

## ***Aradus (Lobataradus) khuntanus* sp.n. (Hemiptera: Heteroptera), first record of *Aradus* from Thailand**

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### Abstract

The subgenus *Lobataradus* HEISS, 2008 of the genus *Aradus* FABRICIUS, 1803 hitherto contained two species, *A. bilobatus* HEISS & SHONO, 2005 from Japan and *A. dembickyi* HEISS, 2008 from northern India. A third species, *A. khuntanus* sp.n., representing the first record of Aradinae from Thailand, is described and illustrated.

Key words: Hemiptera, Heteroptera, Aradidae, *Aradus*, *Lobataradus*, new species, Thailand, key.

### Zusammenfassung

Der Untergattung *Lobataradus* HEISS, 2008 der Gattung *Aradus* FABRICIUS, 1803 waren bisher zwei Arten zugeordnet: *A. bilobatus* HEISS & SHONO, 2005 aus Japan und *A. dembickyi* HEISS, 2008 aus Nordindien. Eine dritte Art, *A. khuntanus* sp.n., wird aus Thailand beschrieben und abgebildet. Sie ist der erste Beleg für die Unterfamilie Aradinae aus Thailand.

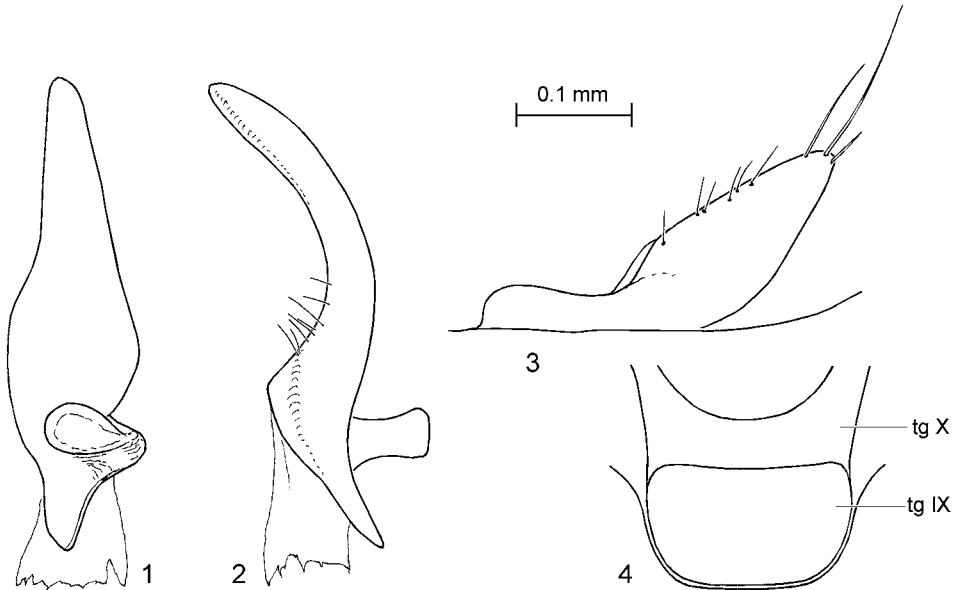
### Introduction

As with most of the southeastern Asian countries, the aradid fauna of Thailand is still insufficiently known. There has been no record of the Aradinae so far from Thailand although five species were described to date from neighbouring Myanmar (Burma), i.e., *Aradus abnormis* BERGROTH, 1889, *A. burmensis* KORMILEV, 1976, *A. candidatus* BERGROTH, 1889, *A. malaisei* KORMILEV, 1976, and *Miraradus mirabilis* (BERGROTH, 1892).

While the genus *Aradus* shows a world-wide distribution, the subgenus *Lobataradus* HEISS, 2008 seems to be limited to southeastern Asia and Japan and has so far contained only two species: *A. dembickyi* HEISS, 2008 (type species of subgenus) from northern India and *A. bilobatus* HEISS & SHONO, 2005 from Japan. A single but distinct specimen from the Doi Khun Tan National Park in northern Thailand represents a third species which is described and illustrated below.

### Material and methods

The type specimen was collected at the Doi Khun Tan National Park southeast of Chiang Mai in northern Thailand. It is deposited in the collection of the author at the Tiroler Landesmuseum, Innsbruck (CEHI).



Figs. 1–4: *Aradus (Lobataradus) khuntanus* sp.n.: (1, 2) left paramere in different positions; (3) left parandrium; (4) tergites IX and X, caudal view.

Photos (Figs. 5–10) were taken through an Olympus SZX 10 binocular microscope with an Olympus E3 digital camera and processed with Helicon Focus 4.3 software and using Adobe Photoshop and Lightroom 2.3.

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

When citing the text on the labels of the pin attached to the specimen, / separates the lines and // different labels.

Abbreviations: deltg = dorsal external laterotergites (connexivum); ptg = paratergite.

### Taxonomy

Family Aradidae BRULLÉ, 1836

Subfamily Aradinae BRULLÉ, 1836

Genus *Aradus* FABRICIUS, 1803

Subgenus *Lobataradus* HEISS, 2008

#### Key to species of *Lobataradus*

- 1 Large species (males 7.3–8.0 mm). Lateral margin of anterior pronotal lobe rounded, without lateral tubercles (Fig. 7, arrow). Antennal segment II longest, colouration of II and basal half of III yellowish, distal half of III and entire IV black. Habitus see Figures 5 and 7. Japan. .... *A. bilobatus*
- Small species (males 6.25–6.6 mm). Lateral margin of anterior pronotal lobe rounded, with lateral tubercles. Antennal segment III longest and yellowish, I–II and IV of dark colour. .... 2

- 2 Larger species (males 6.4–6.6 mm). Lateral margin of anterior pronotal lobe rounded, with a larger and a few smaller lateral tubercles (Fig. 8, arrow). Antennae slender, 1.70× as long as width of head, segment III yellowish except the basal constriction, I, II and IV black. Habitus see Figures 6 and 8. Northern India. .... *A. dembickyi*
- Smaller species (male 6.25 mm), lateral margin of anterior pronotal lobe rounded with a patch of lateral tubercles at middle (Fig. 10, arrow). Antennae stout, 1.44× as long as width of head, segment III yellowish, I–II brownish, IV dark brown. Habitus see Figures 9 and 10. Northern Thailand. .... *A. khuntanus* sp.n.

*Aradus (Lobataradus) khuntanus* sp.n. (Figs. 1–4, 9, 10)

Type material: Holotype (male) labelled: N-Thailand / Doi Khun Tan NP / 18.49N, 99.26E, 600m / 15 VII 1995 L.Told // Holotype / *Aradus / Lobataradus / khuntanus* n.sp. / des. E.Heiss 2015 // (red label, CEHI). Left antennal segments III and IV are missing.

**Diagnosis:** The subgenus *Lobataradus* differs from other East Palearctic and south-eastern Asian species of *Aradus* by the following combination of features: rounded, laterally expanded paranota present only on posterior lobe of pronotum; specific structure and colouration of antennae; slender parameres and subrectangular, fused tergite IX of male.

Within this subgenus, *A. khuntanus* sp.n. can be easily recognized by its smaller size, the different colouration and relative length of antennal segments, and the patch of tubercles on the lateral margin of pronotal forelobe as indicated in the key.

**Description:** Macropterous; matt. Body, legs and antennae covered by tubercles which are larger and more prominent on clypeus, antennae, lateral margins and median ridges on anterior lobe of pronotum, longitudinal carinae along posterior lobe of pronotum, antero-lateral margins of scutellum, veins of corium and anterolateral margins of deltg II–VII.

**Colour:** Ochraceous; darker are the head, antennal segments I, II and IV, anterolateral margins and apex of scutellum, anterior half of deltg II–VI and ptg VIII. Antennal segments I–II ochraceous, III yellowish white, IV darker brown. Legs: femora brownish, with a fading yellowish ring preapically; tibiae yellowish, at base with two yellowish rings; apex of tarsus brown.

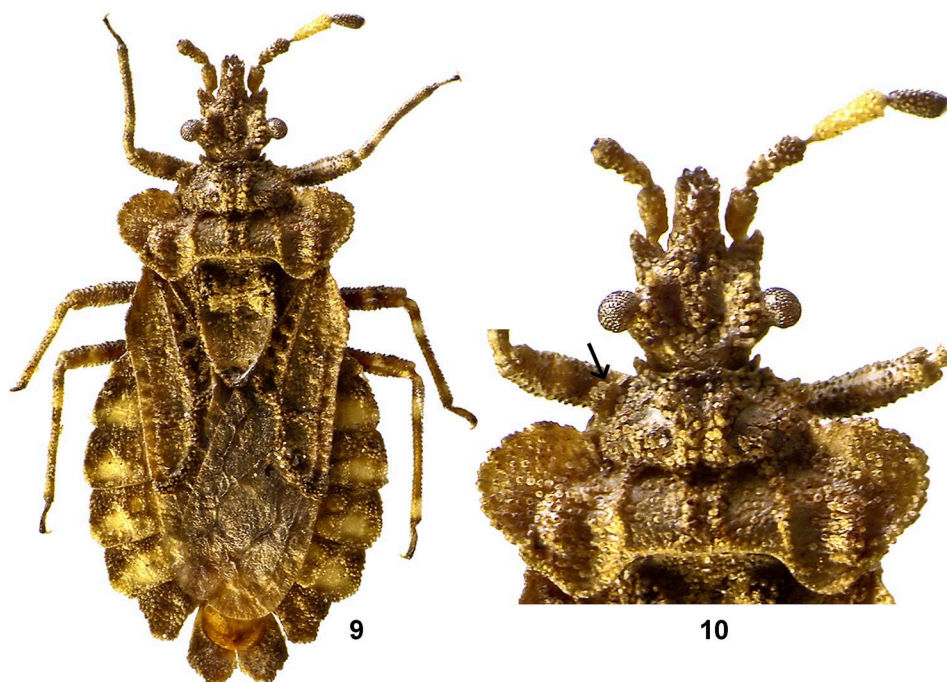
Head about as long as wide across eyes (diatone) (20.5 / 21). Clypeus distinctly longer than antennal segment I. Antenniferous lobes subparallel, acute, without distinct lateral tooth. Antennae short, 1.44× as long as width of head (30.25 / 21.0); segment I shortest, cylindrical, constricted at base; II cylindrical, slightly constricted at middle; III conical, widening toward apex; IV fusiform, with pilose apex; relative length of antennal segments I : II : III : IV = 5.5 : 8 : 9.75 : 7. A single larger preocular tubercle present. Eyes prominent, subpedunculate. Postocular lobes straightly converging posteriorly; carinate vertex with a U-shaped depression, laterally raised. Rostrum arising from an open atrium reaching mid-length of prosternum.

Pronotum 2.43× as wide as long (47.5 / 19.5); anterior lobe rounded laterally, without a paranotal expansion, but with a patch of larger tubercles at middle; disk medially with two posteriorly converging crest-like elevations formed by larger tubercles; posterior lobe with laterally expanded and rounded paranota, their lateral margin finely dentate; the four medial and two subhumeral carinae formed by larger tubercles. Scutellum distinctly longer than wide (26 / 17), with sides subparallel in basal half, constricted to narrow, posteriorly raised apex; lateral margins carinate and thickened at base and apex, disk depressed on posterior two thirds.



Figs. 5–8: *Aradus* (*Lobataradus*) spp.: (5, 7) *A. bilobatus*, paratype female; (6, 8) *A. dembickyi*, paratype female.

Hemelytra: Corium basolaterally reflexed, lateral margins finely dentate, veins granulate and elevated; membrane partly wrinkled between the four veins. Legs long and slender, a small preapical comb on fore tibiae present.



Figs. 9–10: *Aradus (Lobataradus) khuntanus* sp.n., holotype: (9) Habitus, dorsal; (10) head and pronotum.

Abdomen: Lateral margins of dltg II–VI rounded; dltg VII truncate. Spiracles II–VI ventral, remote from lateral margin; VII sublateral, but not visible from above; VIII lateral on ptg VIII.

Male genitalia: Segment VIII cup-like; paratergites VIII subrectangular and raised posteriorly, inner margin without setae. Parameres slender, with rounded twisted apex (Figs. 1, 2). Parandria slender (Fig. 3). Tergite IX fused, forming a subrectangular sclerite (Fig. 4).

Measurements: Body length 6.25 mm; length of antennae 1.51 mm; maximum width of abdomen across tergite IV 3.0 mm.

Etymology: This epithet refers to the Khun Tan Mountains where this species was collected.

#### Acknowledgements

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