

**A further new *Lebia* Latreille of the *karenia*-group
from northern Queensland, Australia,
with the first Australian record of *Somotrichus elevatus* (Fabricius)**

(Insecta, Coleoptera, Carabidae, Lebiinae)

2nd supplement to “The genus *Lebia* Latreille in the Australian-Papuan Region”

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An additional new species of the *karenia*-group *sensu* Baehr (2004) of the genus *Lebia* Latreille, from northern Queensland, Australia is described: *L. edentata*, spec. nov. According to body shape, pattern of pronotum and elytra, and structure of aedeagus this species is nearest related to *L. fallaciosa* Baehr from New Guinea. The new species is introduced in the most recent key for the Australian and Papuan species of the genus *Lebia*.

The widespread *Somotrichus elevatus* (Fabricius) for the first time is recorded from Australia.

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Introduction

When recently examining the large amount of unidentified carabid species in Queensland Museum, Brisbane, I found *inter alia* another new species of the genus *Lebia* Latreille from Australia which is described herein. The new species again belongs to the *karenia*-group of the revision of the genus *Lebia* in the Australian-Papuan Region (Baehr 2004) and apparently is next related to the New Guinean *L. fallaciosa* Baehr.

The *karenia*-group of the huge carabid genus *Lebia* (s.l.) includes comparatively large species that are mainly characterized, apart from size, by the conspicuous cruciate or quadrimaculate colour pattern of their elytra. The species of this group are widely distributed in the Oriental Region, but they likewise occur in the Australian-Papuan region. From the latter area so far four species were recently de-

scribed, namely *L. darlingtoniana* Baehr from New Guinea and Sulawesi, *L. fallaciosa* Baehr from New Guinea, *L. brisbanensis* Baehr from southeastern Queensland, Australia, and *L. weigeli* Baehr from New Britain (Baehr 2004, 2005). Concerning their external morphology (size, shape, colour pattern, microsculpture of surface) the four species are very similar, but morphology of their aedeagi is quite different and, at the same time, characteristic for each species: whereas in *L. darlingtoniana* and *L. brisbanensis* the internal sac bears a remarkably denticulate sclerite, *L. fallaciosa* and *L. weigeli* lack any more heavily sclerotized parts in the internal sac of the aedeagus.

Most species of genus *Lebia* occurring in the Australian-Papuan Region are available so far in small numbers and some even in single specimens only which most probably is caused by the sampling methods employed. The new species being described

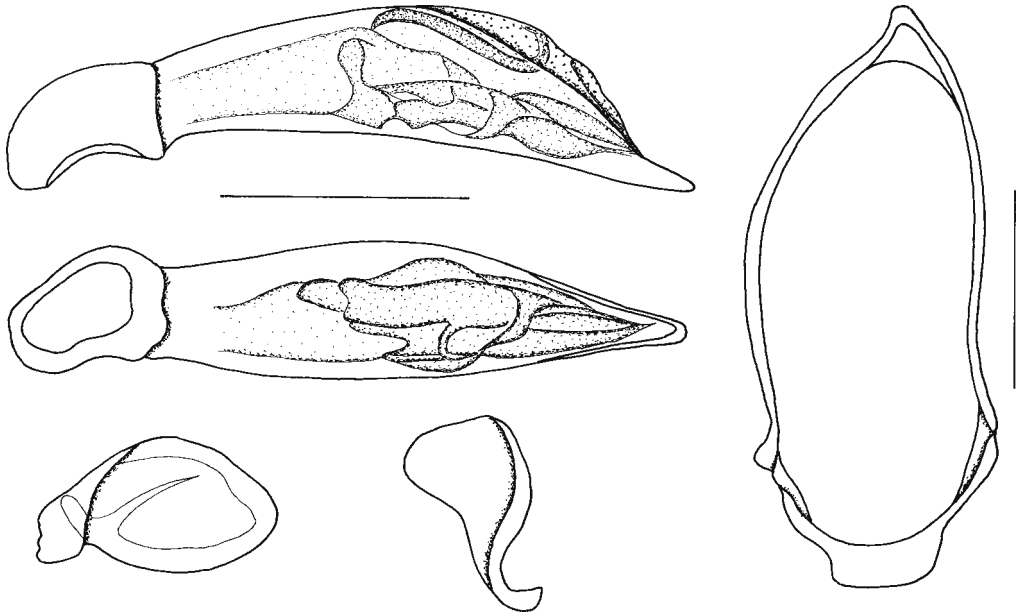


Fig. 1. *Lebia edentata*, spec. nov. Male genitalia: Aedeagus, lateral view from left side, and ventral view; parameres; genital ring. Scales: 0.5 mm.

herein likewise so far is available in two old specimens only. However, as one is a male and because male genitalia are highly characteristic in almost all examined Australian-Papuan species of the genus, this species is described yet on the base of this small amount of material. In view of the recent revision, I guess that this is a practicable way to cope with this species.

Material and Methods

Measurements, dissection methods, descriptions, and photographs were employed in the same manner as explained in the revision (Baehr 2004). The holotype is stored in Queensland Museum, Brisbane (QMB), the paratype in the working collection of the author in Zoologische Staatssammlung, München (CBM).

Lebia edentata, spec. nov.

Figs 1, 2

Types. Holotype: ♂, Cairns / Lea has not / Cairns dist. J. A. Anderson (QMT123816). – Paratype: 1♀, same data (CBM).

Diagnosis. Moderately large species, with cruciate black elytral pattern that leaves an elongate sub-humeral spot and the apex yellow. Distinguished

from other Australian-Papuan species of the *karenia*-group, except for *L. fallaciosa* Baehr and *L. weigeli* Baehr, by absence of any denticulate sclerites in the internal sac of the aedeagus; distinguished from both latter species by different pronotal and/or elytral pattern, and by differently shaped aedeagus and genital ring.

Description

Measurements. Length: 6.3-6.4 mm; width: 2.9-3.05 mm. Ratios: w/l pr: 1.67; w pr/h: 1.21-1.22; l/w el: 1.37-1.41; w el/pr: 1.69-1.71.

Colouration (Fig. 2). Head including mouth parts, and pronotum light reddish, the explanate lateral margins of pronotum gradually changing to yellow. Elytra yellow with an anchor-shaped black spot in middle that is prolonged along lateral margin to humerus and along suture to about posterior fifth of elytra, and is widened at basal fifth to occupy the four inner intervals. An elongate humeral spot and the whole apex yellow, though the apical border is very faintly infusate. Lateral margin narrowly yellow, marginal setae not encircled by yellow spots. Lower surface, antennae, and legs yellow

Head. Of average size and shape, narrower than pronotum. Eyes very large, semicircular. Antennae of moderate size, surpassing basal angles of pronotum by about 2 antennomeres. Surface, except for labrum which is finely microreticulate, without

microreticulation, though with very few wrinkles near eyes and with extremely fine scattered punctures, highly glossy.

Pronotum. Comparatively wide, widest at apical third. Apical angles widely rounded off, lateral margin anteriorly convex, oblique and straight in posterior half, not perceptibly sinuate in front of the basal angles which are about 100° but slightly obtuse at tip. Base in middle moderately produced, lateral excision deep, lateral parts of base transversal, gently convex. Apex margined except in middle, base coarsely margined, lateral margin explanate throughout, marginal channel wide, moderately deep. Surface with a distinct prebasal, transverse sulcus. Median line well impressed. Anterior lateral seta located about at apical third, in front of widest diameter of pronotum. Posterior lateral seta located at basal angle, Surface without microreticulation, with rather sparse, more or less superficial transverse wrinkles and with very fine, scattered punctures, highly glossy.

Elytra. Comparatively short, somewhat oval-shaped, widest behind middle. Humeri rounded, lateral margin obliquely convex, barely incised at basal third, apex gently sinuate, apical angles widely rounded, apical margin slightly incurved towards suture. Striae complete, deep, at bottom barely crenulate. Intervals convex throughout. 3rd interval bipunctate, punctures situated near 3rd stria. Series of marginal punctures not interrupted in middle. Intervals with very superficial, irregularly transverse microreticulation and fine, scattered punctures, very glossy. Inner wings fully developed.

Lower surface. Metepisternum elongate, almost 2× as long as wide. Abdomen punctate and pilose, pilosity slightly denser on terminal sternite. Terminal sternite apparently 4-setose in both sexes, but uncertain in the female.

Legs. Of moderate size. 4th tarsomeres very deeply excised. Tarsal claws with 4 elongate teeth.

Male genitalia (Fig. 1). Genital ring narrow and elongate, somewhat asymmetric, with deep base and short, acute apex. Aedeagus elongate, gently in middle, barely sinuate, lower surface absolutely straight. Apex moderately elongate, depressed, straight, rather narrow though obtuse at the very tip. Orificium moderately elongate. Folding of internal sac complex, without any heavily sclerotized, denticulate sclerites. Parameres of dissimilar shape, left paramere much larger than right one, with triangular, slightly obtuse apex; right paramere short, rhomboidal.

Female genitalia. Stylomeres of typical *Lebia*-like shape: stylomere 2 short, apically rounded, both stylomeres devoid of any setae.



Fig. 2. *Lebia edentata*, spec. nov. Habitus. Body length: 6.3 mm.

Variation. Apart from the slightly shorter and wider elytra in the female, very little variation noted.

Distribution. "Cairns district", north-eastern Queensland. Known only from type locality. The inaccurate locality does not implicitly mean that the specimens were sampled in the immediate vicinity of Cairns, but they could as well have been collected at any place throughout neighbouring rainforest capped Atherton Tableland.

Collecting circumstances. Unknown.

Etymology. The name refers to the unarmed internal sac of the male aedeagus.

Relationships. According to body shape and structure of its aedeagus, this species is more related to *L. fallaciosa* Baehr from New Guinea and *L. weigeli* Baehr from New Britain than to any other species from the Papuan-Australian area; and in view of colour pattern and shape of aedeagus it comes closer to *L. fallaciosa* than to *L. weigeli*.

Recognition

For insertion of the new species in the recent key to the *Lebia* of the Papuan-Australian Region (Baehr 2004: 239) the key has to be altered as following:

9. Pronotum wider, ratio $w/l > 1.67$, surface very glossy, with far less dense wrinkles; aedeagus widest in middle, internal sac without any denticulate sclerites9a.
 - Pronotum narrower, ratio $w/l < 1.61$, surface less glossy, with dense wrinkles; aedeagus widest towards apical third, internal sac at bottom with a conspicuous denticulate band 10.
- 9a Pronotum unicolourous reddish; apex of aedeagus acute (fig. 1; and fig. 4 in Baehr 2004)9b.
 - Disk of pronotum black; apex of aedeagus rather wide, rectangular, spade-shaped (see fig. 1 in Baehr 2005). New Britain.....*weigeli* Baehr
- 9b Apical spot on elytra smaller, apex of elytra never completely yellow (see fig. 26 in Baehr 2004); aedeagus gently curved on lower surface, apex longer (see fig. 4 in Baehr 2004). New Guinea*fallaciosa* Baehr
 - Apical spot on elytra larger, apex of elytra almost completely yellow (Fig. 2); aedeagus straight, apex shorter (Fig. 1). North-eastern Australia...*edentata*, spec. nov.

Somotrichus elevatus (Fabricius)

In a sample of Australian carabids received recently from Department of Agriculture Canada, Ottawa, a single specimen of the characteristic small lebiine *Somotrichus elevatus* was detected. This species probably is indigenous to tropical Africa, but meanwhile it is distributed over large parts of the world and, according to Jedlicka (1963) and Darlington (1968), in the Oriental-Papuan region it was recorded from southern Asia including Java, Sulawesi, certain islands of the Moluccas, and from Palau Islands, though apparently not yet from New Guinea. According to Moore et. al. (1987) it was not yet known from Australia. Hence the single specimen from North Queensland, labeled "Atherton, Qld. 7.ii.1975 H. & A. Howden" apparently is the first record of this widespread species from Australia.

Remarks

As explained in Baehr (2004), most species of the genus *Lebia* from the Australian-Papuan Region are

available in small numbers and some even in single specimens only. Presumably this is depending on the methods of sampling that were employed. Because larvae of the species of the genus *Lebia* are said to be parasites of eggs and perhaps also larvae of leaf beetles (Chrysomelidae), they mainly occur on vegetation, probably preferable on leaves and in the canopy of rain forest trees. This mode of life likewise may apply for the Australian species. The few Australian species which are available in greater numbers therefore have been sampled by fogging or beating from rainforest vegetation which probably is the best method for sampling species of the genus *Lebia* in this region. On these reasons, certainly the complete number of existing species is not yet known and employing of the mentioned sampling methods would be very useful to get a more exact knowledge about numbers of existing species and of their actual distribution.

With the new species described herein, the number of large, vividly patterned *Lebia* species of the *karenia*-group in the Australian-Papuan Region is again raised, but the now recorded five species represent still a quite low number when compared with those occurring in the Oriental Region.

Unfortunately, the exact habits of the new species again are very little known, like in most *Lebia* occurring in the Australian-Papuan Region. Although the locality suggests that this most probably is a rain forest inhabiting species, we only can speculate whether it lives on trunks of trees or rather in the canopy and/or on smaller twigs and leaves.

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