

**A new species of the genus *Anomotarus* Chaudoir  
from Andaman Islands.  
4<sup>th</sup> supplement to the revisions of the genus *Anomotarus* s. str.**

(Coleoptera, Carabidae, Lebiini)

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Baehr, M. 2013. A new species of the genus *Anomotarus* Chaudoir from Andaman Islands. 4<sup>th</sup> supplement to the revisions of the genus *Anomotarus* s. str. (Coleoptera, Carabidae, Lebiini). Spixiana 36(2): 223–226.

A new lebiine carabid species, *Anomotarus andamanicus*, spec. nov., is described from Andaman Islands. The species is closely related to the widespread *A. stigma* Chaudoir and its allies. It is inserted in the most recent key to the Oriental-New Guinean *Anomotarus*.

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### Introduction

By courtesy of M. Geiser (formerly Basel, now London) I received a number of Oriental carabid beetles for identification which included, inter alia, a new species of the Oriental-Papuan-Australian genus *Anomotarus* s. str. from Andaman Islands, that is described in the present paper. It is the fourth supplement to the revisions of the subgenus *Anomotarus* s. str. (Baehr 2004, 2005, 2006, 2011, 2012a).

The genus *Anomotarus* Chaudoir, 1875 belongs to the subtribe Calleidina of the carabid tribe Lebiini and consists of usually elongate, ground living beetles which are characterized by more or less securiform male labial palpi, rather projected eyes, usually fairly swollen orbits, not widened or excised 4<sup>th</sup> tarsomeres, and denticulate tarsal claws. A number of Australian species, in particular those of the subgenera *Nototarus* Chaudoir, 1875, *Lithostrotus* Blackburn, 1894, *Amplitarus* Baehr, 2009, and *Rubritarus* Baehr, 2009 possess atrophied metathoracic wings, whereas most species of the subgenus *Anomotarus* s. str., except some montane species from south-eastern Australia, have well developed wings.

The subgenus *Anomotarus* s. str. is distributed from Pakistan in the north-west through southern and eastern mainland Asia to Japan, through the Indonesian and Philippine insular belts including the Moluccas, to New Guinea, the Bismarck Archipelago, Solomon Islands, New Caledonia and adjacent islands (Baehr 2004, 2005, 2011), and Australia (Baehr 2006, 2011, 2012a), with two Australian species introduced into New Zealand (Larochelle & Larivière 2007). All other subgenera are restricted to mainland Australia, where most species inhabit arid and semiarid areas mainly in Western and Central Australia (Baehr 2009, 2012a).

The Oriental-Papuan and the Australian species of the subgenus *Anomotarus* were revised in two papers (Baehr 2004, 2006). Seven additional species of *Anomotarus* s. str. were recently described (Baehr 2011, 2012a).

So far 40 extra-Australian taxa have been recorded, of which 22 occur in the Oriental Region and 18 in New Guinea, the Bismarck Archipelago, Solomon Islands, and New Caledonia and surrounding islands.

## Material and methods

For the taxonomic treatment standard methods were used. The male and female genitalia were removed from specimens relaxed for a night in a jar under wet atmosphere, then cleaned for a short while in hot KOH.

Examinations and descriptions follow the methods used in the revisions of the Oriental-Papuan and Australian *Anomotarus* s. str. (Baehr 2004, 2006). It should be mentioned again that body length is measured from apex of labrum to apex of elytra; length of orbit is taken from the posterior margin of the eye to the position where the orbital curvature meets the neck; length of pronotum is measured along midline, and width of base of pronotum at the position of the posterior lateral seta.

The habitus photograph was obtained with a digital camera using ProgRes CapturePro 2.6 and AutoMontage and subsequently was edited with Corel Photo Paint X4.

The holotype of the new species is stored in Naturhistorisches Museum, Basel (NHMB), paratypes are shared with that collection and the working collection of the author in Zoologische Staatssammlung, München (CBM).

The labels are exactly reproduced, including all abbreviations and types. A new line on a label is denoted as / with a blank before and behind.

## Taxonomy

### *Anomotarus andamanicus*, spec. nov.

Figs 1, 2

**Types.** Holotype: ♂, ANDAMAN Is: Havelock Is. / env. of village no. 7 / 11°59'N 92°58'E / 22.iv-14.v. 1998. / Karel & Simon Mayer leg. (NHMB). – Paratypes: 4 ♂♂, 9 ♀♀, same data (CBM, NHMB).

**Etymology.** The name refers to the occurrence of this species on the Andaman Islands.

**Diagnosis.** The species is characterized by dark piceous colour, distinct humeral and apical spots on the elytra, and distinct microreticulation on the head. It is distinguished from the most similar species *A. stigmula* (Chaudoir, 1852) by less distinct punctuation of the head, glossier pronotum and elytra due to more superficial microreticulation, more oval-shaped sutural elytral spot which is incised anteriorly, and slightly narrower aedeagus.

### Description

**Measurements.** Length: 4.4–5.0 mm; width: 1.75–2.05 mm. Ratios. Length eye/orbit: 2.2–2.4; width/length of pronotum: 1.21–1.25; width widest diameter/base of pronotum: 1.32–1.38; width pronotum/head: 1.18–1.23; length/width of elytra: 1.42–1.46; width elytra/pronotum: 1.60–1.72.



**Fig. 2.** *Anomotarus andamanicus*, spec. nov. Habitus. Body length 4.9 mm.

**Colour (Fig. 2).** Upper and lower surfaces more or less dark piceous, head and pronotum slightly darker than elytra; pale reddish lateral margins on pronotum inconspicuous and narrow, on elytra conspicuous and wide. Base of elytra with an elongate, moderately distinct, humeral spot, mainly on 6<sup>th</sup> and 7<sup>th</sup> intervals that covers about the basal third of the elytra, or slightly less; apex with a small, pale sutural spot from 1<sup>st</sup>–3<sup>rd</sup> or even 4<sup>th</sup> interval that is slightly oval-shaped so that the common spot anteriorly is distinctly incised. Clypeus, labrum, and mandibles dark reddish, palpi and antenna pale reddish, legs yellow. Lower surface dark piceous.

**Head (Fig. 2).** Eye large, more than twice as long as orbit, though laterally but little protruded over the orbit. Orbit short, somewhat cheek-like, very convex, barely rugose. Frontal ridge inside

of eye distinct, attaining or slightly surpassing the middle of the eye. Labial palpus in male moderately securiform, c.  $2\times$  as long as wide at apex, in female narrower. Mentum with acute median tooth. Antenna short, surpassing base of pronotum by about one antennomere, median antennomeres c.  $1.5\times$  as long as wide. Upper surface with dense but slightly superficial, isodiametric microreticulation and with sparse and fine, rather indistinct punctures which are not easily visible within the microreticulation. Surface moderately dull.

Pronotum (Fig. 2). Rather wide, slightly cordiform. Apex gently concave, apical angle slightly protruded though widely rounded off. Lateral margins anteriorly convex, in posterior half very little convex, almost straight, gently sinuate just in front of the small, though distinct, more or less acute basal angle. Base laterally excised and oblique, in middle much projected. Disk rather depressed. Median line shallow, in parts even superficial, anteriorly incomplete, near base impressed to a form a moderately deep furrow bearing sharp margins. Both transverse sulci shallow. Lateral margin rather wide, slightly widened basad, marginal channel wide and moderately deep, margins distinctly upturned. Apex in middle not bordered, base bordered throughout. Anterior marginal seta situated at widest diameter, about at apical third, posterior marginal seta situated at basal angle. Surface with very sparse and extremely fine punctures and with many shallow, rather superficial transverse striae. Basal field with some stronger, very irregular furrows, surface of basal field very rough. Apical field with distinct isodiametric microreticulation and therefore dull. Disk with traces of extremely superficial, irregularly transverse microreticulation. Surface comparatively glossy.

Elytra (Fig. 2). Moderately elongate, gently widened towards apex, comparatively depressed. Humerus projected but widely rounded, lateral margins gently but evenly convex. Apical margin barely excised, very slightly oblique. Lateral channel wide, depressed. Striae narrow, well impressed, not perceptibly punctate, intervals gently convex. Surface with sericeous lustre, caused by the very dense, superficial, irregularly transverse microreticulation. Punctures on intervals sparse, difficult to detect. 3<sup>rd</sup> interval bipunctate, punctures distinct, situated near 2<sup>nd</sup> stria, the anterior one slightly in front of middle, the posterior one at apical quarter, setae very short. Surface with sparse, extremely short, erect pilosity which is only perceptible at very high magnification and in lateral view.

Metathoracic wings. Fully developed.

Lower surface. Prosternum and abdomen with sparse and extremely short pilosity. Metepisternum

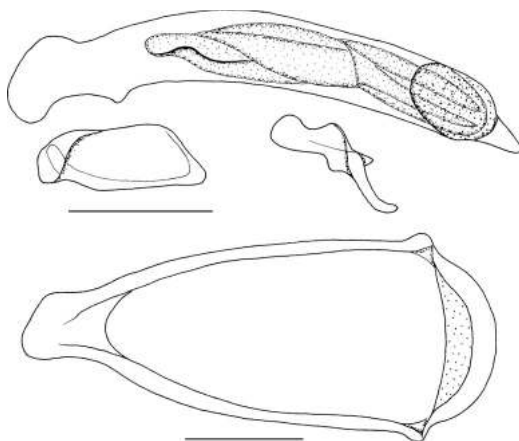


Fig. 1. *Anomotarus andamanicus*, spec. nov. Male genitalia: aedeagus, left side, left and right parameres, genital ring. Scale bars: 0.25 mm.

elongate, c.  $2\times$  as long as wide at apex. Terminal abdominal sternite in male 2-setose, in female 4-setose.

Legs. Of average size. Three basal tarsomeres of protarsus in male squamose, but little widened. Claws with 3–4 rather large teeth.

Male genitalia (Fig. 1). Rather large in comparison to body size. Genital ring narrow, triangular, slightly asymmetric, apex oblique, moderately wide. Aedeagus narrow and elongate, slightly asymmetric, in middle barely widened, orificium short, situated completely on the left side. Lower surface very slightly concave. Apex rather short and wide, straight, situated on the right side. Internal sac with simple folding, without distinctly sclerotized parts. Parameres very dissimilar, aetose, left one large, wide, with triangular apex, right one smaller, with rounded apex.

Female genitalia. Very similar to those of *A. stigmula* (Chaudoir, 1852), as figured in Baehr (2004).

Variation. Apart from body size, some variation noted in relative width of pronotum and in shape of its basal angle which may be more or less acute.

**Collecting circumstances.** Not recorded.

**Distribution.** Havelock Island, Andaman Islands. Known only from type locality.

**Relationships.** According to body shape, colouration, surface structure, and shape of aedeagus this species is very similar and probably nearest related to *A. stigmula* (Chaudoir) from mainland Asia and the Philippine Islands.

## Recognition

*Anomotarus andamanicus* can be inserted into the key to the Oriental and New Guinean species of the genus *Anomotarus* Chaudoir (Baehr 2004: 29) at couplet 27, which has to be altered as following. References to figures of the revision are included in the key below with added “B04”.

27. Punctures on head barely perceptible; microreticulation of elytra very distinct, surface markedly dull; humeral spot rather ill defined, apical spot longer (B04 fig. 35). Northwestern Thailand. .... *opacus* Baehr, 2004
- Punctures on head more or less distinct; microreticulation of elytra more superficial, surface glossier; humeral spot rather well defined, apical spot shorter (Fig. 2; B04 fig. 25). Mainland Asia, Andaman Islands, Philippines, ?Indonesia. .... 27a.
- 27a. Punctures on head distinct, easily visible; microreticulation on pronotum and elytra more distinct, therefore both less glossy, elytra less sericeous; apical elytral spot not oval-shaped, anteriorly not incised (B04 fig. 25); aedeagus shorter and wider (B04 fig. 1). Mainland Asia, Philippines, ?Indonesia. .... *stigmula* (Chaudoir, 1852)
- Punctures on head less distinct, visible only at high magnification; microreticulation on pronotum and elytra more superficial, therefore both glossier, elytra sericeous; apical elytral spot oval-shaped, anteriorly incised (Fig. 2); aedeagus longer and narrower (Fig. 1). Andaman Islands. .... *andamanicus*, spec. nov.

## Remarks

Although *Anomotarus andamanicus* certainly is closely related to the widespread *A. stigmula* (Chaudoir), in certain respects of colouration, structure of the surface of head, pronotum, and elytra, and shape of the aedeagus the new species is distinct from its mainland relative. This new species again corroborates the status of the Andaman Islands as an area which houses a couple of endemic species that are closely related to, but in certain respects deviate from widespread mainland species. Examples

within lebiine carabids are *Catascopus andamanensis* Chaudoir, 1877, relative of the widespread *C. facialis* (Wiedemann, 1818), *C. elegans andamanicus* Baehr, 2012, a subspecies of the widespread *C. elegans* (Weber, 1801), and *Dolichoctis andamanica* Baehr, 2013, relative of the widespread *D. rotundata* (Schmidt-Goebel, 1846) (Baehr 2012b, 2013).

## Acknowledgement

My thanks are due to M. Geiser (formerly Basel, now London) for the kind loan of the specimens.

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