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A review of Australian genera of Korynetinae (Coleoptera, Cleridae)

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Abstract. The Australian genera of the subfamily Korynetinae (Cleridae) are reviewed, figured and keyed. One new genus and eight new species are described: *Apopylus* gen.nov. (type species: *Apopylus unumgarensis* sp.nov.), *Pylus sedlaceki* sp.nov., *Pylusopsis peckorum* sp.nov., *Cregya kioloa* sp.nov., *Crobenia galadriel* sp.nov., *Crobenia irwini* sp.nov., *Thriocerodes pyloides* sp.nov., and *Thriocerodes rolciki* sp.nov. The following genera are synonymised: *Mimopallenis* Pic, 1941 syn.nov. (= *Tarsostenodes* Blackburn, 1900), *Paratillus* Gorham, 1876 syn.nov. (= *Tarsostenus* Spinola, 1844), *Parapylus* Blackburn, 1891 syn.nov. (= *Pylus* Newman, 1840), *Exochonotus* Barr, 1980 syn.nov. and *Neopylus* Solervicens, 1989 syn.nov. (= *Pylusopsis* Elston, 1929), *Curacavi* Solervicens, 2000 syn.nov. (= *Crobenia* Blackburn, 1891), and *Incorynetes* Corporaal, 1950 (*nec* Pic, 1941) (= *Thriocerodes* Wolcott et Dybas, 1947). In addition to all the species from the synonymised genera, *Thriocerodes pygmaeus* (Blackburn, 1891) comb.nov. is newly combined (from *Pylus* Newman, 1840). Authorship of the genus *Incorynetes* Corporaal, 1950 (*nec* Pic, 1941) belongs to Corporaal because Pic did not designate a type for the genus in his original description. *Incorynetes bifasciatus* Pic, 1941 was designated as the type species by Corporaal in 1950. *Thriocerodes corporaali* Wolcott et Dybas, 1947 syn.nov. is synonymised with *Thriocerodes bifasciatus* (Pic, 1941), the former type of the genus *Thriocerodes* Wolcott et Dybas, 1947. Therefore, *Thriocerodes bifasciatus* (Pic, 1941) (described in *Incorynetes* Corporaal, 1950 syn.nov.) is now the type species of the genus *Thriocerodes* Wolcott et Dybas, 1947. Two genera are newly recorded in Australia: *Cregya* Leconte, 1861 (the species *Cregya kioloa* sp.nov.) and *Opetiopalpus* Spinola, 1844 (the species *Opetiopalpus scutellaris* Panzer, 1797). In this communication, the genus *Pylusopsis* Elston, 1929 and its type species *Pylusopsis chrysocome* Elston, 1929 are probably mentioned for the first time since the forgotten description of the genus and the species. The presence of the genus *Teneropsis* Chapin, 1924 in Australia is discussed. The poorly known genus *Teneromimus* Gahan, 1910 is confirmed as a valid taxon.

Key words. Coleoptera – Cleridae – Korynetinae – taxonomy – new genus – new species – synonymy – Australia

Introduction

The genera and species of the Australian Cleridae have never been reviewed or keyed in a separate publication covering the area of whole continent. Recently, a key to the Cleridae of South Australia was published by MATTHEWS (1992). This key is based on characters or keys excerpted from older publications by authors such as Blackburn or Schenkling. However, thanks to good photographs and illustrations, the genera and species are recognisable in it.

The present communication is the first attempt to revise the Korynetinae, one of four clerid subfamilies (KOLIBÁČ 1997). The revision is based chiefly on specimens from the Australian National Insect Collection (Canberra) as well as my own collection deposited in Moravian Museum (Brno) at present. As well as studying the Australian specimens, the paper extends to the examination of numerous species of all the other korynetine genera. Relations to the South American fauna are therefore reflected in several generic synonymies.

All genera mentioned below but *Pylusopsis* Elston, 1929 are listed in the excellent catalogue by CORPORAAL (1950). This genus and its single species are probably mentioned for the first time in this communication.

Material and methods

Terminology for the wing venation follows the paper by KUKALOVÁ-PECK & LAWRENCE (1993), with the exception of the traditional term "wedge cell" that is used for the 2nd cubito-anal cell. The term 'apical fleck' is an author's neologism for a pigmented plate situated in the area of vein r4 (see Fig. 26). This structure is typical of the whole family Cleridae.

Abbreviations

ANIC ..... Australian National Insect Collection, Canberra
JKC ..... Jiří Kolibáč collection in the Moravian Museum, Brno
JRC ..... Jakub Rolčík collection, Prague
(to be deposited in the National Museum, Prague)
MMB ..... Moravian Museum, Brno
MNHN ..... Musée National d'Histoire Naturelle, Paris
BMNH ..... Natural History Museum ("British Museum of Natural History"), London

Taxonomy

Key to Australian genera of Korynetinae [1)]

The key characters of *Teneropsis* Chapin, 1924 are based on southeastern Asian species because the two Australian species were not at the author's disposal.

The first theses in the key are based on synapomorphies and marked [A], i.e. apomorphy. The respective antitheses are marked [P], i.e. plesiomorphy. Each genus is based on synapomorphies, with the single exception of *Tarsostenus* Spinola, 1844 which is negatively defined with regard to *Blackburniella* Chapin, 1924. For details see "Key" and "Remarks" in the *Blackburniella* section.

1. Antennae 10-segmented [A]. Club 3-segmented, extremely large. Antennal joints 3-7 very small, tightly connected (especially in the Australian species *T. vitticollis*) [A]. Prothorax evenly rounded at sides. ..... 13. *Teneromimus* Gahan, 1910

[1)] The subfamily Korynetinae can be distinguished from other clerid subfamilies in a single fundamental synapomorphy – the fourth tarsomere of all tarsi is conspicuously smaller than the third tarsomere and it is inserted between its lobes. There remains the lateral edge along the prothorax in most of Korynetinae, although, this can sometimes be more or less reduced (e.g. *Blackburniella*, *Tarsostenodes*, *Tarsostenus*). In other clerid subfamilies (Tillinae, Clerinae, Hydnocerinae), a lateral edge has not been observed to date; however, this plesiomorphy could be found in some member as yet unknown. For details on distinguishing the clerid subfamilies see KOLIBÁČ (1997).

– Antennae 11-segmented[2)], serrate or clubbed [P]. If club large and 3-segmented, pronotum with more or less conspicuous lateral tubercles (Photos 15, 16). ..... 2.

2. Antennae conspicuously serrate from the fourth joint [A] (Photos 39, 40). ..... 14. *Tenerus* Laporte de Castelnau, 1836

– Antennae with 3-segmented club [P]. ..... 3.

3. Lateral edge incomplete (inconspicuous in anterior portion of prothorax, at least) or completely absent [A]. Body slender, elongate; prothorax evenly rounded, pronotum constricted at base. ..... 4.

– Lateral edge complete, conspicuous along whole length of prothorax [P], often dentate (Photo 19). Body rarely slender, elongate (Photo 16); prothorax rarely evenly rounded (*Necrobia rufipes*, *Opetiopalpus scutellaris*) – if so, pronotum not constricted at base. ..... 6.

4. Front coxal cavities completely closed [A]. Aedeagus uninverted (i.e. tegmen dorsally open) [P]. ..... 1. *Tarsostenodes* Blackburn, 1900

– Front coxal cavities open or half-open [P]. Aedeagus inverted (i.e. tegmen ventrally open) [A]. ..... 5.

5. Lateral edge completely absent [A]. Elytra with mutillid-like colour pattern [A] (Photo 4). ..... 2. *Blackburniella* Chapin, 1924

– Lateral edge conspicuous in basal portion of prothorax, at least [P]. Elytra monochromatic, with single transverse stripe (Photos 5, 6). ..... 3. *Tarsostenus* Spinola, 1844

6. Female internal copulatory organs with pair of sclerites at base of bursa copulatrix [A]. Aedeagus inverted[3)] [A]. Prothorax with one conspicuous lateral tubercle on each side [A?] (Photo 16). If tubercle present but flat, pronotum distinctly but evenly narrowed towards base (Photo 12). ..... 7.

– Female internal copulatory organs without sclerites at base of bursa copulatrix [P]. Aedeagus uninverted[3)] [A]. Prothorax without lateral tubercle on each side [P?]. If pronotum narrowed towards the rear, base mostly with angles at sides (Photo 29) or base weakly constricted (Photo 33). ..... 11.

[2)] Reduction of the number of the antennal segments can be anticipated also in species of *Cregya* and *Teneropsis*.

[3)] Aedeagus inverted: tegmen open ventrally, i.e. tegmenal phallobase with aperture for phallus ventrally situated (character state is considered apomorphic). Aedeagus uninverted (normal position in Cucujiformia): tegmen is open dorsally, i.e. tegmenal phallobase with aperture for phallus dorsally situated. See captions to the respective figures of tegmens.

7. Front coxal cavities closed [A]. Antennal club relatively small, joints 9 and 10 not conspicuously triangular; club shorter than other antennal joints together [P] (Photo 10). ..... 8.
– Front coxal cavities open [P]. Antennal club relatively large, often with triangular joints 9 and 10; club often longer than all other antennal joints together [A] (Photo 16, exception in Photo 14). ..... 9.

8. Mesocoxal cavities closed [A]. Wings without wedge cell [A], with reduced apical fleck [A] (Fig. 46). Tibiae without distinct spines at apex [A]. Female internal copulatory organs without large, comb-like or hooked sclerites at base of bursa copulatrix; sclerities soft [P] (Fig. 47). ... . 5. *Apopylus* gen.nov.
– Mesocoxal cavities open [P]. Wings with wedge cell [P], and with complete apical fleck [P] (Fig. 26). Tibiae with distinct spines at apex [P]. Female internal copulatory organs without large, comb-like or hooked sclerites at base of bursa copulatrix [A] (e.g. Figs 29, 38). .... 4. *Pylus* Newman, 1840

9. Claws with conspicuous denticle [A]. The last joint of maxillary palps rather oblong [P?]. Apical fleck complete [P] (Fig. 60). Elytra with regular punctation [P]. ..... 8. *Cregya* Leconte, 1861
– Claws without denticle or denticles rarely occur in some American species [P]. The last joint of maxillary palps rather securiform [A?]. Apical fleck incomplete [A] (Fig. 48); if fleck complete, elytra with distinctly irregular fine punctation [A]. ..... 10.

10. Apical fleck incomplete [A]. Elytra with regular coarse punctation [P]. Pronotum often with longitudinal depression and/or elevate glabrous plates [A?]. ..... 6. *Pylusopsis* Elston, 1929
– Apical fleck complete [P]. Elytra with irregular fine punctation [A]. Pronotum without longitudinal depression, at most with scarcely perceptible glabrous plates [P?]. ..... [7. *Teneropsis* Chapin, 1924] [4)]

11. Front coxal cavities closed [A]. Claws with denticle [A]. Lateral edge not dentate; if dentate, pronotum laterally evenly rounded. ..... 12.
– Front coxal cavities open [P]. Claws without denticle [P]. Lateral edge always dentate; pronotum never laterally evenly rounded. ..... 13.

12. Antennal club large, compact [A]. Lateral edge not dentate [P?]. Body dorsally either completely dark blue or with red pronotum and base of elytra. ..... 11. *Necrobia* Olivier, 1795
– Antennal club smaller and looser [P]. Lateral edge weakly dentate [A?]. Body dorsally with dark blue elytra and red pronotum. .... 12. *Opetiopalpus* Spinola, 1844

[4)] Classification of two Australian species is uncertain.

13. Wing medial field without cross vein MP3-MP4 [A]. Phallus stout (Fig. 69). Elytra monochromatic, black or blue; rarely with pale fleck in middle or at apex. ..... 9. *Crobenia* Blackburn, 1891

– Wing medial field with cross vein MP3-MP4 [P]. Phallus slender (Fig. 83). Elytra never monochromatic, with yellow-orange and brown-black transverse stripes. ..... 10. *Thriocerodes* Wolcott et Dybas, 1947

Review of genera

The genera are grouped roughly according to their presumed phylogenetic relations. The numbers of the genera correspond to the numbers in the key.

1. Genus *Tarsostenodes* Blackburn, 1900

BLACKBURN (1900): *Trans. Roy. Soc. South Austral.* **24:** 139.
Type of genus: *Tarsostenodes simulator* Blackburn, 1900.
Mimopallenis Pic, 1941: *Echange* LVII, 483: 3. **syn.nov.** (type of genus: *Mimopallenis albonotatus* Pic, 1941)

Notes on morphology. The last joints of both labial and maxillary palps securiform. Elytra mostly depressed in middle, often with raised light stripes. Front coxal cavities closed. Lateral edge more or less reduced, mostly inconspicuous in anterior portion of prothorax. Pronotum often with longitudinal glabrous plate in centre (distinct in *T. guttulus* WHITE, 1849). Tegmen dorsally open (as observed in *T. guttulus*).

Notes on synonymy. The genus *Mimopallenis* is a clear synonym of *Tarsostenodes*. The single species *"Mimopallenis" albonotatus* differs only in such characters as sculpture, colour pattern and distinctly reduced lateral edge.

The genus *Tarsostenosis* Heller, 1916 with the single species *Tarsostenosis tricolor* Heller, 1916 from New Caledonia was not examined. The genus could be a synonyme of *Tarsostenus* or *Tarsostenodes*.

Remark. About six species of *Tarsostenodes* have been described, some of which are unknown to the author. A key to species is therefore not included here.

Tarsostenodes simulator Blackburn, 1900 (Photo 1)

BLACKBURN (1900): *Trans. Roy. Soc. South Austral.* **24:** 139.

Material examined. Two specimens: "Lorien, approx. 1km/ NNW ?Landsdowne/ via Taree N.S.W./ G.+T. Williams" (ANIC).

Notes on morphology. Pronotum short, subspherical, constricted at base. Small part of lateral edge conspicuous, but only near to base of prothorax. Metasternite strongly convex. Elytra depressed in middle, with whitish raised stripes (see Photo 1). Legs long, slender. Tibial spine pattern 1–2–2.

Distribution. New South Wales.

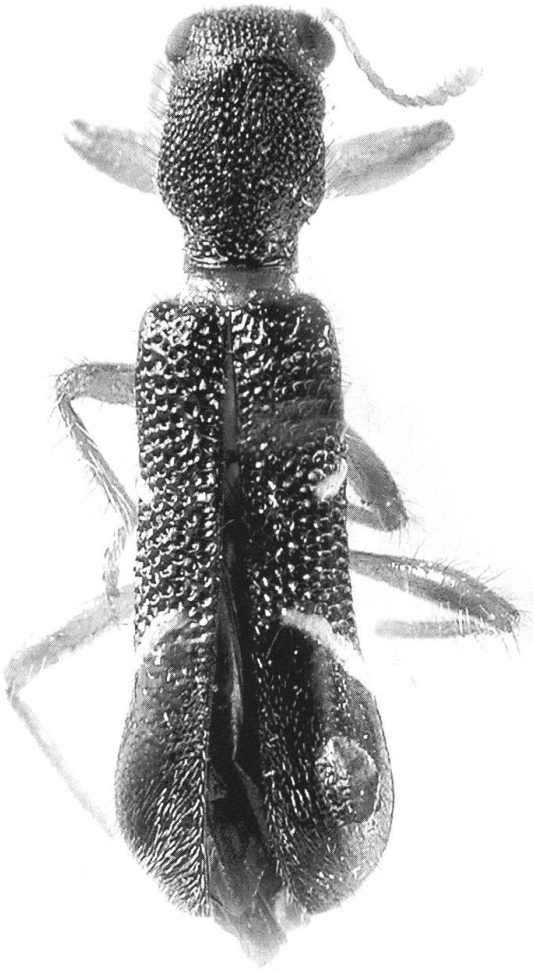


Photo 1. *Tarsostenodes simulator* Blackburn.

Photo 2. *Tarsostenodes guttulus* (White).

Tarsostenodes guttulus (White, 1849) (Photo 2)

WHITE (1849): Nomencl. Col. Ins. Brit. Mus. IV: Cleridae, p. 59 (*Clerus*).

Material examined. Two specimens: "Warwick Q/ E. T. Smith", "Stanthorpe/ 21.12.81" (J. Sedlacek leg.) (both JKC). One specimen: "Blackdown Range, Q./ 23.45S 149.10E/ 6.x.73 E. E. Adams" (ANIC).

Notes on morphology. Similar to the preceding species. Tegmen dorsally open in species studied. Phallus similar to that in *Tarsostenus univittatus* (Rossi, 1792). Spicular fork with elongate arms, without conspicuous lobes. Wing: venation more reduced in

comparison with *T. univittatus*. MP3 not connected with MP4; base of CuA1+2 connected with CuA but vein CuA2 misses out so that wedge cell absent.

Distribution. Queensland.

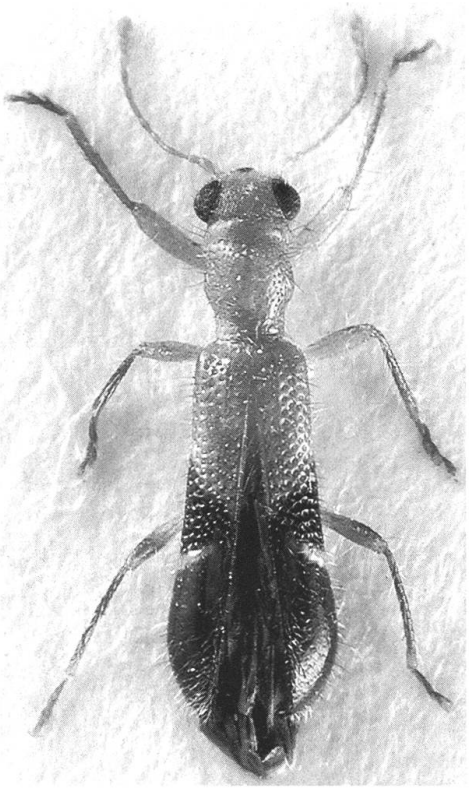


Photo 3. *Tarsostenodes* sp.

Tarsostenodes albonotatus (Pic, 1941) comb.nov.

PIC (1941): *Echange* LVII, 483: 3 (*Mimopallenis*).

Material examined. Holotype studied; (MNHN).

Notes on morphology. Blue species with one white raised transverse stripe in elytra. Elytra coarsely punctate. Antennae relatively long, weakly clubbed. Lateral edge absent.

Body size: 5.0 mm.

Distribution. Australia (exact locality absent).

Tarsostenodes sp. (Photo 3)

Material examined. One specimen: "Australia: Q./ Mt. Glorious/ 7.xii.1977/ J. Sedlacek" (JKC).

Remarks. Small species. Elytra yellowish in basal half, blackish in apical half.

Body size: 5.0 mm.

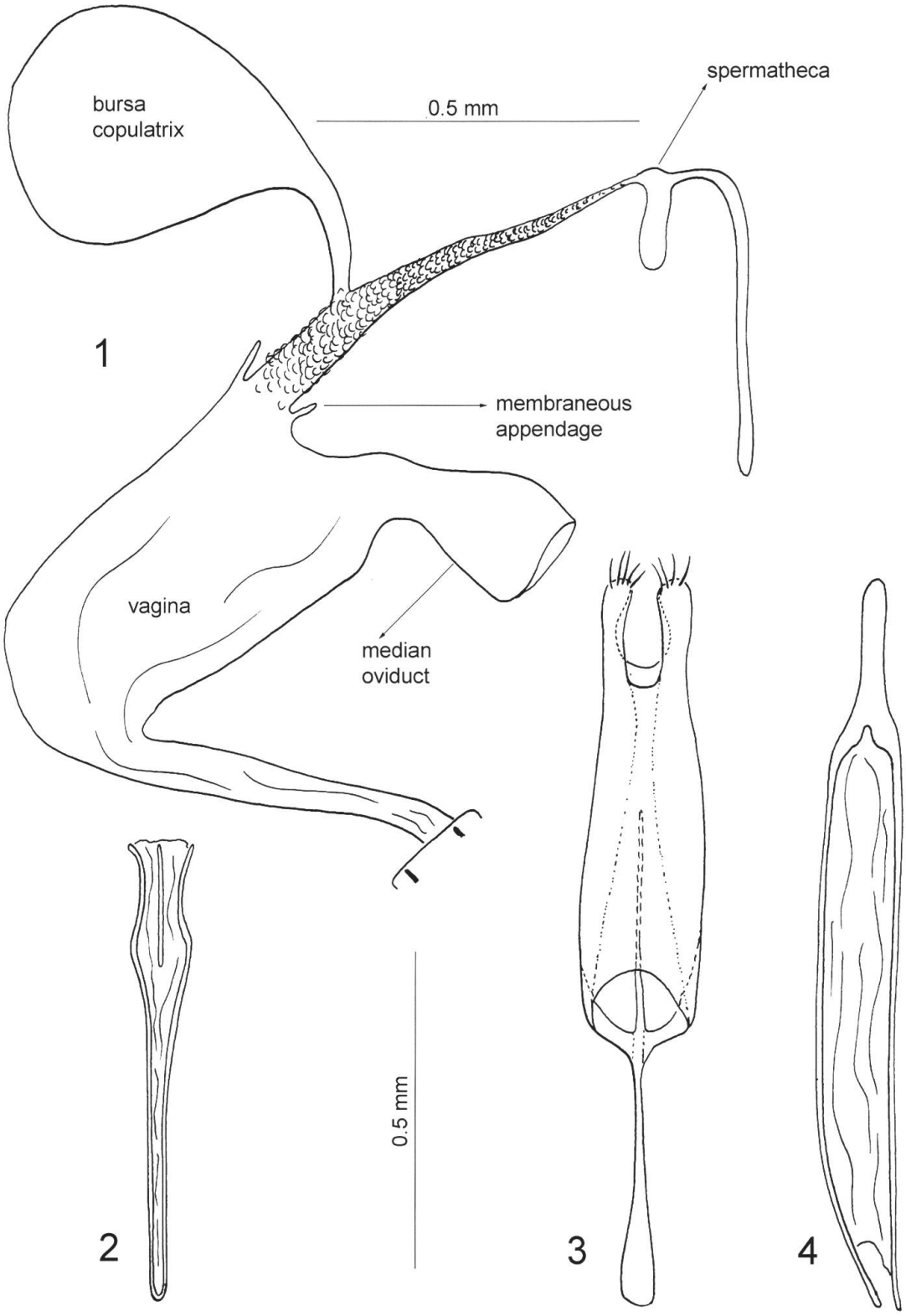
Distribution. Queensland.

2. Genus *Blackburniella* Chapin, 1924

CHAPIN (1924): *Trans. Roy. Soc. South Austral.* **48:** 65.
Type of genus: *Thanasimomorpha intricata* Blackburn, 1891.

Notes on morphology. Most morphological characters similar to those of *Tarsostenus* although body shape and sculpture are nearer to *Tarsostenodes*. Colour pattern of elytra Mutillidae-like, similar to that, e.g., in *Thanasimus formicarius* (Linnaeus, 1758). Antennae relatively short; clubbed but without conspicuous 3-segmented club. The last joints of the labial and maxillary palps securiform. Pronotum rounded, subspherical. Lateral edge absent. Front coxal cavities half-open. Wing with four veins in medial field but wedge cell absent. Radial cell oblong, large. Elytra depressed in middle, with humeral tubercles and tufts of dark hairs.

Remarks. The genus could be synonymised with *Tarsostenus*, which seems to be paraphyletic, but outer habitus is more similar to *Tarsostenodes* which can be derived from *Blackburniella*. A detailed character analysis is needed to solve relations within these three genera.



Figs 1–4. *Blackburniella intricata* (Blackburn): 1, female internal copulatory organs; 2, spicular fork; 3, tegmen ventrally; 4, phallus.

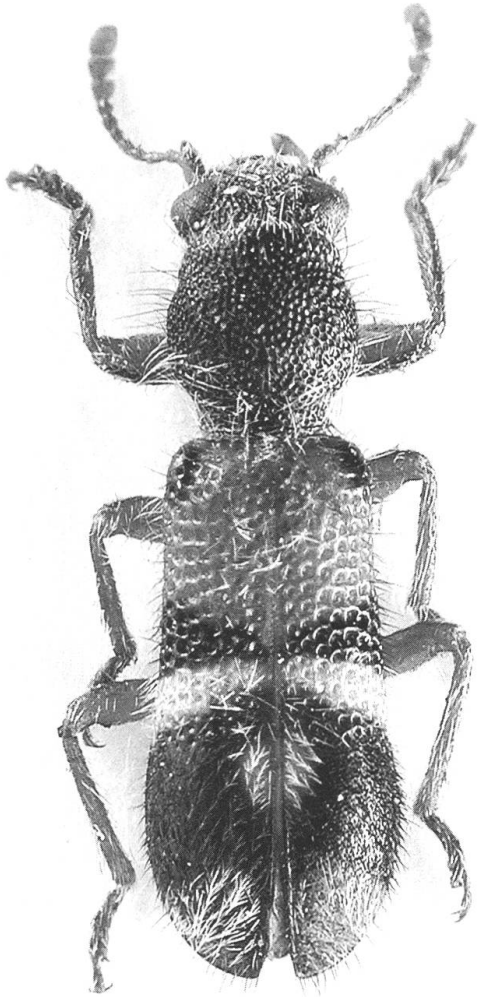


Photo 4. *Blackburniella intricata* (Blackburn).

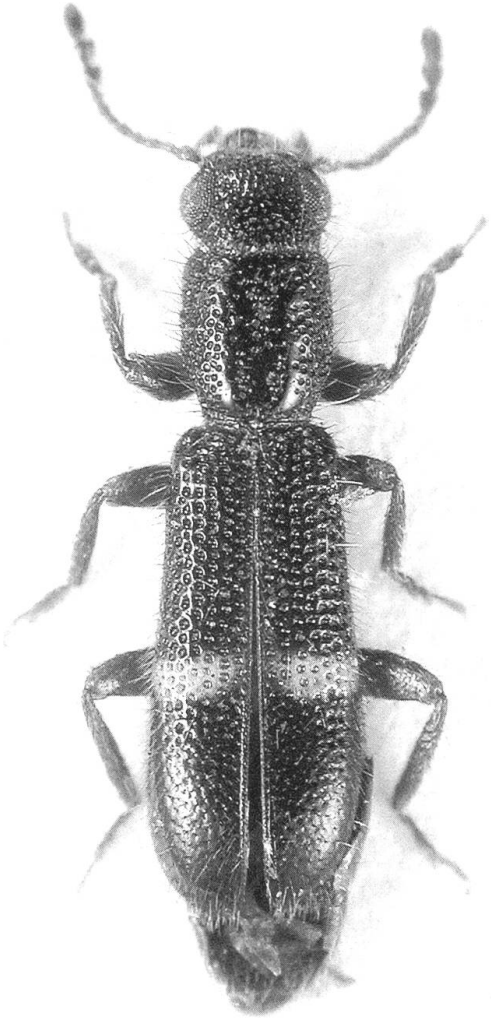


Photo 5. *Tarsostenus univittatus* (Rossi).

Status of the second similar species, *B. hilaris* Weswood, 1849, is unclear and both species need a type examination.

***Blackburniella intricata* (Blackburn, 1891)** (Figs 1–4, Photo 4)

BLACKBURN (1891): *Trans. Roy. Soc. South Austral.* **14:** 304 (*Thanasimomorpha*).

Material examined. Female: "W. Australien/ Medina/ 25.9.1960/ H. Demarz". Male: "Lily Dale/ 14.ii.1934" (both JKC). Two specimens: "Toolbrunup (700m)/ Stirling Ra. NP WA/ 1 Jan. 1986/ C. Reid, on Ac.with/ long thin phyllodes" (ANIC).

Notes on morphology. Tegmen ventrally open (Fig. 3), spicular fork and phallus shown in Figs 2 and 4. Female internal copulatory organs are in Fig. 1: with membraneous appendages in end of vagina.

Distribution. Western Australia, Victoria, South Australia, Tasmania.

3. Genus *Tarsostenus* SPINOLA, 1844

SPINOLA (1844): Clérites I, p. 287.
Type of genus: *Clerus univittatus* Rossi, 1792.
Paratillus Gorham, 1876: *Cist. Ent.* **2:** 62. **syn.nov.** (type of genus: *Clerus carus* Newman, 1840)

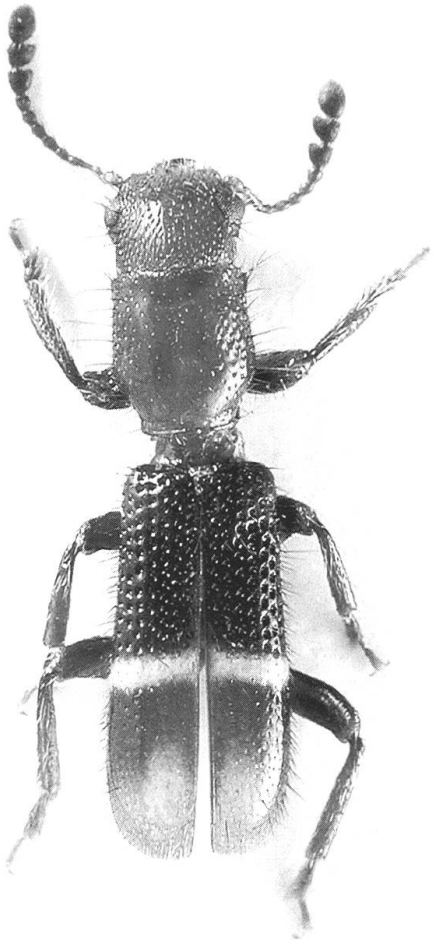


Photo 6. *Tarsostenus carus* (Newman) comb.nov.

Notes on morphology. Last joints of both labial and maxillary palps securiform. Front coxal cavities open. Tegmen inverted, i.e. ventrally open [this character state is considered apomorphic; see distribution of this character in Cucujiformia in CROWSON (1955)]. Pronotum with two glabrous plates. Lateral edge conspicuous only near base of prothorax (*T. univittatus*) or distinct along whole length (*T. carus*). Tibial spine pattern 0–2–1. The last 2 or 3 abdominal segments often not covered by elytra.

Notes on synonymy. The character states of *"Paratillus" carus*, the single species of the genus *Paratillus*, are identical or primitive compared with *Tarsostenus*. Both genera are therefore synonymised. An interesting feature of both species is their common tendency to cosmopolitanism.

Tarsostenus univittatus (Rossi, 1792)

(Photo 5)

ROSSI (1792): Mant. Ins. exhib. spec. nuper in Etruria coll. I, p. 44 (*Clerus*).

Material examined. "Greta/ 1.ii.51" (Queensland, J. Sedlacek leg.) (JKC)

Note. For detailed description see KOLIBÁČ (1987, 1989a,b).

Distribution. Australia, cosmopolitan species.

Tarsostenus carus (Newman, 1840) comb.nov. (Figs 5–7, Photo 6)

NEWMAN (1840): *Entomologist* **1(1):** 15 (*Clerus*).
Paratillus carus: GORHAM (1876): *Cist. Ent.* **2:** 62.

Material examined. Three specimens: "Australia, N.S.W./ Greta, 1951/ J. Sedlacek". One specimen: "Australia–Vic./ Red Hill/ D. R. Holmes lgt." (JKC).

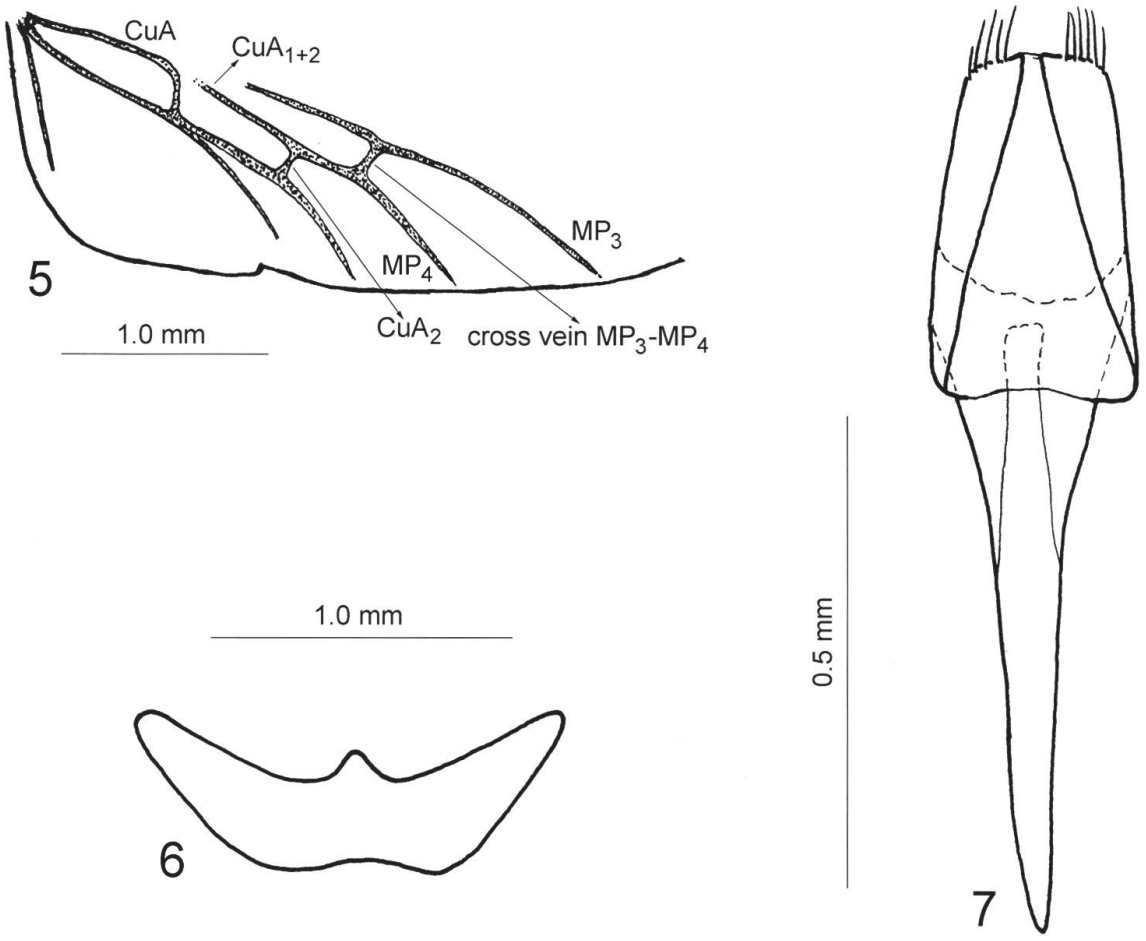
Notes on morphology. H e a d with sculpture composed of longitudinal wrinkles. Gular sutures and antennal club as in *T. univittatus*; 3rd antennal segment relatively long (longer than 1st segment). The last joint of maxillary and labial palpae securiform but rather elongate. Eyes emarginate.

T h o r a x . Lateral edge conspicuous along whole length of pronotum. Front coxal cavities half-open. Pronotum with two small glabrous plates. Mesoscutellum small, elevate. Mesocoxal cavities weakly open. Metasternum convex, with discriminal line scarcely visible. Elytra finely and irregularly punctate. Wing without wedge cell (Fig. 5). Trochanters small, femora weakly clavate, tibial spine pattern 1–2–2. The first tarsomere small, not visible from above. Claws without denticle.

A b d o m e n . Sternites not bordered. Male sternite VIII with small apodeme in middle (remain of a spiculum?), shown in Fig. 7. Tegmen ventrally open (Fig. 6), with distinct parameral portion ("parameres" separated from each other). Phallus similar to that in *T. univittatus*. Spicular fork with arms not coalescent along base and without "korynetine" lobes (cf. KOLIBÁČ 1987).

Body size: 5.5–7.0 mm.

Distribution. Australia, cosmopolitan species.



Figs 5–7. *Tarsostenus carus* (Newman) comb.nov.: 5, wing medial field; 6, tegmen ventrally; 7, male sternite VIII.

4. Genus *Pylus* Newman, 1840

NEWMAN (1840): *Entomologist* **1(2):** 36.
Type of genus: *Clerus fatuus* Newman, 1840.
Parapylus Blackburn, 1891: *Trans. Roy. Soc. South Austral.* **14:** 305. **syn.nov.** (type of genus: *Pylus bicinctus* Newman, 1842)

Notes on morphology. Broad oval or weakly elongate species; wingless species with oviform elytra.

H e a d . Gular sutures convergent. Eyes elevate. Antennae 11-segmented with distinct 3-segmented club; three apical segments not triangular but rather rounded. The last joints of labial and maxillary palps securiform or oblong.

T h o r a x . Lateral edge distinct. Pronotum laterally with large tubercle at each side. Prothorax either as wide as long or (mostly) wider than long. Mesocoxal cavities open. Front coxal cavities closed, prosternal process mostly dilated. Wings of winged species with large radial cell and four veins in medial field. Some species wingless. Legs with variable number of tibial spines. 1st tarsomere with tendency to be as large as tarsomere 2 or 3. Claws without denticles.

A b d o m e n . Five visible sternites present. Tegmen inverted, i.e. ventrally open (although often laterally situated), cucujoid. Parameres large and ciliate. Tegminal struts absent. Female internal copulatory organs with large bursa copulatrix and two (often comb-like or denticulate) sclerites at its base.

Note on synonymy. *"Parapylus" bicinctus*, the single species of the synonymised genus *Parapylus* is in all features, excepting colour pattern and sculpture, identical with *P. fatuus*, type species of *Pylus*; the two are clearly therefore congeneric.

Remarks. Monophyly and status of the genus is unclear to date. Relative genera occur in Australia and chiefly in South America (*Pylusopsis*, *Corithiscus* Fairmaire et Germaine, 1861, *Cregya*, *Lasiodera* Gray, 1832, and the former genera *Exochonotus* Barr, 1980 and *Neopylus* Solervicens, 1989 that are synonymised below). Because classification of the genera mentioned is very confused at present and knowledge of their morphology is poor, a detailed comparison is impossible. Further observation on the Neotropical genera could show, for example, a paraphyly of *Lasiodera* and synonymization of *Pylus* with it.

Distribution. Australia, related (perhaps congeneric) taxa in southern part of South America.

Pylus fatuus Newman, 1840 (Figs 8–31, Photo 7)

NEWMAN (1840): *Entomologist* **1(2):** 35.

Material examined. Female: "Australia-Greta, N.S.W./ XI. 1951/ J. Sedlacek" (MMB); two females: "ACT Piccadilly-Circus 9 Jan.-1983 J. Doyen" (ANIC).

Notes on morphology. Large, elongate, brown species.

H e a d . Gular sutures convergent (Fig. 8). Eyes elevate, slightly emarginate. Antennae with large 3-segmented club (Fig. 12), reaching base of elytra. Labrum shown in Fig. 14, labium in Fig. 15 and maxilla in Fig. 16. Mandible with conspicuous penicillus (Fig. 13). Cranium shown in Figs 8–10. Tentorium with apodeme in centre of bridge (Fig. 11). Head brown, densely and finely punctate, with short pubescence.

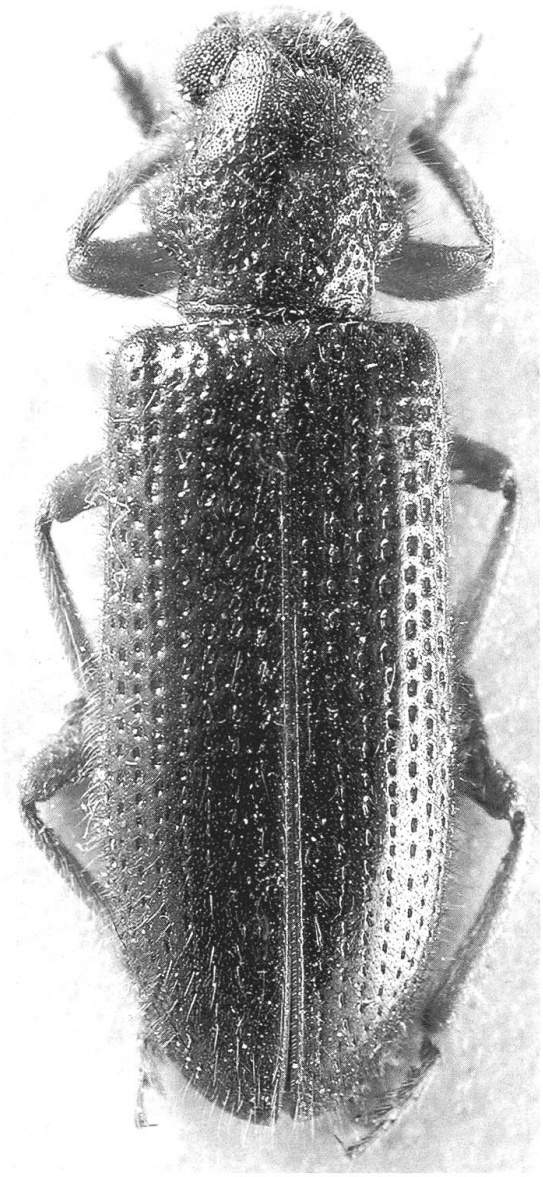


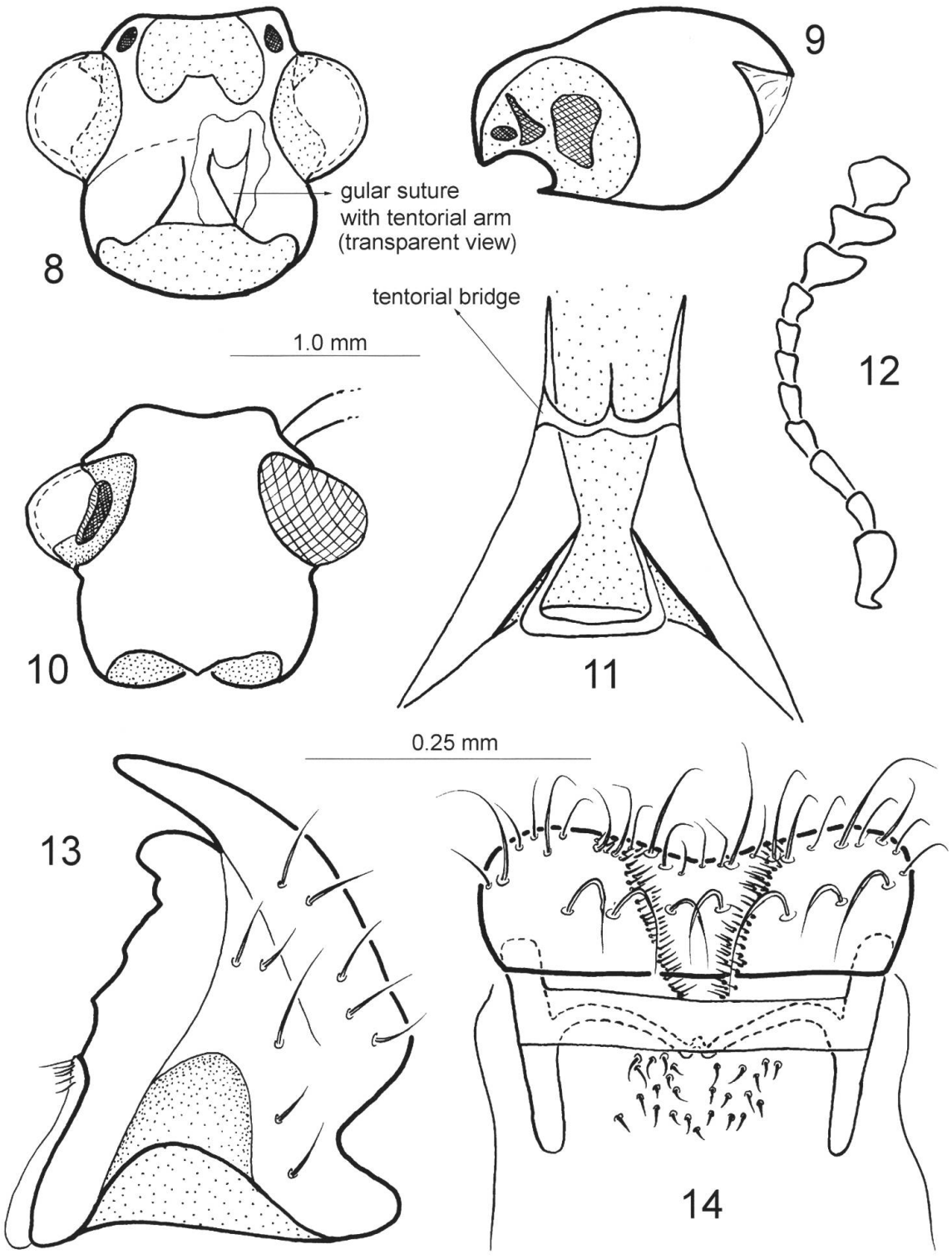
Photo 7. *Pylus fatuus* Newman.

T h o r a x . Lateral edge distinct with one large elevate tubercle at each side (Fig. 19). Front coxal cavities closed, intercoxal process dilated. Pronotum brown, coarsely punctate, with depression in middle. Meso- and metathorax in ventral view are shown in Fig. 18. Sculpture of ventral part of mesothorax in comparison with *P. bicinctus* is shown in Fig. 23a, b. Meso- and proendosternites (or furcasternites) are shown in Figs 18 and 20. Middle coxal cavities open, coxae relatively small. Mesonotum with truncate scutellum (Fig. 24). Elytra with weak epipleure (Fig. 22), with regular rows of impressions and short dense pubescence, brown. Metendosternite shown in Fig. 25: stalk with long anterior tendons, lamina conspicuous. Metanotum shown in Fig. 21. Wing shown in Fig. 26: radial cell large, elongate; medial field with four veins, wedge cell present. Legs yellow-brown. The first tarsomeres of all pairs of legs large, not covered from above by the second tarsomeres (Fig. 17). Claws without denticles.

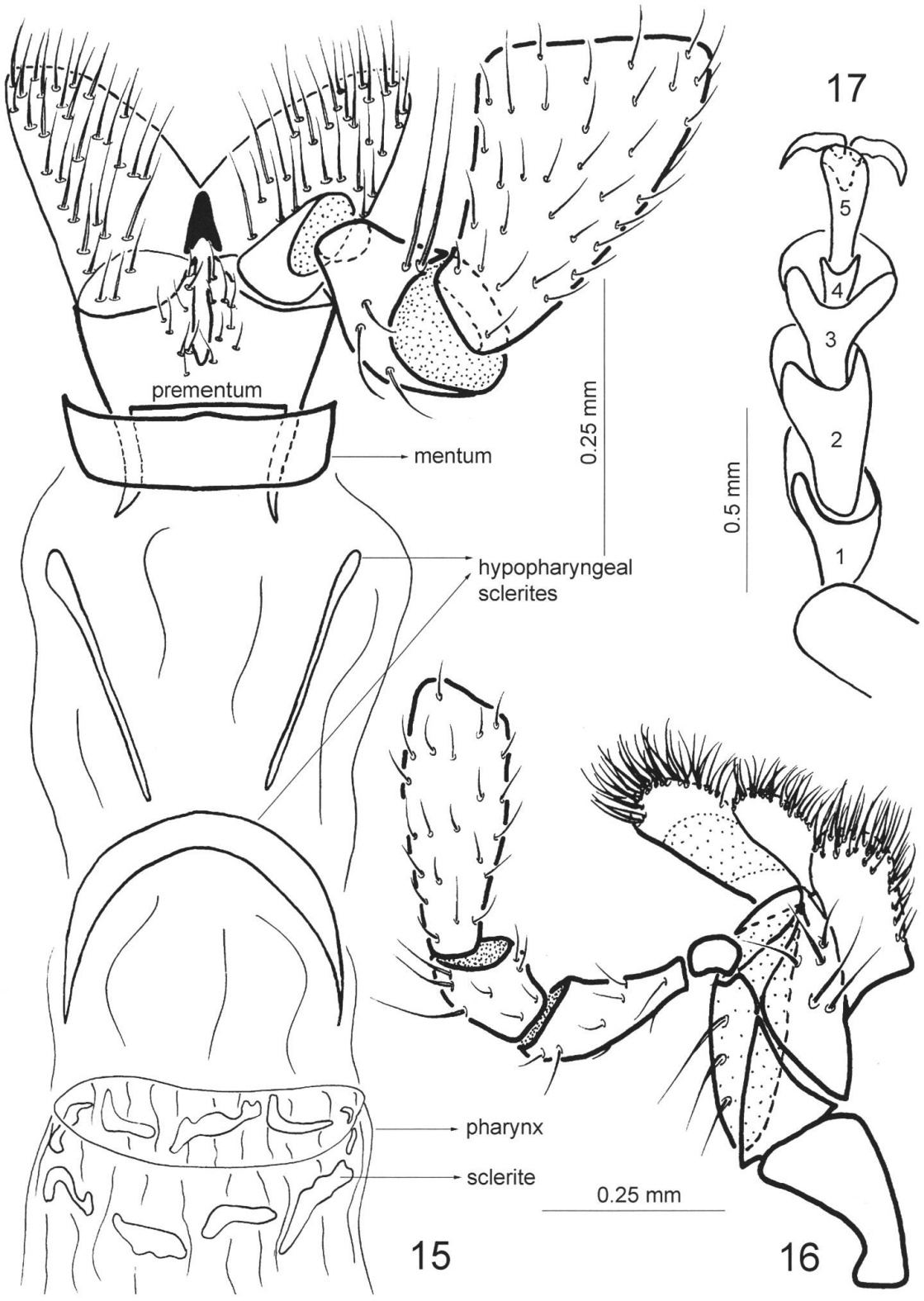
A b d o m e n . Whole abdomen covered by elytra (male) or last segment visible from above (female). Five visible sternites present. The first visible sternite (or true sternites I to III) shown in Fig. 30. Female internal copulatory organs shown in Fig. 29: with large bursa copulatrix and pair of sclerites. Female sternite VIII shown in Fig. 31. Ovipositor medium-sized (Figs 27, 28).

Body size: about 10 mm.

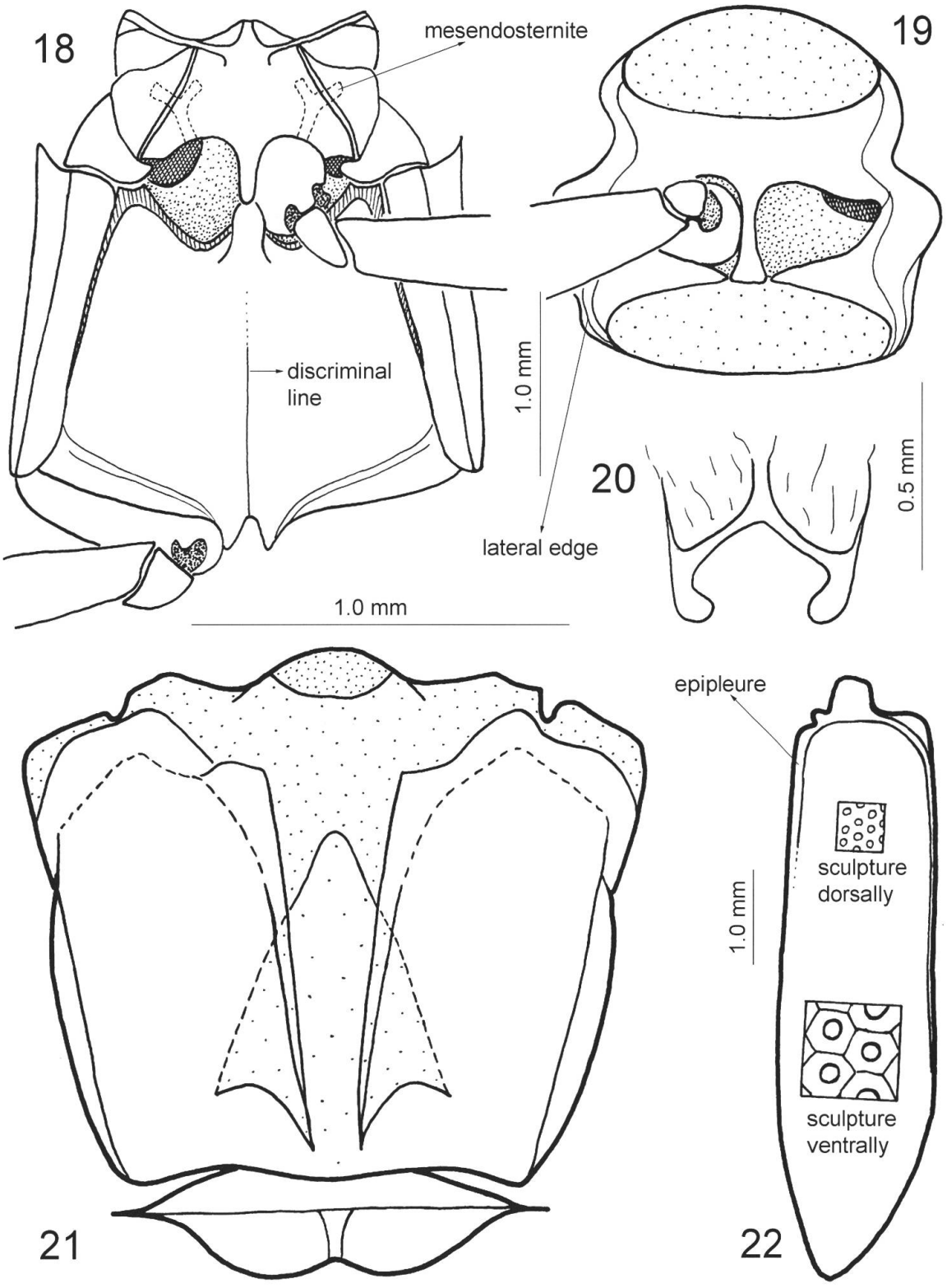
Distribution. South Australia, New South Wales, Queensland.



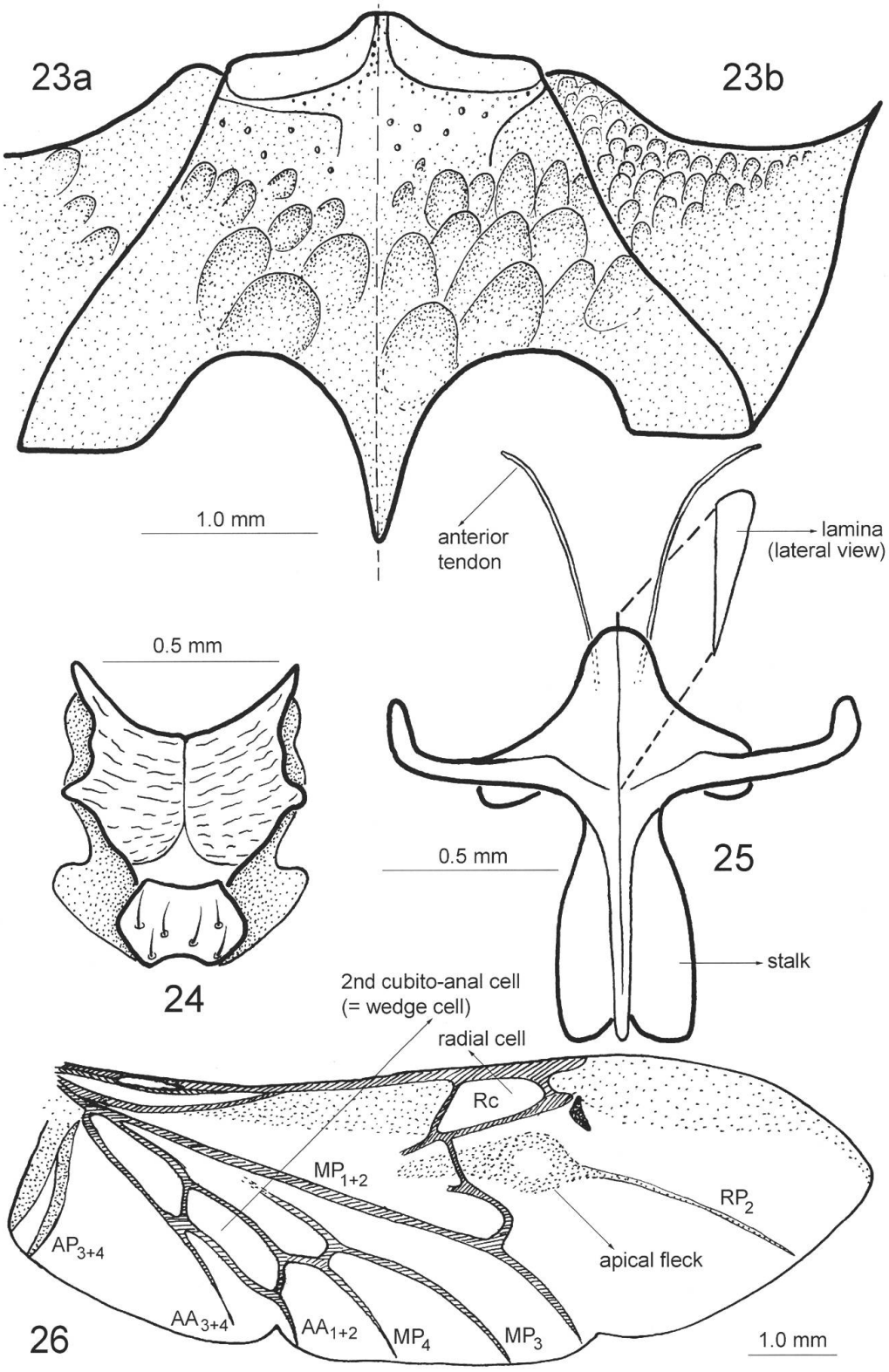
Figs 8–14. *Pylus fatuus* Newman: 8, head ventrally (eyes and right gular area transparent); 9, head laterally (eye and antenna removed); 10, head dorsally (left eye transparent); 11, tentorium; 12, antenna; 13, mandible dorsally; 14, labrum with tormal processes.



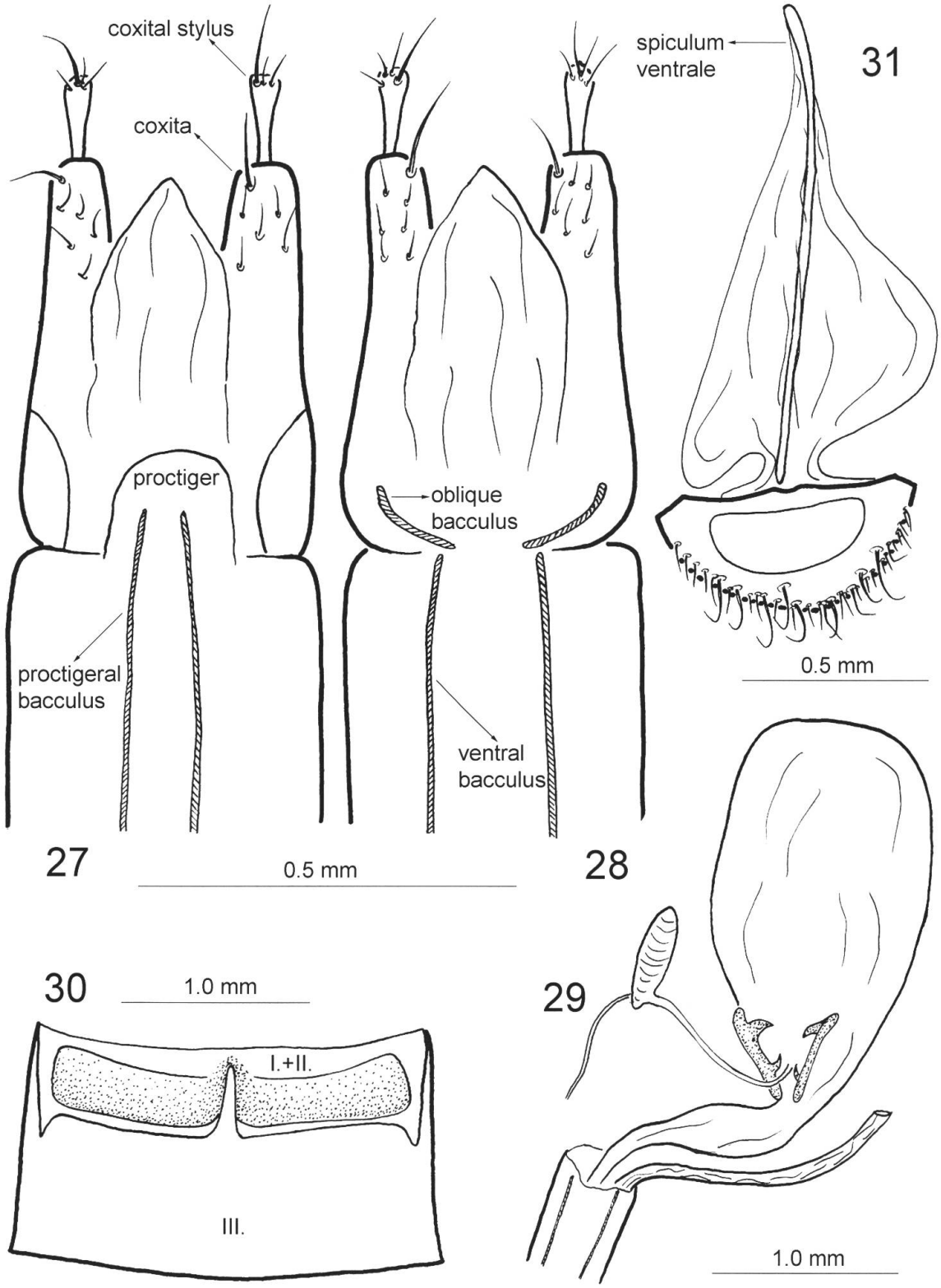
Figs 15–17. *Pylus fatuus* Newman: 15, labium; 16, left maxilla ventrally; 17, hind tarsus dorsally.



Figs 18–22. *Pylus fatuus* Newman: 18, meso- and metathorax ventrally; 19, prothorax ventrally; 20, proendosternite (prothoracal furca); 21, metanotum; 22, elytron ventrally with schema of sculpture.



Figs 23–26. *Pylus fatuus* Newman: 23a, structure of mesothorax; 24, mesonotum; 25, metendosternite; 26, wing. *Pylus bicinctus* Newman: 23b, structure of mesothorax.



Figs 27–31. *Pylus fatuus* Newman: 27, ovipositor dorsally; 28, ovipositor ventrally; 29, female internal copulatory organs; 30, abdominal sternites I, II, III; 31, female abdominal sternite VIII.

Pylus bicinctus Newman, 1842 comb.nov. (Figs 23b, 32–38, Photo 8)

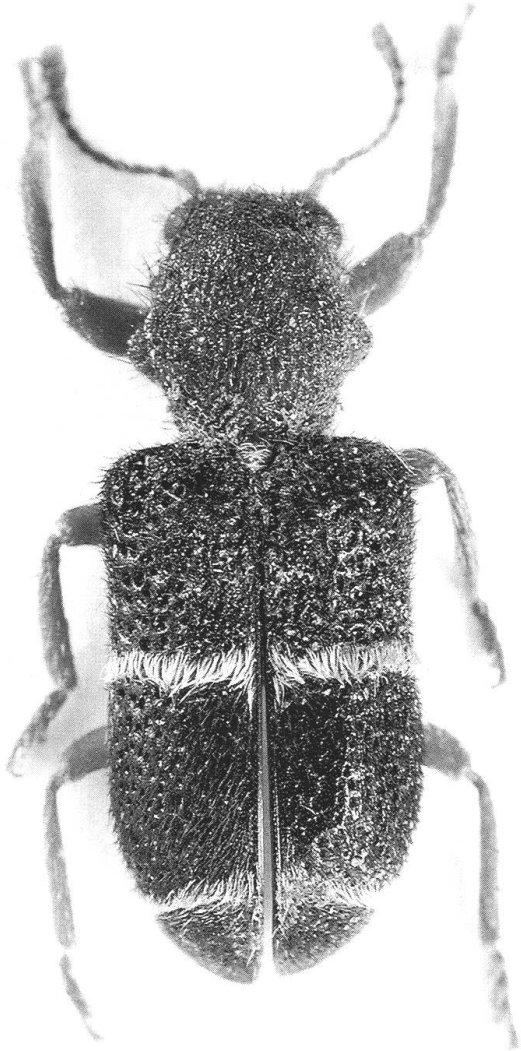


Photo 8. *Pylus bicinctus* Newman.

NEWMAN (1842): *Entomologist* **1(23):** 364 (*Pylus*).
Parapylus bicinctus: BLACKBURN (1891): *Trans. Roy. Soc. South Austral.* **14:** 305.

Material examined. One male and one female: not labelled (JKC).

Notes on morphology. Large species with brown (or reddish-brown) head and pronotum; elytra black (blue-black) with white transverse stripe.

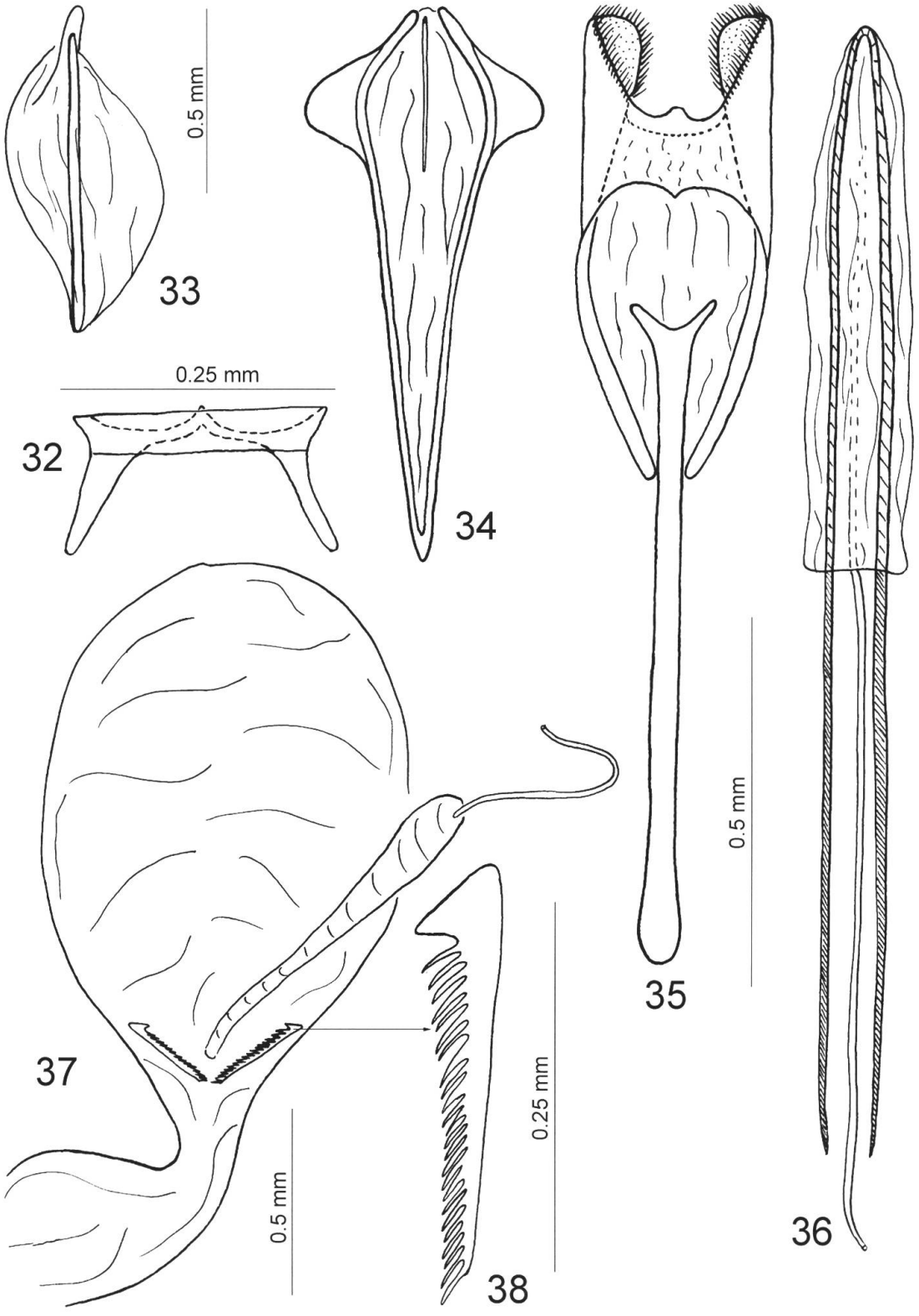
Head. Gular sutures strongly convergent. Eyes emarginate and elevate. 11-segmented antennae shorter than these in *P. fatuus*, hardly reaching base of pronotum. 3-segmented club distinct, loose. Tormal processes of labrum shown in Fig. 32. Mandibles similar to those of *P. fatuus* (cf. Fig. 13). The last joints of both labial and maxillary palps weakly securiform. Upper surface finely and densely punctate, brown.

Thorax. Lateral edge distinct, pronotum laterally with one conspicuous elevate tubercle on each side. Front coxal cavities closed, intercoxal process dilated. Front coxae transverse. Pronotum brown. Mesosternum coarsely punctate (Fig. 23b). Mesocoxal cavities widely open. Discriminal line distinct along whole length of flat metasternum. Elytra black with two light transverse stripes which are composed of setae; punctation irregular. Elytra depressed in the first third. Whole upper body surface shortly and densely pubescent. Wing with radial cell large but not elongate. Medial field similar to that in *P. fatuus* (cf. Fig. 26). Legs brown. Tibial spine pattern 1(2)–2–2 (front tibiae with one short spine and one very reduced spine). The first tarsomeres of all pairs of tarsi large, not covered from above by the second tarsomeres.

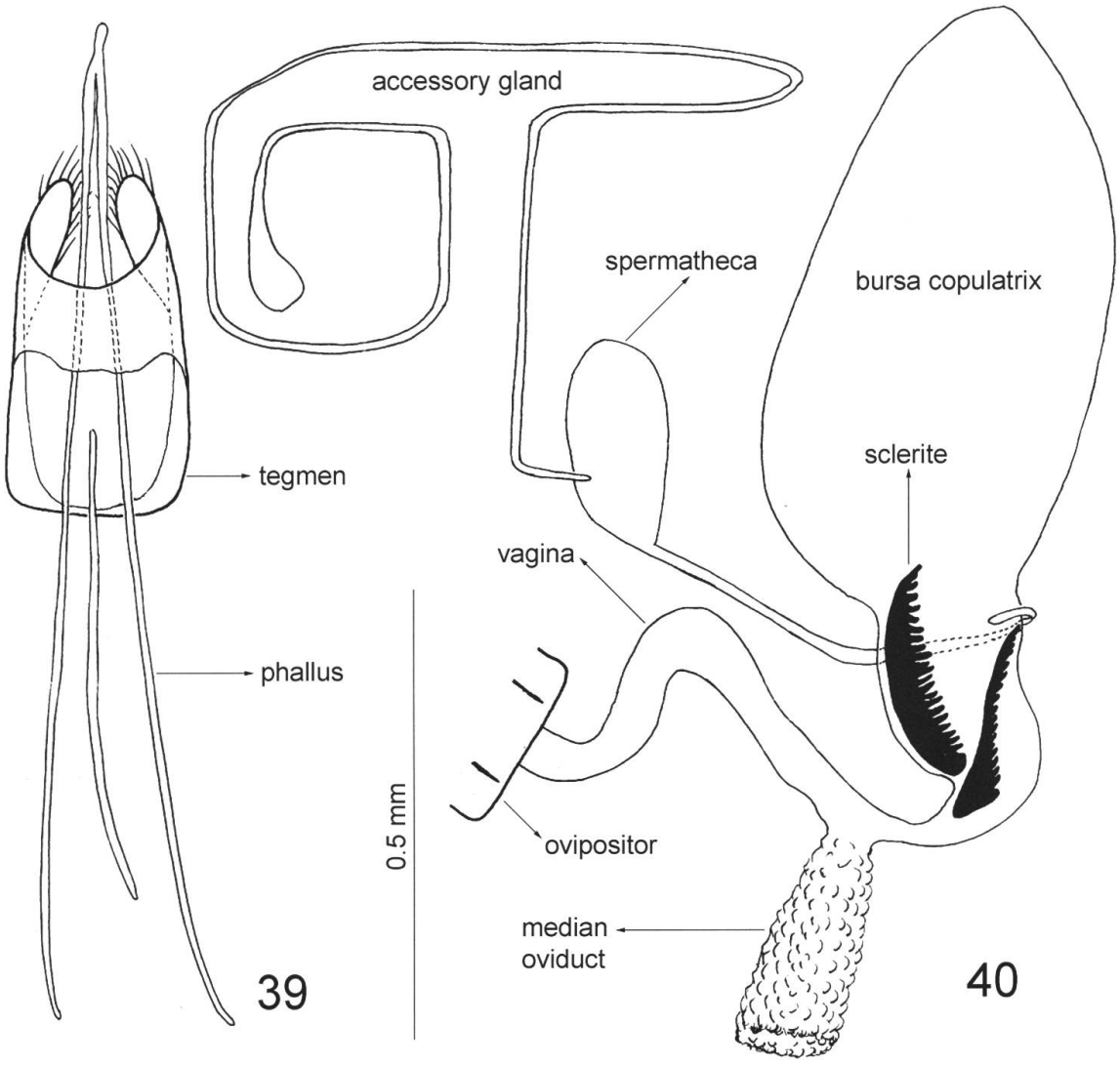
Abdomen. Abdominal segments covered by elytra. Five visible sternites present. Spiculum ventrale of female sternite VIII shown in Fig. 33. Female internal copulatory organs shown in Fig. 37: with large bursa copulatrix and pair of comb-like sclerites (Fig. 38). Tegmen in dissected specimen laterally situated but opening ventrally (Fig. 35). Phallus slender and long (Fig. 36). Spicular arms connected at apices, arms with typically korynetine lobes (Fig. 34).

Body size: about 6.5 mm.

Distribution. South Australia, New South Wales, Queensland.



Figs 32–38. *Pylus bicinctus* Newman comb.nov.: 32, tormal processes of labrum; 33, spiculum ventrale of female abdominal sternite VIII; 34, spicular fork; 35, tegmen ventrally; 36, phallus; 37, female internal copulatory organs; 38, sclerite in detail.



Figs 39–40. *Pylus okei* Elston: 39, aedeagus ventrally; 40, female internal copulatory organs.

***Pylus okei* Elston, 1929** (Figs 39–40, Photo 9)

ELSTON (1929): *Trans. Roy. Soc. South Austral.* **53:** 351.

Material examined. One male and one female (described and figured): "Mt. Franklin/ ACT 5 Jan. 79/ J. F. Lawrence-D. Rentz"; five specimens sex unknown: "3 km N of/ Mt. Aggie ACT/ 1–21 Feb. 79/ D. Rentz", "gutter trap"; "35.33 S 148.47 E/ 1 km N of Mt Gingera A.C.T./ 18 Feb. 1981/ A. A. Calder", "Berlesate/ ANIC 699/ Moss". (ANIC, JKC.)

Notes on morphology. Small wingless species.

H e a d . Gular sutures straight, convergent. Eyes elevate, elliptic, emargination minute. Antennae do not reach base of pronotum, 3-segmented club loose. The last joints of both labial and maxillary palps securiform, labial shorter than maxillary. Head blackish, with very dense punctation and two types of pubescence: long, sparse and dark as well as short, very dense and pale.

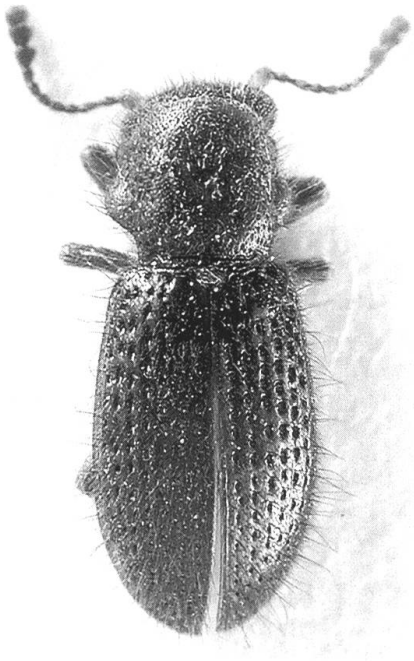


Photo 9. *Pylus okei* Elston.

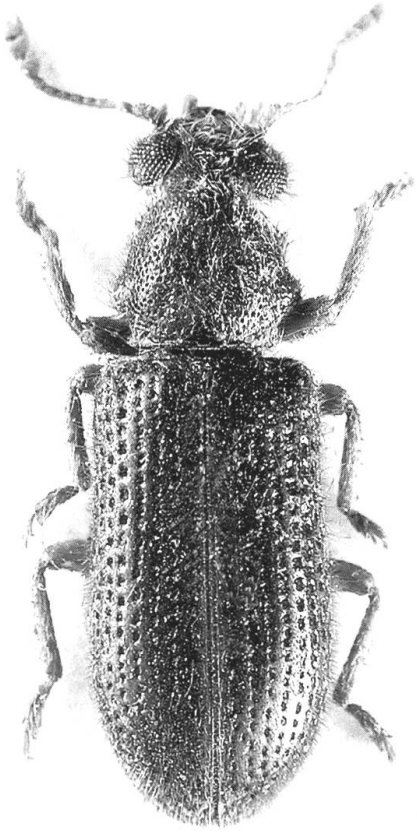


Photo 10. *Pylus pallipes* M'Leay.

T h o r a x . Pronotum laterally with large tubercle on each side. Disc with depression in middle. Front coxal cavities closed, intercoxal process slightly dilated. Front coxae slightly transverse (nearly spherical), not projecting. Pronotum finely and densely punctate on whole upper surface (without glabrous areas), with two types of pubescence (similar to that of head) – short pubescence somewhat decumbent, long hairs erect. Prothorax brown, or reddish-brown, lighter than head or elytra, or black (as well as elytra and head). Mesocoxal cavities narrowly open. Coxae rounded. Metasternum very short, with distinct discriminal line. Meso- and metasternum brown-black. Wings reduced, with membranous remnants minute, without venation. Elytra with regular rows of impressions. Pubescence as in head and pronotum. Elytra dark brown, nearly black. Legs short with tibiae (especially front) swollen. Tibial spines not observed(!). Legs brown or yellow-brown. 1st tarsomeres of all pairs of legs as large as tarsomeres 2 or 3.

A b d o m e n . Whole abdomen always covered by elytra, five visible sternites present. Female internal copulatory organs shown in Fig. 40: with pair of large comb-like sclerites and very long spermathecal gland. Tegmen rather laterally situated but open ventrally, with long phallobasic apodeme (Fig. 39). Phallus very slender (Fig. 39). Spicular arms connected at apices.

Body size: 3.5–4.5 mm.

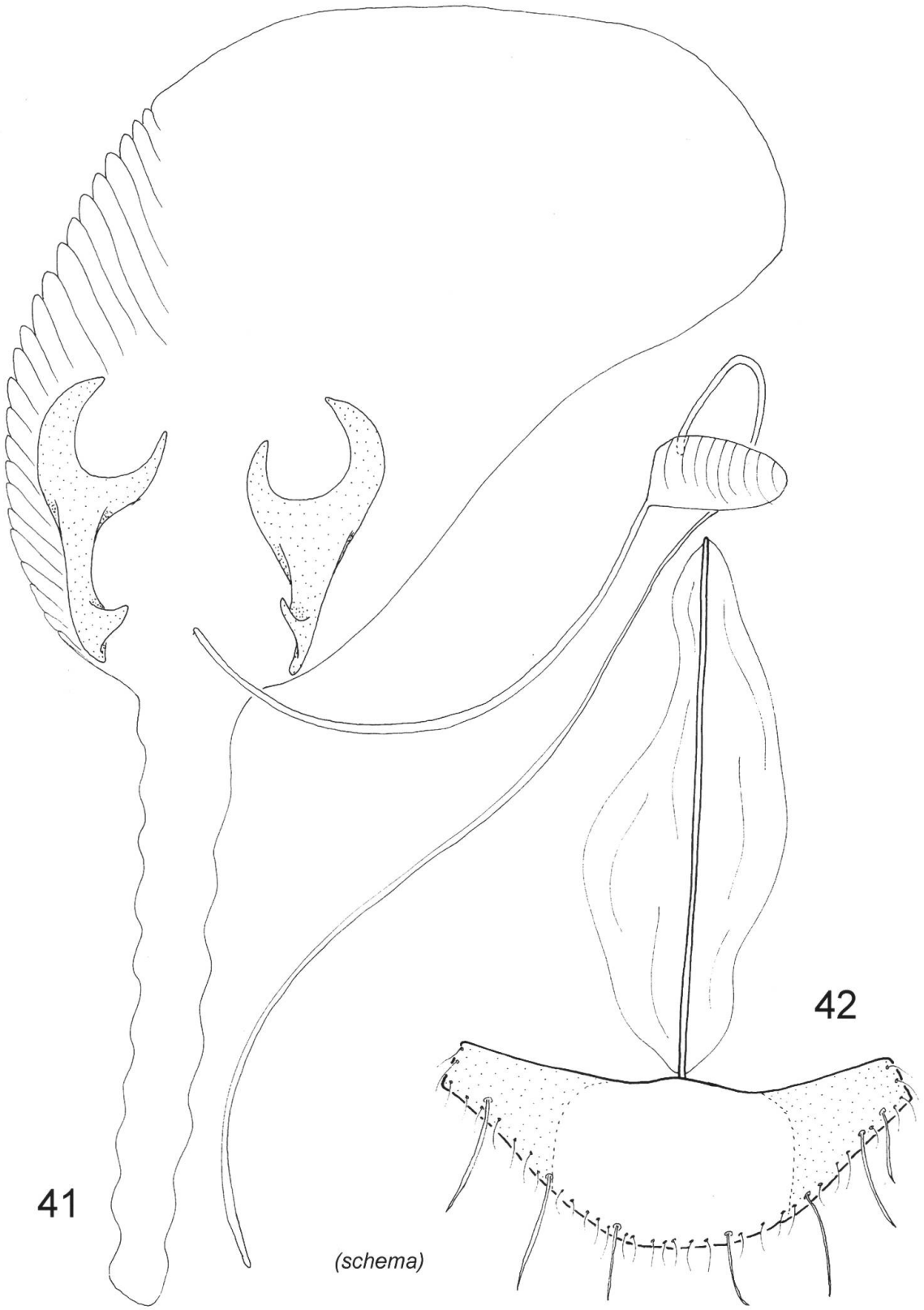
Distribution. Australian Capital Territory, Victoria (type series).

Pylus pallipes M'Leay, 1872
(Figs 41–42, Photo 10)

M'LEAY (1872): *Trans. Ent. Soc. New South Wales* **2:** 275.

Material examined. Three specimens: "Australien QLD/ Mareeba/ 19.–25.XII. 1961/ leg. H. Demarz". (JKC)

Notes on morphology. Similar to *P. fatuus* but body smaller (5.5–7.0 mm). Because only females of the both species were available, differences are shown on



Figs 41–42. *Pylus pallipes* M'Leay: 41, female internal copulatory organs; 42, female abdominal sternite VIII.

female internal copulatory organs. Especially shapes of sclerites in the base of bursa copulatrix (Figs 41 *versus* 29) and sternite VIII (Figs 42 *versus* 31) are conspicuously different in the both species.

Distribution. Queensland.

***Pylus sedlaceki* sp.nov.** (Figs 43–45, Photo 11)

Material examined. Holotype male: "Brisbane S. Qld./ 26 Oct. 1962"; (J. Sedlacek leg.) (JKC).

Description. Small, broadly oval, blue species.

H e a d . Eyes elevate, large, emargination minute. Antennae short, hardly reaching base of pronotum, 3-segmented club relatively compact. 3rd antennal joint longer than joint 4. Last joint of labial palps short and securiform, last joint of maxillary palps longer and oblong. Upper surface dark blue, metallically glabrous, densely and relatively finely punctate; two types of pubescence present: long, black and sparse as well as short, pale and dense. Antennae and mouth parts yellow-brown.

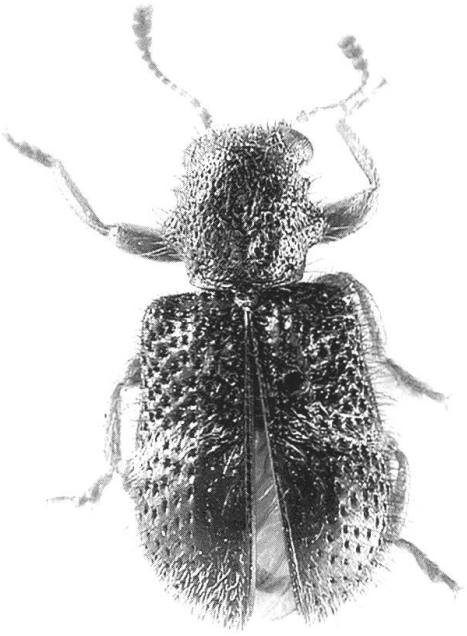


Photo 11. *Pylus sedlaceki* sp.nov., holotype male.

T h o r a x . Front coxal cavities closed, intercoxal process dilated. Front coxae subspherical. Lateral edge distinct; pronotum with one large tubercle at each side, with depression in middle. Pronotum very coarsely punctate, pubescence similar to that of head. Prothorax metallically glabrous, dark blue. Mesocoxal cavities widely open, coxae small and semispherical. Discriminal line distinct along whole length of metasternum. Elytra subregularly and very coarsely punctate; metallically glabrous, dark blue, with narrow transverse light stripe at middle. Pubescence similar to that of head, with the densest pale pubescence occurring in apical quarter. Wing similar to that in *P. bicinctus*: radial cell nearly rounded. Apical fleck nearly complete. Legs brown. Femora swollen, especially the front ones. First tarsomeres visible from above.

A b d o m e n . Five visible sternites present. Whole abdomen covered by elytra. Tegmen (Fig. 43) laterally situated, strongly laterally bent. Phallus slender, long (Fig. 44), spicular arms connected at apices (Fig. 45).

Body size: 4.5 mm.

Distribution. Queensland.

Differential diagnosis. The single metallic dark blue species of the genus. Body shape characteristic: short, compact but winged species – these features distinguish *P. sedlaceki* sp.nov. from all other species of *Pylus*. See also key to species.

Key to the genus *Pylus*

1. Elytra monochromatic (brown to black), without stripes and conspicuous humeral tubercles. ..... 2.
– Elytra blue to black, with one or two whitish or yellowish transverse stripes and conspicuous humeral tubercles. ..... 4.

2. Small wingless species (about 4 mm). Sclerite of female internal copulatory organs comb-like (Fig. 40). ..... *P. okei* Elston
– Larger winged species (above 5 mm). Sclerite of female internal copulatory organs with two or three spines. ..... 3.

3. Large species (about 10 mm). Body brown-black, legs mostly lighter. Sclerite of female internal copulatory organs with two spines (Fig. 29). Female sternite VIII narrower (Fig. 31). ..... *P. fatuus* Newman
– Smaller species (about 6 mm). Body lighter than in preceding species, brown or blackish, legs slightly lighter than body. Sclerite of female internal copulatory organs with three spines (Fig. 41). Female sternite VIII wider (Fig. 42). ..... *P. pallipes* M'Leay

4. Small species (under 5 mm). Elytra with one inconspicuous transverse stripe of light pubescence. Light pubescence also present also at apex of elytra. Aedeagus strongly bent, parameral portion of tegmen divided into two parts (Fig. 43). ..... *P. sedlaceki* sp.nov.
– Larger species (above 5 mm). Elytra with two conspicuous transverse stripes of light pubescence. Apex of elytra without pubescence. Aedeagus not strongly bent, tegmen not divided (Fig. 35). .... *P. bicinctus* Newman comb.nov.

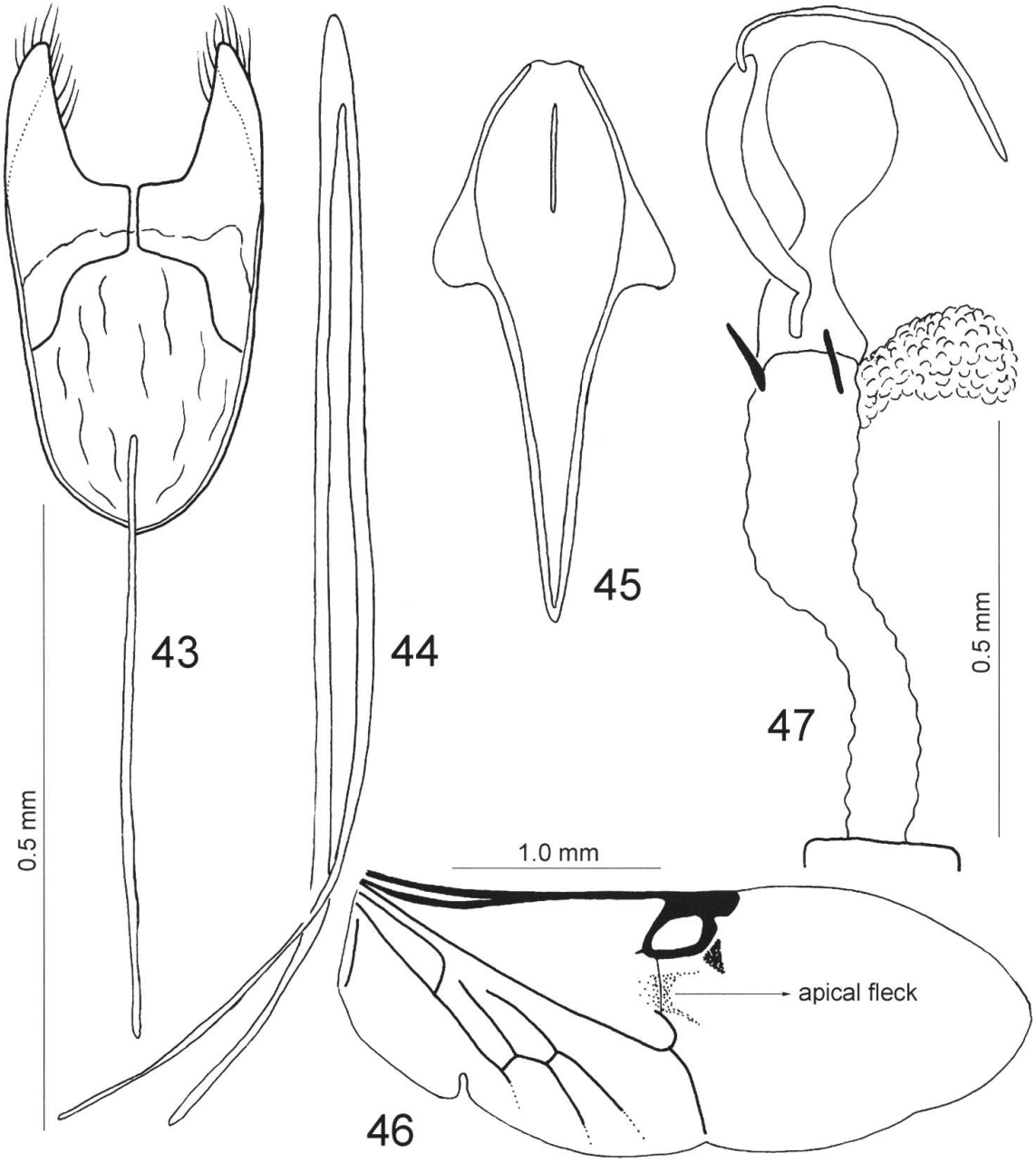
5. Genus *Apopylus* gen.nov.

Type of genus: *Apopylus unumgarensis* sp.nov.

Differential diagnosis. The new genus differs from the sister genus *Pylus* in the following apomorphies: (1) mesocoxal cavities closed, (2) wedge cell absent, (3) apical fleck reduced, (4) tibiae without conspicuous spines.

On the other hand, apomorphies of *Pylus* in consideration to *Apopylus* gen.nov. are: (1) female internal copulatory organs with distinct sclerites (only soft appendages occur in *Apopylus* gen.nov.), (2) pronotum with longitudinal depression in middle of pronotum.

Considering body shape, structure of the pronotum and the loose antennal club with rounded joints, *Apopylus* gen.nov. is closely related to *Pylus*. However, there are also character states shared with *Pylusopsis*: soft appendages in female internal copulatory



Figs 43–47. *Pylus sedlaceki* sp.nov.: 43, tegmen ventrally; 44, phallus; 45, spicular fork. *Pylus unumgarensis* sp.nov.: 46, wing; 47, female internal copulatory organs.

organs (plesiomorphy in consideration to *Pylus*) and reduced apical fleck and vein RP2 in wing (apomorphy in consideration to *Pylus*). Also shape of radial cell is shared by *Apopylus* gen.nov. and *Pylusopsis*.

Remarks. Although diagnosis of *Apopylus* gen.nov. is based only on a unique specimen, such conspicuous apomorphies in consideration to the sister genus *Pylus* occur (and, in contrast, also apomorphies of *Pylus* in consideration to *Apopylus* gen.nov.) that the new genus has to be established.

***Apopylus unumgarensis* sp.nov.** (Figs 46–47, Photo 12)

Material examined. Holotype female: "28.24S 152.40E NSW/ Unumgar S.F.430m/ nr Woodenbong, Pole/ Bridge Road/ 788 2–11 Jan. 1987/ A. Newton & M. Thayer" (ANIC).

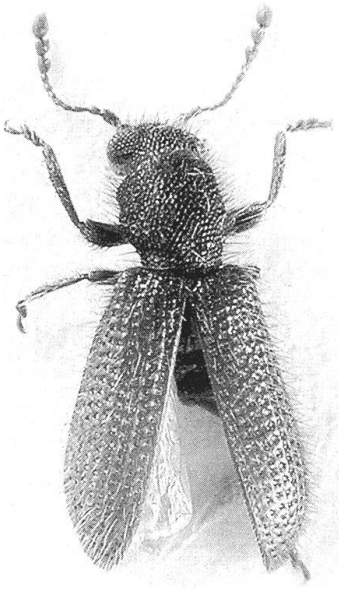


Photo 12. *Apopylus unumgarensis* gen. et sp.nov., holotype female.

Description. Small elongate species.

H e a d . Gular sutures slightly curved, convergent. Eyes strongly elevate (head nearly as wide as prothorax), distinctly emarginate. Antennae reaching base of pronotum; with relatively weak and loose 3-segmented club (in comparison with other species of *Pylus*). The last joints of both labial and maxillary palps strongly securiform; both joints similar in size. Head black (antennae brown and mouthparts yellow-brown) with very dense punctation and dense, long and light pubescence.

T h o r a x . Prothorax as long as wide (relatively long) with tubercles at sides. Front coxal cavities closed, intercoxal process dilated. Coxae slightly projecting. Disc without depression in middle. Pronotum very densely punctate (without glabrous areas) with long pubescence, black. Mesocoxal cavities closed(!) by meso- and metasternum. Coxae coniform. Discriminal line scarcely perceptible. Ventral side of thorax black. Elytra light brown, with regular rows of impressions and long dense pubescence (the only type of pubescence present on whole upper surface). Wing shown in Fig. 46. Radial cell characteristic, medial field without wedge cell; AA3+4 reduced. Legs dark brown (femora blackish). Only front femora somewhat swollen. Claws without denticles but with thickened base. The first tarsomeres not as large as tarsomeres 2 or 3 in all pairs of legs, partly covered from above by tarsomere 2. Tibiae without spines(!).

A b d o m e n . Apical segment of abdomen not covered by elytra. Female internal copulatory organs shown in Fig. 47: without distinct sclerites, with only soft appendages.

Body size: 4.0 mm.

Distribution. New South Wales.

Differential diagnosis. With the exception of detailed morphological characters that clearly differentiate the genera *Apopylus* gen.nov. and *Pylus* on basis of apomorpies, the new species is somewhat similar in body shape and coloration to *P. fatuus* and *P. pallipes*; however, *Apopylus unumgarensis* sp.nov. is markedly smaller than both these species.

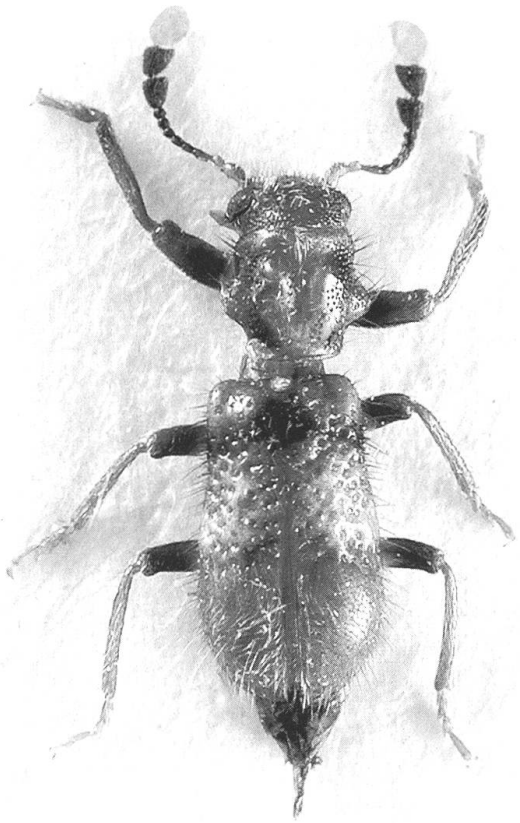


Photo 13. *Pylusopsis chrysocome* Elston.

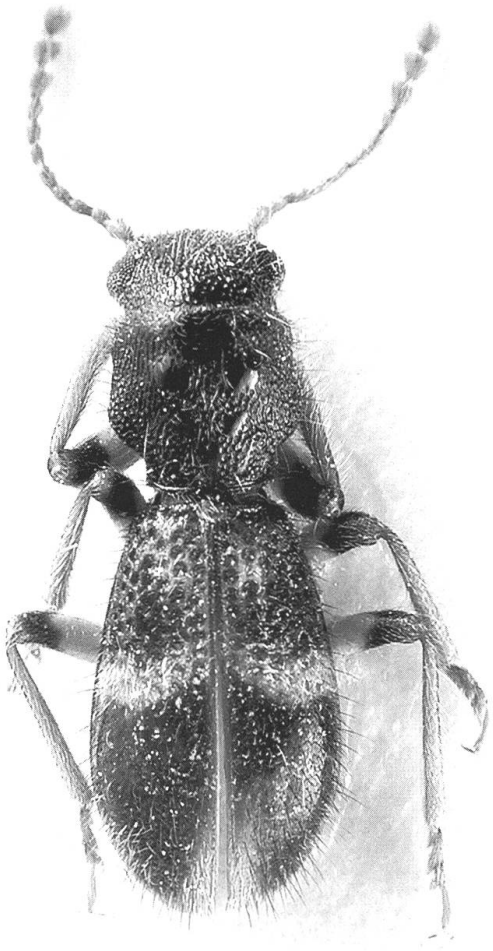


Photo 14. *Pylusopsis peckorum* sp.nov., holotype male.

6. Genus *Pylusopsis* Elston, 1929

ELSTON (1929): *Trans. Roy. Soc. South Austral.* **53:** 352.
Type of genus: *Pylusopsis chrysocome* Elston, 1929.
Exochonotus Barr, 1980: *Pan-Pacific Entomologist* **56(4):** 279. **syn.nov.** (type of genus: *Lebasiella varipennis* Spinola, 1849)
Neopylus Solervicens, 1989: *Acta Ent. Chilena* **15:** 233. **syn.nov.** (type of genus: *Neopylus nahuelbutensis* Solervicens, 1989)

Notes on morphology. Small, oval or weakly elongate species, with the exception of the larger Chilean *Pylusopsis nahuelbutensis* (former *Neopylus*). One wingless species.

H e a d . Gular sutures convergent, slightly curved. Eyes elevate. Antennae reach rear base of pronotum. 3-segmented club large, serrate – joints 9 to 11 triangular.

T h o r a x . Prothorax laterally with one tubercle on each side, lateral edge distinct. Pronotum mostly with conspicuous longitudinal depression in middle or with (mostly four) glabrous tubercles. Front coxal cavities open behind. Coxae slightly transverse.

Mesocoxal cavities open, coxae slightly projecting. Wings with large radial cell, apical fleck incomplete, wedge cell absent. Four veins present in medial field. Elytra mostly with various colour patterns. Tarsal claws with or without tooth [BARR (1980) mentions intermediate condition of pretarsal claws in *"Exochonotus" varipennis* where basal tooth is or is not present in various specimens].

A b d o m e n . Six visible sternites. Tegmen inverted, i.e. ventrally open, divided in centre into two parts. Parameral (or apical) portion of tegmen ciliate.

Notes on synonymy. This genus, as well as a whole paper by ELSTON (1929), was omitted in CORPORAAL's world catalogue (1950) and has been unknown for a long time. *Neopylus* shares most character states with *Pylusopsis*; however, some of these states are plesiomorphic in consideration to *Pylus*. Nevertheless, at the present state of knowledge, *"Neopylus" nahuelbutensis* agrees perfectly with a diagnosis of *Pylusopsis*. Its synapomorphies with consideration to *Pylus* may be serrate antennal club, structure of pronotum, reduced apical fleck and wedge cell. Synapomorphies of *Pylus* are front coxal cavities closed and presence of conspicuous sclerites in female internal copulatory organs. Another, although somewhat vague, character that differentiates these two genera is the number of visible abdominal sternites: six in *Pylusopsis* and five in *Pylus*.

"Exochonotus" varipennis, type of the synonymised genus *Exochonotus*, as well as another three Chilean species (SOLERVICENS 1998, 2001a) perfectly agree with a diagnosis of *Pylusopsis*. These species have structure of pronotum similar to that in *P. peckorum* sp.nov. – only glabrous tubercles occur in disc but the deep longitudinal groove of *P. chrysocome* and *P. nahuelbutensis* is absent.

Distribution. Australia, South America.

Pylusopsis chrysocome Elston, 1929 (Figs 48–52, Photo 13)

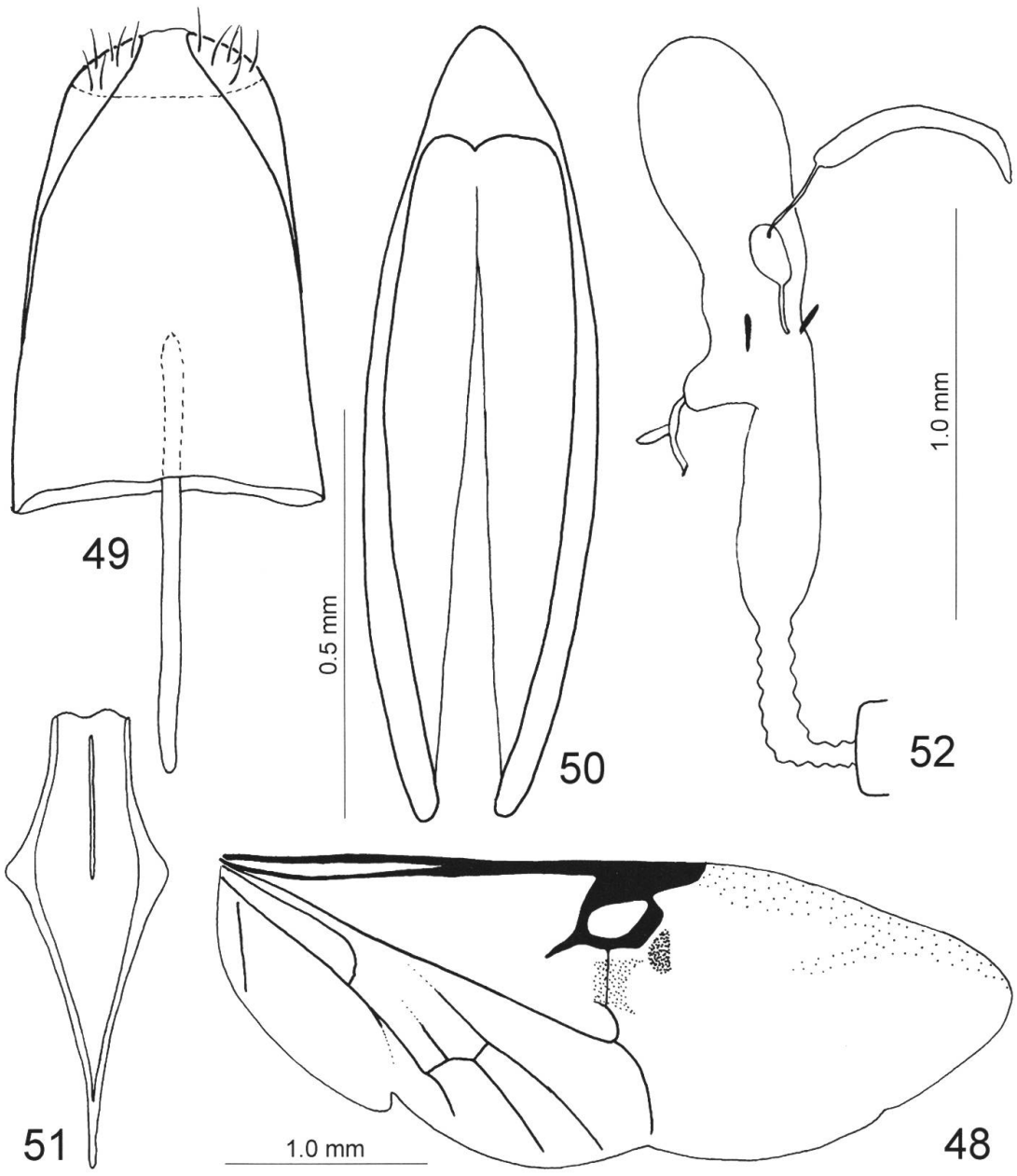
ELSTON (1929): *Trans. Roy. Soc. South Austral.* **53:** 352.

Material examined. Female: "Kioloa S.F.NSW/ rainforest/ 4–5 Mar. 1986/ J. & N. Lawrence"; male: "Acacia/ PLATEAU/ 1/48", "J. G. Brooks/ Bequest, 1976"; sex unknown: "Sea Acres Reserve/ Port Macquarie/ NSW, 2 Oct. 1983/ K. R. Pullen"; "Lorien Wildlife/ Refuge, 3 km N/ Lansdowne via/ Taree NSW/ 22 Feb.–1 Mar./ 1987 G. Williams", "ex malaise trap on rainforest margin"; "5 km W Comboyne/ NSW emgd. 5–13/ December 1983/ G. & T. Williams/ dry branchlet" (all ANIC); "Queensland/ Lemington? 1972" (J. Sedlacek leg.); "Australia: Q.-Mt. Glorious/ 3. I. 1978/ J. Sedlacek" (JKC).

Notes on morphology. Small, broadly oval, orange species.

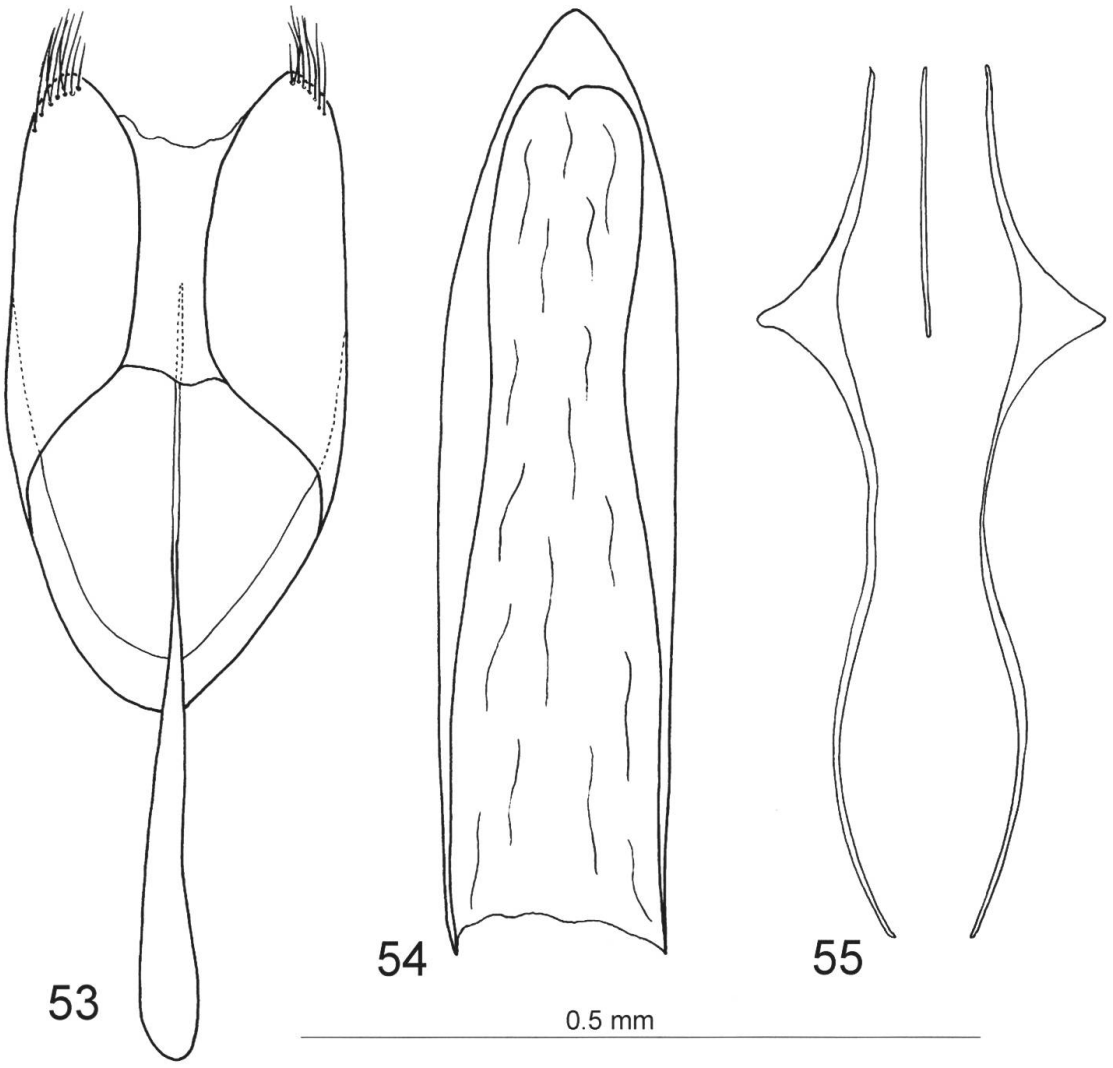
H e a d . Gular sutures convergent, slightly curved (similar to those in *Pylus sedlaceki* sp.nov.). Eyes elevate, relatively deeply emarginate. Antennae reach base of pronotum. 3-segmented club large, serrate – joints 9 to 11 triangular; third joint longer than 4th joint. The last joints of both labial and maxillary palps securiform, last maxillary joint longer than the labial one. Mouth part yellowish. Basal antennal joints (1–2 or even 3) brown, joints 4–10 black, 11th joint conspicuously white or yellow(!). Head brown (red-brown), densely and finely punctate, with dense pale pubescence.

T h o r a x . Prothorax laterally with tubercle, lateral edge distinct. Pronotum with depression in middle and two large glabrous tubercles on disc. Front coxal cavities open behind, closed only to middle, intercoxal process not dilated. Coxae slightly transverse.



Figs 48–52. *Pylusopsis chrysocome* Elston: 48, wing; 49, tegmen ventrally; 50, phallus; 51, spicular fork; 52, female internal copulatory organs.

Prothorax brown (red-brown), with impressions of various sizes and glabrous areas (e.g. on medial tubercles). Mesocoxal cavities open, coxae slightly projecting. Discriminal line imperceptible. Elytra orange with white-yellow pattern. Base of each elytron with tubercle near suture, tubercles black, with tufts of black hairs. First half of elytra with irregular large impressions, second (apical) half without punctation, with orange pubescence. White-yellow S-like spot present on the first half of elytra. Wings shown in



Figs 53–55. *Pylusopsis peckorum* sp.nov.: 53, tegmen ventrally; 54, phallus; 55, spicular fork.

Fig. 48: radial cell rounded, similar to that of *P. bicinctus*; apical fleck imperfect; wedge cell absent. Legs dark brown, base of tibiae and tarsi lighter. Tibial spine pattern (1)–2–2.

A b d o m e n . Almost all segments covered by elytra (rarely apical segment visible). Six visible sternites. Female internal copulatory organs shown in Fig. 52: sclerites absent, only two soft appendages present at base of large bursa copulatrix. Tegmen (Fig. 49) ventrally open, divided in middle. Phallobase soft, transparent and membraneous. Phallus stout (Fig. 50). Spicular fork with arms coalescent along apices (Fig. 51).

Body size: 3.5–5.0 mm.

Distribution. New South Wales, Queensland.

***Pylusopsis peckorum* sp.nov.** (Figs 53–55, Photo 14)

Material examined. Holotype male: "Walpole N.P./ Shedley Drive WA/ 22 Jun. 1980/ S. & J. Peck SBP 78", "berlesate rotten bark & fungi". 1 paratype male: "Nornalup WA/ Walley of Giants/ 21 Jun. 1980/ S. & J. Peck SBP 74", "berlesate rotten tingle bark". (both ANIC.)

Description. Small wingless species of body shape similar to *Pylus okei*. Dark brown, with X-like yellowish spot in basal half of elytra and yellowish elytral apex. Pubescence of dorsal surface sparce, long, yellowish or light brown.

H e a d . Frons coarsely and longitudinally punctate or wrinkled. Antennae light brown, 11-segmented, relatively long, reaching base of elytra. Club 3-segmented, loose, joints 9-11 weakly triangular. Eyes small, elevate. Antennae and legs densely, shortly, lightly pubescent. Head black-brown with long pubescence and dense, fine punctation.

T h o r a x . Pronotum with distinct lateral edge, constricted at base. Two glabrous tubercles as well as a V-shaped glabrous plate occur at disc. Pronotum black-brown, densely and coarsely punctate. Front coxal cavities half open, prosternal process not dilated. Elytra oviform with regular rows of large impressions at basal half. Apical half of elytra with finer, rather irregular punctation. Elytra dark brown with conspicuous yellowish stripe centrally transverse and less conspicuous light stripe at base of elytra along suture (together these stripes compose an X-like spot). Elytral apex yellowish along suture. Legs yellowish at base of femora and black at apex of femora; tibiae and tarsi brown.

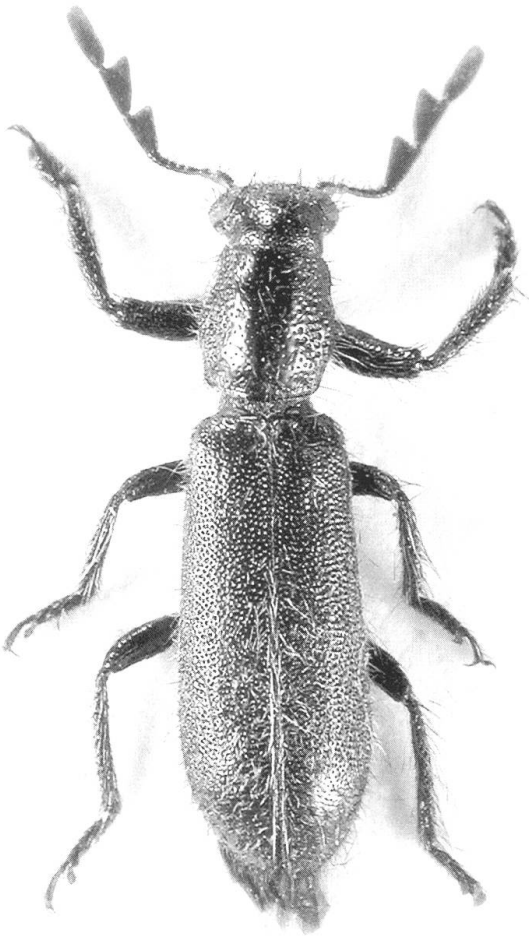


Photo 15. *Teneropsis lividipennis* Schenkling.

A b d o m e n . Six visible sternites. Tegmen ventrally open, divided in middle. Male copulatory organs and spicular fork shown in Figs 53–55.

Body size: 3.5–5.5 mm.

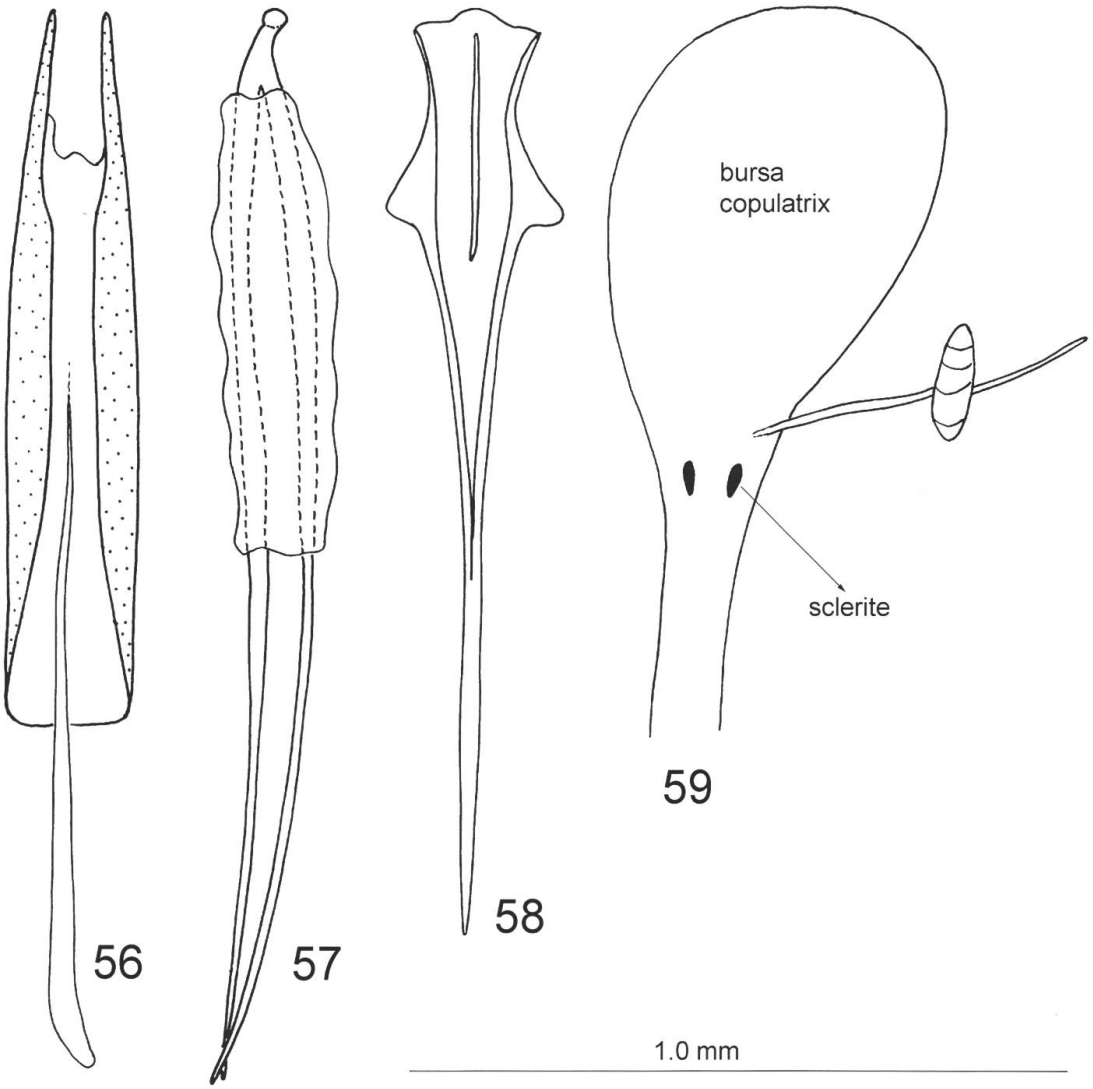
Distribution. Western Australia.

Differential diagnosis. This new species is clearly different from *P. chrysocome* in the structure of its pronotum, colour and winglessness. The structure of the pronotum is more similar to the Chilean species of *Pylusopsis* but the new species differs in all the other characters mentioned, as well as the aedeagus. The single character state that differentiates *P. peckorum* sp.nov. from other species of the group *Pylusopsis–Teneropsis–Cregya* is its small antennal club.

[7. Genus *Teneropsis* Chapin, 1924] (Figs 56–59, Photo 15)

CHAPIN (1924): *Phil. Journ. Sci.* **25(2):** 255, 275.
Type of genus: *Teneropsis sibuyanus* Chapin, 1924.

Notes on morphology. Species of *Teneropsis* are often metallically coloured and monochromatic, with the dorsal body surface finely, irregularly punctate. Antennae with large, serrate 3-segmented club which is longer than the other antennal joints together. Prothorax with lateral tubercle which is not as conspicuous as, for example, in *Cregya* or *Pylusopsis*. Tarsal claws without denticle. *T. lividipennis* (Schenkling, 1912) from Thailand (Photo 15) was dissected during preparation of this communication: male tegmen, phallus and spicular fork are shown in Figs 56–58, female internal copulatory organs with small but pigmented sclerites in Fig. 59. Ovipositor is as long as about half of the abdomen, bursa copulatrix also relatively small – size of organs is not as large as in *Tenerus* or *Cregya*. Tegmen is ventrally open or inverted.



Figs 56–59. *Teneropsis lividipennis* (Schenkling): 56, tegmen ventrally; 57, phallus; 58, spicular fork; 59, female internal copulatory organs.

Remarks. Two species of *Teneropsis* are reported from Australia (CORPORAAL 1949, 1950): *T. jocosus* (Schenkling, 1908) from "North-East Australia" and *T. australicus* (Lea, 1906) from "Sydney". CORPORAAL (1949) combined them within *Teneropsis* but he did not see specimens of both these species, as he mentioned in his communication. Therefore, the status of the species is unclear because its type has not yet been examined. The presence of *Teneropsis* is real in Australia (especially in the north); on the other hand, the species mentioned may be also members of *Enoplioides* Fairmaire, 1886, *Cregya*, *Phymatophaea* Pascoe, 1876 or another genus similar in habit from adjacent regions.

Distribution. Southeastern Asia, Australia(?).

8. Genus *Cregya* Leconte, 1861

LECONTE (1861): Classif. Coleoptera N. America, ed. 1, p. 197.
Type of genus: *Clerus oculatus* Say, 1835.

Remarks. Unclear genus which urgently needs revision. Related to *Corinthiscus*, *Lasiodera*, *Pylus*, *Pylusopsis*, and *Apopylus* sp.nov. *Cregya oculata*, the type of the genus has been studied together with some South American type species of the genera mentioned as *Corithiscus insignicornis* Fairmaire et Germain, 1861 and *Lasiodera kirbyi* Gray, 1832. Other representatives of *Neotenerus* Schenkling, 1906, *Cregya*, *Chariessa* Perty, 1832, etc have been studied. The Australian species *Teneropsis australicus* should also be given close attetnion in a future communication on this group. The type of the last-mentioned species was not at my disposal. Unfortunately, CORPORAAL (1949) combined this species with *Teneropsis* without knowledge of it.

Distribution. Australia, South America.

Photo 16. *Cregya kioloa* sp.nov., holotype.

Cregya kioloa sp.nov.
(Figs 60–62, Photo 16)

Material examined. Holotype female: "35.30 S 150.18 E-Kioloa SF 15km NE-Batemans Bay NSW-Oct. 86 M.G. Robinson-flight interc. trap" (ANIC).

Description. General character state as *C. oculata*, the type of the genus. Body elongate, ratio body length : body width about 3.25. Whole body black or black-brown apart from red-brown pronotum, base of tibiae and antennal joints 1–2. Dorsal body surface covered with erect pubescence.

H e a d . Gular sutures wide at base, strongly convergent, twice curved, reaching to halfway along the cranium. Last joints of maxillary oblong, in labial palps securiform.

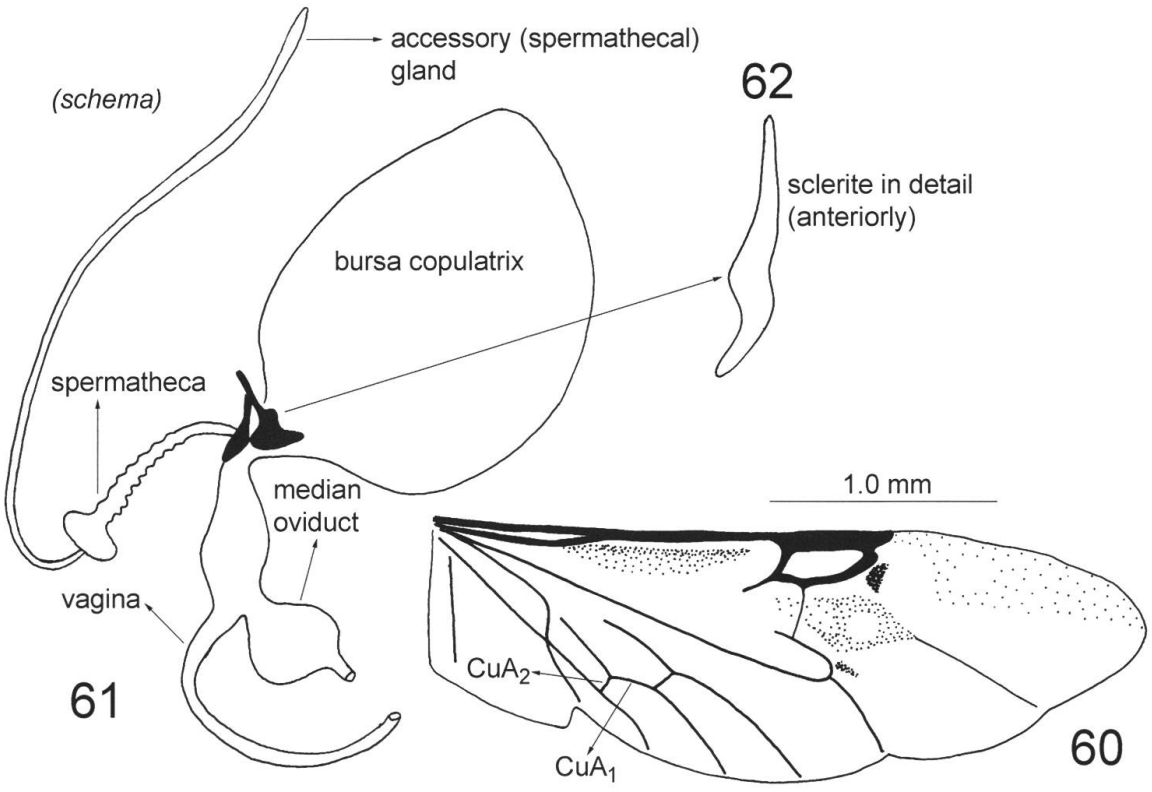
Eyes elevate, rounded, with minute emargination. Antennae 11-segmented with large 3-segmented club. Club longer than all other joints together. Joints 1–8 filiform, 9 and 10 elongate-triangular, 11 extended oval. Antennae reach backs beyond base of elytra. Epistomal suture absent. Head black, with dense and coarse irregular punctation.

T h o r a x . Lateral edge present along whole length of prothorax. Pronotum laterally with large tubercle at basal third. Front coxal cavities open about to halfway, intercoxal process slender. Front coxae projecting. Pronotum red-brown, slightly glabrous, with very fine and sparse punctures. Mesonotum with round scutellum. Mesocoxae slightly projecting, middle coxal cavities weakly open. Discriminal line scarcely perceptible, metasternum glabrous and strongly convex. Elytra monochromatically black-brown, with dense, more or less regular and coarse punctation. Wings with large oblong radial cell (Fig. 60); complete apical fleck present (compare with Fig. 26); medial field with four veins but without wedge cell. Tibial spines not observed. Claws with large denticle. The first tarsomeres of all pairs of legs not as large as the second tarsomeres.

A b d o m e n . Female internal copulatory organs (Fig. 61) extremely large in comparison with size of abdomen. Bursa copulatrix with two sclerites at base (Fig. 62). Ovipositor very long, as long as whole abdomen.

Body size: 4.3 mm.

Distribution. New South Wales.



Figs 60–62. *Cregya kioloa* sp.nov.: 60, wing; 61, female internal copulatory organs; 62, sclerite in detail (anteriorly).

Differential diagnosis. The single species in Australia. The female copulatory organs as well as body colour differentiate the new species from South American members of *Cregya*.

9. Genus *Crobenia* Blackburn, 1891

BLACKBURN (1891): *Trans. Roy. Soc. South Austral.* **14:** 305.
Type of genus: *Crobenia eyrensis* BLACKBURN, 1891.
Curacavi Solervicens, 2000: *Acta Ent. Chilena* **24:** 61. **syn.nov.** (type of genus: *Curacavi dentatus* Solervicens, 2000)

Notes on morphology. H e a d . Antennae 11-segmented, long, reaching base of elytra. Club 3-segmented but weak and loose. Last joint of labial palps securiform. Last joint of maxillary palps oblong or securiform. Eyes elevate, not emarginate, extended oval. Gular sutures wide at base, straight and convergent.

T h o r a x . Lateral edge distinct, denticulate. Anterior margin of prothorax not constricted, pronotum laterally without tubercles. Front coxal cavities open, intercoxal process slender. Front coxae transverse. Middle coxal cavities open, coxae slightly transverse. Wings: wedge cell triangular, not transverse; medial field with four veins; MP3 and MP4 coalescent but cross vein MP3-MP4 absent. Claws without denticles. 1st tarsomeres in all pairs of legs not as large as tarsomeres 2. Tibial spine pattern 2–2–2.

Photo 17. *Crobenia eyrensis* Blackburn.

A b d o m e n . Female internal copulatory organs with large bursa copulatrix, sclerite not observed. Ovipositor medium-sized. Tegmen dorsally open. Phallus stout. Spicular fork korynetine: with lobes on arms.

Remarks. *Curacavi* is a clear synonym of *Crobenia* and confirms the close relationships between the faunas of Australia and the southern part of South America. *"Curacavi" dentatus*, type species of *Curacavi*, is extremely similar to blackish species of *Crobenia* – *C. albohirta* (Elston, 1929), *C. galadriel* and *C. irwini* spp.nov. Visually, the three Australian species mentioned seem to be more closely related to Chilean *Crobenia dentata* comb.nov. than to *C. eyrensis*.

Distribution. Australia, South America (Chile).

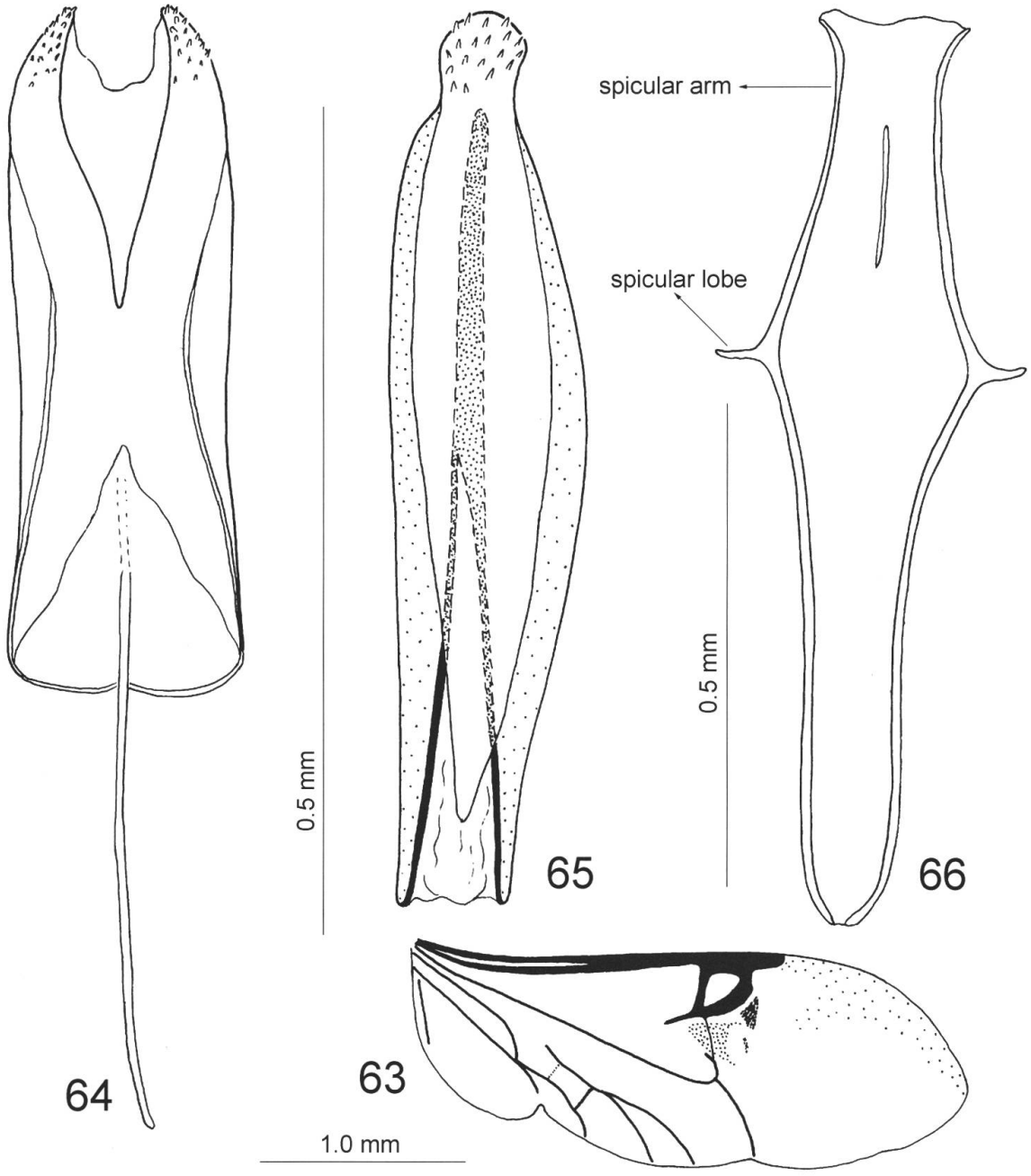
Crobenia eyrensis Blackburn, 1891 (Figs 63–66, Photo 17)

BLACKBURN (1891): *Trans. Roy. Soc. South Austral.* **14:** 305.

Material examined. Figured male specimen: "Cape Le Grand NP.WA/ Cape Le Grand beach/ 26 Dec. 1985/ C. Reid/ on Acacia"; other specimens studied: "10km SSE Streaky Bay/ 20 Dec. 1985 SA/ C. Reid on Euc./ gracilis mallee"; "23.32S 133.38E/ 30 km NW by W of/ Alice Springs/ N.T. 7 Oct. 1978/ M. S. Upton"; "33.51S 123.00E/ Thomas river/ 23km NWbyW of/ Mt. Arid WA/ 4–7.xi.1977/ J. F. Lawrence". (ANIC, JKC)

Notes on morphology. Small broad-oval species with elytra blue-black or rarely with yellowish flecks. Head blue-black or (rarely) reddish. Prothorax, legs, and antennae reddish, dark red or blackish.

H e a d . Gular sutures convergent, straight (not curved), they reach towards halfway along the cranium. Eyes elliptical, not emarginate. The last joint of labial palps securiform, the last joint of maxillary palps oblong. Antennae 11-segmented, long (they reach base of elytra), with weak, loose club; 3rd joint relatively long, longer than 4th; all



Figs 63–66. *Crobenia eyrensis* (Blackburn): 63, wing; 64, tegmen dorsally; 65, phallus; 66, spicular fork.

joints more or less oval. Epistomal suture absent. Head with coarse sculpture and long, light erect pubescence.

T h o r a x . Lateral edge very distinct, denticulate. Prothorax wider than long, without lateral tubercles. Front coxal cavities open, intercoxal process very slender. Front coxae transverse. Prothorax slightly glabrous, with large impressions but punctation scarce. Mesoscutum transversely wrinkled, mesoscutellum cordate. Middle coxal cavities open, coxae strongly transverse. Metasternum short, convex, glabrous; discriminal line imperceptible. Elytra very coarsely and irregularly punctate, with long, erect pubescence. Wing (Fig. 63): radial cell subtriangular; medial field without distinct wedge cell; coalescence of MP3 and MP4 characteristic – without cross vein MP3-MP4. Legs relatively short, femora not swollen. Claws without denticles (only base slightly swollen). Tibial spine pattern 2–2–2.

A b d o m e n . Tegmen distinctly open dorsally, semitransparent and very soft (Fig. 64). Phallus stout (Fig. 65). Spicular arms not coalescent (Fig. 66).

Body size: about 3 mm.

Distribution. Western Australia, South Australia.

Crobenia albohirta (Elston, 1929)

ELSTON (1929): *Trans. Roy. Soc. South Austral.* **53:** 348 (*Cleromorpha*).
Crobenia albohirta: GERSTMEIER (2001): *Acta Coleopterologica* **17(2):** 38.

Distribution. Type series: Victoria, South Australia.

Crobenia galadriel sp.nov. (Figs 67–75, Photos 18–20)

Material examined. Holotype male (Photos18, 20): "Stanthorpe/ II–82" (J. Sedlacek leg.); 1 paratype male: "South Arm, via/ Bowraville, N.S.W./ 20.i.1966./ T. Weir"; 2 paratypes females (Photo 19): "Melton. V./ 3. 1. 60/ Smith"; (all JKC); "Queensland:/ Brookfield/ 10. XI. 1975" (J. Sedlacek leg.). 1 paratype male: "LORIEN W.R. 3km N/ Landsdowne/Taree NSW/ 27 Dec. 87–3 Jan. 88/ G. Williams, ex r/f/ margin, malaise trap" (both ANIC).

Description. With major character states of the genus. Unicolorous species, larger and more elongate than *C. eyrensis*. Head, pronotum and elytra with long, erect, light hairs; elytra moreover with short, erect, light pubescence. Whole body surface black or dark brown. Legs and basal joints of antennae blackish or brown.

H e a d . Coarsely punctate (specimens from Victoria and NSW) or punctation finer (specimens from Queensland). The last joints of both maxillary and labial palps securiform. Apex of maxillary palps in females not as wide as that in males. Ends of antennae shown in Figs 73, 74.

T h o r a x . Hypomeron perfectly glabrous, without sculpture. Pronotum coarsely punctate with glabrous plates. Wing shown in Fig. 67, without wedge cell. Elytra with more or less regular rows of impressions.

A b d o m e n . Six abdominal sternites visible. Sternite VII of female from Melton (Victoria) simply emarginate, this structure double curved in females from Queensland. Internal copulatory organs of all studied females similar to each other (Fig. 75). Tegmen

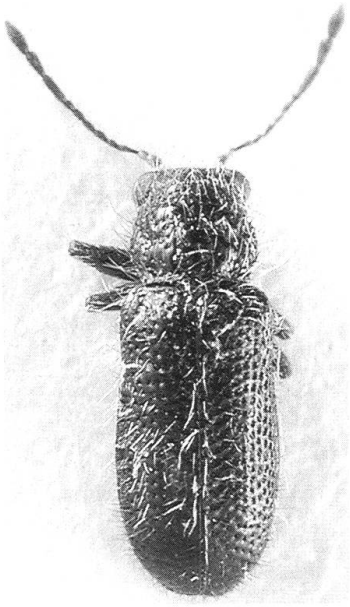


Photo 18. *Crobenia galadriel* sp.nov., holotype male.

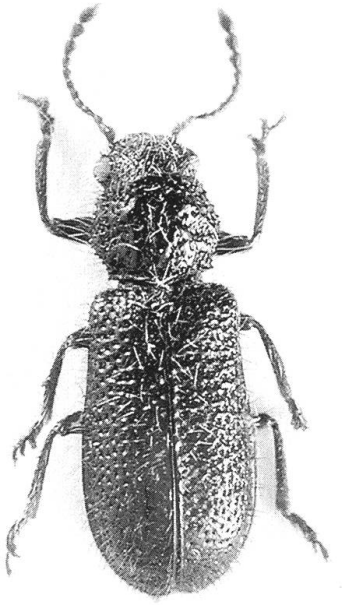


Photo 19. *Crobenia galadriel* sp.nov., paratype female from "Melton".

Photo 20. *Crobenia galadriel* sp.nov., holotype male: antennal club.

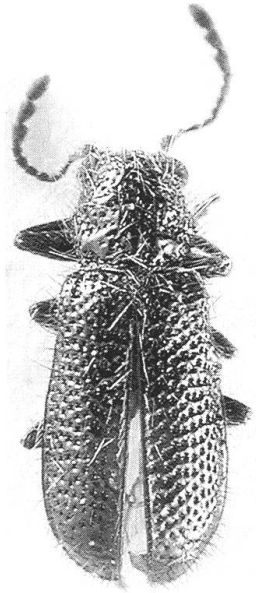


Photo 21. *Crobenia irwini* sp.nov., holotype male.

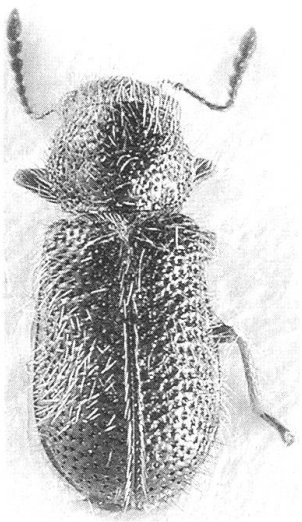


Photo 22. *Crobenia irwini* sp.nov., paratype female from "Isla Gorge NP".

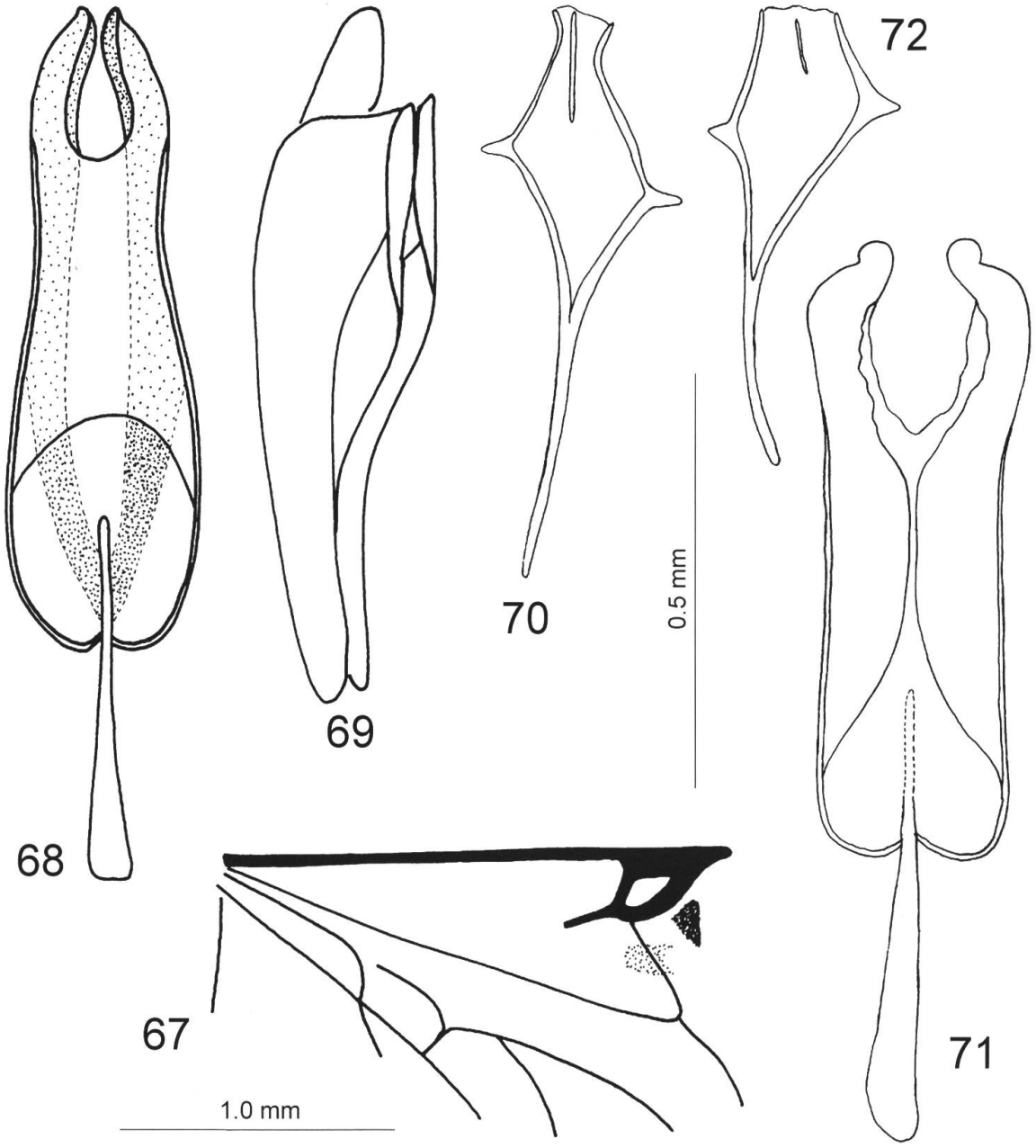
Photo 23. *Crobenia irwini* sp.nov., holotype male: antennal club.

dorsally open (Figs 68, 71), phallus very stout (Fig. 69). Spicular arms coalescent along their half (Figs 70, 72).

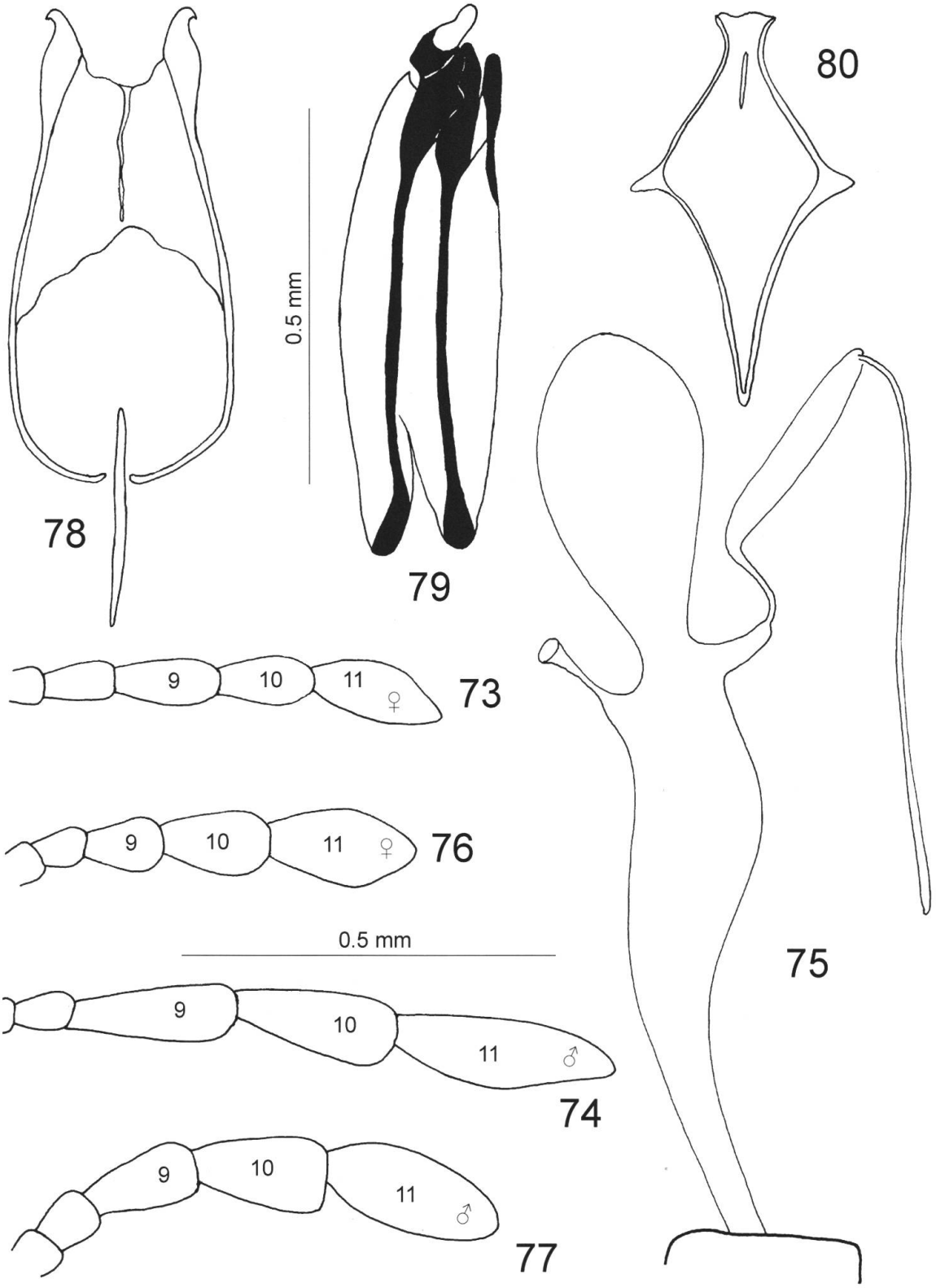
Body size: 3.5–4.0 mm.

Distribution. Queensland, New South Wales.

Differential diagnosis. See the key to species and the differential diagnosis of the next species.



Figs 67–72. *Crobenia galadriel* sp.nov.: 67, wing venation; 68, tegmen dorsally (holotype); 69, phallus (holotype); 70, spicular fork (holotype); 71, tegmen dorsally (paratype from "Lorien"); 72, spicular fork (paratype from "Lorien").



Figs 73–80. *Crobenia galadriel* sp.nov.: 73, end of female antenna; 74, end of male antenna; 75, female internal copulatory organs. *Crobenia irwini* sp.nov.: 76, end joints of female antenna; 77, end joints of male antenna; 78, tegmen dorsally; 79, phallus; 80, spicular fork.

***Crobenia irwini* sp.nov.** (Figs 76–80, Photos 21–23)

Material examined. Holotype male (Photos 21, 23) and 4 paratypes females: "35.16 S 149.06 E/ Black Mtn. ACT 600m/ Dec. 1987/ M. E. Irwin/ ex malaise trap"; 1 paratype sex unknown: "SW base Mt. Banda/ Banda Mt. Boss SF/ 15 Jan. 1988 NSW/ G. Williams, ex r/f wet/ scler. forest foliage"; 1 paratype female (Photo 22): "21.10 S 149.59 E/ Isla Gorge Nat. Pk/ 9 Oct. 1984 QLD/ I. Naumann and/ J. Cardalle coll." (All ANIC).

Differential diagnosis. Very similar to *C. galadriel* sp.nov. It differs in body shape, shape of antennal club, length of antennae, and structure of male copulatory organs. Body of *C. irwini* sp.nov. relatively broader; antennal club not so elongate (see Figs 73, 74, 76, 77 for comparison of both species); antenna of *C. galadriel* males reaches back to nearly 1/4 of elytra, in *C. irwini* only just reaches beyond base of elytra. Tegmen of *C. irwini* sp.nov. shorter, broader; its apices hooked (Fig. 78), phallus and spicular fork in Figs. 79, 80. Female copulatory organs of both species without conspicuous differences.

Similar also to *C. albohirta* but antennae longer, their 3rd joint shorter, basal portions of legs and antennae not reddish.

Body size: about 4 mm.

Distribution. Australian Capital Territory, Queensland, New South Wales.

Key to the genus *Crobenia*

1. Radial cell subtriangular or oval. Base of antennae mostly reddish or brown, only rarely perfectly black. Australian species. ..... 2.
– Radial cell oval or rounded. Base of antennae black. Chilean species. .... *C. dentata* (Solervicens) comb.nov.

2. Head and pronotum red to blackish. Elytra dark blue to black, sometimes with yellowish flecks. Smaller species, about 3 mm. .... *C. eyrensis* Blackburn
– Head, pronotum, and elytra black. Larger species, 3.5–4.5 mm. ..... 3.

3. Base of legs reddish. Antennae reach rear base of pronotum. 3rd antennal joint twice as long as 2nd joint. Body length 3.5–4.0 mm. .... *C. albohirta* (Elston)
– Base of legs black. Antennae reach back beyond base of elytra. 3rd antennal joint about 1.5 times longer than 2nd joint. Body length about 4.0 mm. ..... 4.

4. Tegmen with distinctly hooked apices (Fig. 78). Antennal club relatively short (female: Fig. 76, male: Fig. 77). ..... *C. irwini* sp.nov.
– Apices of tegmen weakly hooked (Figs 68, 71). Antennal club elongate (female: Fig. 73, male: Fig. 74). ..... *C. galadriel* sp.nov.

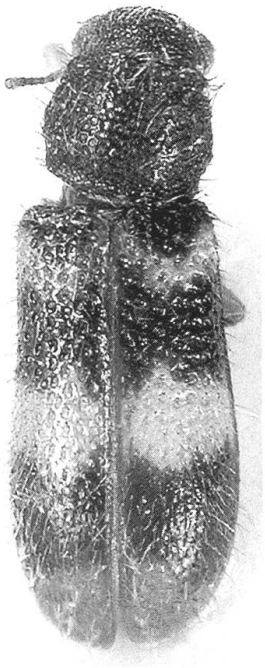


Photo 24. *Thriocerodes bifasciatus* (Pic) comb.nov., holotype male.

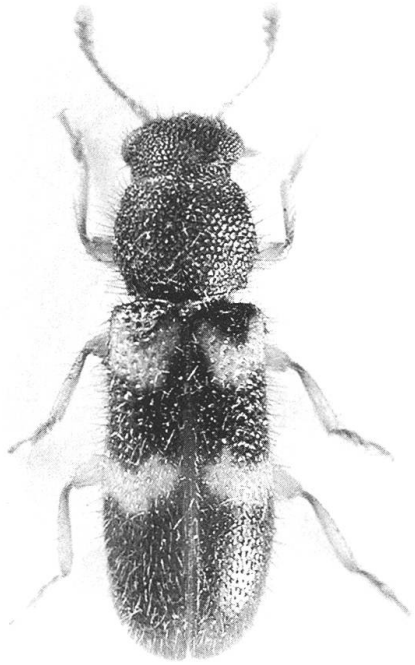


Photo 25. *Thriocerodes bifasciatus* (Pic) comb.nov., male from "Beswick".

10. Genus *Thriocerodes* Wolcott et Dybas, 1947

WOLCOTT & DYBAS (1947): *Fieldiana, Zool.* **31(18):** 143.

Type of genus: *Incorynetes bifasciatus* Pic, 1941. (= *Triocerodes corporaali* Wolcott et Dybas, 1947 **syn.nov.**)

Incorynetes Corporaal, 1950: Coleopterorum Catalogus, Pars 23: Cleridae, p. 299. **syn.nov.** (*nec* PIC 1941) [type of genus: *Incorynetes bifasciatus* Pic, 1941; designated by CORPORAAL (1950)]

Notes on morphology. H e a d . Eyes elevate and large. Antennae short, with distinct 3-segmented club. The last joints of both labial and maxillary palps more or less securiform.

T h o r a x . Lateral edge distinct. Lateral margins of pronotum without strongly elevate tubercles, small tubercles occur in *T. pyloides* sp.nov. only. Pronotum often with two small glabrous tubercles in anterior portion especially in *T. pyloides* sp.nov. and *T. pygmaeus* (Blackburn, 1891) comb.nov. Front and middle coxal cavities open. Front coxae slightly transverse and projecting. Wings with oblong radial cell; medial field characteristic: with cross vein CuA1 long and oblique; apical fleck not complete. Claws without denticles. Tibial spine pattern 1–2–2. The first tarsomeres of front and middle tarsi medium-sized: not as large as the second tarsomere but not covered by it; first tarsomere of hind tarsi small, covered from above by 2nd tarsomere.

A b d o m e n . Without sclerites at base of bursa copulatrix. Tegmen dorsally open or uninverted.

Remarks. PIC (1941) described the genus *Incorynetes* with two new species, *I. bifasciatus* and *I. bipartitus*, but he did not designate a type for the genus. Pic published his communication after 1930 so the authorship of the genus belongs to CORPORAAL (1950) who designated *I. bifasciatus* as type species (ICZN 1988). Because both the genera mentioned are considered synonymous in this communication, the valid name is *Thriocerodes* and *Incorynetes* is synonymised here – although Pic described the genus earlier than Wolcott and Dybas.

However, the species "*Incorynetes*" *bifasciatus* was properly described by PIC (1941) and it has to be considered the type of the genus *Thriocerodes* because the younger *T. corporaali* is its synonym.

The relationship of this genus to the other clerid fauna of the world is unclear at present. Some common character states can be observed in the genera *Thriocera* Gorham, 1878 (South Africa), *Lebasiella* Spinola, 1844, *Loedelia* Lucas, 1920, and *Solervicensia* Barr, 1979 (South America).

Thriocerodes bifasciatus (Pic, 1941) comb.nov. (Figs 81–84, Photos 24, 25)

PIC (1941): *Echange* **57(483):** 3 (*Incorynetes*).
Thriocerodes corporaali Wolcott et Dybas, 1947: *Fieldiana, Zool.* **31(18):** 144. **syn.nov.**

Material examined. Holotype of *"Incorynetes" bifasciatus* PIC, male (Photo 24): "Australia" (red label), "Queensland", "Incorynetes bifasciatus ng nsp." (MNHN). 1 female, 2 males (Photo 25), 2 specimens sex undet.: "Austral. North. T.-Beswick, I. 1958-leg. H. Demerz". (JKC, JRC).

Notes on morphology. Small brown elongate species with two transverse stripes.

H e a d . Gular sutures convergent, slightly curved. Eyes elevate, with coarsely faceted, deeply emarginate. Antennae with compact 3-segmented club, not reaching base of the pronotum. Third antennal joint longer than 4th. The last joints of both labial and maxillary palps securiform, larger than in *T. pyloides* sp.nov. Dorsal surface of head with coarse punctation, head black-brown.

T h o r a x . Front and middle coxal cavities open. Lateral edge present, lateral sides of pronotum without conspicuous tubercles. Prothorax brown, lateral edge with long erect hairs; disc with dense punctation, without glabrous areas. Scutum wide, scutellum elevated. Elytra black-brown with two yellow transverse undulate stripes and regular rows of impressions; densely pubescent. Wing similar to those in *T. pyloides* sp.nov. Legs (as well as antennae) yellow-brown. Claws without denticles; tibial spine pattern 1–2–2.

A b d o m e n . Whole abdomen covered by elytra. Female internal copulatory organs with large bursa copulatrix, without sclerites (Fig. 81). Tegmen dorsally open, with short tegminal struts (Fig. 82). Phallus slender (Fig. 83). Spicular fork with arms not coalescent (Fig. 84). Holotype of "*Incorynetes*" *bifasciatus* studied: Male copulatory organs correspond with those in numerous specimens of the former *T. corporaali*.

Body size: 3.5–5.0 mm.

Distribution. Queensland, Northern Territory.

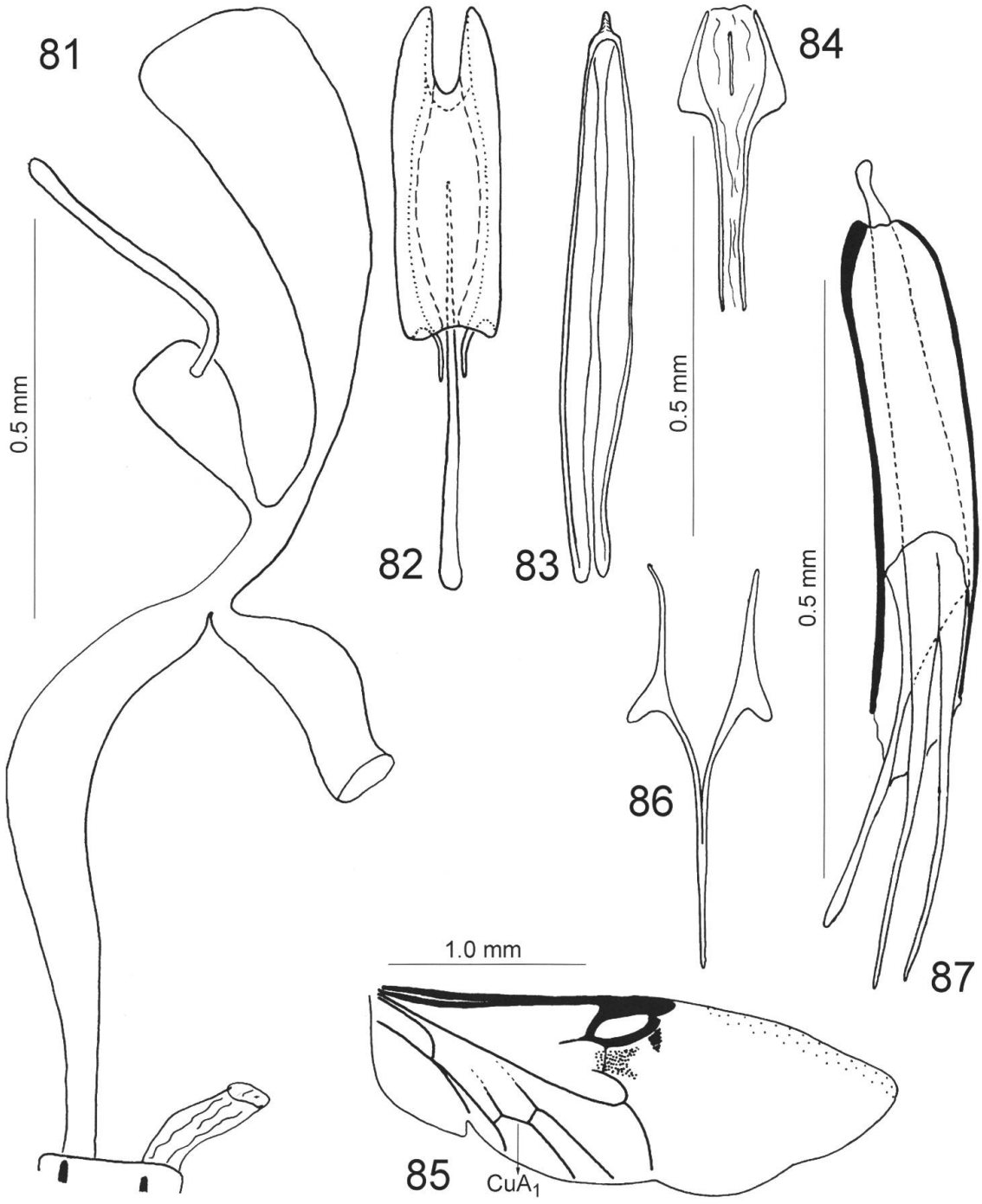
Thriocerodes pyloides sp.nov. (Figs 85–87, Photo 26)

Material examined. Holotype male: "Sydney-T". Probably J. Sedlacek leg. (JKC).

Description. Small elongate, parallel-sided species with yellow and brown transverse stripes on elytra. Head and prothorax with long erect pubescence, elytra with denser but shorter and more decumbent pubescence.

H e a d . Gular sutures extremely short, nearly absent. Eyes large, elevate, with coarsely faceted, not emarginate. The last joints of both labial and maxillary palps slightly securiform, small. Antennae 11-segmented, with distinct, 3-segmented, loose club. Third antennal joint longer than 4th joint. Antennae short, hardly reaching base of pronotum. Epistomal suture absent. Head dorsally very coarsely punctate, black-brown.

T h o r a x . Lateral edge present, but not too distinct. Prothorax brown, laterally with small but conspicuous tubercles. Front coxal cavities half-open; intercoxal process slender, weakly dilated at apex. Front coxae projecting and slightly transverse. Pronotum with both coarse punctation and two glabrous tubercles on anterior portion, lateral edge



Figs 81–87. *Thriocerodes bifasciatus* (Pic) comb.nov.: 81, female internal copulatory organs; 82, tegmen ventrally; 83, phallus; 84, spicular fork. *Thriocerodes pyloides* sp.nov.: 85, wing; 86, spicular fork; 87, aedeagus dorsolaterally.

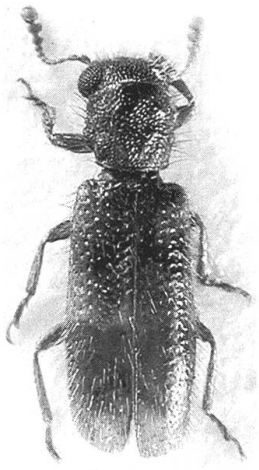


Photo 26. *Thriocerodes pyloides* sp.nov., holotype male.

with long erect hairs. Middle coxal cavities open, coxae not transverse. Mesoscutellum slightly acuminate. Elytra with regular rows of relatively fine impressions and fine pubescence. Elytra yellow-brown with two transverse brown stripes and dark base. Metasternum glabrous, discriminal line perceptible. Wings: radial cell large, oblong; medial field with four veins, without wedge cell (Fig. 85). Legs yellow-brown, femora slender, only front femora slightly swollen. Tibial spines pattern 1–2–2. Claws without denticles.

Abdomen. Two last abdominal segments not covered by elytra. Aedeagus (Fig. 87): tegmen laterally situated but open dorsally. Tegminal struts present, but connected with phallobasic apodeme by membrane. Phallus slender. Spicular fork with arms coalescent along about half of length (Fig. 86).

Body size: 3.3 mm.

Distribution. Australian Capital Territory.

Differential diagnosis. It is related to the previous species by its parallel-sided body, pronotum with small but conspicuous glabrous tubercles, and dark body colour. It differs in denser pubescence of elytra and finer punctation of humeral portion of elytra. Prothorax of *T. pyloides* sp.nov. with lateral tubercle at each side whereas prothorax of *T. pygmaeus* is laterally rounded. Antennae of *T. pyloides* sp.nov. are relatively longer.

Thriocerodes pygmaeus (BLACKBURN, 1891) comb.nov. (Figs 88–90, Photo 27)

BLACKBURN (1891): *Trans. Roy. Soc. South Austral.* **14:** 306 (*Pylus*).

Material examined. One female: "Tidbinbilla ACT-2.iii.1977-A.M. Gill—on flowers of Xanthorrhoea australis" (ANIC).

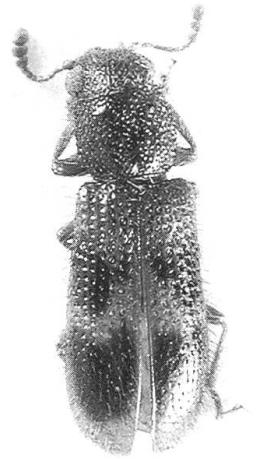


Photo 27. *Thriocerodes pygmaeus* (Blackburn) comb.nov.

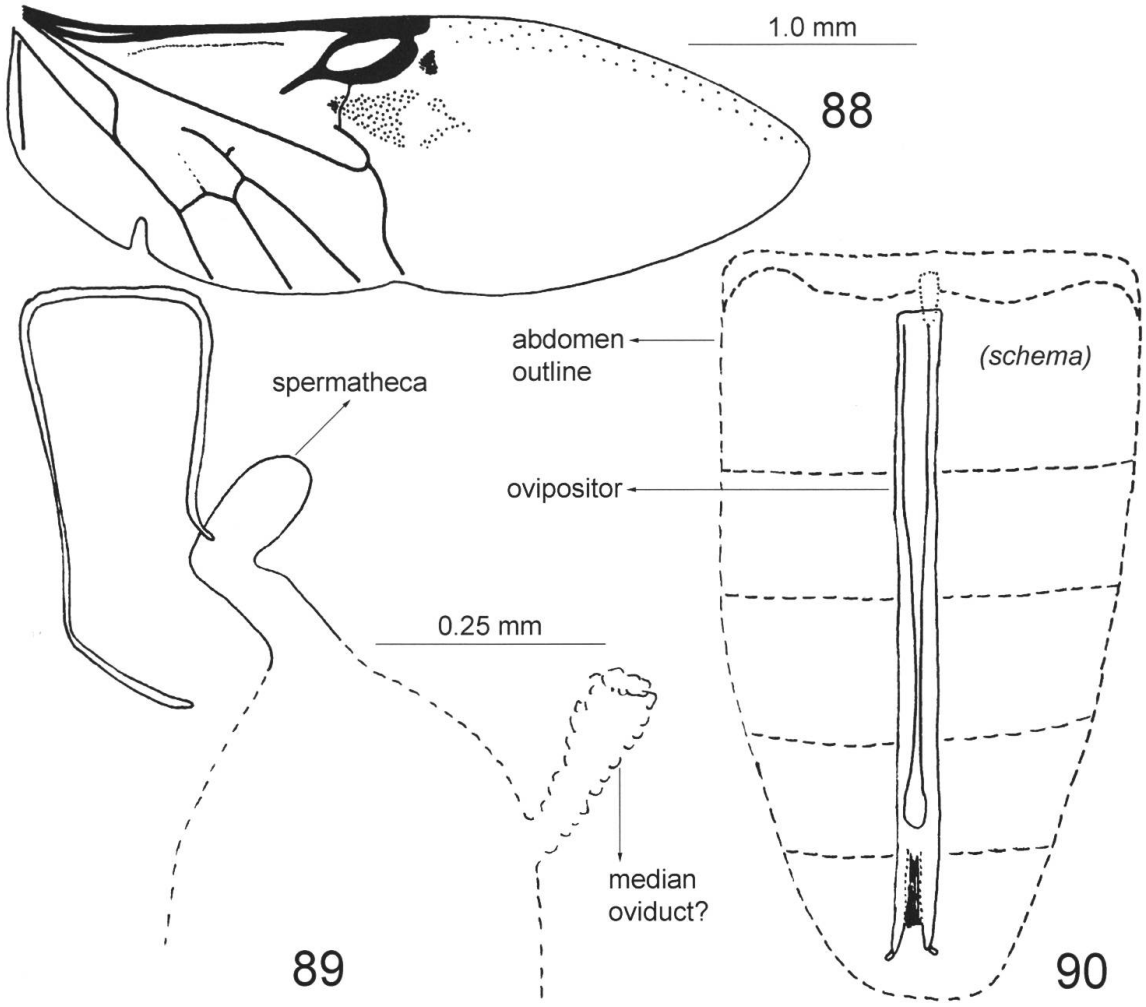
Notes on morphology. Head. Gular sutures convergent. Eyes elevate, not emarginate. Antennae as in other species of *Thriocerodes*. Last joints of labial and maxillary palps cylindrical. Head brown, upper surface coarsely punctate.

Thorax. Lateral sides of pronotum without tubercles, with erect hairs. Pronotum coarsely punctate, with several glabrous plates. Prothorax brown. Elytra relatively finely and regularly punctate, yellow-brown with two black spots on each elytron. Wings shown in Fig. 88: CuA1+2 imperfect. Legs yellow-brown.

Abdomen. About three apical segments not covered by elytra (only female examined). Ovipositor nearly as long as abdomen (Fig. 90). Female internal copulatory organs of the specimen examined in poor condition, shown in Fig. 89.

Body size: 3.5 mm.

Distribution. Australian Capital Territory, Tasmania(?).



Figs 88–90. *Thriocerodes pygmaeus* (Blackburn) comb.nov.: 88, wing; 89, female internal copulatory organs; 90, abdomen with ovipositor – schema.

Thriocerodes bipartitus (Pic, 1941) comb.nov. (Figs 91–92, Photos 28–32)

Pic (1941): *Echange* **57(483):** 3 (*Incorynetes*).

Material examined. Holotype male (Photo 28): "Coen District/ Cape York/ Queensland/ H. Hacker", „Incorynetes bipartitus n sp." (MNHN). Two specimens (Photos 29, 30): "Austral. North. T."/ Beswick, I. 1958/ leg. H. Demarz" (JKC). One specimen (Photo 31): "N Queensland/ 7.2.2000/ Mt. Carbine/ Sv. Bílý leg." (JRC). Female (Photo 32): "N Queensland/ 24.1.2000/ Gregory Dawns/ Sv. Bílý leg."; male: "N Queensland/ 26.1.2000 Mt. Isla/ Sv. Bílý leg.". (Both specimens JRC.)

Notes on morphology. Figured specimens (from "Beswick") very similar to the holotype of *T. bipartitus* (apart from dark spots in the apical portion of elytra). The second specimen from this locality is similarly coloured to *T. bifasciatus*, with projecting basal corners of the pronotum (it may be a hybrid of the two species). For differentiation of the two species, see photographs and key to the genus.

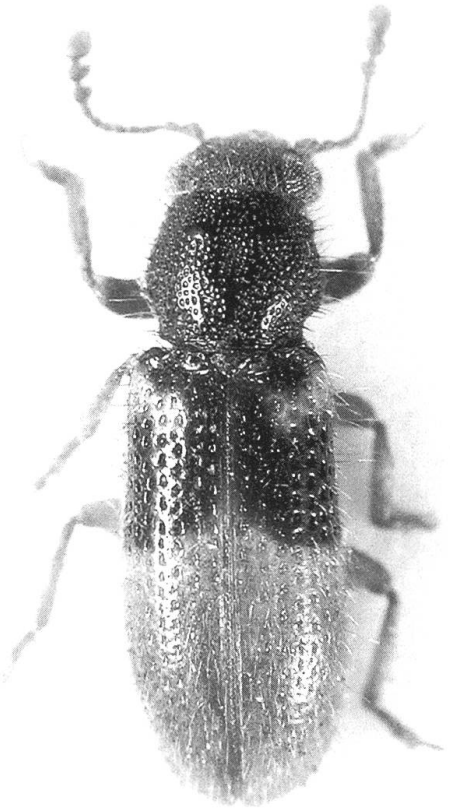


Photo 28. *Thriocerodes bipartitus* (Pic) comb.nov., holotype male.

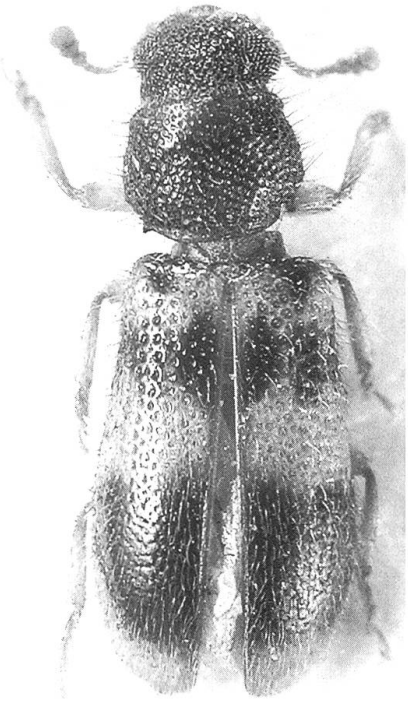


Photo 29. *Thriocerodes bipartitus* (Pic) comb.nov., specimen from "Beswick"; perhaps a hybrid between *T. bipartitus* and *T. bifasciatus*.

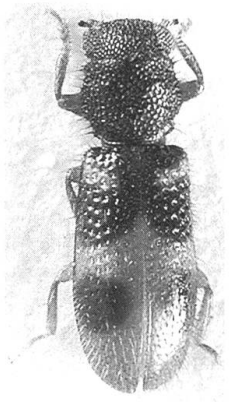


Photo 30. *Thriocerodes bipartitus* (Pic) comb.nov., specimen from "Beswick".

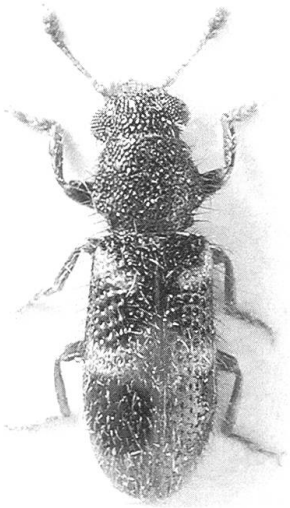


Photo 31. *Thriocerodes bipartitus* (Pic) comb. nov., specimen from "Mt. Carbine".

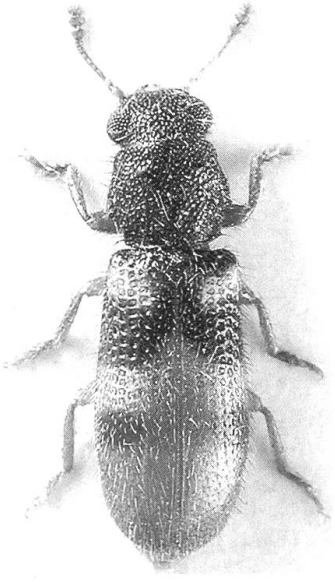
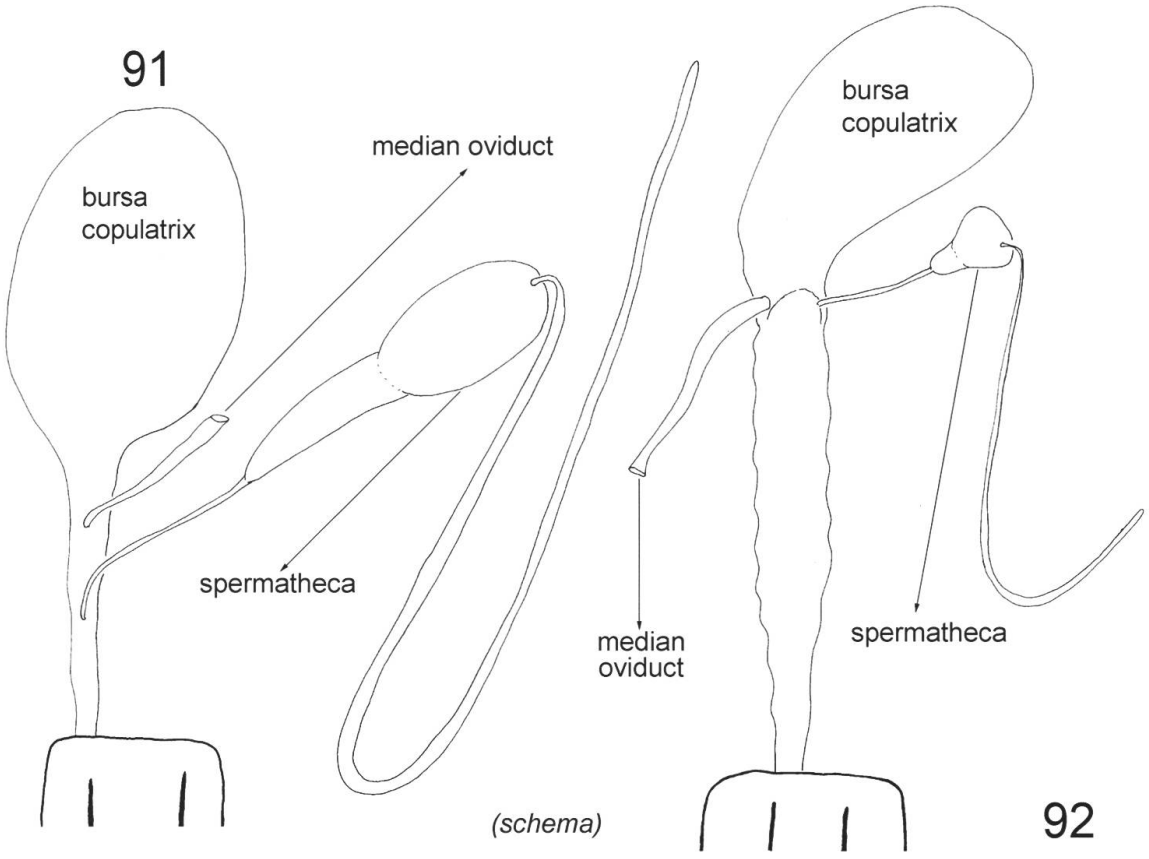


Photo 32. *Thriocerodes bipartitus* (Pic) comb.nov., female from "Gregory Dawns".



Figs 91–92. *Thriocerodes bipartitus* (Pic) comb.nov.: 91, female internal copulatory organs (specimen from Gregory Dawns); *Thriocerodes rolciki* sp.nov.: 92, female internal copulatory organs (holotype).

Female (specimen from "Gregory Dawns") with internal copulatory organs and medial oviduct situated above (i.e. nearer to bursa copulatrix) spermatheca (Fig. 91). Male aedeagus similar to that in *T. bifasciatus*.

Distribution. Queensland, Northern Territory.

***Thriocerodes rolciki* sp.nov.** (Fig. 92, Photo 33)

Material examined. Holotype female: "N Queensland/ 5.2.2000/ Ravenshoe/ Sv. Bílý leg." (JRC). Paratype female (Photo 33): "N Queensland/ 7.2.2000/ Mt. Carbine/ Sv. Bílý leg." (JKC).

Description. Small elongate species with character states similar to those of *T. bifasciatus*. Yellow-red species with two blackish transverse stripes on elytra and spots at elytral base.

H e a d . Eyes large, elevate, weakly emarginate anteriorly. Last joints of both labial and maxillary palps weakly securiform, small. Antennae 11-segmented, distinct 3-segmented club present – space between 1st and 2nd joints of club loose, space between 2nd and 3rd joints closed. Antennae reach backwards approximately base of pronotum. Epistomal suture weakly perceptible. Head red-brown, dorsally with elongate punctation and dark, erect pubescence.

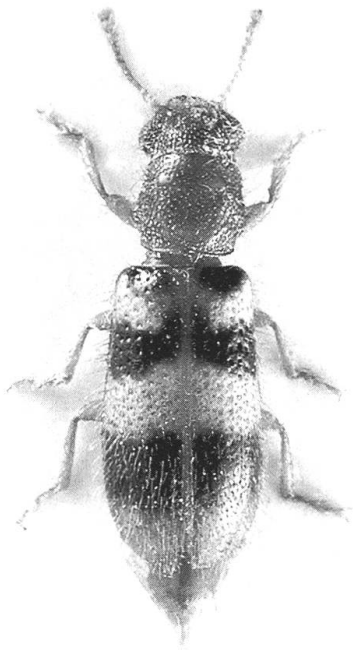


Photo 33. *Thriocerodes rolciki* sp.nov., paratype female.

T h o r a x . Lateral edge conspicuous. Pronotum dorsally with two small, inconspicuous glabrous tubercles, with coarse punctation and long, dark, erect hairs at the sides. Prothorax red-brown. Elytra with regular rows of fine impressions, their pubescence similar to that of head and pronotum. Elytra yellowish, with two transverse black stripes and black spot at base. Wing similar to that in *T. bifasciatus*. Legs yellowish, tibial spine pattern probably 1–2–2, spines inconspicuous. Claws with very small and inconspicuous denticles. Denticles variable in size, some claws without them.

A b d o m e n . Female internal copulatory organs similar to those in other *Thriocerodes* species, spermathecal tube and median oviduct situated at approximately the same level (Fig. 92). Vagina and bursa copulatrix without sclerites or appendages. Ovipositor longer than abdomen. Male unknown.

Body size: 3.7–4.0 mm.

Distribution. Queensland.

Differential diagnosis. Elytra with punctation finer than in other species. The whole body is lighter coloured than in other species: elytra and legs yellowish, pronotum light brown and head brown. Antennal joints 10 and 11 compact, without gap between them; in other species the antennal club is rather loose.

Key to the genus *Thriocerodes* [5)]

1. Elytra elongate, more or less parallel-sided. Pronotum elongate (never transverse), with two conspicuous glabrous plates on anterior portion. ..... 2.
– Elytra more compact, widest in apical third. Pronotum rarely elongate, mostly subquadrate or transverse; glabrous plates present or absent, mostly inconspicuous. ..... 3.

2. Prothorax with lateral tubercle (e.g. as in *Pylus*). Elytra perfectly parallel-sided. Elytra with denser pubescence but finer punctation. . ... *T. pyloides* sp.nov.
– Prothorax without lateral tubercles, evenly rounded at sides. Elytra slightly widened in apical third. Elytra with less sparse pubescence but coarser punctation. ..... *T. pygmaeus* (Blackburn) comb.nov.

[5)] Colouring of species is very variable, especially in *T. bipartitus*. Some hybrids among species are also perhaps possible (see Photo 29). These facts should be taken into consideration when the key is used.

3. Prothorax quadrate or transverse. Pronotum completely without glabrous plates. Elytra dark brown with two yellowish stripes, sometimes apex also yellowish. Median oviduct (towards ovipositor) under spermatheca. .... *T. bifasciatus* (Pic) comb.nov.
– Prothorax subquadrate or very weakly elongate. Pronotum with small glabrous plates. Elytra yellowish or orange with two dark (brown to black) stripes, sometimes elytral base also dark; elytral apex never dark. ..... 4.

4. Pronotum and elytra with finer and sparser punctation. Antennal joints 10 and 11 with gap between them. Second dark elytral stripe connected along elytral suture. Lighter, rather yellowish species. Median oviduct at same level as spermatheca (Fig. 92). ..... *T. rolciki* sp.nov.
– Pronotum and elytra with conspicuously coarser and denser punctation. Antennal club loose. Second elytral dark stripe largely not connected along elytral suture. Darker, rather orange or dark yellowish species. Median oviduct situated nearer to bursa copulatrix than to spermatheca (Fig. 91). ..... *T. bipartitus* (Pic) comb.nov.

11. Genus *Necrobia* Olivier, 1795 (Photos 34, 35)

OLIVIER (1795): Ent. IV, Nr. 76.
Type of genus: *Dermestes violaceus* Linnaeus, 1758.

Material examined. Australian material not examined.

Remarks. Well known genus with three cosmopolitan species. *N. rufipes* (DeGeer, 1775) and *N. ruficollis* (Fabricius, 1775) are mentioned from South Australia (MATTHEWS 1992); however, the third species, *N. violacea* (Linnaeus, 1758) probably lives in Australia as well.

Distribution. Cosmopolitan.

Key to the genus *Necrobia*

1. Whole elytra and pronotum dark blue. ..... 2.
– Elytra dark blue with reddish basal third; pronotum reddish (Photo 34). ... . *N. ruficollis* (Fabricius)

2. Legs and antennal joints 1–4 reddish. Pronotum evenly rounded. .... *N. rufipes* (DeGeer)
– Legs and antennae black or black-blue. Pronotum angled in anterior as well as posterior portions (Photo 35). ..... *N. violacea* (Linnaeus)

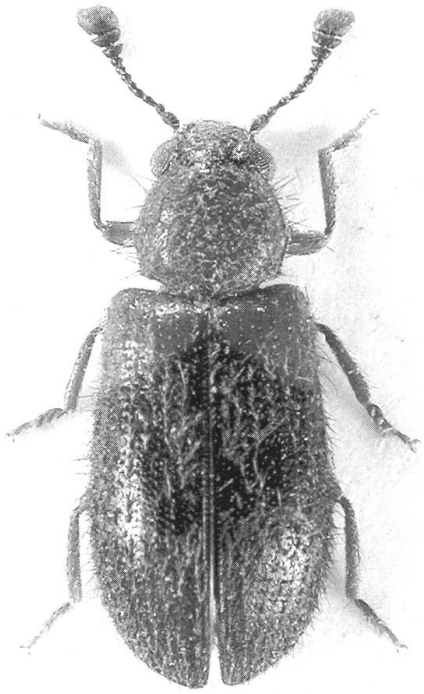


Photo 34. *Necrobia ruficollis* (Fabricius)

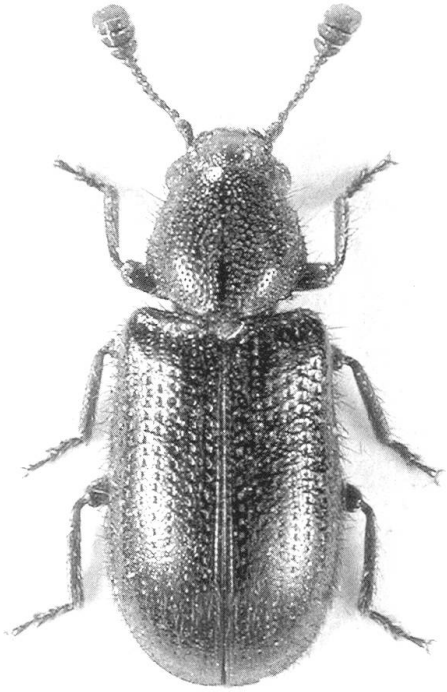


Photo 35. *Necrobia violacea* (Linnaeus)

12. Genus *Opetiopalpus* Spinola, 1844

SPINOLA (1844): Clérites II: 110.
Type of genus: *Clerus scutellaris* Panzer, 1797.

Distribution. Europe, Africa, Asia. Introduced in Australia.

Opetiopalpus scutellaris (Panzer, 1797) (Photos 36–38)

PANZER (1797): Fauna Ins. Germanica init. 38, Nr. 19 (*Clerus*).

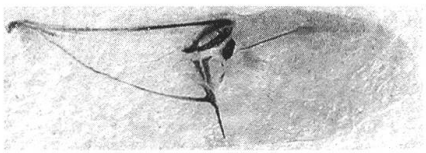


Photo 36. *Opetiopalpus scutellaris* (Panzer), wing.

Material examined. Specimen from Australia (Photo 37): "Acropolis/ Geraldton/ G22. 22/9/76" (ANIC). Male (Photos 36, 38): „Boh. Šumava/ Bučina / J. Bechyně lgt." (JKC).

Notes on morphology. Wing venation (veins of the medial field inconspicuous) shown in Photo 36.

Distribution. Europe, West Asia, Africa, Western Australia.

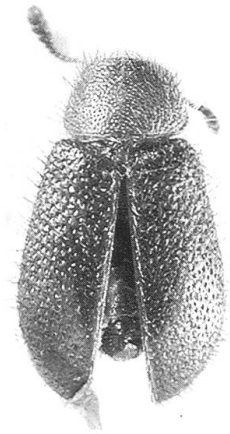


Photo 37. *Opetiopalpus scutellaris* (Panzer), specimen from Australia.

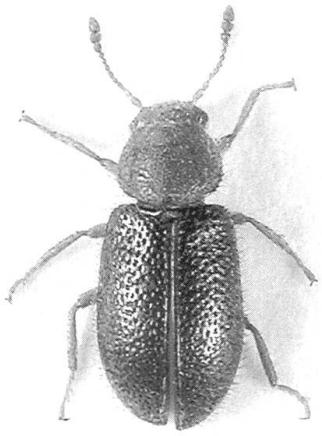


Photo 38. *Opetiopalpus scutellaris* (Panzer), specimen from Czech Republic: "Šumava".

13. Genus *Teneromimus* Gahan, 1910

GAHAN (1910): *Ann. Mag. Nat. Hist.* **5(8):** 70.
Type of genus: *Teneromimus vitticollis* GAHAN, 1910.

Remarks. This very interesting and poorly known genus is not related to *Tenerus*, as is indicated by its generic name. Considering its 10-segmented antennae, the shape of the labial and maxillary palps, the evenly rounded prothorax, the claws with denticles, the body shape, and the open front coxal cavities, the nearest morphologically similar genus is *Orthopleuroides* Kuwert, 1893 from South and Central Africa. Some similar features can be also found in the European *Dermestoides* Schaeffer, 1771 and North American *Orthopleura* Spinola, 1844, *Chariessa* Perty, 1832 and their relatives.

Distribution. Victoria, Solomon Islands.

Teneromimus vitticollis Gahan, 1910

GAHAN (1910): *Ann. Mag. Nat. Hist.* **5(8):** 71.

Material examined. Holotype: "Melbourne" (BMNH).

Notes on morphology. Head black, pronotum red with black longitudinal stripe in middle and along sides, elytra red. Antennae and legs black. Whole body surface covered in dense, short pubescence. Antennae 10-segmented; club large, 3-segmented, composed of 3 large triangular joints; joints 3-7 extremely short and tightly connected. Last joints of labial and maxillary palps coniform. Tarsal claws with denticle. Front coxal cavities open. Pronotum slightly narrowed anteriorly, lacking tubercles both laterally and dorsally. Elytra backwards slightly widened towards the rear.

Remarks. Similar to the second species of the genus, *Teneromimus humeralis* Gahan, 1910, which differs in body colouring (pronotum yellow-reddish, elytra with two blackish longitudinal spots along humerus and apex) and in shape of antennal joints 3-7 (joints not as tightly connected together as in *T. vitticollis*). (The holotype of *T. humeralis* from Solomon Islands was studied in BMNH.)

Distribution. Victoria.

14. Genus *Tenerus* Laporte de Castelnau, 1836

LAPORTE DE CASTELNAU (1836): Silberm. Rev. IV, p. 43.
Type of genus: *Tenerus praeustus* Laporte de Castelnau, 1836.

Distribution. Tropical Asia, Africa and Australia.

Photo 39. *Tenerus abbreviatus* White.

Tenerus abbreviatus White, 1849
(Photo 39)

WHITE (1849): Nomencl. Col. Ins. Brit. Mus. IV, Cleridae, p. 52.

Material examined. Two specimens: „Hastings R." (JKC).

Notes on morphology. See illustrations in KOLIBÁČ (1997: 339) for more details.

Distribution. New South Wales, probably also Queensland.

Tenerus sp. (Photo 40)

Material examined. One specimens "Ravenshoe/ NQ/ 1/53 GB" (ANIC). Wrongly determined as "Teneromimus vitticollis Gahan".

Notes on morphology. Large, reddish species with black legs and antennae and black spots on head and pronotum. Body covered in short and very dense decumbent pubescence. Elytra with weak carinae. Wing conspicuously dark-pigmented, with wedge cell and large radial cell. Colour and size of body similar to those of *Teneromimus vitticollis* cited above.

Distribution. Queensland.

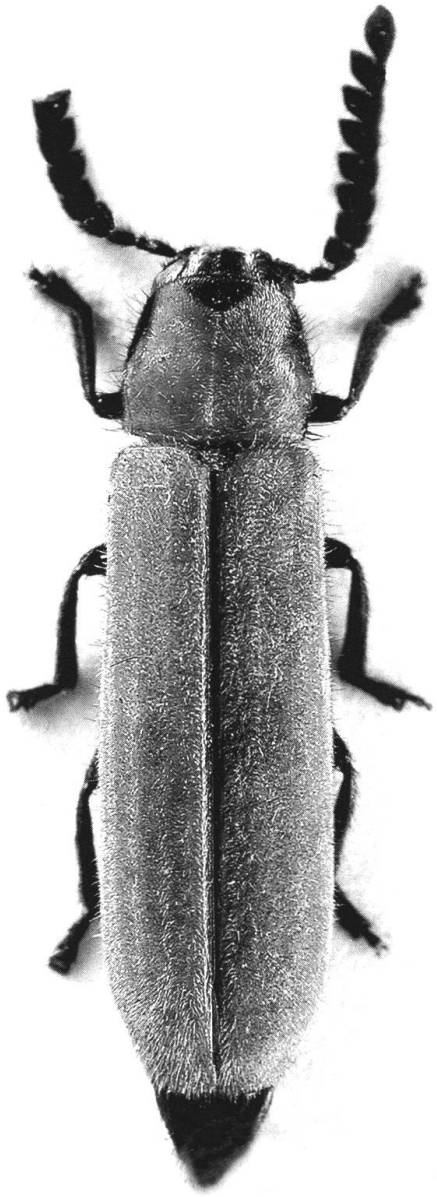


Photo 40. *Tenerus* sp., specimen from "Ravenshoe".

Discussion

The fauna of Australia contains 14 genera and about 36 species of Korynetinae. This is a relatively small number in comparison with other continents and with the tropical and subtropical belts. Moreover, some of taxa mentioned are not autochthonous to Australia, in particular the introduced *Necrobia* and *Opetiopalpus* (Palaeartic). Another three genera originate in different regions, where they are widely distributed, and only one or two species of them are known from Australia: *Tenerus* (Afro-Oriental), *Teneropsis* (Oriental), and *Cregya* (Neotropical).

There are four groups among the autochthonous Australian genera. (1) *Tarsostenus*, *Blackburniella*, *Tarsostenodes*: their relatives can probably be found among such African korynetines as *Aroterus* SCHENKLING, 1906. (2) *Pylus*, *Pylusopsis*, *Apopylus* gen.nov.: they are clearly related to South American genera as *Corinthiscus* and *Lasiodera*. Further, the generic synonyms proposed above show the close relations of these genera to the Neotropical fauna. (3) *Crobenia*, *Thriocerodes*: the relationships of these two genera are somewhat unclear. *Crobenia* is also distributed in Chile. Thus, its relatives can perhaps be found among American korynetines similar in habit, such as *Solervicensia*, *Lebasiella* and *Loedelia.* These, however, show some different morphological features. The three American genera mentioned can also be considered relatives of *Thriocerodes*; however, the latter genus also shares some common features with the South African genus *Thriocera*. (4) *Teneromimus*: this extremely interesting genus shows identical features with South and Central African *Orthopleuroides*. However, more detailed study is needed to confirm this relationship.

The relationships and the generic synonymy highlighted demonstrate the necessity of studying the Australian clerides with especial attention to the place of the South American clerid fauna. This fact has already been mentioned in my previous papers on the Hydnocerinae (KOLIBÁČ 1998b) and Clerinae (KOLIBÁČ 1998a) in which some generic synonyms were also established. These two papers have been recently discussed by SOLERVICENS (2001b), unfortunately without any critical evaluation of morphological characters. Finally, a very interesting record of a new species of *Crobenia* in Chile

(SOLERVICENS 2000) again shows the extraordinary similarity of faunas of the temperate zone of Australia and South America. This paper [as well as the papers on *Exochonotus* and *Neopylus* by BARR (1980) and SOLERVICENS (1989)] also draws attention to the difficulty in distinguishing the former clerid subfamilies Korynetinae and Enopliinae from one another.

Acknowledgements

My sincere thanks are due to Drs J. F. Lawrence and T. Weir (ANIC, Canberra) for the loan of the Australian Cleridae as well as to all the curators of the institutions in which I have studied the korynetines in the course the past twelve years. I am also obliged to my friend J. Rolčík for interesting species of *Thriocerodes* and to another friend of mine, L. Dembický, for the all the photographs published in this paper. I can offer only posthumous thanks to the late Mr. J. Sedlacek who collected extensive Australian Cleridae material and gave it to me; that this constitutes a cornerstone of my collection speaks for itself.

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