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***Carapezzaptera auritomentosa* nov.gen., nov.sp. from Sri Lanka (Hemiptera, Heteroptera, Aradidae)**

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A b s t r a c t : Of the Aradidae subfamily Mezirinae, 57 genera are known to date from Oriental Region of which only five genera are apterous. A new apterous genus and species from Sri Lanka (former Ceylon) *Carapezzaptera auritomentosa* nov.gen., nov.sp. is now described and illustrated.

The related monotypical genus *Chelysosoma* KORMILEV, 1956 with the type species *halaszfyi* originally placed in the subfamily Carventinae USINGER, 1950 is transferred to the subfamily Mezirinae.

K e y w o r d s : Hemiptera, Heteroptera, Aradidae, Mezirinae, new genus, new species, Sri Lanka.

Introduction

Mezirinae OSHANIN, 1908, is the largest subfamily of the flat bug family Aradidae BRULLÉ, 1836, with 57 genera so far known from the Oriental Region. Only five genera are apterous: *Aphyseteres* USINGER & MATSUDA, 1959 (3 species from Borneo), *Cremastaptera* USINGER & MATSUDA, 1959 (2 species from Java and Sumatra), *Chelonocoris* MILLER, 1938 (16 species from Malaysia, Borneo and Sumatra), *Chelysocoris* MILLER; 1949 (1 species from Borneo), *Viszcayaptera* HEISS, 2018 (1 species from Philippines) (KORMILEV & FROESCHNER, 1987, HEISS 2018).

The flat bug fauna of Sri Lanka (former Ceylon) is not yet comprehensively studied, but about 25 taxa are described or recorded from this habitat rich island (KORMILEV 1971, KORMILEV 1981, HEISS & HOBERLANDT 1985, KORMILEV & FROESCHNER 1987). Although based on a single specimen collected in Sri Lanka, which cannot be assigned to one of the described genera, a new apterous genus *Carapezzaptera* nov.gen. is proposed to accommodate the conspicuous species *C. auritomentosa* nov.sp. which is described and illustrated herein.

Material and methods

The type specimen is from the collection of the author (CEHI) which will be deposited at the Zoologische Staatssammlung Munich. Measurements were taken with a micrometer eyepiece and are given in millimeters. Photos were taken with Olympus E5 and Nikon CoolpixP300 camera and processed with paint.net.

When citing the text of the labels of the pin attached to the specimen (/) separates the lines and (//) indicates the end of text.

Abbreviations used:

deltgdorsal external laterotergite (Connexivum)

mtgmediotergite

ptgparatergite

Taxonomy

Family Aradidae BRULLÉ, 1836

Subfamily Mezirinae OSHANIN, 1908

Carapezzaptera nov.gen.

Type species : *Carapezzaptera auritomentosa* nov.sp.

Diagnosis : Medium sized apterous Mezirinae (7.7mm); habitus elongate, thorax attenuated anteriorly and longer than abdomen, the latter with concave lateral margins; coloration reddish brown, head, thorax and abdomen covered by dense yellowish tufts of short hairs; antennae about three times as long as width of head, segment I longest; eyes inserted in head, postocular lobes without tubercles; pronotum separated from mesonotum by a sulcus but fused to meso- and metanotum and mtg I+II, a median longitudinal ridge extends from pronotum to posterior margin of mtgII; deltg II+III not fused; metathoracic scent efferent ostiole visible as laterally produced conical projections; spiracles II lateral, III-VII ventral.

The presence of this set of characters is unknown from Aradidae of Oriental, Pacific and Australian Regions and to accommodate the new species, the new genus *Carapezzaptera* nov.gen. is proposed.

There is only a superficial resemblance to the monophyletic genus *Chelysoma* KORMILEV, 1956 with the type species *halaszfyi* described from Southern India, sharing the position of spiracles and unusual structure of metathoracic scent efferent ostiole. It differs however from *Carapezzaptera* by stylate eyes, shorter antennae with segment III longest, different shape of median thoracic ridge, more stout and rounded habitus and less pilosity.

Description :

Head: About as wide as long, genae anteriorly produced over clypeus, contiguous in front; antenniferous lobes blunt; antennae about three times as long as width of head, segment I longest, IV shortest; eyes inserted in head, postocular lobes without projections.

Pronotum: Wider than long, collar ring-like, lateral margins conical, disk with two oval callosities, posterior margin carinate.

Metanotum: Consisting of two oblique oval callosities separated by a median ridge extending to mtg III; lateral margins straight converging anteriorly.

Metanotum: Fused to mesonotum and mtg I+II each consisting of two oval callosities separated by the median ridge; lateral margins formed by carinate ridges converging anteriorly; body is widest across posterior margin of mtgII.

Abdomen: Tergal plate with an elevated median ridge, lateral margins raised and sculptured; deltg III-IV constricted posteriorly, deltg IV parallel, V-VII widening posteriorly.

Legs: Unarmed, femora and tibiae cylindrical, tarsi two-segmented.

E t y m o l o g y : This conspicuous new genus is dedicated to my friend Attilio Carapezza (Palermo, Italy) in occasion of his 70th birthday, recognizing his remarkable contributions to Heteropterology and for many years of friendship and refers to its apterous condition.

***Carapezzaptera auritomentosa* nov.sp.** (Figs 1-5)

H o l o t y p e : ♂, labelled: Sri Lanka mer.cent. / Matara distr. / 4.-8.12 1995 / 3km NW Kotapola / let. S. Becvar // (CEHI). This specimen is designated as holotype and provided with type label.

D e s c r i p t i o n :

Apterous male; coloration reddish brown with golden-yellowish tufts of pilosity on head, thorax and abdomen, antennae and legs with erect yellowish hairs.

Head: Slightly wider than long (1.0 / 1.025); genae produced over clypeus contiguous in front; antenniferous lobes with blunt apices, as long as genae; antennae cylindrical 2.98 times as long as width of head (3.05 / 1.025), length of antennal segments I / II / III / IV = 1.10 / 0.75 / 0.80 / 0.40; oval eyes inserted in head, postocular lobes strongly converging posteriorly to constricted neck; rostrum arising from a slit-like atrium, shorter than head; vertex carinate.

Pronotum: Wider than long (1.45 / 0.95), collar ring-like as thick as femur of anterior legs; disk with two elevated oval callosities separated by a median furrow; lateral margins converging anteriorly, posterior margin slightly convex delimited by two transverse carinae.

Mesonotum: Consisting of two inclined oval callosities separated at middle by a deep cleft anteriorly, followed by a Y-shaped ridge which extends posteriorly.

Metanotum and mtg I+II. Fused together, each marked by two oval callosities lateral of median elevated ridge delimited laterally by a raised carinate sclerite with lateral margins converging anteriorly.

Abdomen: Tergal plate about twice as long as wide with a strong longitudinal median ridge, lateral margins carinate and elevated, deltg II+III not fused, III-VIII separated by sutures; tergite VII medially raised for the reception of the pygophore; deltg VII consisting of two layers separated by horizontal furrows forming the posterior lobes; spiracle II plainly visible on a conical tubercle produced from posterolateral angle of mtgII, spiracles III-VII are placed ventrally on distinct tubercles which are partly discernible in dorsal view, spiracles VIII terminal on ptg VIII, pygophore of conical shape, truncate posteriorly.

M e a s u r e m e n t s : Length 7.70 mm; length of antennae 3.05; width of mesonotum 1.65; abdomen widest across suture mtg II-III 2.35; across tergite IV 2.00, V 2.05, VI 2.15.

E t y m o l o g y : The specific epithet refers to the golden-yellowish pilosity of its body and is the Latin adjective composed of "aureus" (meaning golden) and "tomentous" (meaning beset with a mesh of fine hairs).

New subfamily assignment of genus *Chelysosoma* KORMILEV, 1956 (Figs 6-10)

The monotypical apterous Oriental genus *Chelysosoma* KORMILEV, 1956 with the type species *halaszfyi* was described upon males and females labelled "Inde Mer (Madura (Madurai Province in Southern India) / Jos. Debreuil" which are preserved in the Hungarian National Natural History Museum in Budapest, Hungary. No further record is reported since. The description of the holotype included illustrations of the dorsal view of a female and the apex of abdomen of a male in lateral and caudal view (Figs 1-3 on p. 285 of the description).

Kormilev included his new genus in the (then) tribe (now subfamily) Carventinae of the subfamily Mezirinae OSHANIN, 1908. Although USINGER & MATSUDA (1959) (p. 111) when redescribing this genus stated: "Middle acetabula with an elevated suture suggestive of the scent gland canals of Mezirinae extending outward towards lateral margin", this classification was also retained by subsequent authors (KORMILEV 1970 (keyed); KORMILEV & FROESCHNER 1987 (listed)).

Examination of two males and two females labelled as the type specimens and obviously collected with them, revealed after removal of the thick incrustation, which obscured essential morphological structures, that the above mentioned "elevated sutures" represent distinct metathoracic scent efferent structures with distinct ostiole. Such structures are not known from Carventinae but from Mezirinae, and is a key character to separate these subfamilies as already stated by USINGER & MATSUDA (1959) (p. 56).

This character lacking in Carventinae is also present in the Mezirinae genus *Carapezzaptera* nov.gen. supporting the transfer and new assignment of *Chelysosoma* from subfamily Carventinae to Mezirinae.

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Zusammenfassung

Obwohl die Aradidenfauna von Sri Lanka (früher Ceylon) hinreichend bekannt ist, wird eine neue Gattung und Art *Carapezzaptera auritomentosa* nov.gen., nov.sp. von dort beschrieben und abgebildet. Diese flügellose Aradide der Unterfamilie Mezirinae zeigt einen auffällig schlanken Habitus und einen Körper, der mit goldfarbigem Tomentum bedeckt ist. Dieses ist, ebenso wie die seitlich konisch vorstehenden metathorakalen Stinkdrüsenkanäle, erst nach der Entfernung der Verkrustung sichtbar.

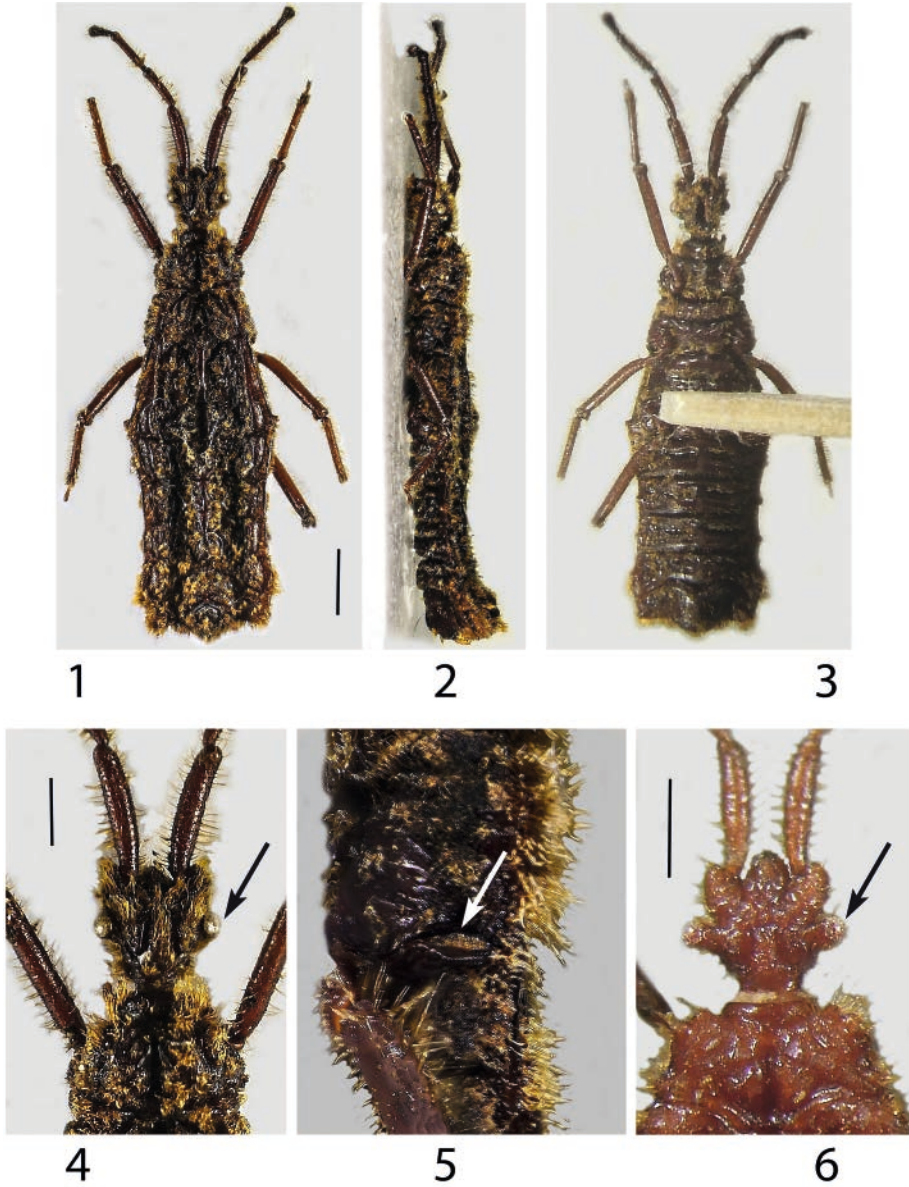
Nachdem bei Belegexemplaren der monotypischen Gattung *Chelysosoma* KORMILEV, 1956 von der Typus-Art *halaszfyi* aus Südindien ebensolche Stinkdrüsenkanal – Strukturen nach Entfernung der Verkrustung festgestellt wurden, wird diese Gattung von der Unterfamilie Carventinae USINGER, 1950 in die Unterfamilie Mezirinae OSHANIN, 1906 transferiert. Das Vorhandensein solcher sichtbarer Drüsenstrukturen ist charakteristisch für Mezirinae und fehlt den Carventinae.

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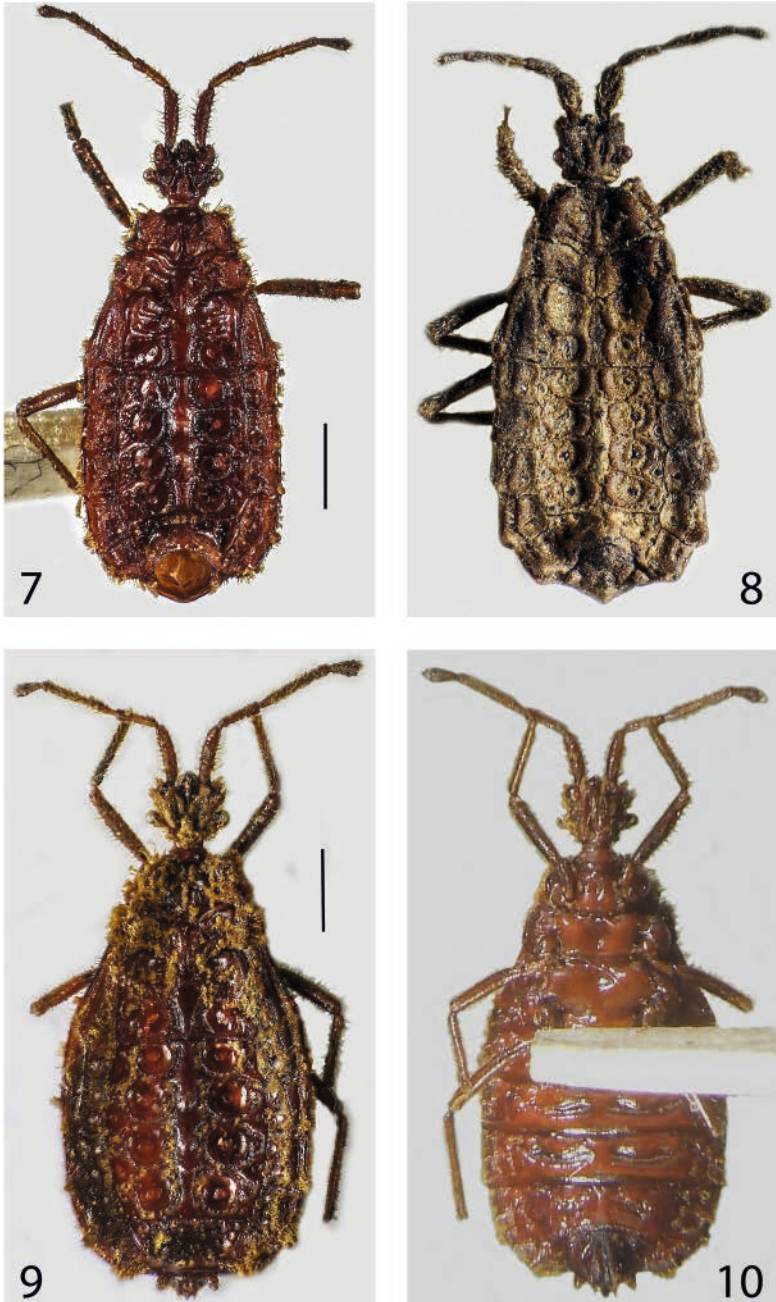
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Figs 1-6: (1-5) *Carapezzaptera auritomentosa* nov.gen., nov.sp. (1) holotype male, dorsal view, (2) lateral view, (3) ventral view, (4) head and pronotum, (5) mesothorax with thoracic scent efferent ostiole (arrow) lateral view, (6) *Chelysosoma halaszfyi* KORMILEV, head and pronotum. Arrows indicate different structure of head and eyes. Scale 1mm (1-3), 0.5mm (4, 6).



Figs 7-10: *Chelysosoma halaszfyi* (7) male dorsal view, cleaned from incrustation, (8) male dorsal view with incrustation, (9) female dorsal view, cleaned, (10) female ventral view, cleaned. Scale 1mm.

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