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## A peculiar new species of the genus *Mochtherus* Schmidt-Goebel from New Guinea

(Coleoptera, Carabidae, Lebiini)

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A new species of the Oriental-Papuan lebiine genus *Mochtherus* Schmidt-Goebel, 1846 is described from Salawati Island off the west coast of New Guinea: *Mochtherus dentatus*, spec. nov. The male genitalia are figured and the species is differentiated from both other species of the genus that occur in the Papuan-Australian Region. The species is peculiar, and distinguished from all other species of the genus, by the dentate lateral angle of the apex of the elytra. This is another example of a character of the elytra that is particularly common in New Guinean carabid beetles and that occurs in various tribes and genera.

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### Introduction

The lebiine genus *Mochtherus* Schmidt-Goebel, 1846 is widely distributed from South Asia through the Indonesian insular belt to New Guinea and north-eastern Australia. Some of the few described species are widely distributed and very common in forested areas, where they have been found in litter and on trees. The species are of rather similar body shape, usually with a distinctly cordiform pronotum and rather wide, depressed elytra. They may be glabrous or may bear a dense, short pilosity, and the elytra may be unicolourous black or quadrimaculate. In all described species the apex of the elytra is transverse to faintly sinuate, but without any spines or teeth.

Apparently the genus is closely related to the large and widespread genus *Dolichoctis* Schmidt-Goebel, 1846 and some authors even include it in that genus as a subgenus. However, this is a matter of opinion, and in this paper I follow the opinion of Lorenz (2005) who regards *Mochtherus* a separate genus.

In New Guinea two other species of *Mochtherus* occur, namely the uniformly black *M. obscurus* (Sloane, 1907) and the quadrimaculate *M. tetraspilotos*

(Macleay, 1825) that is widespread in the Oriental Region. In many aspects the new species is similar to *M. obscurus* but differs in the dentate external angle of the apex of the elytra which is a unique character of this species and which likewise does not occur in the genus *Dolichoctis*.

The unique specimen of the new species was kindly presented by Andreas Weigel, well known explorer of the Longicorn Beetle fauna of New Guinea and keen collector to whom I owe a multitude of interesting and new carabid species from the Papuan Subregion.

### Material and methods

Measurements were taken using a stereo microscope with an ocular micrometer. Body length was measured from apex of labrum to apex of elytra. Length of pronotum was measured from mid of apex to the most advanced part of base. Length of elytra was measured from the most advanced part of humerus to the very apex.

In the taxonomic survey standard methods are used. For dissecting the genitalia, the specimen was relaxed overnight in a jar under moist atmosphere, then



**Fig. 1.** *Mochtherus dentatus*, spec. nov. Habitus. Body length: 7.9 mm.

cleaned for a short while in 10 % KOH. The habitus photograph was obtained by a digital camera using ProgRes CapturePro 2.6 and AutoMontage and subsequently was edited with Corel Photo Paint 14.

The type is located in the working collection of the author at the Zoologische Staatssammlung, München (CBM).

### Taxonomy

#### *Mochtherus* Schmidt-Goebel, 1846

*Mochtherus* Schmidt-Goebel, 1846: 76. – Darlington 1968: 122; Jedlicka 1963: 352; Lorenz 2005: 460.

**Type species:** *Mochtherus angulatus* Schmidt-Goebel, 1846, by original designation (= *Mochtherus tetraspilatus* Macleay, 1825).

**Geographic distribution:** South Asia, New Guinea, New Britain, north-eastern Australia.

#### *Mochtherus dentatus*, spec. nov.

Figs 1, 2

**Types.** Holotype: ♂, “W-PAPUA Raja Ampat Pr. Salawati Isl. or., 2–4 km N Kalobo, 1°0'6"S, 131°4'58"E 27.I.2004, leg. A. Weigel” (CBM).

**Etymology.** The name refers to the dentate external angle of the elytra.

**Diagnosis.** Medium sized, uniformly black species with strongly cordiform pronotum and wide, depressed elytra, bearing a dense but very short, erect pilosity on the dorsal surface; distinguished from similarly coloured species by the sharply dentate external angle of the elytra, and from the very similar *M. obscurus* (Sloane) by paler antenna and completely pale tibiae and tarsi.

#### Description

**Measurements.** Length: 7.9 mm; width: 3.6 mm. Ratios. Width/length of prothorax: 1.35; width base/apex of prothorax: 1.06; width prothorax/head: 1.07; length/width of elytra: 1.31; width elytra/prothorax: 1.86.

**Colour** (Fig. 1). Uniformly dull black, pronotum with very indistinct pale margin, elytra, particularly in apical half, with fairly distinct pale margin. Labrum and mandibles rufous, antenna pale red, only 1<sup>st</sup> antennomere slightly darker. Femora except knees piceous-black, knees, tibiae, and tarsi pale red.

**Head** (Fig. 1). Wide, almost as wide as prothorax. Frons depressed. Frontal furrows indistinct, short, shallow, curved outwards. Eye very large and laterally almost semicircularly protruded, orbit short but distinct, oblique. Labrum elongate, apex slightly convex. Palpi elongate, glabrous. Mentum without tooth, bisetose. Glossa narrow, bisetose, paraglossae membranous, far surpassing glossa. Antenna elongate, surpassing base of pronotum by two antennomeres; antenna pilose from mid of 4<sup>th</sup> antennomere. Surface very finely punctate, with distinct but superficial, isodiametric microreticulation, and dense, very short, erect pilosity, moderately glossy.

**Pronotum** (Fig. 1). Wide, remarkably cordiform. Base slightly wider than apex. Lateral margins in anterior half convex, in posterior half deeply concave, at widest diameter, about in middle, angulate. Apex concave but in middle straight, apical angle produced but widely rounded. Base in middle straight, laterally slightly oblique, basal angle angulate, about rectangular. Apex finely margined, base only laterally indistinctly margined. Marginal sulcus anteriorly rather narrow, widened towards middle, not much widened apicad. Median line

deeply impressed, attaining apex and base, but near apex far less impressed. Anterior transverse sulcus shallow, posterior transverse sulcus deep. Basal grooves deep, about circular. Anterior marginal seta situated slightly in front of middle on the marginal angle, posterior seta located at basal angle. Disk with very fine, shallow, irregularly transverse striae, with barely perceptible punctures, extremely fine, rather transverse microreticulation, and dense, short, erect pilosity. Surface rather dull.

Elytra (Fig. 1). Short and wide, disk gently convex. Humerus not produced, widely rounded, lateral margin in middle almost straight. Apex slightly oblique and straight, near lateral apical angle deeply excised, sutural angle acute, lateral apical angle dentate. Base bordered to near scutellary puncture. Scutellary stria barely perceptible, indicated by a few shallow punctures, situated in first interval, scutellary pore and seta situated at origin of 1<sup>st</sup> stria. Striae complete, near base shallow, becoming deeper apicad. Intervals near base depressed, apicad increasingly convex. Two discal setiferous punctures present, situated near 2<sup>nd</sup> stria; the anterior one located slightly behind middle, the posterior one located about at apical sixth. Punctures large and distinct, setae elongate. Series of marginal setae consisting of 9 anterior and 5–6 posterior setae that are widely separated in middle, punctures rather coarse, setae, if unbroken, elongate. Apex between 2<sup>nd</sup> and 3<sup>rd</sup> striae with an additional setiferous puncture. Intervals with inconspicuous punctures, dense microreticulation that is composed of transverse meshes, and dense, short, erect pilosity; surface rather dull. Metathoracic wings complete.

Lower surface. Surface microreticulate and with rather dense, short pilosity that is more or less erect on head and thorax but inclined posteriorly on abdomen. Proepisternum, however, largely glabrous. Metepisternum elongate, c. 2.5 × as long as wide at apex. Terminal sternum in male bisetose.

Legs. Elongate, tarsi very slender. Three basal tarsomeres of male protarsus slightly widened and biserially squamose on lower surface. Tarsi sparsely pilose on the upper surface, 5<sup>th</sup> tarsomere setose beneath. Claws elongate, denticulate with four teeth. Male genitalia (Fig. 2). Genital ring wide, triangular but laterally convex, almost symmetric, apex narrow, base deep, very convex. Aedeagus slightly turned to the right side (in beetle), rather narrow and elongate, lower surface in apical two thirds almost straight. Apex short, narrow, at tip slightly bent down. Ostium short. Internal sac rather simply folded, with several moderately sclerotized folds of which one at the right side in the apical part is more distinctly denticulate than the others. Parameres very dissimilar, the left

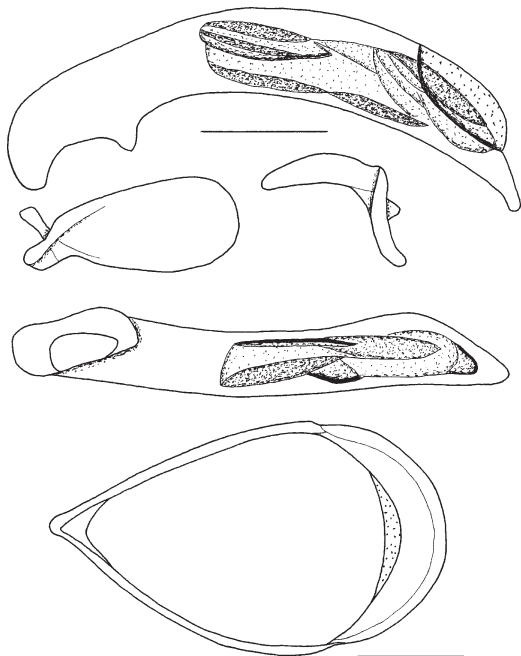


Fig. 2. *Mochtherus dentatus*, spec. nov. Male genitalia: aedeagus from left and below, left and right parameres, genital ring. Scale bars = 0.25 mm.

stout, with wide, obtusely transverse apex. Right paramere very narrow and elongate, somewhat axe-shaped. Both parameres asetose.

Female gonocoxites. Unknown.

Variation. Unknown.

**Distribution.** Eastern part of Salawati Island off the west coast of Vogelkop Peninsula, Papua Indonesia. Known only from type locality.

**Collecting circumstances.** Not recorded.

**Relationships.** Outstanding within the genus by the shape of the elytral apex. However, with respect to shape of prothorax and elytra, colour, and surface structure, very similar, and probably next related, to *M. obscurus* (Sloane) which ranges from Sulawesi and the Moluccas through New Guinea, New Britain, to north-eastern Australia.

#### Key to the Papuan species of *Mochtherus* Schmidt-Goebel

1. Elytra quadrimaculate .. *tetraspilotus* (Macleay, 1825)
- Elytra unicolourous black ..... 2.

2. Apex of elytra not deeply excised, external angle obtuse; tibiae and tarsi dark .....  
..... *obscurus* (Sloane, 1907)
- Apex of elytra deeply excised, external angle sharply dentate (Fig. 1); tibiae and tarsi yellow .....  
..... *dentatus*, spec. nov.

northern Australia, bear dentate or spinose elytra, whereas the numerous Oriental species of the nominate subgenus generally possess edentate elytra. It would be interesting to discover the reasons why so many Papuan carabids possess this character, whereas it is quite uncommon in Oriental species.

### Remarks

This is the third species of the genus *Mochtherus* recorded from the Papuan Region. It is distinguished from both others, *M. obscurus* (Sloane) and *M. tetraspilatus* (Macleay) by the deeply excised and externally dentate apex of the elytra, a character state that does not occur in any other species of the genus. At present it is unknown, whether the new species is endemic to Salawati Island, whether it is more widespread in the Papuan Region.

Dentate or spinose elytra are surprisingly common in Papuan Carabidae and they occur in different forms in several lebiine genera, but also in a number of other carabid tribes, e. g. in Platynini, Licinini, and Odacanthini. It is worth noting in this context that in the genus *Dolichoctis* Schmidt-Goebel that probably is nearest related to *Mochtherus*, only species of the subgenera *Spinidolichoctis* Baehr, 1999 and *Papuadolichoctis* Baehr, 1999 which both are almost completely restricted to the Papuan Subregion, apart from some outliers on Sulawesi, the Moluccas, and

### Acknowledgements

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