

REVISION OF THE GENUS *PAROPSIS*.

BY REV. T. BLACKBURN, B.A., CORRESPONDING MEMBER.

Part VI.

[Treating of the species forming Groups i., ii. and v., as characterised in
P.L.S.N.S.W. 1896, p. 638.]

In this (the concluding) part of my Revision of the genus *Paropsis* I propose to deal with the groups which in my tabulation of groups (P.L.S.N.S.W. 1896, p. 638) are numbered i., ii. and v. I find, however, as a result of studying the very large number of species that have come into my hands since I drew up that tabulation, that the distinctness of Groups ii. and v. cannot be maintained. Dr. Chapuis based his classification of *Paropsis* entirely on the sculpture of the elytra, and consequently grouped together in his first aggregate species that differed *inter se* in the structure of the prothorax, in my opinion a much more important character, and divided the genus thus:—

1. Species having the elytral punctures without linear arrangement.
2. Species having the elytral punctures partially linear.
3. Species having the elytral punctures wholly linear and in 10 rows.
4. Species having the elytral punctures wholly linear and in more numerous rows.

This classification involved the intermingling, in two of Chapuis' aggregates, of species having the prothorax normal laterally and species having the prothorax sinuous and mucronate laterally; and I proposed to amend that flaw by regarding the structure of the prothorax as the primary character for classification, which involved removing certain species from the first

aggregate. These species, however, could not be placed in any of Chapuis' other aggregates, and I proposed to form them into a separate aggregate to stand as No. ii. Among the species subsequently brought under my notice, however, are several which so decidedly link to this newly formed aggregate that which I have called the fifth (and which Chapuis called the second) group as to require the characters of the former to be altered in order to admit into it my Group v. (Chapuis' Group ii.). In my former tabulation of the Groups of *Paropsis* I altered Chapuis' classification otherwise by transposing the position of its Groups iii. and iv. and also regarded its two subdivisions of its Group iv. as primary divisions of the genus. To these alterations I adhere, and therefore my tabulation of the Groups of *Paropsis* will stand as follows:—

- A. Sides of the prothorax mucronate in front, or sinuous about the middle, or both..... Group i.
- AA. Sides of the prothorax evenly arched.
 - *B. Punctuation of the elytra non-seriate, or only partially seriate through the presence of unpunctured longitudinal spaces..... Group ii.
 - BB. Elytra seriate punctulate in about 20 rows.
 - C. Elytra verrucose..... Group iii.
 - CC. Elytra non-verrucose..... Group iv.
 - †BBB. Elytra seriate-punctulate in 10 rows..... Group v.

In the former parts of this series of memoirs I have dealt with Groups iii., iv. and v. (the last being there called Group vi., as explained above), which contain by far the larger part of the species of the genus. I now offer a memoir completing the work, and begin with

GROUP I.

The character by which this aggregate is distinguishable from all the rest is the peculiar shape of the prothorax, the lateral outline of which is not evenly arched (as it is in the other groups),

* This aggregate comprises Groups ii. and v. of my former tabulation (*loc. cit.*).

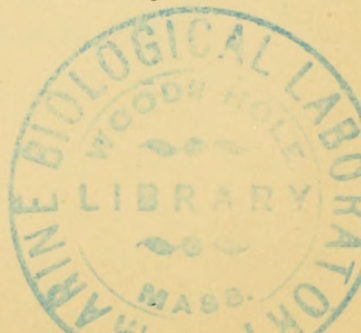
† This aggregate stands as Group vi. in my former tabulation (*loc. cit.*).

but departs from that form by either (*a*) having its apex mucronate, or (*b*) having a notch or arcuate concavity about its middle, or (*c*) having both the above characters. There are a few species in which this prothoracic peculiarity is very feeble, the unevenness of lateral outline being only a slight median sinuosity, and those species are very closely allied to some of the species in Group ii. But in an enormous genus such as *Paropsis* subdivision is impossible unless *some* character be applied with a rigour that more or less runs counter to natural order in separating species that apart from that character might be placed side by side. I believe that the system and subdivision I have adopted will be found to traverse obvious affinities less frequently than any other system that could be suggested.

In this present Group there is only one species in which the sculpture of the elytra approaches the type of regular seriate puncturation, viz., *P. aspera*, Chp.,—which its author placed in his fourth “Groupe,” my third—where (the form of its prothorax being disregarded) it certainly seems more at home; but as the apical angles of its prothorax are very strongly mucronate it must be a highly isolated species wherever placed.

The species of this group are insects of firm texture and non-metallic colouring, most of them of comparatively large size and less liable to change colour after death than are the members of some other groups. Many of the species are very closely allied, *inter se*, but on the whole distinguishable by more definite characters than are those of the more numerous groups. The difficulty of identifying the insects referred to in published descriptions is, however, very great, as there is scarcely a species known to me in which the colours are not variable to the utmost extent, and in the majority of the existing descriptions colour is treated as a prominent character.

The only colour-character on which I have ventured to place any confident reliance is the colour of the under surface. In some species the under surface is of a deep shining black which varies by being interspersed with clearly contrasted yellow. In the rest of the species the under surface is red-testaceous or brown, vary-



ing into dark piceous, but even in the darkest examples *shading off* into dark colours without sharply defined lines of separation. I have the good fortune to possess the types of some of Chapuis' species, and examples named by that author of other species, as well as a series of specimens named by Mr. Masters after careful comparison with Marsham's types. Of several other species I have examples taken in the exact localities specified by their authors, which enable tolerably confident identification even where the description without such assistance is of too loose a character.

Most of the species of this group have smooth pustules or verrucæ on their elytra, and in many of them these quasi-tubercles form a pattern. Where this is the case I find the nature of the pattern extremely constant and a valuable specific character. It must be noted, however, that the *colours* of the pattern are variable, the quasi-tubercles forming it being usually of lighter tone than the ground colour and therefore being very conspicuous, but in some examples the tubercles are of the same colour as the derm, and in that case (being very slightly elevated) need looking for. The quasi-tubercles that I find to be, in the species having a pattern, constant (specifically) in size and position are four, viz., on each elytron one just within and below the humeral callus, and one on the disc behind the middle. For the sake of convenience I have called these faintly elevated quasi-tubercles, in the following tabulation and descriptions, the subhumeral and postmedian blotches.

In the Journal of Entomology for Dec. 1864, Mr. J. S. Baly published the first part of a study of the species of *Paropsis* in his collection, in which he dealt with those that would fall into my Groups i. and ii., of which he described 12 as new and re-described 8. His descriptions are good ones, and there is not much difficulty in identifying the insects on which they were founded. He, however, relies largely on the characters of the *œdeagus*, an internal sexual organ which in most specimens can only be examined by dissection, for determination of species; and therefore his diagnosis can be used thoroughly only when

specimens can be spared for destruction. Unfortunately he never published a second part of his work. There are some errors in what he published which the quasi-types of Marsham's *Paropses* (referred to above) have enabled me to detect and which will be found noted in the following pages. Of the 20 species described by Baly, seventeen belong to my Group i., and the other three to my Group ii.

The species not distinguished by an elytral pattern and having their prothorax similar in form are as a rule closely allied *inter se*, and their specific difference seems to consist chiefly in their *form* (more or less elongate or more or less convex) and their *sculpture* (more or less strong or more or less close). Such differences are not easy to formulate in language precise enough to be useful in a tabulation, but where they really are the essential differences it is necessary to make the attempt to express them clearly, which I have done in the present instance by comparing the degree of convexity, &c., with the same in some other species, choosing as the standards of comparison only well-known and more or less common species. I am, of course, not forgetful of the fact that differences of convexity and even of sculpture are very frequently *sexual*, and therefore when I characterise a *Paropsis* as (*e.g.*) more or less convex than some other species, I mean "more or less convex than the corresponding sex (the male than the male, the female than the female) of that species."

One other of the characters that I have relied upon in grouping the species of this aggregate seems to call for explanation. I have contrasted two types of elytral puncturation as "acervate" and "evenly spaced or nearly so." The puncturation which I have called "acervate" is not invariably in "clusters" (strictly so called), but in some species runs in short usually oblique lines, yet in such fashion that the interspaces between these lines of punctures are of considerably different size; while the puncturation that I have called "evenly spaced or nearly so" does not, or scarcely, run in lines, and the interspaces of the punctures are all very similar, *inter se*.

With these explanations I cherish the hope that, notwithstanding the close resemblance of these species, *inter se*, it will be

practicable to identify them by means of the following tabulation and descriptions.

In 1877 Dr. Chapuis (Ann. Soc. Ent. Belg.) published a Synopsis of the species of *Paropsis* (already referred to in previous parts of my Revision) in which he enumerated and distributed among his four "groupes," referred to above, the species described by former authors; and he added descriptions of a number of new species. In that Synopsis he attributed to his first "groupe" 21 previously named species (two of which, *Waterhousei*, Baly, and *fulvoguttata*, Baly, cannot stand in my first Group on account of the sides of their prothorax being evenly arched), and described six new species, all of which will stand in my first Group.

Fifty-eight names in all have been proposed for insects that can be confidently regarded as members of my first Group, and also five of Boisduval's names (*crocata*, *morbillosa*, *miliaris*, *granulosa* and *rugulosa*) may possibly appertain to members of it, but the descriptions are so insufficient that they must be treated as if they were non-existent. A certain number of the fifty-four names have already been relegated by previous authors to the category of synonyms, but as this has been in some instances done incorrectly, it seems desirable here to furnish a statement of synonymy, the grounds of which will be found more fully set forth where necessary in the following pages under the heading of the names concerned.

P. testacea, Germ. = *Wilsoni*, Baly.

sanguinipennis, Germ. = *reticulata*, Marsh.

atomaria, Marsh. = *Charybdis*, Stål.

consimilis, Baly = *lutea*, Marsh. (not previously noted).

lutea (Baly, nec Marsh.) = *ægrotæ*, Boisd. (not previously noted).

quadrinotata, Marsh. = *reticulata*, Marsh., var.

dilatata, Er., and *incarnata*, Er., represent valid species. Mr.

Baly thought them probably synonyms of *atomaria*, Marsh., and *reticulata*, Marsh.

ægrotæ, Boisd., represents a valid species. Mr. Baly thought it a synonym of *lutea*, Marsh.

nigroscutata, Chp., probably equals *Lownei*, Baly.

Thus there remain fifty-one names of already described species which appear to me likely to stand as valid. Of these I believe that I have before me examples of all except three, viz. (a) *P. formosa*, Chp., which appears to be a very remarkable *Paropsis*, having an oblique costa on the hinder part of the elytra. Its prothorax is described as bisinuate laterally, but in other respects the description does not furnish particulars that would enable me to place it in my tabulation. (b) *P. Parryi*, Baly, a large species believed to have been taken in tropical Australia, which is probably near my *P. Hygea*, but seems to have the elytra sculptured differently from the elytra of that species. (c) *P. pantherina*, Fauv., a species said to have been found at Sydney and to be very rare; as it is not compared with any other species, there is much difficulty in forming any clear idea of it; the sides of its prothorax are described as strongly sinuate in front of the middle, and I cannot find any definite character ascribed to it by which it could be distinguished from *P. obsoleta*, Marsh., with a strongly coloured specimen of which the markings attributed to *P. pantherina* agree very accurately, but it seems difficult to believe that anyone describing new *Paropses* would be unacquainted with so common an one as *P. obsoleta*.

In the following pages I describe twelve new species belonging to this Group, making the total number of species sixty-three, and the total enumerated in the tabulation sixty:—

- A. Apical angles of prothorax mucronate, its sides otherwise normal (or scarcely sinuate).
- B. Discal sculpture of hinder half of elytra includes some verrucæ or elevated interstices.
- C. Under surface deep black, variegated (if at all) with sharply limited pale colouring.
- D. Elytra feebly convex longitudinally, fully twice as long as high (viewed from the side).
- E. Elytral sculpture but little enfeebled around scutellum..... *augusta*, Blackb.
- EE. Elytral sculpture much enfeebled around scutellum.

- F. Elytral puncturation notably coarser and sparser than in *P. variolosa*, Marsh.
- G. Prothorax more than twice as wide as long..... *Manto*, Blackb.
- GG. Prothorax not more than twice as wide as long..... *montana*, Blackb.
- FF. Elytral puncturation fully as fine and close as in *P. variolosa*, Marsh. ... *debilitata*, Blackb.
- DD. Elytra strongly convex longitudinally, height (viewed from side) less than half length..... *tasmanica*, Baly.
- CC. Under surface testaceous or brown, not varying into sharply contrasted colours.
- D. Width of elytra together much greater than half the length of the whole insect.
- E. Elytra not having a common gibbosity about the middle of the suture.
- F. Large species (about 6 lines long or more) with discal puncturation of elytra acervate.
- G. Elytra feebly convex longitudinally, in ♀ more than twice as long as high (viewed from the side).
- H. Pronotum moderately punctured (much as that of *P. variolosa*, Marsh.).
- I. Puncturation of elytra about as close as in *P. variolosa*.
- J. Prothorax twice and one-half as wide as long.
- K. Elytra almost devoid of discal verrucæ..... *longicornis*, Blackb.
- KK. Elytra with very numerous strongly defined discal verrucæ..... *dilatata*, Er. ♂.
- JJ. Prothorax not more than twice as wide as long..... *Hygea*, Blackb.
- II. Puncturation of elytra distinctly less close, and a little coarser..... *advena*, Blackb.
- HH. Pronotum punctured very much less closely than in *variolosa* *angusticollis*, Blackb.

- GG. Elytra strongly convex longitudinally (height, viewed from side, not less than half length, at any rate in ♀).
- H. Discal puncturation of elytra very sparse (more so than in *P. obsoleta*, Marsh.)..... *cerea*, Blackb.
- HH. Discal puncturation of elytra much closer.
- I. Form extremely convex longitudinally (height of elytra in ♀, viewed from side, $\frac{2}{3}$ of length)..... *affinis*, Blackb.
- II. Form distinctly less convex longitudinally.
- J. Disc of elytra studded with unpunctured more or less elevated spaces conspicuously larger than the average interstices of the punctures.
- K. Elytra having a common subsutural area almost punctureless..... *aciculata*, Chp.
- KK. Elytra having a common subsutural area finely but very distinctly punctured..... *variolora*, Marsh.
- JJ. Spaces on disc of elytra interrupting the general puncturation almost wanting.
- K. Greatest height of elytra (viewed from the side) notably in front of the middle..... *Lownei*, Baly (?)
- KK. Greatest height of elytra (viewed from the side) close to the middle..... *Wilsoni*, Baly.
- FF. Discal puncturation of elytra evenly spaced or nearly so; if not, size notably smaller than in aggregate "F."

- G. Hind part of elytra with the puncturation lost, or nearly so, in very close even granulosity.
- H. Elytra (at least in ♂) wider (together) than long, strongly out-turned laterally..... *insularis*, Blackb.
- HH. Elytra in neither sex wider (together) than long, less out-turned laterally (at least in ♂).
- I. The rugulosity of front half of elytra consists of close granules or mere narrow interstices of the punctures.
- J. Discal puncturation of pronotum strongly acervate.
- K. Greatest height of elytra very close to the base..... *incarnata*, Er.
- KK. Greatest height of elytra not much in front of the middle..... *reticulata*, Marsh.
- KKK. Greatest height of elytra at or behind the middle..... *Charybdis*, Stål.
- JJ. Discal puncturation of elytra not, or scarcely, acervate *elytrura*, Blackb.
- II. Elytra closely studded with flattened well-defined verrucæ, notably larger in front half than granules..... *Omphale*, Blackb.
- GG. Hind part of elytra with verrucæ or granules more distant, fully exposing the punctures.
- H. The discal elytral irregularities are small and round verrucæ running in longitudinal rows.
- I. The discal verrucæ of elytra numerous, about 20 in each longitudinal row..... *Bovilli*, Blackb.
- II. Discal verrucæ of elytra much fewer, scarcely 10 in each longitudinal row..... *ornata*, Marsh.

- HH. The discal elytral irregularities are large, irregular, scarcely raised unpunctured blotches.. *Paphia*, Stål.
- EE. Elytra having a common gibbosity about the middle of the suture.
- F. The gibbosity moderate in the female, scarcely indicated in the male..... *dilatata*, Er. (?)
- FF. The gibbosity well defined in the male, very strong in the female.... *gibbosa*, Blackb.
- DD. Width of elytra together scarcely greater than half their length..... *aspersa*, Chp.
- BB. Hinder half of elytra not having verrucæ or elevated interstices.
- C. Legs with sharply defined variegation of yellow and black..... *pictipes*, Chp.
- CC. Legs devoid of sharply defined black markings.
- D. The entire elytra with numerous large smooth spaces which are on the front half slightly raised..... *Mintha*, Blackb.
- DD. The elytra without large unpunctured spaces.
- E. Elytra strongly convex longitudinally; height (at least of ♀) $\frac{2}{3}$ or scarcely less length, viewed from side.
- F. Pronotum without lateral impression. *rufitarsis*, Chp.
- FF. Pronotum having a well defined impression on either side near lateral margin.
- G. Front angles of prothorax quite strongly mucronate (*i.e.*, lateral margin deeply sinuate immediately behind angle)..... *Sospita*, Blackb.
- GG. Front angles of prothorax very feebly mucronate.
- H. Front angles of prothorax strongly acute and produced (resembling those of *Paphia*, Stål.)..... *confusa*, Blackb.
- HH. Front angles of prothorax considerably more blunt..... *Thyone*, Blackb.
- EE. Elytra much less convex longitudinally *irrorata*, Chp.
- AA. Prothorax with its front angles mucronate and also its sides conspicuously sinuate.

- B. Prosternum longitudinally concave.
- C. Elytra with smooth, usually elevated, blotches arranged as a pattern.
 - D. Pronotum strongly irregularly and somewhat rugulosely punctured (after the fashion of *reticulata*, Marsh.)..... *ægrota*, Boisd.
 - DD. Pronotum not both strongly and irregularly punctured.
 - E. Elytra with an evident common gibbosity about the middle of the suture.
 - F. Interval between the subhumeral blotches not greater than between the postmedian..... *lutea*, Marsh.
 - FF. Interval between the subhumeral blotches considerably greater than between the postmedian..... *colorata*, Blackb.
 - EE. Elytra not having a common sutural gibbosity.
 - F. Postmedian blotch on elytra nearly half width of entire disc and nearly reaching suture. *maculata*, Marsh.
 - FF. All the elytral blotches very much smaller.
 - G. A smooth discal blotch is of the form of a longitudinal more or less interrupted vitta, and there is no isolated postmedian blotch.... *propinqua*, Baly.
 - GG. The postmedian blotch distinct (not included in a vitta).
 - H. The postmedian blotch very little behind the middle of the elytra *geographica*, Baly.
 - HH. The postmedian blotch placed far behind the middle of the elytra..... *marmorea*, Oliv.
 - CC. Elytra not having smooth blotches arranged to form a pattern.
 - D. Punctuation of pronotum of the acervate irregular and rather coarse type (like that of *ægrota*, Boisd.).
 - E. Punctuation of elytra almost entirely lost in close rugulosity (as in *incarnata*, Er.).

- F. The elytral rugulosity runs in closely packed longitudinal lines..... *intermedia*, Blackb.
- FF. The elytral rugulosity not longitudinally placed..... *latissima*, Blackb.
- EE. Punctuation of elytra, at any rate on front half, very distinct.
- F. Under surface deep black, with or without sharply defined yellow variegation..... *bella*, Blackb.
- FF. Under surface brown or testaceous, clouded or not with somewhat darker shades.
- G. Form moderately convex (height, viewed from the side, scarcely more than $\frac{1}{2}$ length of body).
- H. Sculpture of pronotum fully as coarse in *agrotæ*, Boisd.... *rubidipes*, Blackb.
- HH. Sculpture of pronotum much less coarse..... *variegata*, Blackb.
- GG. Form much more strongly convex when viewed from the side..... *Latona*, Blackb.
- DD. Punctuation of pronotum much more regular, usually much closer and not or scarcely acervate.
- E. Pronotum not having a lateral depression about the beginning of the coarsely punctured part (punctuation of elytra extremely close) *glauca*, Blackb.
- EE. Pronotum having a lateral depression, if lateral depression feeble, then elytral punctuation sparse.
- F. Lateral inequality of prothoracic outline is a deep angular notch.
- G. Elytra dilated hindward from base almost to apex..... *mutabilis*, Blackb.
- GG. Greatest width of elytra much nearer middle of their length.
- I. Elytral punctuation sparse (as much so as in *obsoleta*, Marsh.) *mystica*, Blackb.
- II. Elytral punctuation considerably closer.

- J. The rugulosity of the elytra
coarse and strong (at least
as much so as in *reticulata*,
Marsh.).
- K. Discal puncturation of pro-
notum at least as close as
in *lutea*, Marsh.
- L. Form extremely convex
longitudinally (consi-
derably more so than
in *maculata*, Marsh.)... *convexa*, Blackb.
- LL. Form moderately con-
vex longitudinally (as
in *maculata*, Marsh.) *carnosa*, Baly.
- KK. Discal puncturation of
pronotum considerably
less close (and also very
fine)..... *Blandina*, Blackb.
- JJ. Rugulosity of elytra particu-
larly weak (considerably
feebler than in *reticulata*,
Marsh.).
- K. Puncturation of hind half
of marginal part of elytra
crowded and subconfluent *roseola*, Baly.
- KK. Puncturation of hind half
of marginal part of
elytra considerably less
crowded..... *yilgarnensis*, Blackb.
- FF. Lateral inequality of prothoracic
outline is an elongate curve (disc
of pronotum finely punctured).
- G. The discal puncturation of elytra
notably more sparse than in
obsoleta, Marsh..... *Zietzi*, Blackb.
- GG. The discal puncturation of elytra
notably closer than in *Zeitzi*,
Blackb..... *obsoleta*, Marsh.
- GGG. Discal puncturation of elytra
very close..... *deserti*, Blackb.
- BB. Prosternum not sulcate down middle, or if
sulcate having a median carina rising above
the sides of the sulcus.
- C. Discal puncturation of pronotum very coarse *porosa*, Er.
- CC. Discal puncturation of pronotum very fine *Cassiope*, Blackb.

P. AUGUSTA, sp. nov.

Ovata (pone medium sat dilatato-rotundata); modice nitida; minus fortiter convexa; rufo-testacea, antennis (articulis basalibus 4 ex parte rufis exceptis) palporum apice capite in medio et pone oculos mandibulis scutello corpore subtus genubus tibiæ apice et tarsis nigris; capite inæqualiter sat grosse (clypeo subtilius) punctulato; prothorace quam longiori duplo latiori, in disco acervatim subfortiter (ad latera—his late subplanatis—grosse) punctulatis, angulis anticis mucronatis posticis obtusis; elytris obsoletissime costulatis, confuse sat fortiter sat crebre (quam *P. variolosæ*, Marsh., magis fortiter minus crebre) punctulatis, puncturis suturam versus antice parum subtilioribus sed posterius sat subtilioribus, interstitiis transversim confuse (postice quam antice vix magis fortiter) elevatis, parte laterali oblique extrorsum (maris quam feminae magis fortiter) directa. Long. 8-9, lat. $5\frac{3}{4}$ -6 lines.

♂. Antennis segmentum ventrale 2^{um} attingentibus, elytris quam conjunctim latioribus vix longioribus.

♀. Antennis segmentum ventrale basali vix attingentibus, elytris quam conjunctim latioribus paullo longioribus.

This remarkably fine species is so decidedly larger than any previously described *Paropsis* as to be recognisable on that character alone. Other peculiarities are the quite discernible (though very slight) quasi-costate appearance of the elytra, the considerable outward turn of the extra-discal portion of the elytra (stronger in the male than in the female) and the sudden dilatation of the same about the middle of its length. This species is incapable of confusion with *variolosæ*, Marsh., and its close allies on account of its very much less convexity longitudinally (*i.e.*, viewed from the side). The deep black colour of its under surface—in some examples variegated with strongly contrasted yellow—distinguishes it from *Hygea*, &c. From *debilitata* it differs by the much coarser sculpture of its elytra, from *Manto* by its narrower prothorax (which by measurement is scarcely appreciably more

than twice as wide as long), and from *montana* (its nearest ally) by its less convexity (viewed from the side) and by the different puncturation of its elytra (which is very little enfeebled around the front part of the suture, but considerably so a little further from the base, while in *montana* it is considerably enfeebled on the whole front half of the subsutural region).

This is the species that I formerly regarded as *P. Parryi*, Baly, and with hesitation called by that name when I described some new species of *Paropsis* in Trans. Roy. Soc. S.A., 1894, pp. 226, &c. I am now quite satisfied to the contrary. Baly describes *Parryi* as "valde convexa," and uses the phrase "convexa" for some *Paropses* that are less convex than others, which is quite conclusive, as the present species is about the least convex in this group of the genus. Moreover the largest size mentioned by Baly for *Parryi* would make it smaller than the smallest example that I have seen of this insect. And yet again Baly says that *Parryi* "probably came from Northern Australia" (apparently because he found it placed among other species that were certainly from Northern Australia), whereas the present insect is found in Victoria and Southern N.S. Wales. The proportions of its elytra, &c., do not agree with those Baly attributes to *Parryi*, but I do not attach great importance to this, since Baly's statements of proportion are seldom correct, and were evidently not founded on measurement. Baly points out differences between *Parryi* and *variolosa* without referring to the much less convexity of the former, which could not possibly have escaped the notice of so careful a describer if his *Parryi* had been my *augusta*.

Victorian Alps ; also N.S.W. (Mount Kosciusko), sent by Mr. Lea.

P. MANTO, sp nov.

♀. Ovata (apicem versus modice dilatata); modice nitida; minus fortiter convexa; rufo-testacea, antennis (articulis basalibus 4 ex parte rufis exceptis) palporum apice capite in medio mandibulorum apice scutello corpore subtus femoribus tibiarum apice tarsisque nigris; capite inæqualiter sat grosse

(clypeo subtilius) punctulato; antennis quam corporis dimidium vix longioribus; prothorace quam longiori ut 10 ad $4\frac{1}{2}$ latiori, in disco acervatim subfortiter (ad latera—his late subplanatis—grosse) punctulatis, angulis anticis mucronatis posticis obtusis minus rotundatis; elytris confuse sat fortiter sat crebre (quam *P. variolosæ*, Marsh., magis fortiter minus crebre) punctulatis, puncturis suturam versus multo subtilioribus, interstitiis transversim confuse (postice quam antice vix magis fortiter) elevatis, parte laterali oblique extrorsum modice (quam *P. augustæ*, ♀ minus fortiter) directa; elytris quam conjunctim latioribus vix longioribus. Long. $7\frac{3}{4}$, lat. $5\frac{3}{4}$ lines.

This is one of a group of closely allied species (*augusta*, *montana*, &c.). From *augusta* it differs *inter alia* by its shorter form (viewed from above), its decidedly greater convexity (very evident viewed from the side), its wider prothorax, the considerably finer puncturation of the elytra near the scutellum, its elytra not having a conspicuous lateral dilatation about the middle; from *debilitata* by the much less fine and close elytral sculpture; and from *montana* which is its nearest ally by the considerably more transverse form of its prothorax, which is quite well marked by measurement, and looks much greater still to the eye. From *variolosæ*, Marsh., and its immediate allies it is very distinct on account of its form being (when viewed from the side) much more elongate with the curve of its upper outline much less convex.

N.S. Wales.

P. DEBILITATA, Blackb.

The type of this species remains, so far as I know, unique. The size and closeness of the punctures on its elytra are very much as in *variolosæ*, Marsh. As the locality is one from which more specimens of a valid species might reasonably have been expected, I think the unique example—notwithstanding much difference of puncturation from the somewhat numerous specimens of *P. montana* that I have seen—may possibly be only an aberration of that insect.

P. HYGEA, sp. nov.

♀. Ovata (apicem versus modice dilatata); modice nitida; minus fortiter convexa; rufa, mandibulorum apice nigro; capite acervatim sat fortiter (clypeo subtilius) punctulato; antennis quam corporis dimidium haud longioribus; prothorace quam longiori duplo latiori, in disco acervatim subfortiter (ad latera—his late subplanatis—grosse) punctulatis, angulis anticis mucronatis posticis rotundatis; elytris confuse minus fortiter crebre (quam *P. variolosæ*, Marsh., fere magis crebre minus fortiter) punctulatis, puncturis suturam anticam versus multo subtilioribus, interstitiis antice transversim confuse elevatis postice crebre nec fortiter verrucosis, parte laterali oblique extrorsum modice directa; elytris quam conjunctim latioribus vix longioribus. Long. 8, lat. 6 lines.

This species is slightly more convex (viewed from the side) than the preceding species, approaching thereby somewhat to the strongly convex aggregate. Its greatest height, however (viewed from the side) is distinctly less than half the length of its elytra (by measurement). It is at once separable from *augusta*, *debilitata*, *Manto* and *montana* by its entirely pale red colour (except the apex of the mandibles), even the antennæ having no infuscation. Probably it varies in colour, but not, I am convinced, towards the colouring of under surface, legs, &c., of the species just named. Apart from colour, however, its elytra are more closely punctulate than those even of *debilitata* (a trifle more so than of *variolosæ*); and it differs otherwise from *debilitata* by the much closer and stronger rugulosity of its elytra, especially near the apex, as well as by its greater convexity (at any rate in the ♀). From those previously described species of the less convex aggregate which are not coloured like *augusta*, &c., it differs (apart from colour) as follows, *inter alia*:—From *longicornis* by its much shorter antennæ in the same sex and less transverse prothorax (which is exactly twice as wide as long), from *advena* by its much larger size and much closer elytral puncturation, and from *angusticollis* by its much broader form and infinitely more closely punctured pronotum.

I have in my collection a ♀ example (also from N. Queensland) of a *Paropsis* which I take to be a variety of this species. It is smaller (long. 7 lines) and has the elytral punctures blackish, otherwise not differing much. I have seen so few *Paropses* from tropical Australia that I hesitate as to whether one or two other slight differences may not point to specific distinction.

This species differs from Baly's description of *P. Parryi* in not being "valde convexa" nor black on the under surface.

N. Queensland (Cowley).

P. LOWNEI, Baly (?).

I have not seen an authentic type of this insect, nor any specimen that thoroughly agrees with the description. Nevertheless, in view of Mr. Baly's reporting it as occurring near Sydney, and being in at least two European collections, it seems hardly likely that I have not seen it among all the numerous large collections of *Paropses* that I have examined. Mr. Masters has sent me a specimen labelled "*Lownei*," but accompanied by a note of uncertainty as to the authority for the name. This specimen differs from the description in the absence of black markings on the pronotum, in the scutellum being (not black but) dark fuscous, and in the prothorax (not "much" but) a little narrower than that of *variolosa*, Marsh. In spite of these discrepancies, however, I incline to the opinion that the specimen is rightly named, and consequently I have placed it in my tabulation, though indicating the doubt as to my identification by the appended "?"

P. INCARNATA, Er.

This name has usually been regarded as a synonym of *P. reticulata*, Marsh. I have a long series of specimens from Tasmania before me, and also a long series of *P. reticulata* from the Continent (including an example carefully compared with Marsham's type), and am quite satisfied that the names are founded on distinct species. Placed beside *P. reticulata*, *incarnata* is seen, viewed from the side, to be a distinctly more convex

insect (the summit of its outline curve having a distinct suspicion of gibbosity, which is entirely absent in *reticulata*), with its greatest height evidently (though not much) nearer to the base of the elytra,—these distinctions of form more strongly marked in the male than in the female; and the verrucosity of the elytra is very considerably stronger in both sexes (as usual, stronger in both species in the male than in the female), the verrucae on the elytra of the female being clearly stronger and closer than even on the *male* of *reticulata*.

P. *CHARYBDIS*, Stål.

Chapuis gives *Charybdis* as a synonym of *atomaria*, Marsh., and Baly doubtfully cites *dilatata*, Er., as a synonym of the same species. I have already (Trans. R. Soc. S.A., 1894, p. 221) discussed this tangle and pointed out that *atomaria* is a nom. præocc. in the genus; in my note, however, I accepted the whole of this synonymy, and therefore selected *dilatata*, Er., (it being an older name than *Charybdis*) as the name that must stand for *atomaria*, Marsh. Since that time, however, I have taken in Tasmania (and also received from Mr. A. Simson) a *Paropsis* which I am confident is *dilatata*, Er., and find it very distinct from *atomaria*, Marsh. It is not practicable to decide with certainty, from the description, on what insect the name *Charybdis* was founded, but Chapuis' determination is entitled to acceptance (though he does not give his reasons for it) until reason is shown to the contrary, and therefore *atomaria*, Marsh., must be regarded as a synonym of *Charybdis*, Stål.

P. *ELYTRURA*, sp. nov.

Ovata; minus nitida; sat fortiter convexa (e latere visa fere ut *P. reticulata*, Marsh.); rufa vel testacea, vel partim rufa partim testacea, exemplis nonnullis nigro- vel piceo-variegatis, corpore subtus pedibusque testaceis, antennis apicem versus vix infuscatis; capite (clypeo incluso) sat confertim vix fortiter sat æqualiter punctulato; antennis quam corporis dimidium vix longioribus; prothorace quam longiori ut 7 ad 3 latiori,

in disco confertim dupliciter (subtiliter et minus subtiliter) punctulato, ad latera (his vix impressis et quam *P. reticulata*, Marsh., minus deplanatis), grosse rugulosis, angulis anticis mucronatis posticis rotundatis; elytris (fere ut *P. reticulata*, Marsh.), confertim granulosis. Long. 5-6, lat. $4-4\frac{1}{5}$ lines.

Maris elytris quam conjunctim latioribus vix (feminae paullo) longioribus.

Closely allied to *P. reticulata*, Marsh., and not differing from it much except in the puncturation of the head and disc of pronotum, which is very different, consisting of close scarcely irregular or acervate punctures; of these some are fine and others evidently less fine, and they are all confusedly intermingled. It is to be noted also that in this species the vague fovea-like impression on either side of the pronotum is evidently feebler than in *reticulata*, and that the lateral coarsely sculptured part of the pronotum continues the convexity of the disc almost evenly instead of being (as it is in *reticulata*) somewhat flattened out.

W. Australia; Albany (Meyrick) and Swan River (Lea).

P. OMPHALE, sp.nov.

♀. Ovata; minus nitida; sat fortiter convexa (e latere visa fere ut *P. Charybdis*, Stål); testacea, nonnullis exemplis supra rufescentibus vel piceo-umbratis, elytrorum verrucis albis vel pallide flavis; capite modice sat acervatim punctulato; antennis abdomen fere attingentibus; prothorace ut 6 ad $2\frac{2}{3}$ longiori, in disco acervatim subfortiter (ad latera—his manifeste deplanatis—grosse) punctulato, angulis anticis mucronatis posticis rotundatis; elytris crebre verrucosis, verrucis nonnihil ut *P. reticulata*, Marsh., sed in elytrorum parte antica dimidia multo majoribus et hic puncturis inter verrucas valde perspicuis. Long. 5, lat. $3\frac{4}{5}$ lines.

This is a very distinct species. In form it resembles *P. Charybdis*, Stål, but is evidently less convex longitudinally. The sculpture of its elytra is of the same kind as in *P. reticulata*, Marsh., but the elevations on the front half are much larger in

area, resembling those of the insect which I regard as the ♀ of *dilatata*, Er., (but in that species they are very much less numerous); in the hinder half the elevations become closely packed granules like those of *reticulata*. In the unique type the verrucæ and granules are of an ivory white colour. A specimen in Mr. Masters' collection, which I regard as a variety, from the same region, has the prothorax a trifle more transverse and its sides slightly sinuate.

Tropical Queensland; taken by the late Mr. Cowley.

P. DILATATA, Er.

I have already alluded to the fact that the males of *Paropsis* are usually less convex in form than the females. This sexual difference is exaggerated to an extreme in the Tasmanian insect that I take to be *dilatata*. The male agrees with Erichson's description in being less convex than *incarnata*, but the female is notably more convex than the female of that species with its elytra very evidently gibbous about the middle of the suture, and is one of the most convex forms in this group of the genus. The species is easily distinguishable from *incarnata*, Er., *Charybdis*, Stål (*atomaria*, Marsh.), *reticulata*, Marsh., and *elytrura*, Blackb., (the aggregate among which Mr. Baly thought it to stand), apart from sexual characters by the much less even distribution of its elytral sculpture and the strong subangular dilatation of the elytra about the middle of their lateral outline. Its sexual characters make it an isolated species in the genus, but I think its place in a natural arrangement would be not far from *longicornis*, Blackb., (another isolated species) with which it seems to have a good deal of affinity. Owing to the great diversity between the male and female I have been obliged to place the sexes in separate aggregates in my tabulation.

P. MINTHA, sp. nov.

- ♂. Sat late ovata; minus fortiter convexa (elytrorum longitudine e latere visa quam altitudo fere duplo majori, altitudine majori vix ante elytrorum medium posita); testaceo-brunnea,

antennis (articulis basalibus 4 exceptis) et in elytrorum disco puncturis nigricantibus; capite sat crebre punctulato; antennis minus elongatis; prothorace quam longiori duplo latiori, in disco acervatim sat fortiter valde sparsim (ad latera grosse nec crebre) punctulato, angulis anticis mucronatis posticis rotundatis, lateribus evidenter deplanatis; elytris reticulatim rugatis, rugis punctulatis, interstitiis inter rugas anticis obsolete convexis posticis planis. Long. $5\frac{1}{2}$, lat. $4\frac{2}{5}$ lines.

Easily distinguishable from nearly all the other species of this group by the hind one-third of the elytral disc being entirely without verrucæ or granules, the surface being flat and reticulated with fine punctulate wrinkles. The elytral sculpture is of the same type as in *P. cerea*, Blackb., but in that species the interstices of the wrinkles are distinctly convex throughout, and the outline viewed from the side is (at an rate in the ♂) much more convex. Probably the ♀ of this species is a more convex insect longitudinally, and probably the colouring of the elytral punctures is variable.

North Queensland (Charters Towers).

P. SOSPITA, sp. nov.

♀. Sat late ovata; fortiter convexa (e latere visa fere ut *P. obsoleta*, Marsh., conformata); rufo-brunnea elytris hic et illic obsolete piceo-umbratis; capite crebre subtilius sat æqualiter punctulato; antennis modicis; prothorace quam longiori ut 13 ad 6 latiori, in disco ut caput (ad latera vix grosse) punctulato, utrinque latera versus profunde foveolato, angulis anticis mucronatis posticis obtusis, lateribus vix manifeste sinuatis; elytris minus fortiter sat crebre æqualiter (sed apicem versus magis crebre magis subtiliter) punctulatis—puncturis quam *P. obsoletæ*, Marsh., subtilioribus et paullo crebrioribus—interstitiis omnino planis. Long. 5, lat. $3\frac{4}{5}$ lines.

This is one of the very few species of *Paropsis* having the anterior angles of the prothorax mucronate and the disc of the elytra entirely devoid of verrucæ or convex interstices. In this

respect (and in others) it is allied to *P. pictipes*, Chp., in which, however, *inter alia* the sculpture of the whole upper surface is very much coarser. The slight sinuation of the sides of the prothorax in the type is very likely to be merely an aberration of the individual, and is very different from the well marked median sinuation or notch that is so conspicuous in the species that I have associated together, as possessing that character, in the tabulation.

N. Queensland.

P. THYONE, sp.nov.

♀. Ovata; nitida; fortiter convexa (e latere visa fere ut *P. obsoleta*, Marsh., conformata); capite pronoto elytrorumque lateribus rufo-umbratis, elytrorum puncturis nigris; capite sat crebre subtiliter punctulato; antennis quam corporis dimidium paullo brevioribus; prothorace quam longiori ut 5 ad 2 latiori, in disco ut caput (ad latera nullo modo grosse) punctulato, utrinque latera versus profunde foveolato angulis anticis vix mucronatis posticis rotundatis, lateribus parum arcuatis obsolete sinuatis; elytris minus fortiter minus crebre parum æqualiter (fere ut *P. obsoleta*, Marsh., sed magis subtiliter) punctulatis, interstitiis omnino planis. Long. $3\frac{1}{2}$, lat. $2\frac{1}{2}$ lines.

This is an anomalous species, as its prothorax shows only very slightly the characters that I have regarded as distinctive of Group i., and hence forms a transition to Group ii.; the lateral outline, however, is certainly not evenly arched, though its sinuation is very slight and the front angles can scarcely be called mucronate. In *P. irrorata*, Chp., the lateral outline of the prothorax is very little more sinuate. This species differs from most of the others in the group by its elytra entirely without elevated discal interstices. Among its immediate allies the extreme fineness of the discal puncturation of its pronotum is approached only in *P. Sospita*, Blackb., which differs from it *inter alia* by the evidently mucronate front angles of its prothorax and by the considerably closer and more evenly spaced discal puncturation of its elytra.

I have some specimens taken in the neighbourhood of Charters Towers (N. Queensland) which I hesitate to separate specifically from *P. Thyone*, although the elytral punctures are distinctly finer than in the type, but I can find no other difference. In some (but not all) of them the indefinite reddish markings on the pronotum are dark brown rather than red, and are better defined than in the type, appearing as a median V with two sinuous longitudinal lines on each side of it. In one of them the punctures on the elytra are (not black but) coloured as the derm.

N.W. Australia.

P. ÆGROTA, Boisd.

Baly gives this name, with doubt, as a synonym of the insect which he calls *lutea*, Marsh., and under that name describes very fully and well. But it is not *lutea*, Marsh., (as I shall show below). That it is *ægrotæ*, Boisd., is scarcely doubtful, as its characters are so well marked that even Boisduval's few words of description could hardly apply to any other *Paropsis*. It is widely distributed and common in N.S. Wales, Victoria, and Tasmania.

P. LUTEA, Marsh.

Through the courtesy of Mr. Masters I have been able to examine the type specimen of this insect. It is beyond doubt the species which Baly described under the name *consimilis*. I conjecture that it is also identical with *morbillosa*, Boisd. It seems to be widely distributed, as I have specimens from N.S. Wales and S. Australia.

P. RUBIDIPE, sp. nov.

♀. Ovata; minus lata; minus nitida; sat convexa (e latere visa ut *P. reticulata*, Marsh., conformata); rufotestacea vel ferruginea, corpore subtus pedibusque rubris, antennis apicem versus infuscatis; capite inæqualiter vix crebre punctulato; antennis quam corporis dimidium sublongioribus; prothorace quam longiori ut 7 ad 3 latiori, rugulose subgrosse subacervatim (fere ut *P. ægrotæ*, Boisd.) punctulato, utrinque latera versus impresso, lateribus profunde 2-emarginatis, angulis

posticis fere nullis; elytris crebre fortiter sat æqualiter punctulatis, interstitiis sat crebre granuliformibus. Long. $5\frac{1}{2}$, lat. 4 lines.

Remarkably like *P. reticulata*, Marsh., in respect of form and proportions, but differing widely from that species by the strongly bi-emarginate sides of its prothorax, the considerably closer puncturation of its pronotum, and the puncturation of its elytra much less obscured by their verrucosity. The bright red colour of the under surface is perhaps not an invariable character, but it is very conspicuous in the two specimens before me. This species is somewhat close to *P. variegata*, Blackb., also, but differs considerably in colouring, also in the puncturation of the pronotum (as specified in the tabulation), and also has closer elytral puncturation, so that the raised interstices of the punctures are notably smaller, making the elytra appear less coarsely sculptured. Tasmania.

P. LATONA, sp.nov.

♀. Præcedenti (*P. rubidipedi*) valde affinis; multo magis convexa (e latere visa quam *P. lutea*, Marsh., paullo magis convexa, parte altiori paullo magis antice sita); corpore subtus (sternis plus minusve infuscatis) pedibusque testaceis, antennis nullo modo infuscatis; capite minus fortiter punctulato; prothorace paullo minus transverso; cetera ut *P. rubidipes*. Long. $5\frac{4}{5}$, lat. $4\frac{1}{5}$ lines.

Not unlike *P. convexa*, Blackb., in form, but *inter alia* with the pronotum very differently punctured.

W. Australia; Albany (sent by Mr. Masters).

P. BLANDINA, sp.nov.

♀. Ovata; sat nitida; sat convexa (e latere visa quam *P. carnosæ*, Baly, paullo minus convexa); rufo-testacea, capite pronoti lateribus et elytris plus minusve flavo-marmoratis; capite crebre subtilius punctulato; antennis quam corporis dimidium parum brevioribus; prothorace quam longiori duplo latiori, in disco sat æqualiter sparsius vix fortiter nullo modo

rugulose (ad latera grosse rugulose) punctulato, utrinque latera versus late profunde impresso, lateribus ante medium profunde 2-emarginatis, angulis posticis fere nullis; elytris fortiter sat crebre (quam *P. carnosæ*, Baly, vix minus crebre) punctulatis, interstitiis subæqualiter sat fortiter (fere ut *P. carnosæ* sed paullo minus fortiter) verrucosis. Long. $4\frac{1}{2}$, lat. $3\frac{1}{2}$ lines.

In most respects resembling *P. carnosa*, Baly, but with the disc of the pronotum distinctly less closely, much more finely and not at all rugulosely punctured and very much more nitid, and the sides of the pronotum bearing a large and deep (but not sharply limited) impression, the general form a little less strongly convex, and the verrucæ of the elytra somewhat less coarse and close, so that they do not so much obscure the puncturation. Compared with *convexa*, Blackb., this species is very much less convex (viewed from the side), with the discal puncturation of its pronotum very much less close and its elytral verrucæ very much less obscuring the puncturation. The very nitid surface of its pronotum, which is due to the absolutely non-rugulose and comparatively sparse character of the puncturation, distinguishes it I think from all its near allies.

W. Australia; taken by Mr. E. Meyrick.

P. POROSA, Er.

The form of the prosternum in this species is liable to a certain variation. In some specimens the sulcation of its hinder portion continues forward to much beyond the middle of its length, but even in those specimens the convex front part is longer than in the species having their prosternum of the normal form.

P. CASSIOPE, sp. nov.

♀. Ovata; sat nitida; minus convexa (e latere visa quam *P. irrorata*, Chp., vix magis convexa); pallide flavo-testacea, elytrorum puncturis nonnullis (his in parte laterali positis) nigris; capite crebre subtilius punctulato; antennis quam corporis dimidium vix brevioribus; prothorace quam longiori

ut 11 ad 5 latiori, in disco ut caput (ad latera grosse vix confluent) punctulato, utrinque latera versus late profunde impresso, lateribus leviter bisinuatis, angulis posticis rotundatis; elytris subfortiter minus crebre (quam *P. irrorata*, Chp., paullo magis fortiter, sat multo minus crebre) punctulatis, interstitiis nonnullis leviter verruciformibus; prosterno inter coxas haud sulcato. Long. 4, lat. 3 lines.

The non-sulcate prosternum separates this species from all others of the group except *porosa*, Er., with which it certainly does not seem allied in any other respect. Nor do I believe that the absence of the prosternal sulcus is a constant character. If I am right in this opinion, specimens in which the sulcus is present must be placed in my tabulation beside *irrorata*, Chp., (where the species seems much more at home). It is very distinct from *irrorata* by *inter alia* the less close and evidently stronger puncturation of its elytra, which on the front part of the sub-sutural region is *very much* less close.

W. Australia.

GROUP II.

This small aggregate consists of species that agree in the puncturation of their elytra being non-seriate and the lateral outline of their prothorax non-sinuuous, but whose great diversity in respect of other characters shows them to be an accidental assemblage of aberrant forms of *Paropsis*. Some of them are among the least, others among the most, strongly convex species of the genus; some among the most brightly coloured, some among the most obscure; some among the most, some among the least, strongly sculptured.

Twenty-eight names seem to be all that have been applied to members of this group (*P. perplexa*, Chp., being excluded as I have already—P.L.S.N S.W. 1897, p. 186—dealt with it as having been wrongly referred hither by its author). Of these only two appear to be synonyms (viz., *Atropos*, Stål, and *biplagiata*, Bohem., apparently synonyms of *immaculata*, Marsh.). There are seven species (*suspiciosa*, Baly, *pedestris*, Chp, *globata*, Chp.,

rubeola, Chp., *subovalis*, Chp., *oblonga*, Chp., and *foraminosa*, Chp.) which I am satisfied that I have not seen, and which are not sufficiently described to allow of my placing them in my tabulation of the group.

There thus remain nineteen already described species known to me, and to these I have to add six new species, making twenty-five, which will be found characterised in the following tabulation.

As far as my observation goes this group contains an unusually large proportion of rare species—indeed, I know of only one (*P. immaculata*, Marsh.) which can be called common and somewhat widely distributed. These insects are for the most part of firm texture and but little liable to change in form or colour after death. *P. immaculata*, Marsh., is the only one that I have found to be subject to much variation. Many of the species are more or less brightly coloured. It will be observed that in the tabulation of this group I have made a good deal of use of colour and markings as furnishing specific characters. I have done so because by that means I am able to include in the tabulation several species not known to me in nature, and which otherwise I should have had to omit; but I have satisfied myself that the species in question are not at all likely to be variable in respect of the particular characters of colour that I have made use of:—

- A. Elytra with coarse confused punctures interrupted on a large common area.
- B. Colour metallic brassy *ærvaria*, Chp.
- BB. Colour not metallic.
- C. Form viewed from the side but little convex (almost as in *P. intacta*, Newm.) *picea*, Oliv.
- CC. Form decidedly more convex.
- D. External half of elytra more or less closely and evenly punctulate (more or less as in *picea*)..... *immaculata*, Marsh.
- DD. External half of elytra very sparsely and irregularly punctulate..... *semipunctata*, Chp.
- AA. Elytra with confused punctures interrupted on raised spaces of colour different from that of the derm.
- B. Elytra with regular rows of isolated raised spaces *Echo*, Blackb.

- BB. The raised spaces on the elytra not seriate..... *anomala*, Blackb.
- AAA. The interruption (if any) of the elytral puncturation neither raised blotches nor a single common area.
- B. Disc of elytra with a sharply defined coloured pattern.
- C. The elytral markings consist of numerous small spots paler than the general surface.
- D. Pronotum with numerous black spots (size large, 5 lines long or more) *fulvoguttata*, Baly.
- DD. Pronotum not variegated with black (size much smaller).. *Polyxo*, Blackb.
- CC. The elytral markings consist of smoky brown or blackish areas longitudinally alternated with testaceous.
- D. The testaceous areas are 5 narrow vittæ (of which 4 reach the base of the elytra)..... *bipuncticollis*, Chp.
- DD. The discal testaceous blotches on the elytra are of irregular form, and do not reach the base *umbrata*, Chp. (?)
- CCC. The elytral markings not as in the preceding aggregates.
- D. The pronotum without markings..... *Stäli*, Chp.
- DD. The pronotum marked with well defined black spots.
- E. The elytral markings consist of more or less abbreviated longitudinal black lines *nitidissima*, Blackb.
- EE. The black portions of the elytra more or less transverse.
- F. The elytral markings include a black V *hastata*, Chp.
- FF. No elytral marking resembling a black V *Selene*, Blackb.
- BB. Elytra without any well defined discal pattern.
- C. Legs with a sharply defined pattern of contrasted black and yellow (size large, long. $5\frac{1}{2}$ lines or more)..... *Circe*, Stäl.
- CC. Legs unicolorous or nearly so, or merely with femora somewhat darker than tibiæ.
- D. Form not nearly convex enough for the outline (viewed from the side) to be a semi-circle.
- E. Elytral puncturation strong (not less so than in *bipuncticollis*, Chp.).

- F. Elytral puncturation quite coarse, interstices distinctly convex..... *Philomela*, Blackb.
- FF. Elytral puncturation by no means coarse, interstices flat.
- G. Form (viewed from the side) fully as convex as in *immaculata*, Marsh.
- H. Disc of pronotum extremely closely and evenly punctulate..... *Waterhousei*, Baly.
- HH. Disc of pronotum very much less closely and evenly punctulate *contracta*, Chp.
- GG. Form (viewed from the side) much less convex *conjungens*, Blackb.
- EE. Elytral puncturation notably less strong.
- F. Elytra unicolorous or nearly so (except suture tending to be dark).
- G. Ventral segments unicolorous or nearly so *palmensis*, Blackb.
- GG. Ventral segments variegated with testaceous and black in strong contrast *abdominalis*, Chp.
- FF. Elytra with conspicuous (though not sharply defined) smoky - black blotches..... *semifumata*, Blackb.
- DD. Form so strongly convex that the curved outline (viewed from the side) is at least a semicircle.
- E. Disc of pronotum all but punctureless..... *minula*, Blackb.
- EE. Disc of pronotum closely and evenly punctulate.
- F. Suture concolorous with the general surface..... *hemisphærica*, Chp.
- FF. Suture black..... *globulosa*, Chp.

P. ÆRARIA, Chp.

I have not seen an authentic type of this species, but have before me two female specimens from the neighbourhood cited as its habitat which agree perfectly with the description. A male *Paropsis* (also from tropical Queensland) in my collection is probably conspecific, but may possibly be distinct; the colour is less distinctly greenish, and there are scarcely any punctures

on the elytra except on the extra-discal portion, so that the common scarcely punctured space includes nearly the whole elytra.

P. IMMACULATA, Marsh.

Dr. Chapuis considered this name a synonym of *picea*, Oliv., but I cannot agree with him. He does not say that he has seen the type of *picea*, and I have before me specimens that agree very well with Olivier's description, and with which *immaculata* is certainly not identical. These specimens (which are females) are distinctly larger than females of *immaculata* (of which I have an example that has been compared with the type specimen), and are much less convex longitudinally (*i.e.*, viewed from the side). If they do not represent *picea*, Oliv., they are an undescribed species, but I should not be justified in giving them a new name, as I could not specify any definite character to separate them from *picea*. It is true that Olivier calls *picea* "hemisphærica," but having regard to that author's use of the term for other *Paropses* I do not think that it connotes more than that the insect is somewhat circular in form and is convex absolutely (not necessarily as compared with other *Paropses*, of which Olivier apparently had only a few before him).

According to Chapuis, *P. Atropos*, Stål, and *biplagiata*, Bohem., are also synonyms of *picea*, Oliv. As regards *Atropos* the description is so insufficient that it is only with hesitation one can say that it refers to either *picea* or *immaculata*, and to decide which of them it refers to is hopeless without inspection of the type; but the point is not an important one, as both those names are anterior to *Atropos*. *Biplagiata* is an easily recognisable insect which in my opinion is rightly regarded as a variety of *immaculata*.

P. ECHO, sp.nov.

♀. Late ovata; sat convexa (e latere visa quam *P. semipunctata*, Chp., paullo minus convexa); minus nitida; rufo-brunnea, testaceo piceoque variegata; capite inæquali, subtilius crebre punctulato; antennis quam corporis dimidium sat brevioribus; prothorace quam longiori ut 7 ad 3 latiori, antice crebre

fortiter (postice sparsius subtilius, ad latera grosse rugulose) punctulato, subinæquali, lateribus sat fortiter arcuatis, angulis posticis nullis; elytris crebre subfortiter confuse punctulatis, verrucas sat magnas leviter elevatas testaceas sparsissime punctulatas (his longitudinaliter 10-seriatim dispositis) ferentibus. Long. 5, lat. 4 lines.

This species is distinct from its congeners of the same group by the presence on its elytra of regular rows of comparatively large well defined verrucæ. The subscutellar row is very short; the 2nd almost entire, interrupted near the middle and containing about 8 verrucæ; the 3rd entire and containing about 15 verrucæ; the 4th much interrupted, of about six verrucæ; the 5th, 6th, 7th, 9th and 10th much like the 3rd; the 8th much like the 4th. The ground colour of the upper surface is red-brown, the pronotum with 3 feebly marked piceous vittæ, the margins and verrucæ of the elytra testaceous. The under surface is obscure testaceous with the metasternum piceous in the middle; the legs are testaceous.

N. Queensland.

P. ANOMALA, sp. nov.

♂. Subcircularis; parum convexa (e latere visa quam *P. morio*, Fab., vix magis convexa); sat nitida; rufa, flavo piceoque variegata; capite crebre subtilius punctulato; antennis quam corporis dimidium paullo brevioribus; prothorace quam longiori ut 16 ad 7 latiori, quam caput in disco (ad latera grosse nec confluent), paullo fortius sparsius punctulato, utrinque latera versus late profunde impresso, lateribus sat arcuatis, angulis posticis rotundatis; elytris fere ut pronotum (sed minus crebre) confuse punctulatis, areis magnis late flavis lævibus ornatis his (aliis elongatis, aliis circularibus) leviter elevatis et puncturis lineatim confertim dispositis marginatis. Long. $5\frac{3}{5}$, lat. $4\frac{3}{5}$ lines.

The style of markings on the elytra of this species distinguishes it at once from all other *Paropses* known to me. The markings consist of large (and small intermingled with them) bright yellow unpunctured spaces, most of which are outlined on all their

margins by a very conspicuous row of very closely placed punctures, and are raised above the general surface. The extremely intricate disposition of colours is difficult to describe clearly. The head and pronotum are yellow, with the sutures and margins narrowly red. On the head is a large piceous blotch (shaped like the letter M) standing on the clypeal suture, and there is another very similar blotch (but much larger) standing on the base of the pronotum, while a large piceous blotch shading off into reddish lies on either side somewhat within the lateral margin. The scutellum is yellow. The faintly raised yellow blotches are as follows on each elytron (exclusive of some blotches which are neither raised nor margined):—4 along the base running hindward (the middle 2 much shorter than the others); a large V with its angle close to the sutural apex, one of its extremities near the lateral margin about its middle, and the other extremity near the suture considerably behind its middle; 2 much smaller spots within the V; and 3 placed (of which one is very elongate-oval and placed longitudinally near the suture, one much shorter but oval and placed somewhat farther from the suture and nearer the front of the elytra, and one nearly round placed still farther from the suture and opposite the middle of the first named of these 3 blotches) in the space between the basal blotches and the V. Of the yellow markings on the elytra those which are not raised or outlined by a row of punctures are 2 spots close to the base, one near the middle of the lateral margin and the whole of the lateral margin itself. The suture also is faintly yellow. On the under surface and legs red and yellow shade off into each other very intricately. The antennæ are yellowish at the base, becoming piceous towards the apex. The colour of the punctured portions of the elytra is red-brown.

N.S. Wales (Rope's Creek). In Mr. Masters' collection.

P. POLYXO, sp.nov.

♂. *Ovata*; *modice convexa*; *nitida*; *testacea*, *elytris nonnihil rufescentibus plagis (his haud elevatis) albidis ornatis*, *antennis apicem versus infuscatis*; *capite prothoraceque*

subtiliter sat crebre punctulatis; hoc ad latera magis fortiter punctulato, quam longiori fere ut 14 ad 5 latiori, a basi ad apicem modice subarcuatim angustato, utrinque latera versus impresso, angulis posticis obtusis; elytris sparsius sat subtiliter (quam prothorax multo minus subtiliter) confuse punctulatis. Long. 4, lat. 3 lines (vix).

A species of very pallid "washed out" appearance. I know no other *Paropsis* in the least resembling it in colour and markings. The elytra are of a pale reddish-testaceous colour, bearing numerous sharply defined (but owing to the pallor of the ground colour not very conspicuous) round whitish spots which differ much *inter se* in size. These are arranged as follows:—A row of about 10 spots near the suture and a similar row near the lateral margin; another somewhat similar row (but with only about 6 spots owing to a wide gap in front of the middle) about the middle of the disc; a single large spot between the last-mentioned row and the submarginal one. The lateral margin of the elytra is very pale testaceous. The antennæ are scarcely half as long as the body. I have both sexes before me. The female scarcely differs from the male externally except by the usual tarsal distinction and its slightly more convex form.

N.S. Wales; Richmond River (Mr. Lea).

P. SELENE, sp.nov.

♀. Subcircularis; valde convexa (e latere visa quam *P. Circe*, Stål, vix minus convexa); nitida; nigra, capite obscure rufo-notato, prothorace rufo (hoc nigro-notato), elytris rufo-notatis, antennarum basi rufa; capite leviter minus crebre punctulato; prothorace quam longiori ut 13 ad 6 latiori, in disco fere lævi, ad latera subfortiter nec confluentem punctulato, lateribus subrectis a basi ad apicem sat fortiter convergentibus, angulis posticis obtusis; elytris in disco subtiliter sparsius confuse (in parte laterali grosse) punctulatis. Long. 4, lat. $3\frac{3}{5}$ lines.

The extremely strong contrast between the very coarse puncturation of the lateral margins and the very fine puncturation of

the rest of the surface of the elytra furnishes a good character in this species. The black markings of the pronotum consist of two large spots placed transversely on the disc. The red markings on the elytra are: the strongly punctured marginal part, which at the sutural apex gives off a vitta; this vitta, which at first bends away from the suture and then runs parallel with the suture (at a little distance from it to considerably beyond the middle of the elytra) and there turns abruptly outward, ending in a dilatation partly encircling the scarcely defined humeral callus; a curved fascia which leaves the lateral red stripe somewhat behind its middle and runs obliquely hindward to join the sub-sutural vitta somewhat in front of its apex (the two vittæ and their connecting fascia thus enclosing a black blotch near the apex of the elytra). The antennæ of the type are broken, but I judge them to have been when entire about one-half the length of the body. The colouring and markings of this species are suggestive of species in Group v. (*P. beata*, *mera*, *octomaculata*, &c.), from which its very much more convex form and non-seriate elytral puncturation at once distinguish it.

N. Queensland; sent by Mr. Masters.

P. PHILOMELA, sp.nov.

♂. Sat late ovata; minus convexa (e latere visa quam *P. immaculata*, Marsh., vix minus convexa); nigra, supra (capite posticescutelloquenigris exceptis) brunneo-testaceo, elytrorum parte laterali dilutiori, antennis basin versus tibiis tarsisque plus minusve rufescentibus; capite confertim subtilius punctulato; antennis quam corporis dimidium parum longioribus; prothorace quam longiori ut 5 ad 2 latiori, in disco confertim subtilius (ad latera grosse vermiculatum) punctulato, utrinque latera versus late indeterminate impresso, lateribus sat arcuatis, angulis posticis rotundatis; elytris confuse fortiter rugulose sat crebre minus æqualiter (fere ut *P. maculata*, Marsh., sed sine verrucis definitis), punctulatis; prosterno inter coxas haud (vel in parte postica sola) sulcato. Long. 5, lat. 4 lines.

This species is readily recognisable among those of the present Group by the coarseness and rugulosity of its elytral sculpture. The convex interstices of the punctures are of various sizes and dispositions, but they are not of the isolated character that would entitle them to be called verrucæ.

Tasmania (Mr. A. Simson).

P. SEMIFUMATA, sp.nov.

♂. Ovata; sat nitida; minus convexa (e latere visa quam *P. immaculata*, Marsh., multo minus convexa); rufo-testacea, elytris pallide brunneo-testaceis (his plagis fumicoloribus et puncturis nigricantibus indeterminate ornatis), antennis apicem versus infuscatis; capite subtilius confertim vix subaspere punctulato; antennis quam corporis dimidium brevioribus; prothorace quam longiori paullo magis quam duplo latiori, in disco subtilius inæqualiter subacervatim (ad latera grosse subconfluentem) punctulato, lateribus leviter arcuatis, angulis posticis superne visis subrectis; elytris confuse subtilius minus crebre (fere ut *P. hemisphærica*, Chp.) punctulatis, areis lævibus nonnullis longitudinalibus irregularibus ornatis, interstitiis subtilissime vix (parte laterali grosse inæqualiter) punctulatis. Long. $3\frac{1}{5}$ - $3\frac{4}{5}$, lat. $2\frac{1}{5}$ - $2\frac{3}{5}$ lines.

♀. Antennis paullo brevioribus.

This species is notable among its allies by the presence on the elytra of feebly defined unpunctured spaces of an unusual shape. When present these spaces are usually in the form of distinct continuous vittæ, but in the present insect they are somewhat oblong and very indistinctly limited spaces so placed as to look like detached pieces of vittæ.

N.S. Wales (Lea, &c.; taken at Richmond River, &c.).

APPENDIX.

P. EXCISIPENNIS, sp.nov. Sat late ovalis; sat convexa; minus nitida; pallide testacea, elytris pone medium in disco indeterminate sanguineo-tinctis; capite dupliciter (crebre sat fortiter et crebre subtilissime) punctulato; prothorace quam

longiori ut 7 ad 3 latiori, fere ut caput (sed ad latera multo magis grosse et hic impresso) punctulato; elytris ad latera ter emarginatis (partium emarginatarum finibus obtuse angulatis), subseriatim (serierum numero circiter 20) fortiter punctulatis; antennis brevibus, apicem versus sat compressis; prosterno inter coxas longitudinaliter leviter impresso. Long. $2\frac{1}{4}$, lat. $1\frac{3}{5}$ lines.

This remarkable *Paropsis* differs from all others known to me by the peculiar outline of its elytra. This is laterally prominent immediately behind the shoulder, then concave to about the end of the front one-third of the whole outline, where it is obtusely angularly prominent, then concave again to somewhat beyond the middle of the whole outline, where it is again angularly prominent, then slightly concave to the apex. Although the puncturation of the elytra is far from being regularly seriate throughout, it is so on the greater part of the disc, and therefore this species ought to be placed (since its elytra are non-verrucose) in my Group iv. (and also it falls in Chapuis' Groupe iv., although the characters of that group are not altogether identical with those of my Group iv.). In my subdivision of Group iv. (P.L.S.N.S.W. 1896, p. 643) it must be referred to Subgroup i., from all the previously described members of which it differs by the "strongly marked character" (placing it in the subgroup) being the remarkable outline of the elytra.

W. Australia.

ERRATUM.

P.L.S.N.S.W. 1896, p. 640, line 3—*For* perparvula, Chp.,
read perparvula, Clk.



Blackburn, Thomas. 1901. "Revision of the genus *Paropsis*. Part VI."
Proceedings of the Linnean Society of New South Wales 26, 159–196.

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