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## A new species of the genus *Aristolebia* Bates from North Vietnam

(Coleoptera, Carabidae, Lebiini)

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The lebiine species *Aristolebia rutilipennis*, spec. nov. from North Vietnam is described. The hitherto unknown male genitalia of the recently described *A. rubiginosa* Kirschenhofer are also described and figured. Both species are introduced in the most recent key to the genus.

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### Introduction

Through courtesy of Andreas Weigel (Pößneck) and Petr Bulirsch (Prague) I received a few specimens of another new species of the lebiine genus *Aristolebia* Bates, 1892 from North Vietnam that is described in the present paper. In Staatliches Museum für Naturkunde, Stuttgart, I detected a series of the recently described *A. rubiginosa* Kirschenhofer, 2012, a species that was described from a single female. Since the male genitalia in the genus *Aristolebia* are complexly shaped and very characteristic for each species, these are for the first time described and figured for that species.

The recorded range of the genus *Aristolebia* extends from India to China, the Philippines, Sumatra, certain Lesser Sunda Islands, Sulawesi, New Guinea, and northern Australia (Csiki 1932, Jedlička 1963, Darlington 1968, Moore et al. 1987, Lorenz 1998, 2005, Baehr 2004, 2010, 2011, Kirschenhofer 2012). Presently 13 species were described. Most species so far are available in small numbers only and some are even known only from the holotype which most probably is caused by the almost unrecorded habits of the species and, as a consequence, by the apparently inadequate sampling methods employed. Of the new species likewise only three specimens are available.

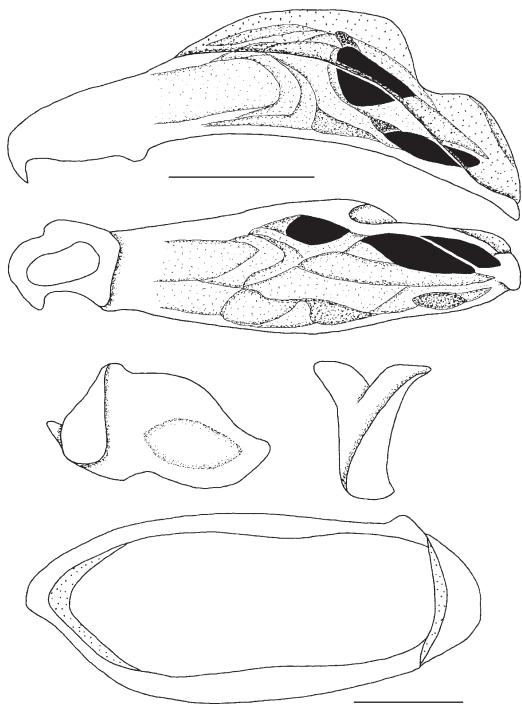
The few records and the apparent difficulties in sampling of specimens suggest that the distribution of the species, as well as the number of existing species, is yet inadequately known, and that additional species may be detected in future within, but probably also outside of, the hitherto recorded range of the genus.

### Methods

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

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 along midline, length of elytra from the most produced part of the humerus to the most produced part of the apex.

The holotype of the new species is stored in the working collection of the author in the Zoologische Staatssammlung, München (CBM), the paratypes in the collection J. Bašta, Brno (CBB). The new material of *A. rubiginosa* Kirschenhofer is shared between Staatliches Museum für Naturkunde, Stuttgart (SMNS) and CBM.



**Fig. 1.** *Aristolebia rubiginosa* Kirschenhofer. Male genitalia: aedeagus, left side, lower surface, left and right parameres, genital ring. Scale bars: 1 mm.

## Taxonomy

### Genus *Aristolebia* Bates

*Aristolebia* Bates, 1892: 428. – For additional citations see Baehr (2011).

**Type species:** *Aristolebia quadridentata* Bates, 1892, by monotypy.

**Diagnosis.** Main diagnostic characters of the genus *Aristolebia* are: rather wide, depressed body, large, laterad remarkably protruded eye, semicircular pronotum without definite apical angles, acute or short-spined external angle of the elytra, concave excision of the apex of the elytra, presence of two preapical excisions at the inner surface of the mesotibia in males, apparently also the odd-shaped, very strongly sclerotized aedeagus and the usually similarly odd-shaped and comparatively very large genital ring of the males, and wide, more or less triangular, aetose gonocoxite 2 of the female.

In many other characters, *Aristolebia* is rather similar to the large genus *Lebia* Latreille (sensu lato) with which *Aristolebia* certainly is closely related.

### *Aristolebia rubiginosa* Kirschenhofer, 2012

Fig. 1

Kirschenhofer, 2012: 46.

**Note.** This species was described from a single female. Because the material now available includes males, the male genitalia of this species are herein described and figured.

**Material.** 5 ♂♂, 5 ♀♀, NE INDIA, Meghalaya, 2002, 3 km E TURA, 1150 m, 25°30' N, 90°14' E, 6.–12.v. P. Benda lgt. (CBM, SMNS).

**Diagnosis.** Large species (in genus), characterized by the uniformly reddish elytra without any dark pattern. Distinguished from the most similar species *A. rutilipennis*, spec. nov. from North Vietnam by largely black pronotum and black tibiae and meso- and metafemora, and from *A. apicalis* Baehr, 2010 from Sumatra by larger size, longer elytra, largely black pronotum, and uniformly reddish apex of the elytra.

### Supplementary description

Measurements and ratios. Body length: 12.8–14.4 mm; width: 5.4–6.2 mm. Width/length of pronotum: 1.52–1.56; width of pronotum/width of head: 1.27–1.33; length/width of elytra: 1.52–1.55; width of elytra/width of pronotum 1.64–1.68.

Male genitalia (Fig. 1). Both, aedeagus including parameres, and genital ring heavily sclerotized. Genital ring large, about as long as the aedeagus, narrow, gently convex, slightly asymmetric, with obtusely rounded, asymmetric apex. Aedeagus moderately elongate, straight. Lower surface gently concave, without pilosity. Orificium elongate, gently turned to the left side. Apex short and moderately wide, slightly spatulate. Internal sac with two very heavily sclerotized, slightly twisted plates and few smaller, less sclerotized folds. Parameres very dissimilar, aetose, left one elongate, right one odd-shaped.

**Distribution.** This species is so far recorded from north-eastern India.

### *Aristolebia rutilipennis*, spec. nov.

Figs 2, 3

**Type material.** Holotype: ♀, N-VIETNAM Vinh Phuc Pr. vic. Tam Dao Town, Tam Dao NP, 02–5.V.2013, 21°27' N, 105°38' E, 700–1000 m, leg. A. Weigel (CBM). – Paratypes: 1 ♀, Vietnam N, Tam Dao, Tam Dao Nat. Park, 21.03.2010, 1000 m M. Pejcha lgt. (CBB); 1 ♀, Vietnam N Tam Dao, Tam Dao Nat. Park, 28.5.2011, 1000 m M. Pejcha lgt. (CBB); 1 ♀, VIETNAM, N. Ninh Binh Pr., 90 km SW Hanoi Cuc Phuong NP, primat rescue centre, 25.IV. / 2012, 190 m, 20°14'24" N 105°42'53" E, leg. A. Weigel. light trap (NME).

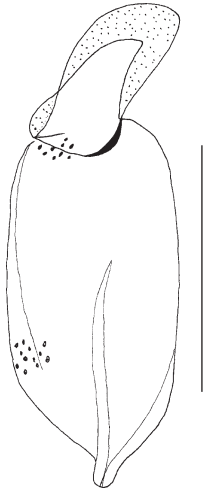


Fig. 2. *Aristolebia rutilipennis*, spec. nov. Female gonocoxites 1 and 2. Scale bar: 0.5 mm.

**Etymology.** The name refers to the uniformly pale reddish colour of the elytra.

**Diagnosis.** Large species (in genus), characterized by the uniformly reddish elytra without any dark pattern. Distinguished from the most similar species *A. rubiginosa* Kirschenhofer from north-eastern India by largely reddish pronotum and yellow tibiae and femora, and from *A. apicalis* Baehr, 2010 from Sumatra by larger size, longer elytra, at apex slightly infuscate pronotum, and uniformly reddish apex of the elytra.

### Description

**Measurements and ratios.** Body length: 13.0–13.9 mm; width: 5.5–5.8 mm. Width/length of pronotum: 1.45–1.49; width of pronotum/width of head: 1.26–1.29; length/width of elytra: 1.52–1.58; width of elytra/width of pronotum 1.70–1.73.

**Colour (Fig. 3).** Head including clypeus and labrum black. Mandibles reddish piceous, palpi black with reddish apices, and antenna pale red. Pronotum pale red with wide, pale yellow lateral margin, middle of apex with a black spot which is narrowly separated along median line. Elytra uniformly pale red. Legs yellow to pale red but knees narrowly black. Lower surface except the black head dark yellow to pale red.

**Head (Fig. 3).** Of moderate size. Eyes very large, semicircular, laterad remarkably protruded, orbits barely perceptible. Neck with fairly shallow transverse impression. Labrum anteriorly straight, 6-setose, surface widely depressed. Mentum with shallow, apically slightly rounded convexity. Glossa



Fig. 3. *Aristolebia rutilipennis*, spec. nov. Habitus. Body length 13.5 mm.

elongate, polysetose at apex, paraglossae wide, foliaceous, as long as glossa and fused to it, densely setose at margin. Galea with wide, rather depressed last segment that is extremely densely pilose. Lacinia large, with very elongate terminal hook and rather dense row of teeth at inner margin. Palpi of normal size, very sparsely pilose. Mentum asetose, but submentum with a very elongate seta at either side. Mandibles short and wide, markedly curved inwards. Antennae very slender and elongate, three basal antennomeres glabrous, median antennomeres c. 5× as long as wide. Labrum punctate and with distinct, isodiametric microreticulation, clypeus with irregularly spaced punctures, frons with some oblique impressions and irregular longitudinal wrinkles, and with coarse punctures which on neck become more regular. Microreticulation on frons and neck absent, surface glossy.

**Pronotum (Fig. 3).** Rather narrow. Anterior half about semicircular, widest slightly in front of middle, moderately narrowed towards base, therefore base much wider than apex. Apex straight, apical angles very widely rounded, lateral margin an apical half convex, in basal half almost straight, basal angle slightly more than rectangular, slightly obtuse at tip, base in middle produced, laterally slightly convex. Apex narrowly margined, base in middle margined. Anterior transverse sulcus moderately

deep, situated close to apex. Median line moderately shallow, in middle with a wide, shallow groove. Posterior transverse sulcus deeply impressed. Lateral margin anteriorly moderately wide, widened and widely explanate towards base, marginal sulcus deep, margin rather upturned. Disk gently convex. Anterior lateral seta situated slightly behind anterior third, slightly removed from margin, posterior seta situated at basal angle. Surface of disk with fine, irregular sulci, with few, scattered punctures, without microreticulation, very glossy.

Elytra (Fig. 3). Rather elongate, slightly widened apicad, widest about at apical third, upper surface convex but on disk slightly depressed. Humeri evenly rounded, lateral margin slightly convex throughout. External apical and sutural angles both denticulate. Apex oblique and gently concave. Striae complete, well impressed, finely crenulate. Intervals considerably raised. 3<sup>rd</sup> interval with five setiferous punctures, all situated at inner margin of 3<sup>rd</sup> stria. 14–15 marginal setiferous punctures present, series slightly interrupted in middle. Intervals with sparse, fine punctures and with superficial, slightly transverse microreticulation which is arranged in irregularly transverse rows, surface rather glossy. Posterior wings fully developed.

Lower surface. Prosternal process with a seta at middle. Lower surface with sparse but elongate, slightly declined pilosity. Metepisternum elongate, >2 × as long as wide at anterior margin. Terminal sternum in female with c. 8 elongate setae.

Legs. Of average size. 4<sup>th</sup> tarsomeres of all legs widened, deeply (> half of tarsomere) excised, with dense tarsal brush. 5<sup>th</sup> tarsomere with two rows of several setae on lower margin. Tarsal claws very densely dentate with c. 10 small teeth of about equal length. Squamosity of male protarsus unknown. Male genitalia. Unknown.

Female gonocoxites (Fig. 2). Gonocoxite 1 large, elongate, with two groups of punctures at median apical and median prebasal surfaces, without setae at the apical rim. Gonocoxite 2 only partly sclerotized, the sclerotized part small, triangular, without any setae, the hyaline part large, apicad far surpassing the sclerotized part.

Variation. Minor variation noted in relative length of elytra.

**Distribution.** North Vietnam: Recorded only from the type locality.

**Collecting circumstances.** Not recorded.

## Recognition

Both, *Aristolebia rubiginosa* and *A. rutilipennis* are easily identified when following the key in Baehr (2011) to caption 2 which must be altered as following:

1. Colouration of elytra almost uniformly yellow, light brown, or piceous ..... 2.
  - Distinct colour pattern present on the elytra ..... 3.
2. Body size smaller, length < 8 mm. New Guinea, Australia: eastern Queensland ..... *wau* Darlington, 1968
  - Body size larger, length > 12 mm. North-eastern India, North Vietnam, China ..... 2a.
  - 2a. Colour almost uniformly piceous. China ..... *prattiana* (Bates, 1889)
    - Colour of elytra yellow, head black. North-eastern India, North Vietnam ..... 2b.
  - 2b. Pronotum largely black; all tibiae and meso- and metafemora black. North-eastern India ..... *rubiginosa* Kirschenhofer, 2012
    - Pronotum almost completely pale reddish, except for middle of apex; all femora and tibiae yellow, only knees black (Fig. 3). North Vietnam ..... *rutilipennis*, spec. nov.
3. As in key.

## Remarks

In body shape and colouration the new species is rather similar as well to *A. rubiginosa* Kirschenhofer, 2012 from north-eastern India as to *A. apicalis* Baehr, 2010 from Sumatra, and probably the three species form a distinct group within the genus.

The discovery of additional new species demonstrates that neither distribution nor number of species of the genus *Aristolebia* are adequately known. The reason for that deficiency most probably is the unsatisfactory knowledge about the habits of any species, so that specimens of *Aristolebia* are only casually collected and have not been, or presently cannot be, systematically sampled.

Although almost nothing has been reported, or can be learned from labels of recently collected specimens, about ecology or ethology of any *Aristolebia* species, it seems that they are arboreal (Darlington 1968) and may live primarily in rain forest. The wide tarsi and the strongly denticulate tarsal claws would support this assumption. It is unknown, however, whether they live preferably on logs or trunks, or rather on leaves or in the canopy. Darlington suggests that at least the New Guinean species are

diurnal, but he also states that some specimens have been sampled in light traps, which means that they are also roaming about at night. Nothing is known about feeding habits and food, but the very large, protruded eyes suggest that they may chase their prey by eyesight. This would support their diurnal habits.

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