

Contributions to the taxonomy of Australian Buprestidae (Coleoptera) Part II. Three new species and a new coraebine generic member of the Australian fauna

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Abstract. Three new buprestid species are described for Australia: *Maoraxia roseocuprea* sp. n. from Lord Howe Island; *Toxoscelus eylandtus* sp. n. from Groote Eylandt, Northern Territory; and *T. queenslandicus* sp. n. from Mt. Webb, Queensland. The species are fully illustrated and the two species of *Toxoscelus* Deyrolle, 1864 are distinguished in a table.

Taxonomy, new species, Coleoptera, Buprestidae, *Maoraxia*, *Toxoscelus*, Australia

Introduction

As the second contribution to our collaboration, three new Australian jewel beetle species are described, two of which represent the first Australian species of the genus *Toxoscelus* Deyrolle, 1864.

Materials and Methods

The abbreviations used herein for the collections that will preserve the types of the new species are:

ANIC Australian National Insect Collection, Canberra;
SAMA South Australian Museum, Adelaide.

Label data are presented verbatim and information not presented in full on locality labels, e.g. state / territory, is given in [square brackets]. Surface sculpture descriptors are from Harris (1979).

Genus *Maoraxia* Obenberger, 1937

The genus *Maoraxia* has been adequately studied and recently revised (Bellamy 1991, Bellamy & Williams 1985). There are currently a total of eight species known

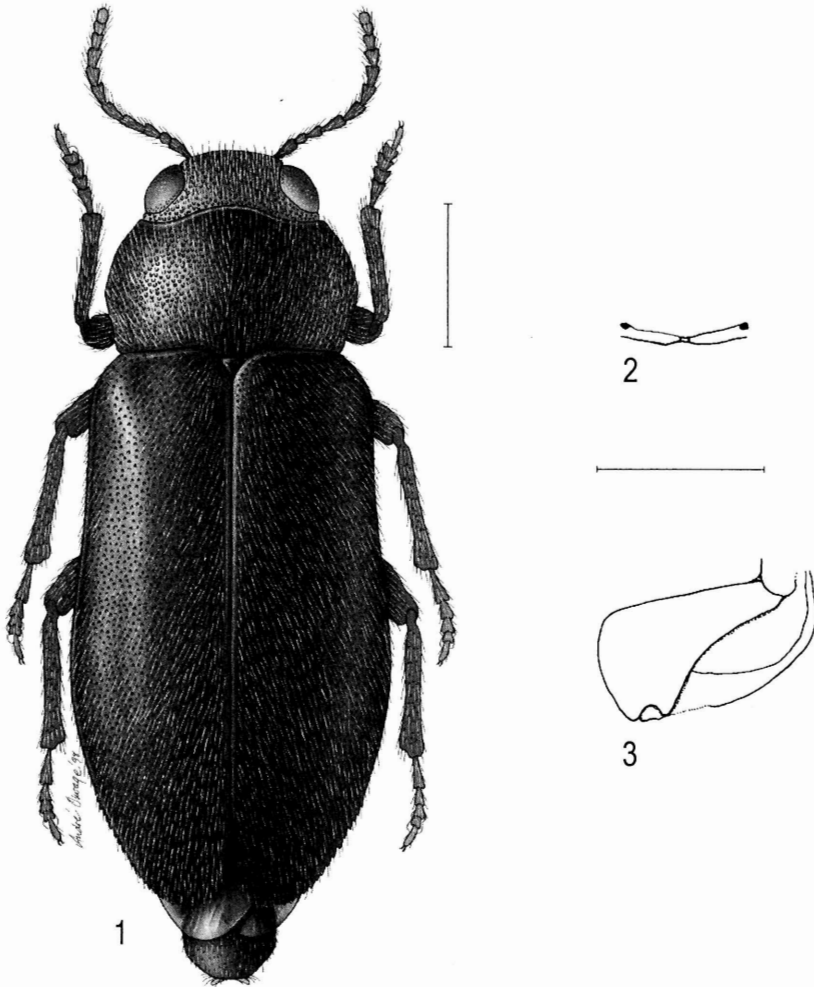
from Australia (2), New Caledonia (2), New Zealand (1), Fiji (1), Tonga (1) and the Philippines (1). The discovery of an undescribed species from Lord Howe Island is not surprising since that island occurs within the known distribution track of this genus.

***Maoraxia roseocuprea* sp. n.**

(Figs 1, 2, 3)

D i a g n o s i s. Female. Total length from frontovertex to elytral apex 6.10 mm, from frontovertex to pygidial apex 6.30 mm, total width 2.10 mm, widest at about apical 1/3 of elytra; minimum ocular distance on vertex (0.7 mm) ca. 50% of total head width (1.40 mm); pronotal length (1.10 mm) 58% of width (1.90 mm); elytral length 4.25 mm, width 2.10 mm; head width 74% of pronotal width; maximum eye length (0.70 mm) 50% of head width; elongate ovoid, flattened above; head, pronotum, femora, and tibiae a nitid reddish coppery, elytra nitid black, underside black with red coppery to purplish highlights, antennae and tarsi testaceous; surface moderately coarsely punctate; elytra irregularly rugose; head, pronotum and elytra moderately clothed with semi-erect, short, white setae; ventral surface with white setae more sparse, recumbent.

D e s c r i p t i o n. Head transverse, narrower than pronotum; eyes large, ovoid, convex, inner margins slightly converging dorsally; frontovertex slightly convex between eyes; a sharply elevated carina extends from dorsal to antennal cavities ventrally and shallowly arcuate across frontoclypeal disc; frontoclypeus as in Fig. 2, very short and shallowly triangularly emarginate distally, carinae forming two small elongate ovoid depressions; gena transversely depressed ventral to eyes for antennae in repose; antennae serrate from fourth antennomere. Pronotum widest at middle; strongly elevated and explanate dorsally, entire from posterior to anterior margin; disk flatly convex, slightly transversely depressed posterolaterally; lateral margins arcuately rounded to slight constriction at base; posterolateral angles obtuse; anterior margin feebly arcuate medially; posterior margin moderately bisinuate; lateral margins well developed; scutellum small, triangular, impunctate. Elytra slightly wider than pronotum, widest anterior to apical 1/3, lateral margins subparallel from opposite humeri to widest point, then gradually narrowing to separately rounded, serrulate apices; epipleura separated from disk by carina, epipleura broad basally, carina extends parallel to margin, becoming confluent at apical 1/4; apical margin feebly, sparsely serrulate; broadly rounded pygidium visible beyond, between elytral apices. Underside: prosternum with anterior margin straight; metacoxal plate (Fig. 3) oblique, with posterior margin arcuately emarginate, strongly dilated internally; suture between abdominal sterna 1 and 2 feebly indicated; last visible sternum broadly rounded. Legs: femora fusiform; tibiae slender; tarsomere 1 of protarsi subequal to 2; tarsomere 1 of and metatarsi as long as following three taken together; tarsomere 4 with expanded deeply bilobed pulvilli; tarsal claws broadly appendiculate; both mesotarsi entirely missing.



Figs 1-3. *Maoraxia roseocuprea* sp. n., holotype. 1 – dorsal habitus; 2 – frontoclypeal carina; 3 – metacoxal plate. Scale bars = 1 mm.

Male unknown.

Holotype. ♀, Lord Howe I., 22.xii.1921, A. Musgrave (SAMA I 21425).

Biology. Host and habitat preferences unknown.

Name derivation. The specific epithet is formed to call attention to the particular coloration of this new species.

Remarks. In the most recent species key (Bellamy 1991), *M. roseocuprea* sp. n. keys out to the couplet that separates *M. auroimpressa* (Carter, 1924) (= *M. littoralis* Bellamy et Williams, 1985) from *M. excavata* (Fauvel, 1891). It can be separated immediately from those two species on the basis of colour, the ♀♀ of *M.*

auroimpressa is entirely blue to blue green, the ♀♀ of *M. excavata* are completely nitid black and distribution with *M. auroimpressa* from coastal north-eastern N.S.W. and southeastern Queensland and *M. excavata* is from New Caledonia.

A handwritten label on the specimen from H. J. Carter states “not *Melobasis* nor any known Australian genus seems near *Tetragonoschema* Thomson, 1857 (from S. America) but both sexes are necessary for identification”. The current placement of *Tetragonoschema* is within the nominate anthaxiine tribe, and somewhat distant from Maoraxiina.

Genus *Toxoscelus* Deyrolle, 1864

The genus *Toxoscelus* is currently comprised of 31 species from the Oriental and north-eastern Palaearctic regions. It has never been completely revised and thus the two new species described herein cannot be placed in relationship to other congeners. Suffice it to say, that there are no other species yet known from the Australasian region and the nearest locality to Australia for extant species are several known from localities on Borneo. *Toxoscelus* is often related (e.g. Deyrolle, 1864, Kerremans, 1903, Bellamy, 1995) to genera that are both morphologically and distributionally similar, e.g. *Cryptodactylus* Deyrolle, 1864, *Indiadactylus* Bellamy, 1992, *Neotoxoscelus* Fisher, 1921, and *Metatoxoscelus* Hattori, 1990. *Toxoscelus* can be distinguished due to the nearly round or ovoid pronotum, with serrulate lateral margins, the arcuate condition of the first two pair of femora and tibiae, and the lack of distal armature on the pygidium. *Toxoscelus* cannot be confused with any other Australian coraebine genus (see Bellamy 1988).

Toxoscelus eylandtus sp. n.

(Figs 4, 5)

Diagnosis. Male. Total length from frontovertex to elytral apex 5.10 mm, total width 1.70 mm, widest at about apical 1/3 of elytra; minimum ocular distance on vertex (0.65 mm) 54% of total head width (1.20 mm); pronotal length (1.10 mm) 50% of width (2.20 mm); elytral length 3.70 mm, width 1.70 mm; head width 54% of pronotal width; maximum eye length (0.65 mm) 54% of head width; elongate ovoid, flattened above; subnitid black above and below, with faint aeneous reflections which become more distinct on elevated prominences of vertex and pronotum; a small area on either side of the elytral suture elytral is cupreous; dorsal surface generally rugose, the rugae on the head and pronotal prominences more or less parallel appearing like contour lines on a topographic map; prosternum subareolate, surface otherwise finely rugulose; abdominal sterna imbricate; dorsal surface appearing glabrous at 25x magnification except for three narrow “zig zag” transverse fascia of short, recurved white setae; pygidium with short, recumbent

white setae around distal margin; underside with short, recumbent white setae on lateral portion of abdominal sterna.

Description. Head with four feebly-elevated prominences, in two pairs, one on vertex, one on frons, surface between prominences depressed both horizontally and vertically; inner margin of eyes subparallel; eyes with circumocular groove extending from opposite midpoint of frontovertex dorsad to just beyond dorsal apex; antennal cavities large, separated by distance less than individual width; frontoclypeus compressed between antennae, disk depressed, distal margin angularly convex; gena transversely depressed into channel for basal antennameres in repose, subocular prominence obtuse; antennae with antennamere 2, 3 subequal in length, 2 wider than 3; 4 shorter, subequal in width to 3; serrate from 5-10, each subtriangular, wider than long; 11 short, slight oblique. Pronotum with disk irregularly elevated or depressed; one pair of medial prominences on either side of midline in apical 1/3, medially depressed distad before one central prominence, thereafter broad arcuate depression before pair of long, sub-oblique preapical prominences; anterior margin medially convexly arcuate; lateral margins nearly evenly, broadly arcuate, margin with close-spaced squared teeth along entire length; basolateral angles strongly obtuse; posterior margin sinuate on either side of evenly transverse medial 1/3; scutellum subtriangular, longer than wide, anterior margin feebly arcuate, lateral margins broadly arcuate; apex acuminate. Elytra at base, opposite humeri, subequal to pronotal width; slightly depressed between scutellum and humeral umbone; sutural area opposite scutellum slight elevated; disk flattened, rounded laterally to lateral margin; lateral margin narrowing slightly distad to humeri, subparallel to just past midpoint, then widening to apical 1/3 before gradually narrowing to separately rounded, suboblique apices; apical margin finely, widely serrulate; epipleuron broad from near base to about basal 1/4, the narrowing and extending at same width to just before apical rounding; finely serrulate margin of pygidium visible beyond elytra apices. Underside: prosternum with feebly bilobed mentonniere; metacoxal plate broadly, feeble dilate; abdominal sternum 1 slightly shorter than 2, 3 shorter than 2, 3-5 each progressively shorter than preceding; sutures broadly, feebly arcuate; sternum 5 laterally straight basally, then gradually rounded to narrowly truncate apex with small medial convexity; preapical groove along margin. Legs: femora slightly dorsoventrally compressed, inner margin convex toward distal end; pro-, mesotibiae arcuate, touching femora only at distal end in repose; metatibiae subarcuate, with setal comb on outer margin; tarsomeres 1-4 subequal in length, each progressively longer, 5 narrow, elongate subequal to first four taken together; claws appendicate basal, tips widely separated; the entire left hind leg is missing. Male genitalia as in Fig. 4.

Female unknown.

Holotype. ♂, Groote Eylandt [Northern Territory], N. B. Tindale (SAMA I 21426).

Biology. Host and habitat preferences unknown.

Name derivation. The species name is chosen for the primary type locality.

Remarks. *Toxoscelus eylandtus* sp. n. will be discussed below.

Table 1. Characters and character state differences for two species of *Toxoscelus* Deyrolle.

	<i>Toxoscelus eylandtus</i> sp. n.	<i>Toxoscelus queenslandicus</i> sp. n.
Character	Character state	
Head, frontovertex	Quadrituberculate	Two longitudinal prominences
Pronotal disk	Broad arcuate transverse depression separates distinct anterior and posterior tubercles	Depressions on either side of mid-line, inverted "Y" prominence in medioposterior portion
Elytral apex	Separately rounded	Separately subtruncate
Prosternal process	Acuminate, narrowing to sharp apex	Attenuate, narrowing to rounded apex

Toxoscelus queenslandicus sp. n.

(Fig. 6)

Diagnosis. Female. Total length from frontovertex to elytral apex 5.25 mm, total width 1.90 mm, widest at about apical 1/3 of elytra; minimum ocular distance on vertex (0.7 mm) 58% of total head width (1.20 mm); pronotal length (1.08 mm) 62% of width (1.75 mm); elytral length 3.90 mm, width 1.90 mm; head width 68% of pronotal width; maximum eye length (0.55 mm) 46% of head width; elongate ovoid, flattened above; subnitid black above and below, with faint blue-purple reflections, most noticeable on vertex, depressed areas of pronotum and on elytral basal 1/4; dorsal surface generally rugose, the rugae on the head and pronotal prominences more or less parallel appearing like contour lines on a topographic map; elytra rugulose and finely shagreened; prosternum subareolate, meso-, meta-thoracic and abdominal sterna imbricate; dorsal surface appearing glabrous at 25x magnification except for three narrow "zig zag" transverse fascia and two pairs of rings of short, recurved white setae; pygidium with short, recumbent white setae around distal margin; underside with short, recumbent white setae on abdominal sterna.

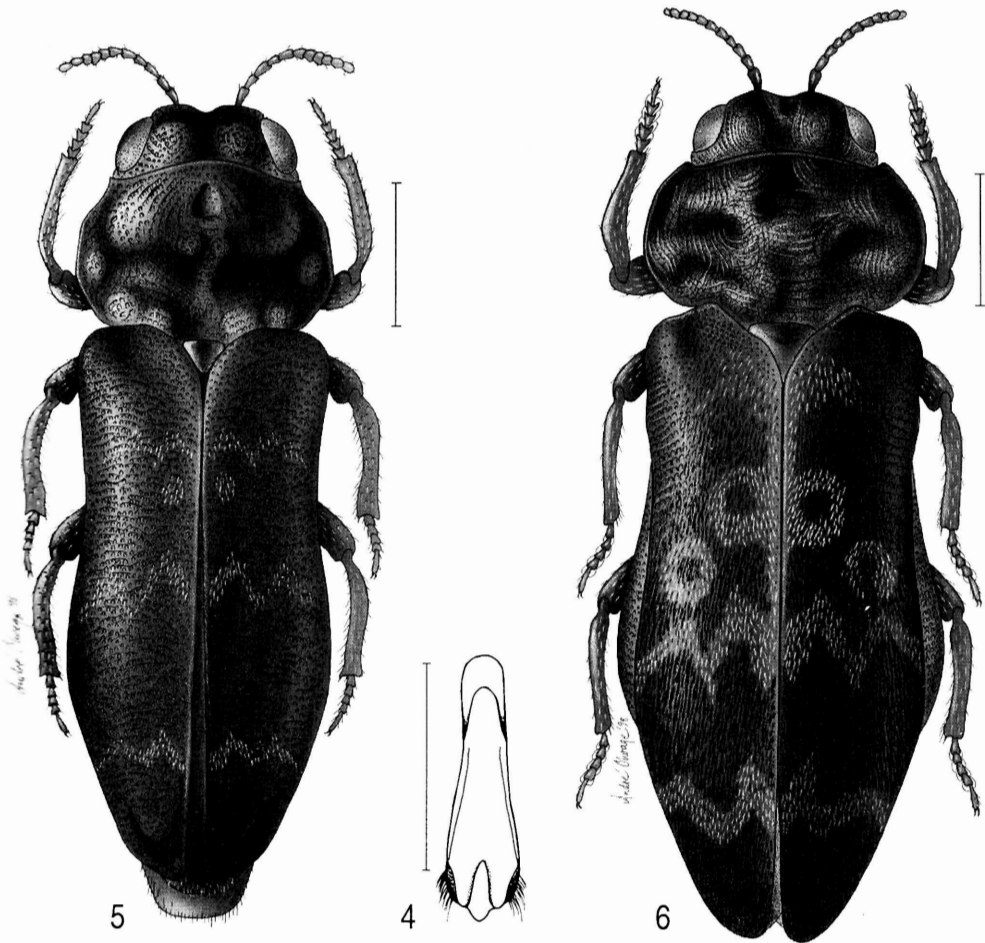
Description. Differs from *T. eylandtus* sp. n. as follows: frontovertex bilobed, two moderately produced longitudinal lobes separated by narrow longitudinal depression, with a small, slightly deeper depression medially; frontoclypeus more angularly produced distally; pronotal disk with anterior pair of oblique prominences more elongate, medial and posterior prominences combined and forming an inverted "Y"; scutellum subtriangular, length subequal to width, anterior margin truncate, lateral margins arcuate; elytral apices separately subtruncate; abdomen swollen laterally, visible from above beyond elytral margin; prosternal process attenuate to rounded apex; last visible abdominal sternum broadly truncate distally.

Male unknown.

Holotype. ♀, 15.06S 145.14E, 12-14 Km ESE Mt. Webb, Q[ueensland], 3 Oct. 1980, J. C. Cardale (ANIC 123).

Biology. Host and habitat preferences unknown.

Name derivation. The species name is obviously for the state of origin.



Figs 4-6. 4-5: *Toxoscelus eylandtus* sp. n., holotype; 4 – aedeagus, dorsal aspect; 5 – dorsal habitus. 6 – *Toxoscelus queenslandicus* sp. n., holotype, dorsal habitus. Scale bars = 1 mm.

Remarks. These two new Australian species of *Toxoscelus* can be distinguished immediately in the following summary tabulation. The obvious difference of the swollen and visible from above adominal sterna in *T. queenslandicus* sp. n. is likely a sexual difference between these two unique specimens; when males of this latter species are discovered, they will probably lack this modification.

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