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A new *Mecyclothorax* Sharp from New Guinea

(Insecta, Coleoptera, Carabidae, Psydrinae)*

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Mecyclothorax riedeli, spec. nov. is described from Western New Guinea (Irian Jaya) and compared with the two species known from this island.

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Introduction

Mecyclothorax is a genus of small, rather convex ground beetles widely distributed from Java through New Guinea, New Caledonia, Australia, New Zealand, Hawaii, and Tahiti. The genus is notorious for its dispersion ability and for its extreme diversity it has achieved on certain islands like Hawaii and Tahiti, although the many species occurring there have probably evolved from one stock each. In terms of species numbers the latter islands or island-groups are certainly by far richest (Britton 1948, Perrault 1978, 1988), in terms of structural diversity, however, the genus is richest in Australia, where several rather distinct species-groups live (Moore 1984). The origin of the genus may also have been in the southeastern part of this continent, because the Australian species which managed to live in semiarid country, as well as those living in tropical rain forest in northern Queensland are presumably rather apomorphic.

Although the species are said to live in ground litter (Darlington 1962), some Australian species (e. g. *M. punctipennis* Macleay) are at least partly semi-arboricolous, living on mossy tree trunks in subtropical and temperate rain forest.

From New Guinea so far two species were known, *M. toxopei* Darlington and *M. sedlaceki* Darlington (Darlington 1962, 1971), both from high mountain tops in the western and eastern parts of this island, respectively.

Within a sample of carabid beetles, collected in western New Guinea (Irian Jaya) by A. Riedel, a further new species of *Mecyclothorax* was discovered that is described below.

Measurements

Measurements were made under a stereo microscope using an ocular micrometer. Length has been measured from tip of labrum to apex of elytra, hence, measurements may slightly differ from those of other authors.

* Results of the entomological explorations of A. Riedel in New Guinea in 1990.

Mecyclothorax riedeli, spec. nov.

Figs 1–3

Types. Holotype: ♂, Irian Jaya, Baliem-Distr., Kangine, 1900 m, 4.9.1990, leg. A. Riedel (Zoologische Staatssammlung, München). – Paratype: ♀, same data (Coll. M. Baehr, München).

Diagnosis. Small, convex, rather iridescent species, distinguished from known New Guinean species by absence of seta bearing punctures on 5th interval of elytra, absence of posterior pronotal seta, and impunctate base of pronotum.

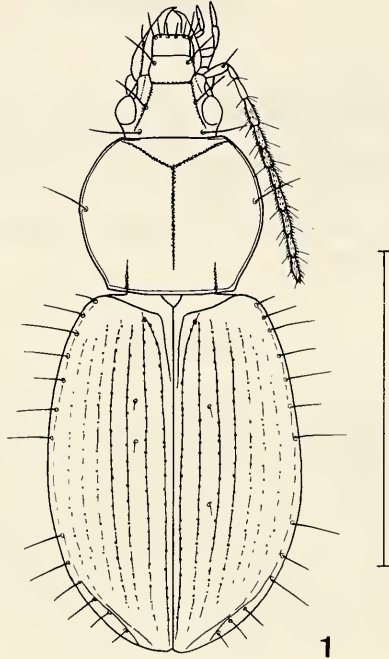


Fig. 1. *Mecyclothorax riedeli*, spec. nov. Holotype. Scale: 2 mm.

Description

Measurements. Length: 4.0–4.4 mm; width: 1.68–1.82 mm. Ratios. Width head/pronotum: 0.59; width/length of pronotum: 1.18–1.21; width base/apex of pronotum: 1.18–1.19; width elytra/pronotum: 1.35–1.38; length/width of elytra: 1.42–1.44.

Colour. Black, labrum and mandibles piceous, antenna and legs reddish-piceous, palpi reddish. Lower surface black.

Head. Rather narrow in relation to prothorax. Eyes fairly large, orbits oblique, c. $\frac{1}{3}$ of length of eye. Clypeal suture well impressed. Frontal furrows slightly curved, oblique, deep, almost surpassing posterior border of orbit. Labrum transverse, truncate, 6-setose. Mandibles rather elongate, straight. Mentum with distinct, rounded tooth. Antenna moderately elongate, attaining posterior border of pronotum or surpassing border by c. $\frac{1}{2}$ segment. Posterior supraorbital seta well removed from orbit. Microreticulation very superficial, or surface almost without microsculpture, impunctate, highly glossy.

Pronotum. Large, wide, rather convex, laterally evenly curved to the perceptible, though obtuse posterior angles. Widest diameter in middle. Anterior angles barely projecting, rounded off, apex straight. Base straight. Marginal channel very narrow throughout, slightly explanate just in front of posterior angles. Disk with a well impressed, v-shaped anterior sulcus attaining anterior angles. Median line impressed, meeting anterior sulcus, posteriorly shortened. Basal grooves linear, straight. Apex not bordered, base bordered in middle. Anterior marginal seta situated slightly in front of middle, posterior marginal seta absent. Surface virtually impunctate, microreticulation very superficial, consisting of extremely fine transverse lines. Surface glossy, slightly iridescent.

Elytra. Rather short, convex, oviform, widest diameter slightly behind middle. Shoulders rounded off, lateral margin evenly curved. Basal margin strong, connected to scutellary striole. 4 internal striae well impressed, more or less perceptibly punctate-crenulate. External striae indistinct, marked by rows of superficial punctures, 7th stria barely recognizable. Scutellary striole elongate, situated within 1st interval. 3rd interval with (1–) 2 setiferous punctures in centre of interval (in paratype posterior puncture absent on one side), punctures situated in anterior third and behind middle. Intervals impunctate, microreticulation very superficial, consisting of extremely fine transverse lines. Surface highly glossy, rather iridescent. Inner wings absent.

Lower surface. Impunctate. Metepisternum about quadrate. Sternum VII in ♂ 2-setose, in ♀ 4-setose.

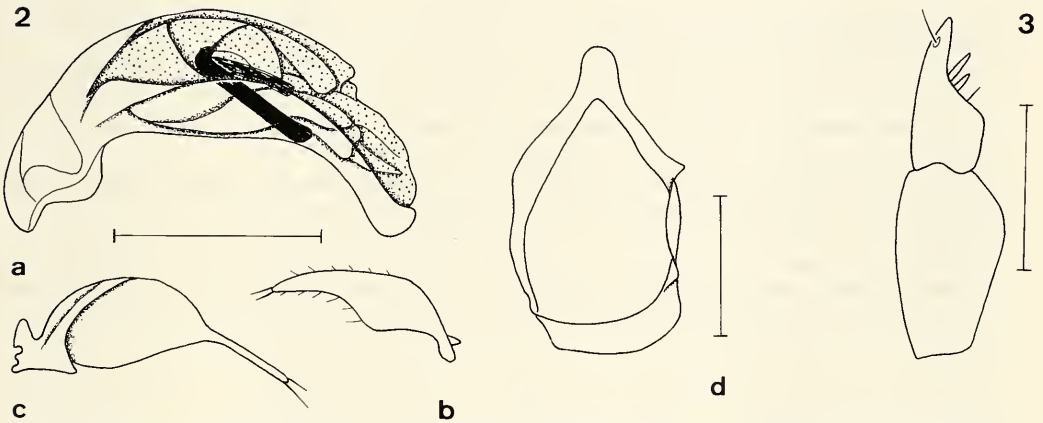


Fig. 2. *Mecyclothorax riedeli*, spec. nov. ♂ genitalia. a. Aedeagus. b. Right paramere. c. Left paramere. d. Genital ring. Scales: 0.5 mm.

Fig. 3. *Mecyclothorax riedeli*, spec. nov. ♀ stylomeres 1 and 2. Scale: 0.1 mm.

Legs. Without striking features. Three basal segments of ♂ anterior tarsus expanded and squamose.

♂ genitalia (Fig. 2). Aedeagus short, rather curved, apex widely explanate, apex and orifice strongly turned to right. Internal sac with a strongly sclerotized, oblique rod on left side and some sclerotized folds on right side. Right paramere rather wide, bisetose at apex and with several short hairs along upper and lower borders. Left paramere basally wide, with narrow, elongate, bisetose apex. Genital ring strongly sclerotized, ovalish, laterally rather angulate, lateral part on right side markedly protruding.

♀ genitalia (Fig. 3). Stylomere 2 with rather short, straight apex, with 2 ventral ensiform setae and a short bristle below, and with a nematiform seta originating from a small pit.

Variation. Little variation noted, apart from minor difference in shape of pronotum and absence of posterior elytral seta in paratype.

Distribution. Central Irian Jaya. Known only from type locality.

Habits. Collected presumably under logs or in leaf litter in very wet montane rain forest. Compared with the two other New Guinean species *M. toxopei* Darlington and *M. sedlaceki* Darlington the types of which were discovered above 4000 m almost on the tops of high mountains, *M. riedeli* lives in montane forest at considerably lower altitude.

Discussion

Although, unfortunately, the genitalia of both other *Mecyclothorax* species from New Guinea have not been dissected and thus, cannot be compared, this new species is most probably more closely related to both New Guinean species than to any Australian species. All three species seem to have been originated from one stock, perhaps together with certain Oriental species. They are not related to the rain forest inhabiting species of North Queensland (*M. storeyi* Moore and *M. lewisensis* Moore) which seem to have evolved quite independently.

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