

A new *Lebia* Latreille of the *karenia*-group from New Britain

(Insecta, Coleoptera, Carabidae, Lebiinae)

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 New Britain is described: *L. weigeli*, spec. nov. According to body shape and to structure of its 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*.

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Introduction

Soon after having finished the revision of the Papuan-Australian species of the genus *Lebia* s. l. (Baehr 2004), a single specimen was detected in a determination sample that represents another new species of the *karenia*-group in the sense of that revision. Hence, the present paper is regarded a supplement to the mentioned revision.

The *karenia*-group of the very large genus *Lebia* (s. l.) includes large species that are mainly characterized, apart from their large size, by their conspicuous cruciate or quadrimaculate colour pattern on the elytra. The species of this group are widely distributed in the Oriental Region, but they also occur in the Australian-Papuan region. From the latter area so far three species were recently described, namely *L. darlingtoniana* Baehr from New Guinea and Sulawesi, *L. fallaciosa* Baehr from New Guinea, and *L. brisbanensis* Baehr from southeastern Queensland, Australia. Concerning their external morphology (size, shape, colour pattern, microsculpture of surface) the three species are very similar, but morphol-

ogy of aedeagus is quite different and, at the same time, characteristic for each species: whereas in *L. darlingtoniana* and *L. brisbanensis* the aedeagus bears a remarkably denticulate sclerite, *L. fallaciosa* lacks any more heavily sclerotized parts in the internal sac of its aedeagus.

As explained in Baehr (2004), most *Lebia*'s 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. A few species only are available in greater numbers and these have been sampled by fogging or beating from rainforest vegetation which probably is the best method for sampling species of the genus *Lebia*. So, the new species is being described herein, even when only the holotype is known so far. However, as it 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 a single specimen. In view of the recent revision, I guess that this is a practicable way to cope with this species.

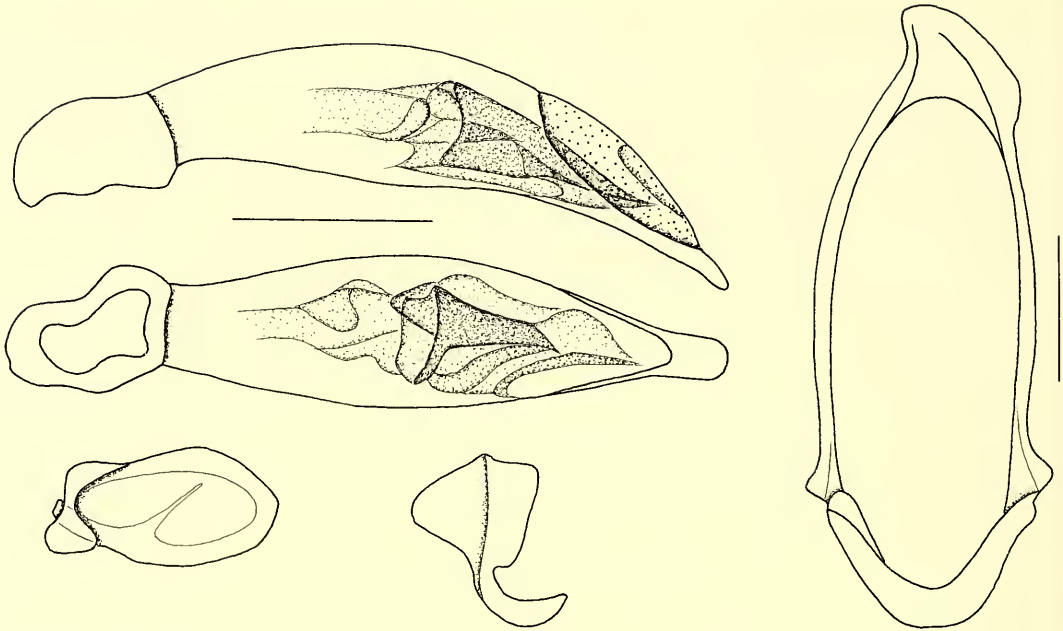


Fig. 1. *Lebia weigeli*, spec. nov. Male genitalia: Aedeagus, lateral view from left side, and ventral view; parameres; genital ring. Scales: 0.5 mm.

Material and Methods

The single examined specimen was kindly submitted by A. Weigel (Pöfßneck) within a determination sample. Measurements, dissection methods, descriptions, and photographs were employed in the same manner as explained in the revision (Baehr 2004). The holotype was kindly presented to the working collection of the author in Zoologische Staatssammlung, München (CBM-ZSM).

Lebia weigeli, spec. nov. Figs 1, 2

Types. Holotype: ♂, PNG: E New Britain Prov. 30 km SW Kokopo, Arabam, 200 m, 04°35'75"S 152°06'84"E, 21.II.-04.III.2000, leg. A. Weigel KL (CBM-ZSM).

Diagnosis. Fairly large species, with cruciate black elytral pattern that leaves an elongate subhumeral spot and the apex yellow. Distinguished from other Australian-Papuan species of the *karenia*-group, except for *L. fallaciosus* Baehr, by absence of any denticulate sclerites in the internal sac of the aedeagus; distinguished from the latter species by widely black disk of pronotum, completely light apex of elytra, and shorter and spatulate apex of aedeagus.

Description

Measurements. Length: 7.8 mm; width: 3.55 mm. Ratios: w/l pr: 1.68; w pr/h: 1.22; l/w el: 1.39; w el/pr: 1.71.

Colour (Fig. 2). Head including mouth parts reddish, the area latero-posteriorly near and behind eyes piceous. Pronotum yellow, disk very widely and well delimited black. Elytra yellow with an anchor-shaped black spot in middle that is prolonged along lateral margin to humerus and along suture to about posterior third of elytra, but leaves an elongate humeral spot and the whole apex yellow. 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 gently convex, but faintly sinuate just in front of the rectangular basal angles. 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. 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 at suture. Striae complete, deep, at bottom barely crenulate. Intervals convex in basal half, though inner intervals almost depressed towards apex. 3rd interval bipunctate, punctures situated near 3rd stria. Series of marginal punctures not interrupted in middle. Intervals with rather superficial, markedly transverse microreticulation and very scattered punctures, glossy. Inner wings fully developed.

Lower surface. Metepisternum elongate, almost 2x as long as wide. Abdomen punctate and pilose, pilosity slightly denser on terminal sternite. Terminal sternite 4-setose in male.

Legs. Of moderate size. 4th tarsomeres very deeply excised. Tarsal claws with 5 elongate teeth.

Male genitalia (Fig. 4). Genital ring narrow and elongate, with deep base and elongate, asymmetric apex. Aedeagus moderately elongate, widened in middle, very slightly sinuate, lower surface gently concave throughout. Apex rather short, depressed, straight, spatulate. 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. Unknown.

Variation. Unknown.

Distribution. Eastern New Britain. Known only from type locality.

Collecting circumstances. Largely unknown. Holotype collected at low altitude, probably by beating low vegetation.

Etymology. The name honours the collector of this and a multitude of other interesting species, the cerambycologist Mr. A. Weigel, Pöfneck.

Relationships. According to the structure of its aedeagus, this species is more closely related to the New Guinean *L. fallaciosa* Baehr than to any other species from the Papuan-Australian area.



Fig. 2. *Lebia weigeli*, spec. nov. Habitus. Body length: 7.8 mm.

Recognition

For insertion of the new species in the recent key to the *Lebia* of the Papuan-Australian Region (Baehr 2004: 205-246) the key has to be altered as following:

- 9. Pronotum wider, ratio $w/l > 1.68$, 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; apical spot on elytra smaller, oblique, apex of elytra never completely yellow (see fig. 26 in Baehr 2004); apex of aedeagus elongate, with rather acute tip (see fig. 4 in Baehr 2004). New Guinea
.....*fallaciosa* Baehr
- Disk of pronotum black; apical spot on elytra larger, less oblique, apex of elytra completely yellow (Fig. 2); apex of aedeagus shorter, with rather wide, rectangular, spade-shaped apex (Fig. 1). New Britain.....*weigeli*, spec. nov.

Remarks

With the new species described herein, the number of large, vividly patterned *Lebia*'s of the *karenia*-group in the Australian-Papuan Region is raised to four which still is a quite low number when compared with the Oriental Region. It was not too surprising that New Britain houses an own species of this group, because separate species apparently being endemic in New Britain are known as well in the genus *Lebia* (see Baehr 2004) as in certain other genera of ground beetles. At the same time this is another example that demonstrates that the ground beetle faunas of New Guinea and New Britain are not too similar, at least at the species level.

Admitted that the genus *Lebia* on the whole most probably is a fairly recent immigrant in the Australian-Papuan Region, the taxonomic diversification within the genus yet is substantial and, as the faunas of the diverse parts of the Papuan Subregion are being better recorded in recent time, it becomes

evident that on all the major parts (vic. New Guinea, New Britain, New Ireland, Solomon Islands etc.) separate though still closely related species occur that make this area taxonomically highly diverse. Hence, it would be interesting to know, whether separate species of the *karenia*-group likewise occur on New Ireland and on those islands lying east to it. The many highly interesting recent discoveries in New Guinea and on the islands of Bismarck Archipelago promise a multitude of additional important species, provided that careful sampling can be further employed and the habitat destruction in this area, in particular of rain forest, can be decelerated or even stopped.

References

- Baehr, M. 2004. The genus *Lebia* Latreille in the Australian-Papuan Region (Insecta, Coleoptera, Carabidae, Lebiinae). – *Spixiana* 27(3): 205-246

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