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***Aradus dembickyi* sp.n. from Northern India (Insecta: Heteroptera: Aradidae)**

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Abstract

A new species of the flat bug genus *Aradus*, *A. dembickyi* sp.n. from Northern India is described and figured. For this new taxon and the closely related *A. bilobatus* HEISS & SHONO, 2005, both distinct from all other species of the Eastpalaeartic *A. orientalis-compar* group, a new subgenus *Lobataradus* subgen.n. is proposed.

Key words: Heteroptera, Aradidae, new subgenus, new species, India, Oriental Region.

Zusammenfassung

Eine neue Art der Rindenwanzengattung *Aradus*, *A. dembickyi* sp.n. aus Nordindien wird beschrieben und abgebildet. Für diese und die nahe stehende Art *A. bilobatus* HEISS & SHONO, 2005, welche sich beide durch einige Merkmale von allen anderen Arten der ostpaläarktischen *A. orientalis-compar* Gruppe unterscheiden, wird die neue Untergattung *Lobataradus* subgen.n. vorgeschlagen.

Introduction

The Aradidae fauna of the vast Indian subcontinent is still insufficiently known. Only three species of the genus *Aradus* were described and recorded to date from India: *A. antemissus* DISTANT, 1909, *A. dignatus* DISTANT, 1909, and *A. pavlovskii* KIRITSHENKO, 1955. All of them belonging to the *A. lugubris-flavicornis* group. Now a new taxon belonging to the Eastpalaeartic *A. orientalis-compar* group is described.

Material and methods

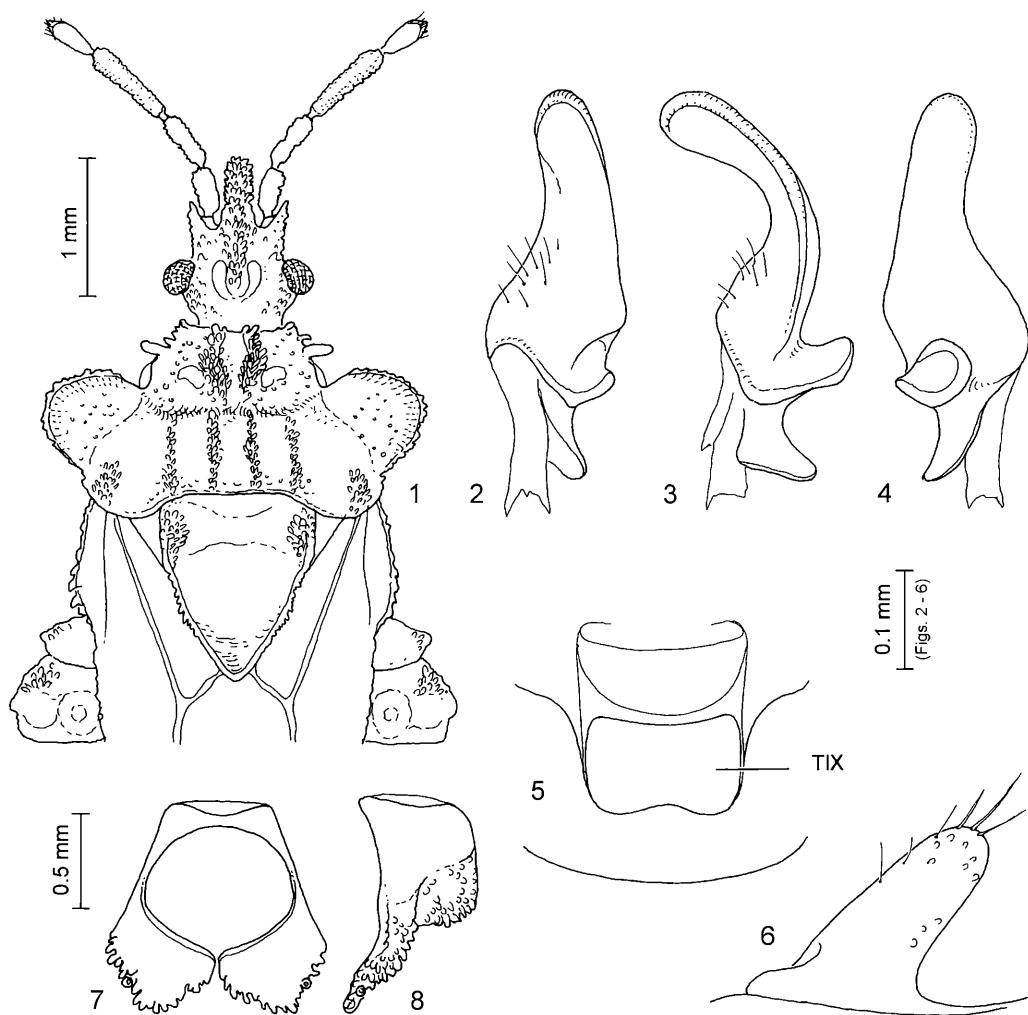
The type series of the new taxon was collected by L. Dembicky in Northern India, West – Arunachal Province and is deposited in the collections indicated below.

Measurements were taken with a micrometer eyepiece, 20 units = 1 mm.

Depositories of types:

CEHI	Collection Ernst Heiss, Innsbruck, Austria
NHWW	Natural History Museum, Vienna, Austria
OLML	Oberösterreichisches Landesmuseum, Linz, Austria

Prof. DI Dr. Ernst Heiss, Research Entomologist, Tiroler Landesmuseum, Josef-Schraffl-Straße 2a, A-6020 Innsbruck, Austria – aradus@aon.at



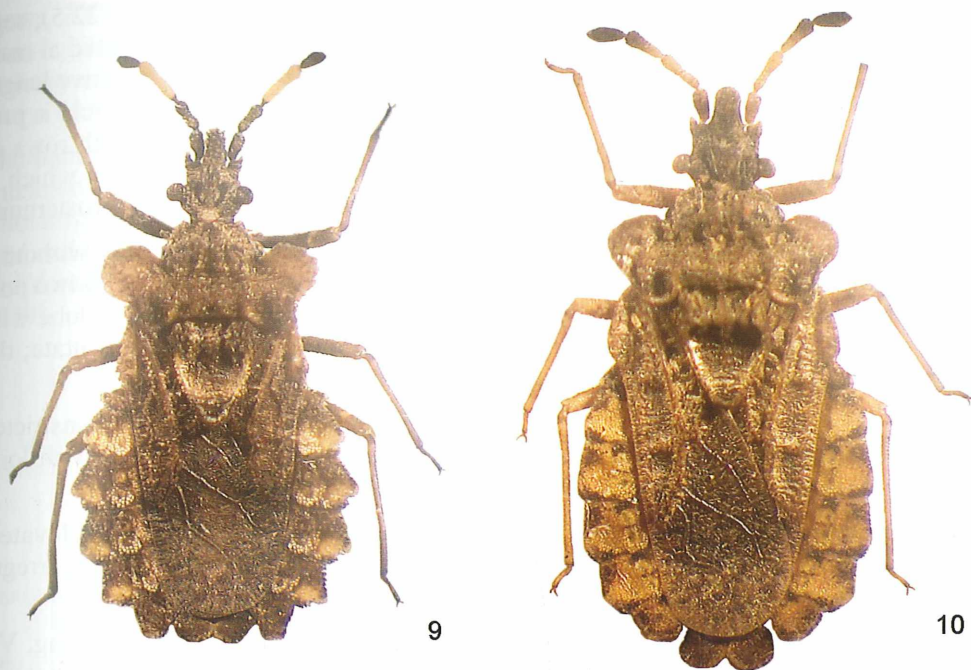
Figs. 1 - 8: *Aradus dembickyi* sp.n.: (1) head and thorax dorsal view; (2 - 4) left paramere in different positions; (5) tergite IX; (6) left parandrium; (7) male tergite VIII, dorsal view; (8) male tergite VIII, lateral view. TIX = tergite IX.

Taxonomy

Aradus dembickyi sp.n. (Figs. 1 - 10)

Type series: **Holotype** male, labelled: NE-India, W-Arunachal Province, between Dirang & Bomdila Pass, 27°19'N, 92°22'E, at 1900 m, 12-16 VI 2004, L. Dembicky leg. (CEHI). **Paratypes**: 5 males, 7 females collected with holotype (CEHI, NHMW, OLML).

Diagnosis: The new taxon is distinguished from all species of the Eastpalearctic *Aradus orientalis-compar* group (HEISS 2001, 2003) by the rounded laterally expanded



Figs. 9 - 10: *Aradus dembickyi* sp.n.: (9) holotype male; (10) *Aradus bilobatus*, paratype male.

paranota present only on posterior lobe of pronotum, the structure of the antennae and the shape of the parameres. The closest related species is *A. bilobatus* HEISS & SHONO, 2005 from Japan, sharing the rounded paranota and slender parameres, differing however e.g. by antennal segment II longer than III (vice versa in *A. dembickyi* sp.n.) and the shape of the parandria.

Description: Holotype male. Macropterous, mat; body, legs and antennae covered with flat scale like tubercles between the rows or areas of larger and more prominent tubercles on clypeus, median ridges on anterior lobe of pronotum, paranota, longitudinal carinae along posterior lobe of pronotum, lateral margins of scutellum, veins of corium, anterolateral margins of dorsal laterotergites (dltg) II - VII and the ring like structures around the two apodemes (glabrous spots) on inner margin of dltg III - VI.

General colour brown, darker are the head, antennal segments I, II and IV, base and apex of scutellum, dltg II, anterior half of dltg III - VI and paratergite (ptg) VIII and the membrane.

Antennal segment III is yellowish white except the constricted base, also the tubercles around the posterior apodeme of dltg III - VI; a transverse yellowish spot is present posterolaterally of dltg III - VI and across posterior half of scutellum; femora with a preapical, fading yellowish ring.

Head. Longer than wide across eyes (diatone) (24 / 22.5); clypeus slightly longer than antennal segment I. Antenniferous lobes diverging anteriorly, acute, apical tubercle

whitish, without lateral tooth. Antennae $1.71 \times$ as long as the diatone (38.5 / 22.5), segment I shortest, cylindrical and constricted at base, II barrel-shaped, constricted at middle, III cylindrical widening towards apex, IV fusiform with pilose apex; relative length of antennal segments I:II:III:IV = 15:18:28:16. A single large preocular tubercle is present; eyes prominent subpedunculate; postocular lobes rounded; vertex with rows of larger prominent tubercles, laterally delimited by an oval smooth depression which is connected posteriorly. Rostrum arising from an open atrium reaching $2/3$ of prosternum.

Pronotum. $2.33 \times$ as wide as long (56 / 24); anterior lobe rounded laterally without a paranotal expansion but with a smaller and a larger lateral tooth, medially with two posteriorly converging crest-like elevations formed by long tubercles; posterior lobe with laterally expanded and rounded paranota, their lateral margin irregularly dentate; the four median and two subhumeral carinae formed by larger tubercles.

Scutellum. Distinctly longer than wide (27 / 20) with subparallel basal half, constricted to narrow posteriorly raised apex; lateral margins carinate, thickened and with long tubercles along elevated base; disk depressed on posterior $2/3$.

Corium. Basolaterally reflexed, lateral margin dentate, veins granulate and elevated, partly of lighter colour than the surface between them; membrane dark brown, irregularly wrinkled between veins.

Abdomen. Lateral margins of dltg II subacute, of III - VI triangularly projecting, VII truncate. Spiracles II - VI ventral, remote from lateral margin, VII sublateral but not visible from above, VIII terminal. Legs long and slender, a small preapical comb is present on fore tibiae.

Male genitalia. Segment VIII cup-like, paratergites VIII subtriangular and raised posteriorly, beset with long tubercles (Figs. 7, 8), inner margin without setae; parameres slender with rounded twisted apex (Figs. 2 - 4); tergite IX small, forming a fused subrectangular sclerite (Fig. 5).

Female. Basically as the male but generally of larger size and wider abdomen; antennae slightly longer ($1.75 - 1.8 \times$ diatone); paratergites VIII dark brown, subrectangular, with a wide median cleft, elevated posteriorly.

Measurements. Holotype male: Length 6.5 mm; width of abdomen across tergite IV 3.65 mm. Paratypes: males 6.4 - 6.6 mm, females 7.4 - 7.7 mm.

Etymology. This interesting species is dedicated to Lubos Dembicky (Brno), who collected this and other Aradidae and donated them generously to my collection.

Discussion

The rounded lateral margins without lateral paranotal expansions of the anterior lobe of pronotum, the wide rounded paranota extending only on posterior lobe in combination with the slender parameres and the single plated tergite IX are unique characters among the Eastpalearctic *Aradus orientalis-compar* species group. This distinct group includes the species *A. orientalis* BERGROTH, 1885; *A. compar* KIRITSHENKO, 1913, *A. bergrothianus* KIRITSHENKO, 1913, *A. holzschuhi* HEISS, 2003, *A. honshuensis* HEISS & SHONO, 2005, *A. discompar* HSIAO, 1964, *A. sinensis* KORMILEV, 1955, and *A. yunnanus*

HEISS, 2003. As these characters are shared only by the two species *A. dembickyi* sp.n. and *A. bilobatus* HEISS & SHONO, 2005, they deserve a subgeneric status, for which ***Lobataradus* subgen.n.** is proposed. The type species of this new subgenus is *A. dembickyi* sp.n., the second included species is *A. bilobatus* HEISS & SHONO, 2005.

The habitus and particularly the shape of the pronotum as well as the structure of the antennae strongly resemble the genus *Chinamyersia* USINGER, 1943 of the subfamily Chinamyersiinae occurring only in New Zealand. However, *Chinamyersia* is characterized and thus differing from *Aradus* by a scent gland opening in front of the hind coxae and dorsally placed spiracles III-V, both not present in *Aradus* (USINGER & MATSUDA 1959).

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