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NEW *CROSSOTARSUS* FROM PAPUA NEW GUINEA
(Platypodidae, Coleoptera)

by H. ROBERTS

Abstract

Four new species and one new subspecies of the platypodid genus *Crossotarsus* CHAPUIS are described: *Crossotarsus aureipilus, Crossotarsus corrugatus, Crossotarsus paucidentatus, Crossotarsus porcatus, Crossotarsus minusculus* ssp. *noveaguineensis*. *Baiocis imitatrix* SCHEDL is transferred to *Crossotarsus*.

The genus *Crossotarsus* CHAPUIS contains some 120 species, confined in distribution mainly to the eastern tropics. SCHEDL (1972) segregates them into 8 groups. *Crossotarsus* is segregated by both adult and larval characters (BROWNE 1962, 1972), and the gallery system in the host log also is distinctive (BROWNE 1961).

In Papua New Guinea 51 species and subspecies of *Crossotarsus* have been recorded, most (37 %) belonging to the group *Crossotarsi subdepressi*, though all groups except the small specialist group *alternante-depressi* are represented. Species restricted to the Island of New Guinea (Irian Jaya and Papua New Guinea) and associated small Islands make up most of this fauna (almost 70%). One species has recently been transferred to *Platypus* (*P. corniventris* (SCHEDL), (ROBERTS, in press)). Most of these species are restricted to lowland rain forest, however a few are characteristic of the platypodid montane fauna.

Economically the genus is important. A number of species attack felled logs soon after felling, and some are of large size, besides which the galleries they make penetrate well into the logs. Also some species commonly attack fast growing timber plantation trees when the latter get into a stress condition through drought. All of the latter are *Crossotarsus* that arrive early on newly felled logs.

In this study the author had access to material borrowed from the Bernice P. Bishop Museum, Hawaii, the British Museum (Natural History), London, and the Naturhistorisches Museum, Vienna.

The following abbreviations are used for depositories containing specimens:
WM - Naturhistorisches Museum, Vienna, Austria;
FRS, Bulolo - Forest Research Station, Bulolo, Papua, New Guinea.

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Crossotarsus aureipilus sp.nov.
(Figs.1 and 4)

Male: 4.8 to 4.9 mm long, and 3.4 times as long as wide. Colour: orange-brown, apices darker. Frons nearly flat, median stria short, surface shining, with many deep piliferous punctures above the level of the antennal insertions; vertex angled to frons. Pronotum nearly square (40:37), femoral grooves shallow, angled anteriorly, median stria short,surface shining, with mainly marginal punctures. Elytra a little more than twice as long as pronotum, sides initially parallel, giving way in final third to very convex declivity; disc shining, all interstriae subequal, striae not obviously impressed, seriate punctate, all interstriae and striae reaching top of declivity; declivity very convex with rounded margin, terminating apically with a slightgap between the elytra, interstriae recognisable, but only just, surface matt with dense rows of golden hairs along each interstriae. Abdominal ventrities matt, with some hairs.

Female: 5.0 to 5.1 mm long, and a little more than three times as long as wide. Colour orange-brown. Head and pronotum like the male, except the frons which is much more hairy, in particular a conspicuous bunch of hairs below the insertion of the antennae. Elytra nearly three times as long as pronotum, side initially diverging up to final quarter after which contracting to a simple, transverse declivity; disc shining, interstriae 1 much narrower than remainder, but more prominent, striae seriate punctate, somewhat impressed declivity convex, laterally rounded, ending in transverse, almost square apex, interstriae recognisable as weak ridges, surface matt, with many short hairs.

Holotype ♂, Papua New Guinea: Gumi, Watut Logging Area, ex *Aglaia* sp., 2200 m, 9. iii. 76 (H. Roberts) (WM). Paratypes 1♂2♀, same data as Holotype, 1♀ (WM), 1♂1♀ (FRS, Bulolo).

C. aureipilus sp. nov. is closely related to the slightly larger *C. semiopacus* SCHEDL. Males of the new species are distinguished by the very convex, rounded declivity, which has only a narrow elytral separation apically. In *C. semiopacus* (Fig. 2 and 3) this declivity is more inclined, oval in shape, and apically the elytral separation is more elongate.

Crossotarsus corrugatus sp. nov.
(Figs. 5, 6 and 7)

Male: 3.2 to 3.3 mm long, and 4.2 times as long as wide. Colour, head and pronotum light brown, elytra yellow, except for deep brown apices. Frons flat, median stria long, surface shining, with many large punctures, particularly between and above the eyes, each with a long hair; vertex angled to frons. Pronotum longer than wide (22:17); femoral grooves shallow, broad, angled anteriorly; median stria long; surface shining, with small numbers of scattered pits. Elytra nearly twice as long as pronotum; sides slightly diverging to greatest width at narrow steeply inclined declivity; disc shining, sulcus impressed, interstriae subequal in width, indistinct striae not impressed, seriate punctate, all interstriae and striae reaching posterior margin; declivity narrow, semilunate, upper margin corrugate, impressed beneath,

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before smooth shining inclined termination, postero-laterally ending in two clearly separated small teeth on each side. Abdominal ventrites shining, few hairs.

Female: 3.4 to 3.5 mm long, and 3.9 times as long as wide. Colour similar to male but paler. Frons stepped transversely between bases of insertions of antennae, causing the posterior part to be set back, short median stria in this area, and above it many long-haired punctures; vertex angled to frons. Pronotum like the male, but surface finely lineate all over. Elytra twice as long as pronotum, widest about half way, before contracting, at first gradually, and then at declivity more abruptly, to end in a transverse apex; disc dull, finely lineate all over, otherwise as the male; declivity occupying final quarter, at first gradually convex then vertical, at first some trace of interstriae and striae, surface corneous, densely covered with short hairs, particularly apically.

Holotype ♂, Papua New Guinea: Gumi, Watut Logging Area, Bulolo, ex *Aglaia* sp., 2000 m, 22. iii. 76. (H. Roberts) (WM). Paratypes 1♂2♀, same data as Holotype, 1♀ (WM), 1♂1♀ (FRS, Bulolo).

SCHEDL confused this species with *C. minusculus* ssp. *grandis* SCHEDL, and in the FRS Collection, Bulolo, there is one male so determined as a female of this subspecies. Males of *C. corrugatus* sp. nov. are recognized by the narrow, semilunate, inclined declivity, with two widely spaced teeth on each side. Females are distinguished by the stepped frons of the head, with its characteristic hair pattern.

Crossotarsus (*Baiocis*) *imitatrix* (SCHEDL)

(Figs. 8, 9 and 10)

SCHEDL (1973) described *Baioicis imitatrix* from the Upper Manki Logging Area, Bulolo, Morobe District, Papua New Guinea, both male (Holotype) and female (Allotype). Though both types are said by SCHEDL to be deposited in the Australian National collection, Canberra, Dr. A.A.Calder, ANIC, has informed the author that neither type is in that collection. Therefore only paratypes have been available to the author, one male and one female from Vienna (WM), and two females from Bulolo (FRS, Bulolo).

Examination of these paratypes shows clearly that this species belongs to the genus *Crossotarsus* CHAPUIS, and not to *Baiocis* BROWNE. The outer face of the front tibia in the female is partly ornamented with granules, in both sexes the femoral grooves are angulate anteriorly, and the apex of the male elytra does have a narrow, but distinct, declivity. All these characters are typical of *Crossotarsus*, not *Baiocis*. Also the form and hair distribution of the female frons is nothing like any known *Baiocis* species. This species is therefore transferred to *Crossotarsus* as *C. imitatrix* (SCHEDL).

C. imitatrix belongs to the group *Crossotarsi barbati* CHAPUIS (1865). Males resemble *C. minusculus* CHAPUIS, but they can be separated by the oblique ridge of the declivity on each elytron (extending from central elytral sulcus to postero-lateral margin), and in the absence of conspicuous teeth on the postero-lateral angles. Females resemble somewhat *C. kuntzeni* SCHEDL and *C. subpellucidus* Lea, particularly with regard to the hair pattern on the frons, though females of *C. imita-*

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trix are segregated by the impressions on the antero-lateral angles of the frons, a character seen much better developed in the African genus *Triozastus* SCHEDL.

SCHEDL (1973) describes the species from specimens taken on sticky traps. The author has taken both sexes in association in the host trees *Xanthophyllum* sp. Bulolo, 1350 m (pale form), and in *Castanopsis* sp. and *Agathis* sp., Gumi (Bulolo), 2200 m (dark form).

Crossotarsus minusculus novaeguineensis ssp. nov.

A series of 6♂ and 2♀ of individuals very like *C. minusculus* CHAPUIS (1865) have been taken near Bulolo. These clearly differ only in their larger size, males being 3.4- 3.5 mm long, and the single female 3.8 mm long. As no intermediate sizes have been seen this new larger form is designated as a new subspecies, *Crossotarsus minusculus* ssp. nov. *novaeguineensis*. This subspecies is separate to the ssp. *grandis* SCHEDL, which has a size range restricted in males to 2.8 to 2.9 mm and females 3.1 to 3.2 mm.

Like *C. minusculus* sensu stricto, it appears confined to low altitudes while ssp. *grandis* is essentially montane.

Holotype ♂, Papua, New Guinea: Divide Logging Area, Bulolo, ex *Terminalia complanata,* 1900 m, 8. i. 87., (H. Roberts) (WM). Paratypes 5♂, 1♀, same data as Holotype, 1♀ (WM), 5♂ (FRS, Bulolo).

Crossotarsus paucidentatus sp. nov.
(Fig. 11)

Male: 4.4 to 4.5 mm long, and 3.3 times as long as wide. Colour black. Frons nearly flat, median stria reduced to an impressed dot, surface shining, with numerous strong, piliferous punctures above the insertions of the antennae; vertex not strongly angled to the frons. Pronotum almost square, femoral grooves shallow, angled anteriorly, median stria very short, surface shining, with many pits of differing sizes. Elytra a little more than twice as long as pronotum, widest midway along its length before contracting to a declivity which occupies the posterior third, and ends with a small number of teeth; disc shining, interstriae 1 the narrowest, but prominent, 2 a little wider, and the remainder wider still, striae except the first all seriate punctate, but not impressed; declivity gradually inclined downwards, serrate marginally, apically vertical, all interstriae prominent throughout except 2 and 4, which are shorter than the remainder, postero-laterally, the margins ending in a pair of downward pointing, notched, incurving teeth, also on each elytron one smaller, downward pointing tooth opposite interstriae 3; surface shining, hair evident on interstriae, and more so on margins. Abdominal ventrites rising posteriorly, surface shining, with marginal piliferous punctures.

Female: 4.6 to 4.7 mm long, and three and a half times as long as wide. Colour black. Head and pronotum very like the male. Elytra nearly twice as long as pronotum, widest midway along its length, then narrowing to end in a simple declivity that occupies the posterior third;

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disc shining, elytral sulcus impressed, interstriae 1 very narrow, remainder larger, subequal; striae seriate punctate, the punctures minute; declivity rapidly narrowing, convex at first to end in transverse vertical apex, interstriae and striae recognizable throughout, the punctures of the striae larger, sulcus impressed, vertical apex with postero-lateral papillae; surface shining, with rows of short hairs.

Holotype ♂, Papua New Guinea: Sawmill Logging Area, ex *Evodia* sp., 1800 m, 18. iv. 76., (H. Roberts) (WM). Paratypes 1♂2♀, same data as Holotype, 1♀ (WM), 1♂1♀ (FRS, Bulolo).

Crossotaurus paucidentatus sp. nov. resembles *C. oligodontus* ROBERTS (1979) from Mt Giluwe, though it is smaller in size. Males of the new species are separated by the detail of the elytral declivity, which has more prominent interstriae, while the apical teeth point down vertically, and are not inclined as in *C. oligodontus*.

Crossotarsus porcatus sp. nov.
(Fig. 12)

Male: 4.5 to 4.6 mm long, and 4.5 times as long as wide. Colour black. Frons near flat, median stria short, surface shining, with scattered prominent ounctures, each with a long hair; vertex not strongly angled to frons. Pronotum almost square (32:31), femoral grooves narrow, angled anteriorly; median stria short; near posterior margin, surface shining with scattered fine pits. Elytra two and one half times as long as pronotum, for basal two thirds near parallel sided, before narrowing to terminate in two simple postero-lateral processes; disc smooth, shining, interstriae not prominent, 1 the narrowest, the remainder larger, subequal; only the first striae impressed, the others striate punctate; declivity convex, narrowing to end in transverse smooth rim, all interstriae distinct, each at first wide, then narrowing to a fine ridge that continues up to the transverse rim; on the posterior margin a trace of papillae opposite interstriae 5; along each ridge a row of hairs. Abdominal ventrites rising posteriorly, well covered with piliferous punctures.

Female: 4.7 to 4.8 mm long and nearly four times as long as wide. Colour dark brown. Head and pronotum very like the male. Elytra similar to the male except the declivity, which is simpler; the basal two thirs near parallel sided, followed by the declivity that narrows to a transverse inclined rim bearing two simple, short postero-lateral teeth; disc dull, interstriae distinct, striae finely seriate punctate, the first alone impressed; declivity convex, on which interstriae at first still recognisable, but much less so than the male; surface dull with single rows of hairs on the interstriae, on the inclined rim some piliferous papillae.

Holotype ♂. Papua New Guinea; Gumi, Watut Logging Area, Bulolo, ex *Litsea* sp., 2200 m, 12. ii. 77., (H. Roberts) (WM). Paratype 1♂, same data as Holotype (WM).

Crossotarsus porcatus resembles *C. denturus* BROWNE. Males of this new species can be recognized by the more prominent interstriae on the declivity, and by the simple teeth terminating the postero-lateral angles of the declivity.

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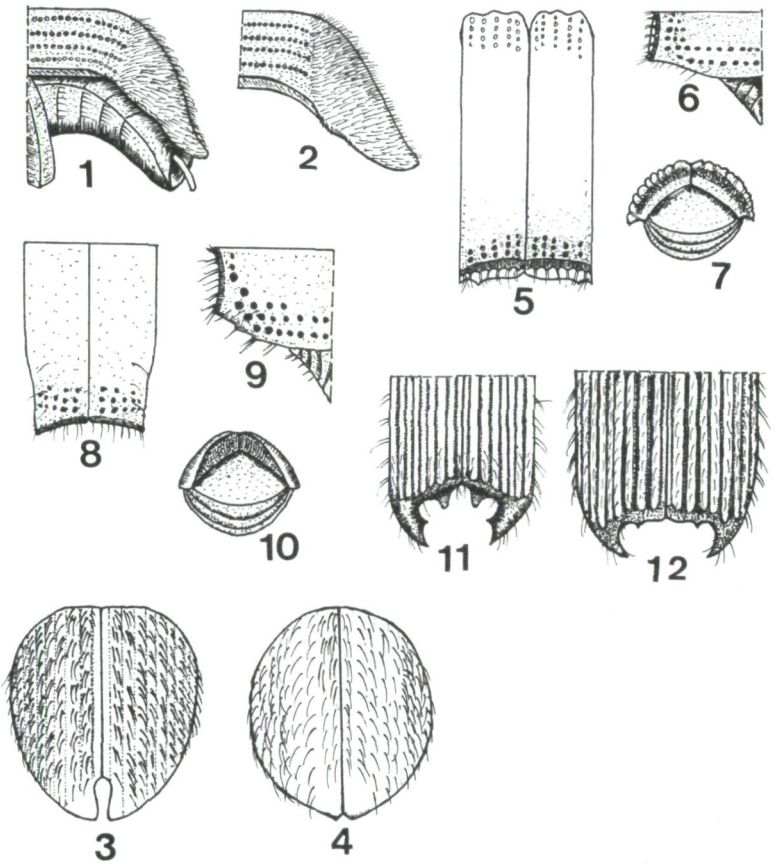

Fig. 1: *Crossotarsus aureipilus* sp.nov., lateral view, apices male elytra
Fig. 2: *Crossotarsus semiopacus* SCHEDL, lateral view,apices male elytra
Fig. 3: *Crossotarsus semiopacus* SCHEDL, posterior view, apices male elytra
Fig. 4: *Crossotarsus aureipilus* sp.nov., posterior view, apices male elytra
Fig. 5: *Crossotarsus corrugatus* sp.nov., dorsal view,male elytra
Fig. 6: *Crossotarsus corrugatus* sp.nov., lateral view,male elytra
Fig. 7: *Crossotarsus corrugatus* sp.nov., posterior view,male elytra
Fig. 8: *Crossotarsus imitatrix* (SCHEDL), dorsal view,male elytra
Fig. 9: *Crossotarsus imitatrix* (SCHEDL), lateral view,male elytra
Fig.10: *Crossotarsus imitatrix* (SCHEDL), posterior view,male elytra
Fig.11: *Crossotarsus paucidentatus* sp.nov., dorsal view,male elytra
Fig.12: *Crossotarsus porcatus* sp.nov., dorsal view,apices male elytra

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Zusammenfassung

Vier neue Arten und eine neue Unterart der Platypodidengattung *Crossotarsus* CHAPUIS werden beschrieben (siehe Abstract). *Baiocis imitatrix* SCHEDL wird in die Gattung *Crossotarsus* gestellt.

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