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Ribesaptera elongata n. gen., n. sp., a curious apterous Mezirinae from Madagascar (Hemiptera: Heteroptera: Aradidae)

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Abstract

A new genus of apterous Mezirinae from Madagascar, *Ribesaptera* n. gen., with the species *elongata* n. sp. is described and figured. Because of its habitus and body structures it differs from all seven known apterous genera known from Madagascar.

Key words: Hemiptera, Heteroptera, Aradidae, Mezirinae, new genus, new species, apterous, Madagascar.

Resumen

Ribesaptera elongata n. gen., n. sp., un curioso Mezirinae áptero de Madagascar (Hemiptera: Heteroptera: Aradidae)

Se describe e ilustra un nuevo género de Mezirinae áptero de Madagascar, *Ribesaptera* n. gen., conteniendo la especie *elongata* n. sp. Por su habitus y sus estructuras corporales, difiere de los restantes siete géneros ápteros conocidos de Madagascar.

Palabras clave: Hemiptera, Heteroptera, Aradidae, Mezirinae, nuevo género, nueva especie, áptero, Madagascar.

Laburpena

Ribesaptera elongata n. gen., n. sp., Madagaskarreko Mezirinae aptero bitxi bat (Hemiptera: Heteroptera: Aradidae)

Mezirinae apteroen Madagaskarreko genero berri bat, *Ribesaptera* n. gen., deskribatu eta irudiztatzen da, *elongata* n. sp. barne hartuta. Bere habitusa eta gorputz-egiturak direla eta, Madagaskarretik ezagun diren zazpi genero apteroetatik bereizten da.

Gako-hitzak: Hemiptera, Heteroptera, Aradidae, Mezirinae, genero berria, espezie berria, apteroa, Madagaskar.

Introduction

The fauna of the flat bug family Aradidae of Madagascar is rich and very diverse. About 70% of the 27 genera recorded to date and most of the about 75 species described are endemic. A great number of them is apterous and have therefore a very limited range of distribution.

Hoberlandt (1957) presented the first comprehensive study of Madagascan Aradidae which was then up-

dated by the same author in 1963 where he recorded 54 species of 18 genera. In 1974 Kormilev described 5 new species, which then were also included in the synonymic list of flat bugs of the world by Kormilev and Froeschner (1987).

Only in recent years the knowledge of this interesting island fauna increased again and new material was available for study. Several new taxa were described by Heiss (1997, 1998, 1999, 2006a, 2006b, 2008, 2009, 2010).

However, the increasing request for agricultural land by the rapidly growing population results in a continuous deforestation of the already very reduced primary rain forests, the habitat of most Aradidae.

Therefore any new material is of great interest contributing to complete the picture of the still existing native aradid fauna, as one can expect that a considerable number of endemic taxa will be destroyed before it can be discovered and described.

In the present paper a peculiar new genus and species of apterous Mezirinae is described and figured.

Material and methods

The two type specimens upon which this description is based are held in the collection of the author associated with the Tiroler Landesmuseum Innsbruck. They have been collected by himself ten years ago, already then recognized as new but kept aside hoping to receive more specimens from other collectors. As this was not the case the taxon is now described.

Apterous Carventinae are usually covered by a waxy incrustation obscuring body structures. However, some apterous Mezirinae are also known to share this camouflage. For examining the sculptured body structure of the new taxon the male holotype was carefully cleaned (Figs. 1a-b,d) while the female is figured with the original incrustation (Fig. 1c).

The digital photos were taken through an Olympus SZX 10 binocular microscope with Olympus E 3 digital camera and processed with Helicon Focus 4.3 software and using Adobe Photoshop and Lightroom 2.3.

Measurements were taken with a micrometer eyepiece; 20 units = 1 mm unless otherwise stated.

Taxonomy

Ribesaptera n. gen.

Type species: *Ribesaptera elongata* n. sp.

Diagnosis:

Medium sized apterous species; body elongate and subparallel in male, more ovate in female; its surface

of charcoal colouration and glabrous with deep cavities and elevated rugosities on dorsum and venter which are unknown from all other Madagascan Mezirinae, thus not closely related to any of them; metathoracic scent gland canal with evaporation area developed; all spiracles lateral and visible from above.

Description:

Head: Longer than wide, genae as long as clypeus, this reaching about $\frac{1}{4}$ of antennal segment I; antenniferous lobes short and blunt, as long as clypeus; antennae about 2.5× as long as width of head, segment I thickest, II shortest, III longest, IV fusiform; eyes subglobular, protruding laterally; postocular lobes straightly converging toward constricted collar; rostrum arising from a slit like atrium, about as long as head.

Pronotum: About twice as wide as long; disk anteriorly smooth and deeply depressed medially, posterior portion with irregular rugosities, lateral margins elevated and rugose, separated from mesonotum by a deep transverse furrow.

Mesonotum: About 3× as wide as long; median longitudinal elevation with a deep furrow flanked by lateral carinae; lateral sclerites smooth, followed by raised rugose lateral margins; a distinct furrow, which is largest and deepest at middle, separates mesonotum from metanotum.

Metanotum: Fused to mediotergites (mtg) I+II, its surface smooth; 2 (1+1) conical projections on anterior margin of metanotum are directed toward the posterior margin of the median mesonotal carinae, deeply depressed between them; mtg I+II with a deep round depression lateral of the median keel.

Abdomen: Tergal plate elongate and glabrous, consisting of fused mtg III-VI, longitudinally raised along midline; apodemal impressions deep; dorsal external laterotergites (deltg) II-VII elevated and rugose on inner margins, smooth along lateral margins; deltg II+III fused, triangularly projecting anteriorly, reaching $\frac{1}{2}$ of mesonotum; deltg IV-VII distinctly separated by sutures; tergite VII raised posteriorly; spiracles II-VIII lateral and visible from above; Venter: Glabrous, pro-, meso- and metasternum fused to each other and to sternites I+II, with cavities and lateral irregular rugosities; metathoracic scent gland canal thin and slightly curved, with a long conical evaporation area; sternites III-VI separated by deep transverse furrows, medially depressed, ventral laterotergites irregularly rugose; sternite VII keeled medially, deeply depressed and rugose laterally; spiracles II-VII placed on protruding

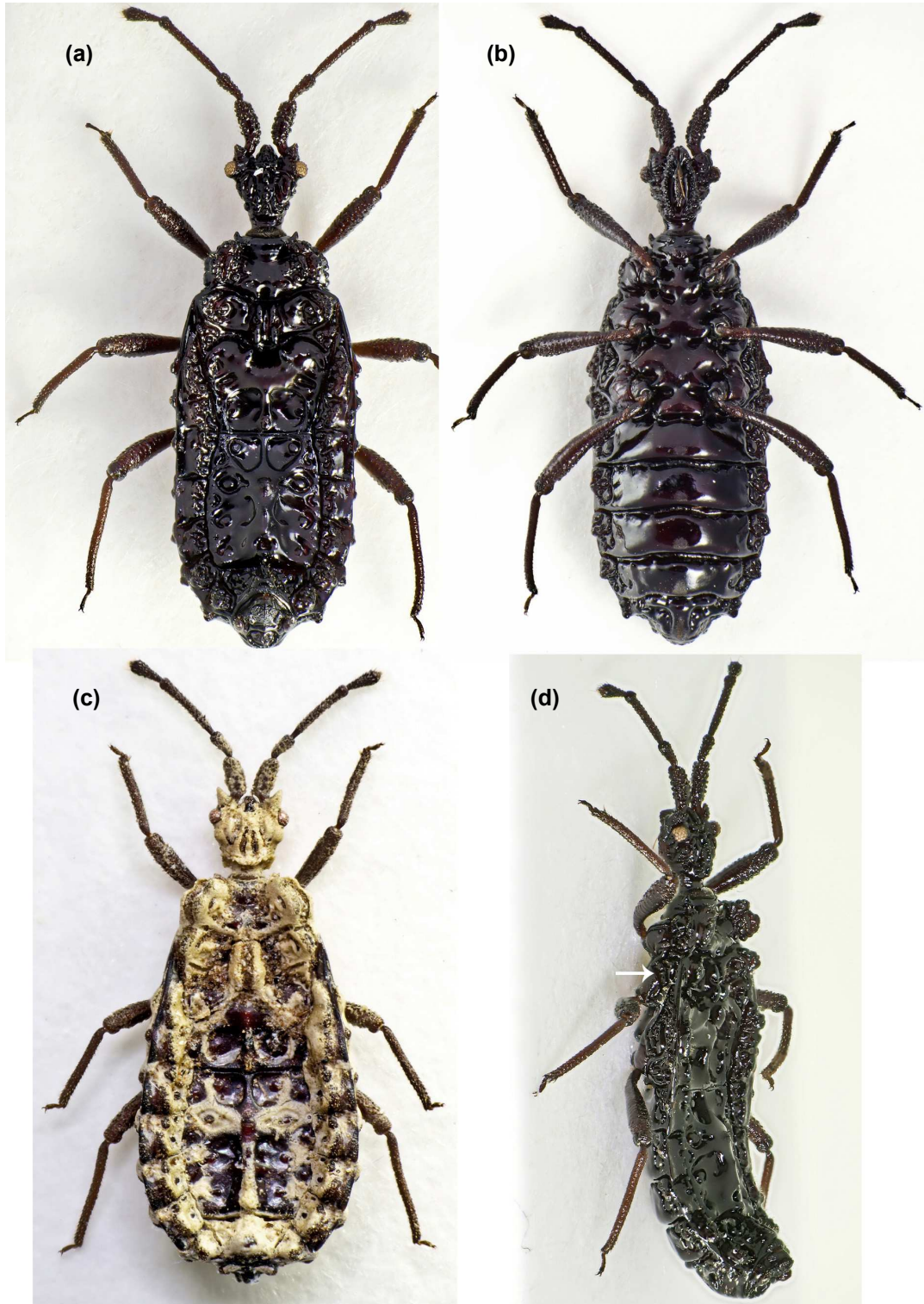


FIGURE 1. *Ribesaptera elongata* n. gen., n. sp.: (a) Holotype ♂, dorsal view; (b) Ditto, ventral view; (c) Paratype ♀, dorsal view; (d) Holotype ♂, lateral view; the arrow indicates the position of the evaporation area.

tubercles, VIII terminal on paratergites VIII, all visible from above.

Legs: Long and slender; claws with thin pulvilli.

Etymology:

Dedicated to my estimated friend and eminent heteropterologist Jordi Ribes in occasion of his 80th birthday, recalling 35 years of friendship and recognizing his important contributions to our science.

Discussion:

Seven genera of apterous Mezirinae are recorded to date from Madagascar: *Tananarivea* Drake, 1957, *Paulianum* Hoberlandt, 1957, *Cimicomanes* Kiritshenko, 1959, *Chlonocoris* Usinger & Matsuda, 1959, *Robertiessa* Hoberlandt, 1963, *Classeyana* Hoberlandt, 1963 and *Pericartaptera* Heiss, 2009. Of all these genera, only *Pericartaptera*, with the species *bonabana* Heiss, 2009 and *incrustedata* Heiss, 2009, resembles superficially the new taxon, sharing similar structures of head, pronotum and deltg II-VII; however, *Ribesaptera* n. gen. differs by the different structure of meso- and metanotum and abdomen, the metathoracic scent gland canal and evaporation area, lacks the conspicuous posterior projections of male tergite VII and is of larger size.

Ribesaptera elongata n. sp.

(Figs. 1a-d)

Material examined:

HOLOTYPE ♂ labelled: Madagascar, Maromizah rainforest S Périnet, 8 X 2000 lg. Heiss & Perner. PARATYPE ♀ collected with holotype. Both specimens are designated and labelled accordingly.

Description:

MALE, apterous, surface of charcoal colouration, smooth and glabrous with rugose elevations and deep cavities.

Head: Slightly longer than width across eyes (17/15); genae thin, as long as clypeus, this reaching $\frac{1}{4}$ of antennal segment I; antenniferous lobes short and blunt, as long as clypeus; antennae 2.6× as long as width of head (39/15); segment I club-shaped beset with setigerous granulation on anterior $\frac{3}{4}$; II-IV are more slender, II shortest, widening apically, III longest and cylindrical, enlarged at apex, IV fusiform with pilose apex; length of antennal segments

I/II/III/IV = 13.5/6/15/7.5; eyes slightly protuberant; postocular lobes with few larger setigerous granules strongly converging posteriorly; vertex irregularly rugose.

Pronotum: 2.09× as wide as long (23/11); collar smooth and ring-like with 2 (1+1) conical tubercles laterally, posteriorly deeply depressed before raised posterior half of pronotum; lateral margins elevated and rounded anteriorly, surface rugose, posterior margin sinuate, separated from mesonotum by a deep furrow.

Mesonotum: About 2.8× as wide as long (25/9); median elevation with a median furrow flanked by carinae; lateral sclerites ovate and smooth, their lateral margins elevated and rugose; posterior margin sinuate separated from metanotum by a deep transverse furrow.

Metanotum: Fused to mtg I+II consisting of 2 (1+1) anterior round elevations with conical processes directed forward, deeply depressed between them but roundedly raised posteriorly; mtg I+II marked by deep depressions laterad of median keel; lateral margins converging posteriorly, posterior margin straight.

Abdomen: Glabrous; median elevated ridge of tergal plate is highest along mtg IV and V sloping to anterior margin, with a deep oval depression on mtg VI; lateral pattern of apodemal impressions deep; deltg I-III fused, triangular, anteriorly reaching mesonotum; deltg IV-VII separated by a suture; surface of deltg II-VI with a rugose elevation along inner margin, smooth laterally; tergite VII separated from tergal disk by a deep transverse furrow, medially raised for the reception of the large pygophore; spiracles II-VII lateral, placed on protruding tubercles; spiracles VIII terminal on slender paratergites VIII, all visible from above.

Venter: Glabrous; pro-, meso- and metasternum and sternites I+II fused, with deep depressions; metathoracic scent gland canal and elongate conical evaporation area distinct, directed anterolaterally; lateral portions of thorax deeply rugose; sternites II-VII smooth with a median depression, rugose laterally.

Legs: Long and slender; femora slightly incrassate medially; tibiae cylindrical, curved apically.

Genitalic structures: The single male has not been dissected for the examination of parameres; pygophore subglobular, its surface with dorsal granulation and depressed rugosities laterad and posteriorly.

FEMALE: Generally as male but of larger size, abdomen wider and more ovate; median ridge of tergal plate is lower and also developed on mtg III; tergite

VII raised posteriorly and elevated medially; paratergites VIII rounded, half as long as projecting truncate tergites IX+X; the waxy incrustation not removed in the female partly obscures body structures, however the evaporation area is distinct and visible laterally as it is separated from the adjacent incrustation by a suture and also shows a different surface.

MEASUREMENTS: Holotype ♂: Length 4.65 mm; width of abdomen across tergite IV and V 33; Paratype ♀: Length 5.2 mm; head length/width 18/17; pronotum l./w. 12/28; mesonotum l./w. 10/30; antennal segments I/II/III/IV = 12.5/6/15.5/8; ratio of length of antennae/width of head 2.47 (42/17); width of abdomen across tergite V 47.

Etymology:

Refers to the elongate habitus of the species.

Distribution and ecology:

So far recorded from Maromizah rainforest, south of Périnet in the eastern mountain range. This area seems to be rather untouched and the specimens were obtained by sifting leaf litter of primary forest. Due to its apterous condition it may be assumed that this taxon is also endemic to Madagascar.

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