

XV. *Notes on Australian and Tasmanian Cryptocephalides, with Descriptions of New Species.* By ARTHUR M. LEA, F.E.S.

[Read March 2nd, 1904.]

PLATES XXII, XXIII, XXIV, XXV AND XXVI.

THERE are in Australia few subfamilies of COLEOPTERA in which so many genera have been proposed on such slight grounds as in the *Cryptocephalides*. As a matter of fact any one desiring to work at Australian COLEOPTERA, of almost any family, would do well to note that the genera have not the stability of the older characterized European ones; and that, before describing new species, it is often necessary to examine the descriptions of all the species referred to a subfamily. Nor is this always sufficient, for even many of the subfamilies (especially in the *Rhynchophora*) are in very unsatisfactory condition.

Dr. Baly,\* in proposing several new genera and trying to re-establish several others (regarded by some entomologists as of sectional importance only), remarks on the loss of time involved in wading through a mass of descriptions that would be saved were the genera split up into smaller ones. But it is not sufficient that the genera should be split up into smaller ones only, but that if this is done the genera should be founded on such characters as will enable future workers to identify them without much chance of misconception; and this is far from being the case with the Australian *Cryptocephalides*. Saunders and Baly regarded the antennæ and prothoracic margins as the main distinguishing features, whilst Suffrian and Chapuis relied mainly on the prosternum; in consequence we have many species which it is possible to refer to any of several genera, whilst many closely allied species would be widely separated no matter whether reliance was placed chiefly on Chapuis or on Baly. The characters of genera must indeed be regarded as very artificial when the male and female have been referred to different genera, even sometimes by the same author. So far as the Australian

\* T. E. S., 1877, part 1, p. 23.



species of the subfamily are concerned, I believe there would be fewer synonyms and less mistakes made, if most of them were regarded as belonging to one comprehensive genus.

After sorting out *Diandichus*, *Schizosternus*,\* *Cyphodera*, *Brachycaulus* and *Lachnabothra* there remains a mass of species referred to *Cryptocephalus*, *Loxopleurus*, *Cadmus* and various other genera or subgenera.† Certainly some of these appear to cluster in groups, and the characteristic species of these groups can be readily distinguished from characteristic species of other groups; but there are so many intermediate species that it seems to me *no* natural system can be devised for sorting the species into stable genera. In the new species I have briefly noted the characters of each species that are supposed to be its distinguishing generic features, and have purposely refrained from proposing fresh generic names, placing the more aberrant species at the end of *Cryptocephalus*.

Dr. Chapuis after describing *Cadmus cariosus* says:—“Il se rapproche du *Cadmus subsulcatus*, Suffr. (*Ochrosopsis rufescens*, Saund.) que nous avons du placer dans le genre *Cadmus* en égard à son prosternum dont la base est plus ou moins arrondie. La distinction entre les deux formes est facile.” He himself however refers to *Cadmus* a species *C. quadrivittatus*‡ in which the intercoxal process is rather deeply emarginate, although in general appearance it is a normal *Cadmus*; in *Cadmus luctuosus*, Chp., this part is again decidedly emarginate, although not so deeply as in *quadrivittatus*.

*Loxopleurus* is supposed to be distinguished by the intercoxal process of prosternum being drawn out into a blunt triangular tip. The majority of the species standing in the catalogue under *Loxopleurus* were described by Chapuis, but on examining *L. genialis*, Chp., I find that it is decidedly bilobed; in *L. chaldeus*, Chp., it appears at first sight to be widely truncate, but on close examination it can be seen to be feebly bilobed, although the lobes are occasionally more or less obscured by the clothing.

\* The deeply emarginate prosternum is the only really valid feature of this genus, and this is but an exaggeration of the bilobed apex of *Cryptocephalus*.

† In this paper I am not dealing with *Ditropidus* *Elaphodes* and the genera closely allied to them.

‡ This species is so distinct that I cannot be mistaken in my identification.



The synonymy is very intricate owing to the great variation in many species, both sexually and individually, and to the trivial distinctions which have been considered sufficient to separate the genera and subgenera. Fortunately Mr. George Masters, to whom I am especially indebted, and from whom either directly or indirectly a large proportion of the previously described species were obtained, including many by Chapuis, has for many years carefully preserved specimens obtained *in copula*, and of these I have had access to all those in his own and the Macleay Museum collections (now amalgamated). I have also myself for about fifteen years paid particular attention to specimens obtained *in copula*.

I have probably had before me a much larger collection, both of species and specimens, of Australian *Cryptocephalides* than any previous entomologist; even with this advantage I have not considered it advisable to attempt to apportion the previously described species into genera, preferring to refer to them by the genus in which they were originally placed,\* as I do not believe that stable genera can be defined and maintained. To refer them all to *Cryptocephalus* (as with few exceptions I think they should be) would necessitate a number of names being changed through having been twice used.

The Australian genera and subgenera here dealt with are:—*Aporocera*, *Brachycaulus*, *Cadmus*, *Chariderma*, *Chloroplisma*, *Cryptocephalus*, *Cyphodera*, *Diandichus*, *Dicenopsis*, *Euphyma*, *Idiocephala*, *Lachnabothra*, *Loxopleurus*, *Mitocera*, *Ochrosopsis*, *Odontoderes*, *Onchosoma*, *Paracadmus*, *Paracephala*, *Prasonotus*, *Prionopleura*, *Rhombosternus* and *Schizosternus*. I have not only checked the descriptions of all the species† referred to these genera, but of all other species of the subfamily recorded from Australia and Tasmania.

In general, so far as the new species are concerned, where the hinder apex of the intercoxal process of prosternum is feebly or moderately bilobed, I have referred the species to *Cryptocephalus*; where it is semicircularly

\* Except in the case of *Lachnabothra braccata*, Klug, originally referred to *Chlamys* with a query, and *Cryptocephalus crassicornis*, Chp., again formally described, but now referred to *Schizosternus*.

† I have not seen the description of *Cryptocephalus laevicollis*, Gebler, and its variety *arennensis*, Weise; nor have I seen the description of *axillaris*, Sturm, given in Masters' Catalogue as a synonym of *elegans*, Saund.



or triangularly excised to *Schizosternus*; where subtriangularly produced in the middle to *Loxopleurus*; and where rounded or truncate to *Cadmus*. I have not invariably, however, carried this out, as it would in a number of instances separate very closely allied species; I have, however, given my reasons under such species for not following these general rules.

Besides the species here noted or described I have critically examined more than fifty others, which for various reasons (but principally on account of their being represented by damaged or unique specimens) I have considered inadvisable to describe.

It will be seen by the accompanying table that many apparently congeneric species are widely separated, and others apparently belonging to different genera are brought together; showing how totally unreliable are many of the characters relied upon for distinguishing genera; for in the table itself I have purposely used the features relied on for separating the genera; and as a rule I have only used colours to distinguish closely allied species, and not often then, preferring to rely on constant structural characters.

Very useful distinguishing features are to be found in the abdomen in both sexes of many species; and with few exceptions the abdomen has been entirely neglected. The shape of the scutellum is often exceedingly useful in distinguishing closely allied species. The female as a rule is larger and wider, with the eyes smaller and more distant and the head less coarsely punctured; consequently when describing the sexual differences I have seldom considered it necessary to mention these. The antennæ are nearly always shorter in the female than in the male, although not always thinner. I have considered it necessary in almost every case to describe the hinder apex of prosternum, and the second, third and fifth joints of antennæ.

Most of the specimens described from the Macleay Museum collection were taken by Mr. Masters, but in that institution the collector's name is seldom attached to the locality label. I have considered it necessary to mention in whose collection I have seen species or varieties of which I do not myself possess specimens, as this may be of assistance to future workers. When not otherwise stated the types of the new species remain in my



own collection. Although many of the varietal forms here described are very distinct, I have not attached varietal names to any of them.

The following references have been omitted from Masters' Catalogue of Australian Coleoptera:—

IDIOCEPHALA ROEI var. ATRIPENNIS, Saund., T. E. S. (1845), p. 143.

*Hab.* Not given.

CRYPTOCEPHALUS EXIMIUS, Chp., A. S. E. Belg. (1875), p. xciii.

*Hab.* BRISBANE.

C. CONJUGATUS, Chp. *l.c.*, p. xcvi.

*Hab.* PORT DENISON.

C. MERCATOR, Suff., Linn. Ent. (1859), p. 99.

*Hab.* AUSTRALIA.

C. DIDYMUS, Fab., Ent. Syst. II, 57, p. 22. Syst. El. II, 43, p. 11; Suff., Linn. Ent. (1859), p. 149.

*Hab.* AUSTRALIA.

LOXOPLEURUS NIGROLINEATUS, Chp., A. S. E. Belg. (1876), p. xliii.

*Hab.* PINE MOUNTAIN.

In the catalogue also there should have appeared two species bearing the name *Prasonotus morbillosus* as follows:—

P. MORBILLOSUS, Baly, T. E. S. (1877), p. 35.

P. MORBILLOSUS, Chp., Journ. Mus. Godeffr. xiv, p. 75; Lac., Atl. Plate 115, fig. 5.

The only references I have seen since the date of the catalogue are by the Rev. Thos. Blackburn, as follows:—  
P. L. S. N.S.W. (1888), pp. 1473–1474; T. R. S. S.A. (1890), pp. 135–137; (1891), p. 139; (1893), p. 140; P. L. S. N.S.W. (1893), pp. 205–207.



TABULATION OF THE SPECIES HERE NOTED OR  
DESCRIBED.

- A. Prothorax with a large tubercular crest along middle . . . *Cy. chlamyiformis*, Germ.
- A.A. Prothorax with an elongated tubercle or ridge (sometimes but slightly elevated) on each side of middle. Elytra tuberculate or costate, sometimes both.
- b.* Black . . . . . *Br. aterrimus*, n. sp.
- b.b.* Purplish-red with yellowish markings . . . . . *Br. mamillatus*, n. sp.
- b.b.b.* More or less brown or ferrugineous.
- c.* Prothorax with three dark velvety rounded spots . . . *Br. ferrugineus*, Fairm.
- c.c.* Prothorax without these spots.
- d.* Elytral costæ sharply defined . . . . . *On. klugii*, Snd.
- d.d.* Elytral costæ not sharply defined.
- e.* Size, very large . . . . . *Ca. colossus*, Chp.
- e.e.* Size, very small . . . . . *Br. posticalis*, n. sp.
- A.A.A. Prothorax bituberculate in male, nontuberculate in female. Femora stout in male. Antennæ very long in male, usually about twice as long as in female.
- b.* Basal joint of anterior tarsi of male abnormal . . . . . *La. saundersi*, Baly.
- b.b.* Basal joint normal.
- c.* Prothorax with two subacute tubercles in male . . . . . *La. waterhousei*, Baly.
- c.c.* Prothorax with obtuse tubercles in male.
- d.* Elytral tubercles narrow and concolorous with derm . . . *La. braccata*, Klug.
- d.d.* Elytral tubercles rather wide and much darker than derm *La. wilsoni*, Baly.
- A.A.A.A. Prothorax nontuberculate.



- B. Scutellum very narrow. Abdominal fovea of female unusually large.
- c. Prothorax red in female, black in male . . . . . *Di. analis*, Chp.
- c.c. Prothorax black in both sexes *Di. foveiventris*, n. sp.
- B.B. Scutellum minute.
- c. Prothorax entirely dark, apex of abdomen red . . . . . *Pr. ruficaudis*, Baly.
- c.c. Prothorax red (at most clouded with black), abdomen entirely dark . . . . . *Pr. submetallicus*, Suff.
- B.B.B. Scutellum transverse or not much longer than wide, or if moderately long then abdominal fovea of female below normal size.
- C. Hinder apex of intercoxal process of prosternum deeply incised or semicircularly emarginate.\*
- d. Fifth joint of antennæ much wider than tenth . . . . . *Ch. pulchella*, Baly.
- d.d. Fifth joint much narrower than tenth.
- e. Prothorax deeply constricted on each side in front so that the anterior angles project strongly outwards.
- f. Prothorax and elytra (except at junction of same) of uniform colour . . . . . *Sc. delicatulus*, n. sp.
- f.f. Prothorax and elytra variegated.
- g. Elytra with longitudinal markings . . . . . *Sc. trilineatus*, n. sp.
- g.g. Elytra more or less distinctly fasciate.

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\* *Cryptocephalus filum*, Chp., referred to *Paracephala* by Baly, is included here, as the emargination although not deep might fairly be called semicircular; *Cr. cariniventris*, n. sp., should perhaps have also been referred to this section; it is, however, obviously so very close to *Cr. larinus*, n. sp. (in which the apex is feebly bilobed), that I thought it best not to separate them.



- h. Upper surface black with obscure reddish markings . . . *Sc. albogularis*, Chp.
- h.h. Upper surface red with black markings.
- i. Metasternum and legs black . . . *Sc. coccineus*, Chp.
- i.i. Metasternum and greater part of legs pale . . . . . *Cr. filum*, Chp.
- e.e. Prothorax not so constricted.
- f. Elytra with numerous irregular markings . . . . . *Sc. marmoratus*, n. sp.
- f.f. Elytral markings sutural . . . *Cr. crassicornis*, Chp.
- C.C. Hinder apex of intercoxal process of prosternum bilobed.\*
- D. Fifth joint of antennæ much wider than tenth.
- e. Elytra except the outer margins, entirely dark . . . *Ap. bicolor*, Snd.?
- e.e. Elytra dark only at apex . . . *Ap. apicalis*, Snd.
- D.D. Fifth joint of antennæ much narrower than tenth or at most just perceptibly wider.
- E. Serrations of joints of antennæ of male reversed after the seventh.
- f. Elytra with transverse fasciæ . . . *Cr. bihamatus*, Chp.
- f.f. Elytra non-fasciate . . . . . *Cr. distortus*, n. sp.
- E.E. Serrations of joints of antennæ nowhere reversed.
- F. Prothoracic margins crenulate.†

\* In a number of cases it is very difficult to tell without examining it from all directions as to whether it is feebly bilobed or truncate, especially when it is at all depressed. In *Cr. terminalis*, Chp., *Eu. flaviventris*, Snd., *Ap. apicalis*, Snd., and *Ap. bicolor*, Snd., it is very indistinctly bilobed. I have placed *Ca. quadrivittatus*, Chp., here although it might fairly have been placed with those having the apex semicircularly emarginate. In *Cr. distortus*, n. sp., the apex is wide and at a glance appears to be truncate, it is, however, very feebly incurved, so I have included it in this section.

† In these species the upper surface is opaque (in *Ca. nothus*, n. sp., however, the elytra are slightly shining), the scutellum is more or less distinctly carinate, and the fifth joint of antennæ is longer than the fourth or sixth. *Ca. luctuosus*, Chp., is included here, although the crenulations are by no means sharply defined; in *Pr. cognata*, Snd., the crenulations are sometimes very distinct, at other times the margins appear to be almost unbroken.



- g. Eleventh joint (or part of it) of antennæ darker than tenth, at least in male.
- h. Elytra with sharply defined black markings, at least in male.
- i. Apex of elytra entirely dark in male . . . . . *Ca. luctuosus*, Chp.
- i.i. Apex of elytra not entirely dark in male . . . . . *Ca. quadrivittatus*, Chp.
- h.h. Elytra without distinct markings . . . . . *Ca. nothus*, n. sp.
- g.g. Eleventh joint of antennæ no darker than tenth.
- h. At least the five terminal joints of antennæ dark in male . . *Pr. bifasciata*, Snd.
- h.h. Antennæ (except sometimes for parts of the basal joints) entirely pallid.
- i. Scutellum acutely costate . . *Ca. rugicollis*, Gray.\*
- i.i. Scutellum rather feebly ridged *Pr. cognata*, Snd.
- F.F. Prothoracic margins entire.†
- G. Upper surface of uniform colour and brightly metallic.‡
- h. Elytra with distinct longitudinal ridges, antennæ (except first and eleventh joints) pallid . . . . . *Cr. metallicus*, n. sp.
- h.h. Elytra without distinct ridges, antennæ dark.
- i. Elytra densely and irregularly punctate, the punctures fre-

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\* The species usually regarded as *Cr. rubiginosus*, Boi.

† In a few species they could not strictly speaking be called entire, but at most there are but two feeble notches; the upper surface in most of the species is highly polished, but in a few it is subopaque.

‡ Although the upper surface is more or less uniform there are sometimes various metallic shades of colour, but in none of the specimens is the upper surface diluted with red. *Cr. scabrosus*, Oliv., and allied species (which are black or blue with a metallic gloss) are excluded, and somewhat doubtfully. *Cr. Jacksoni*, Guer. is included.



- quently transversely con-  
joined . . . . . *Cr. viridinitens*, Chp.
- i.i. Elytra less densely, and be-  
yond the middle more or  
less regularly punctate.
- j. Body cylindrical, seventh to  
tenth joints of antennæ in  
male strongly produced  
internally . . . . . *Cr. convexicollis*, n. sp.
- j.j. Body not cylindrical, seventh  
to tenth joints of antennæ  
in male feebly produced on  
each side . . . . . *Cr. jacksoni*, Guer.
- G.G. Upper surface not both of  
uniform colour and metallic.
- H. Eleventh joint of antennæ in  
male, wider than tenth . . . *Cr. clavicornis*, Chp.
- H.H. Eleventh joint no wider than  
tenth, if as wide.
- I. Prothorax densely and finely  
pubescent.
- j. Elytra smooth and densely  
and finely pubescent . . . *Cr. comosus*, n. sp.
- j.j. Elytra irregularly costate and  
rather sparsely and irre-  
gularly pubescent . . . . *Cr. incoctus*, n. sp.
- I.I. Upper surface entirely or  
almost glabrous.
- J. Scutellum not much narrower  
at apex than at base.\*
- k. Abdomen in male with the  
fourth segment visible only  
at sides, the fifth unusually  
large and with a large median  
excavation.
- l. Intercoxal process of meso-  
sternum feebly transverse, its  
apex quadrisinuate. . . . *Cr. cariniventris*, n. sp.

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\* *Cr. parentheticus*, Suff., *Cr. aciculatus*, Chp., and *Id. catoxantha*, Snd., are included here, as the apex is more than half the width of the base, although the sides rather strongly diminish in width from base to apex.



- l.l. This process strongly transverse, its apex arcuate . . *Cr. pœcilodermus*, Chp.
- k.k. Abdomen in male with the fourth segment continuous across middle.
- l. Fifth segment of male strongly and almost semicircularly excised in middle of apex . *Cr. sobrinus*, n. sp.
- l.l. This segment at most slightly incurved from sides.
- m. Prothorax densely and coarsely punctate.\*
- n. Eleventh joint of antennæ inserted in middle of tenth . *Cr. clypealis*, n. sp.
- n.n. Eleventh joint inserted towards side of tenth.
- o. Scutellum as long as wide . . *Cr. conspiciendus*, n. sp.
- o.o. Scutellum rather strongly transverse . . . . . *Cr. tenebricosus*, n. sp.
- m.m. Prothorax not both densely and coarsely punctate.
- n. Prothoracic punctures elongate or substrigose . . . . . *Cr. aciculatus*, Chp.
- n.n. Prothoracic punctures rounded.
- o. Second joint of antennæ less than one-third the length of third.
- p. Scutellum as long as wide . . *Oc. erosus*, Snd.
- p.p. Scutellum strongly transverse.
- q. Under-surface entirely pallid . *Cr. stenocerus*, n. sp.
- q.q. Under-surface black in parts . *Cr. larinus*, n. sp.
- o.o. Second joint about half the length of third.
- p. Fifth joint at least one-half longer than fourth.
- q. Scutellum very strongly transverse . . . . . *Cr. rubicundus*, n. sp.
- q.q. Scutellum feebly transverse . *Oc. eruditus*, Baly.
- p.p. Fifth joint not much (certainly

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\* In the three species included here the punctures are decidedly above the usual size, and are so dense that there is no space without them.



- less than one-half) longer than fourth.
- q. Prothorax immaculate . . . *Id. catoxantha*, Snd.
- q.q. Prothorax with three longitudinal vittæ . . . *Cr. parentheticus*, Suff.
- J.J. Scutellum more or less triangular.\*
- K. Third and fifth joints of antennæ equal or subequal, and both distinctly longer than fourth.†
- l. Antennæ thin and almost equal in width throughout.
- m. Fifth joint much longer than fourth . . . *Mi. viridipennis*, Snd.
- m.m. Fifth joint not much longer than fourth . . . *Cr. confinis*, n. sp.
- ll. Antennæ much stouter than usual . . . *Cr. antennalis*, Chp.
- lll. Antennæ with the sixth to ninth joints comparatively wide.
- m. Apex of scutellum rather narrow, but distinctly truncate. *Cr. variipennis*, n. sp.
- m.m. Apex of scutellum obtusely rounded.
- n. Lateral margins of prothorax very narrow . . . *Cr. castus*, Suff.
- n.n. Margins comparatively wide.
- o. Elytra more or less green (or blue) . . . *Cr. iridipennis*, Chp.
- o.o. Elytra not at all green . . . *Cr. purpureotinctus*, n. sp.
- K.K. Third, fourth and fifth joints of antennæ subequal.‡
- l. Abdomen dark in both sexes . *Lo. genialis*, Chp.

\* Somewhat doubtfully *Cr. conjugatus*, Chp., is included here as the apex is about half the width of the base, but the scutellum is very short, with the sides very rapidly diminishing to the apex.

† In *Cr. confinis*, n. sp., the third and fifth are equal in length and longer than the fourth, although not by much, so that the species might fairly have been placed in the group having the third, fourth and fifth joints subequal.

‡ The fifth, however, is slightly longer than the fourth, although not very distinctly so.



- l.l. Abdomen dark in male only . *Cr. blandus*, n. sp.  
 K.K.K. Third joint but little, if at all,  
         longer than fourth, and dis-  
         tinctly shorter than fifth.\*  
 L. Elytra more or less rough.  
 m. Elytra with scar-like tubercles  
     across middle . . . . . *Cr. scabiosus*, n. sp.  
 m.m. Elytra without scar-like  
     tubercles across middle.  
 n. Elytra with wide, smooth costi-  
     form elevations on apical  
     half.  
 o. Prothorax black or blackish . *Cr. quadratipennis*, n. sp.  
 o.o. Prothorax pallid . . . . . *Cr. compositus*, n. sp.  
 n.n. Elytra roughly punctate  
     throughout . . . . . *Cr. scabrosus*, Oliv  
 L.L. Elytra smooth.  
 M. Base of scutellum entire.  
 n. Prothorax and elytra entirely  
     dark . . . . . *Lo. chalcus*, Chp.  
 n.n. Prothorax more or less red.  
 o. Prothorax with dark mark-  
     ings other than at base.  
 p. Elytra pallid at apex only . . *Cr. lilliputanus*, n. sp.  
 p.p. Elytra pallid, with dark  
     markings . . . . . *Cr. melanopus*, n. sp.  
 o.o. Prothorax with dark markings  
     at base only.  
 p. Head densely strigose along  
     middle, as elsewhere.  
 q. Second joint of antennæ almost  
     as long as third . . . . . *Cr. pallens*, n. sp.  
 q.q. Second joint not half as long  
     as third . . . . . *Cr. argentatus*, Chp.  
 p.p. Head not strigose along middle.  
 q. Head densely strigose close to  
     sides of and behind eyes . . *Cr. mediocris*, n. sp.  
 q.q. Head not strigose at sides of  
     eyes.

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\* In several species the third joint is slightly shorter than the fourth. Although *Cr. clarus*, n. sp., *Cr. appendiculatus*, n. sp., and *Id. nigripennis*, Baly, are placed here, they might fairly have been placed in the section having the third, fourth, and fifth joints of antennæ subequal.



- r. Scutellum obtusely rounded at apex . . . . . *Cr. dichrous*, Chp.  
 r.r. Scutellum truncate at apex . . . . . *Cr. conjugatus*, Chp.  
 M.M. Base of scutellum more or less distinctly notched.\*  
 N. Prothorax and elytra entirely dark.  
 o. Flanks of metasternum and of base of abdomen with dense golden pubescence . . . . . *Cr. aurifer*, n. sp.  
 o.o. Under-surface without golden pubescence . . . . . *Lo. læviusculus*, n. sp.  
 N.N. Prothorax more or less pallid.  
 O. Basal segments of abdomen with appendages in male . . . . . *Cr. appendiculatus*, n. sp.  
 O.O. Basal segments normal.  
 P. Prothorax with sharply-defined markings.  
 q. Markings longitudinal . . . . . *Cr. eumolpus*, Chp.  
 q.q. Markings transverse . . . . . *Cr. speciosus*, Boi.  
 P.P. Prothorax without distinct markings.†  
 q. Elytra pallid and immaculate.  
 r. Upper-surface sanguineous red. . . . . *Cr. hæmatodes*, Boi.  
 r.r. Upper-surface testaceous . . . . . *Cr. terminalis*, Chp. (in [part.])  
 q.q. Elytra pallid, but with darker markings.  
 r. Dark markings apical . . . . . *Cr. terminalis*, Chp. (in [part.])  
 r.r. Dark markings not apical . . . . . *Cr. gracilior*, Chp.  
 q.q.q. Elytra dark, with pallid markings.  
 r. Markings lateral . . . . . *Id. pulchella*, Snd. (in [part.])  
 r.r. Markings median.  
 s. Subhumeral lobes much above normal size ‡ . . . . . *Id. flaviventris*, Snd.

\* *Cr. terminalis*, Chp., is included here as the scutellum is really feebly notched, although from some directions it appears to be entire.

† In *Cr. cyanipennis*, Snd., and *Id. pulchella*, Snd., the prothorax in some specimens is stained in places with piceous, but there are no sharply-defined markings.

‡ It might have been considered that this character was worthy of being used for a more important division, but there are so many intermediate sizes that I have had to discard it as untrustworthy, and even now use it with hesitation.



- s.s. Subhumeral lobes of normal size.
- t. Head densely strigose at sides of eyes . . . . . *Cr. clarus*, n. sp.
- t.t. Head punctate only . . . . . *Cr. chrysomelinus*, Chp.
- q.q.q.q. Elytra entirely dark. [(in part.)
- r. Entire space between eyes densely punctate and strigose *Cr. vicarius*, n. sp.
- r.r. Head punctate only . . . . . *Cr. chrysomelinus*, Chp.
- r.r.r. Head densely strigose at sides of eyes. [(in part.)
- s. Prothoracic margins above normal width.
- t. Head entirely pallid . . . . . *Id. nigripennis*, Baly.
- t.t. Head dark at base . . . . . *Cr. clarus*, n. sp. (in part.)
- s.s. Prothoracic margins of normal width \* . . . . . { *Id. pulchella*, Snd. (in part.)  
*Id. cyanipennis*, Snd.
- C.C.C. Hinder apex of intercoxal process of prosternum rounded, or truncate, or more or less feebly produced in middle.†
- D. Fifth joint of antennæ much wider than tenth.
- e. Elytra without costæ . . . . . *Cr. cælestis*, n. sp.
- e.e. Elytra strongly costate . . . . . *Cr. costipennis*, n. sp.
- D.D. Fifth joint of antennæ narrower than tenth, or at most just perceptibly wider.
- E. Tenth joint of antennæ strongly transverse in both sexes . . . *Ca. histrionycus*, Chp.
- E.E. Tenth joint of antennæ at most feebly transverse in female, never in male.
- F. Prothoracic margins crenulate.‡

\* These two species although bracketed together, are sufficiently distinct; see elsewhere for distinguishing features.

† In *Cr. tricolor*, Fab., *Cr. consors*, Boi., and *Lo. contiguus*, n. sp., the hinder apex is produced, rounded on the sides and truncate across middle; they would probably all have been referred to *Loxopleurus* by Chapuis.

‡ In some specimens of *Id. Tasmanica*, Snd., and *Pr. erudita*, Blackb., the margins are very distinctly crenulate, in others they appear to be almost entire.



- g. Scutellum shining and impunctate.
- h. Prothorax pallid . . . . . *Cr. serenus*, n. sp.
- h.h. Prothorax black.
- i. Elytra maculate . . . . . *Ca. litigiosus*, Boh.
- i.i. Elytra striped . . . . . *Ca. australis*, Boi.
- g.g. Scutellum coarsely punctate, at least on basal half.
- h. Elytra smooth, without elevated interstices.
- i. Tenth joint of antennæ in female slightly longer than wide . . . . . *Ca. excrementarius*, Suff.
- i.i. Tenth joint in female slightly transverse . . . . . *Ca. trispilus*, Chp.
- h.h. Elytra rough, the interstices more or less distinctly elevated.\*
- i. Second joint of antennæ more than half the length of third . . . . . *Id. tasmanica*, Snd.
- i.i. Second joint much less than half the length of third.
- j. Apex of elytra much paler than disc . . . . . *Ca. purpurascens*, Chp.
- j.j. Apex not paler than disc.†
- k. Prothorax with a more or less distinct dark U . . . . . *Pr. erudita*, Blackb.
- k.k. Prothorax without a dark U.
- l. Fifth joint of antennæ just perceptibly longer than sixth . . . . . *Ca. strigillatus*, Chp.
- l.l. Fifth joint very distinctly longer than sixth.
- m. Elytra with four distinct transverse pallid fasciæ interrupted at suture . . . . . *Ca. quadrifasciatus*, n. sp.
- m.m. Elytra without four pallid fasciæ . . . . . *Ca. crucicollis*, Boi.

\* In *Pr. erudita*, Blackb., the interstices although not elevated more or less throughout, as in most of the other species, are very distinctly elevated posteriorly.

† In these species the apex is usually paler than other parts of the elytra, but there are always parts of the disc equally pallid.



- F.F. Prothoracic margins entire.\*  
 G. Elytra pubescent . . . . . *Ca. pacificus*, Suff.  
 G.G. Elytra glabrous.  
 H. Scutellum fully twice as long  
     as wide . . . . . *Lo. absonus*, n. sp.  
 H.H. Scutellum not twice as long as  
     wide.  
 I. Second joint of antennæ about  
     as long as third . . . . . *Cr. pauperculus*, Germ.  
 I.I. Second joint distinctly shorter  
     than third.  
 J. Third joint of antennæ shorter  
     than fourth.†  
 k. Front of prosternum strongly  
     raised and bent over back-  
     wards . . . . . *Ca. apicirufus*, n. sp.  
 k.k. Front of prosternum at most  
     moderately elevated.  
 l. Prothorax black . . . . . *Lo. gravatus*, Chp.  
 l.l. Prothorax pallid with a trans-  
     verse fascia . . . . . *Cr. T-viridis*, n. sp.  
 l.l.l. Prothorax pallid, except at  
     extreme base.  
 m. Elytra entirely black . . . . . *Lo. mitificus*, n. sp.  
 m.m. Elytra pallid, with sutural and  
     lateral markings . . . . . *Lo. fuscitarsis*, n. sp.  
 m.m.m. Elytra pallid without lateral  
     markings, and the suture at  
     most feebly infusate . . . . . *Lo. acentetus*, n. sp.  
 J.J. Third joint of antennæ longer  
     than fourth.  
 K. Third joint of antennæ longer  
     than fifth.

\* In *Cr. rufoterminalis*, n. sp., *Cr. distortus*, n. sp., and in several other species to a less noticeable extent the prothoracic margins are suddenly constricted close to the apex so that the anterior angles project strongly outwards as in some species of *Schizosternus*, but the margins otherwise are entire. *Ca. stratioticus*, Chp., is referred here, as Chapuis describes the margin as "*integro*"; on close examination, however, of the specimen before me the margin is seen to be very feebly sinuous in places, but this would be overlooked except on a very close examination and from most directions. In most of the species the margins are feebly incurved in one or two places.

† In all of these species also the scutellum is either entire or just perceptibly notched.



- l. Terminal joints suddenly  
diminishing in size . . . *Cr. rufoterminalis*, n. sp.
- l.l. Terminal joints not suddenly  
diminishing in size.
- m. Elytra and appendages black . *Lo. pollux*, n. sp.
- m.m. Elytra and appendages mostly  
reddish. . . . . *Ca. T-niger*, n. sp.
- K.K. Third joint of antennæ at most  
as long as fifth and usually  
shorter.
- L. Second joint of antennæ much  
less than half the length of  
third.\*
- m. Scutellum entire . . . . . *Ca. aurantiacus*, Chp.
- m.m. Scutellum notched at base.†
- n. Antennæ distinctly longer than  
the body in both sexes.‡
- o. Elytra fasciate . . . . . *Rh. sulphuripennis*, Baly.
- o.o. Elytra non-fasciate.
- p. Punctures of upper - surface  
deeply stained . . . . . *Oc. vermicularis*, Snd.
- p.p. Punctures of upper-surface not  
at all or very feebly stained. *Rh. antennatus*, Baly.
- n.n. Antennæ in female at most  
just passing apex of body.
- o. Elytra with small and rather  
distant punctures § . . . *Cr. basizonis*, n. sp.
- o.o. Elytra more or less coarsely  
punctate.
- p. Legs black.
- q. Prothorax black, the margins  
whitish. . . . . *Id. albilinea*, Snd.
- q.q. Prothorax reddish. . . . . *Cr. jocosus*, Chp.

\* In *Ca. scutatus*, Chp., *Ca. ornatus*, Chp., *Oc. apicalis*, Snd., and *Oc. rufescens*, Snd., the second joint is decidedly less than half the length of the third, being about one-third; in *Ca. calomeloides*, n. sp., *Lo. semicostatus*, Chp., and *Cr. Bynoei*, Snd., it is rather more than one-third, but decidedly less than half; in the others it is often but one-fourth or even less.

† In *Ca. sculptilis*, Chp., the scutellum is just perceptibly notched in some specimens and never very distinctly.

‡ I have included *Rh. sulphuripennis*, Baly, here, as Baly says "antennæ longer than the body in both sexes"; in my unique specimen both antennæ are broken.

§ To the naked eye the elytra appear to be impunctate.



- p.p.* Legs more or less red.
- q.* Elytra with strongly elevated alternate interstices . . . *Lo. semicostatus*, Chp.
- q.q.* Elytra with more or less regularly elevated interstices or punctate only.
- r.* Scutellum coarsely punctate at sides. . . . . *Oc. apicalis*, Snd.
- r.r.* Scutellum at most with a few small punctures.
- s.* Scutellum strongly transverse.
- t.* Elytra fasciate.
- u.* Elytra with a complete basal fascia . . . . . *Cr. ornatipennis*, n. sp.
- u.u.* Elytra without a basal fascia . *Ca. ornatus*, Chp.
- t.t.* Elytra non-fasciate.
- u.* Prothorax coarsely and very densely punctate\*. . . . *Ca. stratioticus*, Chp.
- u.u.* Prothorax moderately densely punctate . . . . . *Ca. sculptilis*, Chp.
- s.s.* Scutellum feebly, or not at all transverse.
- t.* Elytra with two black sharply-defined fasciæ† . . . . *Id. bynoei*, Snd.
- t.t.* Elytra not at all or obscurely fasciate.
- u.* Prothorax with very dense punctures, in places confluent.
- v.* Prothorax and elytra with more or less distinct blackish markings . . . . . *Ca. scutatus*, Chp.
- v.v.* Prothorax and elytra without blackish markings . . . . *Oc. rufescens*, Snd.
- u.u.* Prothorax with rather dense but clearly-defined punctures.
- v.* Pygidium distinctly carinate . *Ca. calomeloides*, n. sp.

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\* In *Ca. stratioticus*, Chp., the punctures are so close together that the surface is rendered opaque; in *Ca. sculptilis*, Chp., the surface is shining and the larger punctures are distinctly separated, with the interspaces finely punctate.

† This species, however, has a variety without the fasciæ, but with two distinct postmedian spots.



- v.v. Pygidium not at all, or very indistinctly carinate.\*
- w. Size comparatively small (5 mm. or less). . . . . *Oc. subfasciatus*, Snd.
- w.w. Size comparatively large (6½ mm.) . . . . . *Oc. australis*, Snd.
- L.L. Second joint about half the length of third.†
- M. Scutellum coarsely punctate . . . *Ca. perlatus*, n. sp.
- M.M. Scutellum at most with a few small punctures.
- N. Scutellum entire.
- o. Prothorax metallic green . . . *Lo. pallidipes*, n. sp.
- o.o. Prothorax entirely black.
- p. Elytra entirely black. . . . *Lo. atramentarius*, Chp.
- p.p. Elytra black with whitish sub-humeral lobes . . . . . *Lo. auriculatus*, Suff.
- o.o.o. Prothorax not entirely black.
- p. Elytra blackish, the apex pallid . . . . . *Lo. erythrotis*, Chp.
- p.p. Elytra blackish, the sides only pallid.
- q. Prothorax black (except at sides) in female . . . . *Lo. microscopicus*, n. sp.
- q.q. Prothorax reddish in female . . . *Lo. marginipennis*, n. sp.
- p.p.p. Elytra bright metallic green with pallid margins . . . *Lo. lateriflavus*, n. sp.
- p.p.p.p. Elytra with pallid longitudinal discal markings.
- q. Pale lateral margins not continuous . . . . . *Lo. inconstans*, n. sp.
- q.q. Pale margins continuous around apex . . . . . *Lo. castigatus*, n. sp.
- p.p.p.p.p. Elytra at most with basal and sutural markings.
- q. Upper surface shining . . . . *Id. subbrunnea*, Snd.
- q.q. Upper surface opaque . . . . *Lo. immaturus*, n. sp.

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\* In *Oc. australis*, Snd., the base is feebly, the apex not at all carinate; in *Oc. subfasciatus*, Snd., there is often an obscure impunctate line (not at all or scarcely visibly elevated) that from some directions appears like a feeble carina.

† It is frequent more than half the length of the third, rarely it is not quite half.



- N.N. Scutellum notched at base.\*  
 O. Scutellum strongly transverse,  
     its apex truncate.  
     *p.* Elytra pallid . . . . . *Cr. rutilans*, n. sp.  
     *p.p.* Elytra green or blue . . . . . *Cr. consors*, Boi.  
*p.p.p.* Elytra reddish with two black  
     conjoined fasciæ . . . . . *Cr. comptus*, n. sp.  
 O.O. Scutellum as long as wide or  
     longer, if transverse then  
     more or less triangular.  
 P. Prothorax and elytra entirely  
     black . . . . . *Id. atra*, Snd.  
 P.P. Prothorax and elytra not both  
     black.  
 Q. Scutellum much longer than  
     wide . . . . . *Lo. obtusus*, Chp.  
 Q.Q. Scutellum at most just per-  
     ceptibly longer than wide.  
 R. Upper-surface not at all red.  
     *s.* Elytra densely punctate, the  
     punctures frequently con-  
     fluent . . . . . *Ch. viridis*, Snd.  
     *s.s.* Elytra moderately punctate,  
     the punctures seldom con-  
     fluent . . . . . *Lo. subvirens*, Chp.  
 R.R. Prothorax or elytra more or  
     less red.  
 S. Elytra not at all red.†  
     *t.* Elytra bright metallic green  
     or blue . . . . . *Cr. tricolor*, Fab.  
     *t.t.* Elytra deep, pure black.  
     *u.* Prothorax almost entirely  
     black . . . . . *Lo. dolens*, n. sp.  
*u.u.* Prothorax red.  
     *v.* Four front femora black . . . *Lo. castor*, n. sp.  
     *v.v.* Four front femora reddish . . *Lo. conjugatus*, Chp.  
*t.t.t.* Elytra, if black, with a purp-  
     lish-bluish or greenish gloss.

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\* In *Lo. subvirens*, Chp., and *Lo. gravatus*, Chp., the scutellum is just perceptibly notched; in *Lo. piceitarsis*, Chp., the notch is occasionally fairly distinct, but it is usually traceable with difficulty.

† In the male of *Lo. piceitarsis*, Chp., however, the apex is sometimes feebly diluted with red.



- u.* Head densely, coarsely and regularly punctate. . . . *Lo. mixtus*, n. sp. ♂.  
*u.u.* Head differently sculptured.\*  
*v.* Intercoxal process of prothorax with a distinct (although short) median process. . . . . *Lo. disconiger*, n. sp. ♂.  
*v.v.* Intercoxal process obtusely rounded.  
*w.* Prothorax reddish in both sexes . . . . . *Lo. piceitarsis*, Chp.  
*w.w.* Prothorax black, or blackish in male . . . . . *Lo. lugubris*, n. sp.  
*S.S.* Elytra more or less red.  
*T.* Middle of apex of prothorax black†. . . . . *Lo. disconiger*, n. sp. ♀.  
*T.T.* Middle of extreme apex of prothorax not black.  
*U.* Elytra without dark markings or only at base and suture.  
*v.* Prothorax fasciate. . . . . *Ca. fasciaticollis*, n. sp.  
*v.v.* Prothorax non-fasciate . . . . *Lo. mixtus*, n. sp. ♀.  
*U.U.* Elytra with dark markings other than at base and suture.  
*V.* Markings transverse . . . . . *Cr. minusculus*, n. sp.  
*V.V.* Markings longitudinal.  
*W.* Prothorax without discal markings . . . . . *Lo. virgatus*, n. sp.  
*W.W.* Prothorax with discal markings . . . . . *Lo. contiguus*, n. sp.

### LACHNABOTHRA BRACCATA, Klug.

*Lachnabothra Hopei*, Saund.

var. *Lachnabothra Breweri*, Baly.

Dr. Baly says of this insect (described as a *Chlamys* with a query by Klug): "I have not been able satisfactorily to identify Dr. Klug's insect; it is, however, very closely allied to *L. waterhousei*, and may possibly prove to be the same

\* In these species the head has sometimes fairly large punctures, but then the interspaces are densely punctate or strigose.

† The black portion extends to the extreme apex.



insect." Klug describes the prothoracic tubercles as "parum elevatis," whilst in *Waterhousei* they are as described by Baly himself "validum subconicum." In the figure by Klug the tarsi are drawn of normal appearance. The species to my thinking is undoubtedly *L. hopei*, of which the male was unknown to Saunders. *L. breweri* appears to be only a slight variety of this species.

LACHNABOTHRA SAUNDERSI, Baly.

(Plates XXV, XXVI, figs. 178, 180, 181.)

The exact locality of his specimens was unknown to Baly. I have specimens agreeing with his description from Sydney, Wollongong and Queanbeyan (N. S. Wales). Two males from Tasmania have the base of the elytra and the greater portion of the prothorax stained with black.

LACHNABOTHRA WATERHOUSEI, Baly.

*Hab.* N. S. WALES : Forest Reefs.

LACHNABOTHRA WILSONI, Baly.

*Hab.* S. AUSTRALIA,

PRASONOTUS SUBMETALLICUS, Suff.

*Prasonotus morbillosus*, Baly.

„ *morbillosus*, Chp.

„ *chapuisi*, Blackb.

(Plate XXIV, fig. 106.)

I believe that *morbillosus*, Baly, and *morbillosus*, Chp., both belong to this species. I have taken a considerable number of specimens in Western Australia, all on *Xanthorrhoeæ*. The specimens which I refer to the species vary to a remarkable degree in the sculpture of prothorax and elytra ; on some small specimens the prothorax is punctate only, except for a few strigosities at the outer base ; in others the strigosities extend round the sides and front, whilst in some large specimens the sculpture agrees exactly with Baly's descriptions of those of *morbillosus*. On the small specimens the elytra are regularly seriate-punctate, or regularly striate-punctate, except close to the shoulders : in the larger ones the punctures are not only much larger, but very much more irregular, but close to the suture apex and outer margins (except close to the



shoulders) they are in almost regular rows, the interspaces between the rows at the places named being almost regularly convex (in the small specimens the elytra are striate only at the apex).

I have not seen the variety described by Baly as having the head and prothorax black, but a rather common variety in Western Australia has a large black cloud on the disc of the prothorax and nearer the base than apex. The elytra vary from deep blue to deep green.

Suffrian's and Chapuis' specimens were from W. Australia, Baly's from N. S. Wales and W. Australia. If I am correct (as I think I am) in referring both Baly's and Chapuis' species to *submetallicus* there will be no necessity for the name *Chapuisi* proposed by Blackburn \* for *morbillosus*, Chp.

PRASONOTUS RUFICANDIS, Baly.

*Hab.* N. S. WALES.

CADMUS RUGICOLLIS, Gray.

(Plate XXII, figs. 1, 2.)

I have seen many specimens agreeing with Saunders' description of this species, which appears in the catalogue as a synonym of *rubiginosus*, Boi.; as to which species are really *rubiginosus*, Boi., and *gigas*, Oliv., probably only an examination of the types (if such are still extant) could determine. The description and figure of *rugicollis* as given in Cuvier's "Animal Kingdom" (vol. 15, p. 146, and plate 67, fig. 5) are quite useless.

*Hab.* QUEENSLAND: Wide Bay; N. S. WALES: Hunter River; SYDNEY; VICTORIA: Gippsland; S. AUSTRALIA.

Mr. A. Simson has two males from Queensland, which I hesitate to regard as representing more than a variety of this species; they are considerably narrower than Tasmanian specimens, and the elytral markings are somewhat different; but as I have seen forms from N. S. Wales intermediate in width I have not thought it advisable to describe them as new.

CADMUS LITIGIOSUS, Boh.

The size of the spots on this species vary to a certain extent, and a specimen in the Macleay Museum has the two hind spots conjoined.

\* T. R. S. S. A., 1891, p. 139.



*Hab.* N. S. WALES : Monaro, Queanbeyan, Jenolan ;  
VICTORIA : Gisborne.

CADMUS AUSTRALIS, Boi.

*Hab.* TASMANIA (widely distributed).

CADMUS EXCREMENTARIUS, Suff.

(Plate XXII, fig. 3.)

*Hab.* N. S. WALES ; S. AUSTRALIA ; W. AUSTRALIA.

CADMUS PACIFICUS, Suff.

The specimen described by Suffrian was a typical female, and of which I have seen numerous specimens. I have a female which is dark red except that the head, terminal joint of antennæ, two transverse spots on prothorax (separated at the median line), base of prothorax, scutellum and elytra, and a small spot on each shoulder, are black, the metasternum is infusate. Another female has in addition the two terminal joints of tarsi, the whole of the scutellum and several obscure patches on elytra, black ; this specimen agrees passably well with Chapuis' description of the female of *strigillatus*, but probably his female was different. One female before me is entirely black, except for its pubescence and some obscure antennal joints.

The male is always smaller than the female ( $3\frac{1}{2}$ – $4\frac{1}{4}$  as against  $4\frac{3}{4}$ –6 mm.) and the antennæ are considerably longer (noticeably passing the apex of the body). The normal male is black except for the 2nd, 3rd and 4th, part of the 5th and the lower portion of the 1st joints of antennæ and the connection between femora and coxæ ; the apex of the elytra has usually an indistinct reddish spot or margin, never so distinct or wide as in the female and occasionally quite absent. A form of the male occurs in which only the upper surface of the 1st and the apical three-fourths of the 11th joints of antennæ are black. One male before me has the upper portion of the 1st and the whole of the 11th joints black on both sides ; the left antenna has the 6th and 7th joints dark, whilst the right has the apex of the 5th and the whole of the following joints dark.

Suffrian says the prothorax of this species has serrated margins. I have never seen a specimen in which the



margins are truly serrated, although owing to the clothing they frequently appear to be so.

The species is very common on young *Eucalyptus* foliage, and I have taken many pairs *in copula*.

*Hab.* TASMANIA : Hobart, Huon River, Frankford, Ulverstone, Sheffield, Mt. Wellington ; N. S. WALES : Mt. Victoria, Sydney, Goulburn.

#### CADMUS PURPURASCENS, Chp.

A female from Ropes Creek in the Macleay Museum agrees exactly with Chapuis' description and figure of this species ; a male in my own collection from Jenolan, which I believe to be conspecific, has the base of the head, the space between the antennæ and a line connecting with the base black, the head elsewhere being flavous ; the antennæ are entirely black except the lower parts of the four basal joints ; the prothorax is piceous-brown with obscure darker spaces and with the lateral and anterior margins flavous ; the scutellum is black, the elytra are as in the female except that the shoulders, two small and obscure submedian spots (the outer one almost exactly in the middle of the length, the inner somewhat nearer apex) and the extreme margins are black ; the femora and tibiæ are black variegated with flavous, the tarsi are entirely black.

Chapuis does not mention the length of the antennæ ; in the male before me they considerably pass the apex of the body, in the female they just extend to the apex.

#### CADMUS STRATIOTICUS, Chp.

There is a specimen of this species in the Macleay Museum, but it is without a locality label.

#### CADMUS SCULPTILIS, Chp.

A very pretty species the type of which was described as having a brown scutellum ; in seven specimens before me only two have it brown (a male and a female), in the others it is of a deep black ; the elytral punctures are also described as brown, in two male specimens they are deep black ; in one male the entire legs are pallid. There is in all seven a black spot on each shoulder, but the spots are sometimes very small. The smallest male measures  $4\frac{3}{4}$ , the largest female 7 mm.



*Hab.* QUEENSLAND; N. S. WALES; VICTORIA; SOUTH AUSTRALIA.

CADMUS SCUTATUS, Chp.

(Plate XXIV, fig. 107.)

This species, of which only the female was known to Chapuis, is very variable and is fairly common about the Swan River; I have but one specimen (a female), however, which agrees exactly with Chapuis' description. In the other specimens the scutellum is entirely black, or black with the apex reddish.

In the ordinary female a line down the face, a median prothoracic line (both rarely absent) and occasionally an indistinct spot on each side are black; on the elytra the humeral calli are always darker than their surroundings, and there are often more or less distinct traces of two dark fasciæ (one subbasal, the other median); the basal joint of antennæ is usually black above, the apical joint is usually infusate or black, sometimes the two apical joints are black; occasionally the entire antennæ are pallid.

The ordinary male has the two apical joints of the antennæ and most of the basal, the vertex and a line down the face, a prothoracic cross, the humeral calli and traces of two fasciæ (as in the female) and the greater part of the metasternum black (one female under examination agrees in all respects with such markings). The prothoracic cross is much as in the ordinary form of *crucicollis*, but more sharply defined; from *crucicollis*, however, the species may be distinguished by the very different elytral sculpture.

CADMUS HISTRIONICUS, Chp.

(Plate XXII, fig. 4.)

The exact locality of his specimen (a female) was unknown to Chapuis; the species was subsequently referred by Baly to *Prionopleura*.

I have a pair taken *in copula* at Geraldton (Champion Bay) in which the male agrees with Chapuis' description; two females from Birchip (Victoria) and one from South Australia also agree with the description; the Geraldton female, however, differs in having only the two terminal joints black.

The black markings of the under-surface and the elytral spots are subject to considerable variation, but the



species, on account of its antennæ, is one of the most distinct in the subfamily.

CADMUS LUCTUOSUS, Chp.

*Paracadmus lucifugus*, Baly.

*Cadmus maculicollis*, Chp.

(Plates XXII, XXIV, figs. 5, 6, 7, 108, 109, 110.)

I concur with the Rev. T. Blackburn (T. R. S. S. A., 1890, p. 135) in regarding *Paracadmus lucifugus* as a synonym of this species. A specimen before me has the extreme base of the front femora pallid beneath as well as the four hind ones; in three males one has a dark streak on the 2nd and 3rd ventral segments (as in *lucifugus*), one has a streak on the 1st, 2nd, and 3rd and one on the 2nd, 3rd and 4th; in one the pale markings on the prothorax are as described by Blackburn, in another the discal markings are entirely absent, whilst in another they are represented by two small feeble spots.

The female of this species has been described under the name of *maculicollis* by Chapuis, and I have both the typical form and variety described by him.

For the mating of these very dissimilar sexes I am indebted to Mr. Masters, who has taken specimens *in copula*.

*Hab.* N. S. WALES: Mounts Kosciusko and Victoria, Sydney, Bombala, Cooma and Jenolan.

CADMUS ORNATUS, Chp.

(Plate XXII, figs. 8, 9.)

Three specimens from Ipswich, Moreton Bay and Brisbane agree with Chapuis' description of this species, another from Ipswich differs in having the greater portion of the prothorax clouded with black and the fascia reduced to a rather narrow spot on the middle of each elytron.

Two females (in the Macleay Museum) from Rockhampton appear to represent a very distinct variety, having the head, anterior and lateral margins of prothorax, the raised portions at base of elytra, a rather wide median fascia and the apex pale flavous.

Two males (also in the Macleay Museum) from Ipswich have the elytra reddish-brown throughout except for a



very narrow black basal edging; the vertex and a line down the face are brown, and there is a large inverted infusate triangle on the prothorax; the prothoracic margins, however, are flavous, as in all the other specimens.

All these specimens agree so well in their structural details that I have no option but to regard them as varieties of one species although the colour differences (especially of the last described specimens) are so pronounced.

CADMUS QUADRIVITTATUS, Chp.

(Plates XXII, XXIV, figs. 10, 111.)

Only the male was known to Chapuis. The female differs in being larger ( $7\frac{1}{2}$  mm.) with shorter and almost uniformly coloured antennæ, markings on both head and prothorax of a dingy brown instead of black and dark markings quite absent on the elytra under-surface and legs; in both sexes of the specimens before me the two median prothoracic markings are conjoined at the base.

*Hab.* QUEENSLAND: Gayndah.

CADMUS STRIGILLATUS, Chp.

A female from Canterbury (N. S. Wales) differs from the male (of which I have Victorian specimens before me) in having only the basal markings of elytra ("*callo humerali, fascia submedia obliqua*") distinct, the apical spots being scarcely traceable. Chapuis describes the prothorax of the female as "*brunneo, macula transversa notato*." In my female the prothorax is black with the anterior and lateral margins obscurely pallid; its antennæ, however, are as in the type female.

CADMUS TRISPILUS, Chp.

(Plate XXII, fig. 11.)

This species is very closely allied to *excrementarius*, Suff., differing principally in length and width of antennæ. One specimen before me has a large space at the base of the elytra black and also a broad irregular sutural stripe to beyond the middle of the same colour.

*Hab.* QUEENSLAND: Brisbane, Wide Bay, Rockhampton; N. S. WALES: Inverell.



## CADMUS AURANTIACUS, Chp.

(Plate XXIV, figs. 112, 113, 114, 115.)

I have three specimens from Jenolan (where the species appears to be common) which agree with the description of this species except in having the vertex and between the eyes black. The size and density of the prothoracic punctures vary greatly in the species; the elytra vary in colour from dark brownish-red to almost flavous.

Var. A.—Prothoracic markings reduced to five small disconnected spots.

Var. B.—Metasternum, abdomen (except intercoxal process), scutellum, part of 1st and the 6th–11th antennal joints, apex of femora and of tibiæ and the tarsi black; prothoracic Y broken up into three (two large and one rather small) disconnected spots.

Var. C.—Metasternum, abdomen (except intercoxal process), scutellum, antennæ (except the 2nd, 4th and part of the 1st joints), apical half of femora and of tibiæ and the 1st and 3rd tarsal joints, black.

All the specimens I have seen are females; the male is probably very different in appearance and possibly already bears another name.

## CADMUS COLOSSUS, Chp.

Referred by Chapuis to *Cadmus*, by Baly to *Brachycaulus*, to which it really belongs. The male of this species appears to be very rare; judging by the only specimen I have seen it differs from the female in being smaller (7 mm.) and darker and with the antennæ longer and thinner; the elytra also are considerably rougher.

*Hab.* QUEENSLAND: Brisbane, Dawson River, Wide Bay, Port Denison; N. S. WALES: Condobolin.

## CRYPTOCEPHALUS (CADMUS) PAUPERCULUS, Germ.

(Plate XXII, figs. 12, 13, 14.)

This is a very variable species and rather common about Sydney. The male is fairly constant in size, but varies from the form described by Germar to one in which the prothorax is almost entirely pale with the elytral markings consisting of a dark basal patch and four (feebly connected



or not) post-median spots; in all the paler varieties the pygidium and apical segment of abdomen are pallid; a male before me has the prothorax, abdomen and pygidium black, but the elytra as in the type. A common variety of the male is entirely piceous black with the legs and antennæ in parts paler; rarely the whole insect is dark.

The female rarely resembles the type in colour and varies from 2 (vix) to  $2\frac{1}{2}$  mm.; the normal form is pallid except for the head, terminal joints of antennæ, scutellum, and the base of both prothorax and elytra, and usually (but not always) a small post-median spot on each elytron. In a female in the Macleay Museum the prothorax is clouded in front (except at the extreme apex); the scutellum and a rather wide space at base of elytra, the suture and four post-median spots are dark.

### CRYPTOCEPHALUS TRICOLOR, Fab.

(Plate XXV, fig. 156.)

I have before me the sexes (four males and three females) of a species which I believe to be *tricolor*. Fabricius' description is brief enough, but he describes the abdomen as "*albidum*." Commenting on the species Suffrian remarks:—"I do not know this species, the one which I consider closest to the description is *viridipennis*, Saund." It appears to me that *viridipennis*, Saund. (*perlongus*, Chp.), cannot possibly be *tricolor*, which is described as "*parvus*," whilst *viridipennis* is a large species; its abdominal clothing is certainly whitish, but it is sparse and indistinct. It is also very unlikely that Fabricius would have described as a variety of *tricolor* a species which has been referred to *consors*, had *tricolor* been at all like *viridipennis*.\* The species I believe to be *tricolor* is small and has the abdomen very pale flavous (in two females it might fairly be called dingy white), its prothoracic margins are rather wide, the scutellum is flat, impunctate, triangular (but truncate at tip) and notched at base; the tarsi are blackish. The male is smaller than the female (male  $2\frac{3}{4}$ , female  $3\frac{1}{4}$  mm.) and has longer antennæ: in two males the elytra are blue, in the other male, and in all the females they are coppery-green.

\* And if the type is a male it could not possibly be *viridipennis*.



The species is allied to *consors* but is smaller, the prothorax immaculate and with wider margins, the under-surface and legs (except tarsi) pallid, and the scutellum longer and with the basal notch more distinct. In *consors* and its varieties the punctures on the head (although somewhat variable individually) are simple; in *tricolor* they are very dense (especially on the black portion), more or less confluent and with the interstices strigose.

*Hab.* TASMANIA: Huon River (on young *Eucalyptus* leaves).

### CRYPTOCEPHALUS SCABROSUS, Oliv.

*Idiocephala rugosa*, Saund.

var. *Idiocephala similis*, Saund.

var. *Cryptocephalus rugifrons*, Chp.

var. „ *eximius*, Chp.

Re-described by Saunders as *Idiocephala rugosa*, as noted in Masters' catalogue; Saunders regarded the red apex of elytra and golden pubescence of under-surface as sufficient to distinguish it from his *similis*, but I can only regard them as forms of one species. I have before me a female in which there is the typical red patch of *scabrosus*, whilst a male (taken *in cop.* with it by Mr. Masters) has the red patch just traceable, being very small in extent and much darker than usual. In a pair of *similis* before me the pubescence of the under-surface is golden in the female and silvery in the male. A male specimen of *similis* has a distinct greenish gloss on the whole of the upper surface.

*Similis* appears to be the typical form, and *scabrosus* the variety. In both the sculpture of prothorax and elytra varies considerably; they are fairly common in N. S. Wales.

*Rugifrons*, Chp., from S. Australia and *eximius*, Chp. (omitted from the catalogue), I can only regard as very slight local varieties.

### CRYPTOCEPHALUS JACKSONI, Guer.

Originally described from Sydney, but a common species in early summer in N. S. Wales, Victoria, S. Australia and Tasmania; the sexes are alike in colour. A variety, fairly common in Tasmania, is of a deep purple colour, but occasionally the purple is confined to the elytra.



CRYPTOCEPHALUS SALEBROSUS, Guer.

As this species is compared with *Cadmus rugicollis*, it is probably allied to that species; \* but the description is too imperfect to render its identification at all certain.

CRYPTOCEPHALUS HÆMATODES, Boi.

var. *Cryptocephalus carnifex*, Suff.

Re-described by Saunders (to whom only the female was known) as a *Dicenopsis*. In the ordinary female of this species the under-surface is dark red stained in places with piceous; in the ordinary male the whole of the under-surface, except the flanks of the prosternum, is black; in both sexes the tibiæ (except at base and apex) are blood-red, in the female the femora are usually red stained in places with black, in the male the femora (except the base of the anterior pair) are usually deep black. In the female the pygidium is red, in the male it is sometimes red and sometimes black; the head is red in the female and more or less black in the male.

*C. carnifex*, Suff., differs in having the under-surface and legs in both sexes entirely black (with or without a bluish gloss) and the punctures of both prothorax and elytra very much smaller and sparser. I believe, however, that it should be regarded as a (very distinct) variety of *hæmatodes*, although it is smooth whilst *hæmatodes* is rough; the antennæ of both forms are identical (those of the male being unusually long and those of the female unusually short) and the punctures are similar in character (although very much coarser in *hæmatodes*, but very variable amongst individuals), being, on the elytra, crowded at the base, subgeminatæ in arrangement about the middle and seriate posteriorly; in *carnifex* the elytra are feebly or not at all striate posteriorly, in *hæmatodes* they are feebly or moderately strongly striate posteriorly; the posthumeral lobes and the scutellum (frequently useful distinguishing features) are identical in both.

I have only seen specimens of *hæmatodes* from Tasmania and of *carnifex* from the mainland—S. Australia; Victoria—Benalla, Mangalore and Korumburra; N. S. Wales—Forest Reefs, Bombala, Sydney and Queanbeyan.

\* Quite possibly it is a variety of it, as the distinguishing features relied on related to colour only.



## CRYPTOCEPHALUS CRUCICOLLIS, Boi.

*Cadmus crucicollis* (Boi.), Suffr.*Prionopleura crucicolle* (Boi.), Saund.var. *Prionopleura hopei*, Saund." " *creek-nigra*, Saund." " *flavocincta*, Saund." *Cadmus cinnamomeus*, Suffr." " *amplicollis*, Chp.

(Plates XXII, XXIV, figs. 15, 16, 17, 18, 19, 20, 116, 117, 118, 119.)

This is probably the most widely distributed and at the same time the most variable species in the subfamily. I have specimens from all the Australian States. Not only are the colours and markings very variable, but the sculpture of the elytra is much less acute in some specimens (especially in the varieties about *flavocinctus*) than in others; the prothorax also seems to overhang the head more in *flavocinctus* and *amplicollis* than in the more typical forms.

On Mt. Kosciusko and in Tasmania a variety occurs which is entirely black except that parts of the coxæ and some of the antennal joints are obscurely diluted with red. In specimens having the ordinary markings the black terminal joints of the antennæ vary in number from one to seven.

A small male from Brisbane agrees exactly with Chapuis' description of *amplicollis* (a variety close to *flavocinctus*); a female received with it has the prothoracic cross reduced to a longitudinal and two transverse disconnected vittæ.

Of *cinnamomeus* Blackburn says (T. R. S. S. A., 1890, p. 136): "I have never seen a specimen quite agreeing with Suffrian's type, which should have no markings at all on the prothorax." I have a pair taken near Sydney *in cop.*, of which the female has the prothorax entirely without markings and agreeing with Suffrian's description of *cinnamomeus*, and the male with the markings ascribed by Saunders to *flavocinctus*.

I have not considered it necessary to give any fresh varietal names, although the black specimens from Mt. Kosciusko and Tasmania are much more distinct from the typical form than any of the already named varieties.



CRYPTOCEPHALUS CONSORS, Boi.

*Cryptocephalus tricolor*, Fab. var.

var. *Idiocephala roei*, Saund.

„ „ *atripennis*, Saund,

„ „ *elegans*, Saund.

*Loxopleurus plagicollis*, Chp.

(Plate XXV, figs. 136, 137, 157.)

In this species and its varieties the dark parts of the head and prothorax vary considerably in extent independently of sex, and specimens from Tasmania as a rule are larger and darker and the markings greater in extent than on those from N. S. Wales.

The form described by Boisduval was without the yellow elytral margins and appears to be rare; Blackburn (T. R. S. S. A., 1891, p. 139) records it from N. S. Wales.

*Cryptocephalus tricolor*, Fab. var. Suffrian (Linn. Ent., 1859, p. 101) says the supposed variety of *tricolor* described by Fabricius belongs to *consors*.

*Idiocephala roei*, Saund. This is the common form, having, as described by Saunders, the yellow margins not continuous to the apex of elytra, the scutellum black and the femora black except at base. It was described originally as from the Swan River and Van Diemen's Land, and is fairly common in N. S. Wales, Victoria and Tasmania.

*I. atripennis*, Saund. A variety having the elytra black and 3rd and 4th joints of antennæ brownish; it is apparently a very rare variety and is unknown to me; no locality for it is given by Saunders.

*I. elegans*, Saund. Described as having the scutellum and femora pale and the external markings of elytra almost continuous to apex. In a pair taken *in cop.* near Sydney the male has the scutellum black and the female pale but with dusky margins.

*Loxopleurus plagicollis*, Chp. This appears to be a synonym only of the variety *elegans*.

A variety, hitherto undescribed, of which I have a specimen from Sydney, has the scutellum and femora pale, the lateral markings of elytra very narrow towards but conjoined at apex, and the prothoracic blotch reduced to a narrow brownish streak; the 3rd and 4th joints of its antennæ are paler than the others.



Another variety from N. S. Wales differs from variety *roei* only by having the base and apex of femora pallid.

Still another variety from N. S. Wales has the scutellum black, femora pallid and pale elytral margin conjoined at apex, with the three basal joints diluted with red.

Dr. Baly refers the species to his genus *Euphyma*.

### CRYPTOCEPHALUS SPECIOSUS, Boi.

(Plates XXII, XXV, figs. 21, 138.)

A common species and one of the very few Australian members of the genus in which the markings do not appear to vary.

*Hab.* N. S. WALES: Tamworth; QUEENSLAND: Brisbane, Somerset, Townsville, Moreton Bay.

### CRYPTOCEPHALUS CASTUS, Suff.

(Plate XXII, figs. 22, 23.)

This is a fairly common species with slightly variable markings.

*Hab.* W. AUSTRALIA; S. AUSTRALIA.

### CRYPTOCEPHALUS PARENTHETICUS, Suff.

(Plates XXII, XXIV, figs. 24, 25, 26, 27, 120, 121.)

This is a very variable species. The prothoracic markings consist of three longitudinal black bands of very variable size and occasionally conjoined. The dark parts of the elytra may cover the greater part of their surface or a small portion only. In some Brisbane specimens the dark elytral markings consist of a narrow semicircular basal edging commencing on the shoulders and conjoined behind scutellum, a narrow sutural edging and a rather small oblong spot near the apex of each elytron; in a specimen from Rockhampton the colour is as in these except that the apical spot is wanting, in others from Brisbane the apical spot is semi-connected with the suture by a series of small spots. The under-surface and appendages appear to be constant in coloration.

*Hab.* S. AUSTRALIA; VICTORIA; N. S. WALES: Sydney, Goulburn, Forest Reefs, Windsor, Ropes Creek, Hay; QUEENSLAND: Brisbane, Rockhampton, Ipswich.



CRYPTOCEPHALUS VIRIDINITENS, Chp.

A beautiful species in colour resembling *jacksoni* \* but in sculpture approaching *scabrosus*; the narrow but distinct carina on the pygidium should alone render it distinct.

A male specimen (kindly presented to me by Mr. H. J. Carter) has the prothorax and elytra of a beautiful golden-purple, the base of the head and scutellum coppery or coppery-green, the head in front, pygidium and the lower surface green, the legs blue with purplish reflections and the antennæ black with, in places, a bluish gloss. In size it is smaller than the female with the eyes closer together and the antennæ longer than the body (in the female the antennæ barely extend to the pygidium).

*Hab.* N. S. WALES: Sydney, Blue Mountains; VICTORIA: Warragul.

CRYPTOCEPHALUS EUMOLPUS, Chp.

(Plates XXII, XXV, figs. 28, 29, 145.)

I have seen typical specimens of this species from Mackay, Port Denison and Somerset. A variety from Somerset differs in having the prothoracic marking reduced to a narrow streak, the scutellum and elytra very narrowly bordered with black, and the only spot on each elytron the humeral one and this is deep black, without the least bluish or purplish gloss.

CRYPTOCEPHALUS CLAVICORNIS, Chp.

(Plate XXVI, figs. 183, 184.)

Mr. Masters has given me under this name a pair of insects from the Clarence River which differ from Chapuis' description in having the head rather coarsely punctate and the tibiæ of the male entirely black. I believe, however, that they are correctly named, as the antennæ are peculiar and exactly as described.

CRYPTOCEPHALUS BIHAMATUS, Chp.

(Plates XXII, XXV, XXVI, figs. 30, 139, 140, 141, 142, 158, 185, 186.)

An unmistakable species, at least as regards the male. A remarkable character of the male, not mentioned by

\* In several collections I have seen specimens of *jacksoni* bearing the name *viridinitens*.



Chapuis, is that the serrations of the antennæ are reversed after the 7th joint.

The male has usually on the prothorax a large sub-triangular black median patch (the narrow end touching the base); in the female the patch is sometimes widest in the middle and broad at the base, the part in front being reduced to a point, or frequently it appears as a narrow streak. The dark fasciæ on the elytra are deep black and sharply defined in the male; in the female they are much less sharply defined and are occasionally absent. In two females under examination the abdomen and legs (except the penultimate joint of all the tarsi) are entirely pallid.

*Hab.* VICTORIA; N. S. WALES: Jenolan, Tamworth, Whitton, Ropes Creek, Yass, Armidale, Blue Mts.; QUEENSLAND: Brisbane, Port Denison.

#### CRYPTOCEPHALUS PÆCILODERMIS, Chp.

A pretty and somewhat variable species. A female from Somerset, measuring 8 mm., has the metasternum slightly infusate and the punctures surrounding the scutellum stained with black instead of brown. The prothorax, elytra and scutellum are narrowly edged with black or dark brown (a character not mentioned by Chapuis).

Specimens in the Macleay Museum from N. W. Australia are smaller (♂  $5\frac{1}{4}$ , ♀  $6\frac{1}{2}$  mm.) and paler than those from Queensland, and the punctures on both prothorax and elytra are smaller.

Two males before me have the fifth abdominal segment unusually large, and with a wide and not very shallow excavation occupying the greater portion of its surface, this excavation is of a totally different character to the apical fovea of the female, and is not bordered with hairs. Seen from above the excavated segment appears to be the fourth, but the fourth is visible only from the sides, each side of it appearing as an isosceles triangle.

A female measuring 8 mm. from Port Darwin (in the Macleay Museum) I hesitate to regard as more than a variety of this species; it differs, however, from a female from Port Denison (the original locality) in having the vertex infusate and with larger and in places confluent punctures, the prothoracic punctures larger and not stained, the elytral punctures larger and more deeply stained, the stains more confluent and the pallid spaces more longitudinal and maze-like in appearance, not, as in the type,



"elytris subbifasciatis, punctis pone basin et pone medium congestis," the scutellum notch is also larger. It would be unsafe, however, to describe it as a new species without seeing more specimens.

CRYPTOCEPHALUS TERMINALIS, Chp.

? *Cryptocephalus facialis*, Chp.

(Plate XXII, fig. 31.)

The type specimen of this species (undoubtedly a female) had a large apical black patch. I have seen three such females, but four others have the elytra (except at the extreme base) entirely pallid; five males (one marked as having been taken *in cop.* with a Gayndah female having the dark apical patch) have the elytra also of uniform colour. It is doubtful therefore as to whether the form of the female having the black apical patch should be regarded as typical or varietal, but the typical male at least appears to be without the apical patch. Specimens vary considerably in the size of their punctures.

The male differs from the female in being smaller and with longer and thinner antennæ. It seems to me quite possible that the male was described by Chapuis under the name of *facialis*; he says, however, that the antennæ of that species have only the basal joint red and that the tarsi have the two apical joints infusate, whilst in all the males of *terminalis* before me the two basal joints of antennæ (and usually part of the third) are pallid and *all* the tarsal joints are dark.

This species is perilously close to *C. conjugatus* (not *Loxopleurus conjugatus*, Chp.), but even if it is to be regarded as a variety of that species it can be readily distinguished by its pallid under-surface and legs (except tarsi).

*Hab.* QUEENSLAND: Gayndah, Port Denison, Mackay; N. W. AUSTRALIA.

CRYPTOCEPHALUS ANTENNALIS, Chp.

Dr. Chapuis says of this species "*capite rugulosa, postice subtuberculate.*" There are two specimens from Wide Bay (the original locality) in the Macleay Museum which I refer, without hesitation, to this species, but I cannot regard the base of the head as subtuberculate, the base is rather more convex than is usual in the genus, but the



outline of the convexity is uniform. The head is densely and finely longitudinally strigose with rather numerous punctures at the sides.

CRYPTOCEPHALUS CONJUGATUS, Chp.

Specimens from N. W. Australia in the Macleay Museum agree in colour, size, etc. with some from Port Denison (the original locality), but differ in having the punctures of the upper surface (and especially of the elytra) finer.

Two specimens from Somerset have the punctures (especially of the elytra) noticeably coarser than the Port Denison ones, whilst one of them has the femora and four basal joints of antennæ (instead of five) pallid.

This species (probably on account of there being a *Loxopleurus conjugatus*) was omitted from the catalogue.

CRYPTOCEPHALUS GRACILIOR, Chp.

(Plate XXII, fig. 32.)

Of this species Chapuis says, "*elytris . . . basi late . . . nigro-cyaneis.*" I have seen numerous specimens from Queensland (Somerset, Townsville, Mackay, Duaringa and Port Denison), which probably belong to it and in which the basal marking is advanced along the suture and shoulders, the dark part of the head has a bluish gloss (Chapuis simply says "*nigra*"), and the abdomen varies from flavous to wholly black. Chapuis describes the prothorax as having an abbreviated black line; such a line appears to be usually present, but it is occasionally absent, whilst in one specimen under examination there are three feeble lines to be seen.

CRYPTOCEPHALUS CHRYSOMELINUS, Chp.

(Plates XXII, XXV, figs. 33, 159.)

The male (unknown to Chapuis) differs from the female in being smaller, with less parallel and smaller elytra and antennæ longer than the body, those of the female being noticeably shorter. I have a specimen from Somerset and have seen others from Townsville.

A variety from Somerset has on each elytron a fairly large oblique flavous spot before the middle and conjoined at suture, the shape and position being much the same as



in *flaviventris* but rather smaller; the other parts of the elytra are metallic, varying from green and blue to various shades of gold and purple.

*Hab.* QUEENSLAND: Port Denison, Endeavour River, Cairns; N. W. AUSTRALIA.

CRYPTOCEPHALUS JOCOSUS, Chp.

*Loxopleurus postremus*, Chp.

*Rhombosternus pretiosus*, Baly.

(Plate XXII, figs. 34, 35.)

The female of this species, of which I have taken many pairs *in cop.*, was described by Chapuis in 1875 as coming from Victoria, the male was subsequently described (also as from Victoria) by him as *Loxopleurus postremus*. In 1877 Baly described the female as *Rhombosternus pretiosus*. In both sexes the head varies from entirely red to half red and half black.

*Hab.* N. S. WALES: Armidale, Forest Reefs, Queanbeyan, Blue Mts., Jenolan; VICTORIA: Gisborne.

CRYPTOCEPHALUS IRIDIPENNIS, Chp.

var. *Idiocephala chapuisi*, Baly.

(Plate XXII, figs. 36, 37.)

The Rev. T. Blackburn (in T. R. S. S. A., 1893, p. 140, by a slip of the pen speaking of the species as *iridiventris*) calls attention to the fact that Baly's *I. chapuisi* is a variety of this species.

In the female, and occasionally in the male, the elytra are frequently purple instead of green, and even when green the outer parts are usually purplish.

The pale portion of the elytra sometimes covers most of the surface, but in the female usually about half; it is often more or less triangular in outline and sometimes forms a short broad V, in only one specimen (a male from Mackay) have I seen the two colours sharply defined, as they usually run more or less into each other, and in the males the pale portion is often scarcely traceable.

*Hab.* N. S. WALES: Tweed, Richmond and Clarence Rivers, Kiama; QUEENSLAND: Brisbane, Cairns, Mackay.



## CRYPTOCEPHALUS ACICULATUS, Chp.

(Plates XXII, XXV, figs. 38, 39, 143, 144.)

There are three specimens in the Macleay Museum from South Australia (two of them labelled "Interior of S. A.") that belong to this species; in one of them the scutellum is blackish-brown, in the others deep black; in the two specimens from the interior the greater portion of the elytra is dark, the basal fascia occupies more than one-third of the surface, and the apical spots are very large, and each appears to be surrounded by a pallid ring; in one specimen the head is entirely red.

Another specimen in the Macleay Museum (from N. W. Australia) differs from the description in being larger (5 mm.), in having the prothoracic spot small, longitudinal and irregular, and the scutellum with a rather large pallid spot.

## CRYPTOCEPHALUS FILUM, Chp.

(Plate XXII, fig. 40.)

Only the female was known to Chapuis; the male differs in being smaller, with longer antennæ (exactly reaching to the apex of the body) and (in the only specimen before me) the second fascia occupying the whole of the apical two-fifths of elytra; in two females before me this fascia appears to be composed of two large conjoined spots, narrowed towards suture, and leaving a fairly large apical patch of the ground colour; in the male also the abdomen is rather dingy instead of being (as in the female) a clear lemon-yellow. Baly referred the species to his genus *Paracephala* (= *Schizosternus*); the hinder apex of the prosternum, however, is much less deeply excised than in his *P. pectoralis* (= *S. albogularis*), although it might fairly perhaps be regarded as semicircularly emarginate; it is, moreover, so closely applied to the mesosternum that it can only be separated with difficulty.

## CRYPTOCEPHALUS ARGENTATUS, Chp.

(Plate XXII, figs. 41, 42.)

*Idiocephala bella*, Baly.

This is a variable species of which I have taken several pairs *in cop.* The elytral markings of the male are



occasionally exactly as in the ordinary female described by Chapuis, but usually the apical third is black, the black portion converging obliquely from each side to the suture.

The description of *Idiocephala bella*, Baly, appears to have been drawn up from a normal female of this species.

A variety (of which there are four specimens before me, one of which was taken *in cop.* with a male as described by Chapuis) of the female occurs in which the elytra are occasionally entirely black; these females look very much like the specimens I believe to be *Loxopleurus conjugatus*, except that they are larger, but they may be at once distinguished by the sculpture of the head.

*Hab.* N. S. WALES: Sydney, Gunning, Tamworth, Galston, Forest Reefs, Queanbeyan, Jenolan; S. AUSTRALIA; QUEENSLAND: Brisbane, Wide Bay, Mackay.

CRYPTOCEPHALUS DICHROUS, Chp.

(Plate XXIII, figs. 43, 44, 45, 46, 47.)

This is a very variable species, closely allied to *argentatus*, and with many of its varieties resembling varieties of that species to a remarkable degree; *dichrous*, however, has a longer prothorax, slightly shorter scutellum, stouter antennæ, and head with simple or almost simple punctures; whilst in *argentatus* the upper half of the head is densely and finely strigose ("longitudinaliter aciculata").

I have only seen two specimens (one from Port Denison, the other from N. W. Australia) agreeing exactly with Chapuis' description of the colours of this species; usually the sides and apex of elytra are narrowly margined with dull red, the head (except for the eyes) is usually entirely pallid; usually the five, but sometimes six, basal joints of antennæ are pallid, whilst in two specimens parts of the 7th and 8th are also pallid; the tarsi are sometimes entirely pallid, although the 3rd joint is usually darker than the others; the abdomen and metasternum are occasionally infuscate. It is in the elytra, however, that the greatest variation occurs. The following forms are before me.

Elytra entirely greenish-blue (as in the type).

Elytra greenish-blue, narrowly margined with dull red (this appears to be the more normal form).

The same, except that there is an obscure subbasal fascia in the form of a broad V (the V variable in size).



The same, except that the fascia is interrupted towards the suture.

Elytra pallid, the base and a large subapical spot on each greenish-blue. This is a common form; frequently the basal marking is obscurely advanced for a short distance along the suture, sometimes it is absent except at the extreme base, the subapical spots never touch the margin, but occasionally the suture, they are often rounded, but sometimes triangular.

Elytra pallid, the base a subapical spot on each, and an intermediate spot on suture greenish-blue.

Elytra pallid except at extreme base, and a slight subapical infusate patch.

Elytra pallid except at extreme base, and two small transversely conjoined subapical spots.

Elytra pallid except at extreme base.

In the pallid varieties the scutellum (except at its extreme base) is nearly always pallid.

*Hab.* QUEENSLAND: Port Denison; N. W. AUSTRALIA; S. AUSTRALIA.

#### IDIOCEPHALA CATOXANTHA, Saund.

(Plate XXIII, fig. 48.)

The Rev. T. Blackburn describes as a possible variety of *catoxantha*, a species from the Northern Territory, of which there are three specimens from N. W. Australia in the Macleay Museum, varying from  $1\frac{3}{4}$  to  $3\frac{1}{4}$  lines (Blackburn's specimens varied from 2 to  $3\frac{2}{5}$  lines); at the same time he says he believes the species to be truly *catoxantha*, and this is probably the case. Saunders describes the scutellum as "pitchy-brown," Blackburn does not notice it in his description. In the three specimens mentioned above the scutellum is concolorous with the prothorax except for a narrow blackish basal border.

#### IDIOCEPHALA TASMANICA, Saund.

var. *Loxopleurus crassicostatus*, Chp.

? *Loxopleurus impressicollis*, Boh.

In Masters' catalogue referred to *Loxopleurus*. A specimen from the Sydney Museum (without locality) agrees exactly with the description; in others from New South Wales and Tasmania there is a narrow stripe along the median line of the prothorax, commencing at the apex and not quite extending to the base; on a Tasmanian



specimen the pale elytral markings are not confined to the base and apex, but are irregularly distributed over the disc as well.

A specimen from Tambourine (Queensland) in Mr. Illidge's collection differs in having the outer parts (but not the extreme margins) of both prothorax and elytra darker (instead of paler) than the general colour, but I can only regard it as a variety.

*Loxopleurus crassicostatus* appears to have been founded upon a variety of this species having the pectus black; I have one specimen from Sydney in which the greater part of the metasternum is black, but in five others it is of a reddish-brown, but very distinctly darker than the abdomen.

The costæ of the elytra in this species are much more pronounced in some specimens than in others both as regards their colour and size.

It seems to me quite probable that *Loxopleurus impressicollis*, Boh. (re-described by Suffrian) may be referable to this species.

#### IDIOCEPHALA SUBBRUNNEA, Saund.

Mr. Saunders described the scutellum and "mesosternal region" as black; in two specimens from Kiama before me the metasternum but not the mesosternum is black; in one the scutellum is almost entirely black, but in the other it is black only at the base.

This species is given in Masters' catalogue as a synonym of *Darwini*, but I do not know on what authority; I have seen no specimen agreeing with the description of *Darwini*.

#### IDIOCEPHALA BYNOEI, Saund.

*Cryptocephalus convexicollis*, Chp.

(Plates XXIII, XXV, XXVI, figs. 49, 50, 51, 52, 160, 187.)

This is a fairly common species on young *Eucalyptus* foliage in the coastal districts of Western Australia. In the female the antennæ are slightly shorter than the body, in the male they are distinctly longer, the scutellum has a large basal fovea; the shape of the postmedian fascia varies very considerably, but never appears to reach the margins; it is sometimes broken up into spots; in one female the basal joint of the antennæ is obscure red; in a male the second, third, and fourth, and the lower part of



the first are red ; in this specimen also the elytral punctures are larger and sparser than in other males under examination. I have a pair taken *in copula* in which the elytral punctures are very different *inter se*.

Two specimens before me from the Swan River at first sight appear to be very distinct from *Bynoei*, but I am satisfied they are varieties only ; in one of them the elytral punctures are as in the ordinary female, but the black markings of the upper surface (including the head) consist of a narrow edging common to the prothorax, scutellum, and elytra, but on the latter continued to form a humeral spot (elevated and tuberculiform as in all other specimens of the species), and two disconnected postmedian spots placed as in *Cadmus excrementarius*, Suff. ; the antennæ are black, but with the three basal joints more or less obscurely diluted with red ; the apex of the tibiæ and the tarsi are black ; the metasternum is very slightly infusate ; the other specimen agrees in its markings with this one except that the postmedian spots are slightly larger, and that all the appendages are pallid ; its punctures, however, are very much coarser (much coarser than on any other specimen I have seen) both on the prothorax and elytra ; \* in both these specimens the shape and proportions of the antennæ joints, the scutellum rounded behind with an unusually large basal fovea, are as in ordinary specimens. At first sight it would appear almost absurd to associate this specimen with typical ones of *Bynoei*, but I am convinced that it can only be regarded as a variety of that species.

The species has been re-described by Chapuis under the name of *Cryptocephalus convexicollis*, from quite ordinary specimens. Chapuis records it from Brisbane, Rockhampton, and Swan River ; I have only seen specimens from Western Australia.

IDIOCEPHALA CYANIPENNIS, Saund.

var. *Cryptocephalus condensatus*, Suff.

(Plates XXV, XXVI, figs. 161, 188.)

Mr. Saunders described this species (giving the locality as "New Holland") as having "under-side of body pale ochreous yellow" ; subsequently Chapuis described it as a *Cryptocephalus*, and as having "metasterno vix infusato."

\* These might quite fairly even be called foveate-punctate.



In Masters' catalogue *condensatus* of Suffrian is given as a synonym. Chapuis describes *condensatus* as a distinct species, but in this I think he was wrong, although it differs in a number of particulars from the form described by Saunders. The form truly representative of the species, however, is that described by Suffrian and Chapuis in which the metasternum and abdomen (except at the sides and the intercoxal process) is black or blackish; in this form there is frequently a blackish transverse patch on the prothorax, in some very distinct, in others just traceable. The antennæ are either entirely black (with or without a metallic gloss) or with the five basal joints more or less red, both in the typical form and the variety.

The elytra are usually deep blue or violet, but sometimes greenish, and there are many intermediate shades.

In three specimens from northern N. S. Wales and Queensland having the dark under-surface of *condensatus* the head (except for the eyes) is entirely pallid.

In the catalogue there appear two species bearing the name *cyanipennis* (Nos. 6468 and 6469). Chapuis, however, simply re-described Saunders' species with Saunders' name attached, so that there is really no preoccupied name.

*Hab.* QUEENSLAND: Brisbane, Bundaberg; N. S. WALES: Tweed River, Sydney, Lane Cove, National Park; VICTORIA: Melbourne.

There is a specimen from S. Australia in the Macleay Museum which I think is probably a variety of this species; it is, however, very large (6 mm.), with the elytra metallic green becoming coppery at the base and the prothorax with a large transverse median black blotch. It is, however, so close to many of the forms of *condensatus* that (having only one specimen to judge from) I cannot regard it as distinct.

IDIOCEPHALA PULCHELLA, Saund.

(Plates XXV, XXVI, figs. 162, 189.)

This species is very closely allied to *cyanipennis*, and the under-surface varies in the same way; the elytra vary from the form described by Saunders ("rich shining green, with a broad rufous brown lateral marginal band produced inwards just below the shoulders") to entirely purple; in two specimens before me the elytra are metallic green with



coppery reflections. The sides near the shoulders are usually diluted with red; the scutellum is usually pallid except at the base, but in five specimens it is entirely dark. The five basal joints of antennæ are more or less red; I have never seen them entirely dark as they frequently are in *cyanipennis*.

The species may be distinguished from *cyanipennis* and its varieties by its elytral punctures (not mentioned by Saunders) being much smaller, those on the head more numerous and more or less confluent or strigose, the scutellum more elevated and rounded posteriorly, and the sixth, seventh and eighth joints of antennæ of different shape (in *cyanipennis* they are connected in the middle, in *pulchella* more towards one side).

The male was unknown to Saunders, it differs from the female in being smaller and narrower, with longer and thinner antennæ, prothorax more deeply impressed, elytra with larger punctures, and the eyes larger and closer together.

Two males before me have the elytra metallic green shading off to purple at the apex and sides, the scutellum black and the greater part of the prothorax black (with a metallic tinge) in one and infusate in parts in the other.

*Hab.* N. S. WALES: Sydney, Kurrajong, Jenolan, Mount Wilson.

#### IDIOCEPHALA ATRA, Saund.

##### *Loxopleurus nigrinus*, Chp.

The sex of his specimen was not mentioned by Saunders; a female was subsequently described by Chapuis under the name of *Loxopleurus nigrinus*. The specimens of both entomologists were from Tasmania, where the species is fairly common. I have specimens also from Sydney and Mt. Victoria (N. S. Wales).

The sexes are alike in colour; the male, however, is smaller than the female, with longer antennæ, and the space separating the eyes considerably less.

Two specimens (sexes) from S. Australia have the punctures (especially on the prothorax) considerably larger (although perhaps not more numerous) than in the normal form, but as there appear to be no other differences (even in colour) I can only regard them as representing a variety.



IDIOCEPHALA ALBILINEA, Saund.

*Idiocephala marginicollis*, Saund.

(Plate XXIII, fig. 53.)

As noted in Masters' catalogue, Saunders described the male as *marginicollis*. The species is fairly common in early summer.

*Hab.* TASMANIA; VICTORIA: Gisborne; N. S. WALES: Goulburn; S. AUSTRALIA: Port Lincoln.

IDIOCEPHALA FLAVIVENTRIS, Saund.

(Plate XXIII, figs. 54, 55.)

Referred by Baly to *Euphyma*. The species occurs near Sydney, but appears to be rare; in all the specimens I have seen there is a wide subtriangular black patch in the middle of the metasternum.

IDIOCEPHALA NIGRIPENNIS, Baly.

I have seen three specimens which I refer to this species; in only one of them, however, are the elytra black, and even then with a bluish gloss; in the other two the elytra are decidedly bluish; the scutellum in one is black, in the others it is somewhat reddish. The species appears to be distinct by its entirely red head, prothorax with wide and pallid (almost transparent) margins, the surface sparsely punctate, and the elytra with coarse punctures in distinct series.

OCHROSOPSIS VERMICULARIS, Saund.

I have several species under examination which agree fairly well with the *specific* description of this insect. The specimens which I refer to the species, however, have the scutellum very slightly longer than wide, the base slightly wider than the apex, slightly notched, and narrowly bordered with black, and with the sides slightly incurved. In Saunders' diagnosis of the genus *Ochrosopsis* the scutellum is described as "subquadrate," but in the description of *vermicularis* its shape is not mentioned. All the closely allied species here noted or described, however, except the above described ones, have the scutellum decidedly transverse.

Two of these specimens are from New South Wales  
TRANS. ENT. SOC. LOND. 1904.—PART III. (SEPT.) 25



(Forest Reefs and the Blue Mountains); Saunders' specimen was from "New Holland"; in both (females) the antennæ are slightly longer than the body (Saunders says of *vermicularis* that they are "as long as the body"), and the elytral punctures are frequently dark brown instead of black. The specimen from Forest Reefs was compared and agrees with a specimen in the Macleay Museum bearing the name *vermicularis*, but on what authority it was so named I do not know.

A male specimen from Tasmania (Mt. Wellington) appears to be the male of the species, it has the metasternum in places clouded with black (probably an individual or local variation). It differs from the above noted females in being longer and narrower, with much stouter antennæ, and which are just as long as the body; its head is densely punctate only (in the females the head is strigose as well), and its legs are stouter, the punctures of the upper surface are more crowded together, and are invariably black.

OCHROSOPSIS SUBFASCIATUS, Saund.

var. *Ochrosopsis melanocephalus*, Saund.

(Plates XXV, XXVI, figs. 163, 190.)

This is a common species and a variable one both sexually and individually; moreover, specimens which have been for some time in spirits frequently have a different appearance to those which have been killed with the fumes of chloroform or other non-fluid-killing agents.

The specimen described by Saunders appears to have been a female, the male differs in being smaller and frequently with the vertex and a line down the face black, the brown portions of the elytra are as a rule greater in extent in the females than in the males. Tasmanian specimens are usually darker than those from the mainland, and their elytra might often be called reddish-brown with three pallid irregular fasciæ (one basal, one median, and one apical). On the prothorax of the male (and very rarely also on the female) there are often two dark longitudinal stripes. The scutellum is subcordate with a rather large basal notch.

A male specimen from Hobart, which I can only regard as a variety of *subfasciatus*, agrees exactly with Saunders' description of *melanocephalus*; this specimen agrees exactly



in structure with the ordinary males of *subfasciatus*, but is the only one I have seen having the scutellum and parts of the metasternum and legs black.

*Hab.* S. AUSTRALIA; VICTORIA: Gisborne; N. S. WALES: Jenolan, Mts. Victoria and Wilson; TASMANIA: Hobart, Ulverstone, Strahan.

OCHROSOPSIS RUFESCENS, Saund.

The scutellum in this species varies from flavous to black. Saunders appears to have seen only the female, the male differs in being considerably smaller and with longer antennæ. The head varies slightly in its depth of colour, and there is occasionally an infusate line down the middle; the extent of the pallid space at the apex of the elytra varies in extent.

*Hab.* TASMANIA; S. AUSTRALIA.

OCHROSOPSIS APICALIS, Saund.

Specimens from Tasmania (the original locality) which I refer to this species differ from *rufescens* slightly in colour, but more particularly in having the sculpture of the prothorax and elytra much more irregular, the elytra with an irregular but very distinct lateral carina, and the scutellum, except at apex, quite coarsely punctate; in *rufescens* the scutellum is also punctate but the punctures are at the sides and much less numerous and profound. The prothorax also is decidedly smaller than in *rufescens* and the clothing of the under-surface is longer and more silvery, that on the abdomen of *rufescens* being very short.

From Glen Innes (N. S. Wales) I have numerous specimens which agree in all structural details with the above noted Tasmanian ones, but the colour of the upper-surface is paler and the shades of colour more diffused and less strongly contrasted, the metasternum and part of the abdomen is black in the males and piceous or infusate only in the females; in these specimens\* the apical third of the eleventh joint is blackish. These specimens are probably typical, the ones above and below noted probably being varieties.

From Tasmania I have three males and one female (the latter taken *in copula* with one of the males) which appear

\* As in all others which I have seen, although it is sometimes very indistinct.



to constitute a distinct variety; in all of them the metasternum and abdomen (except the two apical segments and apices of the others) are black; in the males there is a small blackish blotch in the middle of the prothorax (in two of them this blotch has a greenish, in the other a bluish gloss); all three have an infusate streak along the face, and in one the vertex is black. In one of the males the dark parts of the elytra are confined to the punctures, in the others only the apex is pallid (except for dark punctures); in the female all the punctures are dark and there is an irregular transverse space towards the apex where the colour is darker than elsewhere.

OCHROSOPSIS EROSUS, Saund.

From New South Wales, Victoria, Tasmania and South Australia there is a species which in several museums bears the name of *erosus*, and really appears to be that species although the legs and a widely triangular patch on the metasternum are black; in all other particulars, however, it agrees with the description. It should perhaps bear a varietal name. The species was described originally as from the Swan River.

OCHROSOPSIS AUSTRALIS, Saund.

A specimen from the Swan River appears to be referable to this species; the vertex of its head, however, is black, whilst that of *australis* is described as ochraceous yellow. A similar specimen from South Australia is in the Macleay Museum.

OCHROSOPSIS ERUDITUS, Baly.

(Plates XXIII, XXV, figs. 56, 164.)

Dr. Baly's specimen had broken antennæ; in both sexes the antennæ are as described by him, but in the female the sixth and seventh joints are wider than in the male; in both the eighth and ninth are also compressed, but to a less noticeable extent, the tenth is slightly compressed and the eleventh is almost cylindrical except at the tip; the antennæ of the male are considerably longer than those of the female. In two specimens before me the prothorax has a small black median spot—rounded in one (a female), produced in the form of a wedge towards the base in the other (a male); on the latter the metasternal episterna



and flanks of mesosternum are black, in the other only parts of the former are black; whilst in a female having the prothorax immaculate these parts are but slightly clouded.

A variety from South Australia in the Macleay Museum has the elytra entirely purplish-violet, with the prothoracic spot small and irregular.

*RHOMBOSTERNUS ANTENNATUS*, Baly.

Dr. Baly describes the colour of this species as "*picco-fulvus*"; possibly his specimen was old and dirty. I have before me three specimens, which appear to be referable to his species, in which the colour is a rather pale testaceous-yellow, with the abdomen and ocular emarginations pale flavous. The male differs from the female in being smaller, narrower, and with the scutellum narrower, the antennæ are not much longer (in both sexes they considerably pass the apex of the body) but are darker outwardly. The prothoracic punctures are subject to considerable variation. Baly says the basal lobe of the prothorax is biemarginate; this is not really the case although it appears to be so owing to the large basal notch of the scutellum dividing its base into two large lobes, so that as it slightly overhangs the prothorax, the base of the latter appears to be biemarginate.

*Hab.* KING GEORGE'S SOUND.

*RHOMBOSTERNUS SULPHURIPENNIS*, Baly.

(Plate XXIII, fig. 57.)

*Hab.* S. AUSTRALIA.

*PRIONOPLEURA BIFASCIATA*, Saund.

I have specimens from Sydney and the Blue Mountains which agree with the description and figure of this species. In the figure the male is shown as having pallid antennæ but it is not so described; the normal female has pallid antennæ and legs with femora either black or infusate, its prothoracic and elytral markings are much less sharply defined than in the male but of the same type.

From Jenolan I have a specimen which differs from the normal form in having the under-surface (except for small and obscure lateral spots), the antennæ (the first to fifth



joints more or less diluted with red) and the legs, black; its head is mostly black, its prothorax is darker than usual but with normal markings, and its elytra have the two fasciæ represented by obscure spots and still more obscure stains.

In Masters' catalogue the species appears both as being distinct (6407) and as a synonym of *gigas* (6417). Suffrian describes as *gigas*, Oliv., a species appearing in the catalogue under *rubiginosus*, Boi. (6431). Unfortunately I have not Olivier's original description of *gigas* for comparison.

#### PRIONOPLEURA COGNATA, Saund.

The colour of this species is variable to a certain extent; the black markings of the elytra (never sharply defined) are occasionally absent; in the males the legs are frequently almost entirely black, whilst in the females they are often entirely red.

*Hab.* TASMANIA: Huon River, Hobart, Mt. Wellington, Launceston; N. S. WALES: Sydney, Blue Mountains.

#### PRIONOPLEURA ERUDITA, Blackb.

(Plates XXIII, XXIV, figs. 58, 122, 123.)

The maculate femora render this species unusually distinct. The male (unknown to Blackburn) differs in being smaller with the dark markings covering a greater portion of the upper-surface; the antennæ are longer and some (in the only male I have seen both antennæ are broken) of the joints are darker.

*Hab.* S. AUSTRALIA.

Three specimens from Brisbane appear to represent a variety of this species, in all of them the prothoracic U is very indistinct although traceable, and the elytral markings instead of being sharply defined are feeble piceous blotches only in two and entirely absent in the other; in all three the two terminal joints of the antennæ (instead of the terminal one only) are dark. The sculpture and femora, however, are as given for *erudita*.

#### APOROCERA APICALIS, Saund.

I have the sexes of this species from N. W. Australia; \*

\* There are specimens in the Macleay Museum from King's Sound (N. W. Australia); Wide Bay, Port Denison and Mackay (Queensland).



the male is smaller and narrower, with the antennæ considerably stouter than in the female, and slightly longer than the body (those of the female being shorter); it has the under-surface in many places diluted with red, that of the female being black, as in the type. The specimens (probably females) described by Blackburn\* from the Northern Territory seem to be typical, except for very slight differences in colour.

APOROCERA BICOLOR, Saund.

There is a specimen from Port Darwin, in the Macleay Museum, which is possibly a variety of this species; it differs from Saunders' description in having the scutellum (except at base) pallid, the elytra blackish-brown with a slight greenish gloss and with (except at apex) narrow pallid margins, the greater portion of the abdomen is black, the legs are pallid except the tarsi and apices of tibiæ. In this specimen the scutellum (not mentioned by Saunders) is triangular, rather strongly notched at base, and with a small but distinct puncture close to apex.

BRACHYCAULUS FERRUGINEUS, Fairm.

- var. *Onchosoma ewingi*, Saund.  
" " *dorsalis*, Saund.  
" " *tasmanica*, Saund.  
" " *foveicollis*, Saund.  
" " *rufescens*, Saund.  
" *Cadmus verrucosus*, Chp.

This is a widely distributed and in many respects a very variable species. The specimens before me vary in length from 5 to 6 mm. in the males, and from  $5\frac{1}{2}$  to  $7\frac{1}{2}$  mm. in the females.

The most conspicuous feature of the species is the presence of three velvety black (or brown) spots on the prothorax, one median and two lateral (the latter usually invisible from above); these spots are often surrounded by pale rings, frequently the median one is not at all sharply defined, and it is occasionally of a dull brown and distributed over the tuberosities as well, so that (as a velvety black spot) it may fairly be said to be absent; the lateral spots, however, are always distinct and are usually very sharply defined, they are usually about half the size of the

\* P. L. S., N.S.W., 1888, p. 1474.



median spot; the latter is usually oblong-elliptic. There is always a narrow black margin at the base of the elytra and scutellum. The head varies from entirely black to entirely reddish-brown, but is usually black, with a few indistinct reddish-brown spots in the male, and reddish-brown with a few more or less blackish spots in the female. In the male there is usually a dark (sometimes quite black) stripe on each side of the middle of the prothorax, the dark portions being frequently confined to the two large tuberosities. The intercoxal process of the abdomen is always paler than the surrounding surface, and there is usually a transverse black patch behind it. The tuberosities on the elytra vary considerably in number and elevation, and are usually more clearly defined in the males, the largest one on each is always granulate and close to the base.

The antennæ of the male if drawn back over prothorax would pass the scutellum, those of the female if so drawn back would scarcely reach the base of the median velvety spot. In the male also the prothoracic tuberosities are usually more pronounced and with a greater space between them than in the female.

Usually Tasmanian specimens are darker than those from the mainland; those from Mt. Kosciusko, however, are as dark as Tasmanian ones. On the elytra of specimens from Tasmania and Mt. Kosciusko there is frequently in both sexes an oblique slightly curved pale stripe. In the elytra, however, there are frequently no distinct markings to be seen, the surface being obscurely mottled; in many, however, there is a somewhat obscure pale triangular patch on each elytron, the triangles approaching each other at the suture slightly beyond the middle; usually a triangular space, at the sides of and behind the scutellum, is darker than the rest of the elytra.

A specimen from N. W. Australia is paler than usual and with the median prothoracic marking reduced in size and subtriangular in shape.

Of the six species of *Onchosoma* described by Saunders I am confident that *Ewingi*, *dorsalis*, *Tasmanica*, *foveicollis* and *rufescens* should be regarded either as varieties or pure synonyms of *ferrugineus*; *Klugii* is distinct; *Cadmus verrucosus*, Chp., appears also to be only a variety of this species, I have seen specimens of it from Mackay.

*Hab.* QUEENSLAND; N. S. WALES; VICTORIA; TASMANIA; S. AUSTRALIA; W. AUSTRALIA; N. W. AUSTRALIA.



ONCHOSOMA KLUGII, Saund.

Four female specimens before me (there are others in the Macleay Museum) probably belong to this species. In all of them the prothoracic tubercles are large, gently rounded in front and almost vertical behind, the elytral costæ (Saunders says: "Elytra . . . with irregular strongly elevated longitudinal nervures") are as follows:—one just behind scutellum commencing with a tubercle and terminated at basal third, a sinuous one commencing at base and continuous to near apex, one between this and shoulder commencing about basal fourth and ending at apical third, and one just below shoulder, this at a short distance from the base bifurcates, the outer arm extending almost to apex, the inner not quite so far, but immediately behind it (in some specimens feebly conjoined with it) is a rather large tubercle with a spur extending between the two arms; the shoulders are also tuberculate. All the tubercles, including those on prothorax, are granulate in appearance; the elytral costæ are slightly variable and on one specimen are all conjoined, on another the arms of the outer costa become joined together in the middle so as to enclose an elliptic space. The elytral colours are in very irregular bands and become obscured with age. Saunders describes the ground colour as yellow-brown; this is the case with three of the specimens before me, but on a recently captured one the ground colour is of a clear lemon-yellow.

*Hab.* QUEENSLAND: Tambourine, Wide Bay; N. S. WALES: Blue Mountains, National Park, Sydney.

CHARIDERMA PULCHELLA, Baly.

(Plates XXIII, XXIV, XXVI, figs. 59, 124, 191.)

I have two specimens (sexes) from Brisbane (there are others in the Macleay Museum from Ropes Creek and Clarence River) which differ from Baly's description in having four elytral spots (the second pair beyond the middle and close to suture). The male differs from the female in being smaller ( $3\frac{1}{2}$  lines instead of  $4\frac{1}{2}$ ) with longer antennæ, the middle joints of which are rather more inflated than in the female, and with almost the whole of the ninth joint black instead of only the apex; the lower surface and pygidium have a bluish gloss in both specimens (in the type these parts are described as "nigris"). As in all



particulars of sculpture mentioned by Baly and in all its colours (some of them very unusual) except the differences noted, these specimens agree with the description, I have not ventured to describe them as new.

#### DIANDICHUS ANALIS, Chp.

(Plate XXV, fig. 165.)

I am confident that I know this species, although it has never been formally described. The generic description, however, is ample, and this with the brief notes at its foot and the coloured figure have enabled me to identify the species on eight specimens from South Australia. The two specimens known to Chapuis were females; in addition to the few colour details mentioned by him the following may be noted:—The head is black except the parts in front of antennæ (in two females, however, the head except for parts of the mandibles is entirely black just as in the males), the antennæ, scutellum, four hind-legs and front tarsi are black, the front femora and tibiæ are obscure red in places stained with piceous. The abdominal fovea is unusually large, occupying almost half the total width and touching the third segment. The resemblance to some small Malacoderms (e.g. *Hypattalus australis*, Fairm., and *H. abdominalis*, Er.) is rather striking.

The male differs in being smaller, with longer antennæ, the head (except for parts of the mandibles) and the prothorax black, and with the parts of the abdomen that are flavous in the female, dull piceous-red.

#### CYPHODERA CHLAMYDIFORMIS, Germ.

*Hab.* N. S. WALES: Sydney; VICTORIA: Diamond Creek.

#### SCHIZOSTERNUS COCCINEUS, Chp.

(Plate XXIII, figs. 60, 61.)

There are two specimens in the Macleay Museum from Port Denison which I refer to this species. They are marked as having been taken *in cop.*; the female agrees in colour with the original description, but the male is without the subapical spots. The male is smaller and narrower than the female, with the antennæ extending almost to apex of elytra, those of the female being distinctly shorter. Its head is densely and rather coarsely punctate, with the



punctures towards the sides and more or less confluent, and with the eyes much closer together than in the female; on the head of the latter there is a rather wide lightly punctate longitudinal shining space.

SCHIZOSTERNUS ALBOGULARIS, Chp.

*Paracephala pectoralis*, Baly.

(Plate XXIII, figs. 62, 63.)

Specimens from Ipswich (Queensland) before me agree very well with Chapuis' description of *albugularis* (described in June 1876), they also agree with Baly's description of *Paracephala pectoralis* (described in August 1877). The interrupted median fascia is of variable width, appearing sometimes as a rather small spot on each side, and in others extending almost to the suture.

CHLOROPLISMA VIRIDIS, Saund.

*Loxopleurus metallicus*, Chp.

var. *Loxopleurus corruscus*, Chp.

„ „ *chalybæus*, Chp.

This species is variable to a great extent, but has many quite constant varieties; I have it from Forest Reefs, Armidale, Sydney, and Jenolan, in N. S. Wales, and from many localities in Tasmania.

In the males there is usually a shining impunctate longitudinal space towards the base of the prothorax, this space being more pronounced in some than in others; in the female, although sometimes fairly distinct, it is frequently not traceable. In many specimens (independently of sex) there is near the sides of the elytra a moderately distinct epipleural fold, but in many others it is scarcely or not at all traceable. The colour of the tibiæ and tarsi (especially of the front legs) is very subject to variation.

The common form of the male is of a bright metallic green, and was described and figured by Saunders as *Chloroplisma viridis*; the common form of the female is coppery, and was described by Chapuis as *Loxopleurus metallicus*. Very often the green male has the prothorax with a more or less coppery gloss, this gloss often being extended to the shoulders.

A very beautiful variety in which the prothorax is of fiery copper and the elytra rather deeply margined with



purple has been described by Chapuis as *L. corruscus*; it appears to be very rare, I have seen but one specimen of it, from Forest Reefs.

A rather common variety of the male has the head and prothorax of a fiery (often reddish) copper, with the elytra purple or purplish-blue; its corresponding female is purple or purplish-blue, often with a greenish gloss; such a female has been described by Chapuis as *L. chalybæus*.

A moderately common variety of the female has the head and prothorax deep blue and the elytra purple.

Another variety of the female is entirely purple except for a blue space towards the base of the elytra.

#### MITOCERA VIRIDIPENNIS, Saund.

*Cryptocephalus perlongus*, Chp.

(Plates XXIII, XXV, figs. 64, 65, 166.)

Only the male was known to Saunders, who described it as coming from the Swan River, this locality possibly being erroneous; the species may occasionally be taken on the leaves of young Eucalypti in summer; it is fairly common in Tasmania and the mountainous parts of N. S. Wales and Victoria. Baly referred it to *Ochrosopsis*, calling attention to the fact that it had been re-described by Chapuis, to whom both sexes were known, as *Cryptocephalus perlongus*. In a male from Tarago (N. S. Wales) there is a pallid elliptic spot on each elytron, about the middle, close to the suture and slightly oblique in position; there are also two somewhat similar specimens in the Tasmanian Museum, on one of them the spots are about half, on the other about twice the size of those on the Tarago specimen; Mr. H. H. D. Griffith has a specimen from Gisborne (Victoria) in which the pallid marking extends over most of the surface: specimens of both sexes have occasionally a purplish gloss on the elytra, and I have seen a female with entirely purple elytra.

#### LOXOPLEURUS AURICULATUS, Suff.

A small coarsely sculptured species very distinct on account of the yellowish subhumeral lobes.

*Hab.* S. AUSTRALIA.



LOXOPLEURUS GRAVATUS, Chp.

(Plate XXIII, fig. 66.)

Both sexes of this species were known to Chapuis, but the male described by him and coloured as the female may not be the normal form, I have seen but one specimen of it. The ordinary male (of which eight specimens are before me) has the basal half (sometimes slightly more and sometimes slightly less) of the elytra reddish-yellow, the two colours being sharply defined; occasionally the suture is narrowly edged with black. In the female the second and third and sometimes parts of the other joints of the antennæ are pallid, as well as the lower surface of the first.

*Hab.* QUEENSLAND: Brisbane; N. S. WALES: Lane Cove, Sydney, Galston, National Park.

LOXOPLEURUS OBTUSUS, Chp.

This is a common species about the Swan River, and of which only the male was known to Chapuis. The prothorax of the male is usually plain black, but occasionally with a bluish gloss; in one specimen under examination the tibiæ are dusky red, but they are usually black. The female differs in being slightly larger, the antennæ shorter, the prothorax red, with a very narrow basal margin of black and occasionally a feeble blackish cloud in the middle of the base; the elytra are usually deep blue, sometimes violet-blue, and occasionally dark bluish-green.

LOXOPLEURUS SEMICOSTATUS, Chp.

This species is slightly variable in colour. The scutellum is either entirely black or (as in the type) black at the base only. The dark sutural marking sometimes extends to the middle and sometimes is scarcely perceptible even at the base.

The male (unknown to Chapuis) differs in being much smaller ( $2\frac{1}{2}$ –3 mm.), the antennæ longer (in the female they are shorter) than the body and more or less infuscate, the third and the apex of the first and second tarsal joints are also dark, and the under-surface is black, with the exception of the anterior angles of the prosternum and the apical segments of abdomen.

In general appearance it resembles some of the varieties



of *Ochrosopsis apicalis*, Saund., but can be readily distinguished from that species by the distinct elytral costæ, each of which has numerous close transverse impressions.

*Hab.* N. S. WALES: Blue Mountains, Sydney.

#### LOXOPLEURUS SUBVIRENS, Chp.

Four specimens from Tasmania and two from Victoria before me may belong to this species, in all of them the upper-surface is of a dark metallic green with a more or less coppery gloss on the prothorax; the under-surface is black with green or blue or coppery reflections. The female differs from the male in being larger, with shorter antennæ and less parallel-sided elytra. As Chapuis says, however, "*scutello magno convexo*," I am somewhat doubtful, as the scutellum (although raised behind in the normal way) is rather flat and by no means above the usual size.

#### LOXOPLEURUS ATRAMENTARIUS, Chp.

Dr. Chapuis describes the colour of the legs of this species as "*nigris obscure rufescentibus*." I have numerous specimens before me which I refer to the species; in a pair taken *in cop.* by Mr. Masters the female has the anterior legs and posterior tarsi red, the rest of the legs being black; the male has the legs entirely red, except that the hind femora and the tarsi are infusate. Usually in both sexes the legs are black with the exception of the anterior pair which are often more or less infusate; in some specimens, however, all the legs are more or less red. The prothoracic punctures vary considerably in size and are usually larger in the male than in the female.

*Hab.* QUEENSLAND: Rockhampton, Wide Bay, Port Denison, Brisbane; N. S. WALES: Sydney, Canterbury, Bargo, Hunter River, Kiama; S. AUSTRALIA; W. AUSTRALIA: Mt. Barker.

#### LOXOPLEURUS ERYTHROTIS, Chp.

(Plate XXIII, fig. 67.)

From the Swan River I have three males of this species, which is remarkable for its very stout legs (a character not mentioned by Chapuis). The pallid space at the apex of the elytra varies considerably in extent; in one of my specimens also the four hind femora are quite black, and



there is an obscure brownish streak connecting the dark space in front with the base of the prothorax. The female is probably very different in appearance to the male.

LOXOPLEURUS CHALCEUS, Chp.

In the male the legs (in all the numerous specimens I have from Tamworth\*) are entirely pallid, in the female the hind, the four hind, or occasionally the whole of the femora are clouded with piceous.

LOXOPLEURUS LÆVIUSCULUS, Chp.

A specimen from Jenolan may belong to this species (the exact locality of his specimen was unknown to Chapuis), but is larger (4 mm.) than the type, and the third and fourth and lower surface of the first and second joints of the antennæ are obscurely reddish, whilst in the type the antennæ are said to have "*articulis 5 primis fuscis*."

LOXOPLEURUS CONJUGATUS, Chp.

A specimen from Tamworth before me probably belongs to this species, but differs from the description in having the hind femora clouded with black; this, however, is a common variation in the subfamily.

LOXOPLEURUS PICEITARSIS, Chp.

Only the female was known to Chapuis; the male differs in being smaller, with longer antennæ, the lower half of the head and the front margin of prothorax reddish (black in the female), the outer and apical margins of the elytra are also usually indistinctly diluted with red; the elytra also have a greenish gloss, whilst in the female the gloss is usually violet, although occasionally dark bluish-green. The prothoracic punctures are smaller and less numerous in the male than in the female.

*Hab.* N. S. WALES: Kiama, Hunter River, Sydney.

A specimen from Tasmania apparently belonging to this species has only the two terminal joints of the tarsi slightly infusate.

LOXOPLEURUS GENIALIS, Chp.

*Hab.* QUEENSLAND: Port Denison.

\* Chapuis records the species from "Australie."



## CRYPTOCEPHALUS CONFINIS, n. sp.

♀. Head, antennæ, scutellum, metasternum, middle of base of first abdominal segment and legs, black; elytra metallic blue; elsewhere red.

*Head* densely and coarsely punctate, especially at sides, an impunctate (or feebly punctate) line down middle. *Antennæ* thin, slightly shorter than body, second joint less than half the length of third, third and fifth very slightly longer than fourth, the others gradually decreasing in length. *Prothorax* more than twice as wide as long; with rather large irregularly distributed punctures; oblique impressions rather deep and wide; margins narrow. *Scutellum* almost equilaterally triangular; impunctate; base rather deeply notched. *Elytra* with subhumeral lobes of moderate size; basal two thirds with large punctures and with transverse rugulosity, apical third with much smaller punctures subseriately arranged. Apex of *prosternum* obtusely bilobed. Fourth segment of abdomen curved at apex but not interrupted by fovea; the latter with feeble lateral extensions.

Length  $4\frac{1}{2}$  mm.

*Hab.* N. S. WALES: Jenolan (*J. C. Wiburd*).

A second specimen differs in having the lower half of the face, the whole of the under-surface, and the coxæ and trochanters reddish.

The species differs from *Cr. cyanipennis*, Saund., and its varieties in having the prothorax with much denser punctures, the antennæ much thinner and the elytral punctures different. This and the four following species belong to one of the most difficult sections of the genus.

## CRYPTOCEPHALUS MEDIOCRIS, n. sp.

(Plate XXV, fig. 167.)

♀. Briefly oblong. Black, head (base excepted), antennæ (fifth and sixth joints infusate, the seventh to eleventh blackish); prothorax (extreme base black), under-surface and legs (tarsi more or less infusate) reddish. Pygidium and parts of under-surface with short sparse golden pubescence.

*Head* with rather small scattered punctures, but densely strigose at sides of and behind eyes. *Antennæ* thin, not extending to apex, second joint about half the length of third, third slightly shorter than fifth. *Prothorax* rather more than twice as wide as long; with rather large irregularly distributed punctures; oblique impressions rather shallow; margins narrow. *Scutellum* transverse,



subtriangular, apex less than half the width of base, base entire. *Elytra* with large subhumeral lobes; with deep and fairly large clearly defined punctures, subgeminat in arrangement and becoming smaller posteriorly; with traces of feeble alternate elevations. Apex of *prosternum* wide and feebly bilobed. Fourth segment of abdomen very narrow in middle but not interrupted by fovea; the latter almost without lateral extensions.

Length  $3\frac{3}{4}$  mm.

*Hab.* QUEENSLAND: Endeavour River (Macleay Museum), Mackay (*C. French*).

The three specimens before me are uniformly coloured and without bluish gloss on the elytra.

The species differs from the dark variety of *Cr. argentatus*, Chp., in being larger and with the abdomen pallid; from *Id. nigripennis*, Baly, it differs in its prothoracic margins being less than half the width that they are in that species, and the antennæ much thinner; from *vicarius*, n. sp., it differs in its shorter and thinner antennæ, narrower prothoracic margins and smaller punctures.

#### CRYPTOCEPHALUS APPENDICULATUS, n. sp.

♂. Head (front excepted), antennæ, extreme base of prothorax, scutellum, metasternum and parts of legs black; elytra deep metallic bluish-green, elsewhere red.

*Head* densely punctate, strigose at sides of and behind eyes. Antennæ thin, passing apex of body, second joint less than half the length of third, third slightly shorter than fifth, fifth and eleventh subequal. *Prothorax* about three times as wide as long; with comparatively small and rather sparsely distributed punctures, larger and denser at sides than elsewhere; oblique impressions rather deep; margins narrow. *Scutellum* triangular, apex narrow but truncate, base rather deeply notched. *Elytra* with fairly large subhumeral lobes; densely and coarsely punctate, with transverse rugulosity, punctures subseriatly arranged and sparser but not much smaller on apical third. Apex of *prosternum* very wide and feebly bilobed. Two basal segments of abdomen with an oblique ridge commencing on each side of the intercoxal process, diverging hindwards and terminating at the apex of the second segment in a skinny flap, fourth segment not traceable across middle, fifth with a wide shallow impression.

Length  $4\frac{1}{4}$  mm.

♀. Differs in having thinner antennæ, not extending to apex, prothorax more transverse; subhumeral lobes rather smaller;



and the abdomen with simple basal segments, the fourth fairly wide in middle and not interrupted by fovea; the latter with distinct lateral extensions.

Length  $5\frac{1}{4}$  mm.

*Hab.* N. S. WALES: Lane Cove, Clifton (Macleay Museum).

In the male the coxæ, hind femora and base and lower parts of the four front femora are reddish; in the female the legs are much the same except that the hind femora are infusate towards apex. The abdomen is paler than elsewhere and the upper lip is infusate.

Although belonging to one of the most difficult sections of the genus the highly remarkable abdominal appendages of the male cause this species to be one of the most distinct in the subfamily.

#### CRYPTOCEPHALUS VICARIUS, n. sp.

♂. Basal half of head, antennæ and scutellum black; elytra metallic blue or purple; tarsi and apex of tibiæ infusate; elsewhere reddish.

*Head* densely strigose and punctate, on apical half punctate only, the punctures rather large and sparse. *Antennæ* not very thin, longer than body, second joint about half the length of third, third distinctly shorter than fifth. *Prothorax* with deep but sparse and not very large punctures, smaller and sparser on disc than elsewhere; margins rather wide; oblique impressions feeble. *Scutellum* subtriangular, longer than wide, convex along middle, apex truncate, base moderately notched. *Elytra* with punctures much as in the preceding species but the subhumeral lobes larger. *Pygidium* densely and rather coarsely punctate. Apex of *prosternum* wide and feebly bilobed. Abdomen with second, third, and fourth segments strongly curved and very narrow in middle.

Length 4 mm.

♀. Differs in having antennæ just extending to apex of body and the abdomen with straight sutures to the second and third segments, the fourth distinct in middle and very feebly encroached upon by fovea; the latter with feeble lateral extensions.

Length 5 mm.

*Hab.* QUEENSLAND: Port Denison, Gayndah (types in Macleay Museum).

The entire space between the eyes is densely punctate and strigose.

The coarse punctures on head and elytra and shape of



elytra distinguish this species from *Id. pulchella*, Saund., the scutellum of different shape from *Cr. dichrous*, Chp., the pallid legs and very coarse punctures with wide prothoracic margins from *Id. cyanipennis*, Saund. From *Id. nigripennis*, Baly (which also has wide prothoracic margins), it differs in its considerably longer and thinner antennæ and coarser punctures, with the scutellum longer, more decidedly triangular and very distinctly notched.

CRYPTOCEPHALUS BLANDUS, n. sp.

♂. Black; elytra deep metallic blue or green; prothorax (a large blackish blotch in front and extreme base excepted), coxæ and tibiæ (apex excepted) reddish. Pygidium with rather dense silvery pubescence.

*Head* with moderately large punctures, strigose close to sides of and behind eyes, vertex feebly impressed. *Antennæ* rather stout, not extending to apex of body, second joint more than half the length of third, third, fourth and fifth subequal, the fifth slightly the longest. *Prothorax* with large irregularly scattered punctures; disc gibbous; oblique impressions rather deep; margins narrow. *Scutellum* triangular, apex very narrow, base entire. *Elytra* with rather small subhumeral lobes; densely and coarsely punctate; with feeble transverse rugulosities, punctures becoming smaller and seriate in arrangement posteriorly. Apex of *prosternum* wide and very obtusely bilobed. Abdomen with the fourth segment just traceable across middle.

Length  $2\frac{3}{4}$  mm.

♀. Differs in having the front of the head and the entire abdomen reddish; the prothoracic blotch is also smaller, less sharply defined, and on one specimen appears as an indistinct transverse spot on each side. The head has smaller and sparser punctures, antennæ shorter, somewhat thinner. Prothorax more transverse and less gibbous and the subhumeral lobes smaller. Abdomen with fourth segment not visible in middle; apical fovea larger than usual and without lateral extensions.

Length 3 mm.

*Hab.* W. AUSTRALIA: Swan River, Pinjarrah, Darling Ranges (*A. M. Lea*).

I have put this in the section having the hinder apex of prosternum bilobed, although the lobes are anything but distinct; in fact from some directions the apex appears to be entire.

Differs from the female of *Lox. obtusus*, Chp., in having



considerably stouter antennæ, elytral punctures different and female with red abdomen; from *Id. cyanipennis*, Saund., in its much smaller size, different elytral punctures and in the antennæ and scutellum; from *confinis*, n. sp., in being smaller, in having shorter and stouter antennæ, with the second joint more (instead of less) than half the length of third, and the fourth abdominal segment just traceable (instead of distinct) across middle.

CRYPTOCEPHALUS QUADRATIPENNIS, n. sp.

♂. Dark blackish-brown. Pygidium and under-surface with rather dense silvery pubescence.

*Head* moderately densely and not very coarsely punctate, strigose at sides of and behind eyes. Antennæ long and thin, considerably passing body, second joint less than half the length of third, third distinctly shorter than fifth. *Prothorax* not twice as wide as long; with large very irregularly distributed punctures, smaller and sparser on disc than elsewhere; apex much narrower than base; margins very narrow; front strongly gibbous; oblique impressions fairly deep. *Scutellum* subtriangular, apex rather narrow, base rather feebly notched. *Elytra* short, subquadrate, subhumeral lobes rather small, surface uneven; with rather large punctures very regular on posterior half. Apex of *prosternum* wide and very obtusely bilobed. Abdomen with third and fourth segments strongly curved and scarcely traceable in middle.

Length  $4\frac{1}{4}$  mm.

♀. Differs in being more of a chocolate-brown, the head with smaller punctures, antennæ slightly shorter than the body and the elytra rather less uneven; abdomen with the third and fourth segments not visible across middle, the third at sides as wide as fourth but disappearing much before it; fovea with lateral extensions continuous almost to sides.

Length  $5\frac{1}{2}$  mm.

*Hab.* QUEENSLAND: Tambourine (*R. Illidge*).

A very distinct species having longer antennæ and shorter elytra than usual, and with the female abdomen of a most unusual type. In the type male there is an indistinct small pallid spot on each elytron about one-third from the base and slightly nearer the suture than the side; these spots are absent on the females. Another male (in Mr. Illidge's collection) has the entire elytra, pygidium and abdomen of a testaceous red. In one of the females the tarsi are paler than the tibiæ, in the other



they are just as dark. The elytra have almost regular interstices posteriorly, but the third and fifth become united at the apical fourth and towards the apex unite with the seventh, towards the base the interstices become very irregular. On all the specimens before me there are traces of a feeble median prothoracic line.

CRYPTOCEPHALUS COMPOSITUS, n. sp.

♂. Testaceous ; outer half of antennæ and flanks of metasternum infusate. Pygidium and under-surface with moderately dense silvery pubescence.

*Head* densely and moderately coarsely punctate, the punctures more or less confluent at sides of and behind eyes. *Antennæ* long and thin, passing body, second joint not quite half the length of third, third shorter than fifth. *Prothorax* scarcely twice as wide as long ; densely and coarsely punctate, the punctures sparser towards middle of base than elsewhere ; front gibbous and feebly longitudinally impressed ; margins very narrow ; oblique impressions rather feeble. *Scutellum* subtriangular, apex truncate and fairly wide, base rather feebly notched. *Elytra* short, subquadrate, subhumeral lobes rather small, surface uneven ; with moderately large seriate punctures. Apex of *prosternum* very wide and feebly bilobed. Intermediate segments of abdomen strongly curved.

Length  $4\frac{1}{4}$  mm.

♀. Differs in having the head rather less coarsely sculptured, with the antennæ scarcely (if at all) passing the body ; abdomen with the third and fourth segments very narrow in middle ; fovea with scarcely visible lateral extensions.

Length 5 mm.

*Hab.* QUEENSLAND : Gayndah (types in Macleay Museum).

The elytra have more or less regular and convex interstices posteriorly, the third and fifth become united at apical fourth and close to apex curve round to unite with the seventh and ninth, towards the base the interstices and punctures become very irregular, with small transverse rugulosities.

In build somewhat resembling the preceding species, but, apart from size and colour, with the antennæ shorter, the prothorax much more coarsely punctate, the scutellum wider at apex and the elytra still more uneven.



## CRYPTOCEPHALUS AURIFER, n. sp.

♀. Deep metallic blue; under-surface and appendages black. Flanks of metasternum and of basal segment of abdomen with dense golden pubescence, the other segments with tufts of silvery pubescence at sides; rest of under-surface and pygidium with scattered silvery pubescence, but on the latter forming a distinct median line.

*Head* rather feebly punctate and shining along middle, and with a feeble median impression; densely punctate and strigose at sides of and behind eyes. Antennæ passing hind coxæ, second joint about half the length of third, third shorter than fifth, sixth-eleventh flattened. *Prothorax* at apex and sides with moderately dense and coarse punctures, elsewhere (especially on disc) with smaller and sparser punctures; oblique impressions feeble; margins narrow. *Scutellum* triangular, apex obtusely rounded, base moderately notched. *Elytra* subquadrate, subhumeral lobes of medium size; punctures moderately large, posteriorly becoming much smaller and more regular; towards base with transverse rugulosity. Apex of *prosternum* very wide and feebly bilobed. Abdomen with third and fourth segments not traceable across middle, fifth rather suddenly depressed; fovea more hairy than usual and without distinct lateral extensions.

Length  $4\frac{1}{2}$  mm.

*Hab.* N. S. WALES: Sydney (type in Macleay Museum).

A deep blue species having beautiful golden pubescence on parts of the under-surface. It somewhat vaguely approaches the *scabrosus* type, although the upper-surface is very smooth compared with that species and all its varieties.

## CRYPTOCEPHALUS PURPUREOTINCTUS, n. sp.

♂. Reddish-testaceous; flanks of prothorax and the abdomen paler; antennæ, scutellum, tarsi and apex of tibiæ black.

*Head* densely punctate and strigose. Antennæ not very thin, passing body, second joint half the length of third, third and fifth subequal in length and both distinctly longer than fourth, the others comparatively wide. *Prothorax* more than twice as wide as long, densely and moderately coarsely punctate, with traces of a feeble median elevation on basal half, oblique impressions rather feeble, margins wide. *Scutellum* triangular, apex obtusely rounded, base with a small but acute notch. *Elytra* suboblong, subhumeral lobes rather small; densely and coarsely punctate, with feeble transverse rugosity towards base, towards apex punctures more regular and



sparser although not much smaller. Apex of *prosternum* wide and scarcely visibly bilobed. Intermediate segments of abdomen strongly curved, the fourth not traceable across middle.

Length 4 mm.

♀. Differs in having antennæ shorter than the body and abdomen with the fourth segment not at all and the third just traceable across middle; fovea with very shallow lateral extensions.

Length  $5\frac{3}{4}$  mm.

*Hab.* QUEENSLAND (*A. Simson*); N. S. WALES: Kurrajong (*G. Masters*), Richmond River (*A. M. Lea*).

In some specimens there is a faint infusate streak on the head; the claws are reddish tipped with black. From some directions the punctures of the upper-surface have a greenish or purplish sheen.

I thought at one time that this was possibly a variety of *Id. pulchella*, Saund., but, apart from colour, the punctures are very much coarser and the antennæ of female and scutellar notch are different; in build, however, it somewhat resembles that species.

#### CRYPTOCEPHALUS CLARUS, n. sp.

(Plate XXIII, fig. 68.)

♀. Testaceous-red; abdomen and prothoracic margins almost flavous, basal half of head and the elytra metallic green; scutellum infusate at sides; antennæ (four basal joints excepted), tarsi and apex of tibiæ infusate.

*Head* densely punctate, strigose at base and at sides of eyes, with rather small punctures elsewhere; median line distinctly impressed. *Antennæ* just passing hind coxæ, second joint more than half the length of third, third scarcely if at all longer than fourth, and slightly shorter than fifth. *Prothorax* with rather small regularly distributed punctures, rather larger at sides than elsewhere; oblique impression rather feeble; margins wide. *Scutellum* transverse, apex about half the width of base, sides curved, base very feebly notched. *Elytra* oblong, subhumeral lobes rather small, densely and coarsely punctate, with transverse rugulosities, punctures becoming smaller and regular posteriorly. *Pygidium* very indistinctly ridged along middle. Apex of *prosternum* wide and feebly bilobed. Abdomen with straight sutures to the third segment, fourth distinct in middle but encroached upon by fovea; the latter with distinct and almost continuous lateral extensions.

Length  $6\frac{1}{4}$  mm.



*Hab.* N. W. AUSTRALIA (types in Macleay Museum).

In the type a small spot at the apex of each elytron is pallid, in a second specimen these spots are present and there is as well a very distinct pallid transverse triangle (common to both) with its base about one-fourth from the base and its apex just beyond the middle. The elytral punctures are nowhere small though smaller posteriorly.

Differs from *Cr. eruditus*, Baly, in having the head strigose at sides, and the prothoracic margins much wider; the scutellum is also of different shape and the base is much more feebly notched. From *Cr. iridipennis*, Chp., it differs in its shorter and thinner antennæ and the elytra differently punctured and with smaller subhumeral lobes.

CRYPTOCEPHALUS MELANOPUS, n. sp.

(Plate XXIV, fig. 125.)

♀. Almost flavous; head (mouth parts in places obscure reddish), antennæ, extreme base and three spots on prothorax, scutellum, metasternum, middle of base of abdomen (intercoxal process excepted), and legs (coxæ excepted) black; elytra with two metallic green fasciæ. Head, pygidium, and under-surface with rather long whitish pubescence.

*Head* densely punctate, the punctures partially concealed by clothing. *Antennæ* rather short, second joint about half the length of third, third slightly shorter than fifth. *Prothorax* scarcely twice as wide as long; with moderately dense and comparatively small punctures, smaller on disc (which is gibbous in front) than elsewhere; oblique impressions feeble; margins narrow. *Scutellum* subtriangular, longer than wide, apex truncate, base entire. *Elytra* suboblong, subhumeral lobes small; densely but not coarsely punctate, punctures becoming smaller and seriate in arrangement posteriorly. Apex of *prosternum* wide and feebly bilobed. Abdomen with the fourth segment largely encroached upon by fovea; the latter with feeble lateral extensions.

Length 5 mm.

*Hab.* N. W. AUSTRALIA (type in Macleay Museum).

The elytral fasciæ do not touch the sides, the basal one is advanced along the suture and on the shoulders, so that its apical edges are concave; the second fascia is at about the apical third and narrows towards the suture. In colour to a certain extent it resembles some of the varieties of *Cr. parentheticus*, Suffr., but the punctures both of prothorax and elytra are very different to those of that species.



CRYPTOCEPHALUS VARIIPENNIS, n. sp.

(Plate XXV, fig. 146.)

♂. Elongate-oblong. Reddish-testaceous ; pygidium and abdomen flavous ; antennæ, a rather wide and continuous vitta on prothorax, scutellum and a subtriangular space behind it, the shoulders, a spot at apical third (rather close to suture), tarsi and apex of tibiæ black.

*Head* densely and coarsely punctate, punctures more or less confluent at base and sides of eyes ; with a distinct median impression. Antennæ rather thin, second joint less than half the length of third, fifth subequal, sixth-ninth wider (the others missing). *Prothorax* with rather large irregularly distributed punctures, sparser and smaller on disc than elsewhere ; oblique impressions very indistinct ; margins narrow. *Scutellum* subtriangular, longer than wide, apex rather narrow but truncate, base deeply notched. *Elytra* elongate-oblong, subhumeral lobes small ; basal third with rather large but not very dense punctures and with transverse rugulosities, elsewhere the punctures are smaller and regular and posteriorly separated by distinct convex interstices. Apex of *prosternum* wide, rather strongly bilobed and with large punctures.

Length 4 mm.

♀. Differs in having somewhat smaller punctures, the antennæ shorter and prothorax rather more transverse ; the third abdominal segment is larger than usual, the fourth distinct across middle but considerably encroached upon by fovea, the latter large and deep without lateral extensions.

Length  $6\frac{1}{4}$  mm.

*Hab.* S. AUSTRALIA ; W. AUSTRALIA : King George's Sound (Macleay Museum), Swan River (*A. M. Lea*).

In two females before me the antennæ are perfect and pass the third coxæ for a slight distance ; judging by the joints that are left in the male, I do not think its antennæ would pass the apex of the body. A male from King George's Sound, in the Macleay Museum, differs in having all the elytral markings conjoined and the basal half of the head black, the sixth-eighth joints of its antennæ are also diluted with red ; a female from S. Australia has a small spot at the base of the head, and the suture from the base to beyond the middle (where it joins with the sub-apical spots) black, but the humeral spots are isolated ; its antennæ have also the sixth-eighth joints paler than the others.



The description of *Cr. æger*, Chp., reads suspiciously close to this species, but, as in the three specimens before me, the antennæ are black (in one specimen although all the joints are not black it is not only the apical one "fusco"). In all three the scutellum and a wide space on the elytra behind it are black, and the scutellum is strongly attenuated behind, and could not be called "*quadrato*," although not fairly triangular, and Chapuis having at least two specimens, it is very improbable that both were so different to what appears to be the normal markings of this species; he also says, "*metasterno nigro*."

CRYPTOCEPHALUS CLYPEALIS, n. sp.

(Plate XXV, fig. 147.)

♂. Briefly oblong-ovate. Of a peculiar testaceous-red; sides of prothorax, middle of pro- and mesosternum and the abdomen flavous; head (mouth parts excepted), antennæ fourth-sixth and parts of second and seventh joints excepted, a longitudinal vitta on prothorax, scutellum (apex excepted), tarsi and apex of tibiæ black. Black portions of under-surface with silvery pubescence.

*Head* densely and coarsely punctate throughout, the punctures just as coarse on the clypeus as at the base. Antennæ rather stout, not extending to apex of body, second joint subglobular, slightly more than half the length of third, third distinctly shorter than fifth. *Prothorax* densely coarsely deeply and regularly punctate; oblique impressions scarcely traceable; margins rather narrow. *Scutellum* transverse, punctate; apex not much narrower than base, base with a rather large notch. *Elytra* subquadrate, subhumeral lobes not very large; densely punctate, the punctures at base scarcely larger than on base of prothorax, but (on account of transverse rugulosities) less sharply defined, posteriorly becoming smaller and subseriate in arrangement. Apex of *prosternum* wide and feebly bilobed. Abdomen with the first segment unusually short, the fourth just traceable across middle.

Length 4 mm.

*Hab.* W. AUSTRALIA: Swan River (*A. M. Lea*).

A very distinct species. The dark markings of the upper-surface have a greenish gloss, the patch on the elytra commences at the base, is rapidly narrowed to the basal third, then rather suddenly widened, and then abruptly terminated at about the apical third. Towards the apex of the intercoxal process of the prosternum there is an appearance as of a curved and irregular suture, and



which (as the apex itself is closely applied to the mesosternum) at first sight appears to be the true apex.

CRYPTOCEPHALUS RUBICUNDUS, n. sp.

(Plate XXV, fig. 168.)

♂. Oblong-elliptic. Testaceous; junction of prothorax with scutellum and elytra and the tarsi black, outer half of antennæ, suture and metasternum more or less infusate.

*Head* with rather large but not very dense punctures, median impression very feeble or absent. Antennæ as long as body, second joint half the length of third, third considerably shorter than fifth. *Prothorax* regularly convex, with fairly dense, moderately large and regularly distributed punctures; oblique impressions scarcely traceable; margins narrow. *Scutellum* very widely transverse, apex not much narrower than base, base strongly notched. *Elytra* rather long, subhumeral lobes feeble; densely but not very coarsely punctate, and with transverse rugulosity, punctures posteriorly becoming smaller and subgeminat in arrangement and close to apex with feebly convex interstices. Apex of *prosternum* moderately wide and just perceptibly bilobed.

Length  $4\frac{1}{2}$  mm.

♀. Differs in having shorter and thinner antennæ; fourth abdominal segment distinct across middle but encroached upon by fovea; the latter large and deep with very shallow lateral extensions.

Length  $6\frac{1}{4}$  mm.

*Hab.* S. AUSTRALIA (types in Macleay Museum).

In the two females before me the legs are uniformly pallid and the metasternum is very slightly infusate. The colour of the upper-surface is somewhat like that of *Cr. conjugatus*, Chp., and the male of *Cr. terminalis*, Chp., but the prothorax is more convex and regular, the elytra longer with smaller subhumeral lobes and the antennæ and punctures different.

CRYPTOCEPHALUS RUTILANS, n. sp.

♀. Testaceous; junction of prothorax with scutellum and elytra and the metasternum black; outer half of antennæ and apices of tarsal joints and of tibiæ more or less infusate.

*Head* densely but not very coarsely punctate, the interstices finely punctate; median impression feeble. Antennæ passing hind coxæ, second joint rather more than half the length of third, third and fifth subequal and not much longer than fourth. *Prothorax*, *elytra*



and *abdomen* as in the preceding species, except that the punctures are smaller, and on the elytra are geminate in arrangement almost to the base. *Scutellum* transverse, apex half the width of base, base very feebly notched. Apex of *prosternum* rounded and entire.

Length  $3\frac{3}{4}$  mm.

*Hab.* S. AUSTRALIA (Macleay Museum).

I have referred this species to *Cryptocephalus*, although the apex of the prosternum is produced and rounded, as it is undoubtedly very close to the preceding species (in which the apex is feebly bilobed). In fact, in general appearance (except as to its much smaller size and in the shape of the scutellum) it can scarcely be distinguished from that species.

### CRYPTOCEPHALUS LARINUS, n. sp.

♀. Rather wide, elliptic-oblong. Testaceous; junction of prothorax with scutellum and elytra, metasternum and tips of claws black, punctures of upper surface deeply stained—those of the elytra with brown, those of the prothorax with black.

*Head* rather densely and moderately coarsely punctate, the punctures more or less confluent and substrigose at base; with a distinct median feebly punctate impression. Antennæ passing body, second joint one-third the length of third, third very little longer than fourth and distinctly shorter than fifth, eleventh scarcely if at all longer than tenth. *Prothorax* rather more than twice as wide as long; with moderately dense and rather small irregularly distributed punctures and with minute scattered punctures; oblique impressions scarcely traceable; margins very narrow and entire. *Scutellum* strongly transverse, not much wider at base than at apex, base notched. *Elytra* with small subhumeral lobes, densely and moderately coarsely punctate, punctures posteriorly becoming smaller and regular with feebly convex interstices, basal half with transverse rugulosities. Apex of *prosternum* wide and very feebly bilobed. Abdomen with fourth segment distinct in middle; fovea with feeble lateral extensions.

Length  $6\frac{1}{2}$ —8 mm.

*Hab.* QUEENSLAND: Brisbane; N. S. WALES: Hunter River (Macleay Museum), Inverell (*J. H. Rose*), Armidale (*A. M. Lea*).

In one specimen the whole of the metasternum is black, in another it is black except in middle, in two others the abdominal segments are more or less stained with black.



In two specimens the antennæ are uniformly coloured, in two others the apical half is more or less infusate.

Differs from *Och. vermicularis*, Saund., in being of different shape, the scutellum very decidedly transverse and the metasternum black; from *Cr. pæcilodermus*, Chp., it differs in being wider, with narrower prothoracic margins, wider subhumeral lobes and different punctures.

In this and the three following species (and all of which belong to a difficult section of the genus) the punctures, owing to their stains, appear to be much bigger than they really are.

CRYPTOCEPHALUS CARINIVENTRIS, n. sp.

♂. Pale testaceous, almost flavous; junction of prothorax with scutellum and elytra dark brown; punctures of upper surface deeply stained, those on prothorax and base of elytra darker (almost black) than elsewhere; flanks of metasternum infusate.

*Head* densely and coarsely punctate, punctures more or less confluent. *Antennæ* longer than the body, second joint less than half the length of third, third shorter than fifth, eleventh slightly longer than tenth. *Prothorax*, *scutellum* and *elytra* much as in the preceding species, except that the prothorax is somewhat wider, with slightly wider margins and denser punctures and the oblique impressions more distinct. *Apex of prosternum* moderately wide and strongly bilobed; of *mesosternum* quadrisinuate. *Abdomen* with the third segment just traceable across middle, the fourth appearing as a triangular wedge on each side, the fifth large, of irregular shape, with a large and not very shallow apical impression, bounded at sides and apex by a cariniform ridge.

Length  $5\frac{1}{4}$  mm.

*Hab.* QUEENSLAND: Brisbane (*Geo. Compere*).

The apex of the prosternum from some directions appears to be just as deeply excised as in *Schizosternus*, but this appearance is due solely to a longitudinal impression which terminates at the middle of the apex; the abdomen is also peculiar.

The shape of the apex of the prosternum will at once distinguish this from the preceding species; in the male of *Cr. pæcilodermus*, Chp., the third abdominal segment is not traceable across the middle and the apical impression is wider, shallower and with a much less elevated ridge on each side.



## CRYPTOCEPHALUS STENOCERUS, n. sp.

♂. Pale reddish-testaceous, elytra flavous; extreme base of head, junction of prothorax with scutellum and elytra, suture and shoulders black; elytral punctures deeply stained with black; antennæ feebly, the tarsi and apex of tibiæ moderately infusate.

*Head* densely and moderately coarsely punctate, punctures more or less confluent towards base; with a distinct median line. *Antennæ* long and thin considerably passing apex of body, second joint subglobular, less than one-third the length of third, third distinctly shorter than fifth, eleventh slightly shorter than tenth. *Prothorax* more than twice as wide as long, regularly convex; with comparatively small and not dense punctures, and with minute scattered punctures; oblique impressions very feeble; margins very narrow and entire. *Scutellum* strongly transverse, apex not much narrower than base, base almost entire. *Elytra* with small subhumeral lobes; with rather small and not very dense punctures, becoming smaller and seriate in arrangement posteriorly, basal portion almost without transverse rugulosities. Apex of *prosternum* wide and just perceptibly bilobed. Abdomen with intermediate segments strongly incurved to but continuous across middle, fifth large, with a fairly wide, shallow, simple depression.

Length 5 mm.

♀. Differs in having the elytral punctures stained with chocolate brown, the antennæ just passing apex of body, abdomen with almost straight sutures to the second and third segments and the fourth traceable across middle; fovea with shallow lateral extensions.

Length 6 mm.

*Hab.* QUEENSLAND: Rockhampton (types in Macleay Museum).

In both specimens there is a narrow infusate facial streak, but it is scarcely traceable in the female; on the prothorax of the female the punctures are moderately stained, whilst in the male but very few of them are even slightly stained. The punctures of the elytra being much darker than those of the prothorax (instead of *vice versâ*) should readily distinguish this species from its close allies. Seen from behind the elytra appear to be supplied with regular black lines.

Can be readily distinguished from *Cr. pæcilodermus*, Chp., and the preceding species, by the abdomen of the male having the fourth segment distinct (although narrow) across the middle and the fifth with the depression much smaller and narrower; the antennæ also are different.



From *larinus*, n. sp., the female differs in being smaller, with the fourth abdominal segment smaller, the shoulders black and the under-surface entirely pallid. From *Cadmus sculptilis*, Chp. (which is certainly congeneric), it differs in its legs and the apical impression of the male; in that species the impression is fairly large transverse and very highly polished.

CRYPTOCEPHALUS SOBRINUS, n. sp.

♂. Testaceous; junction of prothorax with scutellum and elytra, a narrow facial streak and punctures of upper surface more or less stained with brown; the punctures at base of elytra and on prothorax darker than elsewhere.

*Head* rather densely and coarsely punctate, the punctures more or less confluent posteriorly; median line feebly impressed. *Antennæ* thin, second joint about one-third the length of third, third shorter than fifth. *Prothorax* regularly convex, with almost regularly distributed and moderately large punctures, smaller on disc and base than elsewhere, and with rather numerous minute scattered punctures; oblique impressions feeble; margins narrow. *Scutellum* transverse, apex not much narrower than base, base feebly notched. *Elytra* oblong, subhumeral lobes feeble; with round, moderately large, more or less regular punctures, becoming smaller and subseriate in arrangement posteriorly. Apex of *prosternum* very wide and very feebly bilobed. Intermediate segments of abdomen strongly incurved to but continuous across middle, fifth large, middle of apex deeply and almost semicircularly excised.

Length 5 mm.

♀. Differs in being larger, second and third segments of abdomen rather large and with straight sutures, fourth just traceable across middle; fovea without lateral extensions.

Length  $6\frac{2}{3}$  mm.

*Hab.* QUEENSLAND (types in Aug. Simson's collection).

The scutellum in the male is impunctate but in the female is impressed with a few scattered punctures. The antennæ in both specimens are broken, but in the male eight joints remain and these are uniformly pallid.

The decidedly emarginate apical segment of abdomen in the male readily distinguishes this from *Cr. pœcilodermus*, Chp., *Cad. sculptilis*, Chp., and from any of the preceding species.



## CRYPTOCEPHALUS PALLENS, n. sp.

(Plate XXV, fig. 169.)

♂. Of a rather dingy flavous; prothorax (the sides more or less diluted) pale reddish-testaceous; basal half of head, antennæ (four basal joints excepted), scutellum and junction of prothorax and elytra black; suture and shoulders, sides of metasternum and the tarsi infusate.

*Head* densely and rather finely punctate, base strigose. *Antennæ* moderately thin, shorter than the body, second joint almost as long as third, third and fourth subequal and distinctly shorter than fifth. *Prothorax* not twice as wide as long, strongly convex, oblique impressions indistinct but fairly deep; densely and coarsely punctate, punctures smaller on disc than elsewhere. *Scutellum* triangular, base entire. *Elytra* diminishing in width from base to apex, subhumeral lobes rather large; densely moderately coarsely and subseriately punctate, the punctures becoming smaller and more regular posteriorly. Apex of *prosternum* very wide and feebly bilobed. Intermediate segments of abdomen strongly incurved to but continuous across middle.

Length  $2\frac{1}{2}$  mm.

♀. Differs in having the antennæ shorter and thinner, the elytra with smaller punctures (especially posteriorly) and almost as wide at apex as at base; intermediate segments of abdomen moderately large, the fourth just traceable across middle, fovea larger than usual and without lateral extensions.

Length 3 mm.

*Hab.* S. AUSTRALIA (Macleay Museum).

In some female specimens the third joint only of the four front tarsi is infusate, whilst the flanks of the metasternum appear to be always less dark in the female than in the male; the dark portion of the head has occasionally a slight greenish gloss.

The species is unusually small for *Cryptocephalus*, looking more at home in *Loxopleurus*, but the bilobed apex of prosternum forbid its being placed in that genus. In appearance it is much like a small specimen of *Cr. conjugatus*, Chp. From the description of *Lox. verticalis*, Chp., it differs in its dark scutellum (with its base entire) and metasternum.



CRYPTOCEPHALUS LILLIPUTANUS, n. sp.

(Plates XXIII, XXIV, figs. 69, 126, 127.)

♂. Deep metallic green with a slight coppery gloss; prothoracic margins, a rather large spot at the apex of each elytron, legs (the two apical joints of tarsi infuscate) and the second and fourth joints of antennæ reddish-testaceous.

*Head* very densely but not very coarsely punctate, punctures as large on clypeus as elsewhere, and at base and sides of eyes more or less confluent; with a transverse and a longitudinal impression. *Antennæ* rather thin, shorter than the body, second joint more than half the length of third, third shorter than fifth. *Prothorax* less than twice as wide as long, strongly convex; densely coarsely and regularly punctate; oblique impressions rather deep; margins narrow. *Scutellum* triangular, apex obtusely rounded, base entire. *Elytra* diminishing in width from base to apex, subhumeral lobes small, densely and moderately coarsely punctate, the punctures somewhat smaller but scarcely subseriately arranged posteriorly, towards base feebly transversely rugulose. Apex of *prosternum* wide and just perceptibly bilobed. Intermediate segments of abdomen strongly incurved to but continuous across middle.

Length  $2\frac{1}{2}$  mm.

♀. Differs in having the prothorax red, but with a complete transverse median fascia and a complete longitudinal vitta, the latter narrow on its apical and wide on its basal portion; the antennæ are shorter and the elytra are almost as wide at apex as at base; second and third abdominal segments with almost straight sutures, fourth rather large at sides but scarcely traceable across middle; fovea larger than usual, without lateral extensions.

Length 3 mm.

*Hab.* TASMANIA: Huon River (*A. M. Lea*).

Of five specimens before me four are females, of these three have the prothoracic markings as described, in the other the prothorax is coloured exactly as in the male; on this and another female the front tibiae have a blackish streak on their outer apex; the first and fifth joints of antennæ are dark in some specimens and pale in others.

This is another very small species which would look more at home in *Loxopleurus* but has the apex of the prosternum feebly bilobed. The prothoracic fascia with spurs, the apical segments of abdomen not pale flavous, and the colour of tarsi should distinguish it from *Lox. sturmi*, Chp.



## CRYPTOCEPHALUS TENEBRICOSUS, n. sp.

♀. Rather feebly shining. Blackish-brown; head (basal fourth excepted), antennæ (upper surface of first joint excepted), margins of elytra (the apex rather more widely than the sides), pygidium and legs (middle of femora and apex of tibiæ excepted) of a more or less obscure testaceous-red.

*Head* densely and coarsely punctate throughout, with a very feeble median impression. Antennæ rather thin, just passing hind coxæ, second joint more than half the length of third, third very little longer than fourth and slightly shorter than fifth, eleventh inserted towards side of tenth. *Prothorax* more than twice as wide as long; densely and coarsely punctate throughout; oblique impressions rather feeble, margins very narrow and entire. *Scutellum* rather strongly transverse, base entire and not much wider than apex; a few punctures towards base. *Elytra* oblong, subhumeral lobes rather small; coarsely and not very densely punctate; apical half with distinct costiform interstices. *Pygidium* with an indistinct median ridge. *Under-surface* densely and moderately coarsely punctate. Apex of prosternum wide and feebly bilobed. Abdomen with the fourth segment fairly large but in middle encroached upon by fovea, the latter wide, without lateral extensions.

Length  $4\frac{3}{4}$  mm.

*Hab.* QUEENSLAND: Ipswich (types in Macleay Museum).

A dingy species with the apex of the prosternum feebly bilobed but which would look more at home in *Cadmus*. I was inclined at first to regard it as an extreme variety of *Cad. ornatus*, Chp. (which in build it much resembles), but apart from the prosternum and colour it differs in having the prothoracic margins decidedly narrower and the elytra more rugose.

## CRYPTOCEPHALUS DISTORTUS, n. sp.

(Plates XXV, XXVI, figs. 148, 192.)

♂. Elongate-oblong, feebly shining. Almost (parts of the under-surface quite) flavous; a triangle at base and parts of the front half of head, antennæ (base of second—fourth joints excepted), a triangle on prothorax (its base almost touching the apex of that segment) and extreme base, all the margins (including suture) of elytra very narrowly, scutellum, metasternum in parts, and legs (coxæ and base of tibiæ excepted) black.

*Head* densely and coarsely punctate; with a transverse and a



longitudinal impression. Antennæ long, passing apex of body, second joint less than one-third the length of third, third and fifth subequal and distinctly longer than fourth, fifth suddenly thickened at apex, seventh—tenth wide, the serrations of the joints reversed after the seventh, eighth largest of all, tenth obtusely curved at apex, eleventh strongly incurved at apex. *Prothorax* with large punctures of irregular size and irregularly distributed; oblique impressions feeble; margins narrow; each side at apex suddenly and rather deeply constricted so that the anterior angles project outwards. *Scutellum* transverse; with scattered punctures; base entire and not much wider than apex. *Elytra* elongate-oblong, subhumeral lobes very small; with fairly large punctures becoming seriate in arrangement and with irregularly convex interstices apically, elsewhere with transverse rugulosities. *Pygidium* very indistinctly ridged. Apex of *prosternum* wide and almost truncate. Intermediate segments of abdomen strongly incurved to middle, across which the fourth is just traceable, fifth of irregular shape with a deep transverse impression bounded by a ridge on each side; first with a transverse, tuberculiform, slightly bent elevation.

Length 5 mm.

*Hab.* QUEENSLAND: Brisbane (Macleay Museum).

The pygidium and parts of the abdomen are more or less deeply stained with brown. The transverse rugulosities extend much closer to the apex than usual, about the middle each extends almost across the entire width of the elytron.

This and the following species are allied to *Cr. bihamatus*, Chp., all three having very remarkable antennæ and abdomen in the males. The abdomen is very peculiar, the transverse tubercle of the first segment appears like a short, suddenly elevated, sloping carina; the apical impression (which is partially obscured at the base by long hairs belonging to the intermediate segments) is as large as the fovea in many females. In the male of *rufoterminalis*, n. sp., the tubercle is subacute, the fourth segment appears on each side as a triangular wedge and the impression on the fifth is large and subtriangular. In the male of *bihamatus*, the tubercle on the first segment is longitudinal and very distinctly bilobed at apex, the fourth segment appears as a wedge on each side (narrower than in the following species) and the apical impression is of a very irregular triangular shape. These three species form a very natural and highly interesting group.



## CRYPTOCEPHALUS RUFOTERMINALIS, n. sp.

(Plates XXIII, XXVI, figs. 70, 193.)

♂. Elongate-oblong, moderately shining. Black ; all the margins of prothorax, a rather wide antemedian fascia on elytra and portion of pygidium and under-surface flavous ; part of head, antennæ (eighth joint black and part of first seventh and ninth infusate) and legs (upper portion of femora and third and part of fourth tarsal joints black) red ; apex of elytra orange-red.

*Head* densely and coarsely punctate ; with a narrow median impression. Antennæ longer than the body, second joint one-fifth the length of third, third slightly longer than fifth and much longer than fourth, fifth widened at apex, seventh—tenth wide and sub-triangular, eighth widest, eleventh feebly curved. *Prothorax* more than twice as wide as long ; densely and coarsely punctate, punctures more or less round and very few confluent, margins narrow, anterior angles projecting outwards ; oblique impressions not traceable. *Scutellum* transverse ; feebly punctate ; base entire and but little wider than apex. *Elytra* of the same shape and sculpture as the preceding species, except that the transverse rugulosity is rather less regular. Apex of *prosternum* wide and feebly bilobed. Abdomen with a transverse rounded tubercle in middle of first segment, fourth appearing on each side as a triangular wedge, fifth with a triangular impression of which the apex is directed forwards.

Length 6 (vix) mm.

*Hab.* N. S. WALES : Uralla (*W. W. Froggatt*), Yass (Macleay Museum).

The specimen (damaged) from Yass has the entire tarsi and the apex of the tibiæ black. The dark portion of the under-surfaces varies in the two specimens before me, but in both the flanks of the metasternum are black and the intercoxal process of prosternum flavous. Both have some indistinct flavous patches about the base of the elytra. The abdominal impression although not very deep has almost perpendicular walls.

In colour of body this species agrees fairly well with Chapuis' description of *Cr. bihamatus*, but I have certainly correctly identified that species which has the antennæ almost entirely black and with the two terminal joints "*arcuatis, interius acute hamatis*," whilst in the present species the antennæ are almost entirely pallid and with the tenth joint not at all and the eleventh but feebly curved.



CRYPTOCEPHALUS CONSPICIENDUS, n. sp.

(Plate XXIII, figs. 71, 72.)

♂. Elongate-oblong, moderately shining. Black; a transverse submedian spot on each elytron and base and apex of intercoxal process of prosternum flavous; coxæ and second—fourth joints of antennæ reddish. Pygidium and under-surface with silvery pubescence.

*Head* densely and coarsely punctate; eyes much closer together than usual. *Antennæ* long and thin considerably passing apex of body, second joint about one-third the length of third, third considerably longer than fourth and shorter than fifth. *Prothorax* not twice as wide as long, very coarsely and densely punctate, the punctures more or less confluent; margins very narrow but entire, anterior angles projecting outwards but invisible from above; oblique impressions not traceable. *Scutellum* subquadrate, apex but little narrower than base, with a large nasal notch. *Elytra* elongate-oblong, subhumeral lobes small; with very large (almost foveate) punctures, not much larger at base than elsewhere; with very irregular interstices (much interrupted by punctures) traceable (or at least the alternate ones) almost to base. Apex of *prosternum* wide and feebly bilobed. Abdomen with fourth segment just traceable across middle, fifth large.

Length  $4\frac{3}{4}$  mm.

♀. Fourth abdominal segment rather large, middle depressed and encroached upon by fovea; the latter with narrow and (owing to clothing) indistinct lateral extensions.

Length 6 mm.

*Hab.* N. S. WALES (Macleay Museum), Jindabyne (*Bauerlin*), Sydney (*W. W. Froggatt* and *A. M. Lea*).

In two males before me the elytral spots are large outwardly and curved inwards to suture, along which each runs for a short distance, so that combined they form a very feeble V. In another male the spots are smaller and more distant from the suture; in a female they are also rather small and distant from the suture, in this specimen also the apex of the elytra is reddish. In the three males the prothorax has a slight greenish gloss.

In appearance the species somewhat approaches *Cad. luctuosus*, Chp., and *Cad. quadrifasciatus*, n. sp., but (apart from markings and apex of prosternum) punctures of both prothorax and elytra very different.



## CRYPTOCEPHALUS METALLICUS, n. sp.

♂. Metallic coppery purple ; antennæ red, the first joint black.\*

*Head* densely and coarsely punctate ; with a very feeble median impression. *Antennæ* thin, second joint less than one-third the length of third, third and fifth subequal and longer than fourth, fifth slightly curved. *Prothorax* not twice as wide as long, very densely and coarsely punctate, the punctures all more or less confluent, margins very narrow and scarcely visibly crenulate, oblique impressions fairly large but indistinct. *Scutellum* subquadrate, densely punctate, apex not much narrower than base, base very deeply notched. *Elytra* oblong, subhumeral lobes small ; coarsely and very densely punctate ; apical half acutely costate. *Pygidium* very densely punctate, with a distinct median ridge. Apex of *prosternum* very wide, depressed, very feebly bilobed.

Length  $4\frac{1}{2}$  mm.

♀. Fourth segment of abdomen fairly large ; its middle distinctly encroached upon by fovea ; the latter with shallow lateral extensions.

Length 6 mm.

*Hab.* S. AUSTRALIA : Victoria (types in Macleay Museum).

A very distinct species, in build and sculpture somewhat resembling *Cad. ornatus*, Chp. Pallid antennæ are most unusual for metallic species.

## CRYPTOCEPHALUS BASIZONIS, n. sp.

(Plates XXIII, XXV, figs. 73, 170.)

♀. Pale reddish-testaceous, abdomen and pygidium flavous ; scutellum (its tip reddish), a wide basal fascia and a large subapical spot on each elytron black ; parts of metasternum, apex of femora and of tibiæ and the tarsi infusate.

*Head* with rather small punctures, base strigose, with a distinct median impression. *Antennæ* thin, almost as long as the body, second joint one-third the length of third, third shorter than fifth. *Prothorax* not twice as wide as long ; impunctate except for a few small punctures at sides ; oblique impressions smooth and rather wide ; margins very narrow, sides dilated towards base and projecting outwards in front. *Scutellum* triangular, apex rounded and

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\* In the unique male the three terminal joints of the antennæ are missing, but from those left I imagine they slightly pass the body ; in the female they are slightly shorter than the body and most of the apical joint is black.



projecting, considerably above elytra, base deeply notched. *Elytra* widest near apex, subhumeral lobes small; with sparse minute punctures in almost regular series, but disappearing towards apex. *Pygidium* with a narrow and feeble median ridge. Apex of *prosternum* wide, feebly rounded and entire. Abdomen with the fourth segment large and feebly encroached upon by fovea; the latter with very shallow lateral extensions.

Length  $8\frac{1}{2}$  mm.

*Hab.* QUEENSLAND: Cairns (type in Macleay Museum).

In general appearance a perfectly typical species of *Cryptocephalus*, although the apex of prosternum is not bilobed. Of the two specimens before me one has the antennæ entirely black, except for the second and base of the third and fourth joints, in the other only the apical and the upper portion of the basal joint is black. The pale portions of the elytra are paler than the prothorax. The punctures (except on the head) are sparser and smaller than in any other species with which I am acquainted.

CRYPTOCEPHALUS COMPTUS, n. sp.

(Plates XXIII, XXV, figs. 74, 75, 149.)

♂. Testaceous-red; apical half of antennæ, extreme base of prothorax, pygidium and metasternum infusate; scutellum, tarsi and apex of tibiæ black; elytra with two black fasciæ not quite touching the sides, the first basal, the second and widest subapical, the two connected along suture.

*Head* with moderately large and not very dense punctures, base rather feebly strigose; with a median impression varying from deep and distinct to very faint. Antennæ rather thin, distinctly shorter than the body, second joint rather more than half the length of third, third distinctly shorter than fifth. *Prothorax* regularly convex, with fairly large but rather sparse and unevenly distributed punctures, oblique impressions feeble, margins rather narrow. *Scutellum* transverse, base notched and not much wider than apex. *Elytra* elongate-oblong, subhumeral lobes feeble, with rather large and dense punctures, becoming smaller and seriate in arrangement with feebly convex interstices posteriorly. Apex of *prosternum* obtusely rounded and entire. Abdomen with the fourth segment just traceable across middle.

Length 4 mm.

♀. Differs in having the antennæ shorter and thinner and the



punctures smaller ; the fourth abdominal segment is narrow across middle ; fovea almost without traces of lateral extensions.

Length  $5\frac{1}{2}$ — $6\frac{1}{4}$  mm.

*Hab.* S. AUSTRALIA (Macleay Museum).

The scutellum varies from entirely (extreme base excepted) red to entirely black, the elytral markings have a greenish or bluish gloss. In the only male before me the base of the head and an irregular median prothoracic vitta are black, in one female these parts are also dark, but in six others both head and prothorax are of uniform colour. In several of the females only the third tarsal joint is black.

I have referred this and the following species to *Cryptocephalus*, although the apex of the prosternum is not bilobed, as they are typical-looking species of that genus. In build they much resemble *rubicundus*, n. sp. The markings of the present species are somewhat as in *Id. bynoei*, Saund., but the punctures, antennæ, scutellar notch, etc., are different and the body is rather more elongate. One specimen is marked as from the Western Interior of S. Australia.

#### CRYPTOCEPHALUS MINUSCULUS, n. sp.

(Plate XXIII, figs. 76, 77, 78, 79, 80.)

♂. Testaceous-red ; base of head, scutellum and metasternum black ; elytra black with red markings, or red with black markings ; apical portions of antennæ, abdomen (except at apex), tarsi, posterior femora and apex of tibiæ infuscate.

Length 3 (♀  $3\frac{3}{4}$ ) mm.

Much the build of the preceding species but the sexes always smaller, the punctures smaller and (especially on elytra) more numerous, the subhumeral lobes larger, the scutellum less transverse with the base considerably wider than the apex.

*Hab.* S. AUSTRALIA (Macleay Museum).

This is a decidedly variable species. The head is entirely red in the female and sometimes in the male also, sometimes but two or three joints of the antennæ, at others all beyond the fourth are infuscate, sometimes all the femora are red whilst in others the hind or the four hind are infuscate, the scutellum is usually red but occasionally black, in some specimens the abdomen is entirely red. In some specimens the elytral markings (except that



the greenish gloss is absent) much resemble those on the preceding species ; the following are some of them—

*A* Shoulders and a large subapical spot on each side black.

*B* The same but in addition with a triangular black space about the scutellum.

*C* Resembling *B* but with the basal markings united.

*D* Resembling *C* but with the apical spots united.

*E* Resembling *C* but with the basal and apical markings united along the sides.

*F* Elytra black, the apex, sides and a submedian spot (of variable size) on each, red.

*G* Resembling *F* but with the sides dark.

*H* Elytra entirely dark except for a small submedian spot (closer to suture than side) on each.

In eight specimens the prothorax is immaculate, in five others there is a short longitudinal vitta of variable size and shape.

### CRYPTOCEPHALUS T-VIRIDIS, n. sp.

(Plates XXIII, XXV, XXVI, figs. 81, 150, 151, 194.)

♂. Flavous or pale reddish-testaceous ; head, a wide prothoracic fascia (having a median projection both in front and behind), scutellum, pygidium and under-surface black with a greenish gloss ; elytra with the base, suture, shoulders and a longitudinal vitta on each side (feebly connected with shoulders or not) metallic green ; antennæ (basal joints excepted) and tarsi infusate. Pygidium and under-surface with silvery pubescence.

*Head* very densely and finely strigose, with small scattered punctures. Antennæ rather stout, just passing hind coxæ, second joint very little shorter than third, third slightly shorter than fourth, fourth slightly shorter than fifth. *Prothorax* with moderately dense but irregularly distributed punctures, fairly large at sides but small on disc, oblique impressions feeble, margins very narrow. *Scutellum* transverse, subtriangular, apex truncate, base notched. *Elytra* with small subhumeral lobes, densely (and in some specimens) coarsely punctate, punctures becoming smaller and subgeminat in arrangement posteriorly, with (in some specimens) feebly convex interstices. Apex of *prosternum* wide and almost truncate. Abdomen with the intermediate segments strongly incurved, the fourth not traceable across middle, fifth large.

Length  $4\frac{1}{4}$  mm.



♀. Has the prothorax more transverse; the abdominal fovea large and deep and without lateral extensions.

Length  $5\frac{1}{4}$  mm.

*Hab.* N. S. WALES (Macleay Museum).

I have referred this species to *Cryptocephalus* although the apex of the prosternum is not bilobed, as it would be absurd to refer it to any genus other than that to which *Cr. parenthesis*, Suff., belongs; at first sight indeed it appears to be but a variety of that species, but the antennæ, prothoracic punctures and apex of prosternum are somewhat different. The colour (except for slight variations on the prothorax and sides of elytra) appears to be constant in the five specimens before me; the legs are pallid whilst in *parenthesis* they are invariably black. The green parts of the elytra (leaving the lateral vittæ out) somewhat resemble the letter T, the sutural marking being very narrow at apex, slightly widening out to middle and then rapidly increasing in width to the shoulders. The size and density of the punctures are subject to considerable variation and are usually smaller in the female than in the male. The comparative lengths of the second—fourth joints of antennæ are rather unusual. In the female as well as in the male the fourth abdominal segment is not traceable across the middle.

#### CRYPTOCEPHALUS SERENUS, n. sp.

♀. Almost (abdomen quite) flavous; suture dark metallic bluish-green, the green extended round scutellum (the extreme base of which is almost dark) and at base very narrowly continued almost to the sides; upper surface of first and the three terminal joints of antennæ infusate; tips of claws black.

*Head* with dense but rather small punctures, with a wide indistinct median impression. Antennæ just passing hind coxæ, second joint half the length of third, third slightly longer than fifth and distinctly longer than fourth. *Prothorax* about thrice as wide as long; with moderately dense and fairly large punctures (larger at sides than elsewhere) and with numerous minute scattered punctures; oblique impressions irregular and indistinct; margins finely crenulate. *Scutellum* feebly transverse, base entire and very little wider than apex. *Elytra* oblong, subhumeral lobes feeble; not very densely or coarsely punctate, the punctures denser and larger below shoulders than elsewhere, subgeminat about middle and seriate, with feebly convex interstices, posteriorly; with minute scattered punctures.



Apex of *prosternum* very wide and obtusely rounded. Abdomen with the fourth segment just traceable across middle; fovea with scarcely traceable lateral extensions.

Length  $5\frac{1}{2}$  mm.

*Hab.* W. AUSTRALIA: Geraldton (*A. M. Lea*).

A pallid species but rendered distinct by the dark green and fairly wide sutural marking. I have seen but one specimen.

CRYPTOCEPHALUS SCABIOSUS, n. sp.

(Plate XXIII, fig. 82.)

♀. Oblong, moderately shining, subtuberculate. Of a rather dark red, antennæ and tarsi paler; junction of prothorax with scutellum and elytra and apex of scutellum blackish; elytra with a submedian flavous fascia.

*Head* densely and coarsely punctate and with a distinct median impression. Antennæ thin, not extending to hind coxæ, second joint more than half the length of third, third distinctly longer than fourth, fourth and fifth subequal. *Prothorax* densely and coarsely punctate, punctures very irregular; oblique impressions feeble, margins very narrow. *Scutellum* transverse; feebly punctate; base deeply notched and less than twice the width of apex. *Elytra* oblong, subhumeral lobes small; rather coarsely and very irregularly punctate; with scar-like elevations—largest across middle and towards base and apex more or less following the lines of interstices. Apex of *prosternum* very wide and distinctly bilobed. Abdomen with the fourth segment just traceable across middle; fovea without lateral extensions.

Length  $5\frac{1}{2}$  mm.

*Hab.* S. AUSTRALIA (types in Macleay Museum).

A peculiar and roughly sculptured species totally different to any other known to me. The flavous fascia on the elytra is very irregular and is confined to the elevated portions.

There are two females before me; a male, which I believe to belong to the species, is deep black (the head, antennæ and parts of the legs piceous-brown), with a very distinct but irregular pale elytral fascia, interrupted at suture, and on each side enclosing two small irregular dark circular spaces; from the fascia there are no prolongations either backwards or forwards, but on both the females there are such. This male is also of smaller size ( $3\frac{3}{4}$  mm.), with coarser punctures, prothorax more gibbous



and less transverse, scutellum larger and scar-like elevations on middle of elytra more pronounced. Its abdomen is most remarkable, in that the second, third and fourth segments are not at all visible across the middle, so that there the first actually appears to impinge on the fifth; the latter is large, flattened in the middle and with a rather indistinct transverse impression.

#### CRYPTOCEPHALUS INCOCTUS, n. sp.

♂. Briefly oblong-ovate, moderately shining, pubescent, rough. Head (front excepted), prothorax (extreme apex and sides excepted) and extreme base of elytra and of scutellum black; elytra almost scarlet; pygidium and under-surface reddish-testaceous, appendages paler; metasternum and apical joint of antennæ infusate. Moderately densely (the elytra sparsely) clothed with short golden pubescence.

*Head* densely and coarsely punctate; with a rather deep median impression. Antennæ thin, longer than the body, second joint about one-third the length of third, third slightly shorter than fifth. *Prothorax* not much more than once and one half as wide as long, disc obsoletely bituberculate, oblique impressions wide but indistinct, margins narrow and feebly crenulate; coarsely and very densely punctate, the punctures partially concealed by clothing. *Scutellum* longer than wide; densely punctate; apex about half the width of base, base notched, acutely ridged along middle. *Elytra* subquadrate, feebly diminishing in width from base to apex, subhumeral lobes large; densely and coarsely punctate, with convex interstices somewhat irregular posteriorly but very irregular towards base. *Under-surface* densely and moderately coarsely punctate. Apex of prosternum wide and very distinctly bilobed. Intermediate segments of abdomen strongly incurved to and narrow across middle, fifth large with a large and not very shallow median impression.

Length  $5\frac{1}{4}$  mm.

♀. Differs in being of a rather dingy red, the elytra somewhat paler than the prothorax, but with the junction of these blackish, the apical joint no darker than the others, or dark only on its apical half and the metasternum is no darker than the abdomen. It is larger, with smaller punctures, eyes much more distant, antennæ just passing hind coxæ, prothorax without feeble tubercles, and elytra fully as wide at apex as at base. Intermediate segments of abdomen large and almost straight, the fourth slightly wider than the third; fovea without lateral extensions.

Length  $6\frac{1}{2}$  mm.



*Hab.* QUEENSLAND: Mackay (*C. French*).

A short broad species at first sight apparently belonging to *Lachnabothra*, and possibly really an aberrant member of that genus; but I have placed it here amongst other aberrant species as being less likely to cause confusion. There are four females before me, in one of which the elytra are almost as brightly coloured as in the unique male.

CRYPTOCEPHALUS COMOSUS, n. sp.

♀. Elliptic-oblong, opaque. Black; elytra (extreme base and shoulders excepted) pale testaceous; basal joints of antennæ obscurely diluted with red. Densely and uniformly clothed with short pubescence — golden on the upper, silvery on the lower surface.

*Head* and prothorax with rather small but very dense and regular punctures. Antennæ long and thin, passing apex of body, second joint about one-third the length of third, third distinctly shorter than fifth. *Prothorax* with the oblique impressions indistinct but fairly deep, margins narrow. *Scutellum* as long as wide; densely punctate; ridged along middle, base not very much wider than apex, and with a rather large notch. *Elytra* oblong, subhumeral lobes small; with regular series of punctures from base to apex; interstices wide, feebly convex, and densely and finely punctate. *Pygidium* strongly bilobed at apex. Apex of *prosternum* very wide and truncate, but in middle with a scarcely perceptible notch. Abdomen with second and third segments large, fourth very decidedly trisinate at apex; fovea without lateral extensions.

Length  $6\frac{1}{4}$  mm.

*Hab.* QUEENSLAND: Tambourine (type in *R. Illidge's* collection).

A very distinct species having pallid and densely pubescent elytra, strongly bilobed pygidium and the fourth abdominal segment trisinate. Its only previously described hairy congener from Australia is *Cr. hispidus*, Chp. (unknown to me), which has blackish-blue elytra and pallid abdomen and pygidium.

CRYPTOCEPHALUS CONVEXICOLLIS, n. sp.

(Plate XXVI, fig. 195.)

♂. Elongate elliptic-oblong, highly polished. Of a fiery metallic copper colour, suture and under-surface with a greenish gloss, antennæ black.



*Head* with moderately large sparse punctures, but densely strigose at base; middle feebly impressed. *Antennæ* stout, just passing hind coxæ, second joint more than half the length of third, third and fifth subequal, seventh—tenth rather wide. *Prothorax* less than twice as wide as long, strongly and regularly convex, oblique impressions almost absent; margins very narrow; sides with dense and moderately large punctures, becoming smaller and sparser on disc; minute punctures scattered about. *Scutellum* slightly transverse; sparsely punctate; base not much wider than apex and with a large notch. *Elytra* with small subhumeral lobes, coarsely punctate behind shoulders, apical half with small punctures in regular series, towards base becoming larger and subgeminat in arrangement. *Pygidium* with a very feeble median ridge. Apex of *prosternum* wide and just perceptibly bilobed. Intermediate segments of abdomen strongly incurved to and narrow across middle, fifth large and feebly transversely depressed.

Length  $4\frac{1}{2}$  mm.

♀. Differs in being slightly larger with smaller punctures and antennæ shorter and thinner; fourth abdominal segment just traceable across middle; fovea without lateral extensions.

Length 5 mm.

*Hab.* N. S. WALES: Berrima (types in Macleay Museum), Bungendore, Queanbeyan (*A. M. Lea*).

An aberrant species with an outline suggestive of *Prasonotus*, but the scutellum of normal size and the intercostal process of prosternum of different shape to that of *P. submetallicus*, Suffr., and *ruficaudis*, Baly. I have seen but one male, but there are four females before me; of these two are coloured as the male, the third is deep metallic blue with purplish reflections, and the fourth is metallic green, with in places, and from some directions, coppery reflections.

#### CRYPTOCEPHALUS ORNATIPENNIS, n. sp.

(Plate XXIII, figs. 83, 84.)

♂. Bluish-black; front of head, extreme apex and sides of prothorax and parts of four (or of a less number) basal joints of antennæ dull red; under-surface (metasternum infuscate) and legs (tarsi and apex of tibiæ blackish) paler; elytra with the base (but not the extreme base) and four postmedian and two subapical spots flavous.

*Head* densely and regularly punctate except that at base the punctures become subconfluent; median impression feeble. *Antennæ*



moderately stout, just about the length of body, second joint less than half the length of third, third slightly shorter than fifth. *Prothorax* more than twice as wide as long; with dense, round, regular punctures of fairly large size, but sparser on disc (where a few smaller punctures are scattered about) than elsewhere; oblique impressions fairly deep, but interrupted in middle, margins not very narrow. *Scutellum* transverse; sparsely punctate; apex wide, base deeply notched. *Elytra* oblong, subhumeral lobes small; with large dense punctures (very sparse on the pallid portions), becoming sparser, smaller (but still rather large), and seriate in arrangement posteriorly. Apex of *prosternum* wide rounded and entire. Intermediate segments of abdomen rather strongly incurved to middle.

Length  $5\frac{1}{2}$  mm.

♀. Differs in having the upper surface of a purplish-red (except that the junction of the prothorax with the scutellum and elytra is black), and the legs (tips of the claws excepted) entirely pale; the elytral markings are, however, the same. It is larger and wider, punctures smaller, antennæ thinner, and just passing hind coxæ, and both the prothorax and scutellum more transverse. Abdomen with second and third segments large and with almost straight sutures, fourth encroached upon by fovea; the latter with very shallow lateral extensions. Length  $7\frac{1}{2}$  mm.

*Hab.* N. QUEENSLAND: (*R. Illidge*), Endeavour River, Thursday Island (Macleay Museum).

An aberrant species and, like the last, with an outline suggestive of *Prasonotus*. It appears to be an abundant species in North Queensland. The four postmedian spots (which appear as parts of a fascia) are sometimes united to form but two. One peculiarity of the species is the fact that the punctures are very sparse (on some specimens they are altogether absent) on the pallid portions of the elytra; those that do occur there are more or less infusate.

CRYPTOCEPHALUS CÆLESTIS, n. sp.

(Plate XXVI, fig. 196.)

♀. Deep metallic blue with purplish reflections; under-surface (flanks of prosternum and two apical segments metallic blue), coxæ and base of femora reddish.

*Head* densely punctate, strigose at base and sides of eyes. Antennæ very wide, slightly shorter than the body, second joint transverse, about one-third the length of third, third slightly shorter and narrower than fourth, fifth much the widest and longest, sixth—tenth



transverse, sixth about half the length of fifth, the others gradually decreasing in length, eleventh obpyriform. *Prothorax* much wider at base than at apex; oblique impressions deep and narrow; with rather large irregular punctures and with transverse rugulosities, punctures denser at sides than elsewhere; margins narrow. *Scutellum* triangular, longer than wide, base notched. *Elytra* briefly oblong, subhumeral lobes not very small; densely but not very coarsely punctate, and feebly transversely rugulose, posteriorly punctures becoming smaller and irregularly geminate in arrangement almost to the apex. *Pygidium* with rather larger punctures than usual. Apex of *prosternum* very wide, feebly rounded and entire. Abdomen with the fourth segment small and moderately incurved to middle, fifth comparatively small; fovea with irregular extensions.

Length  $4\frac{3}{4}$  mm.

*Hab.* VICTORIA: Gisborne (type in *H. H. D. Griffith's* collection).

A very beautiful and decidedly aberrant species.

Of the species of the subfamily described as having antennæ very wide in the middle, *Chariderma pulchella*, Baly, has the prothorax and elytra maculate and the prosternum much as in *Schizosternus*; *Aporocera apicalis*, Saund., and *bicolor*, Saund., have the prothorax pallid and the elytra long with large punctures in regular series. *Ap. chalybea*, Saund. (unknown to me), is described as having the prothorax pitchy-black margined with ochraceous, the legs differently sculptured and the elytral sculpture different. The following species has also antennæ very wide in the middle, but its sculpture and colour are very different and the intercostal process is strongly ridged along the middle.

#### CRYPTOCEPHALUS COSTIPENNIS, n. sp.

(Plates XXV, XXVI, figs. 171, 197.)

♀. Moderately shining. Black; muzzle, coxæ and extreme base of tibiæ dull red; prothorax and elytra testaceous, the former with the sides in front and a median line (not quite continuous to apex), the latter with the basal third of the sides and the suture, black.

*Head* opaque and densely and coarsely punctate. Antennæ wide, just passing hind coxæ, second joint less than half the length of third, third—fifth very wide, the third slightly the widest, the fifth slightly the longest, sixth—tenth regularly diminishing in length and width, eleventh slightly longer and narrower than tenth, apex



triangularly pointed. Prothorax more than twice as wide as long; coarsely and very densely punctate; margins narrow and entire. *Scutellum* moderately convex, coarsely punctate, base feebly notched and not much wider than apex. *Elytra* elongate, subhumeral lobes very small; with very dense, round, moderately large, regularly distributed punctures; each elytron with four very distinct and strongly elevated costæ, of which the outer (commencing just below the shoulder) is the largest and becomes united to the sutural one close to apex, the second from the suture commences closer to the base and is larger than the third, but terminates before it. *Pygidium* densely and rather coarsely punctate. *Under-surface* with dense punctures, many of those on abdomen transverse. Prosternum very decidedly ridged along middle, apex rounded and entire. Abdomen with larger segments (except the fifth which is smaller) than usual; fovea without lateral extensions.

Length  $7\frac{1}{2}$  mm.

*Hab.* N. S. WALES: Jenolan (*J. C. Wibur*d).

The dark sutural marking is very narrow at the base and gradually becomes wider (although it is nowhere very wide) towards apex, on the apex itself being slightly extended. In addition to the four distinct costæ on each elytra, there are traces of others both towards base and apex. The intercoxal process of prosternum very distinctly produced and rounded at the hinder apex and strongly ridged along middle, with the shape of the antennæ, decidedly distinguish this from the normal species of *Cryptocephalus*.

#### DIANDICHUS FOVEIVENTRIS, n. sp.

♂. Oblong-obovate, moderately shining. Head, prothorax, scutellum, antennæ (the basal joints obscurely diluted with testaceous), tarsi, hind femora, part of middle femora and the apices of tibiæ (the hind more than the front), black; rest of appendages and the gular regions testaceous; elytra deep bluish-green.

Upper-surface very densely and finely punctate throughout, prothorax with moderately large and rather dense punctures, smaller on disc than elsewhere; elytra with rather dense punctures on basal third, becoming smaller, sparser, and subseriate in arrangement posteriorly. *Head* with or without a feeble median impression; a small fovea on each side of the clypeus. Antennæ slightly longer than the body, second joint more than half the length of third. *Prothorax* about twice as wide as long, a rather shallow oblique impression on each side. *Scutellum* very long and thin; impunctate.



*Elytra* at base very little wider than prothorax, each widely rounded at apex. *Abdomen* with the fourth segment not traceable across middle, the fifth semicircular in front.

Length  $2\frac{1}{2}$  mm.

♀. Differs in being larger, with the antennæ somewhat shorter than the body and the basal joint of all the tarsi narrower. The apical fovea is very large, occupying more than one-third the width of the segment and is without lateral extensions; the abdomen (except the middle of the two basal segments) and the pygidium are flavous, and the middle legs entirely black; the elytra are more dilated towards the apex than in the male.

Length  $2\frac{1}{2}$ –3 mm.

*Hab.* W. AUSTRALIA: Geraldton (*A. M. Lea*).

In some females the elytra are more bluish (occasionally with a slight purplish gloss) than green. The prothorax black in both sexes easily distinguishes this species from *analis*, Chp. (the only previously described species); the punctures of the upper-surface are also different and the antennæ are thinner in both sexes.

#### SCHIZOSTERNUS DELICATULUS, n. sp.

(Plate XXV, fig. 176.)

♀. Of a clear pale red; antennæ (second joint sometimes excepted), tarsi, tips of tibiæ and of mandibles and extreme base of scutellum and elytra black or blackish.

*Head* moderately densely and rather coarsely punctate, punctures sparser along middle than elsewhere; vertex with a median impression. Antennæ extending to hind coxæ, second joint more than half the length of third. *Prothorax* not twice as wide as long, sides near apex suddenly and deeply constricted so that the anterior angles project outwards; with sparse and moderately large punctures irregularly distributed; oblique impressions very feeble. *Scutellum* quadrate; impunctate; gently convex, base deeply notched. *Elytra* with rather small subhumeral lobes; moderately strongly punctate, the punctures in regular series almost from the base, becoming smaller posteriorly. Apex of *prosternum* semicircularly excised, the projecting points rather blunt. Fourth segment of abdomen just perceptible across middle, apical fovea large and deep, without lateral extensions.

Length  $4\frac{1}{2}$  mm.

♂. Unknown.

*Hab.* QUEENSLAND: Gayndah, Rockhampton (Macleay Museum).



In build much the same as *S. coccineus*, Chp., but (apart from colour) readily distinguished by its shorter and more quadrate scutellum, with the basal notch deeper; the punctures on the head are also very different. In the three specimens before me the punctures on the prothorax vary considerably in number, on one specimen being very sparse, on another fairly numerous, but they appear to be always sparser on the disc than elsewhere.

SCHIZOSTERNUS TRILINEATUS, n. sp.

(Plate XXIV, fig. 85.)

♀. Head (base black) and prothorax testaceous, elytra (extreme base and three stripes black) and legs (tarsi and apices of tibiæ black) somewhat paler, intercoxal process and abdomen flavous; antennæ black; metasternum blackish, in parts testaceous.

*Head* densely and coarsely punctate. *Antennæ* thin, second joint less than half the length of third. *Prothorax* not once and one-half as wide as long; sides near apex suddenly and deeply constricted so that the anterior angles project outwards; with moderately large irregularly distributed punctures; disc somewhat gibbous; oblique impressions feeble. *Scutellum* subquadrate. *Elytra* rather long and parallel-sided, subhumeral lobes small; rather densely and coarsely punctate, the punctures becoming subseriate in arrangement posteriorly. *Pygidium* densely and rather finely punctate, and with a feeble median ridge. Apex of *prosternum* triangularly excised. Fourth segment of abdomen hidden in middle; apical fovea large, deep, and without lateral extensions.

Length 4 mm.

*Hab.* N. S. WALES (type in Macleay Museum).

The three dark elytral stripes are parallel-sided, but at the apex they become conjoined, the sutural is narrower than the lateral ones; the subhumeral lobes are coloured as the disc. In the type the two terminal joints of the antennæ are missing.

SCHIZOSTERNUS MARMORATUS, n. sp.

(Plates XXIV, XXV, figs. 86, 128, 172.)

♀. Flavous; under-surface and legs obscurely mottled with brown; antennæ testaceous; head with the vertex and a median line brown; prothorax and elytra with chocolate-brown or purplish markings; base of scutellum and of elytra narrowly black. Flanks of abdomen and of metasternum and the pygidium rather densely pubescent.



*Head* moderately densely but not very coarsely punctate ; with a deep median impression. *Antennæ* passing hind coxæ, second joint less than half the length of third. *Prothorax* about twice as wide as long, sides strongly narrowed in front, but not suddenly constricted, with moderately large and not very dense punctures, the interspaces with sparse minute punctures ; oblique impressions almost absent. *Scutellum* quadrate, the base scarcely visibly notched. *Elytra* with rather small subhumeral lobes ; with large punctures irregularly distributed and smaller on hind than on front half. *Pygidium* feebly carinate. Apex of *prosternum* triangularly excised, the projecting points acute. Fourth segment of abdomen hidden across middle ; apical fovea large and deep, with shallow lateral extensions.

Length 6 mm.

*Hab.* S. AUSTRALIA (type in Macleay Museum).

This is one of the finest species in the subfamily. On the prothorax the markings are somewhat as in *Cadmus aurantiacus*, Chp., and on the type are seven in number ; on the elytra all the punctures are stained with the stains often conjoined in irregularly curved lines, there are three principal masses on each elytron—two sub-basal (one scutellar, the other humeral with the shoulder itself stained although not punctate) and one subapical ; these masses are different on each elytron.

#### SCHIZOSTERNUS CRASSICORNIS, Chp.

(Plates XXIV, XXV, figs. 87, 88, 129, 130, 131, 173.)

♂. Of a rather pale testaceous ; vertex and a short median line on head, a rather wide median line and an elongate spot between it and sides on prothorax, scutellum, suture and extreme base of elytra (as also of prothorax), black ; under-surface and legs black in places, part of basal and part of apical joints of antennæ black.

*Head* rather densely and coarsely punctate, vertex longitudinally impressed. *Antennæ* stout, almost extending to apex of body, second joint transverse, less than half the length of third, fourth almost as long as fifth, seventh—eleventh gradually decreasing in length and thickness. *Prothorax* about twice as wide as long, sides strongly lessened in front but not suddenly constricted ; densely and coarsely punctate, especially on the sides. *Scutellum* subquadrate, smooth and flat ; with a few small punctures ; apex feebly rounded, base gently emarginate. *Elytra* widest near base, with very feeble subhumeral lobes ; with moderately large punctures, more or less regular in arrangement towards the base, and regular with convex



interstices posteriorly. Apex of *prosternum* rather widely triangularly excised.

Length 5 mm.

♀. Differs in being larger with the antennæ much shorter and thinner and the second joint not at all transverse; the head is smoother with smaller punctures and the median line less deeply impressed; the fourth segment of the abdomen is hidden across the middle; apical fovea large and deep, with feeble lateral extensions.

Length 6-7 mm.

*Hab.* W. AUSTRALIA: Geraldton, Vasse (*A. M. Lea*).

The colour of the under-surface and legs (independently of sex) varies greatly, in some specimens these parts are almost entirely testaceous, in others they are almost entirely deep black; in one specimen the antennæ (except for parts of the second, third and fourth joints) are entirely black, in this specimen also (a ♀) the dark facial line is connected with the antennæ so as to appear something like a Y, its prothorax is blackish, with the sides and several obscure discal spots testaceous, the sutural marking instead of being narrow and confined to the suture itself gradually widens out so that near the apex (but not at the apex itself) it covers about four interstices on each. In several specimens the middle of the scutellum is pallid. The middle of the apex of the prothorax is sometimes black. The dark median line of the prothorax varies considerably in width, the spot on each side is sometimes distinct and fairly large, sometimes small and obscure, and occasionally absent. The elytral punctures frequently have a watery appearance so that (to the naked eye) they appear much larger than they really are. The elytral punctures are not alike in any two of the six specimens before me, on two of them only they are very decidedly geminate in arrangement, on one specimen they are much sparser and larger at the base than in the others. From each shoulder almost to the apex there is a distinct lateral ridge, but this is invisible from above.

I drew up the description of this species as new, but subsequently came to the conclusion that it was really *Cryptocephalus crassicornis*, Chp., of which an unique male only (and without exact locality) was known to Chapuis.



## LOXOPLEURUS LATERIFLAVUS, n. sp.

(Plate XXIV, fig. 89.)

♂. Head (basal half black with a greenish gloss), prothorax (the sides paler), legs (tarsi black, apex of tibiae blackish) and metasternum pale flavous-red; rest of under-surface flavous; scutellum and antennae black; elytra bright metallic green with wide flavous margins.

*Head* densely and moderately coarsely punctate; very feebly longitudinally impressed. Antennae about as long as the body, second joint half the length of third, third slightly shorter than fifth. *Prothorax* more than twice as wide as long; densely and coarsely punctate; towards base with traces of a feeble median carina; oblique impressions rather deep; margins wide. *Scutellum* triangular, base entire. *Elytra* oblong, sides almost perfectly parallel, subhumeral lobes small; densely and moderately coarsely punctate, punctures somewhat smaller but not at all seriate in arrangement posteriorly. Apex of *prosternum* rounded and slightly produced in middle. Abdomen with fourth segment just traceable across middle.

Length  $2\frac{3}{4}$  mm.

♀. Differs in having the two apical joints of tarsi infusate only, with the basal joints and the apex of tibiae but little darker than the rest of the legs, and the two basal joints of antennae obscurely reddish below. Antennae thinner and shorter than the body. Abdomen with fourth segment not traceable across middle; fovea large.

Length  $3\frac{1}{2}$  mm.

*Hab.* W. AUSTRALIA: (Macleay Museum) Swan River, Karridale (*A. M. Lea*).

A very beautiful species somewhat resembling *Cr. tricolor*, Fab., and *consors*, Boi., but the wide and continuous pallid elytral margins will readily distinguish it from either, it has also much coarser punctures than either. *Tricolor* (which is almost its exact size) has unicolorous elytra; *consors* (which is considerably larger but has the elytral margins partly pallid) has the prothorax maculate. In the present species the pallid margins are continuous and of almost equal width throughout, except that at the base and suture they are slightly narrower.



**LOXOPLEURUS PALLIDIPES, n. sp.**

♀. Of a rather dark metallic green ; under-surface black with a greenish gloss, appendages and mouth parts reddish-testaceous, apical joint of antennæ infusate.

*Head* densely punctate and strigose at base and sides of eyes, shining and feebly punctate elsewhere. *Antennæ* thin, scarcely passing hind coxæ, second joint half the length of third, third slightly shorter than fifth. *Prothorax* with sides densely and moderately coarsely punctate, elsewhere with rather small punctures ; oblique impressions distinct and rather deep ; margins extremely narrow. *Scutellum* triangular, base entire. *Elytra* oblong, subhumeral lobes rather large ; densely and coarsely punctate, punctures subgeminat in arrangement about middle, posteriorly becoming seriate with regularly convex interstices. *Under-surface* densely punctate. Apex of prosternum subtriangular. Fovea large slightly encroaching on fourth segment.

Length  $3\frac{1}{2}$  mm.

*Hab.* W. AUSTRALIA : Geraldton, Swan River (*A. M. Lea*).

In one of the two specimens before me the hind femora are blackish. The reflexed margins of the prothorax are so extremely narrow that it is only from certain directions that they can be seen.

In build and colour this species somewhat resembles the one I have doubtfully identified as *Lox. subvirens*, Chp., but is at once to be distinguished from it by its pallid legs.

**LOXOPLEURUS LUGUBRIS, n. sp.**

(Plate XXV, fig. 132.)

♂. Black, with or without a greenish gloss ; sides of prothorax narrowly obscure red, the red sometimes occupying a fairly large space at the posterior angles ; elytra dark metallic green (or blue) ; legs testaceous, tarsi and apex of tibiæ black or infusate ; antennæ blackish, a varying number of the basal joints more or less red.

*Head* densely but not very coarsely punctate, strigose at base and sides of eyes. *Antennæ* as long as body, second joint half the length of third, third slightly shorter than fifth. *Prothorax* scarcely twice as wide as long, rather strongly gibbous in front ; coarsely and very densely punctate ; oblique impressions rather deep ; margins very narrow. *Scutellum* triangular, base scarcely visibly notched. *Elytra* briefly oblong, subhumeral lobes very small ; densely and rather coarsely punctate throughout, but punctures rather sparser and with



feeble traces of a linear arrangement posteriorly. *Under-surface* densely punctate. Apex of prosternum subtriangular. Intermediate segments of abdomen strongly incurved to and narrow across middle.

Length  $2\frac{1}{4}$ – $2\frac{1}{2}$  mm.

*Hab.* N. S. WALES: Kiama (Macleay Museum), Sydney, Forest Reefs (*A. M. Lea*).

In one specimen the prothorax has only the extreme sides dull red, in others the red occupies a much greater space, and it usually covers a fairly large space at the posterior angles. Sometimes more, at others less than half of the tibiæ are infusate, in some specimens these are entirely pallid, occasionally the femora are stained with piceous.

Appears to be close to *Lox. gibbus*, Chp., but that species was described from a female, and the only females I have seen (see below) are much larger (I have seen no male even as small as 2 mm.) and the colour is usually very different. The colours of the legs, however, and especially of the femora, are liable to variation in both sexes. I certainly think this species is not *gibbus*, although, had the specimen described by Chapuis been a male, I should have had little doubt in so considering it. *Lox. obtusus*, Chp., which is allied to this species, has the prothorax entirely dark in the male.

Although there are numerous males of this species before me I am by no means certain that I know the female; I have, however, numerous females (also from Forest Reefs and Sydney) which I have always considered as belonging to the species. They differ in being larger ( $3$ – $3\frac{1}{2}$  mm.) and somewhat stouter, the prothorax of a rather dingy red (the apex usually clouded with black, but in some specimens the black considerably extended over the disc, and in one leaving only a rather narrow margin on each side red—much as in the males); the elytra are uniformly dark metallic green (except that, in one specimen only, the base has a purplish gloss); the antennæ are considerably shorter than the body, the third and fourth abdominal segments are very narrow across the middle and the fovea is fairly large.

These females are close to *Lox. piceitarsis*, Chp., but have coarser punctures, lower part of head always black and body decidedly shorter, apex of tibiæ as well as tarsi dark, and prothorax often partly dark, etc.



LOXOPLEURUS MIXTUS, n. sp.

(Plate XXIV, fig. 90.)

♂. Black with a coppery gloss; prothorax and muzzle red, tibiae and parts of the basal joints of antennæ obscure red.

*Head* densely coarsely and regularly punctate. *Antennæ* slightly shorter than the body, second joint half the length of third, third slightly shorter than fifth. *Prothorax* more than twice as wide as long; with rather large but somewhat irregularly distributed punctures; oblique impressions feeble; margins narrow. *Scutellum* triangular, base feebly notched. *Elytra* oblong, subhumeral lobes very small, densely but not coarsely punctate, punctures posteriorly becoming smaller and seriate in arrangement, about the middle subgeminate. Apex of *prosternum* obtusely produced.

Length 3 (vix) mm.

♀. Differs in being entirely pallid except at the junction of prothorax, elytra and scutellum, and for a dark greenish stain about the scutellum. It is much larger, antennæ thinner and shorter and the elytral punctures sparser and smaller. Abdomen with the fourth segment narrow across middle; fovea large and comparatively shallow.

Length  $3\frac{1}{2}$ –4 mm.

*Hab.* W. AUSTRALIA: King George's Sound (types in Macleay Museum), Karridale, Vasse, Swan River, Geraldton (*A. M. Lea*).

The two specimens described were mated as male and female by Mr. Masters, and were probably taken *in cop.* by him. The female has the abdomen no paler than the metasternum, but this may be due to its age, as in six specimens taken recently it is flavous. Two specimens before me have the middle of the sterna black, in one of these the scutellum is entirely black, in the other the base of the head is black with a greenish gloss; in another specimen the middle of the pro- and mesosternum are black, whilst the dark space about the scutellum is triangular and produced almost to the middle. The apical half of the antennæ in the female is usually dark. I have seen but one other male, and which agrees closely with the type.

In appearance the male (except that it is smaller and has shorter antennæ) resembles the male of *castor*, n. sp., *pollux*, n. sp., and to a less extent of *Lox. piceitarsis*, Chp. The female much resembles the following species and the female of *Id. subbrunnea*, Saund., and *Cr. serenus*, n. sp.



The female agrees very well with Chapuis' description of *Lox. æneolus*, but as he described the sexes of that species as similar in colour and size, and as in this species the male is very different to the female in size and has the elytra entirely dark, I cannot but think it a different species; more especially when the thousands of miles separating the locality of *æneolus* (Pine Mountain in Queensland) and the coastal districts of Western Australia are taken into consideration.

LOXOPLEURUS ACENTETUS, n. sp.

♂. Reddish-testaceous; base of head, scutellum, junction of prothorax and elytra, metasternum and eight terminal joints of antennæ black or blackish.

*Head* densely punctate and strigose, with a distinct median impression. Antennæ about as long as body, second joint half the length of third, third slightly shorter than fourth and distinctly shorter than fifth. *Prothorax* densely and coarsely punctate, punctures rather sparser on disc than elsewhere; oblique impressions large and continuous across base; margins narrow. *Scutellum* transverse, subtriangular base feebly notched. *Elytra* oblong, subhumeral lobes small, moderately densely and rather coarsely punctate, punctures becoming subseriate in arrangement posteriorly; with traces of feeble longitudinal elevations. Apex of *prosternum* obtusely rounded. Intermediate segments of abdomen strongly incurved to and very narrow across middle.

Length  $3\frac{1}{4}$  mm.

♀. Has the antennæ thinner and just passing hind coxæ; fourth abdominal segment not traceable across middle and fovea larger than usual.

Length 4 mm.

*Hab.* TASMANIA: Huon River (on young leaves of *Eucalyptus*, A. M. Lea).

In the female the colour is usually the same as in the male, but occasionally the base of the head and the fourth joint of antennæ are diluted with red, whilst the fourth joint is dark above.

In appearance rather close to *Id. subbrunea*, Saund., of which I only know the female, but the female larger, more coarsely punctate, elytra longer, antennæ stouter and darker and the tibiæ and tarsi considerably stouter. *Lox. verticalis*, Chp. (described from a female and without exact locality), is stated to have the scutellum semi-elliptic and



flavous and the elytral punctures infusate, whilst the whole of its under-surface is apparently flavous.

LOXOPLEURUS CASTOR, n. sp.

(Plate XXVI, fig. 198.)

♂. Black, with or without a slight bluish gloss; prothorax red; muzzle, second—fourth joints of antennæ and base of tibiæ of a more or less obscure red.

*Head* densely punctate and strigose, median impression fairly distinct. *Antennæ* distinctly shorter than the body, second joint half the length of third, third shorter than fifth. *Prothorax* moderately densely and coarsely punctate; disc with smaller and sparser punctures than elsewhere; oblique impressions deep but short; margins narrow. *Scutellum* triangular, base distinctly notched. *Elytra* oblong, subhumeral lobes small; densely and coarsely punctate, punctures posteriorly becoming subseriate in arrangement, with irregularly convex interstices. Apex of *prosternum* obtusely rounded.

Length  $3\frac{1}{2}$  mm.

♀. *Antennæ* just passing hind coxæ; abdomen with fourth segment just traceable across middle and slightly encroached upon by fovea.

Length  $4\frac{1}{2}$  mm.

*Hab.* S. AUSTRALIA; W. AUSTRALIA: Swan River (Macleay Museum).

In appearance, except that the apex of the elytra is not red, similar to the male of *Cr. jocosus*, Chp.

LOXOPLEURUS POLLUX, n. sp.

(Plate XXVI, fig. 199.)

♂. ♀. In appearance very close to the preceding except that the antennæ are thinner, those of the ♂ distinctly longer than the body, and in the ♀ extend fully to the apex of the second abdominal segment with the second joint less than half the length of third and third distinctly longer (instead of shorter) than fifth; the punctures of both head and elytra are denser, and the head is not distinctly strigose. Colours are as in the preceding except that the antennæ are entirely dark and the coxæ reddish.

Length ♂  $3\frac{1}{4}$ ; ♀  $4\frac{3}{4}$  mm.

*Hab.* TASMANIA: Karoola (*A. Simson*), Frankford, Huon River, Mt. Wellington (*A. M. Lea*); N. S. WALES: Mt. Victoria (*Lea*).



It may be considered that this species should have been treated as a variety of the preceding, but in addition to the differences in the antennæ, which alone would warrant its separation, the apex of the prosternum is very slightly but perceptibly bilobed, a feature which, if the artificial characters of *Loxopleurus* were strictly adhered to, would even remove the two species from generic association.

LOXOPLEURUS MITIFICUS, n. sp.

♂. Head, prothorax, legs (the tarsi and apex of tibiæ infuscate) and five basal joints of antennæ pale reddish-testaceous; elsewhere black.

*Head* with small and not very dense punctures. *Antennæ* slightly shorter than body, second joint more than half the length of third, third slightly shorter than fourth and distinctly shorter than fifth. *Prothorax* very smooth; with small and sparse punctures except at sides; oblique impressions rather wide and deep; margins moderately wide. *Scutellum* triangular, base entire. *Elytra* oblong, subhumeral lobes small; densely and moderately coarsely punctate, punctures becoming smaller and seriate in arrangement posteriorly. Apex of *prosternum* widely subtriangular. Abdomen with third and fourth segments strongly incurved to and very narrow across middle.

Length 3 mm.

♀. Differs in having the femora stained with piceous, antennæ shorter and thinner; and punctures, especially on apical half of elytra, smaller and sparser. Fourth abdominal segment not traceable across middle; fovea large.

Length  $3\frac{1}{2}$  mm.

*Hab.* N. S. WALES: Newcastle (types in Macleay Museum), Gosford (*A. M. Lea*).

The female with very pale head and prothorax and smooth prothorax and elytra will distinguish this from the two preceding species and from *Lox. conjugatus*, Chp., and *piceitarsis*, Chp. In the only male I have seen the base of the head is somewhat infuscate and the punctures are considerably larger; it is, however, much smaller than the males of the above-mentioned species.

LOXOPLEURUS DOLENS, n. sp.

♂. Black; lower half of face, corners of pronotum and apex and middle of prosternum flavous; legs blackish, in places obscure brown.



*Head* with sparse and moderately large punctures ; feebly strigose at base and sides of eyes. *Antennæ* somewhat shorter than body, second joint rather more than half the length of third, third and fifth subequal. *Prothorax* densely and coarsely punctate, punctures smaller and sparser on disc than elsewhere ; oblique impressions moderate ; margins very narrow. *Scutellum* triangular, base feebly notched. *Elytra* rather briefly oblong, subhumeral lobes not very small ; densely and coarsely punctate, punctures becoming subseriate in arrangement, with irregularly convex interstices posteriorly. *Pygidium* densely and rather coarsely punctate and with a fairly distinct median carina. Apex of *prosternum* widely subtriangular. Abdomen with the third and fourth segments strongly incurved to and just traceable across middle, fifth with a very distinct and fairly deep median impression.

Length  $2\frac{1}{4}$  mm.

♀. Differs in having the legs, except the coxæ, entirely black and only the anterior angles of the pronotum flavous ; the antennæ are shorter and thinner and the punctures sparser and smaller. Abdomen with fourth segment not traceable across middle ; fovea large, slightly encroaching on third segment.

Length  $2\frac{3}{4}$  mm.

*Hab.* W. AUSTRALIA : Swan River (*A. M. Lea*).

From the sides the apical impression of the abdomen in the male appears to be margined by small tubercles, a character which alone should distinguish it from the allied species. In the only female I have seen the fourth segment appears to be very slightly sinuous, but this may be accidental.

The female (except that it is not entirely dark above) is not unlike a small specimen of *Lox. atramentarius*, Chp., but the scutellum is smaller and the punctures are different. The male of *Lox. obtusus*, Chp., has coarser punctures, longer scutellum and the body with a bluish gloss.

#### LOXOPLEURUS MICROSCOPICUS, n. sp.

(Plate XXIV, fig. 91.)

♂. Black ; sides of prothorax and of elytra, muzzle, middle and front of prosternum, intercoxal process and apex of abdomen flavous ; legs testaceous, tarsi infusate ; four basal joints of antennæ testaceous, the rest infusate.

*Head* with large but rather sparse punctures. *Antennæ* shorter than the body, second joint more than half the length of third, third



slightly shorter than fifth. *Prothorax* densely and coarsely punctate; oblique impressions rather feeble; margins narrow. *Scutellum* subtriangular, base entire. *Elytra* with small subhumeral lobes; densely and coarsely punctate, punctures somewhat smaller and sparser but with scarcely a trace of linear arrangement posteriorly. Apex of *prosternum* widely subtriangular. Third and fourth segments of abdomen strongly incurved to and narrow across middle, fifth flattened in middle.

Length  $1\frac{1}{2}$  mm.

♀. Differs in having less of the sides flavous, the antennæ shorter and punctures rather smaller. Abdominal fovea very large, strongly encroaching on fourth segment (which, however, is traceable across middle) and very slightly on third.

Length 2 mm.

*Hab.* W. AUSTRALIA (types in Macleay Museum).

In the male the flavous portion of the upper-surface appears as a rather wide stripe extending from the front of the prothorax to the suture at apex of elytra; in the female this stripe is much narrower and darker, and on the elytra terminates just beyond the middle, although there is an obscure spot on each side of apex.

In appearance resembling the preceding species but considerably smaller, the pale lateral markings of much greater extent and with the abdomen different.

#### LOXOPLEURUS MARGINIPENNIS, n. sp.

(Plates XXIV, XXV, figs. 92, 133.)

♂. Black; lower half of head, sides of prothorax, subhumeral lobes, abdomen and legs reddish.

*Head* with rather large but not very dense punctures. Antennæ somewhat shorter than body, second joint more than half the length of third, third and fifth subequal. *Prothorax* more than twice as wide as long; with moderately dense, regular and fairly large (smaller on disc than elsewhere) punctures; oblique impressions rather wide and distinct; margins narrow. *Scutellum* triangular, base entire. *Elytra* with rather large subhumeral lobes, sides feebly but distinctly incurved to middle; densely and coarsely punctate, punctures somewhat smaller but not at all seriate in arrangement posteriorly. Apex of *prosternum* widely subtriangular. Fifth abdominal segment semicircularly excised in middle.

Length 2 mm.

♀. Differs in having the head and prothorax (except at the extreme



base of each), the sides of elytra to beyond the middle and the whole of the under-surface red.

Length  $2\frac{3}{4}$  mm.

*Hab.* N. S. WALES: Mosman's Bay (*W. W. Froggatt*), Sydney (*A. M. Lea*).

A very distinct species not very close to any other known to me, and with the sexes differently coloured. The male in colour somewhat resembles some of the varieties of *lugubris*, n. sp., but is narrower in shape and with different sculpture. The dark elytra with pallid subhumeral lobes will distinguish the female from the females of other species having the prothorax red. In the male the red portion of the prothorax is about twice as wide at base as at apex. In both sexes the carina on the subhumeral lobes is paler than elsewhere and the antennæ are entirely black.

LOXOPLEURUS CASTIGATUS, n. sp.

(Plate XXIV, figs. 93, 94.)

♂. Basal half of head, the antennæ and the scutellum black; elytra black with two flavous stripes, the outer one continued across apex almost to suture, the inner terminated at one-fourth from apex; prothorax (except at extreme base), under-surface (the metasternum infusate or not) and legs (tarsi and apex of tibiæ black) red.

*Head* with moderately small and not very dense punctures. Antennæ shorter than body, second joint more than half the length of third, third and fifth subequal. *Prothorax* very densely and moderately coarsely punctate; transverse impressions distinct but scarcely perceptibly oblique; margins not very narrow. *Scutellum* transversely triangular, base entire. *Elytra* rather elongate-oblong, sides almost perfectly parallel, subhumeral lobes small; densely and moderately coarsely punctate, with traces of a linear arrangement almost to base but nowhere distinct; with traces of feeble longitudinal elevations. Apex of *prosternum* widely rounded. Fourth segment of abdomen just traceable across middle.

Length 2 (vix) mm.

♀. Differs in having the head red except at extreme base and a greater portion of the elytra flavous; the punctures smaller (especially on head) and antennæ just passing hind coxæ; fourth segment of abdomen appearing as an elongate wedge on each side, fovea comparatively small.

Length  $2\frac{3}{4}$  mm.

*Hab.* N. S. WALES: Sydney (types in Macleay Museum).



A prettily-marked little species. The prothoracic margins and abdomen are paler than the disc of the prothorax, and are probably flavous in fresh specimens. In the female the elytra might be described as flavous with an oblong black patch, terminated (except for a narrow sutural extension) at apical fourth, the shoulders black, and a black elongate spot near apex, these evidently being relics of the black stripe separating the two flavous ones of the male.

LOXOPLEURUS INCONSTANS, n. sp.

(Plate XXIV, figs. 95, 96, 97.)

♀. Black; lower half of head, prothorax (a median stripe not continuous to base and the extreme base black), four (or two) elytral spots, base of femora (the front femora entirely) and of tibiæ red; margins of subhumeral lobes, intercoxal process, sides and apex of abdomen flavous.

*Head* with rather sparse and small punctures. *Antennæ* not much shorter than the body, second joint about half the length of third, third distinctly shorter than fifth. *Prothorax* with rather large, comparatively sparse and irregularly distributed punctures; oblique impressions rather deep and continuous across middle; margins narrow. *Scutellum* triangular, base entire. *Elytra* slightly dilated posteriorly; subhumeral lobes moderately large; base with moderately large and fairly dense punctures, apical two-thirds with small punctures in almost regular series. Apex of *prosternum* widely subtriangular. Fovea rather shallow, slightly encroaching on fourth segment and which is just traceable across middle.

Length  $3\frac{1}{2}$  mm.

*Hab.* S. AUSTRALIA (Macleay Museum).

A somewhat variable species of which I only know the female. In one specimen there are two rather small red spots on each elytron, the first (on the third and fourth interstices) about one-third from base, the second (on second—fourth interstices) about one-third from apex; on the other specimen the basal spot is absent, and the apical one is very small and confined to the second interstice. The base of the tibiæ in both specimens is very obscure and the second—fourth joints of antennæ are very obscurely diluted with red.

There are two other females before me (from Tamworth and Hunter River in N. S. Wales) which with doubt I refer to this species; they differ in having the under-surface



and legs (except that the tarsi are infusate) entirely pale, the pale elytral margin continuous almost to apex, and the discal spots appearing as interrupted longitudinal vittæ; in the Hunter River specimen the punctures are also larger although of the same kind.

*LOXOPLEURUS VIRGATUS*, n. sp.

(Plate XXIV, fig. 98.)

♀. Flavous, prothorax darker; basal half of head, extreme base of prothorax, scutellum, base suture and sides of elytra, metasternum and seven terminal joints of antennæ black; basal joint infusate.

*Head* densely and rather coarsely punctate and feebly strigose. Antennæ thin, passing hind coxæ for a short distance, second joint rather more than half the length of third, third and fifth subequal. *Prothorax* about thrice as wide as long; densely and coarsely punctate, punctures smaller (but not sparser) on disc than elsewhere; oblique impressions fairly deep; margins narrow. *Scutellum* triangular, indistinctly notched. *Elytra* oblong, subhumeral lobes rather large; densely and coarsely punctate, punctures becoming subseriate in arrangement and somewhat smaller posteriorly, with traces of feeble longitudinal elevations. Apex of *prosternum* widely rounded. Fourth abdominal segment traceable across middle only from behind; fovea rather shallow.

Length  $2\frac{1}{2}$  mm.

*Hab.* N. S. WALES: Rylestone (*W. W. Froggatt*), Forest Reefs (*A. M. Lea*).

The elytra might have been described as "black, with two rather wide and irregular flavous vittæ continuous to apex but not to base."

In appearance somewhat resembling the preceding species, but, apart from colour differences, with the head strigose and much more coarsely and densely punctate. It appears also to be close to *Lox. pectoralis*, Chp., but that species is described as having the prothorax fulvous in middle, elytra with the lateral vitta terminated before the apex and the interstices punctate.

*LOXOPLEURUS FUSCITARSIS*, n. sp.

(Plates XXIV, XXVI, figs. 99, 200.)

♂. Black, lower half of head, prothorax (extreme base excepted), legs (tarsi and apex of tibiæ infusate) and parts or the whole of



the four basal joints of antennæ red ; elytra (base, suture, and sides black) flavous.

*Head* densely but not coarsely punctate, base strigose. *Antennæ* thin, slightly longer than body, second joint more than half the length of third, third distinctly shorter than fourth and much shorter than fifth. *Prothorax* scarcely twice as wide as long ; moderately densely and rather coarsely punctate ; front gibbous ; oblique impressions fairly deep ; margins narrow. *Scutellum* triangular, base entire. *Elytra* briefly oblong, subhumeral lobes large ; densely but not very coarsely punctate, punctures almost regular in arrangement throughout but seriate only close to apex. Apex of *prosternum* widely rounded. Third and fourth segments of abdomen strongly incurved to and narrow across middle.

Length  $3\frac{1}{2}$  mm.

♀. Stouter, antennæ distinctly shorter than body and punctures rather smaller. Fovea moderately large, distinctly encroaching upon fourth segment, which is not traceable across exact middle.

Length  $4\frac{1}{3}$  mm.

*Hab.* W. AUSTRALIA : (Macleay Museum) Swan River, Pinjarrah (*A. M. Lea*).

The dark sutural marking is dilated from about the middle to the apical fourth and then suddenly contracted. The colour (there are seven specimens before me), except for slight variation in the widths of the elytral markings, appears to be constant and is alike in both sexes.

In appearance somewhat resembling the preceding species but larger, the scutellum of different shape and the third and fifth joints of antennæ differently proportioned.

### LOXOPLEURUS CONTIGUUS, n. sp.

(Plate XXV, figs. 134, 135.)

♂. Black with a metallic-green gloss ; mandibles (tips excepted), sides of prothorax (at base the reddish portion advanced more than half-way to the middle), legs (tarsi infusate) and apex of abdomen reddish ; elytra (except at base sides and suture which are black) almost flavous.

*Head* very densely punctate and strigose. *Antennæ* as long as body, second joint half the length of third, third distinctly shorter than fifth. *Prothorax* densely and coarsely punctate ; oblique impressions feeble ; margins rather narrow. *Scutellum* triangular, base distinctly notched. *Elytra* rather briefly oblong, subhumeral lobes small ; punctures as in the preceding species. Apex of *prosternum*



very wide and feebly triangularly produced in middle. Fourth segment of abdomen strongly incurved to and very narrow across middle.

Length 3 mm.

*Hab.* W. AUSTRALIA: Swan River, Darling Ranges (*A. M. Lea*).

The sutural marking appears as an elongate triangle just touching the apex, the dark lateral markings do not extend quite so far. A second specimen differs in having the apical third of head, the apex base and sides of prothorax and the entire abdomen reddish; its elytral markings consist of a triangular patch (no longer than wide) about scutellum and the shoulders greenish-black, and an infusate blotch on the sides about the middle.

In appearance resembling the preceding species to a certain extent but antennæ shorter, scutellum distinctly notched, prothorax partly dark and elytral markings of different shape. From *virgatus*, n. sp., to which it appears to be closer, it differs in its more distinctly notched scutellum, partly dark prothorax, rather denser punctures and smaller subhumeral lobes.

LOXOPLEURUS ABSONUS, n. sp.

(Plates XXIV, XXVI, figs. 100, 101, 201.)

♂. Suboblong, subopaque. Chocolate-brown, pygidium, apex of abdomen, base of antennæ and legs (tarsi excepted or not) paler.

*Head* with small but moderately dense punctures. Antennæ thin, the length of body, second joint almost as long as third, third and fourth subequal and distinctly shorter than fifth. *Prothorax* not twice as wide as long; with dense and clearly cut but small punctures; regularly and rather strongly convex; oblique impressions absent; margins narrow. *Scutellum* fully twice as long as wide, base entire and not much wider than apex. *Elytra* briefly oblong, subhumeral lobes small; densely and rather finely punctate, punctures becoming smaller and seriate in arrangement posteriorly. Apex of *prosternum* widely rounded. Abdomen with the second segment very narrow and the third and fourth just traceable across middle.

Length  $2\frac{1}{2}$  mm.

♀. Differs in being entirely of a dingy flavous or testaceous—except at the junction of the prothorax with the elytra and scutellum, the metasternum, a subapical elytral fascia and the outer half of



antennæ. It is stouter, antennæ shorter than body and punctures (except on elytra where they are larger) smaller. Abdominal segments with straighter sutures, the fourth feebly encroached upon by fovea, the latter shallower than usual.

Length 3 mm.

*Hab.* N. S. WALES: Kiama, Manly, Sydney (Macleay Museum), Galston (*A. M. Lea*).

A very distinct species from many points of view. The narrow scutellum is suggestive of *Diandichus*, but the shape of the body is different and the abdominal fovea is under instead of above the usual size.

In three males before me the elytra are immaculate, but in two others there is a small pallid spot on each close to the suture about the middle, and in one of these the outer portions of the subhumeral lobes are pallid; this specimen also has the base and sides of the prothorax paler than the disc and its head is pallid. On the type female the elytral fascia is very distinct and is of a bright chocolate-brown colour, with a vague stain extending towards the apex; in two other females the fascia is traceable with difficulty. In addition to the punctures described the whole of the upper surface is very densely and minutely punctate, in consequence of which it becomes subopaque; but on the elytra of the female these punctures are usually very indistinct.

#### LOXOPLEURUS IMMATURUS, n. sp.

♀. Subopaque. Flavous; head, antennæ (basal joint diluted with red), junction of prothorax and elytra, scutellum and metasternum black; shoulders and suture of elytra, base of first abdominal segment and the tarsi infuscate.

*Head* densely and finely and very densely and extremely minutely punctate; without traces of a median impression. *Antennæ* just passing hind coxæ, second joint more than half the length of third, third shorter than fifth. *Prothorax* densely but not very coarsely punctate; oblique impressions indistinct, margins narrow. *Scutellum* subtriangular, base entire. *Elytra* slightly dilated posteriorly, subhumeral lobes small; densely but not coarsely punctate, with traces of feeble longitudinal elevations, which posteriorly cause the punctures to appear in feeble series. Apex of *prosternum* not very widely triangular. Fovea decidedly encroaching upon fourth segment (which except from behind is not traceable across middle) and slightly on third.

Length 3 mm.



*Hab.* W. AUSTRALIA: Swan River, Pinjarrah (*A. M. Lea*).

A pallid subopaque species not very close to any other known to me. The tarsi are sometimes almost black, the basal joints, however, are usually not so dark as the apical. In one specimen the hind femora are infusate. The elytra, abdomen, pygidium and sides of prothorax are usually paler than elsewhere.

*LOXOPLEURUS DISCONIGER*, n. sp.

(Plates XXIV, XXV, figs. 102, 152, 174.)

♂. Short, moderately shining. Black; sides and base of prothorax widely reddish; legs black or piceous, the coxæ paler.

*Head* densely and finely and very densely and extremely minutely punctate. *Antennæ* slightly shorter than body, second joint distinctly more than half the length of third, third very little longer than fourth and distinctly shorter than fifth. *Prothorax* densely and moderately coarsely punctate; disc rather strongly gibbous; oblique impressions very short; margins narrow. *Scutellum* elongate-triangular, base notched. *Elytra* almost quadrate, subhumeral lobes moderately large; densely and moderately coarsely punctate throughout, but punctures posteriorly becoming somewhat smaller and subseriate in arrangement with irregularly elevated interstices. Apex of *prosternum* very wide, triangularly prolonged in middle. Third and fourth abdominal segments strongly incurved to with the fourth just traceable across middle.

Length 2 mm.

♀. Differs in having a wide pallid fascia just before the middle of the elytra and interrupted at suture, and a large apical spot on each quite close to the suture. *Antennæ* shorter and thinner and punctures smaller. Fovea large, decidedly encroaching upon fourth segment and which, as in the male, is just traceable across the middle.

Length  $2\frac{1}{2}$  mm.

*Hab.* N. S. WALES: Sydney (*H. J. Carter* and *A. M. Lea*); S. AUSTRALIA (Macleay Museum).

A small widely distributed and very aberrant species with the sexes greatly differing in size and markings, and the markings of both sexes variable to a certain extent. The dark part of the prothorax appears sometimes almost as a semicircle (the convex side hindward), sometimes as transversely suboblong; in both sexes it extends to the extreme apex and is connected with the



base by an infusate streak (sometimes very dark, at others just perceptible). The median elytral fascia in some specimens is scarcely interrupted at the suture and its shape and size are slightly variable, the subapical spots are also variable in size. In the female the dark portions instead of being deep black are occasionally dark chocolate-brown.

A male from W. Australia (in the Macleay Museum) has elytral markings much as in the female, except that the median fascia is more obscure and the apical spots considerably larger, its legs (tarsi excepted) and the apical half of abdomen are also obscure testaceous.

### BRACHYCAULUS POSTICALIS, n. sp.

♂. Oblong, tuberculate, pubescent, opaque. Testaceous (the appendages slightly paler than the body); the tips of mandibles and of claws and the junction of prothorax with scutellum and elytra darker. Rather densely clothed with short golden pubescence, somewhat sparser on elytra and abdomen than elsewhere.

Upper-surface densely and finely punctate, the punctures on elytra larger than elsewhere. *Head* with a feeble median impressed line. *Antennæ* slightly longer than the body, the third joint but slightly longer than second. *Prothorax* fully twice as wide as long, disc gibbous and with two obtuse protuberances, sides serrated, base and apex obtusely produced in middle. *Scutellum* subtriangular, base notched, apex truncate; elevated and subcarinate along middle. *Elytra* suboblong, the interstices alternately irregularly subtuberculate, the third with a rather large tubercle at summit of posterior declivity. *Claw joint* long and free.

Length  $2\frac{3}{4}$  mm.

♀. Differs in being larger, with antennæ (the joints of which are shorter in proportion) shorter than the body. The apical fovea is large and without lateral connections.

Length  $3\frac{3}{4}$  mm.

*Hab.* N. S. WALES: Glen Innes, Gosford (*A. M. Lea*).

The elytra are very irregularly elevated in places, but there is always a large tubercle on each at the summit of the posterior declivity; in the males the hollows (on the elytra) are sometimes supplied with dark velvety spots. In one male the sternal regions are almost black.

From *Klugii*, Saund., and all the varieties of *ferrugineus*, Fairm., it differs in its much smaller size and very different antennæ, claws, tubercles and clothing; it is of almost the



same comparative width as *Klugii*. In some respects it approaches the description of *Cadmus lacertinus*, Chp. (which is probably a *Brachycaulus*), but Chapuis describes the head of that species as flavo-pilose and makes no mention of clothing elsewhere, he also says, "*Capite medio foveolato. Pronoto tuberculis inæqualibus nitidisasperato.*"

BRACHYCAULUS MAMILLATUS, n. sp.

♀. Oblong, opaque, glabrous. Of a rather dark sanguineous red, elytra abdomen and legs somewhat paler, antennæ and tarsi still paler; margins of prothorax, scutellum (base and apex narrowly black) and base of elytra flavous.

Body and legs densely, rather coarsely and regularly punctate throughout. *Antennæ* short, just passing scutellum, seventh—tenth joints transverse. *Prothorax* about twice as wide as long, sides and base finely serrate; disc with two large, obtuse, rounded, granulate tubercles. *Scutellum* slightly longer than the width at base, base scarcely visibly notched, sides incurved, apex truncate and about half the width of base. *Elytra* with feebly elevated alternate interstices, and each with a large transverse granulate tubercle at summit of posterior declivity. *Apical forea* large, encroaching on the fourth segment, and with shallow lateral extensions. *Claw joint* wide and deeply buried, the claws almost resting on the third joint.

Length 5 mm.

*Hab.* QUEENSLAND: Tambourine (type in *R. Illidge's* collection).

A beautiful species very distinct from any previously described. The colour of the prothorax and sterna is somewhat like dried blood; the flavous marking at base of elytra shows a tendency to extend itself along the interstices, there is also a feeble flavous line connecting the apical tubercles. The punctures are not of the ordinary round clearly-cut type, but each appears as if margined by minute granules, they are just as dense at the apex as at the base of the elytra, and are nowhere seriate in arrangement.

BRACHYCAULUS ATERRIMUS, n. sp.

(Plate XXV, figs. 175, 177, 179.)

♀. Suboblong, roughly sculptured, subopaque, glabrous. Entirely deep-black.



*Head* flattened; with dense, large, round, shallow punctures, on the middle of the vertex sparser, and (although not larger) more distinct. *Antennæ* very short, scarcely longer than the width of the head. *Prothorax* much less than twice as wide as long, disc strongly gibbous and with a rather narrow ridge on each side of the middle, at the sides of these a feeble ridge, between these and sides a small obtuse tubercle; sides serrate; irregularly punctate but with large and almost regular punctures margining the base apex and sides; base strongly produced backwards; anterior angles strongly rounded and much below the level of base. *Scutellum* strongly transverse, flat, level with suture, apex much wider than base, sides incurved to base. *Elytra* suboblong, strongly convex, shoulders strongly produced, subhumeral lobes deep, suture finely serrate; disc very irregularly elevated and with large foveate punctures much interrupted by the elevations. *Pygidium* with large punctures irregularly distributed and with a continuous distinct, narrow median carina. *Under-surface* and *legs* with punctures much as on head. Intercostal process of prosternum funnel-shaped, the top of the funnel acting as a chin-piece; process of mesosternum deeply notched in front. Abdomen large, the first segment large at sides small in middle, second, third and fourth narrow and semi-circular, fifth large, with a wide and rather shallow fovea having wide lateral extensions. Tarsi very short and wide, the claws almost resting on the third joint.

Length 4 mm.

*Hab.* QUEENSLAND: Cleveland Bay (type in Macleay Museum).

The elytra are very roughly sculptured, seen from above the sides appear to be incurved, there is a large granulate tubercle on each in the middle of the base, each also has a narrow very irregular strongly elevated ridge (with numerous offshoots) running obliquely from the shoulder to beyond the middle, whence it curves outwards. Owing to its extensions the apical fovea at first glance appears as if widely transverse. In the type only one antenna is perfect and at present is resting in a prosternal groove (much as in many *Elateridæ*), and as the specimen is not my own I have not cared to risk breaking it to examine and figure the joints. The prothorax produced at the middle of the base with the strongly elevated disc are reminiscent of certain plant bugs of the family *Membracidæ*. The shape of the scutellum and many other unusual features combine to render this the most distinct Australian



species of the subfamily; and I have no doubt but that in the hands of some others it would have been considered as the type of a new genus.

CADMUS T-NIGER, n. sp.

♀. Elongate-oblong, moderately shining. Reddish-testaceous, basal half of head and two oblique lines in front, extreme base of prothorax, scutellum (except in middle), base and suture of elytra, pygidium, greater portion of under-surface and femora (except at base and apex), black—with or without a greenish gloss; tarsi, apex of tibiæ and antennæ (except the second—fifth joints) more or less infusate, margins of prothorax pallid. Pygidium and under-surface with silvery pubescence.

*Head* densely and coarsely punctate, punctures frequently longitudinally confluent. *Antennæ* long, thin, and passing apex of body, second joint less than one-third the length of third, third distinctly longer than fifth, sixth—tenth gradually decreasing in length. *Prothorax* not twice as wide as long; coarsely punctate, the punctures rougher at sides than on disc; margins rather wide, incurved at middle, oblique impressions fairly deep but indistinct. *Scutellum* subtriangular, apex truncate, base rather deeply notched; impunctate. *Elytra* oblong, narrowest near base, shoulders thickened and smooth, subhumeral lobes rather small; densely and coarsely punctate, punctures seriate in arrangement, with convex interstices posteriorly; basal half transversely rugose. *Pygidium* densely and rather finely punctate. *Under-surface* rather densely transversely strigose. *Prosternum* obtusely rounded at hind apex, and feebly ridged along middle. Fourth segment of abdomen continuous but encroached upon by fovea, this large deep and rather more densely clothed than usual, and with scarcely traceable lateral extensions.

Length  $7\frac{1}{2}$ –9 mm.

*Hab.* N. S. WALES: Mt. Kosciusko (*W. E. Raymond* and *R. Helms*).

The dark part of the elytra resembles the letter T, from the base the dark marking is continued on to the humeral callosities, in one specimen stopping there, in a second continued (except for a break in its middle) to beyond the middle (but not touching the sides).

A rather small female specimen, which I can only regard as a variety, differs in having the punctures much coarser, with the antennæ stouter and shorter than the body. Its head (except for an obscure space behind each eye), the sides and apex of prothorax, the scutellum, the outer



margins of elytra to beyond the middle, and the under-surface are black; whilst the legs (except for the two terminal joints which are almost black) are entirely reddish; the five basal joints of the antennæ are also pale.

CADMUS CALOMELOIDES, n. sp.

♂. Oblong, moderately shining. Of a rather dingy (but the under-surface clear) flavous; extreme base of prothorax, elytra and scutellum reddish-brown, punctures more or less stained with brown.

*Head* densely and rather coarsely punctate, vertex feebly impressed. Antennæ passing apex of body, second joint less than half the length of third. *Prothorax* not twice as wide as long; rather densely and coarsely punctate; sides almost regularly decreasing in width from base to apex; margins rather narrow and entire; oblique impressions feeble. *Scutellum* feebly transverse, apex truncate, sides incurved, base deeply notched; impunctate. *Elytra* with feeble subhumeral lobes; densely and coarsely punctate, punctures subseriate in arrangement posteriorly. *Pygidium* distinctly carinate; densely and moderately coarsely punctate. *Prosternum* flattened along middle, feebly emarginate, hinder apex obtusely rounded. Fifth segment of abdomen large, apex bilobed.

Length 4 mm.

♀. Differs in being larger, with antennæ at most just passing apex of body, the punctures smaller, not so deeply stained, and on the elytra decidedly geminate in arrangement. Fourth segment of abdomen just traceable across middle, apical fovea large, with distinct lateral extensions.

Length 6 mm.

*Hab.* VICTORIA (National Museum); S. AUSTRALIA; N. S. WALES: Gunning (Macleay Museum).

In general appearance much resembling the genus *Calomela*. The stains in the ♀ do not extend beyond the punctures, but in the ♂ they frequently do so, especially on the elytra.

This species agrees to a certain extent with the description of *Rhombosternus cicatricosus*, Chp.; but Chapuis says of that species, "*Elytris foveolatis . . . inæqualibus, rotundatis vel subquadratis*;" whilst in this species the punctures, though coarse, are by no means of unusual size, and are in many places geminate in arrangement.



CADMUS QUADRIFASCIATUS, n. sp.

(Plates XXIV, XXV, figs. 103, 104, 153.)

♂. Elongate-oblong, subopaque. Black; apex and sides of prothorax (except the extreme margins), four incomplete elytral fasciæ, front sides of prosternum, apex and intercoxal process of abdomen, and basal half of tibiæ flavous; second—fifth joints of antennæ reddish.

Upper-surface (including scutellum) densely and coarsely punctate, the punctures more or less angular. *Head* feebly longitudinally impressed; eyes larger and closer together than usual. Antennæ considerably longer than the body, second joint less than one-third the length of third, fifth distinctly longer than sixth. *Prothorax* about once and one-half as wide as long; oblique impressions feeble; margins rather narrow and crenulate. *Scutellum* suboblong, base indistinctly notched, apex truncate, ridged along middle. *Elytra* oblong, subhumeral lobes small, interstices acutely elevated, the alternate ones irregular across middle. Intercoxal process of *prosternum* wide, front thin and entire, hind apex very obtusely rounded.

Length  $4\frac{3}{4}$  mm.

*Hab.* N. S. WALES: Jenolan (*J. C. Wiburd*).

The elytral fasciæ should perhaps be regarded as transverse spots, they are almost equidistant from each other, the three first distant about two interstices from the suture, the fourth on the apex itself and just perceptibly interrupted at suture and terminated almost on the margin; the second extends over the greatest, whilst the first extends over the shortest space; the outlines of all are very irregular although sharply defined.

In appearance somewhat resembling *Cadmus luctuosus*, Chp., but (apart from colour markings) of smaller size, elytra much more acutely costate, the prothoracic punctures rougher and the abdominal segments much less curved. It is also evidently allied to *Paracadmus maculatus*, Blackb., but besides the numerous differences in colour, some of the elytral carinæ are distinct from base to apex, whilst in *maculatus* the elytra are described as "*postice subcostatis*."

There are two female specimens before me (both from Victoria) which with some doubt I refer to this species; they differ in having the prothorax pallid except for a wide transverse marking (much as in many of the varieties of *crucicollis*), the elytral fasciæ wider and larger, with the



two basal ones conjoined, and (in one of the specimens) appearing as an irregular figure 2 on each elytron, that on the left being reversed. The fourth abdominal segment is emarginate in middle and the apical fovea large, without lateral extensions.

CADMUS FASCIATICOLLIS, n. sp.

(Plate XXV, figs. 154, 155.)

♀. Oblong-obovate, moderately shining. Reddish-testaceous; base of head, a narrow transverse fascia on prothorax (angularly dilated both ways in middle), extreme base of prothorax and elytra, the suture very narrowly, scutellum and under-surface (except prosternum—there is, however, a small black spot on each side in front and an obscure dark space between the base of the front coxæ, and apex of abdomen), black with a greenish gloss; sides of prothorax paler than elsewhere.

*Head* densely and coarsely punctate; with a moderately deep median impression. *Antennæ* just passing hind coxæ, second joint about half the length of third. *Prothorax* fully twice as wide as long; densely and rather coarsely punctate, oblique impressions rather feeble; margins entire and moderately wide. *Scutellum* subquadrate, base distinctly notched; with a few small punctures. *Elytra* with small subhumeral lobes; densely and rather coarsely punctate, punctures becoming smaller and seriate in arrangement with convex interstices posteriorly; base transversely rugulose. Apex of *prosternum* very obtusely produced in middle. Fourth segment of abdomen just traceable (not at all from above) across middle; apical fovea without lateral extensions.

Length  $6\frac{1}{2}$  mm.

*Hab.* TASMANIA: Summit of Mt. Wellington (*A. M. Lea*).

A very distinct species. The prothoracic fascia is like that of some of the varieties of *crucicollis*, but the two species have little else in common.

A second female (from Waratah in Mr. Aug. Simson's collection) differs in having the fascia much larger, with the hind projection from its middle touching the base; the elytra with a greater portion of the base dark, the dark part advanced along the suture and near (but not on) the sides to about the middle, but, especially posteriorly, somewhat of the nature of a stain, the metasternum is also black. In this specimen also the scutellum is impunctate.



CADMUS APICIRUFUS, n. sp.

(Plate XXIV, fig. 105.)

♂. Oblong, shining. Head (base blackish), prothorax (the sides paler), an inner spot at the apex of each elytron and the coxæ reddish; middle of pro- and meso- and flanks of metasternum, abdomen (the second—fifth segments infusate in middle), pygidium (a small infusate spot on each side) and subhumeral lobes pale flavous; elsewhere black or blackish.

*Head* densely and coarsely punctate. *Antennæ* rather stout, not extending to apex, second joint slightly shorter than third or fourth, sixth distinctly longer than first, seventh—tenth gradually decreasing in length. *Prothorax* about once and one-half as wide as long; disc gibbous; margins entire and rather narrow; densely punctate, the punctures rather coarse at sides; oblique impressions feeble. *Scutellum* subquadrate, base indistinctly notched and feebly punctate. *Elytra* suboblong, widest across shoulders (which are thickened and impunctate), subhumeral lobes large; densely and coarsely punctate, the punctures almost as dense and large at apex as at base. *Pygidium* densely and rather coarsely punctate. *Under-surface* irregularly punctate, the punctures larger and sparser on metasternum and intercoxal process of prosternum than elsewhere, the latter in front produced backwards like a lip, the hind apex very obtusely rounded. Apex of abdominal segments (except the first) semicircular, the fifth encroached upon by the pygidium.

Length  $3\frac{3}{4}$  mm.

♀. Differs in being larger, with shorter antennæ, and of which the first joint is distinctly the longest; eyes smaller and more distant, its head (except for the antennæ, which are deep black in both sexes) is entirely red, the scutellum is red, the abdomen with more of the middle infusate and the two small spots on the pygidium scarcely traceable. Fourth segment of abdomen just traceable across middle, apical fovea with feeble lateral extensions.

Length 4 mm.

*Hab.* S. AUSTRALIA (types in Macleay Museum).

A remarkably distinct species apart from its peculiar coloration. There is a striking departure in the shape of the intercoxal process of the prosternum in that the front portion is strongly raised and projects backwards so as to overhang like a lip; a character that by some entomologists would probably be regarded as of generic importance.



## CADMUS PERLATUS, n. sp.

♀. Short, subelliptic, rough, feebly shining. Obscure testaceous or testaceous-brown; middle of sterna and of basal segment of abdomen blackish.

Upper-surface (including scutellum), densely and moderately coarsely punctate, punctures coarser on prothorax and smaller at apex of elytra than elsewhere. *Head* feebly longitudinally impressed. *Antennæ* extending to second abdominal segment, second joint more than half the length of third, fourth scarcely if at all shorter than fifth. *Prothorax* about thrice as wide as long, surface uneven; margins narrow and entire; oblique impressions very indistinct. *Scutellum* transverse, apex less than half the width of base, obtusely ridged along middle. *Elytra* short, subhumeral lobes feeble, sides rounded and regularly diminishing from base to apex, surface uneven and with traces of feeble longitudinal elevations. *Pygidium* almost or quite covered by elytra. Apex of *prosternum* obtusely rounded. Fourth segment of abdomen semi-circularly emarginate and not traceable across middle; apical fovea unusually large, without lateral extensions.

Length 4 mm.

*Hab.* N. S. WALES: Sydney (*H. J. Carter* and Macleay Museum).

An unusually wide species with the outline more rounded than usual; the upper-surface has a mottled appearance, principally owing to the punctures being darker than the general surface.

A larger specimen ( $5\frac{1}{4}$  mm. and also from Sydney) has the upper-surface not at all mottled, but the under-surface more irregularly stained with brown and the femora also stained. At a glance it appears to be distinct, but I can find no structural characters warranting its separation.

## CADMUS NOTHUS, n. sp.

♂. Oblong-elliptic, subopaque. Testaceous-red, a narrow streak on face terminated between front of eyes, a longitudinal curved spot towards each side of prothorax and nearer base than apex and extreme base of prothorax, elytra and scutellum black, terminal joint of antennæ and portion of flanks of metasternum infusate; elytra (but the punctures the colour of prothorax), sides of prothorax, pygidium, abdomen and portions of sterna flavous.

Head, prothorax and scutellum rather coarsely and very densely punctate, the elytra with larger punctures, but round and clearly



defined, and with irregular traces (even towards the base) of a linear arrangement. *Head* with a feeble median impression. *Antennæ* passing apex of body, moderately stout, second joint about one-third the length of third. *Prothorax* about twice as wide as long, oblique impressions very feeble, margins rather wide and feebly crenulated. *Scutellum* ridged along middle, apex truncate and not much narrower than base, sides incurved. *Elytra* narrowest just beyond shoulders, subhumeral lobes feeble. Intercostal process of *prosternum* bilobed, both in front and behind. Three basal segments of abdomen straight at apex, fifth feebly depressed in middle.

Length  $5\frac{1}{2}$  mm.

♀. Differs in being larger, the eyes smaller and more widely separated; the antennæ thinner and shorter than the body and the elytra with smaller punctures, having even less traces of a linear arrangement. The antennæ are of uniform colour and no parts (except the junction of the prothorax with the scutellum and the elytra) are black. Fourth segment of abdomen distinct across middle and very feebly encroached upon by the fovea, the latter with feeble lateral extensions.

Length  $7\frac{1}{2}$  mm.

*Hab.* W. AUSTRALIA: Karridale (*A. M. Lea*).

The elytra have a mottled appearance owing to the punctures being darker than the general surface, the darker portions also appear to be in feeble lines. Although the hind apex of the prosternum is bilobed I have referred this species to *Cadmus*, as it is evidently closely allied to *Cadmus scutatus*, Chp. (in which the apex is rounded). At first sight indeed it appears to belong to *scutatus*, but the two species are readily distinguished by the shape and punctures of the scutellum.

Above are described seven species of *Cadmus*, and it will be noticed that the prosternum is not exactly the same in any two of them, although in all (except the last) it is more or less rounded at the hind apex. In fact *apicirufus* and *perlatus* are about as dissimilar species as almost any other two (leaving out the tuberculate species) in the subfamily. To found genera principally on variations of the prosternum (as done by Suffrian and Chapuis), or of the antennæ (as by Saunders and Baly), or whether the prothorax has entire or crenulated margins, would necessitate almost as many genera as there are species; at least so far as the Australian species are concerned.



## EXPLANATION OF PLATES.

## PLATE XXII.

Elytron of—

FIG.

- |     |   |  |
|-----|---|--|
| 1.  | } | <i>Cadmus litigiosus</i> , Boh.          |
| 2.  |   |  |
| 3.  | „ | <i>excrementarius</i> , Suffr.           |
| 4.  | „ | <i>histrionicus</i> , Chp.               |
| 5.  | } | „ <i>luctuosus</i> , Chp.                |
| 6.  |   |  |
| 7.  |   |  |
| 8.  | „ | <i>ornatus</i> , Chp.                    |
| 9.  | „ | „ „ var.                                 |
| 10. | „ | <i>quadrivittatus</i> , Chp.             |
| 11. | „ | <i>trispilus</i> , Chp.                  |
| 12. | } | „ <i>pauperculus</i> , Chp.              |
| 13. |   |  |
| 14. |   |  |
| 15. | } | <i>Cryptocephalus crucicollis</i> , Boi. |
| 16. |   |  |
| 17. |   |  |
| 18. |   |  |
| 19. |   |  |
| 20. |   |  |
| 21. | „ | <i>speciosus</i> , Boi.                  |
| 22. | } | „ <i>castus</i> , Suffr.                 |
| 23. |   |  |
| 24. | } | „ <i>parentheticus</i> , Suffr.          |
| 25. |   |  |
| 26. |   |  |
| 27. |   |  |
| 28. | „ | <i>eumolpus</i> , Chp.                   |
| 29. | „ | „ „ var.                                 |
| 30. | „ | <i>bihamatus</i> , Chp.                  |
| 31. | „ | <i>terminalis</i> , Chp.                 |
| 32. | „ | <i>gracilior</i> , Chp.                  |
| 33. | „ | <i>chrysomelinus</i> , Chp., var.        |
| 34. | } | „ <i>jocosus</i> , Chp.                  |
| 35. |   |  |



36. } *Cryptocephalus iridipennis*, Chp., var.  
 37. }  
 38.       ,,       *aciculatus*, Chp.  
 39.       ,,       ,,       ,,       var.  
 40.       ,,       *filum*, Chp.  
 41. }  
 42. }       ,,       *argentatus*, Chp.

PLATE XXIII.

Elytron of—

FIG.

43. }  
 44. }  
 45. } *Cryptocephalus dichrous*, Chp.  
 46. }  
 47. }  
 48. *Idiocephala catoxantha*, Saund.  
 49. }  
 50. }  
 51. }       ,,       *bynoei*, Saund.  
 52. }  
 53.       ,,       *albilinea*, Saund.  
 54. }  
 55. }       ,,       *flaviventris*, Saund.  
 56. *Ochrosopsis eruditus*, Baly.  
 57. *Rhombosternus sulphuripennis*, Baly.  
 58. *Prionopleura erudita*, Blackb.  
 59. *Chariderma pulchella*, Baly, var.  
 60. }  
 61. } *Schizosternus coccineus*, Chp.  
 62. }  
 63. }       ,,       *albogularis*, Chp.  
 64. }  
 65. } *Mitocera viridipennis*, Saund.  
 66. *Loxopleurus gravatus*, Chp., var.  
 67.       ,,       *erythrotis*, Chp.  
 68. *Cryptocephalus clarus*, n. sp.  
 69.       ,,       *lilliputanus*, n. sp.  
 70.       ,,       *rufoterminalis*, n. sp.



71.	}	<i>Cryptocephalus conspicendus</i> , n. sp.
72.		
73.	,	<i>basizonis</i> , n. sp.
74.	}	<i>comptus</i> , n. sp.
75.		
76.	}	<i>minusculus</i> , n. sp.
77.		
78.		
79.		
80.		
81.	,	<i>T-viridis</i> , n. sp.
82.	,	<i>scabiosus</i> , n. sp.
83.	}	<i>ornatipennis</i> , n. sp.
84.		

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 PLATE XXIV.
 

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Elytron of—

FIG.

85.	<i>Schizosternus trilineatus</i> , n. sp.
86.	„ <i>marmoratus</i> , n. sp.
87.	} „ <i>crassicornis</i> , Chp.
88.	
89.	<i>Loxopleurus lateriflavus</i> , n. sp.
90.	„ <i>mixtus</i> , n. sp.
91.	„ <i>microscopicus</i> , n. sp.
92.	„ <i>marginipennis</i> , n. sp.
93.	} „ <i>castigatus</i> , n. sp.
94.	
95.	} „ <i>inconstans</i> , n. sp.
96.	
97.	
98.	„ <i>virgatus</i> , n. sp.
99.	„ <i>fuscitarsis</i> , n. sp.
100.	„ <i>absonus</i> , n. sp.
101.	„ „ „ var.
102.	„ <i>disconiger</i> , n. sp.
103.	} <i>Cadmus quadrifasciatus</i> , n. sp.
104.	
105.	„ <i>apicirufus</i> , n. sp.



Prothorax of—

106. *Prasonotus submetallicus*, Suffr., var.  
 107. *Cadmus scutatus*, Chp.  
 108. }  
 109. } „ *luctuosus*, Chp.  
 110. }  
 111. „ *quadrivittatus*, Chp.  
 112. }  
 113. } „ *aurantiacus*, Chp.  
 114. }  
 115. }  
 116. }  
 117. } *Cryptocephalus crucicollis*, Boi.  
 118. }  
 119. }  
 120. }  
 121. } „ *parentheticus*, Suffr.  
 122. }  
 123. } *Prionopleura erudita*, Blackb.  
 124. *Chariderma pulchella*, Baly, var.  
 125. *Cryptocephalus melanopus*, n. sp.  
 126. }  
 127. } „ *lilliputanus*, n. sp.  
 128. *Schizosternus marmoratus*, n. sp.  
 129. }  
 130. } „ *crassicornis*, Chp.

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PLATE XXV.

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Prothorax of—

- FIG.  
 131. *Schizosternus crassicornis*, Chp.  
 132. *Loxopleurus lugubris*, n. sp.  
 133. „ *marginipennis*, n. sp.  
 134. }  
 135. } „ *contiguus*, n. sp.

Prothoracic markings of—

136. }  
 137. } *Cryptocephalus consors*, Boi.  
 138. „ *speciosus*, Boi.



139. }  
 140. } *Cryptocephalus bihamatus*, Chp.  
 141. }  
 142. }  
 143. }  
 144. } „ *aciculatus*, Chp.  
 145. „ *eumolpus*, Chp.  
 146. „ *variipennis*, n. sp.  
 147. „ *clypealis*, n. sp.  
 148. „ *distortus*, n. sp.  
 149. „ *comptus*, n. sp.  
 150. }  
 151. } „ *T-viridis*, n. sp.  
 152. *Loxopleurus disconiger*, n. sp.  
 153. *Cadmus quadrifasciatus*, n. sp.  
 154. }  
 155. } „ *fasciaticollis*, n. sp.

## Scutellum of—

156. *Cryptocephalus tricolor*, Fab.  
 157. „ *consors*, Boi.  
 158. „ *bihamatus*, Chp.  
 159. „ *chrysomelinus*, Chp.  
 160. *Idiocephala bynoei*, Saund.  
 161. „ *cyanipennis*, Saund.  
 162. „ *pulchella*, Saund.  
 163. *Ochrosopsis subfasciatus*, Saund.  
 164. „ *eruditus*, Baly.  
 165. *Diandichus analis*, Chp.  
 166. *Mitocera viridipennis*, Saund.  
 167. *Cryptocephalus mediocris*, n. sp.  
 168. „ *rubicundus*, n. sp.  
 169. „ *pallens*, n. sp.  
 170. „ *basizonis*, n. sp.  
 171. „ *costipennis*, n. sp.  
 172. *Schizosternus marmoratus*, n. sp.  
 173. „ *crassicornis*, Chp.  
 174. *Loxopleurus disconiger*, n. sp.  
 175. *Brachycaulus aterrimus*, n. sp.

## Intercoxal process of—

176. *Schizosternus delicatulus*, n. sp.  
 177. *Brachycaulus aterrimus*, n. sp.



## Tarsus of—

178. *Lachnabothra saundersi*, Baly.  
 179. *Brachycaulus aterrimus*, n. sp.
- 

## PLATE XXVI.

## Antenna of—

- FIG.  
 180. } *Lachnabothra saundersi*, Baly.  
 181. }  
 182. *Cadmus histrionicus*, Chp.  
 183. } *Cryptocephalus clavicornis*, Chp.  
 184. }  
 185. }  
 186. } „ *bihamatus*, Chp.  
 187. *Idiocephala bynoei*, Saund.  
 188. „ *cyanipennis*, Saund.  
 189. „ *pulchella*, Saund.  
 190. *Ochrosopsis subfasciatus*, Saund.  
 191. *Chariderma pulchella*, Baly.  
 192. *Cryptocephalus distortus*, n. sp.  
 193. „ *rufoterminalis*, n. sp.  
 194. „ *T-viridis*, n. sp.  
 195. „ *convexicollis*, n. sp.  
 196. „ *cælestis*, n. sp.  
 197. „ *costipennis*, n. sp.  
 198. *Loxopleurus castor*, n. sp.  
 199. „ *pollux*, n. sp.  
 200. „ *fuscitarsis*, n. sp.  
 201. „ *absonus*, n. sp.





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