarginated and reflexed. The thorax is somewhat granulated, very retuse in front in the male, with three very prominent tubercles, the one in the middle rather broad, and emarginated slightly in the centre by the medial line of the thorax; in the female the thorax is less retuse and the tubercles less prominent. The elytra are striated with a row of fine punctures in each stria. The under

surface and legs are of a somewhat pitchy hue, with reddish brown hairs.

33.—*ONTHOPHAGUS RUFOSIGNATUS*.

*Niger subnitidus, capite punctato clypeo anticè subrecurvo, thorace rufo disco nigro, elytris seriatim punctatis apice rufis, femoribus punctatis rufis.*

*MAS capite posticè bituberculato, thorace retuso vix bituberculato.*

*FEM. capite transversim carinato, thorace vix retuso.*

Long.  $3\frac{1}{4}$  lin., lat. 2 lin.

The upper surface of this insect is not very polished. The head is punctured, the clypeus is rather rounded at the apex and slightly recurved, the back part of the head has, in the male, two small subacute tubercles, and in the female a transverse ridge. The thorax is smooth with an impressed puncture near each lateral margin, and is of a deep red colour, with a broad black patch in the middle extending from the head to the scutellum; in the male it is somewhat retuse in front with two rather angular points above the retuse part, in the female this is scarcely perceptible. The elytra have the larger and basal half black, the remainder red, and are marked with rows of somewhat distant punctures, which are largest towards the shoulders. The under surface is mostly black, with the sides of the prothorax, the thighs, and small patches near the coxæ punctured and red, the whole more or less clothed with fulvous hair.

34.—*ONTHOPHAGUS RUBRIMACULATUS*.

*Niger subnitidus, clypeo subrotundato anticè submarginato, thorace punctato foveâ utrinque parvâ, elytris striatis subtilissimè punctatis humeris maculisque subapicalibus rubris.*

*MAS capite posticè bituberculato.*

*FEM. capite posticè transversim carinato.*

Long.  $2\frac{1}{2}$  lin., lat.  $1\frac{1}{2}$  lin.

This insect is of a shining black, with a slightly greenish hue on the head and thorax. The clypeus is rather rounded in front with a slight emargination, and is separated from the head in the



male by a recurved ridge; the back part of the head has two subacute tubercles in the male, which, in the female, are represented by a straight transverse ridge. The thorax is finely punctured, and has an impressed puncture near the lateral margin; in the male it is very slightly retuse in front. The elytra are striated, and covered by extremely fine punctures, only visible under a powerful lens; larger punctures are also traceable over their whole surface; the shoulders are red, and near the apex of each elytron, there is a small spot of the same colour.

35.—*ONTIOPHAGUS PURPUREICOLLIS*.

*Niger nitidus, capite posticè vix bituberculato clypeo subreflexo, thorace subpurpureo subtiliter punctato, anticè retuso utrinque excavato, elytris punctato-striatis, pedibus piceis.*

Long.  $2\frac{3}{4}$  lin., lat.  $1\frac{3}{4}$  lin.

I believe I have only the male of this species, but it is probable that the female differs but little from it. The head is black, and lightly punctured, with two small tubercles close to the hinder margin; the clypeus is somewhat acuminate and reflexed. The thorax has a dark purplish tinge, and is covered with fine punctures. In front it is retuse, with each side of the perpendicular portion slightly excavated. The elytra are strongly striated, with each stria distinctly punctured. The under surface and legs are deeply punctured and of a pitchy hue.

36.—*ONTIOPHAGUS CUNICULUS*.

*Niger nitidus, clypeo subrotundato transversim rugoso, thorace aëneo subtiliter punctato foveâ utrinque parvâ, elytris subseriatim punctatis, corpore subtus cano-piloso.*

MAS. thorace anticè retuso utrinque excavato, suprâ bituberculato.

FEM. thorace subretuso medio subtuberculato.

Long. 3 lin., lat. 2 lin.

The clypeus in this species is rounded in front, and is covered with transverse wrinkles; the head is punctured, and almost truncated behind. The thorax is of a brassy hue, and very minutely punctured, with a large impressed puncture about the middle of each lateral margin. The male has the thorax retuse

in front with two strong tubercles in the middle, and deep excavations on each side. The female has the same sculpture, but less marked. The elytra are black, and covered with somewhat regular rows of coarse punctures. The under surface is rather thickly clothed with grey hair.

37.—*ONTHOPHAGUS MUTICUS.*

*Niger subnitidus, clypeo punctato subrotundato, thorace sublaevi foveâ utrinque impressâ, elytris punctato-striatis, pedibus piceis.*

Long. 4 lin., lat.  $2\frac{1}{2}$  lin.

The male and female in this species seem scarcely to differ. The whole upper surface is of a rather dull black, presenting under a powerful lens a somewhat shagreen appearance from the multitude of punctures with which it is covered. The head is smooth behind, but the clypeus is coarsely punctured and somewhat wrinkled, and is rounded towards the apex. The thorax is somewhat smooth, and has an impressed puncture or depression near the middle on each side, with a small protuberance immediately in front and to the outside of it. The elytra are striated with punctures in the striæ. The under surface and legs are of a pitchy black with a few reddish hairs.

38.—*ONTHOPHAGUS GRANULATUS.*

*Niger subnitidas confertim punctatus, clypeo rotundato, thorace medio subcanaliculato foveâ utrinque impressâ, elytris substriatis.*

Long.  $4\frac{1}{4}$  lin., lat.  $2\frac{1}{2}$  lin.

In this species also, the male and female differ but little; the greater or less prominence of the transverse ridge on the back part of the head being perhaps the only noticeable difference. The head is punctured, while the clypeus is transversely wrinkled and rounded at the apex. The thorax is very thickly punctured, the punctures giving it a granulated appearance. The medial line is slightly marked on the posterior half, and not at all in front, while there is an impressed point near the middle of each lateral margin. The elytra are also thickly punctured, but so as

to give them rather a wrinkled appearance; and they are distinctly but not deeply striated. The under surface is black and shining, with fringes of reddish hair.

39.—*ONTHOPHAGUS ASPER.*

*Niger setosus, capite thoraceque profundè punctatis, elytris rufo-maculatis costatis interstitiis striatis, pedibus piceis fulvo-hirtis.*

MAS. capite bicornuto.

FEM. capite bituberculato.

Long. 2 lin., lat. 1 lin.

The male has two horns on the back part of the head, which are represented in the female by small tubercles. The head and thorax are closely and coarsely punctured and covered with short strong white setæ; the former has the clypeus slightly emarginate, the latter has the medial line lightly marked. The elytra have several longitudinal elevations, with a double row of fine striæ between each; the whole is covered with coarse setigerous punctures, and they have red spots more or less indistinct and varying in number and position, but chiefly about the shoulders and apex. The legs are pitchy and fringed with yellowish hair. The pygidium is covered with setigerous punctures.

40.—*SILPHODES HIRTIPES.*

*Niger subnitidus piceo-marginatus, capite thoraceque punctatis, elytris confertim striato-punctatis, pedibus rufis hirtis.*  
Long.  $4\frac{1}{2}$  lin., lat.  $2\frac{1}{2}$  lin.

The upper surface of this insect is of a shining black inclining to pitchy at the sides. The head is closely punctured, the punctures running into short striolæ in front of the eyes; the clypeus is slightly emarginate. The thorax is thinly punctured, excepting the lateral margins, which are densely punctured. The elytra are closely striated, each stria being closely punctured; the scutellum is also closely punctured. The under surface is pitchy, the legs are reddish and are well furnished with red hair.

This insect was found under a dead Kangaroo. The only other species of the genus the habits of which we have any account of

is the *S. Sumatrensis*, Westw.; which Sir Stamford Raffles observed to be also found on dead animals.

41.—*CÆLODES BIMACULATUS*.

Niger nitidus, capite punctato, thorace sublevi marginibus confertim punctulatis piecis, elytris biserialim punctatis maculâ humerali rubrâ.

Habitat in stercore humano.

Long. 3 lin., lat. 2 lin.

The upper surface is of a glossy black inclining to pitchy on the lateral margins of the thorax. The head is thickly punctured. The thorax is almost free from punctures in the middle, but the lateral margins are densely and finely punctured. The scutellum is punctured at the base and has a longitudinal impression towards the apex. The elytra have four double rows of small punctures besides a single one at the suture and sides. On each humeral callosity there is a small dark red indistinct spot. The under surface and legs are of a pitchy hue, the latter being slightly ciliated.

This species so closely resembles the insects of South America placed by Westwood in his genus *Cœlodes*, that I have, though with some doubt, referred it to that genus. I can find no evidence however of the sexual differences which he speaks of, viz.—the excavated thorax and dentated unguis of the male. In this species also the labrum is truncate, and without the punctured margin of *Cœlodes*; the mentum also is more emarginate than in that genus.

42.—*BOLBOCERAS RHINOCEROS*.

Cervinus nitidus, thorace foveâ ntrinque impresso, elytris punctato-striatis, corpore subtns hirsuto.

MAS. capitis corum valdè producto subincarvo, thorace anticè bicornuto medio retuso lateribus punctulatis.

FEM. capitis medio transversim carinato, carinâ ntrinque furcata, occipite bituberculato, thorace anticè retuso sublevi medio punctulato posticè levi.

Long. 8 lin., lat 5 lin.

The whole upper surface is fawn coloured with the middle of the thorax of a somewhat darker shade. The head is punctured and furnished in the male with a long slightly recurved horn, quadrangular at the base, and becoming rounded and almost acute at the apex; in the female this horn is wanting, but there are two small approximating tubercles near the base of the head, and in front a transverse ridge bifurcating towards the eyes. The thorax has in both sexes a deep hole on its anterior margin on each side behind the eyes, and a deep impression near each lateral margin; in the male there are two strong slightly recurved horns in front, behind which there is a deep transverse line, from which the thorax rises abruptly with a smooth face; and there is a patch of fine punctures near each side and along the margins. In the female the thorax is retuse and smooth in front, punctured in the middle from side to side and smooth towards the base; the basal margin is however narrowly and finely punctured. The scutellum is smooth. The elytra are finely striated with a row of fine punctures in each stria. The suture is black. The under surface and legs are of the same colour as above, and are thickly clothed with fulvous hair.

43.—*BOLBOCERAS GLOBULIFORMIS.*

*Cervinus nitidus, capite punctato posticè tuberculato, thorace vix punctato medio canaliculato foveâ utrinque impressâ, elytris leviter punctato-striatis, corpore subtus hirsuto.*

MAS. thorace anticè subretuso.

Long.  $4\frac{1}{2}$  lin., lat.  $2\frac{3}{4}$  lin.

This insect is entirely of a fawn colour. The head is punctured, and flatter in the male than in the female; in both sexes there is a small almost bifid tubercle near the back of the head, and in front another tubercle at the intersection of two oblique ridges. The thorax is almost free from punctures, a few distant and very fine ones being scattered over it; the medial line is distinct, and there is a deep roundish impression near each lateral margin. The male has the thorax slightly retuse in front. The elytra are finely striated and punctured in the stria, while the suture is slightly black. The under surface and legs are thickly clothed with yellow hair.

44.—*Trox subcarinatus*.

Nigro-fuscus scaber, fronte vix bituberculato, thorace sex-carinato carinis interruptis, elytris tuberculorum seriebus undecim serie tertiâ anticè carinatâ interstitiis seriatim sphaerulatis.

Long. 7 lin., lat.  $4\frac{1}{2}$  lin.

Dull black covered with greyish tubercles. The head has two small tubercles in the centre. The thorax has six longitudinal, rather crooked and somewhat interrupted ridges about equidistant from each other; the sides of the thorax are cut into three notches or teeth. The elytra have eleven rows of tubercles extending from the base to the apex, the alternate rows smaller, while the upper half of the third row forms a continuous ridge; between each row of tubercles there is a row of much smaller tubercles.

45.—*Liparetrus rufipennis*.

Niger, capite thoraceque punctatis, elytris rufis nitidis punctatis striis ter-geminatis, corpore subtus griseo-piloso, pygidio subrufo, pedibus piceis.

Long. 4 lin., lat.  $2\frac{1}{4}$  lin.

The head and thorax are black and closely punctured. The elytra are red and punctured, with three double striæ rather indistinctly marked. The pygidium is large, and of a dull reddish colour. The under surface is black, with a good deal of greyish hair, except upon the segments of the abdomen, which have only a few setigerous punctures. The legs are piceous.

46.—*Liparetrus atriceps*.

Rufus subnitidus, capite punctato nigro, thorace punctato rufo anticè nigrescente medio posticè canaliculato, elytris punctatis striis ter-geminatis, pygidio punctato, corpore subtus piceo griseo-hirto.

Long.  $3\frac{3}{4}$  lin., lat. 2 lin.

The head is black and closely punctured. The thorax is also punctured, with the medial line distinct; towards the base the prevailing colour is red, growing black towards the head, but in some varieties the thorax is almost entirely black; the margin

is always edged with black. The elytra are of a rather pale red, narrowly margined with brown, and are punctured; three series of double striae are distinctly traceable upon them. The pygidium is large, red, and covered with punctures. The under surface is of a dark red or pitehy hue, well covered with greyish hair. The legs are red.

## 47.—LIPARETRUS DISCOIDALIS.

Niger griseo-pilosus, elytris glabris obscure punctatis subsericeis flavis postice nigris, pygidio punctato, pedibus anterioribus rufis.

Long.  $2\frac{1}{4}$  lin., lat.  $1\frac{1}{4}$  lin.

This species is clothed all over, excepting the elytra, with long white or greyish hair. The head and thorax are black and punctured. The elytra are yellow bordered with black, and have the apical portion also black. They present an almost velvety appearance, and also indistinctly marked punctures, while a few punctured striae may also be traced with a powerful lens. The pygidium is reddish and sparingly punctured. The four anterior legs are also reddish.

## 48.—LIPARETRUS RUBICUNDUS.

Rufus cinereo-pilosus punctatus, capite nigro, elytris glabris striatis striis ter-geminatis.

Long. 3 lin., lat.  $1\frac{1}{2}$  lin.

The head in this species is black and punctured; the thorax is also punctured, but red, both parts being covered with rather long hairs of a darker hue than those on the rest of the body. The elytra are punctured, free from hair, and each of them indistinctly marked with three series of double striae. All the rest of the body is covered with ash coloured hair, and with punctures.

## 49.—LIPARETRUS CONCOLOR.

Rufo-castaneus punctatus undique cinereo-pubescens, capite obscuriore, elytris dimidiatis

Long.  $2\frac{1}{3}$  lin., lat 1 lin.

This insect is of an uniform chesnut colour, and is covered with short decumbent cinereous hairs, most thickly placed on the head and thorax. It is also punctured all over. The elytra are short, being only half the length of the body.

50. —LIPARETRUS BASALIS.

*Niger punctatus* omnino cinereo-pilosus, elytris testaceis velutinis ad basin nigris, pygidio pedibusque piceis.

Long.  $3\frac{1}{4}$  lin., lat.  $1\frac{1}{2}$  lin.

This species is covered all over with rather long erect flexible hairs of a light ash colour. The head and thorax are black, and punctured. The elytra are less distinctly punctured, and have a velvety appearance, their colour is testaceous with a black basal margin. The pygidium is of a dull red. The legs are piceous.

EXPLANATION OF PLATE IX.

Maxilla *a*.

Mentum and labium *b*.

Labrum *c*.

Mandible *d*.

Fig. 1. *Acrogenys hirsuta*.

Fig. 2. *Trigonothops pallidicollis*.

Fig. 3. *Stomatocelus lieinoides*.

Fig. 4. *Pachauchenius lariceps*.



*On a new species of Ornithoptera, by*  
THE HON. A. W. SCOTT, ESQ., M.A., M.L.C.

[Read 7th December, 1863.]

ORNITHOPTERA CASSANDRA, ♀, W. MacLeay, Junr., MSS.

Although the genus *Ornithoptera* of Dr. Boisduval is composed exclusively of the largest, the most beautiful, and consequently the most conspicuous of all the diurnal lepidoptera, and although the number of species now known is comparatively few, nevertheless there exists an almost inextricable confusion in relation to the true determination of the species, arising no doubt from the complete ignorance under which we labour as to their metamorphoses and habits. This great disadvantage, it is to be hoped, will ere long be lessened, if not entirely dispelled, by the practical researches of those enterprising and scientific naturalists who so praiseworthy devote themselves to the study of the metamorphoses of insects, with fully as much ardour as they exhibit in furnishing fresh specimens for the cabinet. The New South Wales Entomological Society already numbers many such useful members, among whom our President is pre-eminent; and as the Northern parts of this Continent and the adjacent Islands appear to be the favoured habitat of the *Ornithoptera*, our Transactions will probably be the first to record the true position of many of the present doubtful species of this splendid group.

It is clear that we cannot over-estimate the importance of ascertaining the preparatory stages, if we wish to acquire a true knowledge as to whether any particular insect can be considered as a distinct species or merely as a variety, for we observe in numerous instances, even in the most modern and otherwise best authorities, that owing to the absence of this information many errors exist in the specific classification of several of our colonial lepidoptera, among which we may enumerate the *Characie*, *Pielis*, *Zeuzera*, and the *Antherea*. As we so thoroughly coincide in the views entertained by Dr. Boisduval on this subject, we cannot resist quoting his appropriate and elegant language. "Our method is partly founded on the caterpillar

“and partly on the perfect insect. We attach the greatest importance to the caterpillar state, and the characters which it furnishes have often more value in our estimation, than those afforded by the butterfly.” “It is not merely from the fruit that botanists obtain their characters, but likewise from the flower, and even from the first development of the vegetable embryo. The flower is to the plant what the caterpillar is to the lepidopteron. and the different modes of metamorphosis have as much value as those of inflorescence.”

In the various published lists of the Ornithoptera we find that in most instances either the males or females only are known, and each therefore constitutes a new species, and in this uncertainty we must remain until the doubts are cleared away by the foregoing process. In the meantime as we do not know the male, and have carefully compared our insect with the females described or delineated in Cramer, Donovan, Boisduval, Duncan, Felder, and the British Museum Catalogues, we must consider the “*Cassandra*” to be a new species, as it differs from all the others by the following distinctive markings, viz., on the upper surface of the primary wings, by the impure white mark in the discoidal cell being parted into three distinct irregular longitudinal patches: by that one placed between the 5th sub-costal and 1st discoidal nervules separating into two instead of being entire or containing a black spot in the centre: by possessing in the disc only one spot which lies between the 2nd and 3rd median nervules: and by the almost absence of those spots which run parallel to the outer margin, so distinctly seen in all the other species. Of the secondary wings, by the wedge or tear shaped patches being more slender and exhibiting a broader dark space adjoining the nervules, while the dark fuscous spots in the centre of each are larger, and connect in the disc towards the 1st and 3rd median nervules, and not towards the outer margin of the wing. To these general distinctions may be added others which will assist in separating our insect further from those individuals which are most closely allied to it: thus, the large wedge shaped markings on the secondary wings are three in number as in the *O. Euphorion* only; the thorax presents a central line of metallic green, similar to that of the *O. Pronomus* and *O. Archideus*, but not seen in the *O. Priamus*, *O. Richmondia*,

and *O. Euphorion*: the abdomen is above of a dark fuscous colour resembling that of the *O. Euphorion* and *O. Richmondia*, but dissimilar to the *O. Priamus*, *O. Pronomus*, and *O. Archidens*.

We trust that the distinctions we have pointed out are even more than sufficient to constitute this fine example into a new species, and we now proceed to enter more into detail.

Length of wings,  $7\frac{3}{4}$  inch in expanse. Upper surface of wings (fig. 1, Pl. 10) rich black brown, relieved by markings, but in a lesser degree than any of its congeners. *The primary*—with various patches and spots of impure white, principally running obliquely; three of these are placed in the discoidal cell, and one in the disc immediately under, between the 2nd and 3rd median nervules; another, large and distinct, in each of the spaces between the 3rd, 4th, and 5th sub-costal nervules; two in each space between the 5th sub-costal, and 1st and 2nd discoidal nervules; and a few small and indistinct spots running parallel to the outer margin. *The secondary*—possess three wedge shaped markings of dusky white, becoming dull ochraceous towards their outer margins, and bearing in their centres large somewhat heart shaped spots of dark brown, which unite in the disc with the median nervules. The sub-quadrate patch at the anal angle, and a small triangular shaped one between the 2nd sub-costal, and discoidal nervules, are of dull ochraceous colour, whereas those situated near the anterior angle and between the 1st and 2nd sub-costal nervules are of brighter yellow. The antennæ, head, neck, and thorax, are dark black-brown, the latter bearing a short central longitudinal band of metallic green, while the pro-thorax on each side is edged with crimson. The abdomen dark black-brown, becoming grayish towards the tip.

The under surface (fig. 2, Pl. 10) is similarly marked to the upper, but the white is purer, and a bright yellow replaces the ochraceous tint: the margins of the large wedge shaped patches are also here entire. Each side of the thorax is clothed with hairs of bright carmine, and the abdomen broadly barred with yellow.

The *Ornithoptera Cassandra* ♀, is from the cabinet of Mr. William MacLeay, Junr., and was captured at Port Denison; the male, we regret to say, is at present unknown.

*On the Scaritidae of New Holland,*  
By WILLIAM MACLEAY, Jun., Esq., M.L.A.

2ND PAPER.

[Read 7th March, 1864.]

Since my Paper on the *Scaritidae* in the first part of our Transactions, I have received from Mr. E. P. Ramsay for description a very fine collection of insects of this family, sent to him by Mr. T. G. Waterhouse of South Australia.

The greater number of the specimens were damaged, and some literally knocked into atoms on the passage from Adelaide. I have, however, from those which were sufficiently entire for description, been enabled to make out twelve new species.

Mr. Waterhouse has not sent any account of the habitat of the various species, but from the number of new ones, I am inclined to think that they must have been chiefly collected in his late Northern expedition.

*A. Tibice antice extus bidentate.*

1.—CARENUM LEVIGATUM.

Nigrum nitidum violaceo-marginatum, capite utrinque profundè canaliculato, clytris levibus posticè bipunctatis.

Long.  $8\frac{1}{2}$  lin., lat. 3 lin.

This insect is smooth, black, and shining. The head is square with a deep canal on each side, extending from near the base to near the clypens, where it curves off to the anterior angle of the head, within which on each side there is a deep puncture. The thorax is broader than long, truncated in front, and having the anterior angles porrected, while the basal angles are very much rounded, and the base itself is very slightly emarginate; the medial dorsal line is not deeply marked. The elytra are somewhat truncate at the base, and have a few punctures along the basal margin; the lateral margins have a violet reflection. Each elytron has a small impressed puncture near the apex.

The fore tibiæ are armed externally with two long teeth with two small tubercles immediately above them.

It will be seen from the above description that this insect more nearly approaches the *U. marginatum* Westw. than any other, indeed in many respects the species are identical. They differ however in shape, in colour, and in the utter absence in this species of the indistinctly marked striæ which occur on the elytra of *U. marginatum*.

### 2.—CARENUM ANTHRACINUM.

Nigrum nitidissimum violaceo-marginatum, capite lineâ curvâ utrinque canaliculato, elytris punctis humerali subapicalique impressis.

Long. 9 lin., lat. 3 lin.

The whole insect is of a polished jet black with the margins tinged with violet. The head has the frontal canals short and much curved with a deep puncture before each. The thorax is nearly as long as broad, almost truncated anteriorly and rounded behind. The elytra have each two impressed punctures, one near the apex, the other close to the humeral angle, and there are also two or three small punctures along the basal margin. The anterior tibiæ are bidentated externally.

### 3.—CARENUM PUNCTICOLLE.

Nigrum nitidum, capite utrinque canaliculato posticè transversim sub-impresso, thoracis disco anticè bipunctato, elytris subtilissimè striato-punctatis punctoque subapicali utrinque impressis.

Long. 8½ lin., lat. 3 lin.

This insect is entirely black and but slightly glossy. The head has a shallow transverse depression near the base, with a deep canal proceeding from each end of it in a curved direction towards the clypeus, where it is divided into two branches with a setigerous puncture between. There are also two setigerous punctures over each eye. The thorax is broader than long, and almost truncated in front, with the hinder angles rounded and the base slightly emarginate; the medial line is well marked from the

base to within a third of a line of the anterior margin, and on each side between the medial line and the lateral margins, and near the anterior margin there is a slightly impressed puncture. The elytra are marked with very fine punctured striae to be seen only under a lens. They have also a few punctures on the basal margin, and one near the apex. The fore tibiæ are bidentated externally.

#### 4.—*CARENUM GAGATINUM*.

Nigrum nitidum oblongum, capite utrinque canaliculato, thorace subquadrato angulis posticis rotundatis, elytris ovatis thorace angustioribus.

Long. 14 lin., lat. 4 lin.

This species is black, glossy, and of an elongated form. The head is large, thick, and emarginated in the middle of its anterior margin, with the facial canals taking their rise near the posterior margin of the head behind the eyes, and extending forwards and inwards to near the clypeus, where they turn outwards nearly at right angles towards the anterior angles of the head; there are also two somewhat distant setigerous punctures above each eye. The thorax is about as long as broad, truncated in front, rounded at the posterior angles and truncated at the base; the medial line from the basal margin to within half a line of the anterior is distinct. The elytra are long and slightly narrower than the thorax; they are perfectly smooth and free from markings, excepting a few punctures on the basal margin, and a row of punctures close to each lateral margin. The fore tibiæ have two strong acute teeth on their outer margin, the intermediate tibiæ have only a short one. The tarsi are picous.

Of this singular form there is but one example in the collection, and I should say that of all the species of *Carenum* known, the *C. quadripunctatum* from Port Denison described in my former paper on the *Scaritidæ* is the one which has the greatest affinity to it, although the species do not much resemble one another.

#### 5.—*CARENUM ELONGATUM*.

Nigrum nitidum oblongum, capite utrinque sulcato posticè transversim canaliculato, thorace elongato anticè truncato

posticè rotundato lateribus parallelis, elytris elongatis punctorum serie sublaterali.

Long. 12 lin., lat. 3 lin.

This species is long, narrow, and of a glossy black colour. The head is a little wrinkled on the outside of each facial groove, which extends to the base of the mandibles, from a straight transverse depression joining the aforesaid grooves at the back part of the head. The thorax is longer than broad, with the apex truncated, the sides parallel, and the base semicircular; the medial line is marked with several transverse wrinkles towards the base. The elytra are long and rather narrower than the thorax; they are slightly concave on the basal margin, and are rounded at the apex, the sides being very nearly parallel; on each side near the lateral margins there is a row of nine setigerous punctures which extends from near the shoulders to the apex. The fore tibiæ are armed externally with two strong subacute teeth.

This species, though very distinct from the last, is evidently of the same type. The sublateral punctures on the elytra are, so far as I know, peculiar to this insect, though there is an approach to the same thing in *C. gyalinum*.

I regret that of this species also there is only one example in Mr. Waterhouse's collection.

#### 6.—CARENUM ATRONITENS.

Nigrum nitidum subplanum, capite posticè transversim impresso, thorace subquadrato posticè rotundato, elytris quadripunctatis punctis versus humerum apicemque impressis.

Long. 10 lin., lat.  $2\frac{3}{4}$  lin.

This species, though not flat, is much more so than is usual in the genus, and seems to approach nearest to the *C. scaritioides* Westw.; it differs however from that species in the sculpture of the head and other slight characters. The facial grooves take their rise almost behind the eyes, where they are connected together by a transverse shallow channel; they extend forwards and inwards for some distance, and then curve outwards towards the anterior angles of the head; there is a setigerous

puncture near the clypeus on each side. The thorax is nearly as broad as long, with the anterior margin truncated, the sides parallel, and the hinder part convex. The elytra have their sides parallel and are slightly emarginated on the basal margin where there are a few small subhumeral punctures; on each elytron there is an impressed puncture near the shoulder and another near the apex. The fore tibiæ are strongly and acutely bidentated externally.

7.—CARENUM OBLONGUM.

Nigrum nitidum subangustum, thorace elongato anticè truncato posticè rotundato lateribus parallelis, clytris quadri-punctatis.

Long. 8 lin., lat. 2 lin.

Black and glossy. The head is much the same as that of the last described species, excepting that the facial grooves are more parallel for the first part of their course, and that the transverse connexion between them behind is broad and slightly marked. The thorax is longer than broad, truncated in front, semicircular behind, and with parallel sides; the medial line is crossed throughout its whole course by very slightly defined striolæ. The elytra are almost truncated at the base, with their sides parallel until near the apex, where they are rounded; there is one impressed puncture near the humeral angle on each elytron, and another not far from the apex. The elytra also present a very indistinct appearance of being striated. The fore tibiæ are bidentated. There is but one specimen of this species in the collection of Mr. Waterhouse.

8.—CARENUM VIOLACEUM.

Cylindricum violaceum nitidissimum, capite magno, thoracis lateribus parallelis, clytris haud punctatis, corpore subtus nigro.

Long.  $6\frac{1}{2}$  lin., lat.  $1\frac{1}{4}$  lin.

This lovely species, which is evidently an approach to the *C. tinctilatum* of Newman, is of a glossy violet colour on the upper surface and black on the under. The head is large and as wide as the thorax; the facial grooves are short with a setigerous punc-



ture on the outside of each in front. The thorax is longer than broad, truncated in front, convex behind, and parallel-sided; the medial line is deeply marked, with a depression near each posterior angle. The elytra are rather narrower than the thorax; the surface is perfectly free from punctures, but the basal and lateral margins contain a few near the shoulders. The fore tibiæ are bidentated. The labial palpi are very securiform.

*C. Tibiæ antice extus multidentatæ.*

9.—CARENUM RECTANGULARE.

Nigrum nitidum, thorace transverso posticè truncato angulis posticis subrectis, elytris lævibus puncto pone medium impresso, tibiis anticis extus septemdentatis.

Long.  $8\frac{1}{2}$  lin., lat.  $3\frac{3}{4}$  lin.

This insect is of a glossy black, tinged with green towards the margins of the thorax and elytra. The head is smooth, with two deep longitudinal grooves in front, which are almost parallel for half their length, and then turn outwards towards the anterior angles of the head; near the clypeus on each side there is a large round puncture, and there is another of the same character above each eye. The thorax is broader than long, truncated in front and behind, and almost parallel-sided, with the anterior angles rather prominent and the posterior nearly right. The thorax has also the medial line distinct, and its lateral and basal margins reflexed. The elytra are oval and truncated in front, with a row of punctures along the lateral reflexed margins, and a large impressed puncture a little behind the middle. The fore tibiæ have two large and five small teeth on their outer margin.

This species, of which unfortunately there is only one example in the collection, differs so materially from all the other known species of *Carenum*, that I was at first disposed to think it a new genus. I find however, upon dissection, that it is not further removed from the type of *Carenum* than some other species. The mentum, labium, maxillæ, mandibles, and labrum, coincide generally with those of the genus; the palpi both maxillary and labial are triangular, but scarcely securiform, as the labial are in *Carenum*, and the fore tibiæ are more dentated than in any other

species. But the thorax is the most remarkable feature of the insect, for it is broad, rectangular, and truncated, and there is no curve behind, as is the case in all the other groups into which the genus may be subdivided.

In addition to the above new species, Mr. Waterhouse's collection contains specimens of *Carenum tinctilatum* Newm., *C. laevipenne* mihi., *C. loculosum* Newm., and *C. tuberculatum* mihi., and a species of *Scarites*, which seems to be identical with the species described by me in my former Paper, as *S. Damastes*.

I take this opportunity of giving the descriptions of ten new species of *Carenum*, six of them in the collection of W. S. MacLeay, Esq., of Elizabeth Bay, and the remainder in the Australian Museum. They all belong to the tridentate section, with the exception of *C. scitulum*, *affine*, and *punctulatum*, which have the fore tibiæ bidentate.

#### 10.—CARENUM DEAURATUM.

Cupreum subnitidum cyaneo-marginatum subtus chalybeum, thorace transverso anticè truncato posticè rotundato basi latè marginato, elytris subtiliter seriatim punctatis foveis quinque seriatim impressis, tibiis anticis extus tridentatis.

Long.  $6\frac{1}{2}$  lin., lat.  $2\frac{1}{2}$  lin.

The upper surface of this insect is of a rather dull coppery red, margined with blue; the under surface is a brilliant steel blue. The head is rather flat, and is marked near the hinder margin with a transverse groove, from which the two facial grooves take their rise; these are deep and nearly parallel for some distance, when they turn outwards towards the anterior angles of the head. The thorax is broader than long, almost truncated in front, rounded behind, and broadly margined at the base; the medial line is deeply marked and the anterior margin is a little corrugated. The elytra have the humeral angles large and prominent, and are rounded behind. On each elytron there are six rows of minute punctures, and one row of round foveæ; in the specimen before me, there are five of these foveæ on the right elytron and four on the left. The fore tibiæ are tridentate externally, the upper tooth being much smaller than the other two.

This beautiful and unique insect was sent lately from the

Warroo by Mr. Blackman to Mr. Kreff, who intends to present it to the Museum. It evidently approaches the *C. gemmatum* Westw.

#### 11.—CARENUM FOVEOLATUM.

Nigro-cyaneum nitidum, elytris ter seriatim foveolatis serie primâ foveis quinque, secundâ quatuor, tertiâ tribus impressis, tibiis anticis extus tridentatis.

Long.  $4\frac{1}{2}$  lin., lat.  $1\frac{1}{2}$  lin.

The upper surface is of an uniform dark blue. The head has a transverse wavy line near the occiput, from which the facial grooves take their rise, and proceed forwards and inwards for some distance, when they turn outwards. The thorax is nearly truncate in front, and rounded behind, with the base slightly reflexed; the medial line is deeply marked until near the anterior margin, and there are short oblique impressions at the anterior angles and near the posterior ones. The elytra are rounded behind, and twice the length of the thorax, with three rows of round foveæ on each, the first row consisting of five, (three near the base and two towards the apex), the second, of four almost equidistant, and the third, of three. There is a row of punctures along the lateral margins, which are almost emarginate near the apex. The fore tibiæ are tridentate externally, the upper tooth being small.

The only specimen of this insect I have ever seen is in the cabinet of Mr. W. S. MacLeay, and is labelled "N.E. Coast, New Holland." It seems to approach the *C. gemmatum* Westw. very closely; the position and number of the foveæ on its elytra and the entire difference of colour forming the most important distinctions.

#### 12.—CARENUM CORUSCUM.

Nigro-viride nitidissimum, thorace sublunulato, abdomine subrotundo, elytris convexis sub lente striato-punctatis punctoque pone medium impressis, tibiis anticis tridentatis.

Long. 7 lin., lat.  $2\frac{3}{4}$  lin.

The upper surface of this insect is of a brilliant green, and beneath it is black. The head has a slight transverse line near the occiput, from which the facial grooves take their rise, these

last being rather curved throughout. The thorax is much broader than long, and is much rounded away behind; there is a depression near the base on each side of the medial line. The elytra are convex and a little longer than broad, the basal margin having a slightly scooped out appearance. With an ordinary lens distinct punctured striæ can be traced on the elytra, each of which has besides a large deep puncture a little behind the middle, and a row of smaller ones in the lateral margins. The fore tibiæ are tridentate, the upper tooth being the smallest.

This beautiful insect is also unique in the magnificent collection of Mr. MacLeay at Elizabeth Bay. It appears to approach the *C. cyanicum* Fab., and *C. smaragdulum* Westw., though very distinct from both. It is labelled "N. Coast, New Holland."

#### 13.—*CARENUM AFFINE.*

Nitidum subangustum supra viride subtus nigrum, thorace subquadrato angulis posticis rotundatis, abdomine subovato, elytris ad suturam depressis puncto subhumerali alteroque subapicali impressis, tibiis anticis extus bidentatis.

Long.  $6\frac{1}{2}$  lin., lat. 2 lin.

This insect is also described from a single specimen, simply labelled N. S. W., in the cabinet of Mr. W. S. MacLeay; in almost every respect it closely resembles the *C. Bonellii* Westw., the only well marked specific distinction being in their general form. The insect is narrower and more parallel-sided than *C. Bonellii*. The thorax is as long as broad, and the elytra are depressed along the suture from the base to near the apex. This is probably the same species as the insect alluded to by Mr. Westwood, in Arc. Ent., p. 158, as having been sent by Mr. MacLeay to the Rev. F. W. Hope, under the name of *C. 4-punctatum*.

#### 14.—*CARENUM CARINATUM.*

Nigrum, thorace transverso posticè rotundato, elytris clathratis planis carinâ sublaterali, tibiis anticis extus tridentatis.

Long.  $7\frac{1}{2}$  lin., lat.  $2\frac{1}{2}$  lin.

This insect is entirely of a dull black. The head has a slight transverse impression behind, the facial grooves are deep, taking their rise almost behind the eyes, and terminate in a fork at

the elyptens. The thorax is broader than long, almost truncate in front, and very much rounded away behind; the medial line is deep with fine transverse wrinkles on each side of it. The elytra taken together are nearly oval, and are marked with a few broad longitudinal depressions, crossed by a number of deeper transverse and irregular ones, giving a very uneven appearance; near each lateral margin a ridge extends from the base to the apex, between these ridges the elytra are flat, but the space between each ridge and the side is almost vertical, and contains a row of large punctures. The fore tibiæ are tridentate.

This very remarkable insect is also in Mr. MacLeay's collection, and is marked "East Coast, N. Holland." I have never seen it in any other collection. The sculpture of the elytra is very different from any *Carenum* hitherto noticed.

#### 15.—*CARENUM PUNCTULATUM*.

Nigrum nitidum cyaneo-marginatum, elytris seriatis punctulatis puncto subapicali impressis, tibiis anticis extus bidentatis.

Long.  $8\frac{1}{2}$  lin., lat. 3 lin.

This insect scarcely differs from *C. marginatum*, excepting in the sculpture of the elytra, which in *marginatum* are indistinctly striated, whereas in this species they are finely punctured in rows. The fore tibiæ also have the two small tubercles more distinct in this species.

The specimen from which the foregoing description is taken is in the cabinet of Mr. W. S. MacLeay, and is labelled "Byalla," a place situated on a tributary of the Fish River, about twelve miles north of Gunning.

#### 16.—*CARENUM VARIOLOSUM*.

Nigrum subnitidum, capite posticè convexo, elytris densè foveolatis foveis magnis rotundis, tibiis anticis tridentatis.

Long. 9 lin., lat.  $3\frac{1}{2}$  lin.

This insect is labelled "*Murrumbidgee*" in Mr. MacLeay's cabinet, where it seems to be unique. It differs from the *C. localosini* of Newman in its head, which is large and drooping with a broad convex vertex; it differs also in its thorax, by the deeply impressed medial line which terminates near the anterior margin in a wrinkled depression, which extends across from one anterior

angle to the other, and finally, it differs in the elytra by the larger and closer excavated depressions. The upper tooth on the fore tibiæ is in this species as in *C. loculosum*, small.

17.—*CARENUM SCITULUM*.

*Nigrum nitidum, thorace subquadrato anticè truncato posticè rotundato medio canaliculato transversim subrugoso, elytris viridibus puncto versus apicem impressis, tibiis anticis extus bidentatis.*

Long.  $9\frac{1}{2}$  lin., lat.  $2\frac{3}{4}$  lin.

The head in this species is a good deal wrinkled in front, and has the facial grooves connected together behind by a curved depression. The thorax is a little broader than long, nearly truncated in front and rounded behind: along each lateral margin there are three setigerous punctures, while the disc is covered with transverse scratches. The elytra are green, and of an oval shape truncated in front, and with a large puncture on each not far from the apex. The surface is glossy, though when seen under a lens it appears to be marked with several wavy striæ. The fore tibiæ are bidentated externally.

This insect is unique in the Australian Museum, and is marked "Stutchbury, North District." It is probably from Moreton Bay or Port Curtis.

18.—*CARENUM ELEGANS*.

*Nigro-cyaneum nitidissimum, thorace lato valdè marginato, abdomine ovato, elytris puncto versus apicem impressis, tibiis anticis extus tridentatis.*

Long.  $9\frac{1}{2}$  lin., lat.  $3\frac{1}{2}$  lin.

This insect is of a brilliant bluish black, tinged with green, the head is flat and smooth, with the facial grooves converging slightly in front. The thorax is much broader than long, rather emarginate in front, and slightly rounded behind, with broadish reflexed margins, deep medial line, and a transverse depression near the anterior edge. The elytra taken together are narrower than the thorax, convex, and almost perfectly oval; there is a deep puncture on each near the apex, and a row of smaller punctures in each lateral margin, with a few small punctures on the base. The fore tibiæ are tridentate externally, the upper tooth being much smaller than the others.

This fine species is also in the Australian Museum, and is marked "Mitchell's Exp., V.R.," that is, "to the Victoria River."

19.—*CARENUM DISTINCTUM*.

Nigro-violaceum nitidissimum, thorace subquadrato angulis posticis rotundatis, abdomine ovato, elytris puncto versus apicem impressis, tibiis anticis extus tridentatis.

Long. 8 lin., lat.  $2\frac{1}{2}$  lin.

The facial grooves in this species converge much in front, and are united behind by a straight transverse depression, there is also a shallow round depression in the centre of the head between the eyes. The thorax is rather broader than long, with the posterior angles rounded, while towards the base the violet colour, which is most conspicuous on the elytra, begins to appear. The elytra are convex, and of an elongated shape, with a puncture on each near the apex, a row of punctures along the lateral margin, and two or three irregular ones on the basal margin. The fore tibiæ are tridentate externally, the upper tooth being smaller than the others.

This insect is also in the Australian Museum, and is labelled in the same manner as the last, although it by no means follows that, because these two species might have been taken during Sir T. L. Mitchell's last expedition, they were found at the Victoria River.

The large number of species added to the genus *Carenum* in the foregoing Paper, bringing the number up in all to forty, renders a tabular view of the genus almost necessary, in order to save the time and trouble which would be necessary to read over the detailed descriptions. I give accordingly on the next page a synopsis of all the species arranged in a manner extremely simple and at the same time not unnatural. It is utterly impossible in a good genus to lay down absolute rules for its subdivision; thus for instance, in the present case some of the species of the elongate subdivision of the bidentate group run into the section of which *C. Bonellii* is the type; again, the section of which *C. marginatum* is the type, though placed among those which have the fore tibiæ bidentate have really all, excepting *C. scitulum*, two very small teeth above the others. *C. megacephalum* Westw., on the other hand, though clearly belonging to the section in which I place it, is described as having the fore tibiæ unidentate.

Genus CARENUM.—*Bonelli*.

|   |  |  |                             |  |  |
|---|--|--|-----------------------------|--|--|
| C.—Tibiae anticeæ<br>extus<br>multidentatæ. | A.—Tibiae anticeæ<br>extus bidentatæ.  | Thorax longer than broad,<br>body elongated. | Elytra with four punctures. | {  | C. quadripunctatum, <i>miki</i> .<br>— scaritioides, <i>Westw.</i><br>— atroniteus, <i>miki</i> .<br>— oblongum, <i>miki</i><br>— intermedium, <i>Westw.</i>                         |
|   |  |  | Elytra with two punctures.  | {  | C. tinctilatum, <i>Newm.</i><br>— bipunctatum, <i>miki</i> .   |
|   |  |  | Elytra without punctures.   | {  | C. violaceum, <i>miki</i> .<br>— splendidum, <i>miki</i> .<br>— cupripenne, <i>miki</i><br>— megacephalum, <i>Westw.</i><br>— elongatum, <i>miki</i> .<br>— gagatinum, <i>miki</i> . |
|   | B.—Tibiae anticeæ<br>extus tridentatæ. | Thorax broader than long,<br>body oval       | Elytra with four punctures. | {  | C. Bonellii, <i>Westw.</i><br>— affine, <i>miki</i> .<br>— viridipenne, <i>Westw.</i><br>— anthracinum, <i>miki</i> .<br>— sumptuosum, <i>Westw.</i>                                 |
|   |  |  | Elytra with two punctures.  | {  | C. marginatum, <i>Westw.</i><br>— laevigatum, <i>miki</i> .<br>— puncticolle, <i>miki</i> .<br>— punctulatum, <i>miki</i> .<br>— scitulum, <i>miki</i> .                             |
|   |  | Elytra without punctures.                    | {                           | C. laevipenne, <i>miki</i> .<br>— perplexum, <i>Whit.</i><br>— politum, <i>Westw.</i>  |  |
| C.—Tibiae anticeæ<br>extus<br>multidentatæ. | Elytra smooth<br>and polished          | Elytra with four punctures.                  | {                           | C. cyaneum, <i>Fab.</i>  |  |
|   |  | Elytra with two punctures                    | {                           | C. eoruseum, <i>miki</i><br>— smaragdulum, <i>Westw.</i><br>— elegans, <i>miki</i> .<br>— distinctum, <i>miki</i> .  |  |
|   | Elytra rough                           | Elytra marked with depressions.              | {                           | C. deauratum, <i>miki</i> .<br>— gemmatum, <i>Westw.</i><br>— foveolatum, <i>miki</i> .<br>— Spencii, <i>Westw.</i><br>— oculosum, <i>Newm.</i><br>— variolosum, <i>miki</i> . |  |
|   |  | Elytra marked with elevations.               | {                           | C. tuberculatum, <i>miki</i> .<br>— carinatum, <i>miki</i> .   |  |
| Thorax<br>rect-<br>angular.                 |  | Elytra with two punctures.                   | {                           | C. rectangulare, <i>miki</i> .   |  |



Mr. Waterhouse's collection also contains single specimens of the three following species of the genus *Scaraphites* :—

1.—SCARAPHITES WATERHOUSII.

*Niger nitidus*, capite utrinque canaliculato, thorace sublunulato posticè lobato, abdomine latiore cordato, elytris margine antico subpunctato humeris elevatis lateribus seriatim punctatis, tibiis anticis dentibus duobus magnis parvisque quinque extus armatis.

Long. 23 lin., lat. 10 lin.

This gigantic species is of an uniform shining black. The mandibles are long, strong, and subacute, transversely striolated above and strongly bidentate near the base. The head is broad, with the facial grooves parallel for the first half of their course, and then turning at right angles towards the anterior angles of the head. On each side of the head near the clypeus there is a large setigerous puncture, and there are two somewhat distant punctures of the same kind above each eye. The thorax is much broader than long, slightly sinuated in front and gradually rounded away towards the base; the medial line, except towards the anterior margin, is distinctly marked, and near the base, which is slightly emarginate on each side, is crossed by a transverse impressed line. The elytra are broader than the thorax, and taken together are heart-shaped; along their anterior margin and reflexed lateral margins there is a row of small deeply impressed punctures, while the humeral angles are prominent and reflexed. The fore tibiae have two large teeth on the outer side near the apex, and five small ones above them; the middle tibiae have a short subacute tooth near their apex.

I have named this species after its discoverer, Mr. Waterhouse. It is the finest Scaritideous insect I have ever seen. It approaches more nearly to the species described in my former Paper as *S. obsus*, than to any of the others.

2.—SCARAPHITES CREXATICOLLIS.

*Niger nitidus*, capite anticè medio foveolato corrugato, thoracis lateribus subcrenatis, elytris convexis posticè ampliatis ob-

scutè punctato-striatis, tibiis intermediis dente obtuso extus armatis.

Long. 15 lin., lat. 7 lin.

The whole insect is of an uniform black colour. The head is broad and truncated in front, and there is a rectangular depression about the centre of the forehead, of which depression the centre is round and smooth, while all around it is wrinkled. In front on each side there is a short transverse depression also much wrinkled; the labrum is broadly carinated in the middle; and immediately above each eye there is a groove which extends forward towards the anterior angles of the head. The thorax is a little broader than the head and much broader than long. There are a good many transverse wrinkles towards its hinder part, and there is a series of longitudinal ones behind the anterior margin; the lateral margins are distinctly but not deeply crenulate. The elytra are rounded, broader than the thorax, and broadest near the apex, while at the base they are truncated. Their surface is indistinctly striato-punctate, while small impressed punctures are placed regularly along the basal half of the lateral margins, and irregularly upon the apical portion of each elytron. The fore tibiæ are strongly and bluntly tridentate externally; and the intermediate tibiæ are armed near the apex with a slightly curved obtuse tooth.

This species is very distinct, for in the sculpture of the head and the crenated thorax, it is different from all the other species of the genus. Unfortunately there is but one specimen of it, and that in bad condition.

### 3.—SCARAPHITES HIRTIPES.

*Niger nitidus*, capite anticè rugoso bifoveolato, elytris punctato-striatis, pedibus hirtis.

Long.  $10\frac{1}{2}$  lin., lat.  $4\frac{1}{2}$  lin.

The colour is black. The head is marked with a wrinkled depression on each side in front. The thorax is broader than long, almost truncated in front and rounded behind; the medial line is distinct, and is crossed towards the base by some very fine striae. The elytra are striated with rows of fine punctures

in the striæ, which become somewhat obliterated towards the sides. There is a row of impressed punctures along the basal half of each lateral margin, and, a little way inside of them, another row, with the punctures few in front, but getting closer towards the apex, where are a few other punctures of the same character. The fore tibiæ are bluntly tridentate externally; the intermediate tibiæ have one external tooth rather long, obtuse, and laterally compressed; and all the tibiæ, but particularly the hinder, are strongly ciliated with reddish hair. The distinct striation of the elytra renders this species easily distinguishable.

Since the foregoing was written, I have discovered in my collection several species of Scaritideous Insects, which I have no hesitation in referring to the genus *Gnathoxys*, although they do not quite agree with Mr. Westwood's description of that genus. In general habit, in the peculiar character of the sculpture of the elytra, in the convexity of the thorax, in the unarmed mandibles, in the mentum without medial tooth, and in the tridentate fore tibiæ, these new species agree with the previously described species of *Gnathoxys*; but they differ in having their palpi securiform, while the mandibles in some are not acute at the apex. In one species, however, which I have named *les-selatus*, while the palpi agree with Mr. Westwood's description of the genus, there is a greater departure from the usual character of the *Scaritidæ*, and a nearer approach to the *Feroniide* by the genus *Promecoderus*, than is exhibited in any other species. But in truth they all so much resemble the species of *Promecoderus*, that I had at first sight placed them with the insects allied with *Cnemacanthus*.

#### I.—GNATHOXY'S INSIGNITUS.

Niger nitidus, capite anticè utrinque sulcato, thorace oblongo medio obsolete canaliculato, clytris subseriatim parè punctato-foveolatis posticè granulatis, tibiis anticis extus tridentatis.

Long.  $7\frac{3}{4}$  lin., lat. 3 lin.

Hab. King George's Sound.

This insect is black and shining, with a slight dash of that bronzy lustre, which seems very frequently to be found both in this genus, and in *Promecolurus*. The head is drooping, with two short parallel longitudinal depressions in front terminating at the labrum, and connected together in the middle by an indistinct one that is transverse. The thorax is longer than broad, truncate in front and behind, with an indistinct medial line, and transverse striole that are scarcely visible. The elytra are rather broader than the thorax, and twice its length, somewhat truncate in front, rounded at the apex, and with the sides nearly parallel. On each elytron there are four series of thinly spread irregularly shaped shallow depressions filled with punctures; these rows commence at the base and terminate about a third of the length of the elytra from the apex, which space is densely granulated. The fore tibiæ are tridentated externally, the apical tooth being broad, compressed laterally and scarcely recurved, while the other two teeth are small. The tooth on the intermediate tibiæ is of a triangular shape.

The mandibles in this species are acute and arcuated, and the last joint of the palpi is securiform.

## 2.—GNATHOXYS HUMERALIS.

*Niger nitidus, capite anticè utrinque sulcato, thorace oblongo medio canaliculato puncto utrinque inpresso, elytris anticè lævibus posticè granulatis in medio parè punctato-foveolatis, tibiis anticis extus tridentatis.*

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

Hab. South Australia.

Black and shining with a slight bronzy reflection. The head is like that of the preceding species, drooping, with two short longitudinal grooves on the face. In this species, however, these grooves are not so parallel as in the last, while they are joined in the middle by a distinct transverse impression. The thorax is longer than broad, has the medial line distinct, is covered all over with fine transverse striolæ or wrinkles, and has a shallow puncture or depression near each side. The elytra are shaped as in the last species, are smooth at the base, closely granulated at the apex, and have a few punctured depressions scattered over

the rest of their surface in three irregular rows. The first of these rows consists of a few small depressions or foveæ, the second of larger and more numerous ones, and the third of large irregularly shaped depressions which extend to the lateral margins. The fore tibiæ are tridentate, but a very minute fourth tooth may be found on close examination. The tooth on the intermediate tibiæ is blunt and arenated.

The mandibles are blunt at the apex, and the last joint of the palpi is securiform.

### 3.—GNATHOXYS BARBATUS.

Niger subnitidus. capite anticè bisulcato, thorace elongato medio obsolete emarginato margine basali subplano, elytris anticè levibus posticè granulatis in medio parè punctato-foveolatis, tibiis anticis extus tridentatis.

Long. 6 lin., lat.  $2\frac{1}{4}$  lin.

Hab. South Australia, in Mr. Waterhouse's collection.

This species is of a rather dull black. The head is less drooping, and more like that of a *Carenum* than in any of the species before mentioned. The facial grooves are long as in *Carenum*, and there is a number of long setæ about the mouth. The thorax is long, and without the raised basal margin of the three preceding species; and it has the medial line very indistinct, except near the anterior margin, where it is deep, and near the base, where there is a punctured depression. The elytra are smooth near the base, and granulated at the apex, while the intervening portion is thinly marked with variously sized clusters of punctures, disposed in four irregular rows. The first of these rows, or that nearest the suture, contains only three or four small depressions towards the hinder part of the elytra; the second row is composed of a greater number of small depressions, each containing about five punctures, the third row is composed of five larger depressions, each full of punctures, and the fourth consists of very irregular and still larger depressions also closely punctured. The fore tibiæ are tridentate. The tooth on the intermediate tibiæ is blunt and under the lens appears dentated beneath.

The mandibles in this species are rather blunt at the tips, while the palpi are of the true *Gnathoxys* character.

4.—*GNATHOXYSSUBMETALLICUS*.

*Aeneo-niger nitidus, capite anticè bisulcato, thorace elongato lateribus subparallelis margine basali subplano, clytris parè punctato-foveolatis posticè granulatis, tibiis anticis extus tridentatis.*

Long.  $6\frac{1}{2}$  lin., lat.  $2\frac{1}{2}$  lin.

Hab. South Australia, in Mr. Waterhouse's collection

This insect is of a very dark bronze colour. The head is larger and more drooping than in the preceding species, and the facial grooves are much shorter. The thorax is considerably longer than broad, with the sides almost parallel to near the base, has the basal margin not reflexed, and has the medial line lightly marked in front and behind, and scarcely at all in the middle. The clytra are marked with four rows of more or less thinly placed depressions, each with one or more punctures in it. The first of these rows, or that near the suture, consists of two distant punctures; the second of some seven or eight small depressions; the third of about the same number, and the fourth of five; in addition to these there are lateral punctures, and the apex is granulated as in the other species. The fore tibiae are distantly tridentated. The mandibles are blunt at the apex.

The specimen from which the above description is taken, is in very bad condition, being without any vestige of antennae, palpi, or even legs, excepting one fore thigh and tibia.

5.—*GNATHOXYSSESSELATUS*.

*Niger submitidus, fronte utrinque bisulcatâ lineâque transversâ impressâ, thoracis disco bipunctato, elytris latè reticulatis interstitiis crebrè punctatis, tibiis anticis extus leviter bidentatis intermediisque edentatis.*

Long. 6 lin., lat.  $2\frac{1}{4}$  lin.

Hab. Paramatta, N. S. W.

This insect is entirely black, and but slightly glossy. The head is not so convex and drooping as is usual in the genus, while the

facial grooves are deep and parallel, and are connected together in the middle by a deep transverse line. The thorax is elongate, truncated in front and behind, and slightly rounded near the posterior angles. It has the medial line distinct, and has a shallow puncture on each side, about equidistant from the medial line and the sides. The elytra are covered all over with a smooth slightly raised net work in large meshes, the interstices being filled with punctures, while close to the apex there is a slight tendency to granulations. The fore tibiæ are slightly and distantly bidentated externally. The intermediate tibiæ have no tooth, but there is a considerable dilatation of the apex of the joint.

The mandibles are very blunt at the apex, while the palpi agree with the characters given of the genus.

This species, which was found by Mr. Masters under a log of wood on the Paramatta race-course, is, I believe, with the exception of one in the collection of W. S. MacLeay, Esq., labelled "Murrumbidgee," the first of the genus found in New South Wales, and it is remarkable for two or three peculiarities. In the first place, it is the only species known which departs from the very remarkable sculpture of the elytra, peculiar to *Gnathoxys*. The structure of the fore tibiæ also shows its aberrant character, as there appears to be nothing so characteristic of the genus as the nature of the dentation on its tibiæ. These teeth, unlike the formidable ones so conspicuous on the strongly palmated fore tibiæ of *Carenum*, *Scaraphites*, *Scarites*, *Ceratoglossa*, and *Olivina* are, in this genus, so far as the apical tooth is concerned, little more than flattened prolongations of the tibiæ, while the other teeth are small and distant from the first. In the present instance the fore tibiæ have little of the palmated character of those of the more typical *Scaritidæ*, and the two teeth which they have are neither strong nor large. In addition to this a further departure from the true *Scaritidæ* is evinced in the loss of the tooth on the intermediate tibiæ. Mr. Westwood makes the apical tooth on the intermediate tibiæ one of the characters of his genus *Gnathoxys*, but the place of the tooth in the present species seems to be taken by a slight and widened prolongation of the external apex of the limb. I may add, that the aberrance seems to be still further proved in this instance by the fore tarsi

being dilated as in the males of the genus *Promecoderus*. Whether this is peculiar to the present species, or is a character of the group, cannot be properly ascertained until more specimens of the various species of this extremely rare genus can be found.

While this species thus seems to connect the genus *Gnathoeys* with the *Feroniidae* by the genus *Promecoderus*; it is interesting to find that we have on the other hand a species of *Carenum*, which seems to form a link between that genus and *Gnathoeys*. In the convex drooping head, convex thorax, and form of elytra, the *Carenum variolosum* approaches decidedly to the *Gnathoeys insipidus* described in this Paper, and if to this we add the strongly scerriform last joint of the palpi in the last named species, and the slightly palmated tridentate fore tibiae of *C. variolosum*, we have an affinity sufficiently evident.



*Description of a New Genus of Carabideous Insects, by*  
WILLIAM MACLEAY, Esq., Jun., M.L.A.

[Read 6th June, 1864.]

THE very curious and minute insect, described below, was found by Mr. Masters and myself a few weeks ago near Wollongong, under stones in black moist soil close to the sea beach.

The position of the genus in the Animal Kingdom would be, according to Mr. MacLeay (Annul. Jar., Part I.), as follows:—

*Subregnum* ANNULOSA.  
*Classis* MANDIBULATA.  
*Ordo* COLEOPTERA.  
*Tribus* CHILOPODOMORPHA.  
*Stirps* GEODEPHAGA.  
*Familia* HARPALIDÆ.  
*Genus* ILLAPHANUS.

Descriptio generis:

*Antennæ* 11-articulatæ, articulo primo, secundo, ultimoque majusculis, 3<sup>ti</sup>o 4<sup>to</sup> subturbinatis, reliquis moniliformibus.

*Labrum* subquadratum setigerum.

*Mandibulæ* acutæ, arcuatæ, mandibula dextra, ad basin dentata.

*Maxillæ* lobo interno apice unguiculato, externo 2-articulato articulo ultimo gracili inflexo.

*Palpi Maxillares* 4-articulati, articulo primo elongato, secundo minimo, tertio obconico, ultimo tumido subtruncato appendice membranaceo.

*Palpi Labiales* 3-articulati, articulo secundo minuto, tertio tumido setigero.

*Labium* subquadratum.

*Mentum* medio subconvexo.

*Caput* magnum planum subquadratum, oculis nullis.

*Thorax* planus subcordatus angulis posticis rectis.

*Corpus* planum, apterum.

*Pedes* validi, femoribus medio incrassatis, tibiis anticis intus profundè emarginatis.

Species *ILLAPHANUS STEPHENSII*. (Pl. XV.)

Testaceus nitidus, elytris obliquè sulcatis.

Long.  $\frac{1}{2}$  lin., lat.  $\frac{1}{7}$  lin.

Hab., Wollongong.

This is an exceedingly minute insect; its colour is pale testaceous.

The elytra have an oblique longitudinal stria or groove extending from the base near the suture to the outer angle of the apex. Five specimens of this very remarkable species were obtained in the locality indicated; they were all found adhering to the under sides of stones along the line of coal tramway which skirts the beach for some distance out of Wollongong; their extreme minuteness renders it, however, a very difficult matter to detect them, and it is only by patient examination that the collector is likely to be rewarded by a specimen of this very interesting insect.

I have named the species after my friend W. J. Stephens, Esq., M.A., the Treasurer of our Society.

The affinity of *Illaphanus* is clearly to the genera *Anillus* of Jacquel Duval; *Aripus*, of Leach; and *Anophthalmus*, of Sturm. From the first of these genera (*Anillus*) to which it has the greatest affinity, *Illaphanus* differs in the head, which is large and broad; in the antennæ, which have the first four joints turbinate; in the labrum, which is without emargination; in the maxillary palpi, which have the last joint much swelled; in the labial palpi, which have the last joint turbinate;\* in the mentum, which is without the medial tooth; and in the legs, which have the thighs flat and ovate, and the fore tibiæ with the emargination

\* The long terminal seta of the labial palpi may answer to the last joint of those of *Anillus*, which is described by Jacquel Duval as being long, sharp, and slender. Taking this view of the matter, the labial palpi of the two genera would be very much alike.

long and near the middle. The only species of *Anillus* known (*A. cæus*) is found in the neighbourhood of Bordeaux and Toulouse, under stones in heaps of decomposed straw, it is described as very active in its movements.

From *Äpus* our insect differs considerably, though in general appearance there is great resemblance. *Äpus* has eyes, though they are very small and almost evanescent, while the trophi are described as resembling those of *Trechus*; indeed, *Äpus* seems to be the link which connects *Trechus* and its affinities with the group of blind insects represented by the genera *Anopthalmus*, *Anillus*, and *Illaphanus*. *Äpus fulvescens*, the only species known, is found under stones below high water mark on the coasts of England and France.

The affinity of *Anopthalmus* to *Illaphanus* is not very immediate, though one species, the *A. Raymondi*, from the caves of the Pyrenees approaches it in shape. The species of this genus, five in number, are all inhabitants of caves; three are from the caves of Carniola; one, as mentioned above, from the Pyrenees; and one from the mammoth cave, Kentucky.

There is another genus, which I have never seen, but which from the description is evidently in close affinity to the group we have been considering, I allude to the genus *Thalassobius* described by Solier in Gay's *Hist. de Chile*. The species *T. testaceus* is described as having the habit of *Äpus* with the palpi of *Bembidium*; the eyes are almost obsolete.

One interesting circumstance connected with *Illaphanus* I have omitted to mention, viz., that it is the first instance of a blind animal being found in Australia. That it will not be the last I feel satisfied, for the caves in the mountain limestone formation, which have been found the common habitat of blind animals of all orders in other parts of the world, are nowhere more abundant or more extensive than in New South Wales.

I hope that before long an attempt will be made by the naturalists of our colony to have these caves thoroughly searched, not only for the animals at present inhabiting them, but for the remains of races of animals long since extinct.

*Description of Australian Species of Georyssides and Parnides*  
by the REV. R. L. KING, B.A.

[Read 1st August, 1864.]

THE insects described in the present paper are possibly not uncommon; but on account of their small size, dull appearance, and sluggish movements, they are not easily detected. They derive their chief interest from the evidence which they afford that the families to which they belong have their representatives in the Australian Fauna. In these families, though a considerable number of individuals are generally found together, the number of genera and of species is almost everywhere small.

GEORYSSIDES.

GEORYSSUS AUSTRALIS.

Niger tuberculosus; antennis 7-articulatis, articulo ultimo fusiformi; thorace gibboso sphaerulato; elytris porcatis.

Long. 0·05 poll. Pl. XIV.

Paramatta; under a stone near an occasional water-course.

November, 1862.

Although this species evidently belongs to this family, it may be questioned whether it ought not to be regarded as the type of a new genus. I prefer, however, for the present, and until I have an opportunity of examining more specimens, to leave it under the old generic name. The antennæ differ from those of previously known species, in having the last three joints of the normal number consolidated into a single fusiform joint. In its general shape it somewhat resembles *G. pygmaeus*, but it is smaller than that species. The head is extremely depressed. The thorax very tuberclose, two rows of tubercles make a median longitudinal line between them; towards the base are two almost hemispherical protuberances covered with tubercles, and presenting a

singular resemblance to some forms of *Trilobites*, these protuberances appearing like the eyes of those crustaceans. They are more prominent in some specimens than in others.

### PARNIDES.

As far as we know at present this family is represented in our Fauna by the genera *Lutochrus*, (?) *Elmis* and *Limnius*, all of which I have been so fortunate as to capture at Paramatta. Mr. MacLeay has also found a species of the latter genus in a water-course on the side of Mount Kembla, Illawarra.

#### LUTOCHRUS. Erich.

##### LUTOCHRUS AUSTRALIS.

*Breviter hirtus*, fuscus; capite punctato; thorace minute punctato, antice contracto lateribus sinuatis; elytris punctis in 10 lineis dispositis notatis.

Long. 0·15 poll. Pl. XIV.

Paramatta River; on a floating stick. December, 1862.

Although I have placed the present species in this genus, there are yet important differences which distinguish it from the description given by Erichsen. The inner lobe of the maxillæ terminates in three corneous curved teeth or sets of teeth; the last joint of the palpi is sub-oval; and there are lateral ridges on the underside of the thorax. In other particulars it appears to agree with *Lutochrus*.

The insect is very slow in its movements, and appears to live in little companies. All that I have taken were inhabiting the same small floating stick.

#### ELMIS. Latr.

This genus is represented by at least five well defined species, of which three are found at Paramatta. When the rivers in the interior have been examined, there can be little doubt that many new forms will be detected.

#### Sect. 1.

*Without lateral ridges on Elytra.*

##### ELMIS NOVEN-NOTATUS.

*Elongatus niger* minute punctatus; antennis gracillimis; tho-

race lineis lateralibus carente, ad marginem anteriorem testaceo; elytris maculis 8 elongatis testaceis, obsolete striatis.

Long 0·11.

Paramatta River; on submerged branches and under stones.  
December—March.

Each elytron is covered with minute punctures, and has two testaceous spots near the shoulder and two near the base, the inner spots being of an elongated form.

#### ELMIS METALLICUS.

*Aeneus*; thorace punctato, ad medium transverse depresso, sulcis lateralibus dimidiatis; elytris punctato-striatis.

Long 0·07.

The Murray River. *Dr. Howitt.*

This species is very distinct from all the other Australian *Elmides* with which I am acquainted. It resembles a Spanish species of which I have a specimen unnamed. There are eight punctate striæ on each elytron.

#### Sect. 2.

*With lateral ridges on thorax and elytra.*

#### ELMIS POLITUS.

*Niger politus*; antennis gracilibus; thorace linea media impresso; sulcis lateralibus obsoletis; elytris punctis minutis in 3 lineis dispositis.

Long. 0·05.

The Parramatta River (March), under stones in shallow water.

The polished elytra of *cleau* specimens are a contrast to the usual state in which most of the *Elmides* are found.

#### ELMIS MONTANUS.

*Niger*; antennis gracilibus; thorace ad medium longitudinaliter depresso; elytrorum disco punctis magnis in 3 lineis dispositis notato.

Long. 0·06 poll.

Illawarra. *W. MacLeay, Esq.* Under stones in a stream on the side of Mount Kembla.

This species closely resembles the preceding; the lateral ridges are more distinct on the thorax and elytra; the depression on the thorax is less decided, the punctures on the thorax much larger, and the whole insect is larger. The form of both this and the preceding species greatly resembles that of *Elmis weus*.

ELMIS PUNCTULATUS.

Niger; antennis gracilibus; thorace minutissime punctato  
linea media longitudinali impresso; elytrorum disce  
irregulariter minute punctato.

Long. 0·06 poll.

Paramatta River; on a submerged branch. December.

The lateral lines on the thorax and elytra are in this species almost obsolete. It very closely resembles the preceding species, but is rather larger, and the punctures on the disk of the elytra are not so regular. The inner edge of the fore tibiæ is strongly spined.

LIMNIUS. Illig.

Sect. 1. *No lateral ridges on elytra.*

LIMNIUS QUATUOR-MACULATUS.

Politus irregulariter punctatus; antennis gracilibus; thorace  
ad medium transverse depresso, sulcis lateralibus dimi-  
diatis; scutello subtriangulâri punctato; elytris 4 maculis  
testaceis magnis.

Long. 0·06.

Under stones in Paramatta River. In company with *Elmis politus* and *E. novem. notatus*.

The maculæ on the elytra vary in size in different individuals, especially those near the shoulders; so much so, indeed, that in some individuals, they coalesce and form a wide testaceous transverse band. On the maculæ the punctures disappear, but not the setæ. The subtriangular scutellum hardly agrees with the form of that organ in other species of this genus, and closely connects this interesting form with *Elmis*, if, indeed, it ought not to be placed in that genus.

*On the Anatomy of certain Forms of Australian Entomostraca,*  
by the REV. R. L. KING, B.A.

[Read 5th September, 1864.]

IN my researches in 1850-5, among the Fluvial Entomostraca in the neighbourhood of Sydney, I was fortunate in meeting with several new species, a detailed description of which appeared in the Papers and Proceedings of the Royal Society of Van Diemen's Land. In Vol. III., Part I., 1855, a list and brief description of 43 species was given, all but two of which (*Lepidurus viridis* Baird, and *Daphnia mucronata* Muller) were, as far as I am aware, new to science.

I propose in the present paper to refer to the anatomy of these species, accompanying the description with figures, and selecting those of which the anatomy is either unknown, or appears to differ from the description already given of similar species in other places.

LIMNETIS MACLEAYANA. (Pl. XL)

The Fluvial Phyllopora of Australia, as far as at present known, for I am not aware that any additions have been made since 1855, include the genera *Lepidurus*, *Limnadia* and *Limnetis*. The lovely genus *Chirocephalus* has not as yet a place in our Australian Fauna. In addition to the above we have the very beautiful *Artemia provana* (*nihil*) in the Salt Pans at Newington. The Marine Phyllopora have yet to be worked out.

The genus *Limnetis* was first described by Loven, from a South African species, by the name of *L. Wahlbergii*. The following is M. Loven's description of the genus:—

LIMNETIS. *Loven*.

Limnadiæ et Cyzico affine, antennis bi-articulatis, cauda truncata, appendicibus mobilibus facie inferiore destituta.

The following comparison of the three genera of *Limnadiæ* will at once point out the distinctness of this genus from the other two which have long been known and minutely described.



|                             | LIMNADIA.                 | ISAURA<br>or<br>CYZICUS. | LIMNETIS<br>MACLEAYANA. |
|-----------------------------|---------------------------|--------------------------|-------------------------|
| Beak .. .. .                | short                     | produced                 | produced                |
| Carapace .. .. .            | with shield-like<br>flaps | bivalve                  | bivalve                 |
| Striae .. .. .              | few                       | many                     | none                    |
| Joints of antennæ .. .. .   | 4—8                       | many                     | two                     |
| Basilar portion of .. .. .  | 8—10 jointed              | many jointed             | two jointed             |
| Rami .. .. .                |                           |                          |                         |
| Branches of ditto .. .. .   | 8 or more jointed         | many jointed             | many jointed            |
| Tridactyle feet of .. .. .  | 2 pair                    | 2 pair                   | one pair                |
| male .. .. .                |                           |                          |                         |
| Branchial feet of .. .. .   | 17 pairs                  | 21—27 pairs              | 11 pairs                |
| female .. .. .              |                           |                          |                         |
| Lobes on ditto .. .. .      | 9                         | 9                        | 10                      |
| Last segment of ab- .. .. . | with immoveable           | with moveable            | spinelose but           |
| domen .. .. .               | spines                    | spines                   | hairy                   |
| Cæca .. .. .                | numerous                  | none                     | numerous                |

In *Limnetis MacLeayana* the antennæ are bi-articulate, the second joint being covered on the upper surface with numerous papillæ, from each of which a minute seta springs. The rami are composed of a basilar portion consisting of two joints, the second of which carries two multiarticulate arms, from each joint of which a long plumose seta proceeds. The rami are the sole organs of locomotion. The tridactyle feet of the male are two in number, the clasping joint being very strong. The branchial legs are 10 pairs in the male, 11 pairs in the female, and are composed of 10 distinct lobes, and differ principally from *Isaura* and *Limnadia* in having a second hairless lobe on the external edge—an important particular in which it agrees with *Artemia*.

The exact use of these hairless lobes, which exist in the *Daphniadæ* and (certainly some *Lynceidæ*) as well as in the *Phyllopodæ* and *Apus* does not appear to have been clearly made out. They are generally protected from injury by a strong hairy lobe directed backwards. It is this lobe, in our present species, on the 7—10 branchial legs which carries the ova.

Some very young specimens were captured near Denham Court in the month of July. Adults were obtained in one of the Botany swamps (since drained) in the beginning of October, at which time the young ones captured in July had attained the adult

size. Before the end of October all had disappeared from the swamp; but some remained in my aquarium alive and well until the end of November. I have also found the species at Paramatta.

Their manner of swimming very much resembles that of the *Lynceidae*, a quick succession of short jerks. When copulation takes place, the male seizes the female between its beak and the ventral edges of its carapace, and swims about in a most excited manner—the shell of the female being at this time wholly closed. After a time she begins to open her shell, when the clasping legs of her consort seize the edges.

#### DAPHNIA CARINATA.

The *Daphniadæ* are well represented in the neighbourhood of Sydney by at least seven species belonging to the genera *Daphnia* *Macrothricæ* and *Moina*. Of these, the species named above is by far the largest and one of the most common. It is subject to very great variations, which appear to be constant in particular localities. It is easily bred, and, from its size, easily observed in an Aquarium.

Plate XII. contains an accurate representation of all the branchial legs of the female. They much resemble the corresponding parts of *D. Schæfferi* as figured in Baird's "*British Entomostraca*." There is, however, one important difference—or rather addition—in my figures, viz., that in all these the hairless lobe appears corresponding to that already described in the anatomy of *Limnetis*. In Mr. Baird's plate this lobe does not appear in the 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> pair of legs; the upper portion of it is drawn in the figure given of the 4<sup>th</sup>, and the whole of it in that of the 5<sup>th</sup>.

In the *Phyllopora*, it is remarkable how through all the branchial legs the same lobes may be traced, so that the last of 11, 17, or 27 pairs exhibits a very close correspondence with the 1<sup>st</sup> and 2<sup>nd</sup>. The normal number of lobes may be traced even in the clasping legs of the male. But in *Daphnia* this rule does not obtain. With the exception of the 3<sup>rd</sup> and 4<sup>th</sup> the *dissimilarity* is as remarkable. Even in the number of lobes as well as in their arrangement, there is a considerable difference

In the next species to be noticed we shall observe a return in some degree to the remarkable unity of form observable in the legs of the *Phyllopoda*.

#### EURYCERCUS COOKII.

Of the *Lynceidæ*, I described, in the Transactions referred to, twelve species belonging to the genera *Eurycercus Chydorus* and *Alona* of Baird, and *Dunhecedia*, a new genus. These genera must be considered as merely provisional, being all founded upon the shape of the carapace, and, in some instances, that of the last segment of the abdomen, without any reference to that of the branchial legs. Hence our present species will come under the same generic name with the large European species *Eurycercus lamellatus* (Baird), notwithstanding a remarkable difference in the branchial legs, as, for example, the last leg of *E. lamellatus* is rudimentary, whilst that of *E. Cookii* is as well developed as the rest.

The present species is the largest hitherto discovered of the Australian *Lynceidæ*. I obtained it from a large pond among the Botany swamps, and have also received it from the neighbourhood of Brisbane. It usually feeds near the edge of the pond; but at the approach of an intruder it swims out in a wavy line towards the deeper water, when its size and deep chocolate colour render it an easy prey.

Plate XIII. contains a correct representation of the details of the anatomy of this very interesting form. The other parts resemble the figures in Mr. Baird's plate of *E. lamellatus* so closely that a description would be but a repetition of his account. My drawings of the branchial legs are, however, very different to his. Each leg consists of two parts, the outer part, probably devoted to purposes of respiration; the inner intended, like the inner lobe of the *Phyllopoda*, for conveying food to the mouth.

An inspection of the Plate will at once point out the remarkable resemblance existing between all the legs, except indeed the first pair. The wide branchial plate exists in all, carrying the curious stout plumose setæ and protecting the hairless lobe; on the inner side the lobe next the branchial plate is variously mo-

dified, but all these legs have the innermost lobe armed with a row of strong setæ arranged transversely, and evidently intended to convey the food to the mouth by generating a current in that direction. In this transverse arrangement of the setæ of this lobe we again trace a resemblance to *Limnadia*.

The hairless lobe in this species is very small as compared with that noticed in *Daphnia carinata*. It does not appear at all in Mr. Baird's Plate of *E. lamellatus*. I have already pointed out the remarkable difference in the last pair of legs from that figured in Mr. B.'s work.

The first pair appear to have been modified with a view to assist the animal in swimming, and help to account for its satisfactory progress in the water. The long finger on the 5th pair seems to be intended to assist in walking among the decaying vegetable matter in and among which the little creature obtains its food.

On the whole, the examination of the branchial legs of this species suggests the idea of a return towards the *Phyllopoda*. Most of the species of the *Lynceidæ* are so exceedingly minute that it is difficult to perform the operation of amputation; and without it the examination of these parts is quite impossible.

Let me suggest, in conclusion, that if any other observer should meet with a tolerably large species of the *Lynceidæ* he should make it the subject of a careful examination.

And one other suggestion I would make for the benefit of those members of our Society who live in Sydney or near the coast. And it is this—that the Marine Entomostraca are very numerous, exceedingly interesting, easily procurable, and, as far as our own species are concerned, quite unknown. I have drawings of a *Cypridina* and a few parasitic species (including at least one new genus) which are quite at the service of any who will take up the study.

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*On the Pselaphidae of Australia, by the*

REV. R. L. KING, B.A.

[Read November 7th, 1864.]

THE collections made during the past season by Mr. Masters in different parts of the colony, by Mr. MacLeay at the Currajong, and by myself in Paramatta and its neighbourhood, have been exceedingly prolific in new species. A description of one, forming the new genus *Cyathiger*, was read before the Society at the June meeting. I propose now to add a description of the other species which have been captured, together with some from Victoria, from the collections of the Count de Castelnau and Dr. Howitt.

TYRUS CORNIGER.

Castaneus setosus; capite punctulato fronte conspicuo ad latera elevato ♀<sup>bus</sup> setis crassis elongatis armato; palporum maxillarium articulo ultimo ad basin tumido; thorace punctato ad medium latiori, antice rotundato, postice minus contracto; clytris stria suturali discoidali nulla; abdominis segmento ♀<sup>ndo</sup> magno.

Long. 0·06 poll.

Under a log. The Clyde River. *Mr. Masters.*

This species bears a very close resemblance to *Tyrus subulatus* in its punctate character, as well as in the shape of the maxillary palpi. The two thick setæ projecting like horns from between the antennæ at once distinguish the species. It is smaller than *T. subulatus*. A single specimen was obtained by Mr. Masters at the Clyde River.

It will probably be found necessary eventually to place *T. Corniger* and *T. subulatus* in a new sub-genus, distinguished by the shape of the last joint of the maxillary palpus. A third species having a similar palpus is in the collection of Dr. Howitt, at Melbourne.

## TYRUS SPECIOSUS.

Piceo-castaneus nitidus holosericeus; capite 2<sup>bus</sup> inter oculos foveis magnis, antennis elongatis, articulis 2<sup>do</sup> et 8<sup>vo</sup> brevibus, thorace gibboso non foveolato; elytris castaneis humeris elevatis, linea discoidali obsoleta; abdomine piceo, segmento 3<sup>tio</sup> postice angulato; pedibus castaneis femoribus anticis spina armatis.

Long. 0·15.

The Clyde River. *Mr. Masters.*

The antennæ of this fine species are much elongated, the 2<sup>nd</sup> and 8<sup>th</sup> joints excepted. It is the largest of the family hitherto detected in Australia. A single specimen only was obtained.

## TYRUS VICTORIÆ.

Niger hirtus; capite 2<sup>bus</sup> inter oculos foveis magnis, antennis castaneis, articulo penultimo transverso, basali subelongato; thorace convexo, fovea basali magna; elytris piceo castaneis sutura nigricante humeris elevatis, linea suturali, nulla discoidali; abdomine nigro marginibus piceis, segmentis subæqualibus; pedibus castaneis unguibus subæqualibus.

Long. 0·11.

Melbourne, from the collection of Count Castelnau.

The inequality of the tarsal hooks makes this species a doubtful member of this genus. I have not had an opportunity of dissecting it, there being but a single specimen in the collection.

## FARONUS PUNCTATUS.

Piceus setosus punctulatus; capite inter antennis linea longitudinali, foveis inter oculos duabus, vertice medio altera unica notato; antennarum articulo basali ovato, 2 — 4 globosis, 6 — 10 transversis et a 7<sup>mo</sup> gradatim crescentibus, 11<sup>mo</sup> truncato-ovato; palporum maxillarum articulo 1<sup>mo</sup> minimo 2<sup>ndo</sup> elongato-clavato; 3<sup>tio</sup> parvo subgloboso, 4<sup>to</sup> fusiformi appendice membranaceo; thorace ante medium latiori angulato, fovea ad basin magna; elytris humeris plicatis, linea suturali; abdominis segmentis subæqualibus.

Long. 0·11.

The Currajong, on a fence at evening. *W. MacLeay, Esq.*

This species appears to belong to the genus *Faronus*, but as there is but a single specimen, I have not been able to examine the trophi. The hooks on the tarsi, though of equal length, are not of equal thickness. It is quite possible that when we obtain other specimens for dissection, it may prove to belong to a new genus.

#### PSELAPHUS CLAVATUS.

Castaneus politus capite 2<sup>bus</sup> inter oculos foveis elongatis antice confluentibus; palporum maxillarium articulo ultimo crasso truncato; thorace ad medium latiori antice contracto, postice minus contracto linea curvata basali notato; elytris parce setosis setis in lineis 3 aut 4 longitudinalibus dispositis, ad bases setis longioribus et pluribus ornatis; stria suturali altera discoidali submedia.

Long. 0·07.

The Clyde River, under a log. *Mr. Masters.*

Var. *Edwardsii*, Melbourne. *Mr. Edwards.*

The Melbourne specimens are more setose, and appear to vary somewhat *inter se* in the sculpture of the head. The setae on the elytra are not in lines. The shape of the last joint of the maxillary palpi in this species is very remarkable, and very distinct from that of every other species of the genus with which I am acquainted. The insect appears to be common at Melbourne.

#### PSELAPHUS PUNCTATUS.

Piceus, capite elongato, alte punctato inter antennis canaliculato; palporum maxillarium articulo ultimo subfusiformi truncato, antennis ad bases squamosis; thorace capite vix breviori alte punctato linea transversa ad basin notato; elytris depressis politis, stria suturali linea discoidali elevata; abdomine parce setoso segmento 2<sup>do</sup> magno.

Long. 0·12.

Rockhampton, from the collection of the Count Castelnau. It is, perhaps, hardly a true *Pselaphus*. The thorax is short, and the last joint of the maxillary palpi is thick at the base; yet

it is very near in other respects to the restricted genus. In this, as in too many other instances, I have not had an opportunity of dissecting the parts of the mouth. The transverse line on the thorax is suddenly recurved towards the base at either side.

#### TYCHUS OBLIQUUS.

Piceo-castaneus politus non setosus; capite 2<sup>bus</sup> inter oculos impressionibus minutis, fronte irregulariter punctata; antennarum maris articulo antepenultimo transverso, penultimo ovato obliquo, ultimo ovato præcedente minori; thorace obcordato ad basin piceo non foveolato.

Long. 0·04.

Paramatta. *Rev. R. L. King.*

The Blue Mountains. *Mr. Masters.*

It is smaller than *T. nigricollis*, and, except on the antennæ, is not setose. The 5th joint of the antennæ is smaller, but more strongly toothed than in that species. The last joint, obliquely set upon the preceding, at once points out the distinctness of the species. The only specimen that I have met with was under the bark of a dead log with *Passalus*, &c.

#### TYCHUS HOWITTI.

Piceus, capite polito elongato inter antennas breves canaliculato; antennarum articulis 2—8 subæqualibus moniliformibus; thorace obcordato foveis lateralibus linea transversa basali conjunctis; elytris stria suturali altera discoidali setis paucis in lineis dispositis vestitis, abdominis segmento 2<sup>do</sup> magno.

Long. 0·05.

Melbourne, in grass. *Dr. Howitt.*

The 5th joint of the antennæ is not swollen and toothed in the male of this species. I have captured in the neighbourhood of Maitland what appears to be but a variety of this species.

I have taken the liberty of dedicating this species to my friend Dr. Howitt, to whose kindness I am indebted for almost all that I know of the entomology of Victoria.

#### BATEIUS NOPILIS.

Piceo-castaneus elytrorum disco pallidiori, setosus; capite fronte excavato, antennarum articulis obconicis truncatis



ultimo elongato 2<sup>bus</sup> præcedentibus æquali; thorace ad medium latiori antice rotundato postice minus contracto; elytris stria suturali nulla discoidali.

Long. 0.12.

Paramatta.

This fine species was captured under the bark of a dead log in the nest of the "white ants." It was there, probably, by accident, as there was but a single specimen. It is very unlike the other Australian species of this genus, and seems to approach the genus *Hamotus*. The hooks on the tarsi are very nearly equal.

#### BATRISUS TIBIALIS.

Piceo-castaneus elytris pallidioribus, setosus; capite 2<sup>bus</sup> inter oculos lineis postice in foveis lateralibus desinentibus, antennis gracillimis; thorace convexo obcordato 2<sup>bus</sup> lineis lateralibus notato; elytris linea suturali altera discoidali; abdomine setoso, segmento 2<sup>do</sup> magno; pedibus castaneis, anticorum (maris) tibia tumida alte emarginata.

Long. 0.08.

Maitland, under log.—September, 1864.

The deep notch on the fore tibiæ is very remarkable, and closely resembles that of many of the *Corabidae*. I have hitherto met with but a single specimen of this interesting form.

#### BATRISUS CONSPICUUS.

Piceo-castaneus setosus; capite transverso punctulato; thorace punctulato subrotundo, postice truncato linea longitudinali et 2<sup>bus</sup> foveis lateralibus linea transversa curvata conjunctis notato; elytris humeris plicatis lateribus parallelis, stria suturali altera discoidali, abdominis segmentis subæqualibus.

Long. 0.09.

Paramatta, under wood on grass in a damp place.

The club of the antennæ is 3-jointed, the 9th and 10th joints subglobose; the basal joint is rather long.

This species is evidently near *B. barbatus*, but it is consider-

ably larger. It is also readily distinguished from that species by having but one discoidal stria on the elytra.

I have found hitherto but a single specimen.

#### BATRISUS EDWARDSII.

Castaneus vix nitidus sub lente setosus ; capite transverso inter antennis excavato ; antennis subcapitatis articulo penultimo transverso ; thorace ad medium latiori, linea media longitudinali, altera basali transversa foveas duas laterales conjungenti, fovea media obsoleta ; elytris stria suturali altera discoidali obsoleta dimidiata, abdominis segmento 2<sup>do</sup> magno.

Long. 0.05.

Melbourne. *Mr. Edwards.*

This species also comes very near *B. barbatus*. It is, however, smaller, and differs in several important particulars : as for instance in its shorter head, and in the large size of the 2nd joint of the abdomen. The antennæ very much resemble those of the genus *Euplectus*.

#### BRYAXIS INSIGNIS.

Polita, parce setosa, capite et thorace nigro elytris castaneis abdomine piceo ; capite inter antennis excavato, foveis inter oculos duabus ; antennarum articulo basali elongato, 2<sup>ndo</sup> subgloboso, penultimo piceo ; thorace obcordato 2<sup>bus</sup> foveis magnis lateralibus linea curvata conjunctis ; elytris linea suturali altera discoidali ; abdominis segmento 2<sup>ndo</sup> magno.

Long. 0.08.

The Currajong. *W. MacLeay, Esq.*

This handsome and very distinct species was taken on a fence at dusk. Its black head and thorax at once distinguish it from its Australian congeners.

#### BRYAXIS BASALIS.

Piceo-castanea polita setosa ; capite magno thorace latiori, 2<sup>bus</sup> inter oculos foveis notato ; antennarum articulo basali

valde elongato; thorace obovato postice subito contracto  
 $2^{\text{bus}}$  foveis lateralibus; elytris stria suturali altera discoidali;  
 abdomine setis paucis elongatis notato.

Long. 0.06.

The Clyde River, under debris, after a flood. *Mr. Masters.*

The large head and the very long basal joint of the antennæ  
 —as long as the club—are distinguishing marks of this species.

#### BRYAXIS DOMINORUM.

*Picea polita* sub lente setosa; capite inter oculos  $2$ -impresso  
 antennarum articulo penultimo transverso; thorace lateribus  
 rotundatis foveis  $2^{\text{bus}}$  lateralibus; elytris linea suturali  
 altera discoidali.

Long. 0.04.

Under debris, the Clyde River. *Mr. Masters.*

This minute species may readily be distinguished by the  
 transverse penultimate joint of the antennæ. A species very  
 closely resembling it I observed among the Melbourne specimens  
 sent by H. Edwards, Esq.

#### BYTHINUS IMPRESSIFRONS.

*Picens politus* sub lente setosus; capite subtransverso inter  
 oculos profunde  $2$ -impresso; palporum maxillarium articulo  
 ultimo extus excavato; thorace ad medium latiori antice  
 contracto postice minus contracto, foveis  $2^{\text{bus}}$  lateralibus  
 linea curvata conjunctis; elytris magnis stria suturali  
 altera discoidali dimidiata.

Long. 0.05.

Under debris, after a flood, the Clyde River. *Mr. Masters.*

This is the first specimen of this genus found in Australia.  
 As yet I have seen it from this locality only.

#### CYATHIGER PUNCTATUS.

Among a considerable number of new species of *Pselaphides*  
 which have lately been obtained, none has been met with so  
 remarkable and on many accounts so interesting as that which I

have now to describe. It was first found by Mr. Masters in an entomological excursion among the Blue Mountains; and afterwards it was captured by the same indefatigable collector in the neighbourhood of Petersham. In both localities it was living under burnt logs, half buried in the ground—a favorite habitat, let me observe in passing, for other members of this family. Our insect must be arranged under a new genus, for which a remarkable peculiarity in the last joint of the antennæ has suggested a name.

## CYATHIGER.

*Palpi maxillares* 3-articulati articulo 1<sup>mo</sup> elongato clavato, 2<sup>ndo</sup> brevi cyathiformi, 3<sup>mo</sup> acinaciformi truncato.

*Antennæ* ad bases approximatae, capitatae, 7-articulatae, articulo 1<sup>mo</sup> longo, 2 — 6 subaequalibus, 7<sup>mo</sup> magno convexo-concavo.

*Oculi* parvi.

*Thoræ* brevis.

*Elytra* convexa integra.

*Abdomen* saturâ unicâ.

*Tarsi* 3-articulati.

*Corpus* setosum, alatum.

This genus appears to occupy a station midway between the *Pselaphides vere* and the *Clucigerides*. It has the trophi of the former and an abdomen more nearly allied to that of the latter sub-division; while the antennæ have less joints than are found in the former, and more than are found in the latter. It evidently makes the transition from the true *Pselaphidæ* to the abnormal group less abrupt. The presence of eyes is no criterion, for *Articerus*, which belongs to the *Clucigerides* has eyes, though *Cluciger* itself has none; while though eyes are the rule in the *Pselaphides vere*, *Amantrops* is blind.

## CYATHIGER PUNCTATUS. Pl. xiv.

Piceo-castaneus parce setosus, alte punctatus; antennarum articulo ultimo intus concavo extus convexo; clytris lineâ atque emarginatione nulla; femoribus tuberculis armatis.

Long. 0.05 poll.

Loc. The Blue Mountains and Petersham. Mr. Masters.

The antennæ have the first joint as long as the three following; the 3rd is larger than the 2nd or 4th. The 7th joint is very large, being as long as the 5 preceding; it is somewhat trapeziform. On the inner side it is very concave, and on the outer side very convex.

The maxillary palpi are 3-jointed; the first joint is much constricted near the base, and has the appearance of being composed of two joints. I think, however, that there is but one. The second joint is small. The third joint is as long as the two preceding, and is slightly curved, increasing in thickness towards the extremity, which is truncate, with a few setæ and a membranous point. The femur of the anterior leg is armed with a ridge of blunt tubercles on one side of the hollow which receives the tibia when folded back; on the other side is a single tubercle. The middle and posterior legs have traces of similar tubercles.

The abdomen is composed of two segments, the first of which is placed almost wholly beneath, the second almost wholly above. It is thus capable of little else than *vertical* expansion. The first segment which, on the upper side is extremely narrow, but which extends underneath the whole length of the abdomen, is apparently composed of 3 or 4 segments consolidated; since, when seen from below, it is found to be furnished with 2 longitudinal ridges, marked by notches. There is, however, no trace of the line of the segments which is to be found in *Claviger*.

The whole insect is covered with large and deep punctures, from each of which a small seta springs.

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DESCRIPTION OF PLATE.

*a.* mandible.

*b.* fore-leg.

*c.* labrum.

*d.* labium and palpi.

*e.* maxilla and palpus.

*f.* puncturation.

*g.* abdomen from above.

*h.* abdomen from beneath.

N.B.—In the plate the antennæ are too long: they should not be longer than the head and thorax.

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*On the Scaritidae of New Holland,*  
By WILLIAM MACLEAY, JUNR., Esq., M.L.A.

3RD PAPER.

[Read 6th March, 1865.]

ON each of the two former occasions on which I contributed a Paper on the *Scaritidae* of New Holland, I believed that I had exhausted, at all events for some time, the species of the genus *Carenum*.

In adding now twenty new species to that genus, I feel much less certain of the completeness of my monograph than I did on the occasion of my first Paper.

As we receive collections from newly occupied portions of this immense continent, and as we become better acquainted with the Entomology of old localities, it becomes evident that we have yet much to learn, both as regards the numbers and the habits of this strictly Australian genus.

But though species seem to abound, specimens are far from numerous. It is rare, indeed, to find in the best collection, more than five or six specimens, representing perhaps as many species, and quite one-half of those which I have described are unique.

This extreme rarity may be accounted for, partly by the limited range of some of the species, and to a still greater extent, perhaps, by the difficulty of finding them owing to their deeply subterranean habits.

For some of the species described in this Paper, I am again indebted to Mr. F. G. Waterhouse of South Anstralia, to whose kindness I am also indebted for specimens of those previously described by me, with notes of the localities in which they were found.

I.—*CARENEM NIGERRIMUM.*

Nigrum nitidissimum subangustum, clytris subconvexis punctis duobus ad humeros alterisque duobus versus apicem impressis, tibiis anticis extus bidentatis.

Long. 11 lin., lat.  $3\frac{1}{4}$  lin.

Hab. South Australia.

This species is entirely of a brilliant black. The facial

grooves are almost parallel, diverging slightly in front towards the anterior angles of the head. The thorax is longer than broad, truncated in front, rounded, and somewhat lobed behind, with slightly reflexed lateral margins, and a slight depression near each posterior angle. The elytra are oblong, convex, and parallel-sided, and are marked with four punctures, one close to each humeral angle, the others near the apex. The fore tibiæ are bidentate externally.

### 2.—*CARENUM AMBIGUUM.*

*Nigrum nitidum subangustum, thorace posticè ntrinque foveolato, elytris quadripunctatis, tibiis anticis extus bidentatis.*

Long.  $7\frac{1}{2}$  lin., lat. 2 lin.

Hab. King George's Sound.

The colour is black, inclining to pitchy. The facial grooves are rather more curved than in the last described species. The thorax is truncate in front, and rather rounded behind, with parallel sides, and a round shallow depression near each posterior angle. The elytra taken together are of an elongated oval form, and are marked with four impressed punctures, one near each shoulder, the others near the apex. The fore tibiæ are bidentate externally.

### 3.—*CARENUM SUBQUADRATUM.*

*Nigrum subnitidum oblongum subplanum, thorace subquadrato, elytris quadripunctatis, tibiis anticis extus bidentatis.*

Long. 10 lin., lat. 3 lin.

Hab. South Australia.

This insect is of a rather dull black. The facial grooves are nearly parallel. The thorax is nearly as broad as long, with the base rounded and margined, and with a shallow depression near each posterior angle. The elytra are rather flat, and, when taken together are of an oblong form, widening slightly towards the apex. They are marked with four punctures, two near the base and two near the apex. The fore tibiæ are bidentate externally.

The specimen from which the foregoing description was taken, is in the collection of the late William Sharp MacLeay.

Esq., and is marked as having been sent to him by G. F. Angas, Esq.

4.—*CARENUM STRIATO-PUNCTULATUM*.

*Nigrum nitidum subangustum, elytris subconvexis quadripunctatis leviter striato-punctulatis, tibiis anticis extus bidentatis.*

Long. 10 lin., lat. 3 lin.

Hab. Murrumbidgee.

The whole insect is of an uniform shining black. The facial grooves are somewhat parallel and tortuous. The thorax is smooth, with the medial line slightly impressed, and the posterior angles rounded. The elytra are rather convex, with a puncture on each near the shoulder and another towards the apex, and with dimly defined punctured striæ over their whole surface. The fore tibiæ are bidentate externally.

I have never seen but one specimen of this insect. It is in the cabinet of the late W. S. MacLeay, Esq.

5.—*CARENUM CORACINUM*.

*Nigrum nitidissimum subangustum, capite bisulcato sulcis obliquis, elytris convexis quadripunctatis tenuiter viridimarginatis, tibiis anticis extus bidentatis.*

Long. 10½ lin., lat. 3 lin.

Hab. Ipswich, Queensland.

This species is of a brilliant black. The facial grooves are deep and converge towards the front of the head. The base of the thorax is rather broadly margined. The elytra are slightly margined with green, and are twice as long as broad, with two punctures on each, one near the shoulder the other near the base.

One specimen of this insect was found by Mr. Masters, near Ipswich, during last winter.

The five species just described belong to the first group in the table of the species of *Carenum* which I have given in page 146 of the 2nd part of our Transactions, and as this brings the number of the species in the group up to ten, all in some degree resembling one another, a brief recapitulation of their chief distinctive characters has become almost necessary.

The first *C. quadripunctatum* from Port Denison, is narrower



and more convex than *C. Scaritoides* which we may take as the type of the group, besides which it is of a beautiful violet-blue colour, while the facial grooves take their rise almost behind the eyes and converge towards the clypeus. In *C. Scaritoides* the facial grooves are almost parallel.

*C. atronitens* which is found near Gawler Town, South Australia, is flatter than either of the preceding, and has the facial grooves widely divergent behind.

*C. oblongum* also from the neighbourhood of Adelaide, is smaller, and differs somewhat in form from the typical insects of the group. In appearance, it is much like *C. intermedium* and *C. ambiguum*, and it seems to lead off towards the parallel group of which *C. Bonellii* is the type.

Of *C. intermedium*, I have one specimen from Melbourne, it is very like the last named species, and will be best recognised by the almost obliterated middle of the medial line of the thorax.

*C. nigerrimum* is very like *C. scaritoides*, but can be at once distinguished from it by the position of the two humeral punctures, which are very close to the humeral angles.

*C. ambiguum* may be most readily distinguished from *C. oblongum* by the round shallow fovea near the posterior angles of the thorax.

*C. subquadratum* differs from all the others in its flat surface and nearly square thorax.

*C. striato-punctulatum* can be identified by the sculpture of the elytra, which present a series of rows of punctures, so indistinct, however, as to be scarcely visible to the naked eye.

*C. coracinum* may be distinguished from *C. scaritoides*, the species it most resembles, by the divergence of the facial grooves towards the back of the head.

I may here mention that I think that I have made a mistake in stating in page 37 of our Transactions, that *C. Scaritoides* is an inhabitant of South Australia and King George's Sound. I have not seen it from either of these colonies.

#### 6.—CARENUM SUBSTRIATULUM.

Nigrum nitidissimum angustum, elytris violaceo-marginatis sub lente striato-punctatis postice bipunctatis, tibiis anticis extus bidentatis.

Long. 9 lin., lat 2 lin.

Hab. Richmond River.

This insect is of an elongated form, and of a brilliant black. The head and thorax are like those of *C. tinctillatum*. The elytra are jet black, narrowly margined with violet, and are seen to be marked with punctured striæ when examined with a powerful lens. The fore tibiae are bidentate externally.

#### 7.—CARENUM SUBRUGOSULUM.

Nigrum nitidissimum angustum, elytris subviolaceis sub lente rugosis posticè bipunctatis, tibiis anticis extus bidentatis.

Long.  $8\frac{1}{2}$  lin., lat. 2 lin.

Hab. New Holland.

In form and colour this species resembles *C. tinctillatum*, its distinguishing marks being a deep impression at the base of the thorax on each side of the medial line, and the appearance under a lens of transverse wrinkles on the elytra.

The only specimen I know of this insect is in the collection of the late W. S. MacLeay, Esq. It is labelled "New Holland."

#### 8.—CARENUM GLABERRIMUM.

Nigrum nitidum angustum, elytris glaberrimis violaceo-marginatis posticè bipunctatis, tibiis anticis extus bidentatis.

Long. 8 lin., lat. 2 lin.

Hab. New South Wales.

This species is smaller than the two preceding, and is of a less brilliant black. The elytra are perceptibly narrower than the thorax, but this is the case to some extent throughout all this group. The elytra are also narrowly margined with a violet tinge, and are without any visible sculpture. This insect is also represented by a single specimen in the late Mr. MacLeay's collection.

#### 9.—CARENUM UNDULATUM.

Nigrum nitidissimum angustum, elytris violaceo-marginatis sub lente striis undulatis tenuiter notatis posticè bipunctatis, tibiis anticis extus bidentatis.

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

Hab. Wingelo.

This species is of a brilliant black. The head and thorax are as in *C. tinctillatum*. The elytra are slightly narrower at the base than near the apex, and are marked with indistinct wavy striae, only visible under a powerful lens.

I found one specimen of this insect last spring, under a stone near Wingelo, on the road to Goulburn.

The four last described insects belong to the second group in my table of species. *C. tinctillatum* and *C. bipunctatum* being the only ones previously described. They are all so much alike, that without the closest inspection, they cannot possibly be distinguished.

#### 10.—*CARENUM RIVERINÆ.*

*Nigrum nitidum subcyanæum, abdomine ovato, elytris violaceis quadripunctatis, tibiis anticis extus bidentatis.*

Long. 10 lin., lat. 3 lin.

Hab. Lower Murrumbidgee.

This species is of a glossy greenish, or bluish black above, (excepting the elytra, which are of a violet colour) and black beneath, with the antennæ palpi and legs of a piceous hue. The mandibles are strong. The forehead is deeply bisulcated, the sulci extending obliquely forwards from behind the eyes. The thorax is broader than long, almost truncate in front, rounded at the posterior angles, and slightly emarginate at the base; the medial line is deepest in the middle, and is crossed throughout, but particularly in its basal half, with minute scratches. The posterior angles are marked with longitudinal impressions. The elytra taken together, are of an elongated oval shape, with a puncture near the apex of each, and another of less size close to each humeral angle, there are also a few punctures along the lateral margins, and on the basal margin. The fore tibiae are bidentate externally.

I captured two specimens of this very handsome species last winter, at Kerarbury, on the Lower Murrumbidgee. I have given it the name by which that district is now generally known.

#### 11.—*CARENUM INTERRUPTUM.*

*Nigrum nitidum, elytris purpureo-marginatis, quadripunctatis*

subtiliter striatis striis interruptis subrimosis, tibiis anticis extus bidentatis.

Long. 11 lin., lat.  $3\frac{1}{2}$  lin.

Hab. Wingelo, and Dabee.

This species is of a moderately glossy black with a slight purplish tinge about the margins. The facial grooves converge slightly in front. The thorax is broad, nearly truncate in front, and rounded and slightly lobate behind. The elytra are covered with indistinct wavy and somewhat interrupted striæ, and have each two punctures, one near the base, the other near the apex. The fore tibiæ are bidentate externally.

I found this species in considerable numbers last spring at Wingelo, on the Goulburn road. A specimen of the same insect in the Museum, was taken by Mr. Masters at Dabee, near Mudgee.

#### 12.—CARENUM OBSCURUM.

Nigrum nitidum tenuiter violaceo-marginatum, elytris obscuris quadripunctatis sub lente subreticulosis, tibiis anticis extus bidentatis et bituberculatis.

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

Hab. New South Wales.

This species, though much smaller, most resembles *C. interruptum*, it may, however, readily be distinguished from it, by the duller appearance of the elytra, and by the neurose character of the sculpture. The fore tibiæ also have two or three small tubercles above the two external teeth, as is the case in *C. marginatum*, and the other species of that group.

The insect is in the late Mr. MacLeay's collection, and is labelled New South Wales.

#### 13.—CARENUM SIMILE.

Nigrum subnitidum, thorace subquadrato, abdomine ovato, elytris quadripunctatis, tibiis anticis extus bidentatis.

Long.  $7\frac{1}{2}$  lin., lat.  $2\frac{1}{4}$  lin.

Hab. Brisbane, Queensland.

This insect most resembles *C. affine*, it differs from it chiefly in the shape of the abdomen which in this species is a broad oval.

The facial grooves converge considerably towards the front. The thorax is nearly as long as broad, and is marked with fine transverse striolæ. The elytra have two punctures at some distance from their base, and other two at about the same distance from their apex. The fore tibiæ are bidentate externally.

The four insects last described belong to the group of which *C. Bonellii* is the type. Unlike the two groups previously mentioned, there is not much general resemblance among the nine species which compose the present one. *C. affine* and *C. simile* are somewhat alike, and *C. undulatum* and *C. obscurum* are also alike, but the other species are distinct in every way.

I may mention that *C. viridipenne*, described by Westwood, as from New England, corresponds pretty accurately with a species I have received from Rockhampton, and which, until I know better, I shall regard as that species.

#### 14.—CARENUM MURRUMBIDGEENSE.

Nigrum nitidum, thorace elytrisq̄ue latè violaceo-marginatis, his indistinctè striatis versus apicem bipunctatis, tibiis anticis extus bidentatis.

Long.  $7\frac{1}{2}$  lin., lat.  $2\frac{3}{4}$  lin.

Hab. Murrumbidgee.

This species is not unlike the type of the group, *C. marginatum*, it differs from it in being much smaller and in having a broad violet coloured margin to the thorax and elytra. The head also differs in having the facial grooves connected together behind by a shallow semicircular depression. The elytra are indistinctly striated as in *C. marginatum*, and the fore tibiæ which are bidentate externally have two minute teeth above the others, as is also the case in the typical species.

A single specimen in the collection of the late W. S. MacLeay, Esq.

#### 15.—CARENUM LATERALE.

Nigrum nitidum, thorace violaceo-marginato anticè truncato posticè subtruncato angulis posticis rotundatis, elytris subnitidis viridi-marginatis posticè bipunctatis, tibiis anticis extus bidentatis.

Long.  $10\frac{1}{2}$  lin., lat. 4 lin.

Hab. New Holland.

This species differs from *C. marginatum* in having the thorax truncated in front; while the base, instead of being slightly emarginate as in the latter, is also truncate. The facial grooves are rather more parallel than is usual in the group. The elytra are margined with green, and are much less distinctly striated than those of *C. marginatum*. The fore tibiæ are bidentate externally without the additional tubercles usual in the group.

I have no idea what part of the country this insect comes from,—it is in the collection of the late W. S. MacLeay, Esq.

#### 16.—*CARENUM SUBPORCATULUM*.

Nigrum nitidum viridi-marginatum, clytris sub lente porcatis porcis subtilissimè striatis posticè bipunctatis, tibiis anticis extus bidentatis.

Long. 11 lin., lat. 4 lin.

Hab. Wide Bay and Ipswich.

I have long believed this insect to be distinct from *C. marginatum*, but have hitherto failed to make out a good specific character. It is, in almost every respect, exactly like the last named species, excepting in the sculpture of the elytra, which, in *C. marginatum*, are marked with very fine striæ in indistinct depressions; whereas in this species the striæ are on indistinct elevations.

I have a specimen of this insect from Wide Bay, and there are two specimens in the Museum from Ipswich.

#### 17. *CARENUM STRIATO-PUNCTATUM*.

Nigrum nitidum, thorace posticè rotundato, clytris elongatis striato-punctatis posticè bipunctatis.

Long.  $10\frac{1}{2}$  lin., lat. 4 lin.

Hab. Daly Waters, North Australia.

This insect is very distinct from the rest of this group. The facial grooves form nearly a semicircle commencing behind the eyes, converging towards the middle of the face and then diverging. The thorax is rounded away towards the posterior

angles, and is rounded and almost lobate behind. The elytra taken together are of an oblong oval shape with the base somewhat scooped out. They have each seven rows of very fine punctures, and one large puncture about a third from the apex between the fourth and fifth row. In my specimen the legs are wanting as are also the antennae, palpi, &c.

I place this species in the *C. marginatum* group, simply because it answers to two of the chief characters of that group, viz., thorax broader than long, and elytra bipunctate. The specimen is so imperfect however that I cannot fix its position with any certainty. It is one of the many rare things, for which I am indebted to F. G. Waterhouse, Esq., of the South Australian Institute.

#### 18. CARENUM FRONTALE.

Nigrum nitidum, capite fronte bipunctato, elytris subviolaceis posticè bipunctatis, tibiis anticis extus bidentatis.

Long. 9. lin., lat. 3 lin.

Hab. Wallaroo, South Australia.

For this insect I am also indebted to Mr. Waterhouse. The facial grooves are nearly straight, and between them in the middle of the face are two large punctures placed horizontally. The thorax is slightly emarginate behind, as is *C. marginatum*. The elytra are of a violet hue margined with green, and have two punctures towards their apex. The fore tibiae are bidentate externally, with three minute teeth above.

The last five species belong to the group of my table, of which *C. marginatum* is the type. Of the species now comprising that group, *C. marginatum laevigatum*, *puncticolle*, *punctulatum*, *Murrumbidgeense*, *laterale*, and *subporcutulum*, are all so much alike, that the closest observation is necessary to make out the specific characters. I have, however, I hope, sufficiently marked them out in the description I have given of each species. Of the other three species composing the group, *C. scitulum* most resembles *C. Bonellii*, *C. frontale* seems to approach to some of the tridentate species, while *C. striato-punctatum* is entirely "*sui generis*."

## 19.—CARENUM SUBCOSTATUM.

Nigrum subnitidum viridi-marginatum, elytris indistinctè striatis interstitiis subcostatis, tibiis anticis extus bidentatis.

Long. 7 lin., lat.  $2\frac{3}{4}$  lin.

Hab. Clarence River.

This pretty little species I received for the first time from the Clarence River a few months ago.

It is of a rather dull black,—particularly on the elytra, which have a somewhat ribbed appearance, though of an indistinct character. The facial grooves take their rise behind the eyes, and the thorax and abdomen are margined with green. This insect belongs to the group which consists of *O. politum*, *levipenne*, and *perplexum*.

## 20.—CARENUM CAMPESTRE.

Nigrum nitidissimum viridi-marginatum thorace late marginato posticè rotundato sublobato, abdomine ovato, elytris subviolaceis striatis posticè bipunctatis, tibiis anticis extus tridentatis.

Long. 9 lin., lat. 3 lin.

Hab. Lower Murrumbidgee.

This beautiful species has some general resemblance to *O. elegans*. The facial grooves converge in front from behind the eyes, and then turn outwards at nearly right angles. The thorax is almost semi-circular in form, and is slightly lobate at the base. The elytra—which, like the rest of the upper surface, are of a brilliant green with a violet tinge—are marked with rather dim broad, shallow striæ, and have a deep puncture near the apex. The fore tibiæ are tridentate externally.

I found one specimen of the above last winter on the plains of the Lower Murrumbidgee. The group to which this insect belongs consists of *C. coruscum*, *smaragdulum*, *elegans*, and *distinctum*.

I have been enabled since my last Paper to make some additions to our knowledge of the exact habitat of some of these species, as I have received from Mr. Waterhouse a specimen of *C. smaragdulum* from the N. W. bend of the Murray River; and



I have myself caught a specimen of *C. distinctum* on the Plains of the Lower Murrumbidgee.

I may here state that I have seen specimens of *C. juncii* and *C. carinatum* taken last spring at Wingelo, by W. J. Stephens, Esq.

I now come to the description of some insects chiefly from the northern interior, which, though they are almost identical in many respects with the genus *Carenum*, yet are so remarkable for their size and width, as to induce me to place them in another genus.

#### Genus EURYSAPHUS.

*Antennæ* subfiliformes, articulo primo subcrasso.

*Palpi labiales* subsecuriformes.

*Caput* subplanum latum fronte bisulcata sulcis brevibus parallelis.

*Thorax* transversus, angulis posticis subrectis vel subrotundatis.

*Corpus* apterum convexum subcirculare.

*Pedes* validi tibiis anticis extus bidentatis.

The points of resemblance to *Carenum* in this genus are many. The parts of the mouth are almost identical, and although the labial palpi are less securiform than in the typical species of *Carenum*, still there are several species included in this genus, in which the palpi are still less securiform.

The points of difference are in the longer and more filiform antennæ, and in the great width and circular shape of the abdomen. The thorax, too, though sometimes square, and sometimes rounded at the posterior angles, seems to be generally lobed behind as in *Carenum tuberculatum*, differing in this from most species of *Carenum*, and from all the species of *Scaraphites*, in which the base of the thorax is rather emarginate.

The difference in the form of the body betwixt the present genus and *Scaraphites*, is very marked. In the first, the abdomen is nearly circular with a piece, as it were, scooped out at the base. In the latter, the abdomen is longer than broad, and is broadest near the apex.

## 1.—EURYSCAPHUS ANGULATUS.

Niger subnitidus, thorace basi truncato angulis posticis subrectis, abdomine longiore quam latiore, elytris sub lente subtiliter striatis.

Long. 19 lin., lat.  $7\frac{1}{2}$  lin.

Hab. Victoria River, Mitchell's Expedition.

The head is square, broad, and flat, with two parallel rugose sulci, joined together behind by a shallow transverse groove, and diverging in front at nearly right angles towards the anterior angles of the head. The thorax is a little broader than the head, and much broader than long. In front, it is a little emarginate, while behind, it is truncate with the posterior angles sharp, and the sides rounded off towards them. The elytra are of the same width as the thorax, a little longer than broad, very convex, and covered with very fine indistinct striæ. The fore tibiæ have three very small teeth or tubercles above the two large teeth. The intermediate tibiæ are armed externally with a short subacute tooth.

## 2.—EURYSCAPHUS DILATATUS.

Niger nitidus, thorace latè marginato angulis posticis reflexis rotundatis, elytris convexis striatis.

Long. 15 lin., lat.  $6\frac{1}{2}$  lin.

Hab. unknown.

The head in this species is less rugose than in that just described, and wants the transverse groove behind. The thorax is much broader than long, and slightly emarginate in front, while behind, it is somewhat lobed, with the posterior angles broadly margined, rounded, and reflexed. The elytra are very convex, nearly circular, and rather distinctly striated. The fore tibiæ have three very minute teeth above the others. The intermediate tibiæ have no external tooth.

This insect, like the last and the following one, is represented by a single specimen in the Museum, but there is no label attached to it, and nothing to indicate the place where it was found.

## 3.—EURYSCAPHUS MINOR.

*Niger subnitidus*, thorace marginato angulis posticis rotundatis subreflexis, elytris laevibus.

Long. 11 lin., lat. 5 lin.

Hab. Victoria River, Mitchell's Expedition.

The facial grooves are without wrinkles in this species. The thorax is very like that of the species last described, excepting that the posterior angles are less reflexed. The elytra are smooth and nearly circular, with the base scooped out. The legs are as in the last described species.

## 4.—EURYSCAPHUS BIPUNCTATUS.

*Niger nitidus*, fronte subrugosa, thorace subsemicirculari, elytris convexis substriatis puncto in medio impressis.

Long. 15 lin., lat.  $7\frac{1}{2}$  lin.

Hab. South Australia.

The head is rugose in front, and the facial grooves are not connected together behind. The thorax is almost semicircular without being lobate at the base. The elytra taken together are convex and nearly circular, with the base scooped out, while they are indistinctly marked with striæ, and have a large puncture near the centre of each elytron. The legs are wanting in this specimen.

I received this insect very lately from Mr. Waterhouse of South Australia; it adds another to the very many valuable specimens I have received from that gentleman.

To the four species just described, *Scaraphites obesus* and *Scaraphites Waterhousei* must be added, for both these insects clearly belong to this genus. The former is stated by me in a former paper to be from Swan River. I am not at all sure, however, that I am correct in that. The other *E. Waterhousei* is from Central Mount Stewart.

Of the six species now forming the genus *Euryscaphus*, *E. dilatatus*, and *E. minor* are very nearly alike. *E. bipunctatus* and *E. obesus* also closely resemble, while *E. Waterhousei* and *E. angulatus* are very distinct.

To the next genus *Scaraphites*, I have only one species to add, and I have named it from the intermediate geographical position which it seems to hold between *S. MacLeayi*, the Sydney species, and *S. rotundipennis*, the Port Phillip species.

SCARAPHITES INTERMEDIUS.

*Niger nitidus*, capite bifoveolato anticè rugosissimo, elytris striato-punctatis punctisque sex in margine humerali impressis.

Long. 12 lin., lat.  $4\frac{3}{4}$  lin.

Hab. Illawarra and Merimbula.

The whole insect is of a glossy black. The foveæ between the eyes and the anterior part of the face are very much wrinkled and crenulated. The thorax is slightly emarginate at the base, and is marked with fine transverse striæ. The elytra are rather duller than the thorax, and are marked with fine punctured striæ. Besides these, there are series of marginal and submarginal punctures of a larger size. The marginal series consists of six or seven uninterrupted punctures close to the humeral angle, with one or two more at irregular intervals, the submarginal of six at distant and irregular intervals. The fore tibiæ are strongly and bluntly tridentated externally. The intermediate are armed with a strong subænte tooth.

I was under the impression for some time that this insect was identical with the *S. Lencæus*, of Westwood. It is evidently, however, very different. I have never seen *S. Lencæus*, but it would appear from the description to be more like to *S. latipennis*, than to any of those from the Eastern parts of New Holland, and it will certainly be found to be a Western Australian insect.

Of the nine species of which the genus *Scaraphites* is composed, four, viz., *S. Bacchus*, *S. Lencæus*, *S. Silenus*, and *S. latipennis* are from the West Coast. Two, viz., *S. crenaticollis* and *S. hirtipes* are from South Australia, while the remaining three, *S. rotundipennis*, *S. MacLeayi*, and *S. intermedius* are found near the Eastern shores of this vast island.

A very ready mode of recognizing the three last named

species, without the trouble of a close examination, is to count the punctures in the lateral margins of the elytra near the humeral angles. In *S. rotundipennis* there are eleven or twelve close uninterrupted punctures, in *S. MacLeayi* there are eight or nine, while *S. intermedius* has but six, or at the most seven.

In *S. Silenus* and *S. latipennis*, the only species from the West Coast I have seen, the lateral margins of the elytra are closely punctured all round.

The genus *Scarites* is the next, and I find that I have made a very great mistake in my first paper on the *Scaritidæ*, in classing this genus among those with toothed maxillæ.

I find, as far as the Australian species are concerned, that the inner lobes of the maxillæ, though not so broadly rounded as in the genus *Carenum*, are still round at the apex and without a terminal tooth; and I find further, in page 82 of vol. I., of the *Arcana Entomologica*, that Mr. Westwood states he has seen Latreille's dissections of the *Scaritidæ*, and that the maxillæ of all are obtuse at the tip.

My mistake arose from my trusting too implicitly to the description of *Scarites* given in Lacordaire's "Genera des Coleoptères," vol. I., page 195, where that author states: "Machoires arquées et aiguës au bout."

I find I have five species to describe.

#### 1.—SCARITES APPROXIMATUS.

Niger nitidus, capite anticè rugoso, thorace subquadrato medio tenuiter canaliculato basi utrinque longitudinaliter impresso, corpore subcylindrico, elytris ad suturam subelevatis apice utrinque bipunctatis.

Long. 11 lin., lat.  $2\frac{3}{4}$  lin.

Hab. Victoria River, Mitchell's Expedition.

The head is marked in all the species I have seen with two parallel longitudinal grooves, commencing about the middle of the forehead, and extending nearly to the clypeus, where they terminate in a transverse groove, which extends almost from side to side. In the present species the transverse groove is much corrugated towards each side. The thorax is rather longer

than broad, truncate in front, parallel-sided, rounded at the posterior angles and slightly emarginate at the base, with a slightly marked medial line, and an elongated fovea on each side of it near the base. The elytra are twice as long as broad, convex, and parallel-sided, with four large punctures near the apex, two on each elytron. The fore tibiæ are strongly tridentate.

My description is taken from a specimen in the collection of the late Mr. MacLeay, of Elizabeth Bay; but there are several specimens in the Museum marked "Hely's Expedition," which I cannot doubt to belong to the same species, though they present some slight points of difference.

### 2.—SCARITES WATERHOUSEI.

*Niger nitidissimus*, capite anticè subrugoso, thorace subquadrato posticè utrinque foveolato, corpore subcylindrico, elytris apice utrinque bipunctatis.

Long. 10 lin., lat.  $2\frac{3}{4}$  lin.

Hab. near Adelaide, South Australia.

This species is of a very brilliant black, and is slightly flatter than the last. The facial grooves are also deeper and broader. The thorax is as broad as long, with the medial line well marked, and with roundish foveæ near the posterior angles. The elytra are scarcely twice as long as broad. The tibiæ do not differ from those of the last described species. This insect was sent to me by Mr. Waterhouse, of South Australia.

### 3.—SCARITES SUBPORCATULUS.

*Niger nitidus*, capite fronte transversim impresso, corpore subcylindrico, elytris tenuiter porcatis apice utrinque bipunctatis.

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

Hab. Northern Australia, Hely's Expedition.

There are two or more shallow transverse impressions on the head of this species between the two longitudinal facial grooves. The thorax is quite as broad as long. The elytra are twice as

long as broad, and have seven indistinct ridges on each. The apical punctures are in the same position as in the other species. The fore tibiæ are acutely tridentate externally.

There is one specimen of this species in the Museum. The sculpture of the elytra, and the impressions on the forehead render it easy of recognition.

#### 4.—SCARITES JACKSONIENSIS.

*Niger nitidus*, capite transversim subimpresso, thorace subquadrato, corpore subplano, elytris levibus apice utriusque bipunctatis.

Long. 11 lin., lat.  $3\frac{1}{2}$  lin.

Hab. Lane Cove, Port Jackson.

The head in this species is also slightly impressed between the longitudinal grooves, and is very slightly, if at all, corrugated. The thorax is very slightly emarginate at the base, with longitudinal foveæ near the posterior angles. The elytra are smooth, with the apical punctures small, the one nearest the apex being the largest. The fore tibiæ are bluntly tridentate.

This species was presented to the Museum by Mr. M'Intosh, of Lane Cove; another insect from the same place also in the Museum, differs so much from the one now described as to look like another species, until, however, other specimens are procured, it will be impossible to judge with accuracy.

#### 5.—SCARITES PLANUSCULUS.

*Niger subnitidus planus*, thorace subtransverso, elytris subtilissimè striolatis apice utriusque bipunctatis.

Long. 11 lin., lat.  $3\frac{1}{2}$  lin.

Hab. Victoria River, Mitchell's Expedition.

The only known specimen of this insect is in the Museum. It is the flattest of the genus, and is of a rather dull black. The head is broad, and almost without wrinkles in front. The thorax is broader than long, truncate in front, and slightly emarginate at the base, with the posterior angles rounded. The elytra present the appearance, under a powerful lens, of being covered with a great many short longitudinal scratches, while the most

forward of the apical punctures are further from the apex than in the other species. The fore tibiæ are rather bluntly tridentate.

We have now eight Australian species of *Scarites*, and there is such a remarkable similarity in their general appearance, with such an utter absence of satisfactory specific characters, that it is no easy task to give descriptions which will render the species easily recognizable. The student will, however, be materially assisted by bearing in mind one or two points—In the first place, the eight species may be divided into those of subcylindric form, or those which are comparatively narrow and convex, and those which have a somewhat flattened aspect.

The first of these sections will comprise *C. cacus*, *approximatus*, *Waterhousei*, and *subporcatulus*.

The second will consist of *S. Geryon*, *Damastes*, *Jacksoniensis*, and *planiusculus*.

In endeavouring to carry this analysis further, it will be well to bear in mind the peculiar sculpture of the head, which, up to a certain point, is the same in all the species. Thus we find in *S. Cacus* that there is an utter absence of wrinkles or corrugations about the anterior part of the head, while in *S. approximatus* the corrugations are very marked. Again, *S. Waterhousei* differs from both, in having the facial grooves broad, deep, and but slightly corrugated. *S. subporcatulus*, the remaining species of the first section, is in other ways so distinct, that it is unnecessary here to point out its facial peculiarities.

In the second section the same variation in this particular exists in the different species. *S. Geryon* has the whole anterior part of the face corrugated. *S. Damastes* has the same in a much less degree. *S. Jacksoniensis* is marked by a transverse impression between the facial canals, while *S. planiusculus* has the head broad, flat, and only corrugated in the slightest degree.

I merely point out these as the shortest and readiest modes of identification. Of course, where the species are good, a close investigation may detect many points of difference.

I have only one *Gnathorhys* to describe, a species from the Murrumbidgee, in the late Mr. MacLeay's collection. I also find in that collection a species from Swan River, which, though somewhat smaller, I believe to be the *G. obscurus* of Reiche.



## GNATHOXYS MURRUMBIDGENSIS.

*Niger nitidus*, capite anticè breviter bisulcato, thorace basi marginato reflexo, elytris subseriatim punctato-foveolatis posticè granulatis, tibiis anticis apice unidentatis medio anticè et externè bidentatis.

Long. 8 lin., lat.  $2\frac{3}{4}$  lin.

Hab. Murrumbidgee.

This species is entirely of a shining black, with perhaps a very slight bronzy lustre. The head is drooping, the face being at right angles to the body. The facial grooves are very short and parallel. The thorax is longer than broad, rather convex, truncate in front, and rather rounded at the posterior angles, with the base broadly margined and reflexed, and the dorsal line but slightly marked. The elytra are nearly twice as long as broad, convex, truncate at the base, rounded at the apex, and parallel-sided, with four irregular rows on each of punctured foveæ and with the sides and apex coarsely granulated. The fore tibiæ are tridentate externally, the apical tooth being formed by a broad extension of the apex of the joint, while the other two are small and situated in the middle of the joint; there are also two or three small teeth on the anterior surface of the tibiæ near the middle. The mandibles are blunt at the apex. The maxillary palpi have the last joint triangular, while the labial are strongly securiform.

I have no addition to make to the genus *Ceratoglossa* at present, and I find myself compelled again to defer any attempt to describe the Australian species of *Olivina*. M. Putzeys, it appears, has lately described four species of Australian *Olivina*, under the names of *C. suturalis*, *plumiceps*, *elegans*, and *atrata*, and until I can procure his descriptions of these species or can ascertain to what insects they refer, it would be obviously useless for me to meddle with the genus at all. I am enabled, however, to describe one species of *Dyschirius*, as I am aware that no Australian species of that genus has hitherto been known.

## DYSCHIRIUS STEPHENSII.

*Niger nitidus*, elytris seriatim punctatis posticè granulatis.

Long. 1 lin., lat.  $\frac{1}{3}$  lin.

Hab. near Sutton Forest.

This very small insect was found by W. J. Stephens, Esq., in damp ground early last spring. It is of a brilliant black, with a very slight bronzy lustre. The thorax is very globular. The elytra are marked at the base with regular rows of large punctures, towards the apex these punctures or foveæ disappear. As it is the only Australian species of the genus, a minute description is unnecessary.

Since the foregoing was in type, I have thought it advisable to subjoin a complete catalogue of the Australian Scaritidæ as at present known.

### Genus CARENUM.

#### A.—TIBIÆ ANTICÆ EXTUS BIDENTATÆ.

|  |                             |  |   |
|--|-----------------------------|--|---|
| Thorax longer than broad,<br>body elongated. | Elytra with four punctures. | }  | C. quadripunctatum, <i>MacL. jun.</i> , P. Denison.       |
|  |                             |  | — scaritioides, <i>Westw.</i> , N. S. Wales.              |
|  |                             |  | — atronitens, <i>MacL. jun.</i> , Gawler Town, S.A.       |
|  |                             |  | — oblongum, <i>MacL. jun.</i> , Adelaide.                 |
|  |                             |  | — intermedium, <i>Westw.</i> , Victoria.                  |
|  |                             |  | — nigerimum, <i>MacL. jun.</i> , South Australia.         |
|  |                             |  | — ambiguum, <i>MacL. jun.</i> , K. G. Sound.              |
|  |                             |  | — subquadratum, <i>MacL. jun.</i> , S. Australia.         |
|  | Elytra with two punctures.  | }  | C. striato-punctulatum, <i>MacL. jun.</i> , Murrumbidgee. |
|  |                             |  | — coracinum, <i>MacL. jun.</i> , Moreton Bay.             |
| Elytra without punctures.                    | }                           | C. tinctilatum, <i>Newm.</i> , N. S. Wales.      |   |
|  |                             | — bipunctatum, <i>MacL. jun.</i> , Port Denison. |   |
|  |                             | — substriatum, <i>MacL. jun.</i> , Richmond R.   |   |
|  |                             | — subrugosulum, <i>MacL. jun.</i> , New Holland. |   |
|  |                             | — glaberrimum, <i>MacL. jun.</i> , N. S. Wales.  |   |
|  |                             |  | — undulatum, <i>MacL. jun.</i> , Wingelo.                 |
|  |                             |  | C. violaceum, <i>MacL. jun.</i> , South Australia.        |
|  |                             |  | — splendidum, <i>MacL. jun.</i> , K. G. Sound.            |
|  |                             |  | — cupripenne, <i>MacL. jun.</i> , K. G. Sound.            |
|  |                             |  | — megacephalum, <i>Westw.</i> , Port Essington.           |
|  |                             |  | — elongatum, <i>MacL. jun.</i> , South Australia.         |
|  |                             |  | — gaganinum, <i>MacL. jun.</i> , South Australia.         |

|   |   |                             |   |   |   |
|---|---|-----------------------------|---|---|---|
| Thorax broader than long,<br>body oval. | { | Elytra with four punctures. | { | C. Bonellii, <i>Westw.</i> , N. S. Wales.           |   |
|   |   |                             |   |   | — affine, <i>MacL. jun.</i> , N. S. Wales.            |
|   |   |                             |   |   | — viridipenne, <i>Westw.</i> , New England.           |
|   |   |                             |   | — anthracinum, <i>MacL. jun.</i> , S. Australia.    |   |
|   |   |                             |   | — sumptuosum, <i>Westw.</i> , Port Essington.       |   |
|   |   |                             |   | — Riverinae, <i>MacL. jun.</i> , Lower Murrum.      |   |
|   |   |                             |   | — interruptum, <i>MacL. jun.</i> , Wingelo & Dabee. |   |
|   |   |                             |   | — obscurum, <i>MacL. jun.</i> , N. S. Wales.        |   |
|   |   |                             |   | — simile, <i>MacL. jun.</i> , Moreton Bay.          |   |
|   |   | Elytra with two punctures.  | { | C. marginatum, <i>Westw.</i> , N. S. Wales.         |   |
|   |   |                             |   |   | — laevigatum, <i>MacL. jun.</i> , S. Australia.       |
|   |   |                             |   |   | — puncticolle, <i>MacL. jun.</i> , S. Australia.      |
|   |   |                             |   |   | — punctulatum, <i>MacL. jun.</i> , Byalla.            |
|   |   |                             |   |   | — scitulum, <i>MacL. jun.</i> , Moreton Bay.          |
|   |   |                             |   |   | — Murrumbidgee, <i>MacL. jun.</i> , Murrum.           |
|   |   |                             |   |   | — laterale, <i>MacL. jun.</i> , New Holland.          |
|   |   |                             |   |   | — subporcatulum, <i>MacL. jun.</i> , Wide Bay.        |
|   |   |                             |   |   | — striato-punctatum, <i>MacL. jun.</i> , D. Waters,   |
|   |   |                             |   |   | — frontale, <i>MacL. jun.</i> , Walleroo, S.A. [N.A.] |
|   |   | Elytra without punctures.   | { | C. politum, <i>Westw.</i> , V. D. Land.             |   |
|   |   |                             |   |   | — perplexum, <i>White</i> , King George's Sound.      |
|   |   |                             |   |   | — laevipenne, <i>MacL. jun.</i> , K. G. Sound.        |
|   |   |                             |   |   | — subcostatum, <i>MacL. jun.</i> , Clarence River.    |

B.—TIBLÆ ANTICÆ EXTUS TRIDENTATÆ.

|                                |   |                                 |   |  |   |
|--------------------------------|---|---------------------------------|---|--|---|
| Elytra smooth<br>and polished. | { | Elytra with four punctures.     | { | C. cyaneum, <i>Fab.</i> , New Holland.             |   |
|                                |   |                                 |   |  |   |
|                                |   | Elytra with two punctures.      | { | C. coruseum, <i>MacL. jun.</i> , N.C. New Holland. |   |
|                                |   |                                 |   |  | — smaragdulum, <i>Westw.</i> , South Australia.   |
|                                |   |                                 |   |  | — elegans, <i>MacL. jun.</i> , Victoria River.    |
|                                |   |                                 |   |  | — distinctum, <i>MacL. jun.</i> , Murrumbidgee.   |
|                                |   |                                 |   | — campestre, <i>MacL. jun.</i> , Lower Murrum.     |   |
| Elytra rough.                  | { | Elytra marked with depressions. | { | C. deauratum, <i>MacL. jun.</i> , Warroo River.    |   |
|                                |   |                                 |   |  | — gemmatum, <i>Westw.</i> , Port Essington.       |
|                                |   |                                 |   |  | — ioveolatum, <i>MacL. jun.</i> , N.E. Coast N.H. |
|                                |   |                                 |   |  | — Spencii, <i>Westw.</i> , N. S. Wales.           |
|                                |   |                                 |   |  | — loculosum, <i>Newm.</i> , Port Phillip.         |
|                                |   |                                 |   | — variolosum, <i>MacL. jun.</i> , Murrumbidgee.    |   |
|                                |   | Elytra marked with elevations.  | { | C. tuberculatum, <i>MacL. jun.</i> , Murrumbidgee. |   |
|                                |   |                                 |   |  | — carinatum, <i>MacL. jun.</i> , Wingelo.         |

C.—TIBLÆ ANTICÆ EXTUS MULTIDENTATÆ.

|                        |   |                            |   |  |
|------------------------|---|----------------------------|---|--|
| Thorax<br>rectangular. | { | Elytra with two punctures. | { | C. rectangulare, <i>MacL. jun.</i> , S. Australia. |
|------------------------|---|----------------------------|---|--|

## Genus EURYSCAPHUS.

- |  |  |
|--|--|
| E. obesus, <i>MacL. jun.</i> , Swan R. (?)                     | E. dilatatus, <i>MacL. jun.</i> , N. Holland.                    |
| — Waterhousei, <i>MacL. jun.</i> , Central<br>Mount Stewart.   | — minor, <i>MacL. jun.</i> , Mitchell's<br>Exp., Victoria River. |
| — angulatus, <i>MacL. jun.</i> , Mitchell's<br>Exp., V. River. | — bipunctatus, <i>MacL. jun.</i> , South<br>Australia.           |

## Genus SCARAPHITES.

- |   |  |
|---|--|
| S. Bacchus, <i>Westw.</i> , Swan River.     | S. hirtipes, <i>MacL. jun.</i> , S. A.             |
| — Lenaeus, <i>Westw.</i> , Swan River.      | — rotundipennis, <i>Duj.</i> , Pt. Phillip.        |
| — Silenus, <i>Westw.</i> , Swan River.      | — MacLeayi, <i>Westw.</i> , Sydney.                |
| — latipennis, <i>MacL. jun.</i> , K. G. Sd. | — intermedius, <i>MacL. jun.</i> , Illa-<br>warra. |
| — crenaticollis, <i>MacL. jun.</i> , S. A.  |  |

## Genus SCARITES.

- |   |   |
|---|---|
| S. Caens, <i>MacL. jun.</i> , Port Denison.                                   | S. Geryon, <i>MacL. jun.</i> , U. Darling.                                    |
| — approximatus, <i>MacL. jun.</i> , Mitchell's<br>Expedition, Victoria River. | — Damastes, <i>MacL. jun.</i> , Murrum.                                       |
| — Waterhousei, <i>MacL. jun.</i> , Adelaide                                   | — Jacksoniensis, <i>MacL. jun.</i> , Lane<br>Cove, Sydney.                    |
| — subporectulus, <i>MacL. jun.</i> , N. A.,<br>Hely's Expedition.             | — planiusculus, <i>MacL. jun.</i> , Mitchell's<br>Expedition, Victoria River. |

## Genus GNATHOXYS.

- |   |  |
|---|--|
| G. granularis, <i>Westw.</i> , Pt. Essington.             | G. humeralis, <i>MacL. jun.</i> , S. A.                  |
| — irregularis, <i>Westw.</i> , Pt. Essington.             | — barbatus, <i>MacL. jun.</i> , S. A.                    |
| — obscurus, <i>Reiche</i> , Swan River.                   | — submetallicus, <i>MacL. jun.</i> , S. A.               |
| — cicatricosus, <i>Reiche</i> , Swan River.               | — tessellatus, <i>MacL. jun.</i> , Paramatta.            |
| — insignitus, <i>MacL. jun.</i> , King<br>George's Sound. | — Murrumbidgeensis, <i>MacL. jun.</i> ,<br>Murrumbidgee. |

## Genus CERATOGLOSSA.

- |   |   |
|---|---|
| C. rugiceps, <i>MacL. jun.</i> , Murrumbid-<br>gee. | C. foveiceps, <i>MacL. jun.</i> , Richmond R. |
|---|---|

## Genus CLIVINA.

- |  |  |
|--|--|
| C. basalis, <i>Chaud.</i> , N. Holland.    | C. planiceps, <i>Patz.</i> , N. Holland. |
| — Australasica, <i>Bohm.</i> , N. Holland. | — elegans, <i>Patz.</i> , N. Holland.    |
| — suturalis, <i>Patz.</i> , N. Holland.    | — atrata, <i>Patz.</i> , N. Holland.     |

## Genus DYSCHIRIUS.

- D. chloridii, *MacL. jun.*, near Sutton Falls.

*The Genera and Species of the Amycteridæ,*

By WILLIAM MACLEAY, JUN., Esq., M.L.A.

[Read 7th August, 1865.]

THERE is no group of Australian Insects more natural or perhaps more numerous than that to which M. Th. Lacordaire has given the name of *Amycterides*.\* There is at the same time no group in which there is a larger number of undescribed species, or in which the species which are described are in a more confused state. These circumstances, combined perhaps with the interest which I have always felt in this well marked and strictly Australian group, have induced me to make it the subject of the present paper.

I am aware that in undertaking the task of describing and re-arranging this large sub-family, I labour under the disadvantage of being unable to refer to, and in some cases to identify, the many species described by Schönherr† and Boisduval‡, a disadvantage difficult to overcome in the case of the last named author, as most of his descriptions are utterly useless for the identification of species.

On the other hand, I may lay claim to advantages superior to those of any other person, in the possession of the magnificent collection of the late W. Sharp MacLeay, Esq., which contains nearly 200 species allied to *Amycterus*.

The *Amycteridæ* may be shortly described as a sub-family of *Curculionidæ*, with a six-jointed funiculus to the antennæ, with a very short and thick rostrum, with a large mouth, and with a body rough, hard, and apterous. To Mr. Waterhouse is due the credit of having first noticed the affinity of the various genera now combined to form this sub-family.

He states in a note to a Paper entitled "Notes on the species of *Amycterus* and allied genera, with descriptions of new species."

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\* Gen. Coleopt., vol. VI., p. —. † Gen. et spec. Curcul., vol. VII.

‡ Voy. de l'Astrolabe II.

(Trans. Ent. Soc. Lond., ser. 2, vol. III., p. 75.) “The Australian Cureulionidæ with a six-jointed funiculus to the antennæ including the genera *Euomus* *Mythites* (*Acanthomus* Germ.) *Tetralophus*, Wat. *Amycterus* and *Acantholophus*, form a very distinct and natural group, which might be called *Amycteridæ*.”

M. Lacordaire subdivides the *Amycteridæ* into *Amycterides vere*, or those with the scape of the antennæ passing the eyes, and the *Euomides* in which the scape of the antennæ only reaches the eyes.

In the present Paper I will confine myself to the first of these subdivisions.

The *Amycteridæ vere* constitute by far the most numerous subdivision of the group.

I have found it necessary to add three genera to the four previously described, as the following synopsis will show:—

#### 1.—ROSTRUM HAUD CRISTATUM.

|  |                                       |
|--|---------------------------------------|
| Rostrum with transverse sinuous<br>impression at base, male with<br>anal forceps.    | } <i>Psalidura</i> , MacLeay.         |
| Rostrum excavated with two ob-<br>lique ridges in middle, anus<br>of male excavated. | } <i>Talourinus</i> , MacLeay, junr.  |
| Rostrum with straight central<br>ridge.  | } <i>Sclerorinus</i> , MacLeay, junr. |
| Head and rostrum rather concave.—  | <i>Amycterus</i> , Schönh.            |

#### 2.—ROSTRUM CRISTATUM.

|   |  |
|---|--|
| Forehead concave.                         | — <i>Acantholophus</i> , MacLeay.      |
| Forehead flat, with transverse<br>suture. | } <i>Cubicorhynchus</i> , Lacord.      |
| Forehead convex and rugose.               | — <i>Hyborhynchus</i> , MacLeay, junr. |

#### Genus PSALIDURA. MacLeay.

(App. to King's Survey of Coast of Austral., p. 444.)

*Antennæ* sat robustæ articulis duobus basalibus funiculi sublongioribus.

*Rostrum* brevissimum crassissimum basi transversim sinuatim canaliculatum.

*Mandibule* latissimæ valde convexæ margine interiore rectæ.

*Oculi* subplani subovati.

*Caput* breve gula incrassata.

*Thorax* antice supra late lobatus subtus sinuatus postice truncatus, lateribus medio ampliatus.

*Scutellum* parvum triangulare.

*Abdomen* oblongum apice late rotundatum, masculino forcice anali instructo segmento anali ultimo excavato.

*Pedes* simplices sublongi tibiis subarcuatis.

The most remarkable feature of this genus is the strong anal forceps with which the male is armed. It is attached by strong muscles to the under side of the last dorsal segment of the abdomen, and seems to enclose the organs of generation; in most of the species also there is a sharp knife-like process on the inner side of each blade of the forceps near its base. The large excavation of the last ventral segment of the abdomen in the male is remarkable, but this is also a characteristic of the next genus. The sculpture of the rostrum and the wavy transverse impression which seems to separate the rostrum from the head are characters, I believe, peculiar to the genus. There are two other remarkable characters, viz., the widely rounded sides of the thorax, and the width of the apex of the abdomen; the first of these, however, is sometimes found in the other genera of the group, while the last is not unfrequent in the next genus *Talaurinus*.

Very little is known of the habits of these insects. They are found in dry rocky or sandy places under logs or stones, always feigning death when touched. Their food in the perfect state is evidently dried grass or wood, or vegetable substances of any kind, if dry and dead. Of their larvæ I know nothing. These remarks indeed may be said to apply to the whole sub-family. The group generally seem to occupy the place here that the *Brachyceri* do in South Africa. Species of the present genus have been found in all parts of Australia, but they are decidedly most numerous in New South Wales and Queensland.

1.—*PSALIDURA MIRABILIS*. Kirby.

*Curculio mirabilis*. Kirby Linn. Soc. Trans., vol. XII., p. 469.

*Amycterus mirabilis*. Schönh. Gen. et spec. Curcul., vol. II., p. 470.

*Psalidura mirabilis*. MacLeay App. to King's Surv. of the Coast of Aust.

“Oblongo-elliptica nigra in cavitatibus cinereo-squamulosa, thorace confertim tuberculato, elytris rugosis striato-punctatis interstitiis omnibus seriatim tuberculatis alternis elevatioribus tuberculis omnibus seta brevi declinata nigra instructis.

“*Mas*: thorace longiore antice umbraculato gula cornuta, ventre subtus apice excavato, ano forcice valido armato.

“*Femina*: thorace brevior rotundato, gula mutica, ano rotundato integro.” Schönherr.

Long. 11 lin., lat. 4 lin.

Hab. New South Wales, Victoria, and Van Diemen's Land.

The whole insect is of a dull black, covered rather sparingly with ashen coloured scales, and with all the tubercles or granules furnished with a decumbent black seta. The rostrum, which is as broad as the head and square, has the apex triangularly emarginate, and presents three shallow longitudinal grooves on its upper surface, terminating behind in a transverse impression deeply marked at each end. The head in the male is armed beneath with a strong subacute horn, pointing backwards. The thorax is closely covered with hemispherical tubercles, and has the medial dorsal line distinct near the base. The elytra are elongate, truncate at the base, which is their narrowest part, and rounded at the apex, where they terminate in two small curved points. Their whole surface is coarsely rugose, with rows of large punctures separated by rows of tubercles, of which every alternate row is larger, the fourth row from the suture forming itself into a rather prominent humeral angle. The anal forceps is strong, but rather short, only just showing itself beyond the apex of the elytra. The female is rather shorter and thicker than the male, without any horn under the chin, and with the anal segment of the abdomen large and without excavation.

This is by far the most common species of the genus, and



seems also to have the widest range. It is found in most parts of New South Wales, and I have seen specimens from Victoria, and Van Diemen's Land, and I believe also from South Australia.

2.—*PSALIDURA RUFILINEATA*.

Oblongo-elliptica nigra parce cinereo-squamosa, thorace confertim subtiliter tuberculato, elytris rugosis striato-punctatis interstitiis omnibus seriatim tuberculatis alternis elevatioribus rufis tuberculis omnibus seta brevi declinata nigra instructis.

*Mas*: gula cornuta forfice anali valido longo.

Long. 11 lin. lat. 4 lin.

Hab. Newcastle.

This species comes very close to *P. mirabilis*. It differs from it chiefly in having the thorax more thickly and minutely tuberculate, in having the humeral angles less prominent, in having the sculpture of the elytra less confused, in having the more elevated ridges of the elytra of a pitchy red, and in having the anal appendage of the male much larger. The female is shorter and broader than the male.

All the specimens which I have of this insect are from Newcastle, but I believe it to have a wide range along the Eastern portion of New South Wales.

3.—*PSALIDURA VERRUCOSA*.

Oblongo-elliptica nigra nigro-setosa vix squamosa, capite brevissimo, thorace verrucoso, elytris seriatim tuberculatis seriebus alternis majoribus subpiceis interstitiis rude punctatis.

*Mas*: gula cornuta, forfice anali valido brevi.

Long.  $12\frac{1}{2}$  lin. lat. 5 lin.

Hab. New Holland.

This fine species may be readily distinguished from *P. mirabilis*, which it most resembles, by the thorax being covered with large warty looking tubercles rather distantly placed towards the middle, and by the head being covered almost to the rostrum

by the thorax. The sculpture of the elytra also is more distinct than in *mirabilis*, the tubercles are larger, and the apex is not mucronate.

The only specimen I know of this insect is in the late Mr. MacLeay's collection, and there is nothing to indicate its habitat.

#### 4.—PSALIDURA COXII.

Oblongo-elliptica nigra nigro-setosa parce squamosa, capite brevi, thorace confertim medio minus crebre tuberculato, elytris seriatim rude punctatis interstitiis seriatim tuberculatis alternis elevatioribus.

*Mas*: gula cornuta, forcice anali valido longo.

*Femina*: thorace medio sparsim rugoso-tuberculato.

Long. 12 lin., lat.  $4\frac{1}{2}$  lin.

Hab. Dabce.

This species seems to be abundant at Dabce, and probably all through the Mudgee district. It differs from *P. mirabilis* not only in size, but in the more coarsely tuberculated thorax, in the more regularly marked and less rugose elytra, and in the much longer anal forceps of the male. The tubercles on the thorax of the female are somewhat distant and rugose in the middle, in other respects the female only differs from the male in the manner common to all the species, viz:—it is shorter, broader, and has the thorax less lobed on the top of the head.

The species is named after Dr. James C. Cox, from whom I first received specimens of the insect.

#### 5.—PSALIDURA MIRA. Schönh.

*Amycterus mirus*. Schönh. Gen. et spec. Curcul., vol. VII, p. 51.

“Oblongo-elliptica nigra in cavitatibus parce cinereo-squamulosa, thorace angustiore confertissime tuberculato apice supra parum rotundato-producto dorso obsolete canaliculato elytris striato-punctatis interstitiis alternis elevatis sublevibus apice ipso obtuse rotundatis ad suturam breviter mucronatis.” Schönherr.

*Mus*: mandibularum angulis externis acute retrosum productis, forcice anali longo subvalido.

Long. 10 lin., lat.  $3\frac{1}{2}$  lin.

Hab. Swan River.

In this species the head is but little covered by the thorax. The lateral grooves of the rostrum are oblique, and the mandibles of the male are produced downwards and backwards from the outer angles into a somewhat acute horn. The thorax is narrow, and is thickly and rather finely tuberculated, while the medial dorsal line is almost obsolete. The elytra are costate, the alternate "costæ" being larger, while the intervals have a somewhat reticulated appearance. The anal appendage of the male is long, but not quite so strong as in the species already described.

I have never seen this insect, except in the late Mr. MacLeay's collection, where there are several specimens, and as one of them was labelled Swan River, I take it for granted that they are all from Western Australia.

#### 6.—*PSALIDURA MIRACULA*.

Oblongo-elliptica nigra nigro-setosa parce squamosa, fronte medio vittata, thoracè tuberculato antice leviter lobato postice medio canaliculato, elytris elongatis tricostatis interstitiis reticulatis lateribus rugosis subcostatis apice remote mucronatis.

*Mus*: mandibularum angulis externis longissime acute productis, forcice anali longissimo acuto.

Long. 11 lin., lat.  $4\frac{1}{2}$  lin.

Hab. Mudgee.

The extreme length of the horns of the mandibles, which are also sharp and sickle-shaped, is the most remarkable characteristic of this species. The anal forceps is also of great length. In other respects it is not unlike *P. mira*, it is, however, longer, more coarsely tuberculated on the thorax, and more regularly reticulated on the elytra than that species.

The only specimen I know was taken by Mr. Masters last summer, near Mudgee, and is now in the Museum.

7.—*PSALIDURA MIRIFICA*.

Oblongo-elliptica nigra nigro-setosa cinereo-squamosa, thorace confertim tuberculato antice leviter lobato medio subcanaliculato, elytris rude rugoso-punctatis interstitiis seriatim tuberculatis alternis elevatioribus apice mucronatis.

*Mas*: mandibularum angulis externis subacute retrorsum productis, forcice anali longissimo valido leviter arcuato laminis internis brevibus.

Long. 10 lin., lat. 4 lin.

Hab. New Holland.

This species wants the regular costate sculpture of the elytra which all the other species allied to *P. mira* have. The horns of the mandibles are neither long nor acute, and the anal forceps, which is of great length, has very little of the sickle-shaped form which is usual in the genus. The knife-like "laminæ" on the inner side of the forceps are very short in this species.

The only specimen I have seen is in the Museum and without label, but I have no doubt that it has been brought from the Northern Interior by some expedition.

8.—*PSALIDURA SUBCOSTATA*.

Oblongo-elliptica nigra cinereo-setosa parce squamosa, thorace granulato lateribus valde ampliato, elytris seriatim rude punctatis interstitiis alternis subcostatis apice mucronatis.

*Mas*: mandibularum angulis externis subproductis, forcice anali valido sublongo.

Long.  $8\frac{1}{2}$  lin., lat.  $3\frac{1}{2}$  lin.

Hab. Paramatta.

There is a prolongation of the external angles of the mandibles in this species also, but not to the same extent as in the three preceding species. The rostrum has the usual transverse impression at its base, but the longitudinal grooves are almost obsolete, there is however a deep triangular impression behind the usual triangular emargination of the apex. The thorax is closely covered with small tubercles or granules, and bulges out very much at the sides, (giving it somewhat of a lozenge shape),

while the medial line is only perceptible towards the base. The elytra are coarsely punctured in rows, the interstices being composed alternately of single and double rows of setigerous granules, so closely placed as to give a ribbed appearance to the elytra, the "setæ" being here as well as over the whole body of a cinereous hue.

The anal appendage of the male is strong, and considerably longer than in *P. mirabilis*. The female is not known to me.

9.—*PSALIDURA MIRABUNDA*. Schönh.

*Amyterus mirabundus*. Schönh. Gen. et spec. Curcul., vol. II., p. 471.

"Oblongo-elliptica nigro-fusca opaca parce cinereo-squamulosa, thorace suborbiculato confertissime tuberculato, elytris obsolete rugosis et striato-punctatis interstitiis alternis elevatioribus omnibus seriatim tuberculatis tuberculis seta rigida declinata cinerea instructis." Schönherr.

*Mas*: forcice anali valido brevi.

Long. 9 lin., lat.  $3\frac{1}{2}$  lin.

Hab. New Holland.

I am not quite sure that the insect which I have marked in my cabinet, *P. mirabunda*, is the same which Schönherr has described, it is however certainly very near it. If I am right in my supposition as to the species, the knife-like process on each branch of the anal forceps is prolonged downwards to a considerable degree.

I cannot find any indication of the habitat of this species.

10.—*PSALIDURA ELONGATA*.

Oblongo-elliptica nigra nigro-setosa cinereo-squamosa, thorace confertim subtiliter tuberculato medio subdepresso, elytris rugosis rude seriatim punctatis interstitiis subtiliter alterne uniseriatim et biseriatim tuberculatis tuberculis omnibus nitidis apice mucronatis.

*Mas*: forcice anali longo valido cinereo-hirto.

*Femina*: segmento anali medio nitido vix impresso postice et lateraliter setis pallidis instructo.

Long. 11 lin., lat. 4 lin.

Hab. Lambing Flat.

The head in this species is but slightly hooded by the thorax, and the impressions on the rostrum are not very deep. The thorax is rather depressed in the middle, bulges out a good deal at the sides, and is closely covered with small setigerous tubercles. The clytra are mucronate, and are covered with rows of large shallow punctures, separated by rows of minute shining setigerous tubercles, the alternate rows being double; there is also a minute setigerous tubercle between each puncture. The whole insect is covered with short cinereous scales and nearly black setæ. The anal appendage of the male is large, strong, and clothed with yellow hair, while the anal ventral segment of the female is glossy in the middle and clothed with yellow "setæ" behind, and at the sides.

This species seems to be abundant in the interior of New South Wales. I have specimens from Wellington Valley and the Lower Murrumbidgee, which differ from the above description in having the "setæ" of a more intense black, in having the medial line of the thorax perceptible, and in having the facial impressions more marked. They will probably be found to constitute another species.

#### 11.—*PSALIDURA IMPRESSA*. Boisd.

*Amycterus impressus*. Boisd. Voy. de l'Astrol. II., p. 375.

"Oblonga atra in cavitatibus parce cinerea, capite canaliculato, thorace convexo subgloboso antice subdepresso punctis elevatis rotundato-perlatis creberrimis ornato, clytris ovatis costatis costis interstitiisque crenulatis." Boisduval.

Long. 10 lin., lat.  $3\frac{1}{2}$  lin.

Hab. Van Diemen's Land.

The sculpture of the clytra in this insect is not unlike that of the last described species, the thorax, however, is more depressed in the middle, and more bulged out at the sides, while the impressions on the rostrum are in the shape of a horse's hoof. The anal forceps of the male is short and strong.

12.—*PSALIDURA WILCOXII*.

Oblongo-elliptica nigra parce cinereo-squamosa, capite antice longitudinaliter subrugoso, thorace confertim subtiliter tuberculato, elytris seriatim rude rugoso-punctatis interstitiis alterne uniseriatim et biseriatim subtiliter tuberculatis tuberculis omnibus seta subnigra instructis lateribus postice ampliatis apice breviter mucronatis.

*Mas* : forcipe anali valido brevi, segmento anali penicillato.

Long. 8 lin., lat.  $3\frac{1}{4}$  lin.

Hab. Clarence River.

This is the smallest *Psalidura* I have seen. The head has one or two short longitudinal wrinkles, near the transverse depression separating it from the rostrum; the latter has two ridges behind, and a considerable excavation in front, in this respect resembling the genus *Talaurinus*. The thorax is considerably lobed in front, and is closely covered with small tubercles. The elytra are considerably broader than the thorax towards their apex, and are slightly mucronate. They are covered with large punctures in distinct rows, each being separated by rows of small tubercles, every alternate row being larger, the whole is clothed with cinereous scales and dark "setæ." The anal forceps of the male is very strong, but so short as to be scarcely visible beyond the elytra.

I have named the species after Mr. Wilcox, of the Clarence River, from whom I received it.

13.—*PSALIDURA MONTANA*.

Oblongo-elliptica nigra picco-setosa cinereo-squamosa, thorace crebre subtilissime tuberculato, elytris striato-punctatis interstitiis seriatim subtiliter tuberculatis alternis elevatioribus crebrius setosis.

*Mas* : forcipe anali brevi valido valde arenato.

Long.  $8\frac{1}{2}$  lin., lat.  $3\frac{1}{4}$  lin.

Hab. Pine Mountains, near Ipswich.

This species is densely clothed with cinereous scales. The thorax is closely granulated. The elytra are also thickly granu-

lated, the alternate ridges having the setose granules placed three or four deep. The anal forceps of the male is short and much arcuated. The male and female are very much alike in general appearance.

14.—*PSALIDURA FORFICULATA*.

Oblongo-elliptica nigra pallido-setosa dense cinereo-squamosa, thorace granulato, elytris striatis striis rude punctatis interstitiis confertim granulatis singulatim apice mucronatis.

*Mus*: forcice anali longissimo.

*Femina*: segmento anali medio leviter impresso.

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

Hab. Rockhampton.

This species is remarkable for the great length of the anal forceps in the male. It is also remarkable for the density of the setigerous granules disposed in regular rows on the elytra. The rostrum is very short.

15.—*PSALIDURA CAUDATA*.

Oblongo-elliptica nigra fusco-setosa cinereo-squamosa, rostro brevissimo, thorace subremote tuberculato medio canaliculato, elytris rude striato-punctatis interstitiis alternis elevationibus undique granulatis granulis nitidis apice subremote mucronatis.

*Mus*: forcice anali valido lato longissimo.

Long. 12 lin., lat. 4 lin.

Hab. Darling Downs.

This species resembles the last, but differs from it in its more lengthened form and less thickly granulated thorax, and in having the elytra less thickly clotted with scales and setæ. The small shining granules which are scattered almost without order over the entire surface of the elytra in this species are perhaps its best distinctive character. The anal forceps of the male is broad, very long, and but slightly arcuated.

16.—*PSALIDURA MITCHELLII*.

Oblongo-elliptica nigra nigro-setosa cinereo-squamosa, rostro



postice bituberculato, thorace crebre subtiliter tuberculato, elytris striato-punctatis interstitiis subelevatis alternis elevatioribus omnibus crebre subtiliter tuberculatis apice subremote mucronatis.

*Mas*: forcice anali longissimo valido subarcuato laminis internis nullis.

Long. 12 lin., lat.  $4\frac{1}{2}$  lin.

Hab. Victoria River, Mitchell's Expedition.

The anal forceps is longer in this species than in any I have seen, while the knife-like plate on its inner margin is wanting, and in its place there is a fringe of yellow hair. I have not seen the female.

#### 17.—*PSALIDURA HOWITTI*.

Oblongo-elliptica nigra nigro-setosa parce squamosa albido-maculata, capite postice albido-vittata, thorace subtiliter tuberculato, elytris rude seriatim rugoso-punctatis interstitiis subcostatis granulatis setigeris alternis elevatioribus apice breviter mucronatis.

*Mas*: forcice anali valido brevi.

*Femina*: segmento anali medio leviter impresso lateraliter subexcavato.

Long.  $9\frac{1}{2}$  lin., lat.  $3\frac{1}{2}$  lin.

Hab. Melbourne.

The scales on this insect are for the most part of a dark hue, but on the head there are vittae of silvery scales, and on the elytra scales of the same colour are disposed in small patches giving them a spotted appearance. The setae are all black. As in *P. mirabunda* the knife-like process on each branch of the forceps of the male is prolonged downwards.

#### 18.—*PSALIDURA SUBVITTATA*.

Oblongo-elliptica nigra parce cinereo-squamosa, rostro medio glabro subcarinato utrinque subsulcato postice medio lateribusque profunde impresso, thorace crebre tuberculato tuberculis parvis hemisphaericis nigro-setosis antice trans-

versim impresso lateribus lineaque dorsali postice albido-vittatis, elytris profunde seriatim punctatis interstitiis subelevatis granulatis granulis nigro-setosis dorso lateribusque albido-maculatis.

*Mas* : forfice anali brevi valido.

Long. 9 lin., lat  $3\frac{1}{4}$  lin.

Hab. Ipswich, Queensland.

Dr. Howitt captured one specimen of this insect near Ipswich a few weeks ago. The sculpture of the rostrum, and the tendency to vittæ on the thorax and sides of the elytra, render the species easy of recognition. The anal forceps of the male only just shows beyond the apex of the elytra.

#### 19.—*PSALIDURA SQUAMIGERA*.

Oblongo-elliptica nigra dense cinereo-squamosa, rostro antice profunde emarginato postice profunde transversim impresso, thorace subtiliter tuberculato tuberculis seta pallida instructis, elytris striatis striis rude punctatis et granulatis interstitiis biseriatim aut triseriatim granulatis granulis nitidis seta longa pallida instructis apice breviter mucronatis.

*Mas* : forfice anali valido sublongo dense cinereo-setoso.

Long. 11 lin., lat  $3\frac{3}{4}$  lin.

Hab. New Holland.

This species is something like *P. elongata*, it differs from it however in many respects. The sculpture of the transverse impression on the rostrum is more profound, and the emargination in front greater. The whole insect is besides more densely covered with cinereous scales, and the elytra are more crowded with minute glossy tubercles, each bearing a long pitchy yellow seta. The insect has also a longer and thinner appearance than *P. elongata*. The anal forceps of the male is rather short, and is densely covered with cinereous setæ.

I am not acquainted with the female of this species, nor do I know what part of the country it comes from.

20.—*PSALIDURA HELYL*.

Oblongo-elliptica nigra nigro-setosa cinereo-squamosa, thorace crebre subtiliter tuberculato, elytris seriatim reticulato-punctatis interstitiis seriatim subtiliter tuberculatis alternis elevatioribus subcostatis apice breviter mucronatis.

*Mas*: forfice anali valido brevissimo laminis internis longis.

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

Hab. North Australia, Hely's Expedition.

The anal forceps of the male is so short in this species as not to show at all beyond the apex of the elytra, while the internal laminae are very long. The female is shorter and broader than the male.

21.—*PSALIDURA FOVEATA*.

Oblongo-elliptica nigra pallido-setosa parce squamosa, rostro antice medio profunde punctato, thorace granulato, elytris seriatim foveatis foveis papillulis setigeris circumdatis postice ampliatis subfornicatis apice mucronatis.

*Mas*: forfice anali longissimo valido.

Long. 9 lin., lat. 4 lin.

Hab. N. E. Coast, New Holland.

A single male specimen labelled "N. E. Coast" is in the collection of the late W. Sharp MacLeay, Esq., while one specimen of a female, apparently of this species, is labelled in the same collection "Swan River."

22.—*PSALIDURA FALCIFORMIS*.

Oblongo-elliptica nigra nigro-setosa parce cinereo-squamosa, rostro intrinseque oblique carinato, thorace crebre subtiliter tuberculato, elytris striato-punctatis interstitiis elevatis alternis elevatioribus crebre granulatis granulis setigeris apice mucronatis.

*Mas*: forfice anali longo arcuato horizontali apice subaucto sinistro equitante laminis internis longissimis.

Long.  $10\frac{1}{2}$  lin., lat. 4 lin.

Hab. Mudgee.

The shape of the anal forceps of the male is very remarkable in this species. It is long, placed horizontally, much arcuated, not thick, and becoming suddenly thinner near the apex, where the point of the left side branch rests upon the other. The knife-like process of the inner edge is also remarkably long in this species, that on the right side completely overlapping the other.

23.—*PSALIDURA MASTERSII*.

Oblongo-elliptica nigra nigro-setosa parce cinereo-squamosa, thorace confertim subtiliter tuberculato, elytris reticulato-punctatis interstitiis costatis alternis elevatioribus apice mucronatis.

*Mas* : forfice anali longo gracili acuto vix arcuato.

Long. 11 lin., lat. 4 lin.

Hab. Ipswich, Queensland.

The distinctly reticulated elytra, and long sharp anal forceps of the male, serve at once to distinguish this species from any other.

I have named it after its discoverer, Mr. Masters.

24.—*PSALIDURA RETICULATA*. MacLeay, M.SS.

*Amycterus reticulatus* Boisd., Voy de l'Astrol. II., p. 384.

“Oblongo-elliptica nigra parcissime squamosa, thorace subtiliter tuberculato tuberculis postice medio minus crebre obsitis, elytris seriatim crebre foveatis interstitiis subcostatis sublaevibus setis brevibus nigris tenuiter armatis.”

Long. 11 lin., lat.  $4\frac{1}{4}$  lin.

Hab. Wellington valley.

If I had not found the original insect named by the late Mr. MacLeay in his collection, I should certainly never have been able to identify it from the description given of it by Dr. Boisduval, which is in these words :—“*Ater oblongus, thorace granifero, elytris granulatis subcostatis subreticulatis.*” I have only seen the female of this insect, it is somewhat like the female of

the last described species. The rostrum is marked with the impression of a horse's hoof.

25.—*PSALIDURA ABNORMIS*.

Oblongo-elliptica nigra parce cinereo-squamosa, thorace granulato granulis setigeris medio subdepresso, elytris seriatim rude et profunde punctatis interstitiis elevatis subcostatis crenatis setigeris.

*Mas*: segmento anali valde excavato postice appendiculis duabus validis distantibus armato.

Long. 10 lin., lat.  $3\frac{1}{2}$  lin.

Hab. Argyle, New South Wales.

This insect wants the anal forceps, which is the main character of the genus *Psalidura*, but it has the form and sculpture and general appearance of the genus so marked, that it should clearly not be separated from it, especially as it has less affinity for the next genus *Talaurinus*.

26.—*PSALIDURA D'URVILLEI*. Schönh.

*Amyterus D'Urvillei*, Schönh., Gen. et spec. Cureul., vol. VII., p. 52.

“Oblongo-elliptica atra opaca parce griseo-squamulosa, thorace lateribus parum rotundato confertissime tuberculato, elytris obsoletius rugosis et striato-punctatis, interstitiis alternis elevatioribus erebre evidenter alternis seriatim remote tuberculatis tuberculis nitidis seta rigida declinata nigra instructis apice ipso singulatim rotundatis.” Schönherr.

Long. 10 lin., lat.  $3\frac{3}{4}$  lin.

Hab. New Holland.

This insect, like *P. abnormis*, is a *Psalidura* in every respect, excepting the absence of the anal forceps in the male. These two species, in fact, seem to lead from *Psalidura* to the next genus, their anal formation being frequent enough in the genus *Talaurinus*, while their appearance is undoubtedly that of *Psalidura*.

## Genus TALAURINUS.

*Antennæ* validæ, scapo apice incrassato.

*Rostrum* plerumque capite angustius et longius, supra excavatum oblique bicarinatum gula incrassata.

*Thorax* oblongus lateribus rarius ampliatus antice leviter lobatus.

*Abdomen* subconvexum, masculi segmento ultimo ventrali valde excavato.

*Caput, mandibulæ, oculi, pedes, &c.*, ut in *Psalidura*.

This genus includes a very large number of species of all grades of transition between the last genus *Psalidura* and the following one *Sclerorinus*.

The gradation is so nearly complete between one group and another of the extensive sub-family of the Amycteridæ, that it is impossible to make what is usually called a good genus, which, I take it, means simply an isolated group.

*Talaurinus* differs from *Psalidura* chiefly in the want of the scissors-like anal appendage of the male, but it has certain anal appendages, and has also the anal segment of the abdomen largely scooped out. It differs also in the form of the rostrum, which is generally in this genus longer, and rather narrower than the head, with elevated sides, excavated middle, and two oblique ridges nearly meeting behind. The antennæ also are, for the most part thicker, the scape having a very robust appearance. The thorax also seldom presents the bulged out appearance so common in *Psalidura*, and is never protruded over the head to any great degree.

The species of this genus are so numerous, that I propose for simplification to divide them into five sections, viz.: *Talaurini granulati*, *tuberculati*, *costati*, *foveati*, and *echinati*, each named from the character of the sculpture of their elytra. This will be found upon the whole, a very natural as well as a convenient mode of subdivision. The 1st section, *granulati*, approaches very near in some instances to *Psalidura*; the 2nd and 3rd, *tuberculati* and *costati*, may be taken as the typical sections of the genus, while the 4th and 5th, *foveati* and *echinati*, are the most aberrant.

The first three sections are chiefly from Eastern Australia, the last two exclusively, from Western Australia.

Section I.—*Granulati*.

1. TALAURINUS TOMENTOSUS. Boisd.

*Amycterus tomentosus*, Boisd., Voy. de l'Astrol, II., p. 373.

“Cinereo-fuscus subtomentoso-hirtus, capite canaliculato bicarinato, thorace convexo punctis elevato-perlatis obscurioribus, clytris ovato-parallelis subcostatis interstitiis crenatis costis crenato-hirtis.” Boisdual.

*Mas*: penicillis duobus flavis analibus distantibus.

Long. 7 lin., lat. 3 lin.

Hab. Victoria.

This insect is of a greyish hue, and is densely covered with cinereous scales and setæ. The two ridges on the rostrum are nearly parallel. The sculpture of the clytra consists of rows of large punctures separated by rows of setigerous granules or minute tubercles. The anal segment of the abdomen of the male is much excavated, with two tufts of yellow hair at some distance on each side of the anus. These tufts seem to be situated on the apex of a corneous appendage, such as is seen in *Psalidura abnormis* and *D'Urvillei*.

2.—TALAURINUS HOWITTI.

Oblongo-ellipticus niger dense cinereo-squamosus, fronte albido-vittata, thorace squamis albidis trivittato crebre granulato granulis setis pallidis armatis, clytris rude striato-punctatis interstitiis subcostatis granulatis alternis elevatioribus.

*Mas*: segmento ultimo abdominali antice tuberculo cultriformi utrinque armato postice excavato.

*Femina*: segmento ultimo magno punctato pone medium leviter impresso.

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

Hab. Victoria.

The rostrum is more obliquely bicarinated than in the last

species. There are vittæ of white scales on the forehead and the middle and sides of the thorax, and spots of the same on the elytra, the rest of the body is covered with cinereous scales. The whole is interspersed with light coloured setæ, each springing from a granule. The anal ventral segment of the male is excavated behind, while in front it has two knife-like processes. The female has a slight impression near the apex of the same segment.

This species was sent to me lately by Dr. Howitt of Melbourne, after whom I have named it.

### 3.—TALAUINUS VARIEGATUS.

Oblongo-ellipticus niger confertissime cinereo-squamosus, thorace granulato subobsoleto albido-vittato, elytris albido-maculatis rude seriatim punctatis interstitiis leviter granulatis alternis densius granulis nitidis setis fuscis instructis.

*Mas*: mandibulis cornutis, abdominis segmento anali rude punctato excavato appendicibus analibus corneis distantibus.

Long. 7 lin., lat. 3 lin.

Hab. Victoria River, Mitchell's Expedition.

This species is very thickly covered with cinereous scales, mixed in some places with silvery white, which, on the thorax, take the form of vittæ on the back and sides, and on the elytra of small spots. The rostrum is thick, square, and not deeply sculptured. The mandibles of the male have a strong horn on each exterior angle. The thorax is covered with small setigerous tubercles or granules. The elytra are divided into series of coarse punctures, separated by rows of minute shining setigerous tubercles, every second row consisting only of a few distant tubercles. The setæ are all brown or pitchy. The male has the anal segment of the abdomen coarsely punctured, and not very deeply excavated, and has two distant anal appendages as in *Psolidura abnormis*.

### 4.—TALAUINUS RIVERINÆ.

Oblongo-ellipticus niger confertim cinereo-squamosus, thorace vittato granulato, elytris albido-maculatis rude striato-



punctatis striis interstitiisque seriatim granulatis granulis setigeris setis pallidis.

*Mas*: abdominis apice lato, appendiculo corneo anali utrinque armato.

Long.  $6\frac{1}{2}$  lin., lat.  $2\frac{3}{4}$  lin.

Hab. Lower Murrumbidgee.

This insect much resembles the last described species in shape and colour, both being remarkably broad at the apex of the abdomen in the male. It differs from it in having no horns to the mandibles, in being less thickly covered with scales, in having the rostrum much emarginated in front and deeply sculptured, in having setigerous granules in the striæ of the elytra, as well as on the spaces between them, and in having the anal ventral segment of the male much excavated behind.

#### 5. TALAURINUS SQUAMOSUS.

Oblongo-ellipticus niger confertissime cinereo-squamosus, thorace subremote granulato subvittato vittis albedo-squamosis, elytris albedo-maculatis seriatim bifariam rude punctatis interstitiis granulis nitidis setigeris subraris armatis setis nigris.

Long.  $6\frac{1}{2}$  lin., lat.  $2\frac{1}{2}$  lin.

Hab. Lower Murrumbidgee.

This insect differs from the last in being covered all over very thickly with scales. The sculpture of the elytra also is very different,—it consists of double rows of coarse punctures, with interstices of a single row of shining setigerous granules, the setae being black.

I have no male of this species.

#### 6. TALAURINUS GRISEUS.

Oblongo-ellipticus niger cinereo- et nigro-squamosus, rostro fronteque linea media lævi, thorace trivittato granulato, elytris nigro-maculatis seriatim confertim foveatis undique granulatis granulis nitidis setigeris setis nigris, ventre medie flavo-hirto.

Long.  $6\frac{1}{2}$  lin., lat.  $2\frac{1}{2}$  lin.

Hab. Rockhampton.

The rostrum is much emarginated in front, and has a broad groove in the centre free from scales, which is prolonged in a smooth line on the forehead. The scales on the head, and indeed over the whole of the body, are black in some parts and cinereous in others,—giving the whole a spotted grey appearance. The thorax has three vittae of nearly white scales—one on the medial line, which is free from granules, and one on each side. There are some spaces on the front part of the thorax where the granules are thinly disposed, elsewhere they are thickly placed and all produce a black seta. The elytra are marked with rows of large deep punctures, and are covered with setigerous granules, disposed both between the rows of punctures and between each puncture. The abdomen beneath is plentifully covered, particularly in the centre, with yellowish hair or scales.

The male of this species also is unknown to me.

#### 7. TALAURINUS MACULATUS.

Oblongo-ellipticus niger cinereo-squamosus, thorace trivittato granulato, elytris albido-maculatis seriatim rugoso-punctatis interstitiis subelevatis granulatis granulis setigeris plerumque squamosis setis pallidis.

Long.  $6\frac{3}{4}$  lin., lat.  $2\frac{3}{4}$  lin.

Hab. North East Coast, New Holland.

Two specimens of females, labelled “N. E. Coast” in the late Mr. Macleay’s collection, are all I have seen of this species. It most resembles *T. squamosus*. The scales on the elytra extend over many of the granules, which in the other species appear bright and scaleless.

#### 8.—TALAURINUS PENICILLATUS.

Elongatus niger parce cinereo-squamosus, thorace granulato, elytris seriatim rude punctatis interstitiis elevatis granulatis granulis setigeris setis pallidis.

*Mus*: penicillis duobus flavis analibus distantibus.

Long.  $7\frac{1}{2}$  lin., lat.  $2\frac{1}{2}$  lin.

Hab. Van Dieman's Land.

This species comes very near *S. tomentosus*, which is also found in Van Dieman's Land. It is the most elongate in form of the group. The pencils of hair near the anus are very small.

#### 9.—TALAUINUS RAYNERI.

Oblongo-ellipticus niger confertim cinereo-squamosus, rostro medio profunde lateribus leviter canaliculato, vertice albido-squamoso, thorace confertissime granulatis granulis minutis setigeris vittis lateralibus latis albido-squamosis, elytris rude leviter striato-punctatis striis seriatim granulatis interstitiis latis subelevatis confertissime granulatis granulis omnibus setis pallidis instructis lateribus subvittatis.

Long.  $10\frac{1}{2}$  lin., lat. 4 lin.

Hab. West Coast New Holland.

I received this insect years ago from Dr. Rayner, R.N., who had taken it, I believe, some where on the West Coast. The specimen is a female, and I think it not at all improbable that it may turn out to be a *Psolidura*; at all events it does not seem to be at home among the present group. The rostrum is very short and broad, and resembles in sculpture that of *Psolidura impressa*. The elytra are remarkably thickly covered with small setigerous granules, excepting in the striae, where there is only a single line of them.

#### 10.—TALAUINUS INCERTUS.

Oblongo-ellipticus niger cinereo-squamosus, rostro postice semicirculariter impresso medio levi, thorace granulato obscure albido-trivittato antice transversim impresso, elytris albido-maculatis rude seriatim punctatis interstitiis granulatis alternis confertius granulis setis nigris instructis apice mucronatis.

Long. 9 lin., lat.  $3\frac{1}{2}$  lin.

Hab. Rockhampton.

I have two specimens of this insect—both females. It will

probably be found to be a *Psalibura*, as the head and thorax much resemble those of that genus.

11.—*TALaurINUS MORBILLOSUS*. Boisd.

*Amycterus morbillosus*, Boisd., Voy. de l'Astrol II., p. 386.

“Oblongus ater, thorace granifero, elytris undique tuberculis elevatis.” Boisdual.

Long. 7 lin., lat.  $2\frac{3}{4}$  lin.

Hab. Victoria.

The above description fails to give the slightest idea of the appearance of this insect. The head is short, with the forehead rather flat and horizontal. The rostrum is broad and much excavated, the internal ridges being only slightly oblique. The thorax is rather bulged out in the middle, and is covered, though not very densely, with granules or minute tubercles. The elytra are slightly deliscent at the apex, rugose, coarsely punctured, and covered all over with setigerous nodules, the setæ being black. The male has the elytra broad at the apex, and the anal segment of the abdomen much excavated.

12.—*TALaurINUS PAPULOSUS*.

Oblongo-ellipticus niger nigro-setosus cinereo-squamosus, thorace subtiliter rugoso-tuberculato dorso canaliculato, elytris albido-maculatis rugosis punctatis undique subtiliter tuberculatis, ventre medio fulvo-hirto.

Long. 8 lin., lat.  $2\frac{3}{4}$  lin.

Hab. New Holland.

This insect is like *T. morbillosus*, but can be readily distinguished from it by the distinct dorsal line on the thorax, and by the white spots and coarser sculpture on the elytra. The middle of the belly is covered with reddish-brown hair, and the elytra are very slightly mucronate.

There is but one specimen of this insect known to me, and that is in the Museum. Though without label, I have some reason to believe that it is one of a considerable collection made during Sir T. L. Mitchell's expedition to the Victoria River.

## 13.—TALAUINUS PULVERULENTUS.

Oblongo-ellipticus niger cinereo-squamosus, thorace subtiliter rugoso-tuberculato, elytris rude striato-punctatis interstitiis subelevatis erebre subtiliter tuberculatis tuberculis setis brevibus fuscis instructis lateribus griseis.

Long. 6 lin., lat.  $2\frac{1}{2}$  lin.

Hab. New Holland.

I believe this species also is from the northern interior.

It is much smaller than *T. morbillosus*. The apex also of the abdomen of the male is less broad, and the anal segment less excavated than in that species.

## 14.—TALAUINUS NODULOSUS.

Oblongo-ellipticus niger nigro-setosus confertim cinereo-squamosus, thorace subremote subtiliter tuberculato, elytris seriatim profunde punctatis undique granulatis granulis nitidis antice conjunctim emarginatis humeris productis.

*Mus*: segmento anali postice medio trifoveolato hirto, margine postice emarginato, ano utrinque penicillato.

Long. 8 lin., lat. 3 lin.

Hab. New Holland.

This is evidently another of the insects collected during Sir T. L. Mitchell's Expedition to the Victoria River. It is of a lightish colour, interspersed all over with small black shining nodules. The abdomen is broad behind in the male, with a pencil of hairs on each side, as in *T. tomentosus*. The emarginated base of the elytra and advanced humeral angles give this insect very much the appearance of some species of *Euomus*.

## 15.—TALAUINUS PALLIDUS.

Oblongo-ellipticus niger pallido-setosus confertim cinereo-squamosus, rostro carinis elevatis, capite antice subretuso, thorace subtiliter tuberculato, elytris seriatim granulatis interstitiis subelevatis levibus interstitio secundo quinque tuberculis minutis nitidis instructo interstitio quinto tuberculis serrato lateribus rugosis.

Long. 8 lin., lat.  $3\frac{1}{4}$  lin.

Hab. New Holland.

The rostrum in this species departs a little from the generic form, the sides are lower than the two internal ridges, and these last are thick and scarcely oblique. The head is a little retuse in front. The sculpture of the elytra is very peculiar; it consists of single lines of granules with a puncture behind each granule, the interstices consisting of smooth slightly elevated ridges; there are five small shining tubercles on the second interstice, while the fifth, which forms the lateral angle, is more thickly tuberculated. The whole is densely covered with cinereous scales and pale yellow setæ. This insect also I think comes from the northern interior.

#### 16.—TALAUINUS HUMERALIS.

Oblongo-ellipticus niger nigro-setosus cinereo-squamosus, thorace subtiliter rugoso-tuberculato basi subrotundato dorso canaliculato, elytris rugosis profunde punctatis undique nodulosis basi conjunctim emarginatis humeris productis.

*Mus*: segmento abdominali anali postice trifoveolato valde excavato.

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

Hab. Victoria River, Mitchell's Expedition.

The rounded base of the thorax with the base of the elytra fitting round it gives this species, like *T. nodulosus*, very much the appearance of a species of *Euomus*. The sculpture of the elytra is very rugose, irregular, and almost foveate. The apex of the abdomen in the male is very broad.

#### 17.—TALAUINUS PARALLELUS.

Elongatus niger pallido-setosus parce cinereo-squamosus, rostro lateribus convexo, fronte convexa, thorace subtiliter tuberculato, elytris parallelis subseriatim rade punctatis granularis interstitiis remote subtiliter tuberculatis.

Long. 9 lin., lat.  $2\frac{3}{4}$  lin.

Hab. New Holland.

The rostrum has the lateral ridges elevated in the middle, giving it a convex appearance. The forehead is round. The thorax is covered with minute setigerous tubercles. The elytra, which are narrow and parallel sided, are punctured in irregular rows, the punctures being large and each accompanied by a setigerous granule; the interstices, also irregular, are marked by distant minute tubercles. The setæ are all of a pale yellow colour.

This insect is probably from the northern interior.

#### 18.—TALAUINUS EUOMOIDES.

Oblongo-ellipticus niger nigro-setosus parce squamosus, thorace tuberculato tuberculis parvis subelevatis, elytris seriatim rugoso-foveatis undique nodulosis basi conjunctim emarginatis humeris productis.

Long. 7 lin., lat. 3 lin.

Hab. Queensland. Stutchbury's Expedition.

This insect somewhat resembles *T. humeralis*, and approaches even closer to *Euomus* than that species.

The thorax is truncate behind, and the sculpture of the elytra is more foveate than in *humeralis*.

#### 19.—TALAUINUS AMBIGUUS.

Oblongo-ellipticus niger pallido-setosus cinereo-squamosus, rostro crasso plano medio leviter canaliculato postice semicirculariter impresso, vertice albido-squamoso, thorace confertissime granulato lateribus ampliato leviter bifoveato dorso leviter albido-vittato, elytris albido-variatis seriatim punctato-granulatis interstitiis seriatim granulatis alternis subelevatis interstitio tertio glabro.

Long. 9 lin., lat.  $3\frac{1}{2}$  lin.

Hab. Darling Downs.

This and the following insect resemble *T. Rayneri*. They may both turn out to be female *Psalidura*.

The head is like *Psalidura*, and so indeed are both thorax and

elytra in shape, but their peculiarly smooth finely granulated sculpture I have never seen approached in that genus.

20.—*TALAUURINUS DUBIUS.*

Oblongo-ellipticus niger pallido-setosus parce fusco-squamosus, rostro crasso plano medio leviter canaliculato postice semicirculariter impresso, thorace confertissime granulato lateribus ampliato antice transversim impresso, elytris seriatim punctato-granulatis interstitiis subelevatis seriatim granulatis alternis subcostatis.

Long. 9 lin., lat.  $3\frac{3}{4}$  lin.

Hab. Darling Downs.

This species differs from the last, in being without vittæ or spots, in having the thorax transversely impressed near the apex and without lateral foveæ, and in having the interstices between the rows of granulated punctures on the elytra more distinctly elevated.

Sect. 2.—*Tuberculati.*

21.—*TALAUURINUS CAMDENENSIS.*

Oblongo-ellipticus niger parce cinereo-squamosus, thorace tuberculato tuberculis parvis hemisphæricis seta brevi instructis, elytris rude rugoso-punctatis subseriatim irregulariter tuberculatis angulo humerali antrorsum producto.

*Mas*: segmento ventrali anali valde excavato.

*Femina*: segmento anali medio semicirculariter foveato retrorsum carinato.

Long.  $6\frac{1}{2}$  lin., lat.  $2\frac{1}{2}$  lin.

Hab. Brownlow Hill, Camden.

The humeral angles in this species, and some of the following ones, are as prominent as in some species of *Euomus*, indeed, there seems to be considerable affinity to that genus. The setæ are very short, and not numerous as in the last section. The elytra are very rough, and irregularly tuberculated.



22.—*TALAUINUS MURRUMBIDGENSIS.*

Oblongo-ellipticus niger cinereo-squamosus, thorace tuberculato tuberculis parvis hemisphaericis seta brevi instructis, elytris valde rugosis rude punctatis seriatim irregulariter tuberculatis serie tertia unituberculata apice breviter mucronatis angulo humerali antrorsum producto.

*Mus*: segmento ventrali anali valde excavato utrinque bituberculato.

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

Hab. Murrumbidgee.

This insect will be most readily distinguished from the last by the mucronate elytra.

I have not seen a female of the species.

23.—*TALAUINUS RUDIS.*

Oblongo-ellipticus niger cinereo-squamosus, thorace tuberculato tuberculis parvis hemisphaericis seta brevi instructis, elytris rude rugoso-punctatis seriatim irregulariter tuberculatis serie tertia trituberculata apice brevissime mucronatis angulo humerali antrorsum producto.

*Mus*: segmento ventrali anali valde excavato utrinque bituberculato.

Long. 7 lin., lat. 3 lin.

Hab. New South Wales.

This species is also very like *T. Camdenensis*, it differs from it chiefly in having the elytra mucronate, and in having the oblique ridges of the rostrum less distinctly marked. From *T. Murrumbidgeensis* it differs in its more briefly mucronate elytra, and in the different disposition of its tubercles.

I am unacquainted with its exact "habitat."

24.—*TALAUINUS BUCEPHALUS.* Oliv.

*Curculio Bucephalus*, Oliv., Ent. vol. V., p. 399.

*Amycterus Bucephalus*, Schönh., Gen. et spec. Curcul., vol. II., p. 473.

"Oblongo-ellipticus niger in cavitatibus parce cinereo-squamulosus rostro impresso basi bicostato, thorace subgloboso

confertim valide tuberculato, elytris rugosis inæqualiter tuberculatis tuberculo humerali prosiliente composito." Schönherr.

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

Hab. New South Wales.

I had originally described this species under the name of *Talaurinus asper*, but after long and careful examination I have no doubt that it is the "*Bucephalus*" of Olivier. It is very like the three last species. The central space of the rostrum is broad, smooth, and depressed, the oblique ridges being ill defined. The elytra are briefly mucronate and very rough, and have five or six tubercles on the third interstice from the suture. The male has the last segment of the abdomen much excavated, with two small tubercles on each side. I am unacquainted with the female.

#### 25.—TALAUINUS WESTWOODII. Schönh.

*Amycterus Westwoodii*, Schönh., Gen. et spec. Curcul., vol. VII., p. 63.

"Oblongo-ellipticus niger opacus grisco-squamulosus, rostro supra impresso basi utrinque sulcato, thorace evidenter subremote tuberculato lateribus obtuse rotundato, elytris obsoletius striato-punctatis seriatim inæqualiter tuberculatis apice conjunctim obtuse rotundatis angulo humerali magis prominulo" Schönherr.

Long. 8 lin., lat.  $3\frac{1}{4}$  lin.

Hab. New South Wales.

Schönherr seems to have thought that this species would come under his genus *Euomus*, it however most undoubtedly belongs to the present group. It has a general resemblance to the four previous species. The rostrum is much like that of *T. bucephalus*; the thorax is rather sparsely tuberculated. The elytra are rugose and irregularly tuberculated in rows, the third row having only one tubercle.

The exact habitat of this as well as the last species is unknown to me.

## 26.—TALAUINUS SALEBROSUS.

Oblongo-ellipticus niger parce cinereo-squamosus, thorace tuberculato tuberculis parvis hemisphaericis seta brevi instructis, elytris valde rugosis rude punctatis seriatim irregulariter tuberculatis serie tertia trituberculata apice breviter mucronatis angulis humeralibus productis.

*Mas*: segmento ventrali anali medio valde excavato utrinque bituberculato.

Long. 8 lin., lat. 3 lin.

Hab. New Holland.

Though like the last five species this is altogether a larger and rougher insect. The third series of tubercles from the suture consists in both the specimens before me, of three tubercles on the right elytron and two on the left. There is also visible on one of the specimens an anal appendage, which seems like a thin coriaceous forceps with a membranaceous covering. I have observed something of the same kind in the dissection of other species, and it is very conspicuous in *Psalidura tristis* Boisd.—which insect I place in the genus *Sclerorinus*. The points at the apex of each elytron are close together in this species; in all the previously described species of this section the elytra are more or less deliscent.

The two specimens I have seen (both males) are in the collection of the late Mr. MacLeay, and are labelled "New Holland."

## 27.—TALAUINUS RUGOSUS.

Oblongo-ellipticus niger parce cinereo-squamosus, thorace tuberculato tuberculis parvis hemisphaericis seta brevi instructis, elytris rugosissimis rude punctatis antice obsolete postice subseriatim tuberculatis angulis humeralibus productis.

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

Hab. New Holland.

The specimen from which the description is taken is a female. The sculpture of the elytra is much more rugged and deeply rugose than in any of the previous species, the tubercles not

showing out distinctly, excepting on the apical half. The head and thorax resemble those of the last species. The elytra are not mucronate.

In this instance also I have no indication of the exact habitat.

28.—*TALAUINUS VERRUCOSUS*. Boisd.

*Amycterus verrucosus*. Boisd. Voy. de l'Astrol. II., p. 372.

“Niger oblongus, thorace granulifero tuberculato, elytris undique seriatim verrucoso-tuberculatis.” Boisduval.

Long. 12 lin., lat.  $4\frac{1}{2}$  lin.

Hab. Argyle, New South Wales.

The insect which I find labelled *A. verrucosus*, Boisd., in the MacLeay collection, could never be identified with certainty from the above description. The forehead is slightly and the rostrum much excavated in the middle. The thorax is rather thinly covered with warty looking tubercles. The elytra are sharply mucronated, and are covered with strong pointed tubercles irregularly disposed, the intervals being coarsely punctured and granulate. The male has the anal ventral segment slightly excavated in front, with another and deep excavation behind, and a small tubercle on each side of it. The female has a short deep transverse “sulcus” near the posterior part of the same segment, with a tubercle immediately behind it.

This species indicates an approach to the insects now forming the genus *Amycterus*.

29.—*TALAUINUS TYPICUS*.

Oblongo-ellipticus niger parce squamosus, antennis crassis, capite brevi, thorace tuberculato tuberculis seta brevi instructis, elytris undique subseriatim verrucoso-tuberculatis apice breviter mucronatis.

Long. 9 lin., lat. 3 lin.

Hab. Argyle, New South Wales.

The head is very short, while the rostrum is comparatively

long, and exhibits distinctly the generic character of raised lateral ridges with oblique ridges between. The thorax is more thickly tuberculated than in *T. verrucosus*, while the tubercles on the elytra are not so conical or pointed as in that species. The elytra are mucronate.

The two specimens of this insect in my possession are of the same sex, and I am in doubt as to whether they are male or female, though most probably the former. The anal ventral segment is very slightly excavated, and has two minute tubercles at its apex, with a semicircular emargination between them.

### 30.—*TALAUFINUS ALTERNANS*.

Oblongo-ellipticus niger parce squamosus, capite brevi fronte excavato, thorace tuberculato tuberculis hemisphaericis parvis seta nigra instructis, elytris subrugosis subseriatim tuberculatis (seriebus 1 et 3 tuberculis ovalibus distantibus, ceteris tuberculis confertis hemisphaericis instructis) lateribus rude rugoso-punctatis apice dehiscentibus mucronatis.

Long.  $9\frac{1}{2}$  lin., lat 3 lin.

Hab. Nelligen, New South Wales.

This is not unlike the last described species about the head and rostrum. The tubercles of the thorax are, however, smaller, and furnished with longer "setæ." The elytra have a row of about six elongated tubercles near the suture, then a series of rather irregular small hemispherical ones; then again a row of five or six elongated ones; and then two rows of round and smaller ones. The sides are coarsely punctured and very rugose, and the suture has a row of granules on each side, and is mucronate and slightly dehiscent.

The only specimen I possess—probably a male—is slightly excavated, and emarginated at the apex of the last ventral segment.

### 31.—*TALAUFINUS ROEI*. Schönh.

*Amycterus Roei*, Schönh., Gen. et spec. Cureul., vol. VII. p. 62.

"Oblongo-ellipticus niger opacus fusco-squamulosus, rostro supra modice excavato basi bifoveolato lincis duabus

angustis obliquis albedo-squamosis ornato, thorace minus crebre obtuse tuberculato lateribus valde rotundato-ampliato, elytris rugosis obsolete striato-punctatis inæqualiter tuberculatis maculis irregularibus remotis albidis adpersis callo humerali parum lateraliter prominulo."—Schönherr.

Long. 9 lin., lat. 3 lin.

Hab. King George's Sound.

If I am right in my identification of this species, the rostrum departs a good deal from the type of the genus. The anal segment of the abdomen of the male is but slightly excavated. The scape of the antennæ in both this and the following species is but very slightly thickened at the apex.

### 32.—TALAUINUS SEMISPINOSUS. Schönh.

*Amycterus semispinosus*, Schönh., Gen. et spec. Curcul., vol. VII., p. 59.

"Oblongo-ellipticus ater opacus, rostro latiore modice excavato basi arcuatim impresso, thorace brevior lateribus rotundato-ampliato tuberculis obtusis minus elevatis sat crebre obsito, elytris granulatis dorso tuberculis numerosis subseriatis anterioribus obtusis posterioribus subconicis obsitis apice conjunctim obtuse rotundatis non divaricatis." Schönherr.

Long. 8 lin., lat.  $2\frac{3}{4}$  lin.

Hab. King George's Sound.

This is very like the last species, scarcely differing, except in size and in having the elytra of the male slightly mucronate and dehiscent. Schönherr was evidently only acquainted with the female, the elytra of which are neither mucronate nor dehiscent.

### 33.—TALAUINUS PASTILLARIUS. Schönh.

*Amycterus pastillarius*, Schönh., Gen. et spec. Curcul., vol. VII., p. 60.

"Oblongus niger opacus silaceo-squamulosus, linea frontali et duabus rostri pallido-squamosis, rostro basi utrinque oblique foveolato, thorace latiore evidenter remotius tuberculato lateribus magis rotundato-ampliato, elytris trans-

versim rugosis remote granulatis dorso tuberculis numerosis subseriatis anterioribus obtusis posterioribus subconicis obsitis apice conjunctim obtuse rotundatis vix mucronatis lateribus maculis sparsis e squamulis albidis ornatis." Schönherr.

Hab. King George's Sound.

I have never to my knowledge seen this insect, but as it evidently comes very near both to *T. Roi* and *T. semispinosus* I have no hesitation in placing it in this section.

#### 34.—TALAUINUS ABERRANS.

Oblongo-ellipticus niger dense cinereo- et albedo-squamosus, capite brevi, thorace tuberculato lateribus in angulos subacutos ampliato, elytris rude striato-punctatis subseriatim irregulariter tuberculatis tuberculis acutis apice remote acute et longe mucronatis.

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

Hab. Victoria.

This pretty little species has a variegated aspect, and an almost spiny appearance. Its chief peculiarity is the shape of the thorax, which is bulged out at the sides into an almost acute angle. The elytra are very sharply mucronated, the points being long and some distance apart. The male has the anal segment slightly excavated. I am indebted to Dr. Howitt for my specimens of this insect.

#### 35.—TALAUINUS TUBERCULATUS.

Oblongo-ellipticus niger subnitidus parce squamosus, fronte subexcavata albedo-vittata, thorace subremote tuberculato lateribus valde ampliato, elytris sparsim granulatis tuberculis validis conicis crebre armatis.

*Mas*: segmento ventrali anali valde excavato.

Long.  $8\frac{1}{2}$  lin., lat.  $2\frac{3}{4}$  lin.

Hab. Victoria.

This species in the concavity of the head and strong conical character of the tubercles on the elytra makes a decided ap-

proach to *Amycterus* proper. The thorax is angled in the middle, but not to the same extent as in the last species.

My only specimen is a male.

36.—TALAUINUS MITCHELLII.

Oblongo-ellipticus niger cinereo-squamosus, rostro fronteque albido-vittatis, thorace tuberculato tuberculis hemisphaericis lateraliter remotis, clytris rude punctatis subseriatim irregulariter tuberculatis apice mucronatis, ventre medio cinereo-squamoso.

Long. 9 lin., lat. 3 lin.

Hab. Victoria River, Mitchell's Expedition.

This species is very like *T. typicus*. It is more thickly clothed with cinereous scales, and has the tubercles more thinly disposed on the sides of the thorax. The clytra also are comparatively broader than those of *typicus*. The apex of the last ventral segment is excavated and emarginated in the only specimen I have seen.

37.—TALAUINUS CATENULATUS.

Oblongo-ellipticus niger densius cinereo-squamosus, fronte subexcavata, thorace sparsim tuberculato tuberculis obtusis, clytris rude seriatim punctatis interstitiis 1 et 2 catenulatis, 3 plano, 4 et 5 crebrius tuberculatis apice minute mucronatis.

*Mas*: segmento ultimo ventrali medio excavato, ano utrinque penicillato.

Long. 10 lin., lat.  $3\frac{1}{2}$  lin.

Hab. New Holland.

The head and rostrum of this species resemble those of *T. typicus*, excepting that in the last named insect the transverse suture at the base of the rostrum is more distinct. The thorax is thinly covered with obtuse tubercles, the medial line being distinct. The clytra are coarsely punctured in rather irregular rows, the first and second interstices are composed of oblong rather glossy tubercles, the third interstice is plain, the others



are rather closely tuberculated. The apex of the elytra is minutely mucronate. The male has the anal segment of the abdomen broadly but not deeply excavated, with a small pencil of hairs on each side of the anal cavity.

### 38.—TALAUINUS AMYCTEROIDES.

Oblongo-ellipticus niger cinereo-squamosus, fronte excavata medio carinata, thorace rude remote tuberculato, elytris rugosis profunde punctatis seriatim catenulato-tuberculatis apice conjunctim rotundatis subtuberculatis.

Long. 12 lin., lat.  $4\frac{1}{4}$  lin.

Hab. Victoria River, Mitchell's Expedition.

This species resembles *Amycterus* in the excavated and somewhat carinated forehead and rounded apical margin of the elytra. In other respects it is not unlike the last described species, but differs from it in the more coarsely tuberculated thorax without medial line and in the very rugose deeply punctured sculpture of the elytra. It is also much less thickly clothed with scales than *T. catenulatus*.

### 39.—TALAUINUS SCABROSUS.

Oblongo-ellipticus niger confertim cinereo-squamosus, rostro valde excavato postice utrinque subfoveolato, thorace remote verrucoso, elytris subseriatim punctatis undique remote tuberculatis apice mucronatis.

*Mas*: segmento anali antice leviter postice profunde excavato.

Long. 11 lin., lat. 4 lin.

Hab. Victoria River. Mitchell's Expedition.

This insect is very like *T. verrucosus*, differing from it chiefly in being more thickly clothed with scales, and in being less rugose and much more thinly tuberculated on the elytra. The affinity to the genus *Amycterus* is very evident.

### 40.—TALAUINUS SPHERULATUS.

Oblongo-ellipticus niger nigro-setosus confertim cinereo-squamosus, thorace tuberculato tuberculis parvis hemisphaericis

antice lobato lateribus ampliato, elytris seriatim punctatis granulatis interstitiis remote tuberculatis tuberculis parvis oblongis ad apicem extensis.

Long.  $8\frac{1}{2}$  lin., lat. 3 lin.

Hab. New Holland.

The sculpture of the elytra sufficiently marks this species. They are indistinctly granulated in rows with a puncture to each granule, while the interstices consist of slightly elevated oblong distant tubercles, the second row extending to the apex. The whole is densely clothed with scales and with numerous black "setæ."

### Sect. 3.—*Costati*.

#### 41.—TALAUURINUS EXCAVATUS. Schönh.

*Amycterus excavatus*, Schönh., Gen. et spec. Curcul., vol. VII., p. 54.

"Oblongo-ellipticus niger opacus fusco-squamulosus, rostro medio profunde excavato, thorace confertim tuberculato ante medium modice rotundato-ampliato intra apicem obsolete constricto, elytris transversim rugosis bifariam rude striato-punctatis interstitiis alternis elevatis costatis obsolete seriatim granulatis apice acutius rotundatis marginatis acumine valido instructis." Schönherr.

Long.  $11\frac{1}{2}$  lin., lat. 4 lin.

Hab. New South Wales.

I cannot give the exact habitat of this insect; it is to be found in most collections, though evidently not a common species.

#### 42.—TALAUURINUS RUGIFER. Boisd.

*Amycterus rugifer*, Boisd., Voy. de l'Astrol. II., p. 378.

"Oblongus niger in cavitatibus parce cinereus, capite profunde canaliculato, thorace convexo lateraliter subinflato antice subconstricto punctis elevatis rotundato-perlatis creberrimis ornato, elytris ovatis costatis interstitiis inæqualiter plicato-lacunosus." Boisdual.

Long. 12 lin., lat. 4 lin.

Hab. Swan River.

The insect, which I believe to be the "rugifer" of Boisduval, has the "rostrum profunde canaliculatum," but not the head as mentioned in Dr. Boisduval's description.

43.—TALAUINUS SIMILLIMUS.

Oblongo-ellipticus niger in cavitatibus cinereo-squamosus, rostro valde excavato basi utrinque tuberculato, vertice utrinque nigro-squamoso, thorace confertim tuberculato, elytris bifariam rude foveatis interstitiis costatis.

Long.  $10\frac{1}{2}$  lin., lat.  $3\frac{1}{2}$  lin.

Hab. Merimbula, New South Wales.

This scarcely differs from the last described species. It is less elongated in form, less granose upon the "costæ" of the elytra, and has the third or lateral rib less distinct. It wants also the depression in the medial line of the thorax of *T. rugifer*. The top of the head is marked with two spots of black scales. Another point of difference is, that the tooth on the inside of the anterior thighs, which in *T. rugifer* is near the base, is in this species near the middle.

44.—TALAUINUS FOVEATUS.

Oblongo-ellipticus niger parce cinereo-squamosus, rostro valde excavato basi oblique tuberculato, thorace confertim tuberculato linea dorsali obsolete impresso, elytris profunde bifariam foveatis interstitiis costatis apice breviter mucronatis.

Long. 11 lin., lat. 4 lin.

Hab. N. E. Coast, New Holland.

This species differs from the last two chiefly in having the thorax more coarsely punctured, the elytra more deeply foveate with the apex mucronate, and in having no tooth on the anterior thighs.

My description is taken from a single specimen labelled N. E. Coast, in the late Mr. MacLeay's collection.

## 45.—TALAUURINUS KIRBYI. MacLeay.

*Psalidua Kirbyi*, MacL., App. to King's Voy. p. 444.

“Nigro-fuscus clypeo-subfurcato utrinque canaliculato, thorace confertim noduloso, elytris lineis elevatis interstitiis crenatis lateribusque punctato-striatis.” MacLeay.

Long. 8 lin., lat. 3 lin.

Hab. New Holland.

This insect appears to be quite distinct from the *A. Kirbyi* of Boisduval and Schönherr. It seems unaccountable that no notice should have been taken by either of these authors of the species described by Mr. MacLeay under that name. The rostrum is broad, and has the two internal ridges nearly parallel along its whole length. The thorax is but slightly amplified at the sides, is closely covered with small tubercles, and has an irregular narrow transverse impression near the anterior margin. The elytra are ribbed, with the intervals consisting of two rows of rugose punctures presenting a rather reticulate appearance. The sides are strongly rugose, and the apex slightly mucronate. There can be no doubt of the identity of this insect, as the original specimen named by Mr. MacLeay is in my possession.

## 46.—TALAUURINUS COSTATUS. Boisd.

*Amycterus costatus*, Boisd., Voy de l'Astrol II., p. 384.

“Ater oblongus thorace granifero, elytris tricostatis interstitiis reticulatis costis lævibus.” Boisduval.

Long. 10 lin., lat.  $3\frac{1}{2}$  lin.

Hab. New South Wales.

This species is very like the last. It differs from it in being larger, and of a more intense black; in having the head slightly excavated in front; in having the ridges of the rostrum oblique; in having no transverse impression on the thorax; and in having the elytra more strongly marked between the “costæ,” with their apex more distinctly mucronate.

## 47.—TALAUINUS MASTERSII.

Oblongo-ellipticus niger fusco-squamosus, fronte subplana, thorace confertim noduloso, elytris costatis interstitiis bifariam punctatis subreticulatis apice carina subsuturali.

Long.  $8\frac{1}{2}$  lin., lat. 3 lin.

Hab. South Creek, near Sydney.

I have given this species the name of the finder, Mr. Masters, who took it about two years ago in the neighbourhood of Rope's Creek. It is not very readily distinguishable from the last species. It is of a dull brown colour. The tubercles on the thorax are rather larger than in the last species, while the spaces between the "costæ" of the elytra are much less deeply marked, in this respect more resembling *T. Kirbyi*. The suture is costate, as is the case in the two previous species, but there is in this species a short sub-sutural ridge at the apex also, which is ill developed in *T. costatus*.

## 48.—TALAUINUS IMPRESSICOLLIS.

Oblongo-ellipticus niger parce cinereo-squamosus, rostro excavato carinis obliquis parvis, thorace confertim granulato lateraliter ampliato medio longitudinaliter impresso, elytris costatis interstitiis bifariam punctatis granulatis granulis seta pallida instructis apice dehiscentibus breviter mucronatis.

Long.  $9\frac{1}{2}$  lin., lat 3 lin.

Hab. Victoria.

This seems to be the Victorian representative of *T. costatus*. It differs, however, very considerably from it. The shorter oblique ridges of the rostrum, the more finely tuberculated thorax with amplified sides, and impressed centre of medial line, the more strongly developed lateral "costæ" of the elytra, and more regular disposition of the small setigerous granules on the line of punctures, all furnish points of difference of easy recognition.

## 49.—TALAUINUS LACUNOSUS.

Oblongo-ellipticus niger parce cinereo-squamosus, thorace tuberculato, elytris costatis interstitiis latis foveatis foveis irregularibus subquadratis.

Long. 10 lin., lat.  $3\frac{1}{2}$  lin.

Hab. Manning River.

I have never seen but one specimen of this well marked species. The tubercles on the thorax are larger than in the preceding species and not so crowded. The "costæ" of the elytra are a little irregular, seeming as if they had been pushed out of their places by the large quadrangular foveæ on each side of them.

## 50.—TALAUINUS SCABER.

Oblongo-ellipticus niger parce cinereo-squamosus, thorace valde rugoso-tuberculato, elytris valde rugosis costatis interstitiis irregulariter foveatis apice mucronatis.

Lon. 11 lin., lat.  $4\frac{1}{2}$  lin.

Hab. Swan River.

The thorax has the medial line clear, the rest of the surface being covered with tortuous looking tubercles. The elytra have much of the sculpture of the last species, but are rougher and more irregular.

## 51.—TALAUINUS ALTERNATUS.

Oblongo-ellipticus niger parce squamosus, thorace confertim tuberculato, elytris costatis interstitiis latis bifariam punctatis interstitio primo sex tuberculis distantibus seriatim instructo secundo 4-tuberculato apice breviter mucronatis.

Long. 10 lin., lat.  $3\frac{3}{4}$  lin.

Hab. New Holland.

The alternation of "costæ" and tubercles on the elytra is the most conspicuous character in this insect. There are six distant shining hemispherical tubercles between the rows of

punctures in the broad interval between the suture and the first rib, and there are four of the same character in the second interval. The rostrum is strictly typical of the genus.

52.—TALAUINUS RUGICOLLIS.

Oblongo-ellipticus niger cinereo-squamosus fronte subexcavata, thorace rugoso-tuberculato, elytris costatis interstitiis rude obsolete bifariam punctatis interstitiis 1 et 2 tuberculis nitidis distantibus instructis.

Long. 10 lin., lat.  $3\frac{3}{4}$  lin.

Hab. Singleton.

This species is easy of recognition. The head is somewhat scooped out at the base of the rostrum. The thorax is covered with large rugose tubercles. The elytra are rather rugose and have a "costa" on each side near the suture—continuous near the base, but becoming tubercular near the apex: on each side of the "costa" there is a line of two or three distant glossy tubercles. The elytra are also slightly mucronate.

Sect. 4—*Foveati*.

53.—TALAUINUS ANGUSTATUS.

Elongatus niger vix squamosus, fronte rugosa, thorace tuberculis subplanis instructo, elytris angustis subcostatis crebre irregulariter foveatis.

Long. 7 lin., lat. 2 lin.

Hab. King George's Sound.

This insect is of a deep black, The rostrum is much like that of a *Psolidura*. The forehead is wrinkled. The thorax, which is broadly lobed in front, is very little wider than the head, and is covered with flattish hemispherical tubercles with a bare spot about the middle. The elytra are not wider than the thorax, and are rather convex and flat-sided. Their sculpture consists of rows of irregular foveæ (each with a double row of coarse punctures), separated by slightly elevated irregular ridges,

the whole having a reticulated appearance. The male is not very largely excavated on the anal segment; while the female is considerably larger, and has the elytra sharply mucronated with the points a little apart.

## 54.—TALAUINUS DAMELII.

*Elongatus niger vix squamosus, rostro excavato, thorace angusto rugoso-tuberculato, elytris rude foveatis rugoso-tuberculatis.*

Long. 5 lin., lat.  $1\frac{3}{4}$  lin.

Hab. King George's Sound.

I name this species after Mr. Damel, who made a fine collection of the insects of King George's Sound for me a few years ago. The female is much larger than the male; the medial dorsal line of the thorax is visible in both.

## 55.—TALAUINUS RUGICEPS.

*Oblongo-ellipticus niger vix squamosus, rostro lato plano valde rugoso basi transversim semicirculariter canaliculato, fronte rugosa, thorace tuberculato tuberculis hemisphæricis setigeris lateribus medio ampliato, elytris rugoso-foveatis interstitiis subelevatis.*

Long. 10 lin., lat.  $3\frac{1}{2}$  lin.

Hab. King George's Sound.

This has a general resemblance to the last two insects, but in many respects it is widely different. Indeed the broad flat rugose head and rostrum are so peculiar as to induce me to think that it should form a distinct genus. The short scape of the antennæ seems to indicate an approach to the *Euomideæ*.

Sect. 5.—*Echinati*.

## 56. TALAUINUS HYSTRICOSUS. Schönh.

*Amycterus hystricosus*, Schönh., Gen. et spec. Curcul., vol. VII., p. 69.

“*Oblongo-ellipticus ater opacus, antennis brevibus, rostro rugoso-punctato leviter impresso basi bifoveolato, thorace*



brevi ante medium utrinque rotundato intra apicem transversim impresso supra subremote tuberculato, elytris obsolete striato-punctatis singulo trifariam tuberculato tuberculis minoribus subconicis lateribus ventreque albo-maculatis." Schönherr.

Long. 5 lin., lat. 2 lin.

Hab. King George's Sound.

My specimens are all from King George's Sound, but Schönherr states that his, or rather Mr. Hope's, were received from Swan River. There is a strong resemblance in this insect, and indeed in all of this section, to the smaller Western Australian species of *Acantholophus*.

57.—TALAUINUS DUMOSUS.

Ovatus convexus niger, rostro medio canaliculato canali postice furcato, capite granulato, thorace tuberculato tuberculis parvis subconicis setigeris medio lateribusque leviter vittato, elytris seriatim rude rugoso-punctatis interstitiis seriatim tuberculatis tuberculis parvis acutis setigeris apice subreflexis subdehiscens lateribus albo-maculatis.

Long. 4 lin., lat. 2 lin.

Hab. King George's Sound.

The head and rostrum are broad and flat, with a central longitudinal groove, which is forked behind. The thorax is finely tuberculated, and is faintly marked with dorsal and lateral "vitte" of white scales. The elytra, which are very convex and rather pointed and recurved at the apex, have each five elevated rows of minute sharp setigerous tubercles, the intervals being roughly punctured. The male has the anal segment of the abdomen considerably excavated.

58.—TALAUINUS SPINOSUS.

Oblongo-ellipticus niger dense cinereo- et albidosquamosus, thorace crebre tuberculato lateribus albidis, elytris rude seriatim rugoso-punctatis interstitiis elevatis tuberculatis

tuberculis parvis acutis postice majoribus lateribus albo-maculatis apice mucronatis.

Long. 5 lin., lat. 2 lin.

Hab. King George's Sound.

This species is like *Acantholophus bivittatus*. It is much variegated with white, and the elytra, particularly in the female, are much pointed towards the apex; the tubercles do not approach the apex in either sex. The male has the anal segment only slightly excavated.

59.—TALAUINUS INCANESCENS.

Oblongo-ellipticus niger dense cinereo- et albedo-squamosus, thorace trivittato tuberculato medio transversim leviter impresso, elytris prave punctatis granulatis tuberculatis albido-vittatis et maculatis.

Long. 7 lin., lat.  $2\frac{3}{4}$  lin.

Hab. King George's Sound.

The rostrum is very broad, having, excepting the oblique ridges, very little of the generic character. The thorax is broad and amplified in the middle. The elytra are covered with small acute tubercles disposed without much regularity.

60.—TALAUINUS MANGLESII. Schönh.

*Amycterus Manglesii*, Schönh., Gen. et spec. Curcul., vol. VII., p. 61.

“Oblongo-ellipticus niger squamulis umbrinis albidisque variegatus, capite granulato, rostro triangulariter impresso, thorace utrinque parum rotundato subremote tuberculato albido-trivittato, elytris transversim rugosis tenuè punctato-striatis interstitiis undique tuberculis minoribus subseriatim obsitis apice conjunctim obtuse rotundatis.” Schönherr.

Long. 8 lin., lat.  $3\frac{1}{2}$  lin.

Hab. King George's Sound.

This insect resembles the last, and that is my chief reason for placing it here. The rostrum is broad and excavated in

front, but it has very little of the generic character. Schönherr suggests that this species may be identical with the *Amycterus scaber* of Boisduval, but certainly the description given by that author could never have led him to such a conclusion.

### Genus SCLERORINUS.

*Antennæ* subgraciles.

*Oculi* subovati.

*Rostrum* crassissimum medio carinatum, gulâ subcrassa.

*Caput* subplanum medio plerumque carinatum.

*Thorax* plerumque latus planus pone oculos lobatus.

*Corpus* subrigidum segmento ultimo abdominali in masculo leviter excavatum.

*Mandibulæ, pedes, &c.*, ut in *Psalidura*.

We have in this genus more variety of colouring than in any of the rest of the sub-family. The greater number of the species, and all the more typical ones, are inhabitants of the great basin of the interior which has its outlet in the colony of South Australia. Hence, we find that a majority of the species are marked as South Australian.

The main feature of the genus is the broad flat rostrum, with a central ridge extending in most cases to the vertex. We have still in this genus the excavated anal ventral segment of the male, but in most instances the excavation is very small. The approach from the last genus to this, is to be found among the *Talaurini tuberculati*, and curiously enough it is in the same section of *Talaurinus* that we find the nearest approach to the next genus *Amycterus*.

#### 1.—SCLERORINUS EXILIS.

Oblongo-ellipticus niger dense cinereo-squamosus, rostro medio leviter carinato utrinque albido-squamoso, thorace sparsim tuberculato tuberculis nitidis hemisphæricis nigro-setigeris antice lobato transversim impresso dorso lateribusque albido-

vittatis, elytris rude punctatis granulatis tuberculatis tuberculis conicis rufis setigeris subseriatis distantibus sutura lateribusque albido-vittatis, corpore subtus medio flavo-squamoso lateraliter albido.

Long. 8 lin., lat. 3 lin.

Hab. Lower Murrumbidgee.

The dimensions given above apply to the female, the male is in every way smaller. I have given the species the name of *exilis*, as all the specimens which I captured last winter on the Murrumbidgee, appeared to have their elytra, and indeed their whole body of a papery texture, which readily became crushed on pressure, and gave the appearance of perfect emptiness to the body. The texture however, throughout, is less hard in this genus than in the others of the sub-family. I found my specimens under, or in the chinks of, small dry pieces of salt bush, (*Atriplex*) on the plains near Burrabogie.

## 2.—SCLERORINUS ANGUSTUS.

Oblongo-ellipticus niger dense cinereo-squamosus, fronte subexcavata, thorace sparsim tuberculato tuberculis parvis subconicis flavo-setigeris dorso lateribusque subvittatis, elytris rude punctatis granulatis tuberculatis tuberculis conicis rufis setigeris subseriatis distantibus lateribus albidis.

Long.  $7\frac{1}{2}$  lin., lat.  $2\frac{1}{2}$  lin.

Hab. Lower Murrumbidgee.

This species differs from the last in being more thickly covered with cinereous scales, and in having less white on it. The rostrum also is less distinctly carinated, and the forehead on each side is a little excavated. The "setæ" on the thorax are pale yellow, whereas in the last species they were black.

My only specimen seems to be a male, it is considerably narrower than the male of *S. exilis*.

## 3.—SCLERORINUS RIVERINE.

Oblongo-ellipticus niger confertissime cinereo-squamosus, rostro fronteque linea lævi carinatis, thorace tuberculato tuberculis

parvis distantibus antice transversim valde impresso, elytris seriatim rude punctatis interstitiis tuberculatis tuberculis parvis acutis setigeris alternis tuberculis distantibus lateribus albido-maculatis.

Long. 7 lin., lat.  $2\frac{3}{4}$  lin.

Hab. Lower Murrumbidgee.

The species is very densely covered with cinereous scales, inclining to white on the sides. The head has a smooth central line extending from the apex of the rostrum to the vertex. The thorax is thinly covered with setigerous nodules, a space on the medial line and on each side being nearly free from them, and has a deep transverse impression near the anterior margin. The elytra are coarsely punctured in rows with the interstices tuberculated, the first and third interstices consisting of only four or five distant tubercles of somewhat larger size than the others.

#### 4.—SCLERORINUS ALTERNUS.

Oblongo-ellipticus subangustus niger confertim cinereo-squamosus, rostro fronteque linea lævi carinatis, thorace tuberculato tuberculis parvis distantibus antice subleviter transversim impresso, elytris seriatim rude punctatis interstitiis tuberculatis tuberculis parvis acutis setigeris alternis distanter tuberculatis apice breviter mucronatis.

Long.  $6\frac{1}{2}$  lin., lat. 2 lin.

Hab. Wagga Wagga.

This insect is narrower than the last—is not quite so thickly covered with scales—and has the apex of the elytra slightly mucronate. In other respects the two species are almost identical.

#### 5.—SCLERORINUS ADELAIDE.

Oblongo-ellipticus niger confertim cinereo-squamosus, rostro fronteque medio carinatis, vertice utrinque fusco-squamoso, thorace subplano crebre tuberculato tuberculis hemisphæricis setigeris, elytris subplanis rude seriatim punctatis interstitio primo tri- vel quadri-tuberculato secundo seriatim

tuberculato tertio plano reliquis crebre seriatim tuberculatis apice subdeliscentibus obtuse mucronatis.

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

Hab. South Australia.

This is a broad and rather flat insect; the head and rostrum are strictly typical of the genus, on the summit of the former there are two patches of brown scales, all the rest of the upper surface of the body being thickly covered with cinereous scales.

The thorax is broad, rather flat, slightly lobed above and considerably behind the eyes, slightly broader in the middle than in front, with a slight transverse impression near the apex, and rather thickly covered all over with small oval slightly flattened tubercles, each furnished with a decumbent black seta. The elytra are also rather flat, are scarcely broader than the thorax, and terminate in a slightly separated obtuse point.

The sculpture consists of numerous rows of large punctures with the interstices of various kinds, thus the suture has on each side a row of fine granules furcated and tuberculated at the scutellum; the first interstice is composed of three or four small distant conical tubercles, the second of conical tubercles placed rather closely, the third is entirely without tubercles, while the next two are very closely tuberculated. On the suture and the fourth interstice, the scales are nearly white. The abdomen beneath, is marked with thin patches of yellow scales in the middle, and whitish patches on the side of each ventral segment. The legs are thinly covered with white scales and black setæ.

I have been thus particular in my description of this species, because many South Australian insects approach it nearly. And I shall mostly characterize them by the differences which they may present to this, the first described species of the group.

#### 6.—SCLERORINUS DIVARICATUS.

Oblongo-ellipticus niger confertim cinereo-squamosus, rostro medio carinato thorace crebre tuberculato tuberculis nigrosetigeris antice ovatis, elytris rude seriatim punctatis granulatis interstitiis seriatim tuberculatis interstitio tertio unituberculato apice valde deliscentibus.

Long. 10 lin., lat.  $4\frac{1}{4}$  lin.

Hab. South Australia.

This species comes very near the last. It differs from it in being less flat, in not having the central ridge of the rostrum continued to the top of the head, in having the thorax more rounded at the sides, with the tubercles near the front more elongate, and in having the elytra more dehiscent with the third interstice from the suture furnished with one tubercle. The scales also are of a paler tint.

#### 7.—SCLERORINUS VITTATUS.

Oblongo-ellipticus niger confertim cinereo-squamosus, rostro fronteque medio carinatis, thorace subrugoso-tuberculato tuberculis parvis setigeris antice elongatis vittato vittis albido-squamosis, elytris rude seriatim punctatis interstitiis 1 bituberculato 2 seriatim subremote tuberculato 3 laevi 4 et 5 crebre tuberculatis late albido-vittatis apice leviter dehiscentibus.

Long. 9 lin., lat.  $3\frac{1}{2}$  lin.

Hab. South Australia.

This species differs from *S. Adelaide* in the lengthened rugose tubercles and distinct "vittæ" on the thorax, and in the smaller and less glossy tubercles on the elytra. The first interstice also from the suture, has only two tubercles. The whole sculpture of the elytra is more regular too in this insect.

#### 8.—SCLERORINUS NODULOSUS.

Oblongo-ellipticus niger confertim cinereo-squamosus, rostro fronteque medio carinatis, thorace tuberculato tuberculis parvis setigeris ovatis, elytris seriatim rude punctatis interstitio 1 5-tuberculato 3 1-vel 2-tuberculato reliquis seriatim sat crebre tuberculatis tuberculis omnibus conicis nitidis setigeris apice breviter dehiscentibus.

Long. 8 lin., lat. 3 lin.

Hab. South Australia.

This species differs chiefly from *S. Adelaidæ* in the shape of the tubercles of the thorax, and from *S. divaricatus* in the prolongation of the medial ridge of the rostrum to the vertex, and in having the apex of the elytra less dehiscent and not mucronate. It is also much smaller, and more of a cinnamon colour than the last named insect.

9.—*SCLERORINUS RUGICOLLIS*.

Oblongo-ellipticus niger fusco-squamosus, thorace rugoso-tuberculato tuberculis antice valde elongatis, elytris seriatim rude punctatis interstitiis 1 et 2 distanter 4 et 5 crebre seriatim tuberculatis tuberculis squamulosis subconicis setigeris apice dehiscentibus acutis.

Long. 9 lin., lat. 4 lin.

Hab. South Australia,

This species is very like *S. vittatus*, it differs from it in not having white "vittæ," in not having the medial line of the thorax, in having the tubercles of the thorax more rugose and elongate, and in having the apex of the elytra more acutely dehiscent.

10.—*SCLERORINUS SUBLINEATUS*. Germ.

*Amycterus sublineatus*, Germ., Linn. Entom. vol. III., p. 217.

"Oblongo-ellipticus niger fusco-squamosus, capite thorace elytrisque griseo-sublineatis, thorace tuberculato lateribus modice rotundato, elytris seriatim granulatis interstitiis tuberculatis tuberculis disci raris obtusis lateralibus densis acutis, abdomine subtus vitta maculari fusca." Germar.

Long. 8 lin., lat.  $2\frac{3}{4}$  lin.

Hab. South Australia.

The tubercles on the elytra are more numerous, and disposed with less regularity in this species than in any of the preceding.

11.—*SCLERORINUS CONSPERSUS*.

Oblongo-ellipticus niger fusco-squamosus, rostro fronteque medio carinatis utrinque albido-vittatis, thorace subvittato



tuberculato tuberculis parvis antice subovatis, elytris seriatim rude rugoso-punctatis interstitiis 1 et 2 remote 3 et 4 crebre seriatim tuberculatis tuberculis subconicis setigeris plerumque antice squamulis albidis conspersis.

Long.  $7\frac{3}{4}$  lin., lat. 3 lin.

Hab. South Australia.

This species is not unlike *S. sublineatus*, it is however broader, darker in colour, less rough in the sculpture of the elytra, and not so regularly vittate. The "vittæ" on the thorax in the present insect are not continuous, while on the elytra, the lateral vitta is not continued to the apex, and some of the dorsal tubercles appear as if their tops and fronts had been dusted over with white scales.

The tubercles generally are little prominent, and covered with scales. My only specimen is a male.

#### 12.—SCLERORINUS CONFUSUS.

Oblongo-ellipticus niger parce squamosus, thorace rugoso-tuberculato, elytris rude seriatim rugoso-punctatis granulatis interstitiis remote tuberculatis tuberculis parvis subelongatis subdepressis pallide setigeris apice dehiscentibus.

Long. 9 lin., lat.  $3\frac{1}{2}$  lin.

Hab. South Australia.

The want of the usual coloured scales and the depressed semi-obliterated kind of sculpture, sufficiently mark out this insect from any hitherto mentioned.

#### 13.—SCLERORINUS WATERHOUSEI.

Oblongo-ellipticus niger cinereo-squamosus, thorace crebre tuberculato tuberculis nitidis ovatis, elytris seriatim granulatis rude punctatis interstitio 1<sup>mo</sup> 2- vel 3 tuberculato 2<sup>ndo</sup> seriatim remote 4<sup>to</sup> et 5<sup>nto</sup> crebrius tuberculatis tuberculis omnibus validis conicis nitidis setigeris.

Long. 11 lin., lat.  $4\frac{1}{2}$  lin.

Hab. South Australia.

This fine species which I received from Mr. Waterhouse, of Adelaide, differs from *S. Adelaide*, and all the species hitherto described, chiefly in the size of the strong obtusely conical glossy tubercles on the elytra. It differs besides in having the tubercles on the thorax ovate and large. The punctures on the elytra also are each accompanied by a more prominent granule than in the above-named species. The apex of the elytra is not mucronate, and scarcely dehiscent. The scales are not very thick on the upper surface, and, on the under surface, are very thin.

#### 14.—SCLERORINUS INTERIORIS.

Oblongo-ellipticus latus niger cinereo-squamosus, thorace crebre tuberculato tuberculis nitidis ovatis, elytris seriatim granulatis rude punctatis interstitio 1<sup>mo</sup> quadrituberculato 2<sup>ndo</sup> remote seriatim tuberculato 3<sup>tio</sup> unituberculato 4<sup>to</sup> et 5<sup>nto</sup> crebre seriatim tuberculatis tuberculis omnibus validis conicis nitidis setigeris apice dehiscentibus obtuse submucronatis.

Long. 10 lin., lat.  $4\frac{1}{2}$  lin.

Hab. Stewart's Land, Central Australia.

This species very much resembles the last. It is, however, broader and flatter, and differs in having a tubercle on the third interstice of the elytra, and in having the apex more dehiscent and obtusely pointed. The scales also on the elytra seem thicker, though they do not touch the tubercles, which are very black and brilliant.

I am indebted to Dr. Howitt, of Melbourne, for a specimen of this very fine insect.

#### 15.—SCLERORINUS STEWARTII.

Oblongo-ellipticus niger cinereo-squamosus, thorace subremote tuberculato tuberculis parvis hemisphæricis nitidis setigeris lateribus medio ampliatis, elytris albido-vittatis seriatim punctatis granulatis interstitiis remote tuberculatis tuberculis parvis subelongatis nitidis setigeris setis pallidis apice rotundatis crenatis.

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

Hab. Stewart's Land, Central Australia.

For this species also I am indebted to Dr. Howitt, of Melbourne. The tubercles on the thorax and elytra are smaller and more spherical than in the last species; the former, also, is more abruptly amplified in the middle. The apex of the elytra is rounded and crenulate.

#### 16.—SCLERORINUS ANGASII.

Oblongo-ellipticus niger confertissime cinnamomeo-squamosus, fronte subplana, thorace tuberculato tuberculis subdepressis antice transversim subimpresso, elytris rude punctatis seriatim granulatis interstitiis subelevatis remote tuberculatis tuberculis parvis obtusis squamosis apice deliscentibus subacuminatis.

Long.  $8\frac{1}{2}$  lin., lat.  $3\frac{3}{4}$  lin.

Hab. South Australia.

This species is very densely covered with cinnamon coloured scales, with "vittæ" on the thorax and elytra of a lighter hue. The forehead is not carinated. The interstices on the elytra, between the rows of punctures, are remotely tuberculated,—the first interstice having only two tubercles, the second a continuous though distant row, the third none, and the fourth and fifth, smaller, but more thickly placed tubercles. The apex of the elytra is deliscent, and somewhat obtusely acuminated.

I have named the species after G. French Angas, Esq., from whom I received this among many other of the insects of South Australia.

#### 17.—SCLERORINUS FUSCUS.

Oblongo-ellipticus niger fusco-squamosus, thorace subrugoso-tuberculato tuberculis elongatis parvis, elytris seriatim punctatis granulatis interstitio 1<sup>mo</sup> remote tuberculato 2<sup>ndo</sup> subremote 3<sup>mo</sup> bituberculato ceteris crebre tuberculatis tuberculis omnibus parvis squamosis apicè leviter deliscentibus.

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

Hab. South Australia.

This species resembles *S. vittatus* and *S. rugicollis*. It differs from the first in various ways, but it is extremely like the last. The sculpture of the elytra is, however, more regular in the present insect, while the third interstice, which is without any tubercles in *S. rugicollis*, is in this species furnished with one or two. The whole insect, also, is of a darker hue.

#### 18.—SCLERORINUS ASPER.

Oblongo-ellipticus niger fusco-squamosus, thorace subobliterate rugoso-tuberculato antice transversim leviter impresso lateribus ampliato, elytris rugosis granulatis punctatis undique subremote tuberculatis tuberculis parvis subelongatis postice subconicis apice dehiscentibus.

Long. 8 lin., lat. 3 lin.

Hab. South Australia.

The sculpture of the elytra of this species is very confused, the granules and tubercles being placed with little apparent regard to order, in this respect resembling *S. sublineatus*. On the thorax the tubercles have a worn down aspect.

#### 19.—SCLERORINUS SORDIDUS.

Oblongo-ellipticus niger nigro-setosus cinereo-squamosus, thorace subtiliter rugoso-tuberculato, elytris seriatim crebre granulato-punctatis sutura postice interstitiisque tuberculatis interstitio 1 bituberculato 2 seriatim remote 3 unituberculato 4 antice crebrius postice subremote tuberculato tuberculis omnibus parvis subconicis setigeris apice dehiscentibus.

Long. 8 lin., lat. 3 lin.

Hab. South Australia.

This insect is so like *S. asper* that I should have probably put it down as one of the sexes of that species were it not that I have both male and female of it. The sculpture of the elytra is more regular, the punctures being closer, and the tubercles more

regularly disposed and in a somewhat different order. The tubercles in both species are nearly, if not quite, covered with scales.

20.—*SCLERORINUS ACUMINATUS*.

Oblongo-ellipticus niger parce squamosus, thorace longitudinaliter rugoso lateribus tuberculato antice transversim impresso medio lateribus transversim impresso, elytris subseriatim punctatis granulatis interstitiis subobliterate remote tuberculatis tuberculis antice elongatis postice subelevatis versus apicem angustatis apice dehiscentibus obtuse mucronatis.

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

Hab. South Australia.

This species is black, and the sculpture throughout has an obliterated appearance. The deep transverse impression on the sides of the thorax constitutes, with the pointed shape of the elytra, its most distinctive feature.

21.—*SCLERORINUS OBLITERATUS*.

Oblongo-ellipticus niger fusco-squamosus, thorace obliterate rugoso-tuberculato, elytris subobliterate punctatis granulatis subremote tuberculatis apice dehiscentibus obtuse mucronatis recurvis.

Long. 8 lin., lat.  $3\frac{1}{2}$  lin.

Hab. Victoria.

The sculpture in this species is more obliterated than in the last, whilst the thorax is without transverse impressions, and the apex of the elytra is obtusely pointed, dehiscent and recurved.

22.—*SCLERORINUS MUCRONATUS*.

Oblongo-ellipticus niger parce fusco-squamosus, rostro medio carinato basi utrinque profunde impresso, thorace crebre tuberculato lateribus ampliato, elytris seriatim rude punctatis granulatis interstitiis 1, 2, et 3 remote tuberculatis tuberculis validis apice acuto remote mucronatis.

Long. 8 lin., lat. 3 lin.

Hab. Victoria.

The rostrum of this species departs a little from the typical character. The thorax is considerably amplified in the middle, and is covered with hemispherical setigerous tubercles. The elytra are roughly punctured and granulated, with the first three interstices formed of strong somewhat distant tubercles, while towards the sides the tubercles are placed closely together. The humeral angle is rather prominent, and the elytra have each an acute process at the apex a little distance from the suture.

### 23.—SCLERORINUS TUBERCULOSUS.

Oblongo-ellipticus niger parce fusco-squamosus, rostro medio carinato basi utrinque impresso, thorace crebre tuberculato lateribus valde ampliato, elytris granulatis subseriatim rugoso-punctatis interstitiis 1 et 2 remote tuberculatis tuberculis validis conicis.

Long. 7 lin., lat.  $2\frac{1}{2}$  lin.

Hab. Victoria.

This species somewhat resembles the last, but differs in having the thorax more bulged out at the sides, in having only two rows of strong tubercles on the disc of each elytron, and in being without the sharp points at the apex of the elytra.

### 24.—SCLERORINUS HORRIDUS.

Oblongo-ellipticus niger confertim cinereo-squamosus, thorace subremote tuberculato tuberculis parvis rotandis nitidis antice transversim impresso lateribus ampliato linea dorsali impresso, elytris profunde rugosis punctatis crebre subseriatim tuberculatis tuberculis acutis squamosis.

Long. 7 lin., lat. 3 lin.

Hab. South Australia.

The transverse suture at the base of the rostrum is very deep on the medial ridge. The scales on the forehead on each side of the medial line are of a dark brown hue. The elytra are very

rough, and covered with sharp tubercles placed in rather irregular rows. There are patches of brown scales on the elytra which give them a mottled appearance.

25.—*SCLERORINUS HOWITTI*.

Oblongo-ellipticus niger fusco-squamosus, thorace rugoso intricato subobliterate tuberculato linea dorsali subcinerea, elytris subobliterate punctatis seriatim remote tuberculatis tuberculis parvis subdepressis subelongatis apice dehiscentibus lateribus cinereo-squamosis.

Long.  $7\frac{1}{2}$  lin., lat.  $2\frac{3}{4}$  lin.

Hab. Victoria.

This species comes nearest to *S. obliteratus*, also a Victorian insect. It differs from it in being more densely clothed with scales, in having the thorax more rugose and deeply sculptured, and in having the medial line distinct. The elytra differ in having the tubercles distant, and not in low continuous lines, as is the case on the basal portion of the elytra in *S. obliteratus*. The apex, also, is not prolonged and recurved, as in the last named insect.

26.—*SCLERORINUS BUBALUS*. Oliv.

*Curculio Bubalus*, Oliv., Ent. V., p. 399.

*Amycterus Bubalus*, Schönh., Gen. et spec., Curcul., vol. II., p. 474.

“Oblongo-ellipticus niger opacus sparce cinereo-squamulosus, rostro supra impresso medio linea elevata notato, thorace obsoletius subdisperse tuberculato lateribus acute rotundato, elytris seriatim inæqualiter tuberculatis apice bifurcatis.”  
Schönherr.

Long. 6 lin., lat.  $2\frac{1}{2}$  lin.

Hab. Van Diemen's Land.

This insect was described by Olivier, in the year 1807, as an inhabitant of the East Indies. The female differs from the male in having the tubercles on the thorax denser and larger, and in not having the elytra dehiscent at the apex.

## 27.—SCLERORINUS SUBCOSTATUS.

Oblongo-ellipticus niger parce fusco-squamosus, rostro medio obsolete carinato, thorace rugoso obsolete tuberculato lateribus ampliato, elytris rude seriatim punctatis interstitiis alternis antice costatis postice tuberculatis.

*Femina*: elytris apice breviter mucronatis.

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

Hab. Wingelo.

The medial ridge of the rostrum is indistinct. The thorax is rugose, with small, roundish, ill-defined tubercles, and is considerably bulged out at the sides. The elytra are coarsely punctured in rows, with the first interstice very slightly raised, and with one or two small tubercles on it; the third interstice is also very slightly raised, while the second and fourth form each an elevated ridge from the base to near the apex, when they become a string of tubercles. The apex of the elytra in the female is slightly mucronate.

I found this insect last spring at Wingelo, on the road to Goulburn. It seems to be abundant in that locality.

## 28.—SCLERORINUS DILATICOLLIS.

Oblongo-ellipticus niger parce cinereo-squamosus, capite brevi, thorace crebre tuberculato lateribus valde subacute ampliato postice medio impresso, elytris seriatim granulatis interstitiis 1 et 3 planis 2 remote tuberculato tuberculis validis conicis nitidis 4 et 5 crebrius tuberculatis apice brevissime mucronatis dehiscentibus.

Long. 8. lin., lat. 3. lin.

Hab. Victoria.

This species is very distinct in many respects from all the others. I am indebted to Dr. Howitt for the only specimen I possess.

## 29.—SCLERORINUS LONGUS.

Oblongo-ellipticus niger confertissime cinereo-squamosus, thorace remote tuberculato tuberculis parvis subhemisphaericis



subnitidis seta pallida instructis antice transversim impresso lateribus ampliato, elytris subangustis seriatim rude punctatis interstitiis remote tuberculatis, ventre medio dense flavo-hirto.

Long. 10 lin., lat. 3. lin.

Hab. South Australia.

This is the most elongate species of the genus. There are two specimens, a male and a female, in the late Mr. MacLeay's collection, labelled "Adelaide, South Australia." I have never seen it in any other collection.

### 30.—SCLERORINUS ELONGATUS. Germ.

*Amycterus elongatus*, Schönh., Gen. et Spec. Curcul., vol. VII., p. 58.

"Oblongus ater opacus vix squamosus, rostro bisulcato, thorace oblongo lateribus rotundato-ampliato posterius augustiore supra parum convexo minus crebre valide obtuse tuberculato, elytris transversim rugosis remote granulatis dorso tuberculis numerosis subseriatis anterie obtusis posterius subconicis obsitis apice rotundatis divaricatis brevissime mucronatis." Schönherr.

Long. 8 lin., lat.  $2\frac{1}{2}$  lin.

Hab. South Australia.

This species may be at once distinguished by its narrow form and black colour. I give South Australia as its habitat on the authority of Germar (Linn. Ent., 1848), but I have some doubt as to the two specimens of the insect which I possess having come from South Australia.

### 31.—SCLERORINUS TRISTIS. Boisd.

*Amycterus tristis*, Boisd., Voy. de l'Astrol., II. p. 388.

"Oblongo-ellipticus parallelus niger opacus parce cinereo-squamulosus, rostro supra impresso medio linea elevata notato, capite albido obsolete trilineato, thorace subdisperse tuberculato lateribus acute rotundato, elytris subinaequaliter tuberculatis." Boisdual.

Long.  $6\frac{1}{4}$  lin., lat.  $2\frac{1}{2}$  lin.

Hab. Van Diemen's Land.

Dr. Boisduval says that this species is very like *S. Bubalus*, and that the head and thorax are absolutely identical. If so, the species which I find labelled *S. tristis* in the late Mr. MacLeay's collection cannot be that insect, as the thorax is rugose with longitudinal elevations, and the whole insect is larger and more densely squamose than *S. Bubalus*.

### 32.—SCLERORINUS PARVULUS.

Oblongo-ellipticus niger cinereo-squamosus obsolete vittatus, rostro medio leviter carinato, thorace crebre tuberculato tuberculis parvis hemisphaericis lateribus ampliatis, elytris rude subseriatim rugoso-punctatis interstitiis alternis subelevatis omnibus remote tuberculatis tuberculis parvis lateribus ampliatis apice breviter mucronatis.

Long. 6 lin., lat.  $2\frac{3}{4}$  lin.

Hab. South Australia.

Both the thorax and elytra are considerably widened in the middle. The medial ridge of the rostrum is not very prominent. The whole insect is thickly clothed with yellow and white scales.

### 33.—SCLERORINUS APICALIS.

Oblongo-ellipticus niger parce squamosus, thorace crebre tuberculato lateribus ampliatis, elytris profunde transversim rugosis rude punctatis seriebus duabus tuberculorum utrinque remote instructis apice mucronatis mucronibus validis distantibus.

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

Hab. New South Wales.

I believe this to be a New South Wales species. It is sufficiently marked by its strongly mucronated and deeply rugose elytra, with only two rows of remote tubercles on each.

34.—*SCLERORINUS SQUALIDUS*.

Oblongo-ellipticus niger cinereo-squamosus, rostro medio leviter carinato, fronte linea media laevi, thorace subrugoso-tuberculato tuberculis subdepressis subhemisphaericis setigeris setis flavis lateribus antice ampliatis, elytris seriatim rude punctatis granulatis interstitiis seriatim tuberculatis alternis elevatioribus tuberculis omnibus parvis setigeris setis flavis basi conjunctim submarginatis apice dehiscens.

*Mas*: Ventre medio fulvo-hirto, segmento anali medio leviter excavato.

*Femina*: elytris latioribus tuberculis omnibus minutioribus, ventre leviter fulvo-hirto.

Long. 8 lin., lat. 3 lin.

Hab. Lambing Flat.

The male and female differ much in appearance in this species, the former being rougher and much less regularly sculptured than the latter. The rostrum is slightly but broadly carinated in the middle. The forehead has a smooth line in the centre, while the top of the head on each side is covered with light coloured scales. The thorax is broad, slightly rugose, covered with depressed hemispherical tubercles, each having a pale yellow seta, and has the sides considerably amplified rather in front of the middle. The elytra are punctured in rows with a setigerous granule to each puncture, the interstices having a series of somewhat distant minute setigerous tubercles on each, the alternate ones being somewhat costate. The apex of the elytra is deliscent but scarcely mucronate.

35.—*SCLERORINUS VERMICULATUS*.

Oblongo-ellipticus ater supra vix subtus crebre squamosus, rostro medio leviter carinato basi utrinque profunde punctato, thorace subobliterate tuberculato vermiculato lateribus ampliatis, elytris seriatim rude punctatis granulatis interstitiis subcostatis remote tuberculatis alternis elevatioribus

interstitio tertio plano tuberculis granulisque omnibus seta nigra instructis.

Long. 9 lin., lat.  $3\frac{1}{2}$  lin.

Hab. Braidwood.

This insect is quite black on the upper surface, while the under portions of the thorax are thickly clothed with scales. The rostrum and forehead are slightly carinated, the former having two deep punctures on each side at the base. The thorax is covered with very depressed obliterated looking setigerous tubercles, giving it a vermiculate appearance. The elytra are rather obsoletely punctured in rows, with a large setigerous granule to each puncture; the interstices, with the exception of the third, which is plain, being distinctly costate towards the base, and furnished with remote setigerous rather minute tubercles. The alternate interstices are much more elevated than the others.

I believe this insect to be the *Am. Kirbyi* of Guerin.

### 36.—SCLERORINUS VERRUCOSUS.

Oblongo-ellipticus niger cinereo-squamosus, thorace subremote tuberculato tuberculis antice subelongatis medio et postice subhemisphæricis margine antico sublævi lateribus ampliato, elytris undique seriatim tuberculatis tuberculis validis conicis apice brevissime mucronatis.

Long.  $7\frac{1}{2}$  lin., lat.  $2\frac{3}{4}$  lin.

Hab. New Holland.

A single specimen, labelled "New Holland," in the late Mr. MacLeay's collection is all that I have seen of this species or know of its habitat. The rostrum is broadly carinated in the middle. The forehead has a narrow smooth line in the centre. The thorax has the anterior border broad and nearly smooth, the rest of its upper surface is covered with thinly placed rather flattened tubercles. The elytra are covered with large warty looking tubercles disposed in rows, and are minutely mucronate at the apex.

37.—*SCLERORINUS INTERRUPTUS*.

Oblongo-ellipticus niger fusco-squamosus, rostro fronte oculisque obsolete albido-vittatis, thorace subrugoso-tuberculato, elytris subseriatim rude punctatis interstitio tertio plano ceteris remote tuberculatis tuberculis elongatis setigeris setis nigris.

Long. 8 lin., lat.  $3\frac{1}{4}$  lin.

Hab. Mudgee.

There are faded marks of white vittæ about the rostrum, eyes, forehead, and thorax of this species. The sculpture of the elytra is less deep than in *S. vermiculatus*, the punctures being less profound and the interstices less costate. The insect is altogether of a dingy brown appearance.

38.—*SCLERORINUS SUBSEQUENS*.

Oblongo-ellipticus ater nix squamosus, fronte utrinque subexcavata, thorace rugoso-tuberculato, elytris seriatim punctatis granulatis interstitiis subcostatis remote elongato-tuberculatis tuberculis granulisque omnibus seta brevi pallida instructis.

Long. 8 lin., lat. 3 lin.

Hab. Mudgee.

This species most resembles *S. vermiculatus*; it differs from it, however, in many particulars. The rostrum is more distinctly carinated. The forehead is slightly excavated on each side of the central line. The thorax has the tubercles more defined. The elytra are less distinctly marked with costæ and punctures, and the setæ are of a pale yellow, whereas in *S. vermiculatus* they are black.

39.—*SCLERORINUS IRREGULARIS*.

Oblongo-ellipticus niger parce squamosus, rostro fronteque medio carinatis utrinque late excavatis, thorace tuberculato tuberculis subelongatis antice transversim impresso, elytris rude seriatim punctatis granulatis granulis setis pallidis

instructis interstitiis sparsim tuberculatis tuberculis conicis apice dehiscentibus.

Long. 8 lin., lat.  $3\frac{1}{4}$  lin.

Hab. South Australia.

The thorax has a deep transverse impression near the apex. The elytra present a very irregular appearance from the granules accompanying the punctures being large, while the interstices are most irregularly tuberculated, the tubercles being for the most part very distant from one another, conical, and of medium size. The setæ on the granules are of a palish hue.

#### 40.—SCLERORINUS STUTCHBURYI.

Oblongo-ellipticus niger fusco-squamosus, thorace tuberculato tuberculis hemisphaericis, elytris subseriatim granulato-punctatis interstitiis 1 et 2 remote tuberculatis tuberculis magnis subconicis 4 et 5 crebrius tuberculatis apice mucronatis.

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

Hab. Queensland. Stutchbury's Expedition.

This species in the head and thorax resembles *S. verrucosus*, but the elytra are very different. They present only two rows of strong rather distant tubercles on the back, the tubercles on the lateral rows being denser and of less size. The apex is slightly mucronated, and there is a slender-pointed tubercle on each elytron a little above the apex, which seems to form the termination of the first dorsal row of tubercles.

This insect is probably from some part of Queensland.

#### 41.—SCLERORINUS DOLENS. Boisd.

*Amycterus dolens*, Boisd., Voy. de l'Astrol., II. p. 376.

"Oblongo-ellipticus niger opacus, rostro impresso carinula media notata, thorace rotundato confertim granulato, elytris inæqualiter costatis costis interruptis." Boisduval.

Long. 9 lin., lat. 4 lin.

Hab. New Holland.

I have never seen this insect; but that it is a *Sclerorinus*

there can be no doubt. In his detailed description of the insect Boisduval says that there are 7 elevated interrupted costae on each elytron, those on the sides being less distinct.

At least two other species, *Am. Spencei*, Hope, and *Am. Hopei*, Schönh., both fully described by Schönherr in the 7th vol. of his great work on the Curculionidae, are clearly referable to this genus. I will not, however, add them to the present list of species, as I have done with *S. dolens*, as I do not feel at all certain that I may not have described both of them under other names. There are many species in this genus so alike in sculpture, that it is only by a careful observation of the points of difference between those which most resemble, that anything like a description intelligible and useful to others for the purpose of identification can be arrived at. Whether I have succeeded or not is a question which others must decide. I know that Schönherr has not, notwithstanding the immense amount of labour displayed in the detailed description of every species, and I can perceive that his failure proceeds entirely from his comparing his species with others with which they have little connexion. For instance, in his description of *Am. Spencei*, a *Sclerorhinus* as I believe, he points out the difference between it and *Am. Westwoodii*, certainly a *Talaurinus*. It is not difficult to understand how, under such circumstances, a very detailed description may fail, where several species closely resemble.

#### Genus AMYCTERUS, Schönherr.

*Antennae* subgraciles articulo secundo funiculi longiore.

*Rostrum* crassissimum brevissimum medio triangulariter impressum ad latera elevatum gula subcrassa.

*Oculi* parvi convexi rotundati.

*Caput* fronte excavatum medio subcarinatum.

*Thorax* antice subtruncatus plerumque valde tuberculosus.

*Elytra* oblonga convexa valide tuberculata lateribus subparallelis.

*Pedes* longi subvalidi.

*Mandibulae*, &c., ut in *Psalidura*.

This genus which was used by Schönherr for the whole sub-family of *Amycteridæ*, has been limited by Lacordaire to those insects of which *Am. Schönherrii* may be regarded as the type, a group which, though small in number, seems to comprise the giants of the sub-family.

All those I know, with the exception of *A. Boisduvalii*, have the thorax armed with large tubercles somewhat in the manner of some species of the genus *Acantholophus*. The concave sub-carinated head, with the convex outline of the rostrum, seems to be the most distinctive feature of the genus.

### 1.—AMYCTERUS BOISDUVALII. Dup.

Boisd., Voy. de l'Astrol, II., p. 393.

“Ater oblongus postice sublatior squamulis minutis albis adpersis presertim lateraliter, rostro latissimo canaliculato intus bisulcato, thorace rugoso, elytris rugulosis spinis conicis postice inclinatis gradatim crassioribus instructis.”  
Boisd.

Long. 12 lin., lat. 4 lin.

Hab. King George's Sound.

This insect is very different in many respects from the other and more typical species of the genus, but it has also much in common with them, and is clearly the point of connexion with the preceding genera.

The female differs greatly from the male, it is much larger and broader, and has the elytra more convex and amplified, while the tubercles are smaller and not conical. The apex of the elytra, also, in the female, is sharply and somewhat remotely mucronate.

### 2.—AMYCTERUS DRACO. MacLeay.

Psalidura Draco, MacLeay, App. to King's Voy., vol. II., p. 444.

“Atro-fuscus vertice concavo cruce impresso clypeo emarginato, thorace depresso utrinque dilatato dentato margine antice tuberculato tuberculorumque lineis quatuor duabus mediis longitudinalibus, elytris punctis elevatis scabrosis utrinque



dentibus acutis seriatim armatis lateribus seriatim nodulosis medioque linea tuberculorum subduplici instructo.”  
MacLeay.

Long. 14 lin., lat. 5 lin.

Hab. New Holland.

This insect is one out of many remarkable insects described by Mr. MacLeay in the year 1826, and published as an appendix to the late Admiral King's Intertropical Survey of the Coasts of Australia. And yet I do not find that Schönherr or Boisduval, or, indeed, any subsequent writer makes the slightest allusion to it. It may be that they were ignorant of the existence of a work which contained descriptions of nearly 100 species of Australian Annulosa by a well-known naturalist. At all events, whatever the reason, they have in two instances in the present sub-family completely passed over species described by Mr. MacLeay. The first instance is that of *Psolidura Kirbyi*, MacL., before alluded to. In both that and the present instance I can be under no mistake, as the identical insects originally described are in the late Mr. MacLeay's collection, now in my possession. This species is, probably the largest of the genus, my only specimen, a male, being quite as large as the female of *Am. Schöaherri*.

The rostrum is as broad as the head, but not quite so long; it is emarginated in front, has a triangular impression on the fore part of the upper surface, behind which there are two broad oblique elevations, behind which again there is a rather deep groove. The sides of the rostrum are elevated and extend to the vertex, enclosing the excavated space on the head, in the centre of which there is a slight ridge which widens considerably posteriorly. The thorax is truncate in front and behind, and very much widened in the middle. The anterior margin has a series of small oval tubercles, the posterior of still smaller ones. There is also a row of four large round tubercles on each side of the medial line, which is broad and smooth, and the sides, which are flat and dilated, have each six large teeth. The elytra are nearly parallel sided, and not broader than the thorax. They are coarsely granulate on the back, with three rows of very strong

conical tubercles on each elytron. The first row is near the suture, and commences with smallish tubercles a little way from the base, and extends almost to the apex; the second row is close to the first, commences at the base, and stops short about a third of its length from the apex; the third row is at some distance from the second, and extends the whole length of the elytra, and has a slight change of direction in the middle. The sides are striated and tuberculate, the tubercles being somewhat small and hemispherical. The apex of the elytra is broadly rounded, with six obtuse teeth or tubercles on the apical margin of each elytron. The ventral segments of the abdomen are punctured and longitudinally wrinkled, the anal segment is slightly excavated, and much punctured.

### 3.—AMYCTERUS SCHÖNHERRI. Hope.

Trans. Ent. Soc. Lond., vol. I. p. 68.

“Oblongo-ellipticus ater parce fusco-squamosus, fronte bi-impressa, rostro leviter impresso marginibus elevato, thorace lateribus valde angulariter ampliato obtuse inæqualiter dorso bifariam obtuse tuberculato, elytris dorso sericibus quatuor e tuberculis magnis conicis lateribus seriatim obtuse tuberculatis apice conjunctim obtuse rotundatis breviter mucronatis.” Schönherr.

Long. ♂ 13 lin., lat.  $4\frac{1}{2}$  lin.

Hab. Western Australia.

Schönherr seems to have thought that this insect was identical with the *Amycterus tuberculatus* of Boisduval; if it be, that name has priority over that of Mr. Hope. The description, however, given by Boisduval would apply to twenty species of the sub-family. The rostrum and head are marked in this species exactly as in the last, only the sculpture is less deep and the lateral ridges are more convex between the eyes. The thorax differs from that of *A. Draco* chiefly in the two rows of dorsal tubercles consisting each of five tubercles with sometimes an additional one outside the line about the middle, and in having a round mass of tubercles on each of the sides, instead of the regular dentation of the other species, the round mass

consisting of three or four conglomerated tubercles before the middle and a smaller one behind. The elytra are less granose than in *Draco*, but the disposition of the tubercles is much the same; the apex, also, is rounded and toothed much in the same way; in the female it is also slightly dehiscant and mucronate. In the male the anal ventral segment is a little excavated; in the female it is without mark of any kind excepting small punctures. The female is altogether a larger, broader, less black, and more opaque-looking insect. There is a very small tooth on the inner side of the fore tibiæ, about a third from the apex.

#### 4.—AMYCTERUS LEICHARDTI.

Oblongo-ellipticus ater vix squamosus, thorace dorso utrinque tuberculato tuberculis depressis numerosis lateribus tuberculato valde ampliato, elytris thorace angustioribus lateribus parrallelis subseriatim tuberculatis apice conjunctim obtuse rotundatis utrinque fortiter 5-dentatis.

Long. 12 lin., lat. 4 lin.

Hab. Lynd River, N. Australia.

The rostrum and head in this species differs from the preceding in having the rostrum proportionally longer, and consequently the oblique elevations in it more elongate, and in having the forehead more retuse. The thorax has, like the others, tubercles on each side of the medial dorsal line, but they are here more depressed, and towards the base are two or three deep. The sides, also, are much bulged out and tubercled, but the tubercles are for the most part small and depressed. The elytra are narrower than the thorax and parallel sided, and are armed with strong tubercles much in the manner of the species already described. There seem to be no granules on the elytra, and the first row of tubercles reach quite to the apex, which is broadly rounded, and has five strong teeth on the margin on each side of the suture. My specimen is a male, and is slightly excavated on the anal segment of the abdomen.

This insect, which is in the collection of the late Mr. MacLeay, is labelled "Lynd River, Leichardt." It was probably given to Mr. MacLeay by that distinguished traveller whose name I have given to it.

## Genus ACANTHOLOPHUS. MacLeay.

*Antennæ* graciles funiculi articulo secundo longiore.

*Oculi* ovati infra subacuminati.

*Rostrum* latissimum capite longius supra subplanum subtus gula vix crassatum basi utrinque tuberculatum.

*Caput* fronte excavatum vel retusum.

*Thorax* subplanus antice lobatus postice truncatus ad latera spinosus.

*Elytra* rigida echinata vel tuberculata.

*Pedes* longi graciles.

*Mandibulæ*, &c., ut in *Psulidura*.

The tubercles or spines on the lateral borders of the rostrum form the chief character of this genus. The front part of the head is always more or less retuse, and sometimes excavated. The throat or under part of the rostrum is not thickened and has for the most part a rectangular emargination. The thorax has the sides toothed, tuberculated, or spined, and in the greater number of species the disc also is armed with tubercles or spines. The elytra, also, are always more or less spinose. The difference between the male and female is considerable, the latter being larger, broader, and less strongly tuberculate, but I cannot find that the differences in the anal segment of the abdomen, exhibited to a greater or less degree in all the other genera of the subfamily, extend at all to this genus.

I propose to adopt the plan suggested by Mr. Waterhouse (Trans. Ent. Soc. Lond., vol III., 2nd series, p. 76) for the subdivision of this genus, merely reversing the order, so as to bring those species which most closely resemble the genus *Amycterus*, into the closest proximity to it.

I also propose to place in another genus that section of Mr. Waterhouse's in which he places *Acantholophus coenosus*, the shape of the head and rostrum being quite distinct from that of *Acantholophus*.

## Sect. 1.

With simple tubercle over the eye.

## A. With three rows of tubercles on each elytron.

## 1.—ACANTHOLOPHUS TRANSITUS.

Oblongo-ellipticus niger parce cinereo-squamosus, rostro supra rugoso, fronte subexcavata utrinque minute tuberculata, thorace dorso bifariam tuberculato tuberculis planis lateribus valide dentato, elytris subangustis seriatim granulatis trifariam tuberculatis lateribus albido-vittatis.

Long.  $9\frac{1}{2}$  lin., lat.  $3\frac{1}{2}$  lin.

Hab. Swan River.

This is quite an *Amycterus* in appearance. There is a small tubercle on each side of the head beside the eyes. The forehead between is a little excavated. The thorax is strongly tuberculated on each side of the medial line, the tubercles being flat and extended over a greater width in the middle of the disc. The sides also are strongly dentated by two somewhat flattened compound tubercles. The elytra are granulated in tolerably regular rows, with three rows of strong tubercles, the outer row consisting of four. The sides, which are parallel, are marked with narrow white vittæ.

## 2.—ACANTHOLOPHUS AMYCTEROIDES.

Oblongo-ellipticus niger cinereo-squamosus albido-variegatus, rostro medio canaliculato, fronte plana retusa utrinque tuberculo subaento instructa, thorace dorso bifariam tuberculato lateribus acute dentato, elytris albido-vittatis subseriatim granulatis trifariam tuberculatis tuberculis validis acatis subnitidis apice brevissime mucronatis deliscentibus.

Long. 9 lin., lat.  $3\frac{1}{2}$  lin.

Hab. King George's Sound.

This species is a good deal variegated with white vittæ and spots. There is a small depressed line in the centre of the

rostrum which extends to the forehead. The crest is small, but rather acute and pointed a little backwards. The tubercles on each side of the dorsal line of the thorax are elevated, round, glossy, and about five in number, while the sides are armed with two strong acute tubercles, the anterior one having a smaller one on its anterior and posterior sides. The elytra are rather irregularly granulate, are strongly tuberculate, and have their apex very minutely mucronate and slightly dehiscent. The female, which is much broader than the male, has a double row of granules on each side of the suture.

3.—*ACANTHOLOPHUS DUMOSUS*. Schönh.

*Amycterus dumosus*, Schönh., Gen. et Spec. Curcul., vol. VII., p. 77.

“Oblongo-ellipticus ater opacus lateribus parce albido-squamulosus, fronte rostroque impressis, rostro basi utrinque tuberculo acuto instructo, thorace ruguloso dorso bifariam obtuse tuberculato lateribus acute trispinoso, elytris transversim rugosis et granulatis singulo trifariam tuberculato tuberculis lateralibus et posticis majoribus conicis acutis.”  
Schönherr.

Long.  $8\frac{1}{2}$  lin., lat. 3 lin.

Hab. King George's Sound.

This species has the crest more elevated than the last, and is altogether a rougher and blacker-looking insect.

The tubercles on the back of the thorax also are considerably smaller. The elytra are slightly and narrowly dehiscent at the apex.

B. With two rows of tubercles on each elytron and a single posthumeral lateral spine.

4.—*ACANTHOLOPHUS AUREOLUS*. Schönh.

*Amycterus aureolus*, Schönh., Gen. et Spec. Curcul., vol. VII., p. 79.

“Oblongo-ellipticus niger supra squamulis aureo-micantibus lateribus et subtus cupreo-argenteis obsitus, fronte

striolato-rugosa utrinque tuberculo conico instructa, thorace lateribus paulo rotundato quadri-spinoso dorso canaliculato crebre granulato tuberculo apicali utrinque munito linea angusta media pallidius squamosa decorato, elytris seriatim granulatis bifariam minus alte tuberculatis tuberculo pone humeros solitario instructis apice divaricatis singulatim breviter mucronatis." Schönherr.

Long. ♂ 7 lin., lat.  $2\frac{1}{2}$  lin.

Hab. King George's Sound.

The subhumeral spine is of itself an unfailing means of recognising this species; it differs also in many respects from the previously-described insects: the dorsal tubercles of the thorax are almost wanting, the tubercles on the elytra are smaller, and the apex of the elytra is what I should call strongly mucronate and dehiscent. My specimens of the last three species came from King George's Sound, but it is very likely that they are found also at Swan River.

## Sect. 2.

With compound tubercle over the eye.

A. With two rows of tubercles on each elytron, under four tubercles on the third row.

### 5.—*ACANTHOLOPHUS HYSTRIX*. Schönh.

*Amycterus hystrix*, Schönh., Gen. et Spec. Curcul., vol. VII., p. 78.

"Oblongo-ellipticus convexus niger cinereo-squamulosus, fronte impressa utrinque spinis duabus connatis arcuatis instructa, rostro supra plauo, thorace ante medium modice rotundato posterius angustiore albo-trivittato lateribus quadri-dorso utrinque quinque-spinoso, elytris convexis dorso obsolete lateribus arcuatim profundius striato-punctatis singulo trifariam acute spinuloso sutura signaturis lateralibus albo-squamosis decoratis, pedibus ferrugineis." Schönherr.

Long. 5 lin., lat. 2 lin.

Hab. Western Australia.

The long acute spines of the crest, thorax, and elytra of this insect, with its convex arched form, distinguish it from all others of the genus. The spines of the crest are scarcely connate, and the posterior one is the longest.

My specimens are from King George's Sound.

6.—*ACANTHOLOPHUS BIVITTATUS*. Schönh.

*Amycterus bivittatus*, Schönh., Gen. et spec., Curcul., vol. VII., p. 74.

“Oblongo-ellipticus niger parce griseo-squamulosus, fronte rostroque impressis silaceo-lineatis, rostro basi utrinque tuberculis duobus connatis parum acutis instructo, thorace dorso lateribusque acute subseriatim tuberculato linea angusta dorsali silaceo-vitta infra-laterali lata albo-squamosis decorato, elytris transversim rugosis et granulatis trifariam acute tuberculatis sutura et vittis duabus obliquis disci silaceo-laterali albo-squamosis.” Schönherr.

Long.  $5\frac{1}{4}$  lin., lat.  $1\frac{3}{4}$  lin.

Hab. Western Australia.

The spines on the head are short and not acute in this species. The female is considerably larger than the male, as is the case also in *A. hystrix*.

My specimens are from King George's Sound.

7.—*ACANTHOLOPHUS SPINOSUS*.

Oblongo-ellipticus convexus niger cinereo-squamosus vittis albidis ornatus, capite utrinque cristato crista bispinosa spina posteriori longa acuta, thorace dorso bifariam sextuberculato tuberculo anteriore majore arcuato lateribus bispinosis, elytris seriatim granulatis trifariam spinosis serie externa spinis duabus magnis et duabus parvis anterioribus instructa.

Long. 8 lin., lat.  $3\frac{1}{2}$  lin.

Hab. King George's Sound.

The head is covered with brownish scales, with a white vitta in the middle which extends over the whole of the rostrum.



There is a deep puncture-like depression at the apex of the forehead, and the crest on each side consists of two connate spines, the first short, the other long, rather thick and slightly arcuated. The thorax has the medial line and the sides white; on each side of the medial line there is a row of six sharp tubercles, of which the apical one is recurved and longer than the others, while on each side there are two connate spines, the posterior one being slightly recurved and much the longest.

The elytra are convex, broadest in the middle, are somewhat regularly granulated, and have three rows of strong spiniform tubercles on each side of the suture, the external row consisting of only two well developed tubercles, with two others very small at the humeral angle. There is a white vitta on the suture for two-thirds of its length from the base, another between the first and second rows of tubercles towards the apex, and a third between the second and third rows extending from the base halfway to the apex, with a broad vitta and spots of the same white colour on the sides.

B. With three rows of tubercles or spines on each elytron, the outer row consisting of four or more tubercles or spines.

a. With subapical spines.

ACANTHOLOPHUS HYPOLEUCUS. Schönh.

*Amycterus hypoleucus*, Schönh., Gen. et spec. Cureul. vol. VII., p. 76.

“Oblongus ater opacus supra parce lateribus dense albosquamulosus, fronte rostro impressis, rostro basi tuberculis duobus connatis arcuatis spiniformibus instructo, thorace ruguloso lateribus parum ampliato quadrispinoso dorso bifariam seriatim acute tuberculato medio linea silacea ornato, elytris granulatis singulo trifariam valide acute tuberculato tuberculis serie media usque ad apicem continuatis apice leviter emarginatis vix mucronatis.”—Schönherr.

Long.  $7\frac{1}{2}$  lin., lat.  $2\frac{3}{4}$  lin.

Hab. King George's Sound.

## 9.—ACANTHOLOPHUS CRASSIDENS.

Oblongo-ellipticus ater parce albido-squamulosus, fronte impressa crista bispinosa spina posteriori longissima crassa, thorace bifariam tuberculato lateribus spinoso, elytris granulatis trifariam valide acute tuberculatis tuberculis subapicalibus minutis apice mucronatis.

Long. 8 lin., lat. 3 lin.

Hab. King George's Sound.

This species is more or less covered all over with white scales—in some places, especially on the sides, so thickly as to give them a spotted appearance. The head is excavated behind the crest, which rises up on each side into two connate spines; the anterior is small, and not acute: the posterior is thick, very long, acute, and somewhat wing-shaped. The rostrum has a small central ridge, and an elevated apex to its lateral margin. The thorax has a row of five conical, nearly equal, tubercles on each side of the medial line, and two acute and slightly recurved spines on each side, the anterior one having a small tubercle attached to it in front and behind. The elytra are granulated on the back, and rugose on the sides, and have each three rows of acute tubercles, the outer row consisting of four; they have also a few small tubercles near the apex, which is minutely mucronate.

## 10.—ACANTHOLOPHUS APICALIS.

Oblongo-ellipticus subangustus niger parce cinereo-squamosus, crista utrinque parva retrorsum acuminata vix bidentata, thorace dorso bifariam tuberculato lateribus bidentato, elytris seriatim granulatis trifariam tuberculatis serie media usque ad apicem continuata.

Long.  $7\frac{1}{2}$  lin., lat.  $2\frac{3}{4}$  lin.

Hab. South Australia.

This species is black, slightly clothed with cinereous scales, and of an elongated form. The head is scooped out behind the crest, which is short, pointed backwards, and scarcely bidentate. The thorax scarcely differs from that of many of the other

species. The elytra are not broader than the thorax, and are almost parallel-sided. They are covered with granules disposed in pretty regular rows, and have each three rows of tubercles, the middle row extending to the apex, which is minutely mucronate.

b. Without subapical spines.

11.—*ACANTHOLOPHUS SUTURALIS*. Schönh.

*Amycterus suturalis*, Schönh., Gen. et spec., Cureul., vol. VII., p. 72.

“Oblongo-ellipticus niger brunneo-squamulosus, fronte rostroque impressis, rostro utrinque trituberculato tuberculis duobus basalibus connatis brevioribus spiniformibus, thorace dorso seriatim minus acute bifariam tuberculato lateribus parum ampliato utrinque cupreo-vittato tuberculo trispinoso instructo, clytris remote granulatis trifariam breviter tuberculatis macula oblonga suturali lateribusque cupreo-squamosis apice breviter mucronatis.” Schönherr.

Long. 9 lin., lat.  $3\frac{1}{2}$  lin.

Hab. Swan River.

I find that Mr. Waterhouse states in a note to his paper on *Amycterus* in the Transactions of the Entomological Society of London, that *A. lateralis* has a single large humeral spine, whilst *A. suturalis* has two or three very small spines on the humeral angle of the elytra. I can find no such distinctive marks. There are three species of this subsection of the genus *Acantholophus* from Swan River, in the collection of the late W. Sharp MacLeay, Esq. One, undoubtedly *A. suturalis*, the present species, has only one small tubercle at the humeral angle; another, as certainly, *A. lateralis* of Schönherr, has two small tubercles at the same place; while the third, a new species to which I have given the name of *A. humeralis*, has a large pointed humeral spine.

12.—*ACANTHOLOPHUS LATERALIS*. Schönh.

*Amycterus lateralis*, Schönh., Gen., et Spec. Cureul., vol. VII., p. 75.

“Oblongo-ellipticus niger parce cinereo squamosus, fronte ros-

troque impressis, rostro trituberculato tuberculis duobus basalibus connatis spiniformibus, thorace dorso seriatim acute bifariam tuberculato lateribus parum ampliato tuberculo trispinoso instructo vitta media lateribusque albo-squamosis, elytris granulatis trifariam valide acute tuberculatis sutura antice vittis duabus disci rectis margineque laterali albo-squamosis." Schönherr.

Long. 10 lin., lat. 4 lin.

Hab. Swan River.

This, as well as the last species, are such well-marked and well-described insects, that any detailed notice is unnecessary. I may observe, however, that they both differ from the next species in having the apical dorsal tubercle of the thorax larger than the others.

### 13.—ACANTHOLOPIUS HUMERALIS.

Oblongo-ellipticus niger cinereo-squamosus albido-variegatus, fronte impressa inter oculos utrinque bispinosa spinis connatis posteriore longissima arcuata, thorace dorso biseriatim spinoso spinis subæqualibus lateribus trispinosis anterioribus connatis, elytris remote granulatis trifariam tuberculatis spina humerali majore.

Long. 11 lin., lat.  $4\frac{1}{2}$  lin.

Hab. Swan River.

This species is large, broad, and variegated with lines and spots of silvery scales. The head is short and hollowed out a little in front. Between the eyes on each side there are two connate spines: the anterior short, the posterior very long, sharp, and curved backwards. The thorax has a row of five tubercles, elevated, pointed and equal in size, on each side of the dorsal line, while on the sides there are three spines; the two anterior connate, the hinder of the two being long, acute, and curved backwards, and the third small, pointed, and placed near the base. The elytra are much broader than the thorax, and more than three times the length, with three rows of acute tubercles on each, the largest being on the humeral angle, while

between each row there is a line of somewhat distant granulations. Lines of silvery scales are apparent on the medial line and sides of the head and thorax, while on the elytra, the basal two-thirds of the suture, almost the whole of the space between the first and second row of tubercles, and the basal portion of the space between the second and third series of tubercles, with numerous round spots on the sides and apex, are similarly marked.

#### 14.—ACANTHOLOPHUS MARSHAMI. Kirby.

*Cureulio Marshami*, Kirby, Linn. Soc. Trans., vol. XII., p. 436.

*Amycterus Marshami*, Schön., Gen. et Spec. Cureul., vol. II., p. 472.

*Acantholophus Marshami*, Boisd., Voy. de l'Astrol. II., p. 369.

*Spidium echinatum*, Dej. Cat., Ed. I., p. 64.

“Oblongo-ellipticus niger in cavitatibus parce cinereo-squamosus, rostro utrinque crista tri-tuberculato instructo, thorace elytrisque seriatim tuberculatis tuberculis lateralibus et posticis majoribus conicis.”

*Mas*: elytrorum apice conjunctim emarginato, utrinque in tuberculum conicum producto, segmento anali ventris circulariter impresso medio convexo disperse punctato.

*Femina*: elytrorum apice conjunctim obtuse rotundato, segmento anali ventris fere plano confertim longitudinaliter rugoso.”  
Schönherr.

Long. 10 lin., lat. 4 lin.

Hab. New South Wales.

This species is the most common, and was the first described of the genus. It is of a dull black, covered all over with minute lighter coloured scales. There is an obtuse tubercle on each side near the apex of the rostrum, and behind, near each eye, there are two connate obtuse tubercles, of which the posterior one is the largest; there are also two minute tubercles on the forehead. The thorax has a row of five or six obtuse tubercles on each side of the medial line, and at each side there are two large obtuse tubercles; the first, the largest, is bidentate and is situated a little before the middle; the other is situated behind the middle, and is tridentate, the anterior and posterior teeth being very minute. There is a very deep transverse impression near the apex, and

another less deep near the base. The elytra are three times the length of the thorax, and considerably broader, with three rows of strong and rather acute tubercles on each elytron. Between the suture and the first row of tubercles there are three rows of coarse granulations, between the first and second row of tubercles, and between the second and third there are two irregular rows of still coarser granulations, while the sides are transversely rugose and coarsely striato-punctate. My description is taken from a female specimen. In the male the elytra are so much narrower that the double and triple rows of granules cannot be traced; the apex also of each elytron is slightly dehiscent and tuberculate. I find some specimens with only two rows of granules on each side of the suture of the elytra; they may possibly belong to another species.

15.—*ACANTHOLOPHUS ECHINATUS*. Boisd.

Voy. de l'Astrol. II., p. 371.

“Oblongo-ellipticus cinereo-fuscus subtomento us, capite utrinque cristato, thorace echinato linea media pallida, elytris rugosis trifariam spinoso-tuberculatis.” Boisdaval.

Long. ♀ lin., lat.  $3\frac{1}{2}$  lin.

Hab. New South Wales.

Boisdaval's description of this insect is not sufficient to distinguish it from any other species of the genus. In sculpture it corresponds in most particulars to the description I have given of *A. Marshami*. The posterior tooth of the crest is more acute and pointed backwards, and the tubercles generally are sharper and more spinose. It differs besides in having the back densely covered with silvery scales disposed in vittæ on the head and thorax, and in vittæ and spots on the elytra. The scales on the sides are fawn coloured. The elytra are separately mucronate.

This species seems to have a wide range, particularly in the Southern districts.

16.—*ACANTHOLOPHUS ECHIDNA*. MacLeay, M.SS.

Oblongus ater parce cinereo-squamosus, rostro utrinque trituberculato, thorace dorso lateribusque tuberculato, elytris

subangustis rugoso-punctatis triseriatim tuberculatis ad suturam utrinque seriatim granulatis.

Long. 8 lin., lat. 3 lin.

Hab. Blue Mountains.

Schönberr seemed to regard this insect as a variety of *A. Marshami*, and I have no doubt that varieties of *A. Marshami* of smaller size than the original insect and with stronger tubercles have been frequently taken for the *A. echidna* of MacLeay, which is in reality a very well marked and distinct species.

The whole insect is of a deep black, very sparingly clothed with cinereous scales and with the tubercles glossy. The head is short and rather excavated between the eyes, with three tubercles on each side, the one at the extremity of the rostrum less prominent than in *A. Marshami*, the other two conuate, with the posterior one rather acute and pointing backwards. The thorax has the medial line marked with several striæ, with a row on each side of five flattish tubercles diverging towards the middle, and with two larger tubercles on the sides, the anterior bidentate. The thorax has also transverse impressions as in *A. Marshami*. The elytra are not broader than the thorax, and are almost parallel sided, with three rows of strong pointed tubercles on each, and one row of granules on each side of the suture, while the rest of the elytra are rugose and punctured, and, near the sides, striated. The male has the apex of each elytron very slightly mucronated.

17.—*ACANTHOLOPHUS ADELAIDÆ*. Waterh.

Trans. Ent. Soc. Lond., vol. III., 2nd ser., p. 76.

“Oblongus ater fusco-squamosus, fronte utrinque tuberculis duobus basalibus subspiniformibus cœnatis instructa, thorace dorso seriatim bifariam tuberculato lateribus acute trituberculato, elytris transversim rugosis trifariam tuberculatis tuberculis parvulis posticis majoribus conicis.”

Waterhouse.

Long. 8 lin., lat. 3 lin.

Hab. South Australia.

This species seems to be tolerably abundant in the vicinity of

Adelaide. A detailed description of this insect is given by Mr. Waterhouse, in the volume of the Entomological Society's Transactions cited above.

18.—*ACANTHOLOPHUS DENTICOLLIS*.

*Oblongus niger* parce fusco-squamosus, fronte striata, rostro medio triangulariter impresso, crista utrinque subelevata vix bidentata, thorace granulato biserialim subtuberculato lateribus dentato, elytris subscriatim punctatis granulatis trifariam tuberculatis tuberculoque majore suturali ante apicem instructis.

Long. 8 lin., lat.  $3\frac{1}{4}$  lin.

Hab. Currajong, New South Wales.

This species varies considerably in size; the foregoing measurement I have taken from the largest specimen in my possession. The head is short and covered with brownish scales. The forehead is marked with striæ converging towards the base of the rostrum, which is separated from the head by a deep transverse impression. The rostrum itself has in the middle a triangular depression with elevated margins, the apex of the triangle reaching to the base of the rostrum. It has also a triangular emargination at its apex. The crest is formed by a tubercle on each side of an oblong shape, and scarcely bidentate. The thorax is coarsely granulated with a row of still coarser granulations on each side of the medial line, and with the sides armed with six teeth, the three anterior ones being connate. The elytra, which are broader than the thorax, are striato-punctate, transversely rugose, and rather sparsely granulated, with three rows of small tubercles on each, those nearest the apex being the largest, and with one tubercle on each close to the suture and a short distance from the apex.

19.—*ACANTHOLOPHUS SERRATICOLLIS*.

*Oblongus niger* fusco-squamosus, fronte striata, rostro medio breviter bicarinato, crista utrinque bidentata, thorace granulato biserialim subtuberculato lateribus dentato, elytris serialim punctatis remote granulatis trifariam tuberculatis tuberculoque suturali ante apicem instructis.



Long. 8 lin., lat.  $3\frac{1}{4}$  lin.

Hab. Wingelo, New South Wales.

This species is very like *A. denticollis*, but differs from it in the following particulars. The body generally is more thickly covered with minute brown scales. The crest is very distinctly bidentated, with the posterior tooth longer and more acute than the other. The rostrum, too, instead of having a triangular impression in the middle, as in *A. denticollis*, has two short slightly converging elevations, while the lateral margins are elevated at their apex into a sharp tubercle. In the thorax the medial line is less distinctly marked, and the tubercles on each side are minute and distant, while the lateral teeth are strong, mostly connate, and slightly elevated. The elytra, also, are less wrinkled, and the interstices between the rows of punctures are flat. The male differs from the female in being narrower, and in having the tubercles of the elytra a little larger.

#### 20.—ACANTHOLOPHUS APPROXIMATUS.

Oblongus niger fusco-squamosus, fronte excavata crista utrinque leviter bidentata, thorace bifariam tuberculato lateribus dentato, elytris striatis interstitiis granulatis triseriatim tuberculatis tuberculo ultimo seriei primæ magno ad suturam approximato lateribus rugosis apice mucronatis.

Long.  $6\frac{1}{2}$  lin., lat.  $2\frac{1}{2}$  lin.

Hab. Victoria.

This species is of a dull fuscous black. The forehead is much excavated. The crest is elevated, pointed backwards, and slightly bidentate. The rostrum has two converging elevations near the base, causing a deep fovea on each side in front of the crest. The apex has a triangular emargination and a tubercle on the lateral margins. The thorax is rugose, and marked with deep transverse impressions, with a row of five strong irregular tubercles on each side of the dorsal line, the anterior one long and projecting slightly over the head, and with two strong tubercles on the sides, one near the middle with a small one attached to it in front, the other near the base.

The elytra are striate on the back with a row of granules between each stria, while towards the sides they are rugose and less regularly marked. In addition to these rows of granules there are three rows of tubercles, minute in front and increasing in size towards the apex; the first of these rows shows scarcely any tubercles towards the base, but terminates in a large pointed one, which is nearer the suture than the rest of the series. The apex of the elytra is slightly mucronate and deliscent. The female differs from the male in being longer, broader, and less strongly tuberculate.

21.—*ACANTHOLOPHUS SPINIFER.*

Oblongus subangustus niger parce cinereo-squamosus, fronte excavata, crista bidentata dente posteriore acuto anteriore rotundo, thorace bifariam tuberculato lateribus dentato, elytris seriatim punctatis trifariam tuberculatis tuberculis validis acutis.

Long.  $7\frac{1}{2}$  lin., lat.  $2\frac{1}{2}$  lin.

Hab. Victoria.

I have only one specimen of this insect, apparently a male; it is of elongate form, and of a deep black hue, with minute ashen coloured scales. The forehead is excavated. The crest is deeply bilobed, the anterior lobe slightly pointed and rounded in front, the posterior longer and pointed backwards. The apex of the lateral margin of the rostrum is much elevated. The thorax has a row of five tubercles on each side of the medial line, the posterior one being long and obliquely placed, and two strong pointed tubercles on each of the sides, one near the middle, with a smaller one on its anterior face: the other near the base. The elytra are not broader than the thorax, and are marked with rows more or less regular of somewhat distant punctures, with three or four small tubercles near the base on each side of the suture. They have also each three rows of strong pointed tubercles, the external row consisting of four large tubercles and a smaller humeral one. The space near the suture between the first row of tubercles on each side has a yellowish tinge from the minute scales which cover the elytra

being yellow at that place. The apex of the elytra is dehiscent but not mucronate.

22.—*ACANTHOLOPHUS HOWITTI*.

Oblongus niger cinereo-squamosus, capite utrinque bicristato, fronte excavata, thorace bifariam tuberculato lateribus dentato, elytris seriatim granulatis serie secunda postice tuberculata triseriatim tuberculatis lateribus rugosis albolineatis apice dehiscentibus breviter mucronatis.

Long. 9 lin., lat.  $3\frac{1}{2}$  lin.

Hab. Victoria.

My only specimen, apparently a female, is of a dull black with cinereous scales. The head is excavated in front. The crest is large and deeply bilobed. The rostrum has the apex of each lateral margin elevated into a tubercle. The thorax has a row of five tubercles on each side of the medial line, the apical tubercle being bidentate, and two strong tubercles on its sides, one near the middle with a smaller one on its anterior face, the other near the base. The elytra are marked on the back with rows of granules, the second row from the suture terminating in a strong tubercle, and on the sides with whitish lines separated by transverse rugose granulations. Besides these there are three rows of strong tubercles on each elytron. The apex is dehiscent and slightly mucronate.

23.—*ACANTHOLOPHUS SQUALIDUS*.

Oblongus niger fusco squamosus, fronte excavata crista fere truncata, thorace bifariam tuberculato lateribus dentato, elytris striatis interstitiis granulatis trifariam tuberculatis lateribus rugosis apice mucronatis.

Long.  $6\frac{1}{2}$  lin., lat.  $2\frac{1}{2}$  lin.

Hab. Merimbula, New South Wales.

This species is very like *A. approximatus*, differing from it chiefly in the crest, which is scarcely bidentate, and indeed is almost truncate, and in not having the last tubercle in the row nearest the suture of the elytra so much approximated as in the Melbourne species.

24.—*ACANTHOLOPHUS TRUNCATICORNIS*.

*Oblongus niger cinereo-squamosus*, fronte excavata crista truncata, thorace bifariam tuberculato lateribus dentato, elytris rube punctatis subseriatim granulatis trifariam tuberculatis.

Long.  $6\frac{1}{2}$  lin., lat.  $2\frac{1}{2}$  lin.

Hab. Newcastle.

This species is like the last. It differs from it in the head by having the crest higher and still less lobed, in the thorax by having the medial line and the spaces between the rows of medial and lateral tubercles covered with silvery scales, and in the elytra by its less regular sculpture, stronger tubercles, and silvery marking.

25.—*ACANTHOLOPHUS ANGASII*.

*Oblongus niger cinereo-squamosus*, fronte excavata, crista subangusta elevata obtusa, thorace bifariam tuberculato lateribus dentato, elytris seriatim granulatis trifariam tuberculatis apice conjunctim emarginatis.

Long. 7 lin., lat.  $2\frac{3}{4}$  lin.

Hab. South Australia.

This insect was sent to me from Adelaide some years ago by G. F. Angas, Esq., after whom I have named it. It is closely covered with brownish yellow scales varied with white on the larger spines of the elytra. The forehead is excavated. The crest is elevated and almost round at the tip. The thorax has the two rows of dorsal tubercles and the lateral teeth as in *A. approximatus*. The elytra are covered with granules disposed pretty regularly on the back, and less regularly towards the sides, and have on each three rows of small tubercles, the largest towards the apex, the last tubercles of the row nearest the suture being the largest and most approximate. The elytra are also conjointly emarginate at the apex, but not mucronate. Perhaps this species, from the character of the crest, would be more correctly placed in the other section.

26.—*ACANTHOLOPHUS SCABROSUS*.

*Oblongus niger fusco-squamosus, capite bicristato cristis acute bidentatis, thorace dorso bifariam tuberculato lateribus valide dentato, elytris seriatim granulatis trifariam tuberculatis tuberculis squamulis nigris obtectis, pedibus subpiceis.*

Long. 8 lin., lat.  $3\frac{1}{4}$  lin.

Hab. Blue Mountains and Mudgee.

This insect is covered, particularly on the tubercles of the elytra, with black scales. The head is slightly excavated between the crests, which are deeply bidentated and rather pointed, the posterior tooth being the most acute and pointing backwards. The tubercles on the disc of the thorax are small, the first and last being elongate; those on the sides are of the usual character. The elytra are broader than the thorax, and have three series of rather strong tubercles on each, while between the suture and the first row of tubercles there are three distinct rows of granules in the female. The apex of the elytra is a little dehiscent, and the legs have a slightly pitchy appearance.

27.—*ACANTHOLOPHUS MUCRONATUS*.

*Oblongus niger parce squamosus, capite bicristato cristis obtuse bidentatis, thorace dorso bifariam tuberculato lateribus valide dentato, elytris seriatim granulatis et rude punctatis trifariam valide acute tuberculatis tuberculis subnitidis apice valide mucronatis.*

Long.  $9\frac{1}{2}$  lin., lat.  $3\frac{1}{2}$  lin.

Hab. Blue Mountains.

This species is larger and less covered with scales than the last, and indeed presents many distinctive characters, the chief of which is the large obtuse horizontal mucronation at the apex of each elytron.

28.—*ACANTHOLOPHUS SQUAMOSUS*.

*Oblongus niger dense fusco-squamosus, capite bicristato cristis bidentatis dente posteriore acuto, thorace dorso bifariam*

tuberculato lateribus dentato, elytris rugosis rade punctatis subseriatim granulatis subtrifariam tuberculatis tuberculis squamulis setiformibus obtectis.

Long. 5 lin., lat. 2 lin.

Hab. Victoria.

This is a very small species. The crest is strongly bidentated, and the posterior tooth is pointed backwards. The tubercles on the thorax are small, and those on the elytra are also small towards the base, but become larger towards the apex, the terminal tubercle of the first row of tubercles being large. The apex is slightly dehiscant, and the tubercles generally are covered with long black scales.

### 29.—ACANTHOLOPHUS KREFFTH.

Oblongus niger parce squamosus, rostro apice utrinque acute tuberculato, fronte excavata crista utrinque magna apice bispinosa, thorace dorso bifariam quinquespinoso spinis duabus anterioribus connatis lateribus acute unispinoso, elytris convexis subseriatim granulatis triseriatim tuberculatis tuberculis longis acutis.

Long. 7 lin., lat.  $2\frac{3}{4}$  lin.

Hab. N. Aest. Hely's Exp.

This is a very well marked species. The tubercle which forms the crest is broad, elevated, and divided towards the summit into two equal acute spines. The tubercle on each side of the apex of the rostrum is also acute. The tubercles of the thorax are very sharp, particularly the one which occupies the centre of the sides. The elytra also have a very spinose appearance.

The only specimens of this insect I know are in the Museum. I have named the species after Mr. Gerard Krefft, the Curator of that Institution.

### 30.—ACANTHOLOPHUS TRIDENTATUS.

Oblongus subangustus niger dense cinereo-squamosus, fronte excavata crista utrinque tridentata, thorace medio bifariam tuberculato lateribus bituberculato, elytris seriatim granulatis et trifariam tuberculatis lateribus vix ampliatis.

Long. 8 lin., lat.  $2\frac{3}{4}$  lin.

Hab. Victoria River, Mitchell's Exp.

. This species is of a somewhat narrow elongated form, and is closely covered with cinereous scales. The head is short, retuse, and very much excavated behind the raised transverse band which connects the crests on each side. The crests are strongly tridentated, the posterior tooth being rather acute and pointed backwards, the middle one obtuse and short, and the anterior still more obtuse and directed forwards. There is also a small tubercle at the apex of the rostrum on each side, with a small triangular emargination in the middle. The thorax has six tubercles on each side of the medial line, one between them and the sides near the apical margin, and two on the sides, the anterior one being near the middle, and consisting of a small tooth in front, a large pointed one in the middle, and a very minute one behind, the posterior being pointed and near the base. The elytra are scarcely broader than the thorax and three times the length, with three rows of strong acute tubercles on each, (the outer having only four tubercles) and with two lines of granules between the suture and the first row of tubercles, one between the first and second rows, and one between the second and third rows, while the sides are somewhat striato-punctate, transversely rugose, and interspersed with setigerous granules.

### 31.—ACANTHOLOPHUS CRENATICOLLIS.

Oblongus niger cinereo-squamosus, capite excavato medio carinato inter oculos utrinque trituberculato, thorace plano granulato lateribus dentato, elytris striatis interstitiis granulatis interstitiis 1-3 et 5 ante apicem tuberculatis lateribus ampliatis apice mucronatis.

Long.  $8\frac{1}{2}$  lin., lat.  $3\frac{1}{2}$  lin.

Hab. New South Wales.

This species also, like the last, has four crests on each side of the head and rostrum, one is near the apex of the rostrum, the other three are near the eyes, and are formed by the dentations of a long elevated narrow tubercle. The posterior tooth is slightly pointed backwards, the others are obtuse. The head is con-

siderably hollowed out between the crests, and is carinated for a short distance in the middle. The thorax is flat and coarsely granulated, with the medial line indistinct, and with five strong pointed teeth on each lateral margin, of which the middle one is the longest. The elytra are broader than the thorax, are of an oblong oval shape, are macronate at the apex, and are entirely covered with granulations disposed in rows, these granules becoming almost tubercles near the apex in the sutural, third, and fifth rows.

The only specimen I have seen of this insect is in my collection, and is simply labelled "New South Wales."

32.—*ACANTHOLOPHUS PLANICOLLIS*. Waterh.

Trans. Ent. Soc. Lond., vol. III., 2nd ser., p. 78.

"Oblongus niger fusco-squamosus, capite tuberculis minutis postice instructo, rostro utrinque crista interrupta oblique elevata instructo, thorace dorso depresso tuberculis parvulis (vel granulis) irregularibus adperso lateribus tuberculato, elytris apice conjunctim rotundatis dorso subdepressis punctato-striatis interstitiis seriatim granulatis: interstitiis 2 et 4 postice tuberculis parvulis conicis parum elevatis, tuberculisque duobus ad suturam ante apicem instructis."

Waterhouse.

Long. 7 lin., lat.  $2\frac{1}{2}$  lin.

Hab. South Australia.

Mr. Waterhouse gives 8 lines as the length of this insect. I have specimens only 6 lines long, and the largest I have seen is only 7 lines.

Both in form and sculpture this species shows a very decided approach to the next genus *Cubicorhynchus*; the transition, however, is by no means so easy and complete between that genus and the present one, as in the other and preceding genera.



## Genus CUBICORHYNCHUS. Lacord.

*Antennæ* breves.

*Oculi* subovati subplani.

*Rostrum* crassissimum quadratum planum e fronte sutura divisum, gula haud crassata.

*Caput* planum declinatum utrinque tuberculo parvo instructum.

*Thorax* subquadratus antice posticeque truncatus lateribus rotundatus apice transversim impressus.

*Elytra* ovalia subdepressa postice verticalia.

*Mandibule, pedes, &c.*, ut in *Psolidura*.

This is a very isolated genus, the nearest approach to it being, as I have just mentioned, the *Acantholophus planicollis* of Waterhouse.

The leading characters are the minutely tuberculated flat forehead, and flat square rostrum with transverse suture at its base. I believe the species to be very numerous, but they resemble one another so much that in the present paper I have not ventured to do more than describe the most evident species.

As regards their geographical distribution, I think that the species are about equally divided between Western Australia, South Australia, Victoria, and the inland parts of New South Wales.

## 1.—CUBICORHYNCHUS BOHEMANI. Schönh.

*Amycterus Bohemani*, Schönh., Gen. et spec. Curcul., vol. VII., p. 83.

“Oblongo-ellipticus niger parce brunneo-squamulosus, capite antice granulato, fronte plana utrinque tuberculo brevi instructa, rostro rugoso leviter impresso, thorace sat crebre granulato dorso tenuissime canaliculato intra apicem constricto lateribus ante medium rotundato, elytris subtiliter striato-punctatis interstitiis latis param convexis granulatis.” Schönherr.

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

Hab. Swan River.

Schönherr seems only to have known two species of this genus, the present one and *A. morosus* of Germar. His description consequently of this insect scarcely does more than define characters common to the whole genus, and which have been given as generic characters by Lacordaire. The species is closely covered with cinereous scales, has the thorax almost orbicular and much narrower in proportion to the elytra than is usual in the genus, and is altogether much larger than the species found in the Eastern and Southern parts of Australia.

The only specimen I have seen of this insect is in the collection of the late Mr. MacLeay.

## 2.—CUBICORHYNCHUS MOROSUS. D'Urville.

*Amycterus morosus*, Boisd., Voy. de l'Austral. II., p. 386. Schönh., Gen. et spec. Curcul., vol. VII., p. 67. Germ. Linn. Ent., vol. III., p. 217.

“Oblongo-ellipticus niger griseo-squamulosus, capite remote rugoso rostro quadrangulariter impresso basi transversim canaliculato utrinque tuberculo brevi acuto instructo, thorace sat crebre granulato granulis pallido-setiferis tenuissime canaliculato, elytris obsolete striato-punctatis interstitiis convexis seriatis granulatis granulis setiferis in interstitio quarto posterius magis elevatis apice subacuminatis.” Schönherr.

Long. ♂  $\frac{1}{2}$  lin., lat.  $2\frac{1}{4}$  lin.

Hab. New South Wales and South Australia.

This species seems to have a wide range, and to be subject to considerable variety. Curiously enough, M. Lacordaire, the founder of this genus seems not to have had any idea that this insect belonged to it. Indeed, it is evident that M. Lacordaire had himself seen but few of the *Amycteridæ* which had been described by Schönherr, Boisdual, and others, when we find him referring as examples of his genus to undescribed insects, such as *Acantholophus sepulchroides*, Mael., and *Acantholophus scotobioides*, Hope, when *A. morosus*, Sch., *A. Bohemani*, Sch., and *A. crenicollis* and *Dohrnii*, Waterhouse, all excellent examples of his genus, are referred by him to other genera.

3.—*CUBICORHYNCHUS CRENICOLLIS*. Waterh.

*Amycterus crenicollis*, Waterh. Trans. Ent. Soc., Lond., vol. III.,  
2nd ser., p. 74.

“Oblongus ater cinereo-squamosus, fronte longitudinaliter rugulosa granulis setiferis adspersis et utrinque tuberculo conico instructa, rostro basi transversim impresso, thorace parvulo subrotundato supra parum convexo canaliculato granulis setiferis sat crebre obsito lateribus seriatim tuberculato, elytris punctato-striatis interstitiis convexis seriatim granulatis granulis setiferis squamulis cinereis nigrisque vestitis.”  
Waterhouse.

Long. 6 lin.

Hab. Swan River.

I have never seen this species. Mr. Waterhouse says of it that it may be distinguished from *A. Bohemani* and *morosus*, by the thorax being distinctly ridged at the sides, and proportionally smaller and less convex.

4.—*CUBICORHYNCHUS DOHRNII*. Waterh.

*Amycterus Dohrnii*, Waterh. Trans. Ent. Soc. Lond., vol. III., 2nd ser.  
p. 79.

“Oblongo-ellipticus niger cinereo-squamosus, fronte longitudinaliter rugosa granulisque setiferis paucis obsita utrinque suberistata, rostro basi profunde transversim impresso, thorace sat crebre granulato postice lateribusque tuberculis nonnullis obsito dorso canaliculato, elytris striato-punctatis interstitiis granulatis postice tuberculis parvulis conicis seriatim obsitis in interstitio 2 tuberculo magno subspinoso ante apicem instructis.” Waterhouse.

Long. 7 lin.

Hab. Swan River.

This insect also is unknown to me. It is evidently a *Cubicorhynchus*, but very distinct from all of the genus which I have seen, in having two large tubercles near the apex of the elytra. Mr. Waterhouse makes mention of a variety of this species in the British Museum, in which the tubercles in question are very little more developed than those which precede them.

## 5.—CUBICORHYNCHUS SEPIDIODES. MacL. M.SS.

Oblongo-ellipticus niger parce squamosus, fronte subrugosa bituberculata, thorace rugoso-granulato lateribus fere tuberculato transversim biimpresso dorso leviter canaliculato subcarinato, elytris rugosis seriatim punctatis interstitiis latis granulatis subelevatis secundo suturaque postice elevatioribus.

Long. 6 lin., lat.  $2\frac{1}{2}$  lin.

Hab. Murrumbidgee.

The specimen in the late Mr. MacLeay's collection, named by him *sepidioides*, and from which the foregoing description is taken, is very like *C. nivosus*. It is, however, broader, blacker, with fewer scales and setæ, and with the thorax rugose, flat, and tuberculated at the sides.

## 6.—CUBICORHYNCHUS MAXIMUS.

Oblongo-ellipticus niger parce cinereo-squamosus, fronte valde longitudinaliter rugosa crista utrinque bidentata, thorace crebre tuberculato tuberculis parvis subconicis setigeris lateribus subdentato dorso leviter canaliculato antice transversim subimpresso, elytris latis ovatis seriatim rugoso-punctatis granulatis interstitiis subelevatis granulatis.

Long. 8 lin., lat.  $3\frac{1}{2}$  lin.

Hab. Swan River.

This is the largest species I have seen of this genus. It can be readily distinguished by its bilobed crest. The sides of the rostrum also are somewhat crested.

## 7.—CUBICORHYNCHUS CALCARATUS.

Oblongo-ellipticus niger flavo-setosus cinereo-squamosus, thorace subelongato rude confertim granulato lateribus subnoduloso dorso tenuiter canaliculato, elytris seriatim rugoso-punctatis interstitiis granulatis setosis interstitio tertio postice subtuberculato, tibiis posticis versus apicem ante calcaratis.

Long.  $6\frac{1}{2}$  lin., lat.  $2\frac{1}{4}$  lin.

Hab. South Australia.

The long curved spur on the anterior part of the hind tibiæ near the apex is the most remarkable thing about this insect. The thorax, too, seems to be longer than is usual in the genus.

8.—*CUBICORHYNCHUS MACULATUS*.

Oblongo-ellipticus niger flavo-setosus crebre squamosus, thorace rude granulato lateribus subtuberculato dorso canaliculato albo-squamoso, elytris striato-punctatis interstitiis subelevatis granulatis setosis undique squamulis albidis cinereis cinnamomeis et fuscis maculatis, pedibus crebre pallide setosis et squamosis.

Long. 6 lin., lat.  $2\frac{3}{4}$  lin.

Hab. Murrumbidgee.

I have seen specimens from South Australia which, though resembling this insect, I am inclined to think belong to a different species.

9.—*CUBICORHYNCHUS PICEO-SETOSUS*.

Oblongo-ellipticus niger cinereo-squamosus, thorace crebre granulato dorso canaliculato lateribus subtuberculato, elytris striato-punctatis interstitiis seriatim granulatis alternis subelevatis granulis omnibus setigeris setis piceo-nigris.

Long. 6 lin., lat.  $2\frac{1}{2}$  lin.

Hab. Yass.

This is the only species I have seen in which the setæ are not of a pale yellow colour. Its dark coloured setæ and the broad dorsal line of the thorax serve to distinguish it from *A. morosus* and *sepidioides*.

Genus *HYBORHYNCHUS*.

*Antennæ* graciles, funiculi articulo secundo longiore.

*Oculi* subovati.

*Rostrum* brevissimum supra plerumque bicarinatum carinis postice elevatis.

*Caput* fronte rugosum convexum plerumque tuberculatum.

*Corpus* subangustum, segmento ultimo ventrali masculi transversim leviter excavato.

*Thorax, elytra, pedes, &c.* ut in *Acantholopho*.

The only species of this genus hitherto described *H. canosus*, is placed by Mr. Waterhouse in a section of *Acantholophus*, which he thus characterizes: "With simple tubercle over the eye, and two approximated acute tubercles at base of rostrum." The rostrum may, I think however, be better described as having the lateral margins not elevated behind, while an inner ridge on each side is considerably elevated, in some species even into an acute tubercle. The head is rather convex, and very rugose, the rugosities forming, in some species, four tubercles placed transversely, one on the inner side of each eye, the others near the middle, and sometimes rather behind the two first. The species generally present a considerable resemblance to *Acantholophus*; they are however for the most part rather, and in one species, *H. rugosus*, much narrower. The antennæ are slight.

All the species are from Western Australia.

#### 1.—HYBORHYNCHUS FURCATUS.

Oblongus niger, rostro basi bituberculato, fronte quadrituberculata, thorace dorso bifariam tuberculato lateribus dentato, elytris dorso rude seriatim striato-punctatis trifariam tuberculatis lateribus seriatim granulatis apice distanter mucronatis.

*Mas*: vittis subaureis et albidis omnino ornatus.

*Femina*: elytris vitta albida suturali postice furcata ornatis.

Long. ♂ 4 ♀ 5 lin., lat. ♂  $1\frac{1}{2}$  ♀  $2\frac{1}{4}$  lin.

Hab. King George's Sound.

The rostrum in this species is very distinctly crested behind. The head is deeply rugose, and has four tubercles in a transverse line between the eyes. The thorax has four tubercles along the anterior margin, a row of tubercles on each side of the dorsal line, and two tubercles on the sides. The elytra are roughly striato-punctate, with three series of tubercles on each, the terminal tubercle of each row only being large. The apex is remotely mucronate. The male is little more than half the width of the female, and is thickly covered all over with cinereous scales, with many narrow vittæ of white and golden yellow scales.

The female is densely covered with black scales, with a vitta of white scales commencing about the middle of the suture of the elytra, and extending along the suture to near the terminal tubercle of the row of tubercles nearest the suture, where it divides and extends on each side to the summit of the tubercle.

In both sexes there is a white ring round the thighs.

## 2.—HYBORHYNCHUS MACULATUS.

Oblongus niger, rostro basi bituberculato medio anguste canaliculato, fronte minute quadrituberculata, thorace dorso bifariam tuberculato lateribus dentato, elytris subseriatim granulatis trifariam tuberculatis apice distanter mucronatis.

*Mas* : elytris vittis aureis ornatis.

*Femina* : elytris omnino albido-maculatis.

Long. ♂  $4\frac{1}{4}$  ♀  $5\frac{1}{2}$  lin., lat. ♂  $1\frac{1}{2}$  ♀  $2\frac{1}{2}$  lin.

Hab. King George's Sound.

The male of this species is very like that of the last. The crest on the rostrum is perhaps a little more acute, and there are fewer cinereous and white scales, the narrow vittæ on the elytra being of a golden colour. The female, however, is very different. The whole upper surface is thickly covered with cinereous scales, which, on the elytra particularly, are interspersed with spots and patches of white. This species also has a narrow white ring near the apex of each thigh.

## 3.—HYBORHYNCHUS CÆNOSUS. Schönh.

*Amycterus cœnosus*, Schönh., Gen. et spec., Curcul., vol. VII., p. 80.

*Acantholophus cœnosus*, Waterh., Trans. Ent. Soc. Lond., vol. III., 2nd ser., p. 76.

“Oblongus niger dense brunneo-squamosus, fronte ntrinque tuberculo parvo conico instructa, rostro impresso marginibus oblique elevatis basi singulatim crista tuberculiformi obsitis, thorace apice quadrituberculato lateribus paulo rotundato valide hispinoso dorso biseriatim tuberculato, elytris obsolete striato-punctatis bifariam tuberculatis tuberculis anterioribus parvis posterioribus validis conicis apice emarginatis singulatim breviter mucronatis humeris antrosum prominulis bituberculatis.” Schönherr.

Long. 6 lin., lat. 2 lin.

Hab. King George's Sound.

The tubercles on the rostrum are elevated, while those on the forehead are very small. The tubercles generally are more spinose than in the other species, and there are only two rows of them on each elytron, the posterior tubercles on each row being the largest. The whole insect is of a narrow elongate form.

#### 4.—HYBORHYNCHUS RUGOSUS.

*Oblongus niger cinereo-squamosus, rostro fronteque subtuberculatis, thorace rugoso margine antico subelevato dorso medio impresso lateribus haud ampliato, elytris angustis rude punctatis valde rugosis postice trituberculatis antice tuberculis humeralibus suturalibusque antrorsum productis.*

Long. 7 lin., lat.  $2\frac{1}{4}$  lin.

Hab. King George's Sound.

In appearance this insect differs very much from the rest of the genus, and indeed from every other insect of the sub-family. It has no crest on the head or rostrum. It has no tubercles on the thorax, while the usual lines of tubercles on the elytra may be said to be represented only by the terminal tubercle of each. The structure and sculpture of the head and rostrum are, however, on the same plan as those of the other species, but the rugosities are nowhere elevated into tubercles. The thorax is narrow and rugose, with the anterior margin rather elevated. The elytra are of an uniformly transversely rugose appearance, rather elongate, flat on the back, and slightly compressed laterally. Each elytron has three large tubercles, one near the suture where the declivity of the elytra commences, which may be supposed to be the terminal tubercle of what in the other species would be the first row of tubercles; another outside, and a little anterior to it, represents the termination of the second row of tubercles, and the third, further out and nearer the apex, represents the third row. The humeral angles and suture are also furnished with tubercles produced forwards. The antennæ are slight.

This insect in various ways indicates an approach to the *Euomidae*.



*On the Pselaphidae of Australia, by the*

REV. R. L. KING, B.A.

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NO. IV.

[Read 4th December, 1865.]

IN my first paper, published in the first part of your Transactions, I gave a description of all the species known at the time as occurring in Australia, including those which I had met with in New South Wales, and those described by Westwood, from Victoria, together with a single species from Tasmania, described by Erichsen. In my second and third papers, I added the new species which had been detected by various Entomologists in New South Wales, Victoria, and Queensland. It will be convenient in this my concluding paper, to bring together all the species which have been described, with the addition of a few new ones. I am the more desirous of doing this because it will give me the opportunity of correcting errors into which I had been in former cases betrayed by the scarcity of specimens. I do not at all imagine that this family is even yet exhausted. Indeed, I have every reason to believe that the case is just the reverse. Yet even with the knowledge which we have at present, it is evident that this interesting group is as largely represented here as in any other country of which the Entomology is more fully known.

Tasmania is represented here by but a single species, *Batrissus australis*. Surely there must be many more which would reward the careful observer.

Genus I. NARCODES. King.

Both genus and species were described in Part I, pp. 38—39, the female as *N. varia*, the male as *N. pulchra*. The relation of the two sexes was at that time unknown. The following amended description must therefore be substituted.

Sp. 1. *N. varia*.

Fuscas, maculis nigris irregularibus, thorace capite breviori subquadrato, lateribus variabilibus.

*Mas.* antennarum articulo 10<sup>mo</sup> transverso truncato-obconico; palporum articulo 4<sup>to</sup> juxta 3<sup>ium</sup> extremitatem indatam posito. Long.  $\frac{1}{100}$ .

*Femina* antennarum articulo 10<sup>mo</sup> truncato-globoso; palporum maxillarum articulo 4<sup>to</sup> juxta medium partis 3<sup>ium</sup> inflatæ posito. Long.  $\frac{1}{100}$ .

## Pl. V. 1. 2.

I have not yet succeeded in detecting this species, except in the one very limited locality, near Paramatta. The figure in Plate V. is very imperfect in its proportions.

## Genus II. CTENISTES. Reichenb.

Sp. 2. *C. vernalis*.

The male of this species was described in Part I., p. 40, as *Taeniphorus vernalis*, and the female as *T. hesperi*. These two were united under the former name in Part II., p. 102. The genus, however, is without doubt *Utenistes*, Pl. V., fig. 3a.

Long.  $\frac{6}{100}$ .

Sp. 3. *C. Kreusleri*.

Castaneus; capite inter oculos sub-bifoveolato antennarum articulis 8—11 gradatim crescentibus, elytris stria suturali altera discoidali, abdomine marginato.

Long.  $\frac{1}{100}$ .

Gawler, South Anstralia, *Mrs. J. Kreusler*.

I have named this species of *Utenistes* after the discoverer, from whom I have received some very interesting additions to my collection of *Pselaphidæ*. It differs very materially from *C. vernalis*. It is much smaller, and the 8—10 joints of the antennæ gradually increase in size, while the 11th is nearly as long as the three preceding. The penultimate joint of the *max. palpi* is also more elongated than in the preceding species.

## Genus III. TMEIPHORUS. Le Cont.

Sp. 4. *T. Macleayi*.

The male described Part I., p. 40; the female, Part II., p. 102.  
Long.  $\frac{9}{100}$ .

## Genus IV. TYRUS. Aubè.

Sp. 5. *T. bispinosus*. J. O. Westwood.

Incorrectly written *T. spinosus* in Part I., p. 41. Described by Westwood in Trans. Entom. Soc. Vol. III., N.S., (p. 271, Pl. XVI., fig. 4.)

I have not seen this species.

Sp. 6. *T. humeralis*. J. O. Westwood.

Described by Westwood. (Loc. Cit. Pl. XVI., fig. 5.) Part I., p. 41.

Sp. 7. *T. Howittii*.

Piceus nitidus punctatus forte setosus, antennis castaneis; thorace obcordato non foveolato; elytris linea suturali altera discoidali obsoleta dimidiata; abdominis segmento 2<sup>ndo</sup>. magno.

Long.  $\frac{8}{100}$ .

Victoria, from the collection of Dr. Howitt.

In Dr. Howitt's specimen, which is unique, the palpi are not easily seen. The species appears to approach *T. humeralis* (Westwood), but has not the longitudinal lines on the abdomen, which mark that species.

Sp. 8. *T. piceus*.

Piceus elytris pallidioribus, politus parce setosus; capite brevi, inter antennis canaliculato, foveis duabus inter oculos et tuberculis duobus pone antenarum basin; thorace obcordato, foveis duabus lateralibus linea curvata conjunctis; elytris humeris plicatis, stria suturali discoidali nulla notatis; abdominis segmentis subæqualibus.

Mas. antenarum articulo penultimo magno transverso.

Long.  $\frac{6}{100}$ .

Paramatta, South Creek: Camperdown. Mr. Masters.

This is a very distinct species—its deep colour—the tubercles on the head—and the fovea on the thorax, separating it from its Australian congeners. It comes, however, near the last two species in general appearance, but is smaller. The Paramatta and South Creek specimens were found under the bark of a dead tree (Ironbark), with *Passalus*, &c.

Sp. 9. *T. formosus*.

Described Part I., p. 41, pl. V., fig. 4.

Long.  $\frac{7}{100}$ . Paramatta.

Sp. 10. *T. palpalis*.

Described Part I., p. 42, pl. V., fig. 5a.

Long.  $\frac{6}{100}$ . Paramatta.

Sp. 11. *T. Victorice*.

(Described Part III., p. 168.)

Long.  $\frac{11}{100}$ . Victoria.

In the collection of Count Castelnau.

Sp. 12. *T. speciosus*.

(Described Part III., p. 168.)

Long.  $\frac{5}{100}$ .

In Mr. Masters' collection.

#### Genus V. *RYRUS*. King.

*Labrum* rotundatum.

*Palpi maxillares* 4 articulati; articulo 1<sup>mo</sup> minimo, 2<sup>ndo</sup> elongato, ad apicem inflato, 3<sup>tio</sup> breviori inflato, 4<sup>to</sup> elongato juxta basin inflato.

*Antennæ* approximatae 11-articulatae.

*Tarsi* 2<sup>bus</sup> unguibus æqualibus armati.

*Abdomen* marginatum segmentis quique.

This is a sub-genus coming close to *Tyrus*, but distinguished by the ultimate joint of the maxillary palpi. That joint is elongated—inflated near the base, and terminating in a long thin and sometimes very slightly curved, and somewhat truncate apex. A figure of the palpus of the type *Rytus punctatus* (*Tyrus subula-*

*tus* of Part II., p. 103) is given in pl. VII., fig. 6. The generic description is founded upon this species, the only one of which I have seen more than a single specimen.

Sp. 13. *R. punctatus*.

(Described under the name *Tyrus subulatus* in Part II., p. 103.)

As I have given it a new name and placed it in a new genus, I would substitute the following as its more correct specific description.

Piceus creberrime punctatus setosus; capite ante oculos quandoque variolato; thorace obeordato antice rotundato; elytris linea suturali altera discoidali dimidiata notatis.

Long.  $\frac{7}{100}$ . (Pl. VII., fig. 6.)

Paramatta; South Creek; Prospect Hill; under stones.

This species is readily distinguished by its deep punctures, and its head free from other markings, except (in some specimens) a slight depression hardly amounting to a fovea. It is not uncommon in the localities referred to.

Sp. 14. *R. corniger*.

Castaneus setosus; capite punctulato, pone antennas transverse emarginato duobus setis (?) crassis conspicuo; thorace punctulato obeordato; elytris linea suturali, discoidali nulla notatis.

Long.  $\frac{6}{100}$ .

*Tyrus corniger*, Part III., p. 167, a single specimen found by Mr. Masters at the Clyde River under a log. It is not well mounted for examination. The smaller punctures and the deep emargination behind the antennæ, together with its lighter colour and smaller size, distinguish it from *R. punctatus*.

Sp. 15. *R. emarginatus*.

Castaneus politus setosus: capite pone antennas profunde transverse emarginato; thorace obeordato; elytris punctulatis, stria suturali altera discoidali dimidiata notatis.

Long.  $\frac{7}{100}$ . Paramatta.

Larger than the preceding, more polished, and without the horns on the forehead. It is, however, possible that the differ-

ence between it and the preceding species is only sexual. I have but a single specimen which I found under a log. The deep emargination makes the head appear to be cut in half, when viewed in profile.

Sp. 16. *R. Victorie*.

Piceus elytris castaneis: capite polito minute punctato. tuberculis ad basin antennarum magnis: thorace subgloboso minute punctato: elytris linea discoidali nulla: abdomine piceo segmento 2<sup>ndo</sup> magno.

Long.  $\frac{7}{100}$ .

Melbourne, in the collection of Dr. Howitt.

This species comes very near *R. punctatus*,—from which however, the character of its punctures at once distinguishes it. Except under a strong lens, it appears to be quite smooth. There was but a single specimen in Dr. Howitt's collection.

Genus VI. FARONUS. Aubè.

Sp. 17. *F. punctatus*.

(Described Part III., p. 168.)

Long 0.11.

Genus VII. PSELAPHUS. Herbst.

Sp. 18. *P. geminatus*. J. O. Westwood.

Described by Westwood (Loc. supra cit.).

Long. 1 lin.

I have not seen this species which appears to be distinguishable from others by the two discoidal striae on the elytra.

Sp. 19. *P. antipodum*. J. O. Westwood.

Long. 1 lin.

Described by Westwood, (loc. cit.), from Melbourne specimens. I described a species from Paramatta as *P. lineatus*, (p. 43). But finding that the *very common* Melbourne *Pselaphus* agrees with my Paramatta specimens so closely, I am inclined to think that I have but re-described Mr. Westwood's species. In that

case, therefore, my species must succumb. But if so, then the longitudinal furrow on the head is longer than in Mr. Westwood's description and figure. As, however, it is still possible that the description of so correct an observer will be proved to be exact by the re-discovery of his species, I shall still for the present retain my name and insert as—

Sp. 20. *P. lineatus*.

(Described Part I., p. 43.)

Long.  $\frac{8}{100}$ .

Common at Paramatta, under stones, and on fences at dusk. Melbourne, Dr. Hewitt; South Australia, Mrs. Kreuzler.

Sp. 21. *P. punctatus*.

(Described Part III., p. 169.)

Long. 0·12. Rockhampton.

This and the next species have their maxillary palpi very unlike the usual form of the genus *Pselaphus*. I prefer however, until other species appear, to leave them in this genus. This is a very fine species, for a specimen of which I am indebted to the Count Castelnau.

Sp. 22. *P. clavatus*.

(Described Part III., p. 169.)

Long. 0·07.

The Clyde River. *Mr. Masters*.

Var. *Edwardsii* Melbourne; Mr. Edwards; and Gawler, South Australia, Mrs. Kreuzler.

Genus VIII. *Tychus*. Leach.

Sp. 23. *T. nigricollis*.

(Described Part II., p. 103.)

Long. 0·06.

Paramatta; Sydney.

Sp. 24. *T. obliquus*.

(Described Part III., p. 170.)

Long. 0·04.

Paramatta; Blue Mountains.

Sp. 25. *T. Howitti*.

(Described Part III., p. 170.)

Long. 0·05.

Caught in grass in flood time, on the banks of the Yarra, Melbourne. *Dr. Howitt*.

Genus IX. *BATRISUS*.

Sp. 26. *Batrismus cyclops*.

Piceus setosus parce punctatus; capite duabus inter oculos fossulis frontem in tuberculum subrotundum elevantibus; thorace utrinque carinato linea media longitudinali et duobus dentibus dorsalibus acutis; clytris humeris plicatis, stria suturali altera discoidali dimidiata; abdomine parum marginato.

Long. 0·08.

Queensland, near Ipswich. *Dr. Howitt*.

This species comes very near *B. Australis* and *hamatus*. It differs in size and sculpture, and has not the curved coxæ of the posterior legs of the latter species: yet the posterior coxæ have a prominent tooth or short thick spine. In their elongated and very convex form, and dorsal teeth on the thorax, these three species form a distinct section of this genus.

Sp. 27. *B. australis*. Erichson.

(Part I., p. 44.)

Long. 1½ lin. Tasmania.

Sp. 28. *B. hamatus*.

(Part I., p. 45.)

Long. 0·10.

Paramatta; Blue Mountains.

Sp. 29. *B. angulatus*. J. O. Westwood.

(Part I., p. 44.)

Long 1 lin. Victoria.



Sp. 30. *B. (?) Elizabethæ.*  
(Part II., p. 104.)

Long. 0·07.

Elizabeth Bay ; Sydney. *W. S. MacLeay, Esq.*

Sp. 31. *B. tibialis.*  
(Part III., p. 171.)

Long. 0·08. Maitland.

Sp. 32. *B. nobilis.*  
(Part III., p. 173.)

Long. 0·12. Paramatta.

Sp. 33. *B. conspicuus.*  
(Part III., p. 171.)

Long. 0·09. Paramatta.

Sp. 34. *B. barbatus.*  
(Part I., p. 44.)

Long. 0·06. Paramatta.

Sp. 35. *B. Edwardsii.*  
(Part III., p. 172.)

Long. 0·05.

Victoria. *Mr. Edwards.*

Sp. 36. *B. gibbosus.*

*Piceus* sub lente setosus politus ; capite brevi subtransverso ad antennarum basin et ad frontem elevato, thorace alte transverse et longitudinaliter fossulato, gibboso, lateribus antice gibbosis, postice sinuatis contractis ; elytrorum humreis plicatis linea suturali, discoidali nulla, abdominis segmentis sub-æqualibus.

Long. 0·06. Paramatta.

I have but a single specimen of this very distinct form, which I obtained under the bark of a dead tree in an ants' nest, with *Articerus*, &c. The thorax is very gibbous, both in its outline and on the back ; three deep depressions dividing it longitudinally, and a transverse fossula marking the base. The tubercles at the base of the antennæ are very prominent.

Genus X. *BRYAXIS*. Leach.Sp. 37. *B. insignis*.

(Part III., p. 172.)

Long. 0·08.

The Currajong. *W. MacLeay, Esq.*Sp. 38. *B. strigicollis*. J. O. Westwood.

(Part I., p. 47.)

Long.  $1\frac{1}{4}$  lin.Melbourne; and S. Australia. *Mrs. Kreuzler*.Sp. 39. *B. hortensis*.

(Part I., p. 47.)

Long. 0·06. Paramatta.

Sp. 40. *B. lunatica*.

(Part I., p. 48.)

Long. 0·06. Paramatta.

Sp. 41. *B. electrica*.

(Part I., p. 48.)

Long. 0·05. Paramatta.

Sp. 42. *B. quadriceps*. J. O. Westwood.

(Part I., p. 49.)

Long.  $1\frac{1}{2}$  lin. Melbourne.Sp. 43. *B. ultracentris*. J. O. Westwood.

(Part I., p. 49.)

Long. 1 lin. Melbourne.

Sp. 44. *B. Armitagei*.

(Part II., p. 104.)

Long. 0·06.

Paramatta; Prospect.

Sp. 45. *B. basalis*.

(Part III., p. 172.)

Long. 0·06.

The Clyde River. *Mr. Masters*.

Sp. 46. *B. dominorum*.  
(Part III., p. 173.)

Long. 0·04.

The Clyde River. *Mr. Masters*.

Sp. 47. *B. atra*.

*Atra polita* minutissime setosa; capite sub-rotundato non foveolato, punctis paucis minutis; antennis brevibus sub-capitatis, clava tri-articulata, articulis 3--8 subæqualibus (5<sup>to</sup> majori) 9 et 10 transversis: thorace obeordato ad basin lato; elytris politis lateribus sub-parallelis, linea obsoleta suturali nulla discoidali; abdomine segmento 2<sup>ndo</sup> magno, pedibus piccis.

Long. 0·04.

The Dandenong Ranges—in moss. I have seen but a single specimen of this minute but interesting form. It is now in the collection of Dr. Howitt, at Melbourne, and was obtained by him out of some moss sent from the Dandenong Ranges. In that specimen the palpi are not sufficiently visible to enable me to be sure of the genus. The description given above will, however, enable observers to identify it, should any fresh specimens occur. The setæ are very minute, and only appear under a microscopic power of 60. The deep black of the elytra make the setæ appear to be of a whitish colour.

Several species having been detected bearing a general resemblance to *Bryaxis polita*, I have thought it better to revise the description of that common form, and to place it with others under a sub-genus, which I would call *Eupines*. They are all distinguished by an extreme polish, large elytra which have no discoidal striæ, and freedom from the large foveæ so common in the typical *Bryaxis*. The very interesting form, *B. Elizabethæ*, will come under this sub-genus, which may therefore be divided according to the number of joints of the antennæ.

A.—Antennæ eleven-jointed.

*B. (Eupines) polita*.

Pieca. abdomine solum setoso; capite inter oculos bi-impresso, antennarum clava triarticulata articulo nono precedenti vix

majori; thorace obovato; abdominis segmentis subæqualibus.

Long. 0·05. Paramatta.

The tibiæ of the fore legs of the male are thickened in the middle.

Sp. 49. *B. (Eupines) æquata*.

Picea parvissime setosa, capite inter oculos bi-impreso; thorace obovato.

Mas. antennarum articulo penultimo subgloboso, antepenultimo majori dentato.

Long. 0·05. Elizabeth Bay; Sydney.

I received a specimen of the female of this species from my friend, the late W. S. MacLeay; but I then considered it as only a well-marked variety of *B. polita*. The discovery of the male by the present worthy occupant of Elizabeth Bay, proves it to be a perfectly distinct species. A *Bryaxis* very closely resembling it occurs in Victoria; but as I have only seen the female, I must, for the present, regard it as a variety of the present species.

The antepenultimate joint of the male is larger than the penultimate, and is remarkable for a long thin tooth upon the upper edge. The antennæ of the female resemble those of *B. polita*.

Sp. 50. *B. (Eupines) Victorice*.

Picea parve setosa; capite nigro inter antennas minute bi-impreso; thorace irregulariter obovato; abdominis segmento secundo majori.

Long. 0·04. Victoria.

The male of this species I have not yet seen. It is easily distinguished from the preceding species by the smaller size and the shape of the thorax. The thorax is narrower than that of *æquata*, and is suddenly contracted posteriorly.

Sp. 51. *B. (Eupines) clavatula*.

*Bryaxis clavatula*. (Part III., p. 105.)

Castanea non-setosa; capite inter oculos minutissime bi-

impresso antennarum articulo nono elongato ; abdominis segmentis subæqualibus.

Long. 0·03.

Elizabeth Bay ; and on the sea cliffs behind North Head, Port Jackson.

The impressions on the head are extremely minute, indeed, not always distinguishable. The elongated 9th joint of the antennæ will readily point out the species.

Sp. 52. *B. (Eupines) geminata*.

Castanea, capite impressionibus duabus inter oculos geminatis ; thorace parce et minutissime setoso ; abdominis segmentis subæqualibus.

Long. 0·04. Paramatta.

Each impression on the head is like two dots united ; the 8<sup>th</sup>, 9<sup>th</sup>, and 10<sup>th</sup> joints of the antennæ are gradually increasing in size.

Although this species is very castaneous while living, yet after death, like many others of the genus, it becomes piceous.

Sp. 53. *B. (Eupines) transversa*.

Picea parce setosa ; antennarum articulis 9 et 10 transversis ; thorace breviter obcordato ; abdominis segmento 2<sup>ndo</sup> majori.

Long. 0·03. Paramatta.

This species also is probably more piceous after death than when living. I have but a single specimen. It is remarkable for the transverse penultimate and antepenultimate joint of the antennæ, the former of which exceeds the breadth of the last joint.

Sp. 54. *B. (Eupines) capitata*.

Castanea sub-lente setosa ; capite brevi linea transversa pone antennarum basin impressa, antennarum clava vix triarticulata ; articulo penultimo magno ; thorace breviter obcordato ; abdominis segmento secundo magno.

Long. 0·04.

Paramatta, under the bark of dead trees.

The transverse line on the face distinguishes this species. The 9th joint of the antennæ is hardly larger than the 8th, so that the club appears to be composed of only two joints.

Sp. 55. *B. (Eupines) exigua*.

*Bryaxis exigua*. (Part I., p. 50.)

Castanea non setosa; antennis brevibus clava tri-articulata, articulis gradatim ab 8<sup>vo</sup> crescentibus antepenultimo subtransverso; thorace antice rotundato angulis acutis subito post medium contracto; abdominis segmento 2<sup>mo</sup> majori.

Long. 0·03 Paramatta.

A very distinct species. In the figure given. (Pl. VII., fig. 10) the penultimate and antepenultimate joints of the antennæ are not sufficiently transverse. The description given of the antennæ, page 50, is more correct. The thorax comes near *E. Victorice*.

B.—Antennæ ten-jointed.

Sp. 56. *B. (Eupines) Elizabethæ*.

(Part II., p. 105, Pl. VII., 8—9.)

Long. 0·03.

The thorax, as figured in the plate, is hardly correct. It should be briefly obcordate. The antenna figured is also rather longer than it should be.

Genus XI. BYRHINUS. Leach.

Sp. 57. *B. impressifrons*.

(Part III., p. 173.)

Long. 0·05.

The Clyde River. *Mr. Masters*.

Sp. 58. *B. niger*.

Niger politus non-setosus; capite subquadrato; thorace obcordato, capite sublatori; elytris magnis, linea saturali nulla discoidali; abdomine minute setoso; pedibus piccis.

Long. 0·04.

Victoria. In Dr. Howitt's collection.

A single specimen. The genus is therefore somewhat uncertain, though it appears to have the palpi of *Brythinus*. It is very distinct from the preceding species.

Genus XII. EUPLECTUS. Leach.

Sp. 59. *E. linearis*.

(Described in Part I., p. 43, as *Bryaxis linearis*.) It is, however, a true *Euplectus*.

Long. 0·06. Paramatta.

Sp. 60. *E. sculptus*.

Described as *Bryaxis sculpta*. (Part I., p. 46.)

Long. 0·06. Paramatta.

Sp. 61. *E. excisus*.

Piceus setosus; capite 2<sup>bus</sup> fossulis inter oculos antice convergentibus; thorace subtransverso alte fossulato transverse et longitudinaliter, ad latera emarginato; elytris humeris plicatis linea suturali altera discoidali.

Long. 0·07.

The Dandenong Ranges. *Dr. Howitt*.

The notch at the sides of the thorax is occasioned by the deep transverse fossula. This configuration of the thorax is also seen in the next species from the Currajong.

Sp. 62. *E. depressus*.

Castaneus depressus sublente punctatus et setosus; capite fronte elevato fossulis ab oculis antice convergentibus occipite depresso; thorace longitudinaliter antice et transverse alte ad basin fossulato lateribus subexcisis; elytris lateribus parallelis, humeris plicatis, stria suturali, discoidali nulla.

Long. 0·05. The Currajong. *W. McLeay, Esq.*

The emarginations of the thorax arising from the deep transverse fossula are not so deep as in the preceding species,

though still very decided. The 9th and 10th joints of the antennæ are sub-moniliform, and hardly larger than those preceding. The longitudinal fossula of the thorax hardly reaches to the transverse, which latter is curved forward at the sides.

Sp. 63. *E. subterraneus*.

Castaneus punctatus sub-lente setosus; capite sub-transverso fronte alte transverse foveolato; thorace obcordato lateribus tuberculis fovea elongata media antice, altera alta basali transversa, 2<sup>bus</sup> foveis lateralibus, elytris linea discoidali nulla.

Long. 0·05.

Liberty Plains, near Paramatta, under a log deeply imbedded in the earth. I have since found the species in a similar situation near Fairfield,—and again near Bankstown under dead bark.

The basal fossula of the thorax is inclined forward on each side, and ends in an obtuse angle. The setæ on the elytra are very fine; a few longer ones on the thorax. The 3—10 joints of the antennæ, as in the last species, are moniliform.

Sp. 64. *E. Odewahnii*.

Castaneus, elytris pallidioribus sub-lente setosus; capitis fronte porrecto, antennis brevibus; thorace subrotundo foveis 2<sup>bus</sup> lateralibus et altera media basali linea alta curvata conjunctis, linea longitudinali media; elytris parallelis capitis et thoracis longitudine stria discoidali et suturali; abdominis segmentis æqualibus.

Long. 0·05.

Gawler, near Adelaide. *Mrs. J. Kreuzler*.

This minute species is apparently not uncommon at Gawler. It was sent me by my friends, Mrs. Kreuzler and Mr. Odewahn, to the latter of whom I have dedicated the species.

Genus XIII. CYATHIGER.

Sp. 65. *Cyathiger punctatus*.

(Part III., p. 173.)

Long. 0·05.

Petersham. *Mr. Masters*.



Genus XIV. *ARTICERUS*. Dalman.

Sp. 66. *Articerus fortnumi*. Hope.

(Part I., p. 50.)

Long.  $\frac{1}{2}$  lin. South Australia.

I have received several specimens of this species from Mrs. J. Kreuzler, of Gawler, where it appears to be very common. She finds it invariably among ants, under stones. The antennæ are truncate at the extremity, which does not appear in Mr. Hope's figure.

Sp. 67. *A. curvicornis*. J. O. Westwood.

(Part I., p. 51.)

Long. 1 lin. Victoria.

Sp. 68. *A. angusticollis*. J. O. Westwood.

(Part I., p. 51.)

Long. 1 lin.

Victoria, *J. O. W.*; Paramatta, *R. L. K.*

I obtained a single specimen of what I believe to be this species, under the bark of a dead log in the Sherwood bush, near Paramatta. It was among ants, and in company with *Heteroyna-thus carinatus*, and a Brachelytrous insect, near *Dinarda*: neither of which have I found except in or near ants' nests. A second specimen I have met with since—and this actually in the nest of the ants, among the eggs.

Sp. 69. *A. dilaticornis*. J. O. Westwood.

(Part I., p. 52.)

Long. 1 lin. Victoria.

Sp. 70. *A. setipes*. J. O. Westwood.

(Part I., p. 52.)

Long. 1 lin.

Victoria; Gawler; S. Australia.

I received a specimen closely resembling Mr Westwood's description from my friend Mrs. J. Kreuzler, she writes me that she captured a single specimen upon a stump, "in the immediate neighbourhood of an ant's nest."

*Description of Anapestus Kreuzleri : a species of Coleopterous  
Insect inhabiting Ants' Nests in South Australia ; by the*

REV. R. L. KING, B.A.

[Read March 5th, 1866.]

ONE of the most remarkable of the forms of Coleoptera discovered in the interior of ants' nests, has been described by Mr. Westwood in the Transactions of the Entomological Society of London (N.S: vol. iii., p. 90) under the name *Gnostus formicicola*. The insect so named was captured by Mr. Bates in the year 1854, at Santarem, in the Brazils, in the nest of the ant *Myrmica (crematogastris) victimæ*, Smith. A single specimen (or at the most two) was found in each nest.

*Gnostus formicicola* is a minute pentamerous beetle, with very remarkable three-jointed antennæ. Its nearest allies, except as regards the antennæ, appear to be found among those *Xylophagi* of Latreille, which are pentamerous; but to none—even of those groups—does it bear a close relationship. Mr. Westwood therefore suggests that it should be considered as constituting a distinct sub-family of its own.

This opinion is much strengthened by the discovery of the equally minute insect, which it is my good fortune to be permitted now to describe. I received my specimens from my valued correspondent, Mrs. Kreuzler, of Gawler, S.A., who has already done so much, especially in the detection of the more minute forms of the Entomology of that colony.

The Gawler species very remarkably agrees with the Brazilian in the character of the antennæ, as well as in other particulars. But at the same time it differs in so many important respects from the elaborate description and figures of *Gnostus*, given by Mr. Westwood, that I am obliged to place it in another genus. My dissection of the specimens discovered by Mrs.

Kreusler is still incomplete with respect to the labium, and perhaps the alæ of which I have found no trace. I hope that more specimens may ere long be detected.

The following will be the generic description of the present species :—

Sub-family GNOSTIDÆ.

Genus ANAPESTUS.

*Caput* fere ad oculos immersum, antice usque ad antennarum basin porrectum.

*Oculi* satis magni.

*Antennæ* contiguæ crassæ triarticulatæ; articulo 1<sup>mo</sup> oblongo, 2<sup>ndo</sup> subgloboso, 3<sup>tio</sup> elongato oblique truncato.

*Os* pronum.

*Labrum* alte emarginatum.

*Mandibule* trigonæ, edentulæ.

*Maxillæ* parvæ, trigonæ.

*Palpi max.* et *lab.* ut in *Gnosto*.

*Labium* subquadratum.

*Prothorax* transversus convexus lateribus emarginatis.

*Scutellum* parvum trigonum.

*Elytra* convexa, humeris rotundatis, abdomen tegentia.

*Pedes* breves, tibiis gracilibus, coxis posterioribus distantibus, tarsis cylindricis pentameris.

*Abdomen* 4-articulatum.

*Corpus* apterum.

Sp. 1.—ANAPESTUS KREUSLERI. (Pl. XVI.)

Piceo-castaneus, nitidus, punctatus, sub lente setosus; elytris minute punctatis.

Long. .05., lat. .03 poll.

In Ants' nests, under logs half buried in the earth.

The comparison of this species with Mr. Westwood's, points out the following particulars as worthy of observation. The head is wider in front than between the eyes, and terminates in a straight line above the base of the antennæ. The antennæ almost touch each other at the base. The first joint (as in *Gnostus*) partly overlaps the second. The prone situation of the mouth influences the form of the labrum, which is very deeply emarginate. The mandibles are somewhat robust, but toothless. The maxillæ are very short and triangular. The thorax is transverse, and is marked upon the edges just behind the centre by a deep notch partly fringed with stiff setæ, and quite analogous to that of the Brazilian species, though less elaborate. The elytra are rounded at the shoulders, short, very convex, and somewhat pointed towards the apex, greatly resembling those of some species of *Scydmaenus*. The body is apterous. The posterior feet are close to the intermediate, but are widely separated from each other. The tibiæ are more slender than in *Gnostus*, and lastly the abdomen consists of 4 imperfect segments.

The present species certainly approaches nearer *Scydmaenus* than the Brazilian, at least in outward form. But still the very rudimentary maxillæ and palpi show that the relationship is sufficiently remote. At present only a single species, and of that but four specimens have been captured. The 3-jointed antenna has suggested the generic name. I have dedicated this species to its talented discoverer.

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*New Species of Amycteridae, by WILLIAM MACLEAY,  
ESQ., JUNR., F.L.S.*

[Read 6th August, 1866.]

WHEN in August last I read to this Society a Paper descriptive of the genera and species of the *Amycteridae proper*, it was my intention to have immediately followed it up by a similar paper on the other sub-division of the family, the *Euomidae*. That intention I have abandoned for the present, because I have found it hitherto impossible to procure a copy of the "Mantissa Secunda" of Schönherr's *Curculionidae*, in which work one of the genera of the *Euomidae* is described.

I am desirous now, however, of supplementing my former Paper by descriptions of a number of new species, chiefly selected from the large and interesting collections lately made by Mr. Masters, at Port Lincoln and King George's Sound.

TALAUINUS VICTORIÆ.

Oblongo-ellipticus niger cinereo-squamosus, rostro suboblique bicarinato carinis latis, thorace granulato graunulis setigeris setis piceis, elytris seriatim rugoso-punctatis interstitiis crebre granulatis.

Long.  $6\frac{1}{2}$  lin., lat.  $2\frac{3}{4}$  lin.

Hab. Victoria.

This species resembles *T. Howittii*, it differs from it in the less distinctly carinated rostrum, in the darker coloured setæ, in the absence of white vittæ, the merest trace of one only being observable on the dorsal line of the thorax, in the absence of the sexual differences so conspicuous in the other, and in the much greater size.

TALAUINUS LATICEPS.

Oblongo-ellipticus niger vix squamosus, rostro postice bituberculato, capite lato tuberculato, thorace subquadrato lateribus

ampliato tuberculato tuberculis hemisphæricis, elytris rugoso-punctatis granulatis subseriatim tuberculatis tuberculis posticis validis conicis apice subtiliter mucronatis.

Long.  $9\frac{1}{2}$  lin., lat.  $3\frac{3}{4}$  lin.

Hab. King George's Sound.

The head in this species is broad, flat, and closely covered with hemispherical tubercles. The rostrum also is very broad and short, with the oblique ridges scarcely traceable in front, and terminating behind in rounded tubercles, as in the rostrum of some species of *Psalidura*. The thorax is rather broader than long, is rounded at the sides, and is covered with hemispherical tubercles.

The elytra are covered with irregular rows of punctures, granules and tubercles, the latter are rather strong and conical posteriorly. The apex of the elytra is broadly rounded and minutely mucronate. Spots of white scales are traceable on the upper surface. The male is more strongly tuberculated than the female, and has a transverse depression on the anterior portion of the thorax.

#### TALAUINUS CAVICEPS.

Oblongo-ellipticus niger cinereo-squamosus, capite excavato fronte medio carinato, thorace parce tuberculato tuberculis nitidis hemisphæricis, elytris subseriatim punctatis granulatis tuberculatis granulis tuberculisque nitidis hemisphæricis setigeris setis nigris apice mucronatis.

Long. 11 lin., lat.  $4\frac{1}{4}$  lin.

Hab. Port Lincoln.

The affinity of this insect is to *T. scabrosus*. The head and rostrum are much excavated. The oblique ridges of the latter are small and much lower than the lateral walls. The forehead has a narrow longitudinal ridge in the centre. The thorax is covered with cinereous scales, and thinly scattered black glossy hemispherical tubercles. The elytra are also covered with cinereous scales, rather thinly interspersed with glossy hemispherical granules and tubercles, each armed with a short black seta. The sides of the elytra are whitish, and the apex is

mucronate and broadly rounded. The male has the last ventral segment transversely excavated posteriorly. All the ventral segments in both sexes are punctured, and there are traces of whitish spots on the middle and sides of each.

TALaurINUS HISCIPENNIS.

Oblongo-ellipticus niger leviter squamosus, rostro valde excavato carinis obliquis parvis, thorace crebre granulato granulis setigeris setis nigris, elytris costatis interstitiis obliterate punctatis subreticulatis apice valide mucronatis deliscentibus.

Long. 11 lin., lat. 4 lin.

Hab. Yankee Jim's Creek, Victoria.

This species closely resembles *T. costatus*, *Mastersii*, and *impressicollis*, but may be readily distinguished from the whole of them by the short, distinct, very oblique ridges near the base of the rostrum, and the strongly mucronate elytra. The sexes scarcely differ.

TALaurINUS MURICATUS.

Oblongo-ellipticus niger confertim cinereo-squamosus albovitatus, rostro lato bicarinato carinis subparallelis, thorace tuberculato tubereulis parvis dorso sublaevi lateribus medio ampliato, elytris albo-squamosis seriatim punctatis granulatis bifariam tuberculatis tubereulis nitidis validis conicis.

Long.  $6\frac{1}{2}$  lin., lat.  $2\frac{3}{4}$  lin.

Hab. King George's Sound.

This insect approaches *T. incanescens*. The head and rostrum are broad, short, and flat, the ridges of the latter being almost parallel. The thorax is rather thickly covered with small hemispherical tubercles, excepting in the middle where there is a broadish space without any. The elytra are punctured and granulated in regular series, and have also on each two rows of large, sharp, glossy tubercles, numbering about seven in the inner, and eight in the outer row. In the specimen before me there are besides two tubercles on one elytron, and one on the other between the inner row and the suture. All the granules

and tubercles are furnished with a black seta. The whole insect is much covered with whitish scales disposed in vittæ and spots, the elytra particularly, which are almost entirely white. There is a dark velvety patch on the anal segment of the abdomen.

I have never seen but one specimen of this well marked species, and that is probably a male.

#### SCLERORINUS SABULOSUS.

Oblongo-ellipticus niger cinereo-squamosus, rostro medio carinato, thorace confertim tuberculato tuberculis parvis hemisphæricis setigeris setis flavis, elytris seriatim punctatis granulatis granulis setigeris interstitiis 2-4 et 5 tuberculatis tuberculis subnitidis parvis apice conjunctim rotundatis.

Long. 13 lin., lat.  $4\frac{1}{2}$  lin.

Hab. Flinders Range, South Australia.

This species is longer, narrower, and more convex than *S. Adeluida*. The granules, or rather small tubercles in the middle of the thorax are rather depressed, and they are all both on the thorax and elytra furnished with a yellow seta. The elytra have the second, fourth, and lateral interstices regularly and closely tuberculated, the tubercles being small and scarcely conical.

In the two specimens before me, the first interstice from the suture is represented by two small tubercles on the right side, and one on the left. The elytra are also rounded at the apex.

#### SCLERORINUS ARENOSUS.

Oblongo-ellipticus niger confertim cinereo-squamosus, rostro medio vix carinato, thorace erebre tuberculato tuberculis parvis hemisphæricis setigeris setis nigris, elytris seriatim punctatis granulatis granulis setigeris interstitiis 2-4 et 5 confertim tuberculatis tuberculis subnitidis subtransversis apice conjunctim rotundatis.

Long.  $10\frac{1}{2}$  lin., lat.  $4\frac{1}{2}$  lin.

Hab. Flinders Range, South Australia.



This insect differs from the last in being proportionately broader, in being more thickly clothed with cinereous scales, in having the tubercles on the second and fourth interstices of the elytra more closely and almost transversely placed, and in having the setæ on the granules and tubercles black. I have two specimens of the insect before me, in the one there are no tubercles on the first interstice, in the other there is one, on the right side only.

SCLERORINUS VESTITUS.

Oblongo-ellipticus niger confertim cinnamomeo-squamosus albido-vittatus, rostro fronteque carinatis, thorace parce tuberculato tuberculis parvis hemisphæricis nitidis setigeris setis nigris, elytris seriatim punctatis granulatis interstitiis 1-2-3 et 4 parce tuberculatis tuberculis subconicis nitidis setigeris setis nigris apice conjunctim rotundatis.

Long. 11 lin., lat.  $3\frac{1}{2}$  lin.

Hab. Flinders Range, South Australia.

In form this species approaches nearest to *S. longus*. It differs from it however in the disposition of the tubercles and in many other respects. The elytra present four rows of black, rather glossy tubercles, closest perhaps in the second row, but nowhere close. Those in the first row are largest, while those in the fourth row are all small. The third row contains the fewest number. The belly has a broad line of brownish hair in the middle with white spots on the sides.

SCLERORINUS MASTERSII.

Oblongo-ellipticus niger cinereo-squamosus subvittatus, rostro capiteque carinatis carina medio impressa, thorace tuberculato tuberculis parvis subplanis oblongis, elytris seriatim punctatis et granulatis interstitiis subelevatis alternis elevationibus remote tuberculatis tuberculis parvis subelongatis apice elongatis dehiscens.

Long. 11 lin., lat.  $4\frac{1}{2}$  lin.

Hab. Flinders Range, South Australia.

This has some general resemblance to *S. confusus*. There is a deep impression in the medial ridge at the base of the rostrum. The thorax is rather thickly covered with small vermicular looking tubercles, each furnished with a black seta. The elytra are in shape like those of *S. Adelaide*, with rows of punctures, each puncture preceded by a setigerous granule. The interstices are very slightly elevated, on the first there are only three or four small elongated tubercles, on the second they are more continuous, on the third there are only one or two, while the fourth and fifth interstices are closely and rather minutely tuberculated. The apex is largely and bluntly acuminate and dehiscent.

SCLERORINUS DIMIDIATUS.

Oblongo-ellipticus niger cinereo-squamosus, thorace tuberculato tuberculis parvis hemisphæricis, elytris subangustis seriatim punctatis interstitiis elevatis alteris elevatioribus interstitio secundo antice subcostato postice tuberculato tuberculis parvis subelongatis lateribus albidis, segmentis ventralibus medio et lateraliter albo-maculatis.

Long. 9 lin., lat. 3 lin.

Hab. Flinders Range, South Australia.

This species is of a somewhat narrower form than the last. The thorax is rather thinly tuberculated. The elytra are punctured in rows with the interstices slightly elevated. The first interstice has on it one or two small elongated tubercles, the second has the tubercles so elongated at the base as to form a continuous costa, towards the apex they are detached. All the tubercles are small. The sides of the elytra are whitish, and there are white spots on the middle and sides of each ventral segment of the abdomen.

SCLERORINUS PILULARIUS.

Oblongo-ellipticus niger confertissime cinereo-squamosus, rostro leviter carinato, thorace parce tuberculato tuberculis parvis rotundis nitidis setigeris lateribus ampliatis, elytris vittatis subseriatim rugoso-punctatis granulatis interstitiis 1-2 et 3 subremote tuberculatis tuberculis parvis nitidis

conicis interstitio quarto post humeros quadrituberculato postice plano, ventre medio fulvo-hirto lateraliter albo-maculato.

Long. 9 lin., lat.  $3\frac{1}{4}$  lin.

Hab. Flinders Range, S. Australia.

The affinity of this insect is to *S. sublineatus*. The rostrum is very slightly carinated. The thorax, which is much bulged out in the middle, is thinly tuberculated, the tubercles having a glossy bead-like appearance. The elytra are roughly punctured and granulated in rows with small glossy conical tubercles at some distance apart on the interstices. The fourth interstice is only marked by four small tubercles at the shoulder. The whole upper surface is very thickly clothed with cinereous scales, while the sides and two vittæ on the elytra are nearly white. The ventral segments have reddish hair in the middle, with a white spot on each side.

#### SCLERORINUS GERMAR.

Oblongo-ellipticus niger confertim fusco-squamosus, thorace trivittato tuberculato tuberculis parvis hemisphæricis lateribus medio ampliato, elytris subseriatim rugoso-punctatis granulatis interstitiis subremote tuberculatis tuberculis parvis subconicis interstitio quarto plano humeris prominentibus, ventre medio fulvo-hirto.

Long.  $6\frac{1}{2}$  lin., lat.  $2\frac{1}{2}$  lin.

Hab. Port Lincoln.

This species also is closely allied to the *S. sublineatus* of Germar, after whom I have named it; the bulging thorax and short elytra give it, however, a very different appearance. The head, thorax, and elytra are marked with whitish vittæ. The tubercles on the thorax are small, and are each armed with a long yellowish seta. The sculpture of the elytra is rough, and confused as in *S. sublineatus*; the fourth interstice is flat, and the humeral tubercle is rather large. The middle of the ventral segments is clothed with reddish hair, but less thickly in the female than in the male.

## SCLERORINUS BIORDINATUS.

Oblongo-ellipticus niger fusco-squamosus albido-vittatus, thorace tuberculato tuberculis parvis subhemisphæricis lateribus medio valde ampliato, elytris seriatim punctatis granulatis bifariam tuberculatis tuberculis validis conicis subæqualibus lateribus albis, ventre medio fulvo-hirto.

Long. 11 lin., lat.  $3\frac{3}{4}$  lin.

Hab. York Peninsula, S. Australia.

This is a very pretty and well-marked species. The thorax is much bulged out in the middle. The elytra are regularly punctured, and have on each two rows of strong conical closely-placed tubercles. The sides are white.

## SCLERORINUS LATICOLLIS.

Oblongo-ellipticus niger subnitidus, rostro carinato utrinque postice sub-excavato, capite brevi parce punctato, thorace confertim tuberculato tuberculis hemisphæricis subplanis lateribus medio valde ampliato, elytris rugoso-punctatis granulatis quinquieseriatim tuberculatis seriebus 1 et 3 postice haud tuberculatis tuberculis omnibus sub-conicis, ventre medio fusco-hirto.

Long. 10 lin., lat.  $3\frac{1}{4}$  lin.

Hab. King George's Sound.

This is a very distinct form, perhaps most resembling *S. elongatus*. The head is broad, short, and punctured. The rostrum is excavated at the base, and has the central ridge broad and depressed. The thorax is very much bulged out at the sides, and is covered with flattish hemispherical tubercles. The elytra are rather narrower than the thorax, and have in addition to a number of rugose punctures and granules, five rows of strong sub-conical tubercles. The first and third rows do not extend beyond the middle of the elytra; the others are continuous to the apex. A narrow vitta of brownish hair extends along the centre of the belly. The whole insect is of an almost glossy black, and free from scales.

## ACANTHOLOPHUS MASTERSII.

Oblongo-ellipticus niger cinereo-squamulosus albo-vittatus, tuberculo acuto utrinque inter oculos armato, thorace dorso bifariam sextuberculato tuberculis acutis subæqualibus lateribus medio spinoso, elytris subangustis subseriatim punctatis bifariam tuberculatis tuberculis spinosis postice majoribus pone humeros bispinosis.

Long.  $7\frac{1}{2}$  lin., lat.  $2\frac{1}{2}$  lin.

Hab. King George's Sound.

The place of this species is near *A. aureolus*. The forehead is smooth and almost flat, with a sharp spine pointing backwards on each side between the eyes. The thorax is longer than broad, and is furnished with two parallel rows of six short acute tubercles on the back, and on the sides with a sharp spine and a small tubercle in front of it. The elytra are scarcely broader than the thorax, coarsely punctured, and armed with two rows of strong spines. The first row or that nearest the suture consists of six spines, the apical one being the largest, the second row contains four. Outside the second row and immediately behind the shoulder there are two strong spines with a small tubercle in front of them. The apex of the elytra is slightly dehiscent. Both the thorax and elytra have a dorsal and a lateral vitta of white scales, and the latter have in addition an interrupted white vitta about the course of the second row of spines, and a number of white spots near the side. The medial or sutural vitta does not extend to the apex.

## ACANTHOLOPHUS POSTICALIS.

Oblongo-ellipticus niger cinereo-squamulosus albo-variegatus, tuberculo acuto utrinque inter oculos armato, thorace dorso bifariam sextuberculato tuberculis acutis subæqualibus spina arcuata lateraliter armato, elytris convexis medio ampliatis albo-maculatis seriatim granulatis trifariam tuberculatis tuberculis plerumque parvis conicis tuberculo postico magno acuto apice breviter mucronatis.

Long. 8 lin., lat. 3 lin.

Hab. King George's Sound.

In the head and thorax this species resembles the last. The elytra are broad, convex, and marked all over with cinereous and white patches. Their sculpture is rough, consisting of rows of coarse punctures and granules with three rows of tubercles on each elytron. The tubercles are for the most part small, but become gradually larger towards the apex, the posterior one of the first row being very large and acute. The external row consists of only four or five small tubercles. The apex of the elytra is mucronate.

ACANTHOLOPHUS RUGICEPS.

Oblongo-ellipticus subplanus niger fusco-squamosus, fronte rugoso-striata inter oculos utrinque tubereulo subtruncato armata, thorace plano rude granulato medio canaliculato lateribus tridentato, elytris seriatim granulatis bifariam tuberculatis tuberculis acutis postice majoribus post humeros tubereulo valido armatis apice remote mucronatis.

Long.  $6\frac{1}{2}$  lin., lat.  $2\frac{1}{2}$  lin.

Hab. King George's Sound.

The head and thorax of this species have some resemblance to those of *A. denticollis*, and allied species in the parallel section, which have the crest formed of a compound tubercle. The elytra have each two rows of spiny tubercles, which become larger towards the apex, and are larger in the male than in the female. In the place of the third row of some species there is a single tubercle near the shoulder. The apex of the elytra is dehiscant and mucronate.

ACANTHOLOPHUS IRRORATUS.

Oblongo-ellipticus subplanus niger fusco-squamosus confertim albido-maculatus, fronte subrugosa medio leviter carinata postice minute bituberculata inter oculos utrinque bituberculata tuberculis connatis subobtusis, thorace plano rugoso medio leviter canaliculato lateribus dentato elytris seriatim granulatis trifariam subtuberculatis apice minute mucronatis.

Long. 7 lin., lat.  $2\frac{3}{4}$  lin.

Hab. Port Lincoln.

The head is less rugose in this species than in the last. There are two minute tubercles on the forehead as is the case in most species of *Cubicorhynchus*, to which genus the present insect makes a decided approach, though its nearest affinity is to *A. denticollis* and *A. serraticollis*. The crest is deeply bilobed and rather obtuse. The thorax is strongly dentated on the sides, and flat and rugose on the back with a narrow medial line. The elytra are regularly granulated and punctured each with three rows of very small tubercles, scarcely larger on the basal portion than the granules. The apex is very minutely mucronate. The whole insect is thickly sprinkled with whitish spots.

ACANTHOLOPHUS SUBLOBATUS.

Oblongo-ellipticus niger fusco-squamosus, fronte leviter excavata inter oculos utrinque tuberculata tuberculis leviter bilobatis, thorace dorso medio canaliculato utrinque leviter tuberculato lateribus bidentato, elytris seriatim punctatis trifariam tuberculatis tuberculis parvis posticis majoribus apice minute mucronatis.

Long. 6 lin., lat.  $2\frac{1}{4}$  lin.

Hab. Dandenong, Victoria.

The affinity of this species is to *A. approximatus*, it differs from it, however, in the less excavated forehead, more rounded crest, almost flat thorax, and less tuberculated elytra.

I have given the dimensions of the male, the female is much larger.

ACANTHOLOPHUS GRAVICOLLIS.

Oblongo-ellipticus niger fusco-squamosus, fronte leviter excavata inter oculos utrinque spinis duabus connatis instructa spina posteriori longa arcuata, thorace medio utrinque tuberculato tuberculo apicali magno longo subdentato lateribus dentato, elytris seriatim punctatis et granulatis trifariam tuberculatis tuberculis posticis lateralibusque majoribus.

Long. 7 lin., lat.  $2\frac{1}{2}$  lin.

Hab. Port Lincoln.

The large long semidentated tubercle, which forms the first of a row on each side of the medial line of the thorax, is the most distinctive feature in this species. The crest is like that of *A. hypoleucus*, consisting of two acute connate spines, the posterior one being long and curved backwards. The elytra are granulated, and have each three rows of tubercles, in the first row the posterior tubercles only are of any size, in the second row they are all rather large, in the third, which have only four or five tubercles, the humeral ones are the largest. The sides are whitish, and the whole upper surface is slightly dusted with scales of the same hue.

ACANTHOLOPHUS TRIBULUS.

Oblongo-ellipticus niger fusco-squamosus albido-vittatus, fronte subplana inter oculos utrinque spinis duabus connatis armata spina posteriori sublonga valde arcuata, thorace dorso bifariam tuberculato tuberculis subparvis obtusis lateribus tridentato, elytris subconvexis seriatim granulatis trifariam tuberculatis tuberculis validis conicis, corpore subtus pedibusque leviter albo-squamosis.

Long. 5 lin., lat. 2 lin.

Hab. Port Lincoln.

This insect seems to approach nearest to *A. hystrix*, but it wants the long spines and arched appearance of that species. The crest is formed of two connate spines, the hinder one being long and much curved backwards. The tubercles on the sides of the thorax are acute, while those on the back are obtuse. The elytra are granulated with three rows of rather strong conical tubercles on each. The sides and medial line of the thorax are covered with white scales, and there are some lateral spots, and an interrupted vitta of the same on each elytron.

ACANTHOLOPHUS CONVEXIUSCULUS.

Oblongo-ellipticus niger fusco-squamosus, fronte postice bituberculata tuberculis parvis inter oculos utrinque tuberculo obtuso armata, thorace rugoso bifariam tuberculato tuberculis obtusis irregularibus lateribus medio tuberculato,



elytris convexis rude punctatis rugosis subtuberculatis anguste albo-vittatis lateribus valde ampliatis basi quadratuberculatis tuberculis antice productis.

Long.  $4\frac{1}{2}$  lin., lat. 2 lin.

Hab. New South Wales.

This is a very remarkable species, the head presenting a good deal of the character of that of the genus *Hyborhynchus*. The crest is formed of a large round tubercle on each side of the head between the eyes, while behind and near the centre of the forehead there are two small tubercles and considerable inequality of surface. The thorax is narrow and very rough and scaly, with the dorsal tubercles, on each side of the medial line irregular and obtuse, and the sides armed with a strong pointed but not acute tubercle. The elytra are rather convex, with perpendicular sides and apex. Their sculpture consists of a series of large rugose punctures and granules, with three scarcely traceable rows of tubercles on each. There are four curious nodular looking tubercles on the base of the elytra, which project a little forward; one is situated on each side of the scutellum, the other two between that and the shoulders. There is a narrow white vitta on each elytron.

I captured a male and female of this insect a few weeks ago at Shelley's Flat, near Goulburn; and curiously enough, about the same time, Mr. Masters found a dead specimen apparently of the same species near Sydney. I have never before seen anything like it in any collection.

#### CUBICORHYNCHUS ANGULARIS.

Oblongo-ellipticus niger parce squamosus, thorace rotundato granulato dorso vix canaliculato, elytris seriatim striato-punctatis interstitiis granulatis interstitio quarto postice tuberculato angulato.

Long. 7 lin., lat.  $2\frac{3}{4}$  lin.

Hab. Swan River.

This species is about the size of *C. Bohemani*, but differs from it, and indeed, from all the species I have seen in the ridged and angular appearance of the fourth interstice of the elytra, and

in the distinct tubercles in which it terminates at the apical declivity of the elytra.

CUBICORHYNCHUS SPINICOLLIS.

Oblongo-ellipticus niger cinereo-squamosus, fronte medio bituberculata tuberculis minutis inter oculos utrinque tuberculo majore armata, thorace plano sub-tuberculato medio canaliculato lateribus antice bispinoso, elytris seriatim punctatis interstitiis crebre tuberculatis tuberculis parvis.

Long.  $4\frac{1}{2}$  lin., lat 2 lin.

Hab. King George's Sound.

The two sharp tubercles on the sides of the thorax serve at once to distinguish this species. The tubercle beside the eye is rather large, particularly in the female; those on the forehead are small. The thorax and elytra are tuberculated rather than granulated, therein differing from the typical species of the genus.

CUBICORHYNCHUS EXIMIUS.

Oblongo-ellipticus niger cinereo-squamosus albo-vittatus, fronte subtiliter bituberculata inter oculos utrinque tuberculo bilobato armata, thorace oblongo tuberculato lateribus trituberculato, elytris latis seriatim granulatis trifariam tuberculatis tuberculis posticis magnis conicis lateribus ampliatis apice dehiscentibus submucronatis.

Long.  $9\frac{1}{2}$  lin., lat.  $3\frac{1}{2}$  lin.

Hab. King George's Sound.

This is a very curious insect. It has no resemblance to this genus except in the shape and structure of the head and rostrum, which are so completely those of *Cubicorhynchus* that I have placed it in that genus. The thorax and elytra have all the appearance of an *Acantholophus*. The frontal tubercles are very minute, those near the eyes are much larger and are bilobed. The thorax is uneven and tuberculated, with three strong conical tubercles on each side. The elytra are elongate, amplified in the middle, and covered with glossy looking granules disposed in regular rows. There are also three rows of tubercles on each

elytron, the terminal one of the first and second rows being large and conical. The apex is dehiscant and slightly mucronate. The sides of both thorax and elytra are white, and their upper surface contains patches of the same colour.

#### HYBORHYNCHUS PRODIGUS.

Oblongus niger cinereo-squamosus, capite utrinque spinis duabus longis subacutis subarcuatis armato, thorace bifariam tuberculato spina laterali magna instructo, elytris punctato-striatis trifariam tuberculatis tuberculis postice longis acutis apice remote mucronatis.

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

Hab. King George's Sound.

This species leads to *Acantholophus*. On each side of the head between the eyes there is a long subacute spine, and in front of and within it, is another of equal or even greater length, having its summit slightly curved backwards. Behind, in the centre of the forehead, are two very small tubercles. The thorax is narrow, with tubercles on each side of the medial line, and with a sharp spine pointed a little forwards in the middle of the side. The elytra are coarsely punctured in striæ, and have each three rows of strong acute tubercles, those nearest the apex in the first and second rows being very long, particularly in the male. The third row consists of only about three tubercles of smaller size. The apex of the elytra is mucronate, the points being some distance apart. The sides of both thorax and elytra are slightly marked with spots and vittæ of whitish scales.

#### HYBORHYNCHUS BICORNUTUS.

Oblongus niger cinereo-squamosus, capite utrinque inter oculos spina longa subacuta armato antice subtilissime bituberculato, thorace bifariam tuberculato tuberculo antico subproducto lateribus spinoso, elytris rude seriatim punctatis bifariam tuberculatis post humeros unituberculatis apice dehiscantibus submucronatis.

Long.  $4\frac{1}{2}$  lin., lat.  $1\frac{1}{2}$  lin.

Hab. Port Lincoln.

This species is even more like an *Acantholophus* than the last. The spine on each side of the head between the eyes is long, as in the last species, while the place of the spine in front of and within it, is here occupied by a very minute tubercle. The apex of the rostrum on each side is elevated into an acute tubercle. There are two rows of dorsal tubercles on the thorax, the apical tubercle of each projecting a little over the head. There are three lateral tubercles. The elytra are roughly punctured, and have two rows of tubercles, and one posthumeral tubercle on each. The apex is deliscent, and slightly mucronate, and the sides are marked with narrow whitish vittæ.

HYBORHYNCHUS CRASSIUSCULUS.

Oblongo-ellipticus niger squamosus albido-variegatus, capite transversim quadrituberculato tuberculis parvis antice bituberculato tuberculis minutis, thorace subplano bifariam subtuberculato lateribus dentato dente medio valido, elytris ampliatis seriatim punctatis crebre granulatis granulis setigeris.

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

Hab. King George's Sound.

There is in the general appearance of this insect some resemblance to the genus *Cubicorhynchus*. There are four small round tubercles placed transversely across the forehead, with two smaller ones in front. The thorax is somewhat flat, and is as broad as long. The dorsal rows of tubercles are traceable, but not prominent. The sides have one large tooth in the middle, with a smaller one behind. The elytra are broader than the thorax, somewhat flat on the back, and vertical behind. They are punctured in striæ, with the interstices close, and formed of dense rows of large granules, each with a longish seta. The whole body is thickly spotted with whitish scales, with rings of the same on the thighs.

HYBORHYNCHUS MASTERSII.

Oblongo-ellipticus niger cinereo-squamosus, fronte bituberculata tuberculis parvis inter oculos utrinque tuberculo obtuso armata, thorace bifariam tuberculato tuberculis parvis

lateribus unidentato dente magno, elytris latis rotundatis seriatim granulatis anguste albido-vittatis basi quadri-tuberculatis.

Long. 4 lin., lat.  $1\frac{3}{4}$  lin.

Hab. Port Lincoln.

This species also much resembles a *Cubicorhynchus*, it has also an affinity to *Acantholophus convexiusculus*. There are two small tubercles on the forehead, and one of a larger size on each side of the head between the eyes. The head is thickly covered with scales. The thorax has four small tubercles on the anterior edge, three or four on each side of the medial line, and a strong conical lateral one. The elytra are broad, rounded at the sides, and covered with alternate rows of punctures and granules. Four small nodular looking tubercles project forwards from the base, two near the scutellum, the others nearer the shoulders.

The number of Amycteridæ now described is so great, that the following table of the species with their habitats will be found convenient for reference.

The genera *Talaurinus* and *Acantholophus* are in this list subdivided in the way described in my Paper of August last, but the genus *Sclerorinus* is now for the first time divided into sections, which I think will assist materially in simplifying the identification of the species, and a few words of explanation may be necessary.

The elytra of all the species of *Sclerorinus* are more or less punctured in rows, and the interstices are more or less elevated and often tuberculated. There are four of these more or less elevated interstices on the upper surface of each clytron, for the fifth, which is sometimes alluded to in the specific descriptions, is more properly a lateral interstice. The species which have the fourth interstice closely and continuously tuberculated, and which constitute my first sub-division, are very numerous, and are almost exclusively from South Australia. In these the second interstice is always continuously tuberculated, while the first and

third are less so, the latter sometimes not at all. The group is upon the whole a natural one, though perhaps some of the species such as *S. asper*, *sordidus*, and *acuminatus*, might almost be placed in the third section with *S. obliterated*.

The second section, or those with the fourth interstice not tuberculated, or only close to the shoulder, is also a natural group as far as the South Australian species are concerned, the two Victorian species being of a different character. *S. sublineatus* may be taken as the type of the group. All the interstices are well tuberculated excepting the fourth, which is almost flat except at the shoulder, while the fifth interstice seems to take its place.

The third section contains a natural group in the first five species, the remainder are of a mixed character.

The last section, or those with costate interstices are few in number, and are probably exclusively insects of New South Wales.

Wherever in the subjoined list the habitat "New Holland" is given, the meaning is that it is doubtful whether the insect comes from north, south, east, or west. Where, on the other hand, the term "New South Wales" is used, it is generally meant to express that the insect in question has a wide range in that territory. I have not as a rule in the case of species from South Australia, West Australia, Victoria, or Queensland, given the particular habitat, but the remarks accompanying the descriptions will supply that defect, as far as our present knowledge can do so.

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## Genus PSALIDURA. MacLeay.

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|--|---|
| <ul style="list-style-type: none"> <li>P. mirabilis, <i>Kirby</i>, N. S. Wales</li> <li>— rufolineata, <i>MacL. Jun.</i>, N. S. Wales</li> <li>— verrucosa, <i>MacL. Jun.</i>, New Holland</li> <li>— Coxii, <i>MacL. Jun.</i>, Mudgee</li> <li>— mira, <i>Schönh.</i>, Swan River</li> <li>— miracula, <i>MacL. Jun.</i>, Mudgee</li> <li>— mirifica, <i>MacL. Jun.</i>, New Holland</li> <li>— subcostata, <i>MacL. Jun.</i>, Paramatta</li> <li>— mirabunda, <i>Schönh.</i>, New Holland</li> <li>— elongata, <i>MacL. Jun.</i>, Lambing Flat</li> <li>— impressa, <i>Boisd.</i>, V. D. Land</li> <li>— Wilcoxii, <i>MacL. Jun.</i>, Clarence River</li> <li>— montana, <i>MacL. Jun.</i>, Moreton Bay</li> </ul> | <ul style="list-style-type: none"> <li>P. forficulata, <i>MacL. Jun.</i>, Rockhampton</li> <li>— caudata, <i>MacL. Jun.</i>, Darling Downs</li> <li>— Mitchellii, <i>MacL. Jun.</i>, Victoria River</li> <li>— Howittii, <i>MacL. Jun.</i>, Melbourne</li> <li>— subvittata, <i>MacL. Jun.</i>, Moreton Bay</li> <li>— squamigera, <i>MacL. Jun.</i>, New Holland</li> <li>— Helyi, <i>MacL. Jun.</i>, N. Australia.</li> <li>— foveata, <i>MacL. Jun.</i>, N. E. Coast</li> <li>— falciformis, <i>MacL. Jun.</i>, Mudgee</li> <li>— Mastersii, <i>MacL. Jun.</i>, Moreton Bay</li> <li>— reticulata, <i>MacL. Jun.</i>, WellingtonVal-</li> <li>— abnormis, <i>MacL. Jun.</i>, Argyle [ley</li> <li>— D'Urvillii, <i>Schönh.</i>, New Holland</li> </ul> |
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## Genus TALAURINUS. MacLeay, Jun.

## a. GRANULATI.

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|--|---|
| <ul style="list-style-type: none"> <li>T. tomentosus, <i>Boisd.</i>, Victoria</li> <li>— Howittii, <i>MacL. Jun.</i>, Victoria</li> <li>— Victoriae, <i>MacL. Jun.</i>, Victoria</li> <li>— variegatus, <i>MacL. Jun.</i>, Victoria River</li> <li>— Riverinae, <i>MacL. Jun.</i>, Lower Mur-</li> <li>    rumbidgee</li> <li>— squamosus, <i>MacL. Jun.</i>, Lower Mur-</li> <li>    rumbidgee</li> <li>— griseus, <i>MacL. Jun.</i>, Rockhampton</li> <li>— maculatus, <i>MacL. Jun.</i>, N. E. Coast</li> <li>— penicillatus, <i>MacL. Jun.</i>, V. D. Land</li> <li>— Rayneri, <i>MacL. Jun.</i>, New Holland</li> </ul> | <ul style="list-style-type: none"> <li>T. incertus, <i>MacL. Jun.</i>, Rockhampton</li> <li>— morbillosus, <i>Boisd.</i>, Victoria</li> <li>— papulosus, <i>MacL. Jun.</i>, New Holland</li> <li>— pulverulentus, <i>MacL. Jun.</i>, N. Holland</li> <li>— nodulosus, <i>MacL. Jun.</i>, New Holland</li> <li>— pallidus, <i>MacL. Jun.</i>, New Holland</li> <li>— humeralis, <i>MacL. Jun.</i>, Victoria River</li> <li>— parallelus, <i>MacL. Jun.</i>, New Holland</li> <li>— Euomioides, <i>MacL. Jun.</i>, Moreton Bay</li> <li>— ambiguus, <i>MacL. Jun.</i>, Darling Downs</li> <li>— dubius, <i>MacL. Jun.</i>, Darling Downs</li> </ul> |
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## b. TUBERCVLATI.

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>T. Camdenensis, <i>MacL. Jun.</i>, Camden</li> <li>— Murrumbidgeensis, <i>MacL. Jun.</i>, Mur-</li> <li>    rumbidgee</li> <li>— rudis, <i>MacL. Jun.</i>, N. S. Wales</li> <li>— Bucephalus, <i>Ol.</i>, N. S. Wales.</li> <li>— Westwoodii, <i>Schönh.</i>, N. S. Wales</li> <li>— salebrosus, <i>MacL. Jun.</i>, New Holland</li> <li>— rugosus, <i>MacL. Jun.</i>, New Holland</li> <li>— verrucosus, <i>Boisd.</i>, Argyle</li> <li>— typicus, <i>MacL. Jun.</i>, Argyle</li> <li>— alternans, <i>MacL. Jun.</i>, Clyde River</li> <li>— Roei, <i>Schönh.</i>, K. G. Sound</li> <li>— semispinosus, <i>Schönh.</i>, K. G. Sound</li> </ul> | <ul style="list-style-type: none"> <li>T. laticeps, <i>MacL. Jun.</i>, K. G. Sound</li> <li>— pastillarius, <i>Schönh.</i>, K. G. Sound</li> <li>— aberrans, <i>MacL. Jun.</i>, Victoria</li> <li>— tuberculatus, <i>MacL. Jun.</i>, Victoria</li> <li>— Mitchellii, <i>MacL. Jun.</i>, Victoria River</li> <li>— catenulatus, <i>MacL. Jun.</i>, New Holland</li> <li>— Amycteroides, <i>MacL. Jun.</i>, Victoria</li> <li>    River</li> <li>— scabrosus, <i>MacL. Jun.</i>, Victoria River</li> <li>— caviceps, <i>MacL. Jun.</i>, Port Lincoln</li> <li>— sphaerulatus, <i>MacL. Jun.</i>, New Hol-</li> <li>    land</li> </ul> |
|--|--|

## c. COSTATI.

- |  |  |
|--|--|
| T. excavatus, <i>Schönh.</i> , N. S. Wales     | T. impressicollis <i>MacL. Jun.</i> , Victoria |
| — rugifer, <i>Boisd.</i> , Swan River          | — hiscipennis, <i>MacL. Jun.</i> , Victoria    |
| — simillimus, <i>MacL. Jun.</i> , Merimbula    | — lacunosus, <i>MacL. Jun.</i> , Manning River |
| — foveatus, <i>MacL. Jun.</i> , N. E. Coast    | — scaber, <i>MacL. Jun.</i> , Swan River       |
| — Kirbyi, <i>MacLeay</i> , New Holland         | — alternatus, <i>MacL. Jun.</i> , New Holland  |
| — costatus, <i>Boisd.</i> , N. S. Wales        | — rugicollis, <i>MacL. Jun.</i> , Singleton    |
| — Mastersii, <i>MacL. Jun.</i> , Eastern Creek |  |

## d. FOVEATI.

- |  |  |
|--|--|
| T. angustatus, <i>MacL. Jun.</i> , K. G. Sound | T. rugiceps, <i>MacL. Jun.</i> , K. G. Sound |
| — Damelii, <i>MacL. Jun.</i> , K. G. Sound     |  |

## e. ECHINATI.

- |  |   |
|--|---|
| T. hyalricosus, <i>Schönh.</i> , K. G. Sound | T. incanescens, <i>MacL. Jun.</i> , K. G. Sound |
| — dumosus, <i>MacL. Jun.</i> , K. G. Sound   | — muricatus, <i>MacL. Jun.</i> , K. G. Sound    |
| — spinosus, <i>MacL. Jun.</i> , K. G. Sound  | — Manglesii, <i>Schönh.</i> , K. G. Sound       |

Genus SCLERORINUS. *MacLeay, Junr.*

## 1. Fourth interstice of the elytra closely and continuously tuberculated.

- |  |   |
|--|---|
| S. Adelaide, <i>MacL. Jun.</i> , S. Australia      | S. Angasii, <i>MacL. Jun.</i> , S. Australia    |
| — cyrnicatus, <i>MacL. Jun.</i> , S. Australia     | — fuscus, <i>MacL. Jun.</i> , S. Australia      |
| — Matas, <i>MacL. Jun.</i> , S. Australia          | — asper, <i>MacL. Jun.</i> , S. Australia       |
| — nodulosus, <i>MacL. Jun.</i> , S. Australia      | — sordidus, <i>MacL. Jun.</i> , S. Australia    |
| — rugicollis, <i>MacL. Jun.</i> , S. Australia     | — acuminatus, <i>MacL. Jun.</i> , S. Australia  |
| — conspersus, <i>MacL. Jun.</i> , S. Australia     | — horridus, <i>MacL. Jun.</i> , S. Australia    |
| — confusus, <i>MacL. Jun.</i> , S. Australia       | — dilaticollis, <i>MacL. Jun.</i> , Victoria    |
| — Mastersii, <i>MacL. Jun.</i> , S. Australia      | — sabulosus, <i>MacL. Jun.</i> , S. Australia   |
| — dimidiatus, <i>MacL. Jun.</i> , S. Australia     | — arcuosus, <i>MacL. Jun.</i> , S. Australia    |
| — Eordinatus, <i>MacL. Jun.</i> , S. Australia     | — elongatus, <i>Germ.</i> , S. Australia        |
| — Watrhousci, <i>MacL. Jun.</i> , S. Australia     | — irregularis, <i>MacL. Jun.</i> , S. Australia |
| — interioris, <i>MacL. Jun.</i> , Centr. Australia | — Stutchburyi, <i>MacL. Jun.</i> , Queensland   |

## 2. Fourth interstice not tuberculated, or only close to the shoulder.

- |  |  |
|--|--|
| S. sublineatus, <i>Germ.</i> , S. Australia    | S. longus, <i>MacL. Jun.</i> , S. Australia  |
| — pilularius, <i>MacL. Jun.</i> , S. Australia | — mucronatus, <i>MacL. Jun.</i> , Victoria   |
| — Germani, <i>MacL. Jun.</i> , S. Australia    | — tuberculosus, <i>MacL. Jun.</i> , Victoria |
| — Stewartii, <i>MacL. Jun.</i> , Central Aust. | — parvulus, <i>MacL. Jun.</i> , S. Australia |

## 3. Fourth interstice remotely tuberculated, or slightly elevated.

- |   |   |
|---|---|
| S. exilis, <i>MacL. Jun.</i> , Murrumbidgee   | S. tristis, <i>Boisd.</i> , V. D. Land        |
| — angustus, <i>MacL. Jun.</i> , Murrumbidgee  | — apicalis, <i>MacL. Jun.</i> , N. S. Wales   |
| — Riverine, <i>MacL. Jun.</i> , Murrumbidgee  | — obliteratus, <i>MacL. Jun.</i> , Victoria   |
| — alternans, <i>MacL. Jun.</i> , Murrumbidgee | — Howittii, <i>MacL. Jun.</i> , Victoria      |
| — vestitus, <i>MacL. Jun.</i> , S. Australia  | — laticollis, <i>MacL. Jun.</i> , K. G. Sound |
| — Babadu, <i>Ol.</i> , V. D. Land             | — verrucosus, <i>MacL. Jun.</i> , New Holland |



## 4. Interstices of the elytra somewhat costate.

- |   |  |
|---|--|
| S. subcostatus, <i>MacL. Jun.</i> , Wingelo   | S. vermiculatus, <i>MacL. Jun.</i> , Braidwood |
| — squalidus, <i>MacL. Jun.</i> , Lambing Flat | — subsequens, <i>MacL. Jun.</i> , Mudgee       |
| — interruptus, <i>MacL. Jun.</i> , Mudgee     | — dolens, <i>Boisd.</i> , New Holland          |

## Genus AMYCTERUS. Schönherr.

- |  |   |
|--|---|
| A. Boisduvallii, <i>Dup.</i> , K. G. Sound | A. Schönherrii, <i>Hope</i> , W. Australia    |
| — draco, <i>MacLeay</i> , New Holland      | — Leichardtii, <i>MacL. Jun.</i> , Lynd River |

## Genus ACANTHOLOPHUS. MacLeay.

## A.

With simple tubercle over the eye.

## a. Three rows of tubercles on each elytron.

- |   |   |
|---|---|
| A. transitus, <i>MacL. Jun.</i> , Swan River    | A. posticalis, <i>MacL. Jun.</i> , K. G. Sound          |
| — Amycteroides, <i>MacL. Jun.</i> , K. G. Sound | — convexiusculus, <i>MacL. Jun.</i> , Shelley's<br>Flat |
| — dumosus, <i>Schönh.</i> , K. G. Sound         |   |

## b. Two rows of tubercles on each elytron, and one or two posthumeral lateral spines.

- |  |   |
|--|---|
| A. aureolus, <i>Schönh.</i> , K. G. Sound    | A. Angasii, <i>MacL. Jun.</i> , S. Australia    |
| — Mastersii, <i>MacL. Jun.</i> , K. G. Sound | — squalidus, <i>MacL. Jun.</i> , Merimbula      |
| — rugiceps, <i>MacL. Jun.</i> , K. G. Sound  | — truncaticornis, <i>MacL. Jun.</i> , Newcastle |

## B.

With compound tubercle over the eye.

## a. Two rows of tubercles on each elytron, and under four lateral spines.

- |  |  |
|--|--|
| A. hystrix, <i>Schönh.</i> , K. G. Sound   | A. spinosus, <i>MacL. Jun.</i> , K. G. Sound |
| — bivittatus, <i>Schönh.</i> , K. G. Sound |  |

## b. Three rows of tubercles on each elytron.

- |   |   |
|---|---|
| A. hypoleucus, <i>Schönh.</i> , K. G. Sound     | A. denticollis, <i>MacL. Jun.</i> , Currajong   |
| — crassidens, <i>MacL. Jun.</i> , K. G. Sound   | — serraticollis, <i>MacL. Jun.</i> , Wingelo    |
| — apicalis, <i>MacL. Jun.</i> , S. Australia    | — irroratus, <i>MacL. Jun.</i> , S. Australia   |
| — suturalis, <i>Schönh.</i> , Swan River        | — sublobatus, <i>MacL. Jun.</i> , Victoria      |
| — lateralis, <i>Schönh.</i> , Swan River        | — gravicollis, <i>MacL. Jun.</i> , S. Australia |
| — humeralis, <i>MacL. Jun.</i> , Swan River     | — tribulus, <i>MacL. Jun.</i> , S. Australia    |
| — Marshami, <i>Kirby</i> , N. S. Wales          | — approximatus, <i>MacL. Jun.</i> , Victoria    |
| — echinatus, <i>Boisd.</i> , N. S. Wales        | — spinifer, <i>MacL. Jun.</i> , Victoria        |
| — cchidna, <i>MacLeay</i> , Blue Mountains      | — Howittii, <i>MacL. Jun.</i> , Victoria        |
| — Adelaideæ, <i>Waterh.</i> , S. Australia      | — scabrosus, <i>MacL. Jun.</i> , Mudgee         |
| — tridentatus, <i>MacL. Jun.</i> , N. Australia | — mucronatus, <i>MacL. Jun.</i> , Blue Mts.     |
| — crenaticollis, <i>MacL. Jun.</i> , N. Holland | — squamosus, <i>MacL. Jun.</i> , Victoria       |
| — planicollis, <i>Waterh.</i> , S. Australia    | — Kreffitii, <i>MacL. Jun.</i> , N. Australia   |

## Genus CUBICORHYNCHUS. Lacordaire.

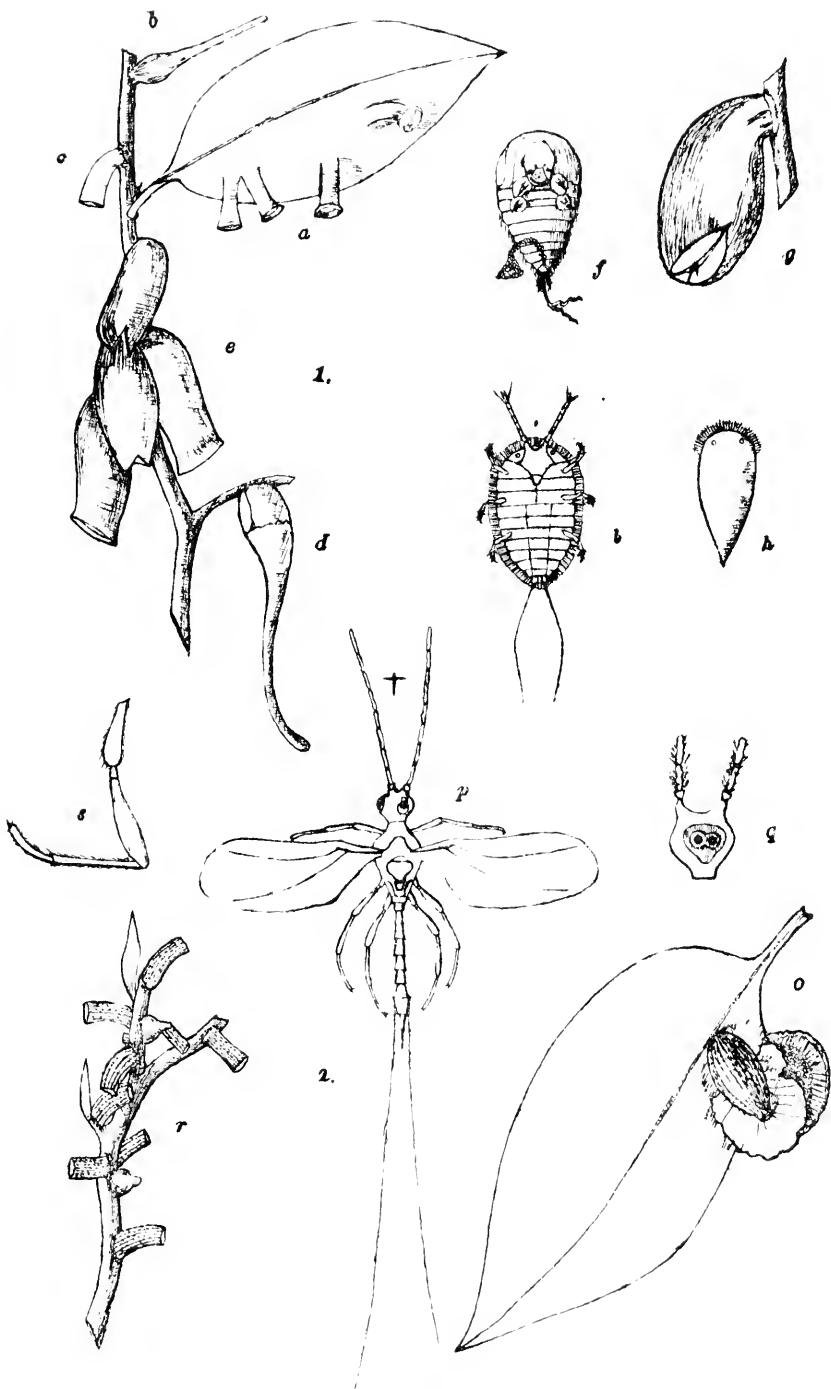
- |  |   |
|--|---|
| C. Bohemani, <i>Schönh.</i> , Swan River       | C. calcaratus, <i>MacL. Jun.</i> , S. Australia |
| — morosus, <i>D'Urv.</i> , New Holland         | — maculatus, <i>MacL. Jun.</i> , Murrumbidgee   |
| — crenicollis, <i>Waterh.</i> , Swan River     | — piceo-setosus, <i>MacL. Jun.</i> , Yass       |
| — Dohrnii, <i>Waterh.</i> , Swan River [bidgee | — angularis, <i>MacL., Jun.</i> , Swan River    |
| — sepidioides, <i>MacLeay</i> , M.SS., Murrum- | — spinicollis, <i>MacL. Jun.</i> , K. G. Sound  |
| — maximus, <i>MacL. Jun.</i> , Swan River      | — eximius, <i>MacL. Jun.</i> , K. G. Sound      |

## Genus HYBORHYNCHUS. MacLeay, Jun.

- |  |  |
|--|--|
| H. furcatus, <i>MacL. Jun.</i> , K. G. Sound | H. prodigus, <i>MacL. Jun.</i> , K. G. Sound     |
| — maculatus, <i>MacL. Jun.</i> , K. G. Sound | — bicornutus, <i>MacL. Jun.</i> , Port Lincoln   |
| — cœnosus, <i>Schönh.</i> , K. G. Sound      | — crassiusculus, <i>MacL. Jun.</i> , K. G. Sound |
| — rugosus, <i>MacL. Jun.</i> , K. G. Sound   | — Mastersii, <i>MacL. Jun.</i> , Port Lincoln    |





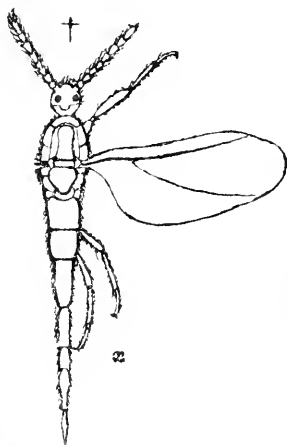
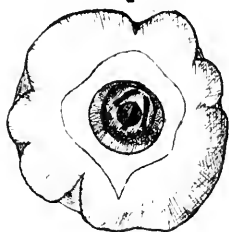
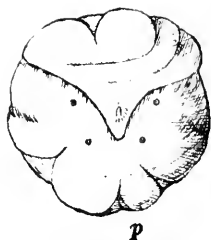
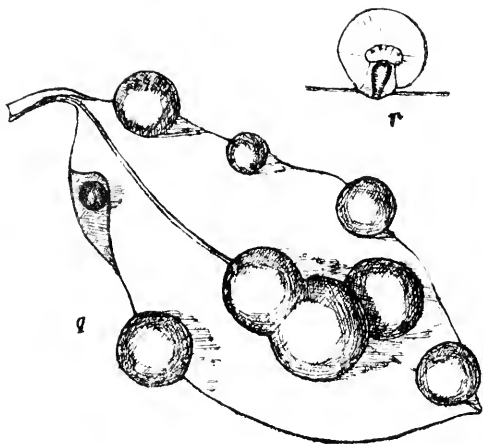




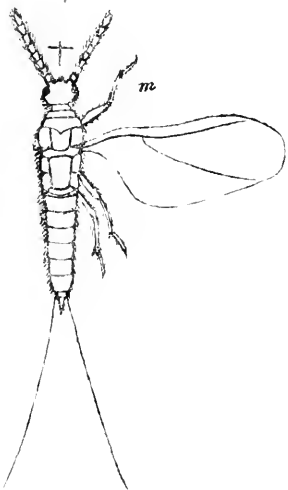




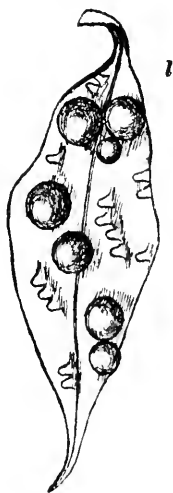




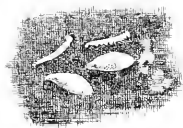
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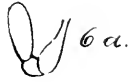
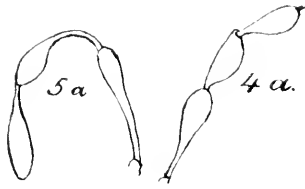




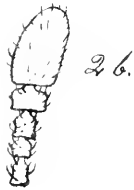
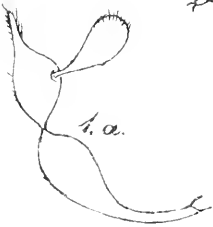
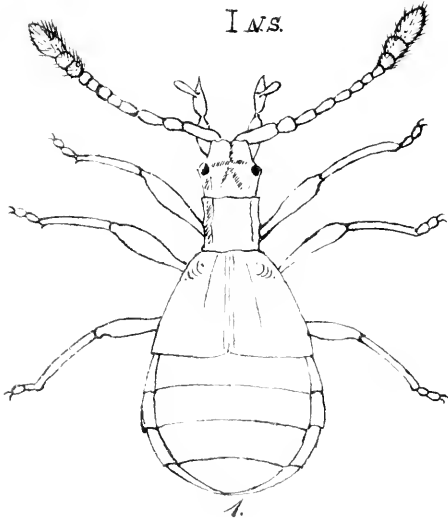


*Triton viviparus*





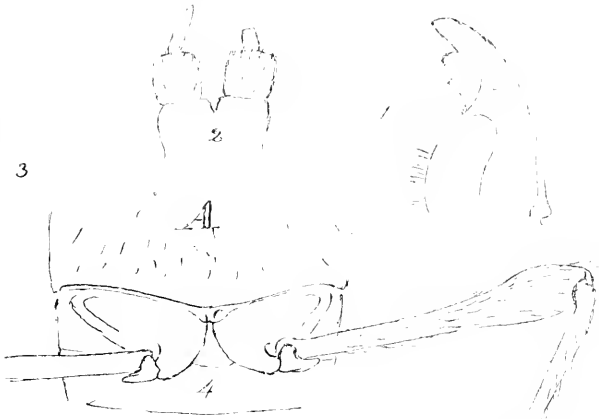
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3



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A

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B



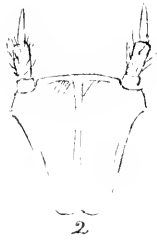
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C



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2

D



1d



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1



H

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3

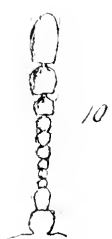
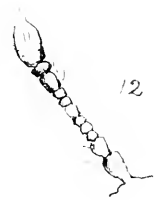
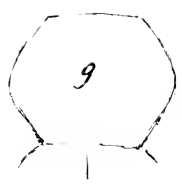
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PSELAPHIDÆ





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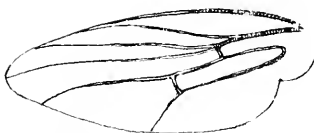
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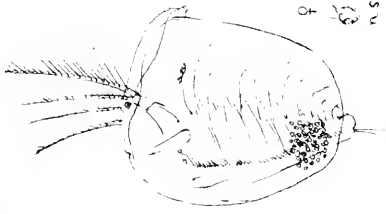




*Artemia parvula* RLK  
5/2 pair



*Leptodermus biridis* Baer-1



♀ ♂ ns

*Limnadia maclegyana* ♂



clawings  
11 and ♂



side view  
of 19 pair



*Limnadia Maclegyana* RLK



♀



Branchial foot ♂

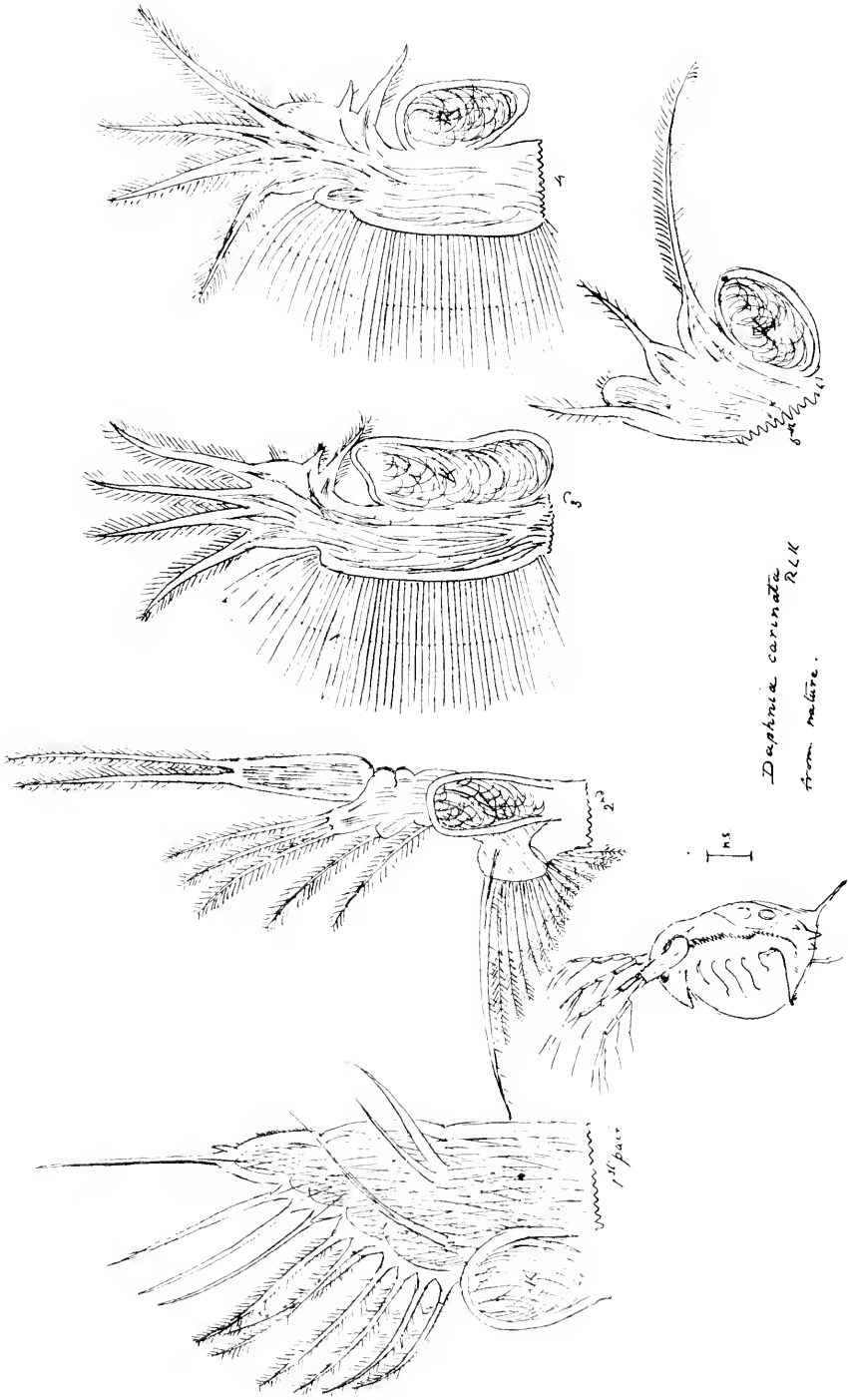
*Limnadia sordida* RLK



sketch  
1, 2, 3.







*Daphnia carinata* RLK  
from mature.

100

1st pair

2nd pair

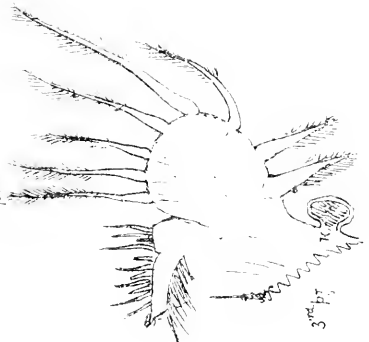
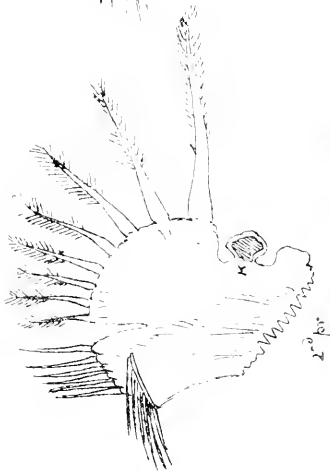
3rd pair

4

5

6

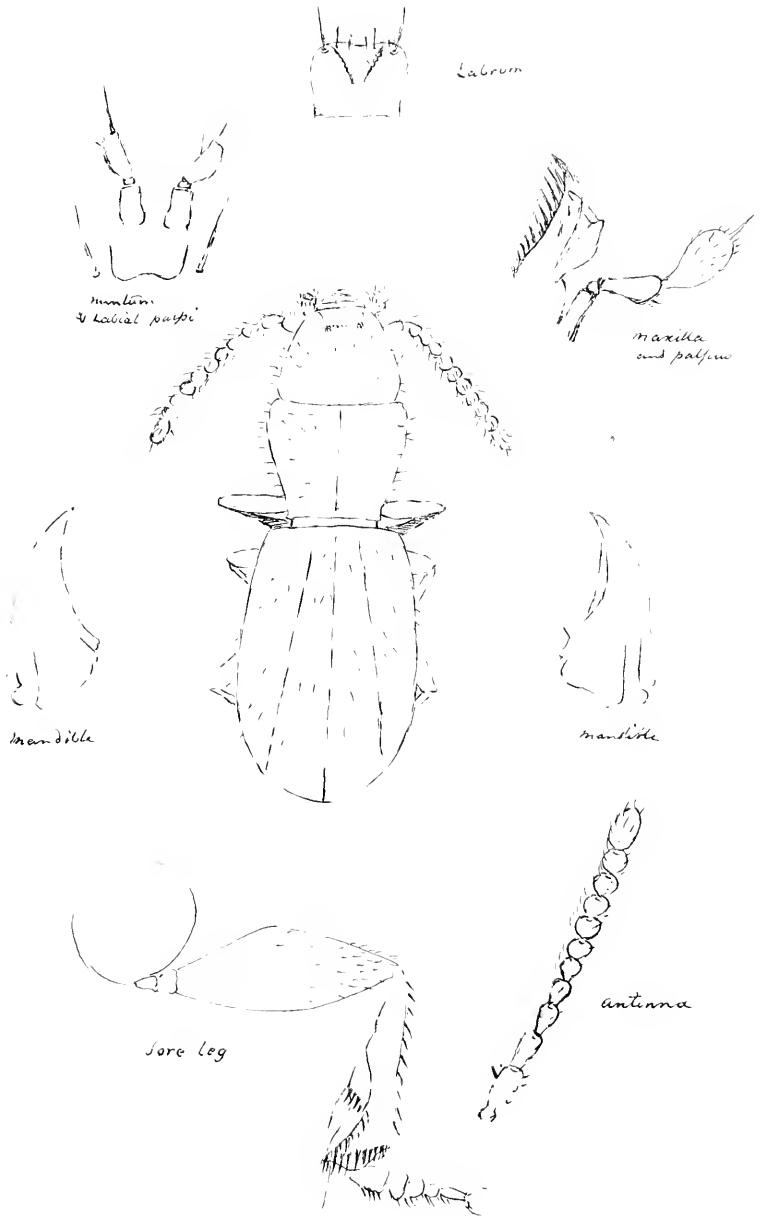




*Syrnecus Cookii* R.L.K.

217



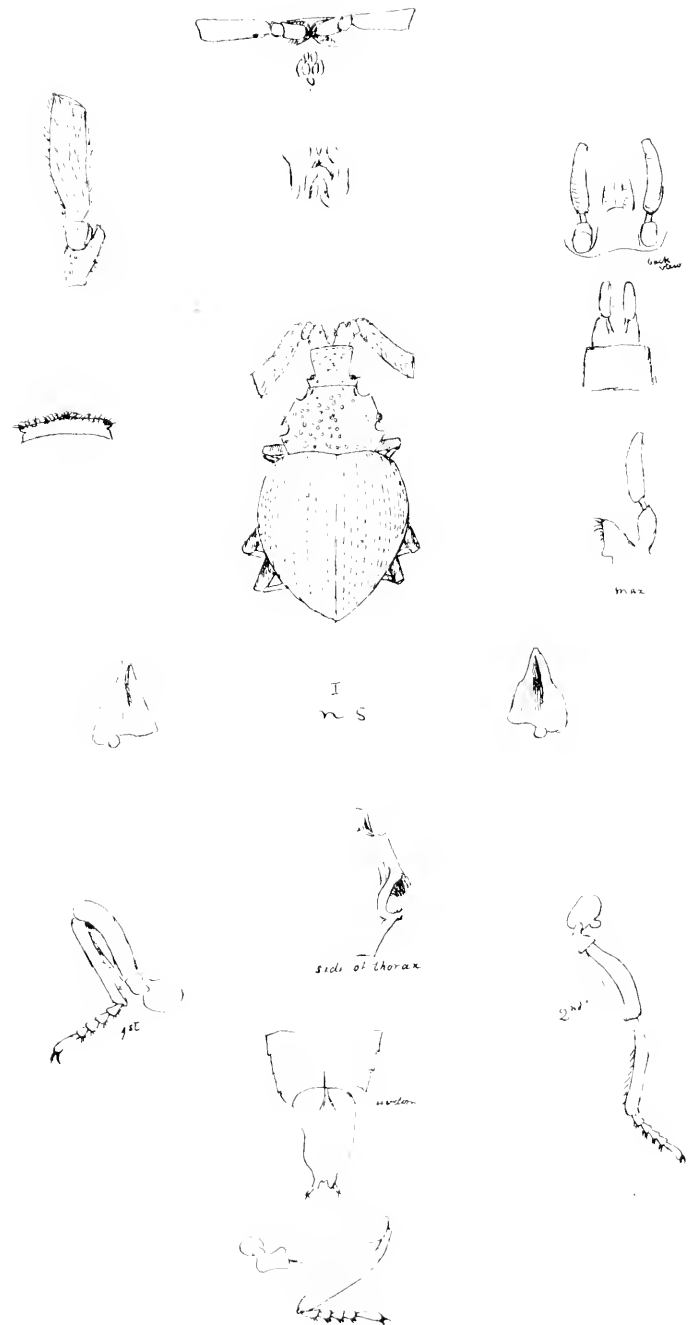


*ILLAENANUS STEPHENSII* McLeay, 1911

from nature



Plate XVI



I  
n s

*Anapestus kreusleri*

R.L.K

from nature





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## ERRATA.

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- Page 24, line 37, *for* elytra *read* elytron.
- „ 26, „ 31, *for* is line *read* line is.
- „ 41, „ 5, } *for* spinosus *read* bispinosus
- „ 53, „ 8, }
- „ 93, „ 3, *omit* connati.
- „ 93, „ 10, 14 and 15 *omit*.
- „ 105, „ 26, *for* exiqua *read* exigua.
- „ 187, „ 22, *for* this *read* that.
- „ 38 to 40, reduce the dimensions of all the newly described species to one half the size stated.

END OF VOL. I.















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