A REVIEW OF THE BEETLE FAMILY PSEUDOMORPHIDAE, AND A SUGGESTION FOR A REARRANGEMENT OF THE ADEPHAGA, WITH DESCRIPTIONS OF A NEW GENUS AND NEW SPECIES

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In the author's opinion this group of beetles is entitled to rank as a distinct family in the Adephaga. It has been placed hitherto as a subfamily of the Carabidae, from which several characters of importance distinguish it. The most striking, perhaps, is the presence of antennal grooves on the underside of the head between the eyes and the maxillary fissures. More important, however, systematically is the absence of the suture between the mentum and the submentum. This suture is absent in the Amphizoidae also, but is present in all the remaining families of the Adephaga. It is especially well marked in the Dytiscidae. Another character not so well suited for synoptic construction but, nevertheless, more or less significant, is the variability in the form and position of the eye. This organ is always lateral in position and subrotund in form in the Carabidae. In the Pseudomorphidae the genera, which number only eight, show the following differences in form and position. In *Adelotopus* the eye is on the upper surface of the head, with a well defined, continuous margin beneath it. In *Cryptocephalomorpha* the eye is lateral in position but by its conformation continues the cephalic margin which it structurally interrupts—an extreme instance of the usually dominant eye-form in subordination to the general form of the head. The eye in this genus, as also in *Pseudomorpha*, has a strong angulation beneath. In *Silphomorpha* and *Sphallomorpha* the eye is round.

It is by no means certain that the genus *Adelotopus* should not be placed in a separate family on account of the difference in the position of the eye as described and its position anterior to the maxillary fissure, a feature characteristic of the Dytiscidae, in which the maxillary fissure extends as far back as the posterior margin of the eye, and also on account of the form of the fissure and the form of the antennae. In *Silphomorpha*, *Sphallomorpha*, and

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especially in *Pseudomorpha*, the posterior extremity of the fissure is acute as though obliquely truncated by the antennal groove, whereas in *Adelotopus* the antennal groove and the fissure are parallel and both are semicircularly rounded at their posterior extremities. The form of the fissure is very similar in *Dytiscus*. Also, in the latter genus, there is a distinct excavation between the eye and the fissure. The Dytiscidae in general have a tendency to hold the antennae in repose, against the underside of the head.

In the Carabidae the relation between the eye and the fissure varies considerably. In the Lebiid genus *Agra*, the eye is wholly posterior to the latter, whereas in *Anisodactylus* the fissure extends to about the posterior two-thirds of the eye. This relation is probably correlated with the feeding habits of the beetles. The fissure is apparently always rounded at its posterior extremity.

In *Silphomorpha*, *Sphallomorpha*, and *Pseudomorpha* the antennae are long and filiform as in the other families of the Adephaga; whereas in *Adelotopus*, they are very short and strongly fusiform, much more clavate than in many genera of the clavicorn family Staphylinidae. Other indications of association with that family are not lacking. The genera *Silphomorpha* and *Sphallomorpha* were separated by Westwood and later made synonymous. They seem to the author, however, to be worthy of maintenance. Westwood distinguished them by the presence of a broad, rather indistinct tooth in the species assembled in *Silphomorpha*. In addition, these species are characterized by a more or less distinct angulation of the gular sutures. Variability in the form of the gular sutures is frequent in the Staphylinidae, especially in the Lathrobia, but, as far as the author is aware, is unknown in the Carabidae. The Cryptobia, also, are recalled in the densely pubescent spots found on two of the abdominal segments in the males of *Pseudomorpha*.

The species of *Silphomorpha* are all uniform in coloration—dark piceous to nearly black. The species of *Sphallomorpha* are variegated with pale maculae, vittae, or margins.

In *Pseudomorpha*, the only genus known from the western hemisphere, the form is elongate, parallel or nearly so and moderately convex, and the color varies from castaneous to nearly black.

The legs are very short, with strongly developed femora in all the genera of the family.

In the Australian genera *Adelotopus*, *Cainogenion*, *Silphomorpha*, and *Sphallomorpha*, the form is more variable. Many species of *Adelotopus* are very elongate and cylindrical, resembling the bark beetles of the family Scolytidae. In *Sphallomorpha* the form is broad, oval, and depressed like that of the Gyrinidae and the

Dytiscidae. In *Adelotopus*, also, many of the species are variegated with maculae or fasciae of red.

The genus *Hydroporomorpha* is known from Africa. *Paussotropus*[1] and *Cryptocephalomorpha* from the East Indies. *Pseudomorpha* is also known from Australia.

Paussotropus in addition to characters mentioned in the synopsis is distinguished by very short tarsi and the absence of a posterior prolongation of the prosternum.

The habits of the Pseudomorphidae are not well known. Many of the Australian species are found under the bark of *Eucalyptus* trees. *Adelotopus* has been found with ants and is believed by Sloane to feed on them.[2] Some species, probably of *Sphallomorpha*, have been found on flowers and doubtless lead to their association with the *Lebias*.

Though not closely related to the subject of this paper, it may not be out of place in connection with a suggested rearrangement of the Adephaga, to call attention to the structure of the mouth in *Pasimachus*. The suture between the mentum and the submentum is very strongly developed and the maxillary fissure is much reduced. Elsewhere in the Carabidae, even in the Scaritini, where *Pasimachus* is placed by the systematists, the fissure extends some distance behind the mentum with a distinct apical arcuation inward, forming a distinct submentum, but in *Pasimachus* the fissure ends at the base of the mentum. In reality it reaches the base of the mentum only as a suture, for the basal half of the mentum is continuous with the gena and the fissure is open only for the apical half. Throughout the Carabidae, to the extent of the author's observations, the fissure is open downwards, so that considerable vertical motion is possible in the movement of the maxilla. In *Pasimachus* the mentum conceals the fissure from beneath and motion in the fissure must be altogether horizontal. These peculiarities of mouth structure, together with the large mandibles and the posterior position of the eyes, seem to afford strong grounds for erecting a distinct family for this and allied genera.

In closing this brief discussion of the Pseudomorphidae, one further point may be indicated. The mandibles are without visible scrobes. Dissection shows that this is due to the greater development of the lower edge of the mandibles; a structure corresponding to the upper edge of the scrobe, appearing as an arcuate carina on the upper surface. This recalls the expansion of the lower edge of the scrobe in the Carabid genus *Leistus*. Whether the absence of the scrobe in the two Lebiid genera *Pentagonica* and *Onota* is due to

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[1] See footnote 4 on p. 5.

[2] Arthur M. Lea. Australian and Tasmanian Coleoptera inhabiting or resorting to the Nests of Ants, Bees, and Termites. Proc. Roy. Soc. Victoria, n. s. vol. 23, 1911, pp. 116–230.

a similar development of the lower edge or not could not be ascertained from lack of material, but it seems probable that it is.

The rearrangement of the Adephaga here suggested seems to bring into greater prominence characters of importance, while, perhaps, taking less account of habits of life.

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KEY TO THE FAMILIES OF THE ADEPHAGA[3]

1. Mentum and submentum not separated by a suture 2
   Mentum and submentum separated by a distinct suture 3
2. Head with antennal grooves beneath ..... **Pseudomorphidae.**
   Head without antennal grooves beneath ..... **Amphizoidae.**
3. Metasternum without an antecoxal piece; prolonged in a triangular process posteriorly 4
   Metasternum with an antecoxal piece, separated by a well-marked suture 5
4. Antennae irregular, very short; abdomen with seven segments; eyes four. **Gyrinidae.**
   Antennae slender, filiform or setaceous; abdomen with six segments; eyes two ..... **Dytiscidae.**
5. Antecoxal piece of the metasternum not extending from one side to the other ..... **Hygrobiidae.**
   Antecoxal piece extending from one side to the other 6
6. Antennae arising on the sides of the head between the eyes and the mandibles 7
   Antennae arising on the front between the eyes and above the mandibles 9
7. Scutellum present 8
   Scutellum absent ..... **Omophronidae.**
8. Maxillary fissures not extending to the mental suture, concealed from below by the mentum ..... **Pasimachidae.**
   Maxillary fissures surpassing the mental suture, open beneath ..... **Carabidae.**
9. Antennae 10-jointed. Hind coxae with large plates almost concealing the abdomen. Head vertical. Mandibles not prominent ..... **Haliplidae.**
   Antennae 11-jointed. Head vertical, with prominent mandibles. Hind coxae without large plates ..... **Cicindelidae.**

[3] Certain authors have discussed adephagous affinities of the Paussidae, Rhyssodidae, and Cupesidae (Burmeister 1841, Raffray 1885, Escherich 1899, Peyerimhoff 1902, Desneux 1905, Boving 1907, and Forbes 1923), but these families are here omitted as too aberrant for inclusion.

The following are the principal papers dealing with the Pseudomorphidae, more especially the earlier species:

KIRBY, WILLIAM.—A Description of some Insects which appear to exemplify Mr. William S. MacLeay's Doctrine of Affinity and Analogy. Trans. Linn. Soc. London, vol. 14, 1825, pp. 93–110.

WESTWOOD, J. O.—Illustrations of the Relationships existing amongst Natural Objects, usually termed Affinity and Analogy, selected from the Class of Insects. Trans. Linn. Soc. London, vol. 18, 1841, pp. 409–421.

WESTWOOD, J. O.—Pseudomorpha et Adelotopus, genera duo anomalia e familia Carabidarum synoptice tractata. Rev. Zool., ser. 2, vol. 5, 1853, pp. 395–410.

MACLEAY, W., Jr.—Descriptions of new Genera and Species of Coleoptera from Port Denison. Trans. Ent. Soc. New South Wales, vol. 1, 1864, pp. 106–130.

DE CASTELNAU, Count F.—Notes on Australian Coleoptera. Trans. Roy. Soc. Victoria, vol. 8, 1868, pp. 95–225.

MACLEAY, W.—Notes on a Collection of Insects from Gayudah. Trans. Ent. Soc. New South Wales, vol. 2, 1871, pp. 79–205.

HORN, G. H.—Miscellaneous Notes and short Studies of North American Coleoptera. Trans. American Ent. Soc., vol. 10, 1882–83, pp. 269–312.

MACLEAY, W.—The Insects of King's Sound and its vicinity. Proc. Linn. Soc. New South Wales, doc. 3, vol. 3, pt. 1, pp. 443–480, 1888.

The following key of the genera is based on the original descriptions only in the case of *Paussotropus* and *Hydroporomorpha* since no specimens of the species in those two genera could be obtained for examination. They are marked with an asterisk to indicate this fact.

KEY TO THE GENERA OF THE PSEUDOMORPHIDAE

1. Eyes superior in position 2
   Eyes lateral in position 3
2. Head with a continuous margin beneath the eye. Prosternum not depressed behind the coxae ..... **Adelotopus** Hope.
   Head with the margin interrupted beneath the eye. Prosternum depressed behind the coxae. A prominent process between the eye and the maxillary fissure ..... **Cainogenion**, new genus.
3. Head deflexed. Front very convex. Mouth inferior 4
   Head horizontal. Mouth anterior 5
4. Labrum and mandibles invisible from in front. Eyes angulate beneath. **Cryptocephalomorpha** Ritsema.
   Labrum and mandibles visible from in front. Eyes round. * **Paussotropus**[4] Waterhouse.
5. Eyes angulate beneath. Head with short antennal grooves; not surpassing the eyes ..... **Pseudomorpha** Kirby.
   Eyes round. Head with long antennal grooves, far surpassing the eyes 6
6. Mentum entire. Ventral segments four ..... * **Hydroporomorpha** Westwood.
   Mentum emarginate. Ventral segments six 7

[4] One species of this genus is known, *P. parallelus* Waterhouse. Trans. Ent. Soc., London, 1877, p. 3. In response to an inquiry concerning this species, Mr. G. J. Arrow writes: "As to *Paussotropus* there appears to have been a mistake, * * *. The type specimen bears the locality "Batchian," but this evidently incorrect, for we have since acquired two specimens taken by Du Boulay in West Australia and one labeled "Adelaide." * * * The form of the head is very remarkable. The eye is nearly circular and placed laterally, its anterior edge just reaching the front margin of the head, but the declivity of the head is elevated immediately in front of the eye and forms a peculiar cup-shaped lobe as seen from the side."

7. Mentum with a short broad tooth. Gular sutures strongly angulate. Color uniform piceous or black---------- **Silphomorpha** Westwood.
Mentum without a tooth. Gular sutures not angulate. Elytra maculate or vittate or with broad pale margins (metallic green in *speciosa* Pascoe). **Sphallomorpha** Westwood.

Genus ADELOTOPUS Hope

The following key was prepared in large part from the original descriptions only. Such species as could *not* be identified in the material at hand are marked with an asterisk. Specimens of *Adelotopus dytiscoides* Newman, *Adelotopus ipsoides* Westwood, and *Adelotopus rubiginosus* Newman which had been compared with the types were obtained through the kindness of G. J. Arrow, of the British Museum, who also compared a specimen from the collection of the American Museum of Natural History with the type of *Adelotopus gyrinoides* Hope and identified it as that species. Complete descriptions are given for those species only, believed to be undescribed.

KEY TO SPECIES OF GENUS ADLOTOPUS HOPE

1. Head with two horn-like tubercles---------- * **cornutus** Castelnau.
Head without tubercles---------- 2
2. Whole upper surface setose, with pale erect hairs---------- * **analis** MacLeay.
Upper surface not setose---------- 3
3. Head with intraorbital setigerous punctures---------- * **insignis** Sloane.
Head without intraorbital setigerous punctures---------- 4
4. Form very broad. Thorax three times as broad as long. Elytra about as long as broad---------- * **celeripes** Lea.
Form elongate. Elytra distinctly to strongly elongate. Thorax not more than twice as broad as long---------- 5
5. Elytra unicolorous or nearly so---------- 6
Elytra bicolored; maculate, fasciate or with apex rather broadly and definitely red---------- 25
6. Color black or piceous black---------- 7
Color pale castaneous or brownish---------- 19
7. Elytra with punctation extremely minute---------- 8
Elytra distinctly punctate. Abdomen red---------- 18
8. Elytra with the minute punctation variolose. Thorax twice as wide as long---------- * **variolosus** Lea.
Elytral punctation not variolose---------- 9
9. Thorax with all the angles very acute. Form elongate. Elytra three times the length of the thorax---------- * **elongatulus** MacLeay.
Thorax with the posterior angles much less distinct---------- 10
10. Abdomen ferruginous or red---------- 11
Abdomen black or piceous black---------- 13
11. Form elongate, narrower---------- * **tasmani** Blackburn
Form broader---------- 12
12. Scutellum and margins of thorax and elytra paler, piceous. * **scolytides** Newman.
Scutellum and margins of thorax and elytra not paler. **hydrobioides** Westwood.

13. Size larger. 9 mm. Basal margin of elytra entire, attaining the scutellum ---- 14
Size smaller, not more than 7 mm. Basal margin of elytra abbreviated, not attaining the scutellum ---- 15
14. More shining ---- mastersi MacLeay.
Alutaceous, subopaque ---- dytiscoides Newman.
15. Elytra shorter, twice the length of the thorax. Form ovate.
* brevipennis MacLeay.
Elytra longer, nearly three times the length of thorax. Form narrower ---- 16
16. Form narrower, more cylindrical. Abdomen black ---- niger, new species.
Form broader, more depressed ---- 17
17. Thorax much broader, more than twice as broad as long. Abdomen black.
* vicinus Castelnau.
Thorax narrower, not more than twice as broad as long. Abdomen paler, piceous ---- gyrinoides Hope.
18. Thorax narrower than the elytra ---- occidentalis Castelnau.
Thorax as wide as the elytra. Suture subcarinate apically.
* micans Blackburn.
19. Alutaceous, rather opaque. Head deeply immersed in the thorax.
* brunneus Castelnau.
Strongly shining ---- 20
20. Densely punctate, though shining ---- * punctatus Castelnau
Punctation rather sparse or wanting ---- 21
21. Size smaller, about 3 mm ---- 22
Size larger, 4–6 mm ---- 23
22. Color ferruginous, uniform. Thorax and elytra of equal width. Very minutely punctate and feebly striate ---- rubiginosus Newman.
Color pale, rufo-piceous, a little darker on head and thorax. Very shining, impunctate. Elytra a little narrower than thorax ---- * laevis MacLeay.
23. Form broader. Thorax two-thirds wider than long. Sides subparallel posteriorly, rounded anteriorly. Punctation fine but distinct. Size 6 mm ---- aphodioides Westwood.
Form elongate, cylindrical ---- 24
24. Thorax nearly as long as broad. Elytra slightly narrower than thorax. Punctation very indistinct. Size 6 mm ---- * longipennis MacLeay.
Thorax rather strongly transverse, as wide as elytra, sides straight, narrowed from the base. Punctation more distinct. Size 4 mm.
castaneus Castelnau.
25. Elytra with the apex more or less broadly reddish ---- 26
Elytra maculate or fasciate ---- 33
26. More or less alutaceous and dull. Form elongate, cylindrical, parallel. Thorax longer than broad ---- * linearis MacLeay.
Shining ---- 27
27. Thorax subquadrate or longer than broad ---- 28
Thorax distinctly transverse ---- 29
28. Thorax longer than wide. Apical third or half of the elytra red.
* filiformis MacLeay.
Thorax subquadrate. Elytral apex less broadly red.
nemosomoides Westwood.
29. Form broader, less oblong ---- apicalis MacLeay.
Form narrower, more parallel ---- 30
30. Thorax impunctate ---- 31
Thorax with distinct punctation ---- 32

31. Elytra with sides nearly straight and distinctly narrowed posteriorly. Elytral truncations slightly emarginate ..... * jacobsoni Ritsema.
Elytra with sides parallel, slightly arcuate. Elytral truncations feebly arcuate ..... haemorrhoidalis Erichson.
32. Thorax punctate medially. Elytral punctation duplex, not regularly seriate. Elytra about half red ..... puncticollis, new species.
Thorax punctate laterally only. Elytra with nine regular rows of punctures. Apex red ..... serie-punctatus, new species.
33. Elytra maculate 34
Elytra fasciate 35
34. Elytra with a large, common red macula ..... * maculipennis MacLeay.
Elytra with a red macula on the center of each ..... * bimaculatus MacLeay.
35. Thorax wider than elytra 36
Thorax not wider than elytra 37
36. Form broader. Basal fascia not extending to one-half the length of the elytra ..... affinis Castelnau.
Form elongate, cylindrical. Thorax narrowed anteriorly. Elytra with two fasciae. Basal fascia much narrower ..... * zonatus Castelnau.
37. Thorax about as long as wide, not narrowed in front. Basal fascia covering two-thirds of the elytra. Form elongate, cylindrical. * fasciatus Castelnau.
Thorax transverse, much narrowed in front. Elytra short. Form broader. * papuanus Gestro.

ADELOTOPUS NIGER, new species

Form elongate, cylindrical, subparallel, nearly three times as long as broad; widest at the middle; sides feebly and evenly arcuate. Color black. Margins of thorax and elytra very finely picescent. Legs, antennae, and mouth parts picescent. Head subimpunctate. Thorax and elytra rather minutely and sparsely and irregularly punctate. Elytra without striae. Suture feebly elevated at apex. Head three-fourths the width of thorax. Thorax slightly more than one-half wider than long. Apex arcuate; sides feebly arcuate and narrowed from base to apex; base very feebly and broadly emarginate. All angles rather narrowly rounded; anterior angles projecting for about one-third the diameter of the eye. Sides rather narrowly reflexed. Base not margined. Thorax not more coarsely nor closely punctured apico-laterally. Elytra more than twice the length of thorax; humeri rounded and less prominent than adjacent thoracic base; basal margin subobsolete. Apical truncatures feebly arcuate; outer apical angles broadly rounded; sutural moderately narrowly rounded. Prosternum indistinctly and sparsely punctured; abdomen rather coarsely and closely punctured laterally. Length, 5.8 mm.; width, 2.1 mm.

Type.—Australia (Koebele). Cat. No. 26168, U.S.N.M.

The apex of the thorax is quite distinctly more arcuate in this species than in my new species *A. puncticollis*. and *A. serie-punctatus*.

ADELOTOPUS PUNCTICOLLIS, new species

Form elongate, cylindrical, subparallel, about two and one-half times as long as wide; widest near the middle; sides distinctly and evenly arcuate. Integuments very shining. Color black. Elytra with posterior two-thirds red on the disk; the black extending somewhat broadly laterally to apical third. Margins of thorax and elytra finely picescent. Mouth parts, antennae, legs, and abdomen bright rufo-castaneous. Head two-thirds the width of thorax, moderately convex, distinctly and rather irregularly punctate. Thorax one-fourth wider than long, sides rather feebly arcuately narrowed from base to apex; anterior angles projecting for about one-third the diameter of the eye, narrowly rounded; sides narrowly reflexed; basal angles rounded. Surface distinctly and irregularly punctured, more coarsely and densely apico-laterally. Elytra rather more than twice the length of thorax, distinctly and irregularly punctured; punctures varying in size, the larger forming irregular longitudinal series on basal portion. Basal margin broadly interrupted medially. Striation very faint. Suture very finely margined, feebly elevated close to the apex. Apical truncatures feebly arcuate; outer angles broadly rounded; sutural angles very narrowly rounded. Sterna rather coarsely, sparsely, and irregular punctured. Abdomen extremely minutely and sparsely punctate and setulose. Length, 5 mm.; width, 2 mm.

Type.—Victoria (Hy Edwards Coll.). Collection of the American Museum of Natural History.

ADELGTOPUS SERIE-PUNCTATUS, new species

Form elongate, cylindrical, slightly wider near elytral apex; sides scarcely arcuate; rather more than twice as long as wide. Very shining. Color black; elytral apex rather broadly red. Antennae, mouth parts, legs, and abdomen bright rufo-castaneous. Head two-thirds the width of thorax, moderately convex, impunctate. Thorax rather more than one-fourth wider than long; sides rather distinctly narrowed anteriorly, feebly arcuate. Anterior angles closely embracing the head but small, scarcely surpassing the posterior margins of the eye, narrowly rounded. Side margins narrowly reflexed. Disk impunctate; sides with few rather coarse punctures, more numerous near apical angles. Elytra twice the length of the thorax; margins very narrowly reflexed; basal margin broadly interrupted medially; disk with nine regular series of strong, asperate punctures; finer near the apex. Striation completely obsolete; suture very finely margined, distinctly elevated near the apex; apical truncatures nearly straight; outer angles very broadly rounded; sutural angles moderately narrowly rounded. Sterna

coarsely, sparsely, and irregularly punctured. Abdomen with numerous, distinct setulose punctures, finer and sparser on sixth segment. Length, 6 mm.; width, 2.5 mm.

Type.—Victoria (Hy Edwards Coll.). Collection of the American Museum of Natural History.

The following species of *Adelotopus* are identified in the material at hand:

ADELOTOPUS HYDROBIODES Westwood

Victoria.—Coll. A.M.N.H.

ADELOTOPUS MASTERSI MacLeay

Forest Reef, New South Wales (Lea).—Coll. A.M.N.H.

ADELOTOPUS DYTISCOIDES Newman

Victoria (3), Tasmania (1), Victoria, Austral. (Edwards Coll.) (5), New South Wales, Austral. (Edwards Coll.), Mt. Lofty Rgs. S. H. Curnow (Lea) (4).—Coll. A.M.N.H.

Australia (Koebele) (5).—Coll. U.S.N.M.

Nov. Holl. Austr. (Fry Coll.) 1905, 100.—Coll. Notman.

ADELOTOPUS GYRINOIDES Hope

Victoria.—Coll. A.M.N.H.

ADELOTOPUS OCCIDENTALIS Castelnau

Bridgetown (Lea).—Coll. A.M.N.H.

ADELOTOPUS RUBIGINOSUS Newman

Port Bowen, 75.22.—Coll. Notman.

ADELOTOPUS APHODIOIDES Westwood

South Australia, (5), Longreach, Queensland (A. M. Lea) (2).—Coll. A.M.N.H.

ADELOTOPUS CASTANEUS Castelnau

Victoria (4), Longreach, Queensland (A. M. Lea) (2).—Coll. A.M.N.H.

ADELOTOPUS NEMOSOMOIDES Westwood

Victoria.—Coll. A.M.N.H.

ADELOTOPUS APICALIS MacLeay

Victoria, Hobart, Tasmania (Lea), inquiline.—Coll. A.M.N.H.

ADELOTOPUS HAEMORRHOIDALIS Erichson

Victoria (2).—Coll. A.M.N.H.

ADELOTOPUS AFFINIS Castelnau

Cairns, Q. (A. M. Lea).—Coll. A.M.N.H.

CAINOGENION, new genus

Genotype.—Adelotopus ipsoides Westwood.

Front margin of head not continuous beneath eye, where it is interrupted by a vertical groove which descends to base of antenna but is apparently not an antennal groove. Eyes rounded oval with the long axis nearly vertical. Antennae very short, stout, fusiform, strongly compressed. That portion of the gena between eye and maxillary fissure supporting a large projecting process with a truncate apex.

Carinate median projection of prosternum strongly depressed behind coxae so that posterior extremity is in contact with mesosternum, not raised above it by a vertical edge as in *Adelotopus*.

Thorax and elytra coarsely and deeply punctured.

Posterior angles of thorax produced posteriorly.

The separation of this genus from *Adelotopus* was suggested by Newman.[5] It seems abundantly distinct by the characters given above.

In the following synopsis such species as could *not* be identified in the material at hand are marked with an asterisk, their position being determined from the original description only.

KEY OF SPECIES OF GENUS CAINOGENION

1. Prosternum not carinate, obtusely elevated posteriorly 2
   Prosternum with a strong median carina on posterior half 4
2. Sides of thorax subangulate anteriorly. Color rufotestaceous.
   ..... * **cylindricum** Chaudoir.
   Sides of thorax evenly rounded. Color darker, with a pale basal area on elytra 3
3. Integuments finely granulate throughout ..... * **bicolor** Castelnau.
   Integuments smooth and shining though punctate ..... **ephippiatum** Newman.
4. Elytra strongly punctured throughout ..... **obscurum** Castelnau.
   Elytra with humeral, lateral or apical areas much less distinctly punctured 5
5. Humeri only impunctate. Form more elongate ..... * **creberrimum** Blackburn.
   Humeri, sides, and apex impunctate or nearly so ..... **ipsoides** Westwood.

The following species of *Cainogenion* are identified in the material at hand:

CAINOGENION EPHIPPIATUM Newman

Victoria (5).—Coll. A. M. N. H.

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[5] Trans. Ent. Soc. Lond., 1856, vol. 3, new series, p. 127.

CAINOGENION OBSCURUM MacLeay

New South Wales, Austral. (Edwards Coll.) (3), Albury, New South Wales.

(A. M. Lea, Beltana. Nov. 30, 1887 (Lea).—Coll. A. M. N. H.

New South Wales, Australia, Jan., 1901, Geo. Compere, Collector (2).—Coll. U. S. N. M.

CAINOGENION IPSOIDES Westwood

Victoria (4).—Coll. A. M. N. H.

Melbourne (Bowring 63.47*), Adelaide (Bowring 63.47*).—Coll. Notman.

Genus CRYPTOCEPHALOMORPHA Ritsema

It is uncertain whether *Adelotopus collaris* Waterhouse, from Siam, should be placed in this genus. It is the only species described from anywhere but Australia, whereas *Cryptocephalomorpha gaverei* Ritsema is known from Java.[6] If examination of the type shows the species to belong here, it may be distinguished as follows. A specimen of *Cryptocephalomorpha marginatus* Westwood (=*gaverei* Ritsema), which has been compared with the type, was obtained through the kindness of G. J. Arrow, of the British Museum.

KEY OF SPECIES OF GENUS CRYPTOCEPHALOMORPHA RITSEMA

Elytra each with a round yellow macula----------collaris Waterhouse.
Elytra each with an oblique red macula----------gaverei Ritsema.

Genus PSEUDOMORPHA Kirby

The material at hand in this genus includes representatives of all the described species with the exception of *cylindrica* Casey from North America and *laevissima* Chaudoir, *gerstaeckeri* Chaudoir, and *argentina* Steinheil, from South America. The author was kindly allowed the privilege of examining the type of *cylindrica* in the collection of its describer.

Laevissima Chaudoir, *gerstaeckeri* Chaudoir and *hubbardi* Notman, are probably distinguishable by an impunctuate thorax. The remaining species fall into several series by characters of the head. In *angustata* Horn, *champlaini* Notman, *schwarzi* Notman, *confusa* Notman, and *cylindrica* Casey, there is a well-marked transverse row of coarser punctures on the occiput which is lacking or indistinct in the others, including *hubbardi* Notman. In another series the front margin of the head between the eye and the base of the mandibles forms a very distinct lobe, which is arcuate and usually more prominent at its anterior end near the mandibles. In *cronkhitei* Horn and *excrucians* Kirby, the apex of the lobe is

[6] Ritsema, Tijds. v. Ent., vol. 22, 1878–1879, pp. lxxxvii–lxxxviii.

truncate and about equally prominent at either end. This series includes *angustata* Horn and the related species, *champlaini* Notman, *schwarzi* Notman, also the species *lacordairei* Depan. *arrowi* Notman, *behrensi* Horn, *castanea* Casey, *vindicata* Notman, and *hubbardi* Notman. Another interesting character which it was not found necessary to use in the synoptic analysis is found in the margination of the base of the thorax. In the species *pilatei* Chaudoir, *tenebroides* Notman, *alutacea* Notman, *vandykei* Notman, *consanguinea* Notman, the thorax is finely margined medially at base. This margin is beaded with the setigerous punctures which are found in a series around the lateral edges of both thorax and elytra. The other species are without this margin with the exception of *confusa* Notman. In the type of the latter the base of the thorax is finely and completely margined. The margin is not, however, beaded with the setigerous punctures. In the *angustata* series the head is distinctly less transverse than in the other species. The elytral punctuation in *confusa* Notman, and *hubbardi* Notman, is simple, consisting of rows of coarse punctures only. In the others the punctures are both coarse and fine, the coarse in rows but the fine sometimes without distinct arrangement. The anal setigerous punctures exhibit a large amount of variability. The number often differs on either side in individuals. Some have but two on either side; others as many as five. The latter was found to be the number in a male *excrucians* Kirby and a female *behrensi* Horn. There appears to be no difference in the number between the sexes. The number averages lowest in *angustata* Horn, and its relatives.

The proportions of the thorax are often deceptive and therefore more or less unreliable on account of a tendency to distortion through warping of the integuments.

E. A. Schwarz, who has made a study of the genus, kindly turned over his notes to the author. Characters of systematic value, the transverse row of coarse punctures on the head and the variation in the width of the pubescent spots on the third and fourth abdominal segments of the male, are indicated by him. The former character is made use of in the synopsis of the species. The male character will distinguish *schwarzi* Notman and *champlaini* Notman from *angustata* Horn, the spots being narrower in the former.

Dr. Schwarz writes that the *Pseudomorphas* are numerous in their habitat, but are difficult to capture. They live in dead leaves and move with great agility, assisted by the numerous setae with which they are provided. They are easy to capture on cloth when attracted to light. A large series was collected by Dr. E. E. Lutz in Arizona by the latter method.

In the following synopsis the species known *only* from the original descriptions are marked with an asterisk. *Pseudomorpha argentina* Steinheil is omitted because of the impossibility of placing it by the original description. Complete descriptions are given only for the species believed to be undescribed.

KEY TO SPECIES OF GENUS PSEUDOMORPHA KIRBY

1. Elytra with five distinct longitudinal sulcations on the disk. falli, new species.
   Elytra without sulcations 2
2. Thorax punctate 5
   Thorax impunctate 3
3. Elytra impunctate ..... * laevissima Chaudoir.
   Elytra punctate 4
4. Elytra parallel ..... * gerstaeckeri Chaudoir.
   Elytra distinctly narrowed posteriorly ..... hubbardi, new species.
5. Head with a distinct transverse row of coarser punctures on vertex 18
   Head without a distinct transverse row of coarser punctures on vertex 6
6. Head with rather prominent preocular clypeal lobe 12
   Head without distinct preocular clypeal lobe 7
7. Elytra shining, not at all alutaceous, punctuation finer ..... pilatei Chaudoir.
   Elytra less shining, distinctly alutaceous 8
8. Form more elongate parallel, cylindrical; head large, three-fourths the width of the thorax; sides of the thorax subparallel ..... tenebroides, new species.
   Form broader; head proportionally much smaller; thorax distinctly narrowed anteriorly 9
9. Form rather short, parallel; elytra with the second, fourth, sixth, eighth, and ninth series composed of coarser punctures; the fourth and sixth somewhat abbreviated basally ..... alutacea, new species.
   Form a little more slender, distinctly narrowed posteriorly 10
10. Elytra with rows of punctures finer throughout and somewhat indistinct. Form rather less convex. Thorax shorter and head smaller. vicina, new species.
    Elytra with distinct rows of coarser punctures 11
11. Thorax more transverse. Sides more rounded and narrowed anteriorly. Elytra with three rows of coarser punctures, all abbreviated basally. Outer two not reaching the middle ..... van dykei, new species.
    Thorax less transverse, less narrowed anteriorly. Elytra with the second, fourth, sixth, and eighth series of coarser punctures subentire. First and second series also with coarser punctures ..... consanguinea, new species.
12. Elytra finely alutaceous, less shining 13
    Elytra not alutaceous, strongly shining 16
13. Form distinctly narrowed posteriorly 14
    Form parallel 15
14. Elytral punctuation very fine, subobsolete ..... cronkhitei Horn.
    Elytra with eight rows of punctures. The seventh of fine, the others of coarse punctures ..... vindicata, new species.
15. Elytra with the rows of punctures confused on the disk ..... behrensi Horn.
    Elytra with the rows of punctures distinct throughout ..... castanea Casey.
16. Thorax more coarsely and densely punctured apico-medially. arrowi, new species.
    Thorax not punctured as above 17

17. Color rufous. Elytra blackish piceous. Thorax less transverse. Elytra less elongate ..... excrucians Kirby.
Color above entirely blackish piceous. Thorax more transverse. Elytra more elongate ..... lacordairei Dejean.
18. Elytra finely alutaceous, less shining, with nine rows of coarse punctures. confusa, new species.
Elytra not alutaceous, strongly shining 19
19. Form very elongate, cylindrical. Head scarcely narrower than thorax. Elytra with two rows of coarser punctures ..... cylindrica Casey.
Form broader. Head distinctly narrower than the thorax 20
20. Head larger, about two-thirds the width of thorax. Elytra with a single row of coarser punctures near suture ..... angustata Horn.
Head smaller, scarcely more than one-half the width of thorax. Elytra with two rows of coarser punctures 21
21. Unicolorous above. Thorax more transverse, with sides more strongly rounded ..... champlaini, new species.
Head and thorax rufous; elytra blackish piceous. Thorax less transverse, with sides less strongly rounded. Size smaller ... schwarzi, new species.

PSEUDOMORPHA FALLI, new species

Form rather slender and cylindrical. Color dark castaneous. Integuments finely alutaceous, moderately shining. Head with sparse, fine punctuation; thoracic punctuation sparse, fine, and very indistinct; a few faint rugae postero-laterally. Elytra with eight rows of strong, coarse punctures, somewhat abbreviated basally; a few fine punctures in the intervals or in the rows of coarser punctures. Discal intervals distinctly longitudinally impressed. Head large, two-thirds the width of thorax, rather more than twice as wide as long; preocular lobes not distinct; clypeal suture not distinct. Antennae rather long, slightly surpassing anterior coxae. Thorax twice as wide as long. Sides moderately narrowed anteriorly, evenly and not strongly arcuate; a faint longitudinal median impressed line. Base not margined at any point. Elytra scarcely visibly wider than thorax, three times as long as latter. Sides parallel; apices truncate; outer angles rounded, inner narrowly rounded. Length, 6.4 mm.; width, 2.7 mm.

Male.—Densely pubescent spot at the middle of the fourth and fifth ventral segments about one-seventh the width of the segment.

Type.—Male. San Diego County, California. Jacumba, July 1, 1907. G. H. F. Collection of H. C. Fall.

PSEUDOMORPHA HUBBARDI, new species. (Schwarz Mss.)

Form rather broad and depressed. Color varying from pale ferruginous to blackish piceous. Integuments above finely alutaceous. Head with two or three punctures near eye. Thorax impunctate. Elytra with four rows of coarse punctures, rather widely spaced. Head three-fifths the width of thorax, about twice as wide as long. Preocular lobe somewhat distinct; clypeal suture feebly marked.

Antennae short, not surpassing the anterior coxae. Thorax twice as wide as long, as wide as elytra; apex feebly emarginate; anterior angles very broadly rounded; sides rounded and convergent anteriorly; posterior angles broadly rounded; margins finely reflexed; base finely margined medially; a fine median carina behind the middle. Elytra about three-fifths longer than wide, scarcely more than twice the length of thorax, distinctly narrowed posteriorly; apex obliquely truncate; outer angles broadly rounded, inner rather narrowly rounded; suture feebly elevated apically. Length, 6.75–7.75 mm.; width, 3–3.5 mm.

Male.—Densely pubescent spot at the middle of the fourth and fifth ventral segments, about one-seventh the width of the segment.

Type.—Male. Allotype and 1 paratype (female), Rincon Mountains, Arizona. July, 1907. Collection of the author.

Paratype (female). Rincon Mountains, Arizona. July, 1907. Collection of the British Museum.

Paratype (female). Rincon Mountains, Arizona. July, 1907. Collection of the Academy of Natural Sciences of Philadelphia.

Paratype (female). Tucson, Arizona. July 21, 1913 (Shreve). Collection of the Bureau of Plant Industry, Harrisburg, Pennsylvania.

Paratype (female). Huachuca Mountains, Arizona (Palm Coll.). Collection of the American Museum of Natural History, New York.

Four paratypes (2 males, 2 females). Fort Grant, Arizona. July 12, 15, and 23 (Coll. Hubbard and Schwarz). Collection of the United States National Museum.

Paratypes.—Cat. No. 26169, N.S.N.M.

PSEUDOMORPHA TENEBROIDES, new species. (Schwarz Mss.)

Form elongate, parallel, cylindrical. Color dark rufo-piceous. Integuments finely alutaceous, rather feebly shining. Head and thorax with fine, irregularly scattered punctures. Elytra finely and sparsely punctured with four rows of widely separated coarse punctures; the three outer rows much abbreviated basally. Head large, three-fourths the width of thorax, twice as wide as long. Preocular lobe not at all prominent; clypeal suture obsolete. Antennae moderate in length, slightly surpassing the anterior coxae. Thorax one-half wider than long, as wide or slightly narrower than elytra, sides straight and parallel behind the middle, feebly convergent and arcuate anteriorly. Apex feebly emarginate; anterior angles not prominent, posterior angles rounded; a faint median carina at base; base feebly margined medially. Elytra two and one-half times as long as the thorax, twice as long as wide; sides parallel or slightly divergent posteriorly, straight to apical three-fourths; margins very

finely reflexed; suture feebly elevated apically; apices obliquely truncate; outer angles broadly rounded, inner moderately rounded. Length, 8 mm.; width 3 mm.

Male.—Densely pubescent spot on the middle of the fourth and fifth segments, broad, a little more than one-fourth the width of the segment.

Type.—Male. Tucson, Arizona. June 22 (Coll. Hubbard and Schwarz). Cat. No. 26170, U.S.N.M.

PSEUDOMORPHA ALUTACEA, new species

Form rather short, parallel, moderately convex. Color dark rufo-piceous. Integuments above finely alutaceous. Head and thorax finely and sparsely punctured. Elytral punctuation as given in the synopsis. Head about three-fifths the width of the thorax, twice as wide as long. Preocular lobe not prominent; clypeal suture rather distinctly impressed throughout. Antennae rather long, surpassing considerably the anterior coxae. Thorax about four-fifths wider than long. Apex feebly emarginate; anterior angles not prominent, rounded. Sides moderately arcuate and convergent; posterior angles rounded. Base finely margined medially; side margins finely reflexed; sides moderately explanate anteriorly; a very fine and almost entire median line, very feebly impressed. Elytra scarcely more than twice the length of thorax, about one-half longer than wide, sides parallel to apical two-thirds; suture broadly and feebly prominent near the apex; apices obliquely truncate; angles rounded, outer broadly. Length, 7.25 mm.; width, 3.25 mm.

Type.—Female. Mesilla, New Mexico, 1897 (Cockerell). June 30. Cat. No. 26171, U.S.N.M.

PSEUDOMORPHA VICINA, new species

Form somewhat broad, moderately convex. Color dark piceo-castaneous. Integuments very finely alutaceous, rather moderately shining. Head very finely, sparsely, and indistinctly punctured. Occipital row of punctures just traceable. Thorax subimpunctate medially, distinctly punctate laterally. Elytra with nine or more somewhat irregular rows of fine punctures, alternate rows of slightly larger punctures. Head rather small, slightly more than half the width of thorax, about twice as wide as long. Preocular lobes not distinct; clypeal suture faintly impressed. Antennae rather short, scarcely surpassing the anterior coxae. Thorax about twice as wide as long, fully as wide as any part of elytra, rather strongly narrowed anteriorly, with sides only moderately arcuate. Base not margined at any point. Elytra about two and one-half times the length of thorax. Sides distinctly narrowed posteriorly; nearly straight.

Apices rather feebly truncate; outer angles broadly rounded; inner angles also rather broadly rounded. Length, 7.5 mm.; width, 3.2 mm.

Male.—Densely pubescent spots on the third and fourth ventral segments about one-seventh the width of the segment.

Type.—Male. San Diego County, California. Jacumba July 1, 1907. G. H. F. Paratype (male) Sutro, Nevada. Collection of H. C. Fall.

PSEUDOMORPHA VAN DYKEI, new species

Form somewhat elongate, slightly depressed. Color blackish piceous, margins paler. Integuments above finely alutaceous, somewhat feebly shining; head and thorax finely and rather sparsely punctured; elytra punctured as given in the synopsis. Head three-fifths the width of the thorax, twice as wide as long. Preocular lobes not prominent; clypeal suture very indistinct. Antennae rather long, surpassing considerably the anterior coxae. Thorax twice as wide as long, as wide or wider than elytra. Apex feebly emarginate, anterior angles rounded; sides broadly arcuate and convergent anteriorly, posterior angles rounded; sides rather broadly explanate, with margin finely reflexed. Base finely margined medially, a fine and feebly impressed median line anteriorly, a very faint and short carina near the base. Elytra nearly two and one-half times the length of the thorax, slightly more than one-half longer than wide; sides distinctly convergent behind the middle, suture broadly and feebly elevated on apical half; apices obliquely truncate, with the angles rounded as usual. Length, 7.25 mm.; width, 3.5 mm.

Type.—Female. Santa Cruz Village, Cobabi Mountains, Arizona. August 10–12, 1916. 32° 1′ N., 111° 54′ W., about 3,100 feet (Lutz) collected at light. Collection of the American Museum of Natural History.

PSEUDOMORPHA CONSANGUINEA, new species

Form slightly elongate, moderately convex. Color dark piceo-castaneous. Integuments above finely alutaceous, rather feebly shining. Head and thorax very finely and rather sparsely punctured; elytra as given in the key. Head three-fifths the width of thorax, twice as wide as long. Preocular lobe not prominent; clypeal suture distinctly impressed. Antennae rather long, surpassing the anterior coxae. Thorax about three-fourths wider than long, as wide as or slightly wider than the elytra; apex feebly emarginate; anterior angles rounded; sides moderately arcuate and convergent; posterior angles rounded. Base finely margined medially; sides scarcely explanate. A fine and much-abbreviated median line, feebly and broadly impressed. Elytra somewhat more than twice the length of thorax, slightly more than one-half longer than wide; sides distinctly convergent behind the middle; suture

broadly and feebly elevated behind the middle; apices truncate and angles rounded as usual. Length, 9 mm.; width, 4 mm.

Type.—Male. San Diego County, California. Morena Dam. July 4, 1907. G. H. F. Collection of H. C. Fall.

Allotype.—Dewey, Arizona. July 10–20, 1917. Collection of E. C. Van Dyke.

PSEUDOMORPHA VINDICATA, new species

Form slightly elongate, rather depressed. Color rufo-piceous. Integuments finely alutaceous, rather feebly shining. Head and thorax finely and rather sparsely punctured, sparser medially; elytra as given in the key. Head about three-fifths the width of the thorax, twice as wide as long. Preocular lobes prominent, strongly rounded; clypeal suture distinct. Antennae (tips broken off in the type) probably long, surpassing the anterior coxae. Thorax rather more than twice as wide as long; apex very feebly emarginate; sides broadly arcuate and convergent; posterior angles rounded; base not margined medially; sides scarcely explanate; median line subobsolete. Elytra more than two and one-half times the length of the thorax, somewhat more than one-half longer than wide; sides distinctly convergent from the base; suture broadly and feebly elevated near the apex; apices rather less strongly truncate than usual. Length, 9 mm.; width, 3.75 mm.

Male.—Densely pubescent spots on the fourth and fifth ventral segments about one-sixth the width of the segment. Five setigerous punctures either side at the apical margin of the last segment.

Type.—Male. Stockton, Utah. August 1–7 (Spalding). Collection of the author.

PSEUDOMORPHA ARROWI, new species

Form slightly elongate, moderately convex. Color blackish pieceous above, dull rufous beneath. Thorax and elytra polished, shining, not at all alutaceous; head finely alutaceous. Head moderately finely and sparsely punctured; thorax as in the key. Elytra with nine rows of coarse punctures, seventh in part composed of fine punctures. Head three-fifths the width of thorax, twice as wide as long. Preocular lobes prominent, subtruncate; clypeal suture distinct laterally. Antennae far surpassing the anterior coxae. Thorax three-fourths wider than long. Apex emarginate; anterior angles somewhat prominent; sides arcuate and convergent anteriorly; posterior angles rounded; sides feebly explanate; base not margined medially; an extremely fine median carina on apical half. Elytra not quite two and one-half times the length of thorax, about one-half longer than wide; sides probably slightly convergent behind the middle (not exactly determinable owing to

the parting of the elytra). Sutures scarcely elevated posteriorly; apices rather obliquely and feebly subtruncate; inner angles unusually broadly rounded. Length, 9.5 mm.; width, 4.25 mm.

Type.—Female. Ciudad, Durango, Mexico 8100 feet. Forrer. Collection of the British Museum.

PSEUDOMORPHA CONFUSA, new species

Form elongate, subparallel, depressed. Color blackish piceous. Integuments above finely alutaceous, moderately shining. Head with a few scattered, coarse punctures, more numerous laterally. Thorax with sparsely scattered, coarse punctures; elytra punctured as given in the key. Head slightly more than half the width of thorax, not twice as wide as long. Preocular lobes very prominent, oblique; clypeal suture not distinct. Antennae broken, probably surpassing the anterior coxae. Thorax twice as wide as long; apex emarginate; anterior angles somewhat prominent, rounded; sides rather strongly arcuate and convergent anteriorly; posterior angles rounded, broadly and strongly biimpressed basally; base finely and completely margined; median line fine, much abbreviated; a faint trace of a median carina near the apex. Elytra two and one-half times the length of thorax, rather more than one-half longer than wide; sides distinctly convergent behind the middle; suture feebly elevated near the apex; apices feebly subtruncate, inner angles moderately rounded. Length, 10.25 mm.; width, 4.35 mm.

Type.—Female. Australia. Collection of the British Museum.

PSEUDOMORPHA CHAMPLAINI, new species. (Schwarz Mss.)

Form strongly elongate, parallel, moderately convex. Color blackish piceous. Integuments not at all alutaceous, strongly shining throughout. Head and thorax moderately finely and not sparsely punctured; elytra punctured as given in the synopsis. Head scarcely more than one-half the width of thorax, less than twice as wide as long. Preocular lobes prominent, arcuate, oblique; clypeal suture not distinguishable. Antennae very long, considerably surpassing the anterior coxae. Thorax twice as wide as long; apex scarcely at all emarginate; sides strongly arcuate and rather strongly convergent anteriorly; posterior angles rounded; base not margined; a median fine line, abbreviated at either end, slightly impressed on the disk. Base slightly impressed either side; sides feebly explanate; side margins finely reflexed. Elytra as wide as thorax, two and one-half times as long, three-fourths longer than wide; sides parallel to near the apex; apices broadly subtruncate, suture feebly elevated close to the apex. Length 6.75—7.75 mm.; width, 2.75–3 mm.

Male.—Densely pubescent spots on the fourth and fifth ventral segments about one-seventh the width of the segment.

Type.—Male. Paradise, Arizona. (H. H. Kimball Coll.). Collection of the Bureau of Plant Industry, Harrisburg, Pennsylvania.

Allotype.—6,000 feet. Mount Washington, Nogales, Arizona, J. A. Kusche, July 1919–8. Collection of E. C. Van Dyke. *Paratype.*—(Male) California Collection of Chas. Schaeffer. Two paratypes (male) Oracle, Arizona, 7.7, 9.7. Two paratypes (male) Chiricahua Mountains, Arizona, 2.7, 4.7 (Coll. Hubbard and Schwarz). Collection of the United States National Museum. *Paratypes*, Cat. No. 26173, U.S.N.M.

PSEUDOMORPHA SCHWARZI, new species

Form strongly elongate, parallel, moderately convex. Color dark rufous; elytra blackish piceous. Head, thorax, and elytra smooth, strongly shining, not at all alutaceous. Head and thorax with fine, rather sparse and indistinct punctures; the occipital transverse row of coarse punctures not so strongly developed; elytra punctured as given in the synopsis. Head slightly more than one-half the width of the thorax, less than twice as wide as long. Preocular lobes very prominent, strongly rounded, slightly oblique; clypeal suture indistinguishable. Antennae very long, surpassing considerably the anterior coxae. Thorax three-fourths wider than long; apex scarcely at all emarginate; sides feebly arcuate; basal angles rounded; base not margined; a fine feebly impressed subentire median line. Base transversely impressed laterally; sides scarcely explanate. Elytra two and one-half times the length of thorax, three-fourths longer than wide; sides parallel and straight to near apex; apices broadly, almost squarely truncate; suture not at all elevated. Length, 6.5 mm.; width, 2.5 mm.

Male.—Densely pubescent spots of the fourth and fifth ventral segments about one-seventh the width of the segment.

Type.—Male. Santa Rita Mountains, Arizona, June 16. (Coll. Hubbard and Schwarz.) Cat. No. 26174, U.S.N.M.

The following species of *Pseudomorpha* are identified in the material at hand:

PSEUDOMORPHA PILATEI Chaudoin

Yucatan.—Coll. British Museum.

PSEUDOMORPHA CRONKHITEI Horn

Tulare County, California.—Coll. C. Schaeffer.

PSEUDOMORPHA BEHRENSI Horn

Walnut Creek, California, July 8, 1903. F. E. L. Beal. Bur. Biol. Surv.—Coll. U. S. N. M.

PSEUDOMORPHA CASTANEA Casey

Stockton, Utah, July 23, 1903.—Coll. H. C. Fall.

Folsom, California, August 17, 1885 (Coll. Hubbard and Schwarz); Stockton, Utah, July 22, 1902; July 26, 1903.—Coll. U.S.N.M.

PSEUDOMORPHA EXCRUCIANS Kirby

Covington, Louisiana, July 1, 1892 (Coll. Hubbard and Schwarz.—Coll. U.S.N.M.

PSEUDOMORPHA LACORDAIREI Dejean

Brazil.—Coll. British Museum.

PSEUDOMORPHA ANGUSTATA Horn

San Bernardino Ranch, Cochise County, Arizona, 3,750 feet, August, F. E. Snow; Baboquivaria Mountains, Arizona, F. E. Snow.—Coll. H. C. Fall.

Fort Grant, Arizona, Pinaleno Mountains, July 15, 1917 (2); near Kits Peak, Baboquivaria Mountains, Arizona, August, 7–9, 16.32° 0′ N., 111° 36′ W., about 3,000 feet.—Coll. E. C. Van Dyke.

Oracle, Arizona, 5.7, 6.7, 10.7, 23.7 (5) (Coll. Hubbard and Schwarz); Phoenix Arizona; Fort Grant, Arizona, 16.7 (2); 22.7 (2) (Coll. Hubbard and Schwarz); Santa Rita Mountains, Arizona, 18.6 (Coll. Hubbard and Schwarz); Deming, New Mexico, 22.7 (Coll. Hubbard and Schwarz); Morrison, Arizona (Coll. Hubbard and Schwartz); New Mexico, H. Ulke dedit.—Coll. U. S. N. M.

Arizona (Palm Coll.). Kits Peak, Rincon, Baboquivaria Mountains, Arizona, 1–4 August, 1916, 31° 57′ N., 111° 33′ W., about 4,050 feet (7) (at light); Black Dike, Prospect Sierritas, Arizona, July 26–29, 1916, 31° 56′ N., 111° 16′ W., about 3,750 feet (7) (at light); Deming, New Mexico, Luna County, July 12, 1917.—Coll. Amer. Mus. Nat. Hist.

Rincon Mountains, Arizona; Rincon Mountains, Arizona (5,000) (2); Rincon Mountains, Arizona, July, 1907 (4).—Coll. Notman.

Genus HYDROPOROMORPHA Westwood

The species of this genus are altogether unknown to the writer except by the original descriptions. In conformity with the practice followed in the preceding genera, all the species in the following synopsis are marked with an asterisk to indicate that no specimens are at hand.

KEY TO SPECIES OF GENUS HYDROPOROMORPHA WESTWOOD

1 Elytra pubescent ..... * africana Schaufuss.
Elytra not pubescent 2
2. Labrum not covering the mandibles. Antennae rather stout, with the joints oblong ..... * westwoodi Raffray.
Labrum covering the mandibles more or less completely 3

3. Antennae filiform, subsetaceous. Labrum more transverse.
* **lutea** Westwood.
Antennae stout; joints 5–9 moniliform. Labrum about as long as wide--- 4
4. Form ovate. Disk of the thorax strongly sulcate. Elytra feebly striate. Size smaller, 3 mm---------- * **monilis** Westwood.
Form longer and more parallel. Elytra with sides nearly straight. Thorax with disk feebly sulcate. Elytra more distinctly striate. Size larger, 4.5 mm---------- * **obockiana** Fairmaire.

Genus SILPHOMORPHA Westwood

The species of this genus seem especially difficult to separate. A specimen of *Silphomorpha difficilis* Blackburn which had been compared with the type was obtained through the kindness of G. J. Arrow, of the British Museum. Such other species as could not be identified in the material at hand are marked with an asterisk in the following synopsis. Complete description of none of the species has been attempted.

KEY TO SPECIES OF GENUS SILPHOMORPHA WESTWOOD

1. Thorax very wide, about three times as wide as long---------- 2
Thorax narrower, about twice as wide as long---------- 5
2. Thorax absolutely smooth---------- 3
Thorax minutely punctate---------- 4
3. Form broader. Elytra more shining. Striae more prominent apically. Thorax black---------- * **laticollis** MacLeay.
Form less broad. Elytra less shining. Striae uniform. Thorax with piceous margins---------- **froggatti** MacLeay.
4. Elytra with the striae strong---------- **striatipennis** MacLeay.
Elytra with the striae nearly obsolete. Thoracic margins broader and piceous in color---------- * **obsoleta** MacLeay.
5. Thorax larger, broader than the elytra---------- * **denisonensis** Castelnau.
Thorax not broader than the elytra---------- 6
6. Head larger. Its width about one-half the total length of the beetle. Eyes prominent---------- * **boops** Blackburn.
Head smaller. From a third to a fourth the total length---------- 7
7. Elytra very indistinctly striate---------- 8
Elytra more or less strongly striate---------- 16
8. Elytra absolutely smooth---------- 9
Elytra punctate---------- 13
9. Side margins of thorax and elytra paler, reddish---- * **laevis** Castelnau.
Side margins not paler---------- 10
10. Form oblong. Thorax with the sides more arcuate. Beneath dark brown. Size large, 10 mm---------- * **grandis** Castelnau.
Form oval. Thorax and elytra with sides more continuous. Underside more or less pale---------- 11
11. Form more elongate. Size larger, 9 mm. Abdomen dark with apex broadly pale---------- * **westwoodi**, new name.
Form short oval. Size smaller, 5–6 mm. Underside entirely pale castaneous---------- 12

12. Elytra not paler at apex_____ * **polita** Westwood.
(? **fugax** Westwood.)

Elytra with the apex rufescent. Thorax with the margins not explanate. **difficilis** Blackburn.
(? **polita** Westwood.)

13. Elytra with a marginal series of a few strong punctures near the base. * **laevigata** Castelnau.

Elytra minutely punctate_____ 14

14. Thorax alutaceous. Elytra with disk less densely punctate. * **fugax** Westwood.

Thorax minutely punctate_____ 15

15. Elytra more distinctly punctate. Side margins not paler. * **punctatissima** MacLeay.

Elytra very finely punctate. Side margins narrowly and abruptly paler. * **amaroides** Newman.

16. Size larger, not less than 8 mm._____ 17

Size smaller, not more than 7 mm._____ 21

17. Thorax with side margins much wider in front____ * **tasmanica** Castelnau.

Thorax with side margins not distinctly wider in front_____ 18

18. Thorax with side margins much narrower in front. Elytra very strongly striate_____ **striata** Castelnau.

Thorax with side margins not distinctly narrower in front_____ 19

19. Thorax and elytra with side margins paler, piceous. Thorax smooth. Elytra distinctly striate_____ * **mastersi** Macleay.

Thorax and elytra with the side margins not paler_____ 20

20. Form broader. Elytra distinctly striate_____ **vicina** Castelnau.

Form narrower, more parallel. Elytra with striate rather indistinct. **fallax** Westwood.

21. Elytra with striae confined to apical portion____ * **semistriata** Castelnau.

Elytra with striae extending over median portion_____ 22

22. Form more oblong. Margins of thorax and elytra paler. Size larger, 7 mm_____ * **dubia** Castelnau.

Form more oval. Margins of thorax and elytra not paler. Size smaller, 5 mm_____ * **ovalis** Castelnau.

The following species of *Silphomorpha* are identified in the material at hand:

SILPHOMORPHA FROGGATTI MacLeay

Laura (Lea) (2).—Coll. Amer. Mus. Nat. Hist.

SILPHOMORPHA STRIATIPENNIS MacLeay

Port Darwin, Northern Territory (Lea).—Coll. Amer. Mus. Nat. Hist.

SILPHOMORPHA DIFFICILIS Blackburn

Australia, 58,124.—Coll. Notman.

SILPHOMORPHA STRAITA Castelnau

New South Wales (Hy Edwards Coll.).—Coll. Amer. Mus. Nat. Hist.

SILPHOMORPHA VICINA Castelnau

New South Wales (Hy Edwards Coll.).—Coll. Amer. Mus. Nat. Hist.

SILPHOMORPHA FALLAX Westwood

South Australia (Hy Edwards Coll.) (3); New South Wales, Australia (Edwards Coll.) (2); Mount Lofty, South Australia (Lea); Tintinara, under bark, July 1, 1887, Tepper (Lea).—Coll. Amer. Mus. Nat. Hist.

Genus SPHALLOMORPHA Westwood

No new species could be distinguished in the material at hand in this genus and no complete descriptions are given. The species are somewhat more easily separated than in the other genera. In the following synopsis the species marked with an asterisk are those known from the original descriptions only, not being identified in the material at hand.

KEY TO SPECIES OF GENUS SPHALLOMORPHA WESTWOOD

1. Color brilliant metallic green with purple or violet reflections. * **speciosa** Pascoe.
   Color not brilliant metallic green 2
2. Elytra without discal or sutural maculae or vittae 3
   Elytra with discal or sutural maculae or vittae 8
3. Elytra without basal and apical pale fasciae ..... **decipiens** Westwood.
   Elytra with basal and apical pale fasciae 4
4. Elytra finely rugose. Thorax entirely pale. Elytral fasciae wider. * **flavicollis** MacLeay.
   Elytra smooth, shining 5
5. Lateral pale vittae of the elytra submarginal. Thorax black, with narrow piceous margin ..... * **marginata** Castelnau.
   Lateral pale vittae marginal 6
6. Thoracic disk entirely red ..... **nitiduloides** Guérin.
   Thoracic disk not entirely red 7
7. Thoracic disk red with two broad black vittae ..... **picta** Castelnau.
   Thoracic disk entirely black ..... **ornata** MacLeay.
8. Elytra without discal maculae or vittae 9
   Elytra with discal maculae or vittae 17
9. Elytra more smooth and shining, scarcely at all alutaceous 10
   Elytra less shining, distinctly alutaceous 12
10. Elytra with a common basal pale reddish, triangular macula which includes scutellum ..... * **discoidalis** Castelnau.
    Elytra not thus maculate 11
11. Elytra with common, nearly round, pale macula on posterior half. * **guttifera** Castelnau.
    Elytra with common macula median in position and produced in a point toward scutellum ..... **guttigera** Newman.
12. Thorax very broad, about three times as wide as long. Elytra with common cordiform pale macula ..... * **cordifer** Blackburn.
    Thorax narrower, about twice as wide as long 13
13. Thorax and elytra with conspicuous pale margins 14
    Thorax and elytra without or with very narrow pale margins 15

14. Elytra with a common sutural macula---------- castelnaui Reiche. (marginata Castelnau.)
Elytra with an entire sutural vitta, somewhat expanded medially. suturalis Germar.
15. Sutural macula nearly round. Form ovate---------- * centralis MacLeay
Sutural macula oval, more or less produced toward the scutellum------ 16
16. Size larger, 9 mm. Sutural macula larger-------- * maculigera MacLeay.
Size smaller, 5 mm. Sutural macula smaller-------- * thouzeti Castelnau.
17. Thorax and elytra pale yellow with black maculae-- * amabilis Castelnau.
Thorax and elytra in large part black or dark piceous---------- 18
18. Thorax and elytra without distinct pale margins---------- 19
Thorax and elytra with broad, distinct, pale margins---------- 24
19. Elytra with pale macula on each---------- 20
Elytra with oblique or curved vittae---------- 21
20. Elytra with a dull reddish margin. Form slightly broader. colymbetoides Westwood.
Elytra without reddish margin. Form slightly narrower. bimaculata Castelnau.
21. Elytra alutaceous, with large, pale macula occupying most of the disk, deeply emarginate toward the suture---------- * spreta Blackburn.
Elytra smooth, shining---------- 22
22. Elytra each with oblique, arcuate vitta, broader and somewhat hooked basally---------- * bicolor Castelnau.
Elytral vittæ not arcuate and hooked---------- 23
23. Elytra each with oblique vitta extending from base near the middle to suture, slightly behind the middle, forming a broad V. * rockhamptonensis Castelnau.
Elytra vittae longer, extending nearly to elytral apices. Thorax unusually elongate. Elytra nearly as wide as long---------- * macleayi Masters.
24. Elytra each with one macula---------- * albopicta Newman.
Elytra each with two maculae or a vitta---------- 25
25. Elytra each with two maculae---------- 26
Elytra each with an oblique vitta---------- 27
26. Pale margins of thorax and elytra wider. Elytra more strongly alutaceous and less shining. Anterior maculae bifurcate posteriorly. Head larger. Size larger, 7–2.5 mm---------- maculata Newman.
Pale margins of thorax and elytra narrower. Elytra more shining. Anterior maculae produced posteriorly at their middle. Head smaller. Size smaller, 5.5 mm---------- quadrimaculata MacLeay.
27. Elytral vittae very broad, covering most of the elytra. * occidentalis Castelnau.
Elytral vittae narrower, more or less dilated at the humeri---------- 28
28. Thorax with a median dark area---------- hydroporoides Westwood.
Thorax with a pale yellow median vitta---------- * bivittata Gestro.

The following species of *Sphallomorpha* are identified in the material at hand:

SPHALLOMORPHA DECIPIENS Westwood

Victoria (2), Victoria, Austral (Edwards Coll.), South Australia (Lea) (2).—Coll. Amer. Mus. Nat. Hist.

SPHALLOMORPHA NITIDULOIDES Guérin

Victoria, Austral. (Edwards Coll.), Victoria (2).—Coll. Amer. Mus. Nat. Hist.

Australia (Koebele).—Coll. United States Nat. Mus.

SPHALLOMORPHA PICTA Castelnau

Port Denison, New South Wales, Austral.(Edwards Coll.) (2). New South Wales (Lea).—Coll. Amer. Mus. Nat. Mus.

SPHALLOMORPHA ORNATA Castelnau

Cunnamulla, Queensland. H. Hardcastle (Lea).—Coll. Amer. Mus. Nat. Hist.

SPHALLOMORPHA GUTTIGERA Newman

Victoria (2), Lucindale, South Australia (Feuerheerdt) (Lea).—Coll. Amer. Mus. Nat. Hist.

SPHALLOMORPHA CASTELNAUI Reiche

Victoria, Victoria, Austral. (Edwards Coll.), Murray R., South Australia, H. S. Cope (Lea), Mount Lofty, South Australia (Lea).—Coll. Amer. Mus. Nat. Hist.

SPHALLOMORPHA SATURALIS Germar

Victoria (3), Mount Lofty, South Australia (Lea).—Coll. Amer. Mus. Nat. Hist.

SPHALLOMORPHA MACULIGERA MacLeay

Cairns Distr., E. B. Dodd (Lea).—Coll. Amer. Mus. Nat. Hist.

SPHALLOMORPHA COLYMBETOIDES Westwood

South Australia (Hy Edwards Coll.) (2), South Australia (2), New South Wales, Australia (Edwards Coll.), Rainbow, Victoria (Lea), Nailsworth (?) (Holmes) (Lea).—Coll. Amer. Mus. Nat. Hist.

Australia (Koebele).—Coll. United States Nat. Mus.

SPHALLOMORPHA BIMACULATA Castelnau

New South Wales, Austral. (Edwards Coll.).—Coll. Amer. Mus. Nat. Hist.

SPHALLOMORPHA MACULATA Newman

South Australia (2), South Australia (Edwards Coll.).—Coll. Amer. Mus. Nat. Hist.

SPHALLOMORPHA QUADRIMACULATA MacLeay

Townsville, Queensland. February 11, 1902, E. B. Dodd (Lea).—Coll. Amer. Mus. Nat. Hist.

SPHALLOMORPHA HYDROPOROIDES Westwood

Victoria, Austral. (Edwards Coll.), Mount Lofty Rgs., S. H. Curnow (Lea) (5).—Coll. Amer. Mus. Nat. Hist.

CATALOGUE

ADELOTOPUS Hope. 1834, Trans. Ent. Soc., London, vol. 1, pp. 11–12, pl. 1, fig. 1.

Tasmania, Australia, New Guinea, Java.

Monobasic, genotype, *A. gyrinoides* Hope, 1834.

affinis CASTELNAU. Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 118.[7]

Sydney.

analis MacLeay. Trans. Ent. Soc., New South Wales, 1873, vol. 2, p. 95.

Gayndah.

aphodioides Westwood. Rev. Zool., 1853, ser. 2, vol. 5, p. 404.

Adelaide.

apicalis MacLeay. Trans. Ent. Soc. New South Wales, 1866, vol. 1, p. 113.

Port Denison.

bimaculatus MacLeay. Trans. Ent. Soc. New South Wales, 1866, vol. 1, p. 113.

Port Denison.

=*rufoguttatus* Blackburn. Trans. Roy. Soc. South Australia, 1892–93, vol. 17, p. 295, See Blackburn, Trans. Roy. Soc. South Australia, 1901, vol. 25, p. 113.

Queensland.

brevipennis MacLeay. Proc. Linn. Soc. New South Wales, 1888, ser. 2, vol. 3, p. 459.

King's Sound.

brunneus Castelnau. Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 119.

Swan River.

castaneus Castelnau. Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 119.

Swan River.

celeripes Lea. Proc. Soc. Victoria, 1911, vol. 23, p. 120.

Western Australia: Swan River.

cornutus Castelnau. Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 177.

Arnheim's Land.

dytiscoides Newman. The Entomol., 1842, p. 365. Westwood. Rev. Zool., 1853, ser. 2, vol. 5, p. 405, pl. 14, fig. 2.

Adelaide.

=*fortuumi* Hope. Trans. Ent. Soc. London, 1845, vol. 4, p. 105.

Adelaide.

elongatulus MacLeay. Proc. Linn. Soc. New South Wales, 1888, ser. 2, vol. 3, p. 459.

Kings Sound.

fasciatus Castelnau. Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 118.

Sydney.

filiformis Castelnau. Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 119.

Adelaide.

gyrinoides Hope. Trans. Ent. Soc., London, 1834, vol. 1, p. 11, pl. 1, fig. 1 (details). Germar. Linn. Ent., 1848, vol. 3, p. 170. Westwood. Rev. Zool., 1853, ser. 2, vol. 5, p. 403, pl. 14, fig. 1.

Port Phillip, Swan River.

=*paroensis* Castelnau. Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 117. See Gestro, Ann. Mus. Civ. Genova, 1884, vol. 20, p. 303.

Central Australia: Paroo and Darling Rivers.

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[7] This paper is published, probably as a separate, with a pagination of 1–139. The descriptions of the Psendomorphidae are on pp. 25–34. The references in the Catalogus Coleopterorum of Gemminger and Harold are to this pagination.

haemorrhoidalis Erichson. Weigm. Archiv., 1842, vol. 1, p. 126. Westwood, Rev. Zool., 1853, ser. 2, vol. 5, p. 407, pl. 14, fig. 3 (Adelaide).
Van Dieman's Land.
var, *inquinatus*[8] Newman. The Entomol., 1842, p. 366.
South Australia: Port Phillip.
hydrobioides Westwood. Rev. Zool., 1853, ser. 2, vol. 5, p. 406.
Melbourne.
insignis Sloane. Proc. Linn. Soc. New South Wales, 1910, vol. 35, p. 405.
Victoria: Sea Lake, Mallee District.
jacobsoni Ritsema. Notes Leyden, Mus., 1909, vol. 31, p. 255.
Western Java: Tandjong Prick.
laevis MacLeay. Proc. Linn. Soc. New South Wales, 1888, ser. 2, vol. 3, p. 460.
Kings Sound.
linearis MacLeay. Proc. Linn. Soc. New South Wales, 1888, ser. 2, vol. 3, p. 460.
Kings Sound.
longipennis MacLeay. Proc. Linn. Soc. New South Wales, 1888, ser. 2, vol. 3, p. 460.
Kings Sound.
maculipennis MacLeay. Trans. Ent. Soc. New South Wales, 1873, vol. 2, p. 95.
Gayndah.
mastersii MacLeay. Trans. Ent. Soc. New South Wales, 1873, vol. 2, p. 94.
Gayndah.
micans Blackburn. Trans. Roy. Soc. South Australia, 1901, vol. 25, p. 18.
South Australia: Quorn.
nemosomoides Westwood. Rev. Zool., 1853, ser. 2, vol. 5, p. 408, pl. 14, fig. 4.
Adelaide.
niger, new species.
Australia.
occidentalis Castelnau. Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 117.
Swan River.
papuanus Gestro. Ann. Mus. Civ. Genova, 1893, vol. 33 (ser. 2, vol. 13), p. 287.
New Guinea: Ighibirei.
politus Castelnau. Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 117.
Brisbane: Clarence River.
punctatus Castelnau. Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 117.
Clarence River.
puncticollis, new species.
Victoria.
rubiginosus Newman. Trans. Ent. Soc. London, 1856, vol. 3, Proc. p. 128.
Without locality.
scolytides Newman. The Entomol., 1842, p. 366. Westwood, Rev. Zool., 1853, ser. 2, vol. 5, p. 408.
South Australia: Port Philip.
scric-punctatus, new species.
Victoria.
tasmani Blackburn. Trans. Roy. Soc. South Australia, 1901, vol. 25, p. 18.
Tasmania: Lake District.
variolosus Lea. Proc. Roy. Soc. Victoria, 1911, vol. 23, p. 121.
New South Wales: Sydney.

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[8] Though listed as a variety, there is nothing in the description by which to distinguish it from *A. haemorrhoidalis* Erichson.

vicinus Castelnau. Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 117.
Sydney.

zonatus Castelnau. Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 118.
Melbourne.

CAINOGENION, new genus.

Genotype. (*Adelotopus*) *ipsoides* Westwood, 1837.
Australia.

bicolor (Castelnau). Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 120.
Victoria: Loddon River.

crcberrimum (Blackburn). Trans. Roy. Soc. South Australia, 1901, vol. 25, p. 19.
South Australia: Basin of Lake Eyre

cylindricum (Chaudoir). Rev. Zool., 1862, ser. 2, vol. 14, p. 490.
Melbourne.

ephippiatum (Newman). Trans. Ent. Soc. London, 1856, vol. 3, Proc., p. 127.
Without locality.

ipsoides (Westwood). Trans. Linn. Soc. London, 1837, vol. 18, p. 413, pl. 28, fig. 2 (details). Germar, Lin. Ent., 1848, vol. 3, p. 170. Westwood, Rev. Zool., 1853, ser. 2, vol. 5, p. 405.
Adelaide.

obscurum (Castelnau). Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 120.
Sydney.

=*subopacum* (MacLeay). Trans. Ent. Soc. New South Wales, 1873, vol. 2, p. 94. See Gestro, Ann. Mus. Civ. Genova, 1884, vol. 20, pp. 302–303.

CRYPTOCEPHALOMORPHA Ritsema. Tijds, v. Ent., 1875, vol. 18, Verslag, p. xcii,
Siam, Java.

Monobasic, genotype, *C. gaverei* Ritsema, 1875.

collaris (Waterhouse). Trans. Ent. Soc. London, 1877, p. 2. See Ritsema, Notes Leyden Mus., 1909, vol. 31, p. 254.
Siam.

gaverei Ritsema. Tijds, v. Ent., 1875, vol. 18, Verslag, p. xciii.
Java: Batavia.

=*marginatus* (Waterhouse). Trans. Ent. Soc. London, 1877, p. 2. See Ritsema, Tijds, v. Ent., 1878–79, vol. 22, Verslag, pp. lxxxvii–lxxxviii
Java.

PAUSSOTROPUS Waterhouse. Trans. Ent. Soc. London, 1877, p. 3.

Monobasic, genotype, *P. parallelus* Waterhouse, 1877.

parallelus Waterhouse. Trans. Ent. Soc. London, 1877, p. 3.
Batchian.

PSEUDOMORPHA Kirby. Trans. Linn. Soc. London, 1825, vol. 14, p. 98.
America: Georgia to Argentina.

Monobasic, genotype, *P. excrucians* Kirby.

=*Heteromorpha* Kirby. Trans. Linn. Soc. London, 1825, vol. 14, p. 109.
Monobasic, genotype, *H. excurcians* Kirby. Apparently a lapsus for *Pseudomorpha*.

=*Axinophorus* Dejean. Iconogr. Col. Fur., 1829, vol. 1, p. 174.
Genotype, *A. leconteí* Dejean (=*P. excrucians* ?) by present designation.

=*Drepanus*[9] Dejean. Species Gen. Col., 1831, vol. 5, p. 434.
Genotype, *D. leconteí* Dejean (=*P. excrucians* ?) designed by Hope 1838.

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[9] *Drepanus* Illiger 1807 (Mag. fur Insectenunde, vol. 6, p. 344) is a *nomen nudum*.

angustata Horn. Trans. Amer. Ent. Soc., 1883, vol. 10, p. 274, pl. 9, fig. 6.
Arizona.

argentina Steinheil. Atti Soc. Ital. Sc. Nat., 1869, vol. 12, p. 242.
San Luis,

arrowi, new species Mexico.

behrensii Horn. Trans. Amer. Ent. Soc., 1870, vol. 3, p. 76.
California.

castanea Casey. Can. Ent., 1909, vol. 41, p. 278.
Utah.

champlaini, new species California, Arizona.

confusa, new species. Australia.

consanguinea, new species. California, Arizona.

cronkhitei Horn. Trans. Amer. Ent. Soc., 1867, vol. 1, p. 151.
California.

cylindrica Casey. Ann. New York Acad. Sci., 1889, vol. 5, p. 40.
Texas.

excrucians Kirby. Trans. Linn. Soc. London, 1825, vol. 14, p. 101, pl. 3, fig. 3. Westwood, Trans. Linn. Soc. London, 1837, vol. 18, p. 411, pl. 28, fig. 1, and Rev. Zool., 1858, ser. 2, vol. 5, p. 395.
=*Axinophorus lecontei* Dejean. Dejean and Boisduval, Iconogr. Col. Eur., 1829, vol. 1, p. 176, pl. 19, fig. 2. Hope, Coleopt. Manual, 1838, pt. 2, p. 109.
=*Drepanus lecontei* Dejean. Spec. Gen. Col. 1831, vol. 5, p. 435.
Georgia. (?)

falli, new species. California.

gerstaeckeri Chaudoir. Bull. Moscou, 1877, vol. 52, pt. 1, p. 202.
Brazil: San Paulo.

hubbardi, new species Arizona.

lacordairei Dejean. Spec. Gen. Col., 1831, vol. 5, p. 436. Westwood, Rev. Zool., 1853, ser. 2, vol. 5, p. 396.
Brazil: Rio Janeiro.

laevissima Chaudoir. Bull. Moscou, 1852, vol. 25, pt. 1, p. 63.
Brazil: Novo-Friburgo.

pilatei Chaudoir. Rev. Zool., 1862, ser. 2, vol. 14, p. 490. Bates, Biol. Centr.-Amer. Col., vol. 1(1), p. 255, pl. 12, fig. 25.
Yucatan.

schwarzi, new species. Arizona.

tenebroides, new species. Arizona.

van dykei, new species Arizona.

vicina, new species California.

vindicata, new species. Utah.

HYDROPOROMORPHA Westwood. Rev. Zool., 1853, ser. 2, vol. 5, p. 409. Raffray. Ann. Soc. Ent. France, 1885, ser. 6, vol. 5, p. 307.
Africa.

Monobasic, genotype, *H. lutea* Westwood. 1853.

africana (*Schaufuss*). Stettin. Ent. Zeitg., 1882, vol. 43, p. 308.
Abyssinia: Anseba.

lutea Westwood. Rev. Zool., 1853, ser. 2, vol. 5, p. 410, pl. 14, fig. 11.
Abyssinia.

monilis Raffray. Ann. Soc. Ent. France, 1885, ser. 6, vol. 5, p. 308, pl. 6, figs. 4 and 4*a*.
Abyssinia: Keren.

obockiana Fairmaire. Rev. d'Ent., 1892, vol. 11, p. 86.
Obock.

westwoodi Raffray. Ann. Soc. Ent. France, 1885, ser. 6, vol. 5, p. 309.
Abyssinia: Keren.

SILPHOMORPHA Westwood. Trans. Linn. Soc. London, 1837, vol. 18, p. 816.
Australia.

Monobasic, genotype, *S. fallax* Westwood. 1837.

amaroides (Newman). Trans. Ent. Soc. London, 1856, vol. 3, Proc., p. 127.
Without locality.

boops Blackburn. Proc. Linn. Soc. New South Wales, 1888, ser. 2, vol. 3, p. 807.
South Australia: Northern Territory.

denisonensis Castelnau. Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 114.
Port Denison.

difficilis Blackburn. Trans. Roy. Soc. South Australia, 1901, vol. 25, p. 17.
New South Wales: Tweed River District.

dubia Castelnau. Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 115.
New South Wales.

fallax Westwood. Trans Linn. Soc. London, 1837, vol. 18, p. 416, pl. 28, fig. 4 (details). Westwood, Rev. Zool. 1853, ser. 2, vol. 5, p. 396.
Australia.

=*orcetochiloides* Hope. Trans. Ent. Soc. London, 1847, vol. 4, p. 104.
Adelaide.

froggatti MacLeay. Proc. Linn. Soc. New South Wales, 1888, ser. 2, vol. 3, p. 457.
Kings Sound.

fugax (Westwood). Rev. Zool., 1853, ser. 2, vol. 5, p. 398.
Sydney.

grandis Castelnau. Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 114.
Port Denison.

laevigata Castelnau. Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 116.
Victoria.

laevis Castelnau. Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 115.
Port Denison.

laticollis MacLeay. Proc. Linn. Soc. New South Wales, 1888, ser. 2, vol. 3, p. 457.
Kings Sound.

mastersii MacLeay. Trans. Ent. Soc. New South Wales, 1866, vol. 1, p. 112.
Port Denison.

obsoleta MacLeay. Proc. Linn. Soc. New South Wales, 1888, ser. 2, vol. 3, p. 457.
Kings Sound.

ovalis Castelnau. Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 116.
Queensland: Pine Mountains.

polita MacLeay. Trans. Ent. Soc. New South Wales, 1873, vol. 2, p. 93.
Gayndah.

punctatissima MacLeay. Proc. Linn. Soc. New South Wales, 1888, ser 2, vol. 3, p. 457.
Kings Sound.

semistriata Castelnau. Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 115.
Port Denison.

striata Castelnau. Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 114.
New South Wales: northern.

striatipennis MacLeay. Proc. Linn. Soc. New South Wales, 1888, ser. 2, vol. 3, p. 456.
Kings Sound.

tasmanica Castelnau. Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 115.
Tasmania.

vicina Castlenau. Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 114.
Brisbane.

westwood, new name
=*laevissima* (Westwood). Rev. Zool., 1853, ser. 2, vol. 5, p. 497.
Morton Bay.

SPHALLOMORPHA[10] Westwood. Trans. Linn. Soc. London, 1837, vol. 18, p. 414.
Monobasic, genotype, *S. decipiens* Westwood. 1837.

albopicta (Newman). Zoologist, 1850, vol. 8, Append., p. cxxiv.
South Australia: Adelaide.

amabilis (Castelnau). Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 112. Blackburn, Proc. Linn. Soc. New South Wales, 1890, ser. 2, vol. 4. Append. p. 1246.
Port Denison.

bicolor (Castelnau). Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 111.
Rockhampton, Port Denison.

bimaculata (Castelnau). Trans. Roy Soc. Victoria, 1868, vol. 8, p. 112.
Rockhampton.

=*biplagiata* (Castelnau). Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 112.
Brisbane.

bivittata (Gestro). Ann. Mus. Civ. Genova, 1884, vol. 20, p. 302.
Port Denison

castelnaui (Reiche). Col. Hefte, 1868, vol. 3, p. 2, new name for *marginata* Castelnau, Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 112.
Melbourne, Sydney.

centralis (MacLeay). Proc. Linn. Soc. New South Wales, 1888, ser. 2, vol. 3, p. 458.
Kings Sound.

colymbetoides (Westwood). Rev. Zool., 1853, ser. 2, vol. 3, p. 403, pl. 14, fig. 10.
Adelaide.

cordifer (Blackburn). Proc. Linn. Soc. New South Wales, 1894, ser. 2, vol. 9, p. 86.
Queensland: northern, Cairns.

decipiens Westwood. Trans. Linn. Soc. London, 1837, vol. 18, p. 415, pl. 28, fig. 3 (details). Westwood, Rev. Zool., 1853, ser. 2, vol. 5, p. 399.
Port Phillip.[11]

discoidalis (Castelnau). Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 112.
Murray River.

flavicollis (MacLeay). Proc. Linn. Soc. New South Wales, 1888, ser. 2, vol. 3, p. 458.
Kings Sound.

guttifera (Castelnau). Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 113.
Port Denison.

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[10] For the synonymy in this genus see Gestro, Ann. Mus. Civ. Genova, 1884, vol. 20, pp. 302, 303. For notes on distribution see Castelnau, Trans. Roy. Soc. Victoria, 1868, vol. 8, p. 116.

[11] No locality is given with the original description.

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