

***Trogoxylyctus australiensis* a new genus and species of Trogoxylini Lesne, 1921 (Coleoptera, Bostrichidae, Lyctinae) from Australia**

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ABSTRACT. New species representing a new genus of Bostrichidae *Trogoxylyctus australiensis* gen. nov., sp. nov. is described from Australia. In the general outlook it resembles the African genus *Lyctoplites* Lesne of the tribe Lyctini, but morphological similarity is in this case evidently a result of convergence. A key to the identification of known Australian representatives of Trogoxylini is given.

1. INTRODUCTION

The tribe Trogoxylini Lesne, 1921 contains 25 known species classified in 5 genera: *Tristaria* Reitter, 1878, *Phyllyctus* Lesne, 1911, *Cephalotoma* Lesne, 1911, *Lyctopsis* Lesne, 1911 and *Trogoxylon* LeConte, 1862 (Borowski & Węgrzynowicz 2012). Representatives of these genera occur on all continents. Only three species of the Trogoxylini – *Tristaria grouvellei* Reitter, 1878, *Trogoxylon punctipenne* (Fauvel, 1904) and *Trogoxylon ypsilon* Lesne, 1937 – have been hitherto known to inhabit Australian Region (Borowski & Węgrzynowicz 2007; Borowski & Węgrzynowicz 2012). Lawrence & Ślipiński (2013) have published the key to the identification of Australian genera of Lyctinae.

In the course of revision of the Bostrichidae in the Natural History Museum (HNHM) in Budapest we found two specimens whose general outlook, and especially structure of pronotum, resembled *Lyctoplites armatus* Lesne, 1935 – a species of the tribe Lyctini known from tropical Africa. Analysis of morphological characters have shown, however, that the Australian species belongs to the Trogoxylini, even though being so different from all the hitherto known genera that the description of new species and erection of new genus was necessary. This is done below.

2. RESULTS – DIAGNOSIS, DESCRIPTION, REMARKS and KEYS

Trogoxylyctus gen. nov.

Gender: masculine.

Type species: *Trogoxylyctus australiensis* sp. nov., here designated

2.1. Diagnosis. Strongly swollen femora and distinct pronotal carinae make the attribution of the new genus to Trogoxylini straightforward, but equally straightforward is its distinction from all known representatives of the tribe: prosternal process, broad, flat and conspicuously widened apically in other genera, is here very narrow and pointed. Also pronotal structure (all angles sharp and protruding, two prominent carinulae in anterior part) is distinctive.

2.2. Description. Antennae 11-jointed, with two-jointed club (Fig. 6). Eyes large, strongly convex, distinctly protruding from head outline (Figs. 2, 3). Mandibulae with one sharp preapical denticle. Labrum markedly emarginated at middle (Fig. 3). Epistome poorly separated, distinctly narrower than front, both epistome and lower part of front laterally bordered with almost vertically elevated

lamellar ridges (Fig. 3). All pronotal margins very well marked, entirely visible from above. Angles prominent, sharp. Anterior margin slightly wavy emarginated, with, to both sides of emargination, pair of upward protruding costulae not reaching middle of pronotum. Anterior part of pronotum, between costulae and lateral margins, with fine and sparse granules (Fig. 4). Scutellum small, transverse, clearly visible. Humeral tubercles well marked. Elytra narrowly ovately elongated, glabrous, inconspicuously punctulated, distinctly rounded apically (Fig. 5). Ventral surface lustrous, almost glabrous. Prosternum glabrous medially, shallowly punctured on sides. Prosternal process strongly narrowed towards apex where it appears as narrow sharp lamella (Fig. 11). Mesosternum finely punctulated and very shortly, inconspicuously pubescent. Metasternum and abdomen almost smooth. First sternite as long as the following two together. Procoxae about as long as wide. Femora strongly swollen at middle, excavated on ventral side to receive tibiae (these excavations are deepest at base of tibiae becoming shallower towards femoral midlength where they vanish). Protibiae slightly widened to apices (Fig. 7), meso- and metatibiae of similar width all along. Protibial apices with broadly triangular thorn on outer margin and curved spur reaching almost to the end of first visible tarsomere (Fig. 9). Ovipositor almost as long as pronotum and elytra together.

Trogoxylyctus australiensis sp. nov. (Figs. 1-7, 11)

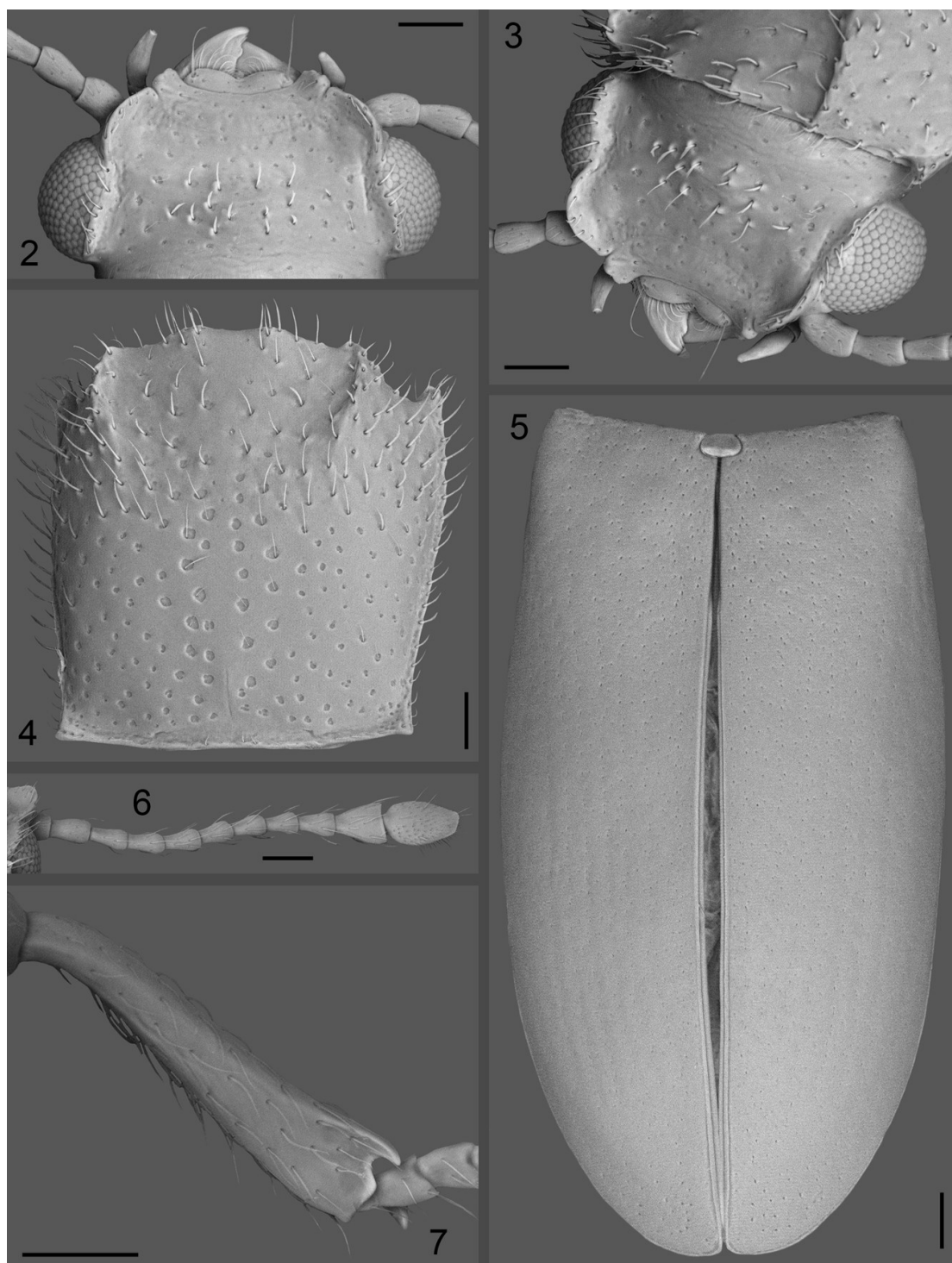


Fig. 1. *Trogoxylyctus australiensis* gen. nov., sp. nov., holotype

Type material. Holotype, female: "Australia, N.T., Near Phillip Creek on Stuart Highway, 331m, S19°18'343", E134°11'04", Hungarian Entomological Expedition in Australia, leg. G. Hangay, I. Rozner, A. Podlussány, 2.XI.2000" (HNHM, Budapest). Paratype, female: "Australia, N.T., Near Elsey Creek on Stuart Highway, (UV light), S15°14'119", E133°06'749", Hungarian Entomological Expedition in Australia, leg. G. Hangay, I. Rozner, A. Podlussány, 3.XI.2000" (Jerzy Borowski's coll.).

Description. Length 2.3-2.9 mm. Body elongated, shining, yellowish-brown, pronotum and head darker reddish-brown (Fig. 1). Antennomeres elongated, slightly pubescent (Fig. 6). Last joint of club ovate, distinctly longer than wide and somewhat longer than penultimate (Fig. 6). Front and narrow epistome join into almost uniform flat surface, separated from one another with only fine inconspicuous line (Fig. 3). Sides of front and epistome bordered with almost vertically elevated lamellar ridges. Front at middle with several fine granules and punctures bearing short setulae (Fig.

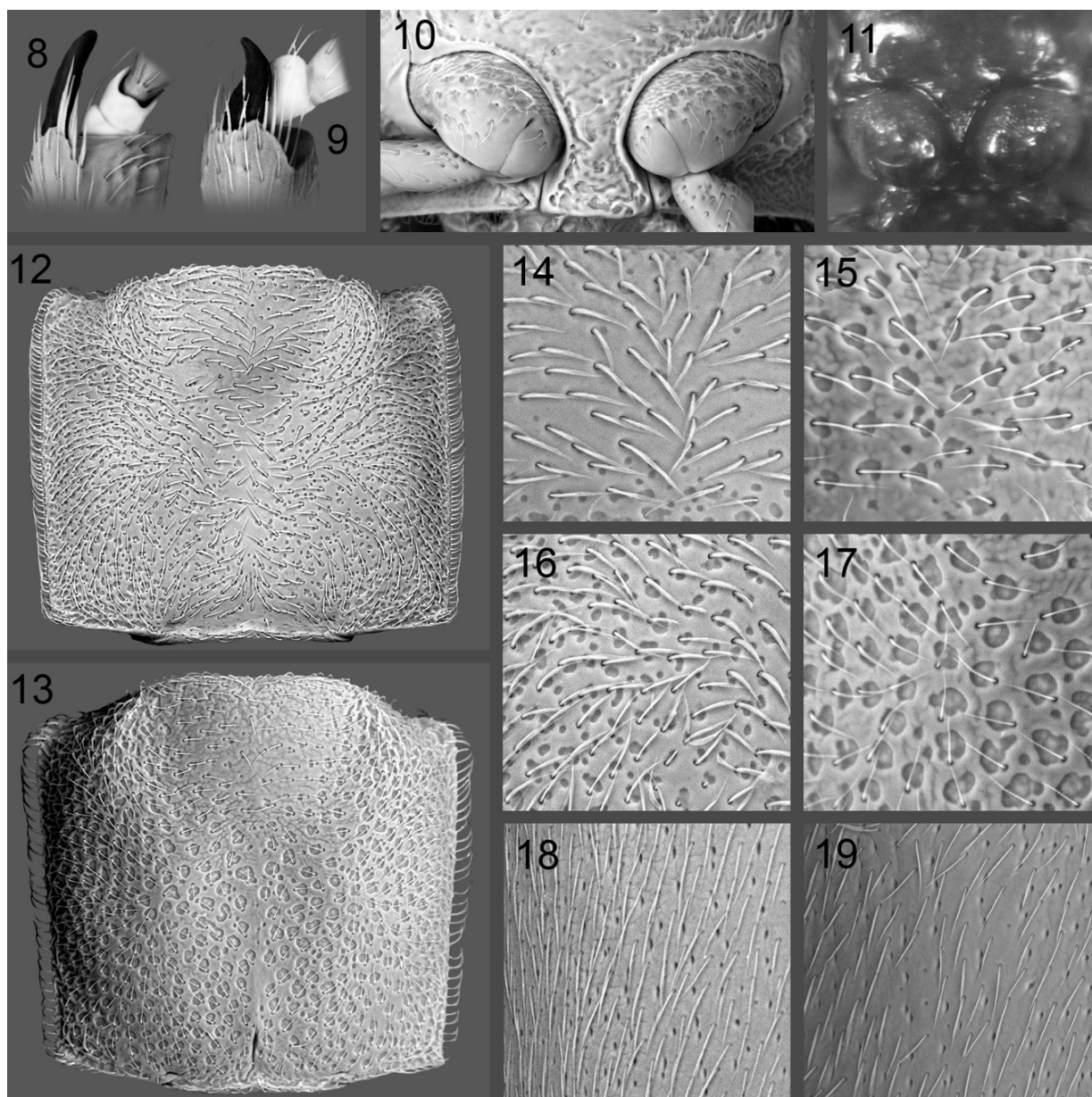
2). Anterior part of pronotum with erect pubescence, posterior almost glabrous (Fig. 4). Costulae running from anterior margin finely crenulated. Pronotal sides uniformly divergent from basal angles anterad, with maximum width at apical angles. Basal angles slightly protruding outwards. Surface not macrosculptured, puncturation sparse, shallow, coarser at middle than on sides. Lower margin of pronotum almost straight (Fig. 4). Scutellum subtrapezoidal (Fig. 5). Elytra glabrous, widest at midlength. Punctures very fine and shallow, inconspicuous, tending to form longitudinal rows on sides (Fig. 5). Sides of prosternum densely, shallowly, in posterior part confluent punctured. Metasternum smooth. Abdominal setulae sparse, very short, recumbent. Protibiae widened towards apices (Fig. 7), more conspicuously pubescent than other pairs.



Figs. 2-7. *Trogoxylactus australiensis* gen. nov., sp. nov.: (2) head; (3) head, semilateral; (4) pronotum; (5) elytra; (6) antenna; (7) front tibia. All scales = 0.1 mm

2.3. Remarks. As mentioned in the introduction, although in pronotal structure the new species resembles African *Lycthoplites armatus* Lesne, they are not related and belong to different tribes, so the similarity is evidently convergent: living in the same environment (wood) they developed similar morphological features, in this case the specifically formed pronotum facilitating extrication from wood. Interesting is also striking length of ovipositor, which may indicate that *Trogoxylyctus* gen. nov. lays eggs into external cracks of wood, not entering the galleries of other bostrichids as do representatives of related genera like *Cephalotoma* Lesne – also in this respect the new genus resembles those of Lyctini.

2.4. Key to the identification of Australian species of the tribe Trogoxylini



Figs. 8-19. Trogoxylini of Australia. 8 - *Tristaria grouvellei* Reitter; 9, 10 - *Trogoxylon* sp.; 12, 14, 16, 18 - *Trogoxylon ypsilon* Lesne; 13, 15, 17, 19 - *Trogoxylon punctipenne* (Fauvel); 11 - *Trogoxylyctus australiensis* gen. nov., sp. nov. (8-9 - front tibia tips - dark colour indicates apical spur, light colour - first two tarsomeres; 10-11 - prosternum; 12-13 - pronotum; 14-15 - frontal surface, 16-17 - pronotal surface, 18-19 - elytral surface).

- 1 Protibial spur conspicuous, large, arcuately curved, reaches at least to apex of second visible tarsomere (Fig.8).....***Tristaria grouvellei* Reitter**
 - Protibial spur inconspicuous, small, straight or slightly curved, reaches at most to apex of first visible tarsal joint (Fig. 9).....2.
 2 Prosternal process clearly visible, flattened, narrowed at midlength and distinctly widened to apex (Fig. 10).....***Trogoxylon* LeConte** 3.
 - Prosternal process strongly narrowed towards apex where it appears as narrow sharp lamella (Fig. 11).....***Trogoxylyctus australiensis* gen. et sp. nov.**
 3 Pronotum somewhat wider than long (Fig. 12); front and pronotum finely punctured (Figs 14 and 16). Pronotal and elytral surface lustrous, without microsculpture, finely and sometimes (especially on sides) densely setose (Figs 16 and 18).....***Trogoxylon ypsilon* Lesne**
 - Pronotum square or slightly longer than wide (Fig. 13); punctures of front and pronotum coarse (Figs 15 and 17). Pronotal and elytral surface mat, finely and densely microsculptured, covered with dense, silky, somewhat widened setae (Figs 17 and 19).....***Trogoxylon punctipenne* (Fauvel)**

References

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