

Linzer biol. Beitr.	46/2	1329-1336	19.12.2014
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Two new apterous Mezirinae from Brazil (Hemiptera: Heteroptera: Aradidae)

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Abstract: From Bahia, Brazil, two new genera of apterous Mezirinae are described and illustrated: *Urucuca* nov.gen. for the species *Urucuca laticephala* nov.sp., *Bahiamezira* nov.gen. for *Bahiamezira cerroensis* nov.sp.

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

Introduction

The most recent catalog of Aradidae for the Neotropical Region by COSCARON & CONTRERAS 2012 lists 42 genera of Mezirinae. Twelve of them are apterous: *Allelocoris*, *Asterocoris* DRAKE & HARRIS, 1944; *Emydocoris*, *Notoplocoris* USINGER, 1941; *Eunotoplocoris* KORMILEV, 1957; *Bergrothiessa*, *Kormilevia*, *Mystilocoris* and *Ormenocoris* USINGER & MATSUDA, 1959; *Pseudopictinus* KORMILEV, 1966; *Limonocoris* KORMILEV, 1971; and *Neormenocoris* HEISS, 1999. Further two new apterous Mezirinae genera were described since: *Tobyschuhaptera* HEISS, 2012 from Brazil and *Osellaptera* HEISS, 2013 from Ecuador.

Because of the apterous condition and the therefore very limited range of distribution it might be assumed, that they are endemic to the area where they were collected.

Two completely incrustate and hence inconspicuous specimens from a Brazilian locality, donated by a friend more than 20 years ago and kept in the collection since, could now – after careful cleaning – surprisingly be recognized as unreported new genera and species which are described and illustrated herein as *Urucuca laticephala* nov.gen., nov.sp. and *Bahiamezira cerroensis* nov.gen., nov.sp.

Material and methods

Although only two single male specimens are available for description, their distinct morphological differences from other apterous Neotropical Aradidae justify the erection of new genera for them. These specimens upon the descriptions are based, are dry mounted and deposited in the collection of the author at the Tiroler Landesmuseum, Innsbruck (CEHI). As they were completely covered by detritus and incrustations, they

were cleaned by treatment in 10% KOH for the study of abdominal structures. Photos were taken with an Olympus SZX 10 binocular microscope and an Olympus E 3 digital camera, processed with Helicon Focus 4.3 software, using Adobe Photoshop and Lightroom 2.3.

Measurements were taken with an eyepiece micrometer (40 units = 1 mm).

A b b r e v i a t i o n s used: deltg = dorsal external laterotergite (connexivum); mtg = abdominal median tergite; pe-angles = posteroexterior angles (of deltg); ptg = paratergite. When citing the text on the labels of a pin attached to the specimens / separates the lines and // different labels.

Taxonomy

Family *A r a d i d a e* BRULLÉ, 1836

Subfamily *M e z i r i n a e* OSHANIN 1908

Urucuca nov.gen.

Type species: *Urucuca laticephala* nov.sp.

D i a g n o s i s: Superficially resembling the habitus of *Mystilocoris pubescens* USINGER & MATSUDA, 1959 from Colombia, the type and only species of this genus, sharing the stout body, short antennae and stalked eyes. It is however distinguished from the latter by different structure of head with larger and more stalked eyes, other fusion of thoracic segments and the large oval lateral expansions of pro- and mesonotum.

D e s c r i p t i o n: Small-sized apterous Mezirinae, body ovate attenuated posteriorly; surface of body with deep large punctures, lateral margins and elevated structures of head, thorax and abdomen beset with longer, legs and antennae with shorter stiff yellowish pubescence.

H e a d: Distinctly wider than long; genae anterolaterally expanded and enclosing the carinate clypeus; antenniferous lobes finger-like; antennae shorter than width of head, segment I longest, II shortest, III+IV of subequal length; eyes strongly stalked placed on large laterally projecting lobes; postocular lobes converging posteriorly; rostrum shorter than head.

P r o n o t u m: Strongly transverse, anterior margin concave, raised posterior margin convex, lateral margins with large oval wing-like expansions, directed upward.

M e s o n o t u m: About 4x wider than long, lateral margins with smaller round expansions directed upward, median elevation of scutellar structure knob-like and produced posteriorly, fused to mesonotum but fusion line marked by a suture.

M e t a n o t u m: Fused to mtg I, posterior margin carinate and raised, highest and roundly elevated at middle; mtg II fused to mtg I and tergal plate, posteriorly delimited by a transverse elevated carina, this not reaching lateral margins.

A b d o m e n: Tergal plate raised along midline with distinct elevations on mtg IV and V, sloping laterally; deltg II+III fused, posterior margins of deltg II-VII with a tuft of yellowish setae; tergite VII strongly raised medially for the reception of the pygophore, ptg VIII small and short.

Venter: Rostrum 4-segmented, shorter than head; metathoracic scent gland opening straight and produced, reaching posterior angle of mesonotum and visible from above; sternites I+II fused to metasternum, III-VII deeply punctured anteriorly, transversely elevated and smooth posteriorly; spiracles II-VI ventral, VII lateral and visible from above, VIII terminal on ptg VIII.

Legs: Unarmed, trochanters fused to femora, tarsi two-segmented, claws distinct but pulvilli not discernible.

Etyymology: Named after Uruçuca in Bahia state, the locality of its discovery.

***Uruçuca laticephala* nov.sp. (Photo 1-2)**

Holotype: male labeled: Brasília / Bahia Uruçuca nr. / Cerro Grande / 3 II 1992 L. Chapman //; Holotype / *Uruçuca laticephala* n.gen. n.sp. / des. E.Heiss 2014 // (red label, CEHI).

Description: Holotype male; apterous, body surface shiny with deep punctures; lateral margins of body and elevated structures as apices of genae, clypeus, lateral expansions of pro- and mesonotum, median scutellar structure of mesonotum, transverse ridge delimiting posteriorly mtg II, elevations of mtg IV-V, posterior margins of deltg II-VII and tergite VII beset with stiff yellowish setae; legs and antennae with shorter pilosity; colouration reddish brown.

Head: 1.4x as wide as long (57/40); genae anterolaterally expanded, their apices directed upward, anteriorly enclosing carinate clypeus; antenniferous lobes finger-like, diverging anterolaterally; antennae shorter than width of head (50.5/57), segment I longest and thickest, basally curved, II shortest and thinner, III thin and slightly longer than fusiform segment IV; length of segments I/II/III/IV = 15/9/13.5/13; eyes strongly stalked placed on laterally large upward projecting lobes; postocular lobes sinuately converging posteriorly; rostrum arising from a slit-like atrium, shorter than head.

Pronotum: 3x as wide as long (60/20), anterior margin concave and carinate, posterior margin elevated, carinate and slightly convex; lateral margins with large oval wing-like upward directed expansions; disk with 3 oval depressions medially.

Mesonotum: Consisting of 2 (1+1) narrow lateral sclerites with round upward directed expansions at their end, separated at middle by an elevated knob-like posteriorly produced scutellar structure; fused to metanotum with visible suture marking the fusion line.

Metanotum: Large lateral oval sclerites depressed anteriorly, fused to mtg I posteriorly and delimited by a transverse smooth carina which is highest at middle, there connected to the raised scutellar knob by a saddle-like elevation; mtg II fused to mtg I and tergal plate, its posterior margin marked by a transverse elevated carina, this raised at middle and laterally ending in setigerous tubercles not reaching the lateral margin of the segment.

Abdomen: Tergal plate medially raised with distinct elevations on mtg IV and V bearing the dorsal scent gland scars, lateral parts sloping; deltg II+III fused to a triangular sclerite, III-VII separated by sutures; posterior margins of deltg II distinctly, of III-VII slightly raised; tergite VII medially elevated for the reception of the pear-shaped pygophore; ptg VIII small, produced posteriorly.

Venter: Rostrum 4-segmented in a narrow rostral groove with carinate borders, closed posteriorly; prosternum longitudinally elevated at middle, fused to meso- and

metasternum, the latter with a flat oval median impression; metathoracic scent gland canal straight and elevated extending to posterior margin of mesonotum and there visible from above; sternites I+II fused to each other and to metasternum; sternites III-VII deeply punctured anteriorly, posterior part raised with smooth surface, slightly depressed at middle; spiracles II-VII ventral gradually approaching lateral margin, VII laterally produced and visible from above, VIII terminal on ptg VIII.

Legs: Unarmed, trochanters distinct, fused to moderately incrassate femora, tibiae straight, protibial comb developed, tarsi 2-segmented but pulvilli not ascertained because of damaged tarsi.

Measurements: Length 4.05mm; ratio length/width 1.93; width of abdomen across tergite III 2.1mm; length of antennae 1.25mm.

Etymology: This name is reflecting its unusual transverse head structure from *latus* (Latin) = wide and *kephalos* (Greek) = head.

***Bahiamezira* nov.gen.**

Type species: *Bahiamezira cerroensis* nov.sp.

Diagnosis: The only species of Neotropical Aradid taxa resembling superficially this new genus is *Osellaptera setifera* HEISS, 2013 from Ecuador. *Bahiamezira* nov.gen. can be easily distinguished by the subparallel (*O. s.* posteriorly distinctly attenuated) outline of abdomen, head about 1.4x as wide as long (as wide as long), antennae shorter, about 1.3x as long as width of head (twice as width of head), shorter postocular lobes (much longer), eyes more stalked and different position of spiracles and rostrum reaching prosternum (shorter than head).

Description: Small sized apterous Mezirinae; body elongate subparallel; surface of body shiny with distinct punctures; lateral margins of head, body, median elevations, venter, legs and antennae beset with fine yellowish pubescence; colouration reddish brown.

Head: Distinctly wider than long with stalked eyes, produced antenniferous lobes and a large and long clypeus reaching 1/3 of antennal segment I; antennae about 1.3x as long as width of head, segment I longest and curved, II+III of equal length, IV longer with truncate apex; postocular lobes converging to constricted neck.

Pronotum: About 3x as wide as long, anterior margin concave, posterior margin convex, disk with oval callosities, anterolateral margins expanded and raised upward.

Mesonotum: Strongly transverse consisting of 2 lateral sclerites separated but fused to a longitudinal flat ridge, anterolateral edges with a flap-like expansion directed posterolaterally.

Metanotum: Fused to a continuous plate with mtg I+II, their lateral sclerites separated by the posteriorly continuing median flat ridge of mesonotum which extends to the transverse elevation delimiting mtg II from tergal plate.

Abdomen: Tergal plate separated from mtg II by a suture, disk with a median ridge, lateral parts rather flat; deltg II+III not fused, pe-angles of deltg II-VII with distinct tubercles of different size; tergite VII strongly raised, pygophore large and posteriorly produced.

Venter: Rostral groove open posteriorly, rostrum reaching 1/2 of prosternum;

metathoracic scent gland canal slit-like embedded in an elongate elevated structure; sternites I+II fused to metasternum, III-VI deeply punctured anteriorly and smooth posteriorly; spiracles II-VI ventral, VII placed on a larger sublateral tubercle but not visible from above, VIII terminal on ptg VIII.

Legs: Unarmed, trochanters fused to femora, tibiae straight, tarsi two-segmented, pulvilli not recognizable.

Etymology: Refers to Bahia, the Brazilian Province of origin and the subfamily to which this genus is assigned.

***Bahiamezira cerroensis* nov.sp. (Photo 3-4)**

Holotype male labeled: Brasília / Bahia Urucuá nr. / Cerro Grande / 3 II 1992 L. Chapman //; Holotype / *Bahiamezira cerroensis* n.gen. n.sp. / des. E. Heiss 2014 // (red label, CEHI).

Description: Holotype male; apterous, body surface shiny with small but deep punctures; lateral margins of head, body and its elevated structures, legs and antennae beset with yellowish pilosity; clouration reddish brown.

Head: About 1.4x as wide as long (50/36); clypeus long and produced anteriorly, genae thin adhering to clypeus; antenniferous lobes wide and inclined leaving a deep incision to clypeus, apices rounded; antennae 1.36x as long as width of head, segment I longest and thickest, curved at base, II and III of equal length and thinner, IV slightly longer than III with truncate pilose apex; length of antennal segments I/II/III/IV = 22/15/15/16; eyes small consisting of 8 ommatidia, placed at the end of a cylindrical anterolaterally and upward directed projection; postocular lobes sinuately converging posteriorly; vertex ridge-like laterally delimited by deep grooves; rostrum arising from a slit like atrium, rostral groove wide and open posteriorly, rostrum reaching $\frac{1}{2}$ of prosternum.

Pronotum: 2.9x as wide as long (52/18); consisting of 2 (1+1) lateral sclerites, surface with oval callosities deeply depressed inbetween; anteriorly converging lateral margins carinate and expanded on anterior $\frac{2}{3}$; anterior margin concave, posterior margin convex.

Mesonotum: More than 4x as wide as long (78/18) with large lateral elevated sclerites separated at middle by a flat ridge which continues to tergal plate; anterolateral angles with a flap-like expansion directed posterolaterally; anterior margin concave, posterior margin convex, fused to metanotum.

Metanotum: Completely fused to mtg I+II forming a continuous plate consisting of the median ridge and larger transverse sclerites of metanotum and smaller ones of mtg I+II laterally; the median ridge is narrowing posteriorly and meets a transverse carinate smaller ridge delimiting mtg II from tergal plate.

Abdomen: Tergal plate with median elevations on mtg III-V, slightly sloping laterally; lateral margin of deltg II-VII dorsally reflexed, pe-angles of deltg II+III with larger vertical tubercles, IV-V with smaller lateral tubercles, VI with a larger lateral and VII with a long upward directed lobe; deltg II and III not fused; tergite VII strongly raised medially for the reception of the large pygophore, ptg VIII long and posteriorly produced.

V e n t e r : Pro-, meso- and metasternum fused to each other and sternites I+II, transverse impressions mark the fusion lines; meso- and metasternum with a shallow round median impression; sternites III-VI depressed and deeply punctate anteriorly, smooth and elevated posteriorly; sternite VII large and rounded with smooth surface; metathoracic scent gland canal slit-like embedded in a larger oval elevated structure which extends to lateral margin of mesonotum but is not visible from above; spiracles II-VI ventral, VII palced on a larger tubercle but not visible from above, VIII terminal on ptg VIII.

L e g s : Unarmed, trochanters fused to moderately incrassate femora, tibiae straight, tarsi two-segmented, pulvilli not ascertained because of damaged legs.

M e a s u r e m e n t s : Length 4.2mm; ratio length / width 2.05; width of abdomen across tergite III 2.05mm; length of antennae 1.7mm.

E t y m o l o g y : Named after Cerro Grande where this interesting new taxon was found.

Acknowledgments

I thank Stefan Heim TLMF for the photos and the editorial team of "Linzer biologische Beiträge" for accepting the manuscript for publication and skillful editing.

Zusammenfassung

Aus der Neotropischen Region sind bisher 44 Gattungen der Aradiden-Unterfamilie Mezirinae bekannt geworden (COSCARON & CONTRERAS 2012; HEISS 2012, 2013). Davon sind 14 Gattungen mit apteren Taxa vertreten, welche aufgrund ihrer Flugunfähigkeit und der dadurch sehr beschränkten Ausbreitungsmöglichkeiten als Endemiten angesehen werden. Nun liegen aus der brasilianischen Provinz Bahia zwei Exemplare vor, welche in keine der bekannten Gattungen gestellt werden können. Sie werden in diesem Beitrag zu zwei neuen Gattungen und zu je einer neuen Art gestellt, welche beschrieben und abgebildet werden: *Urucuca laticephala* nov.gen., nov.sp. *Bahiaamezira cerroensis* nov.gen., nov.sp.

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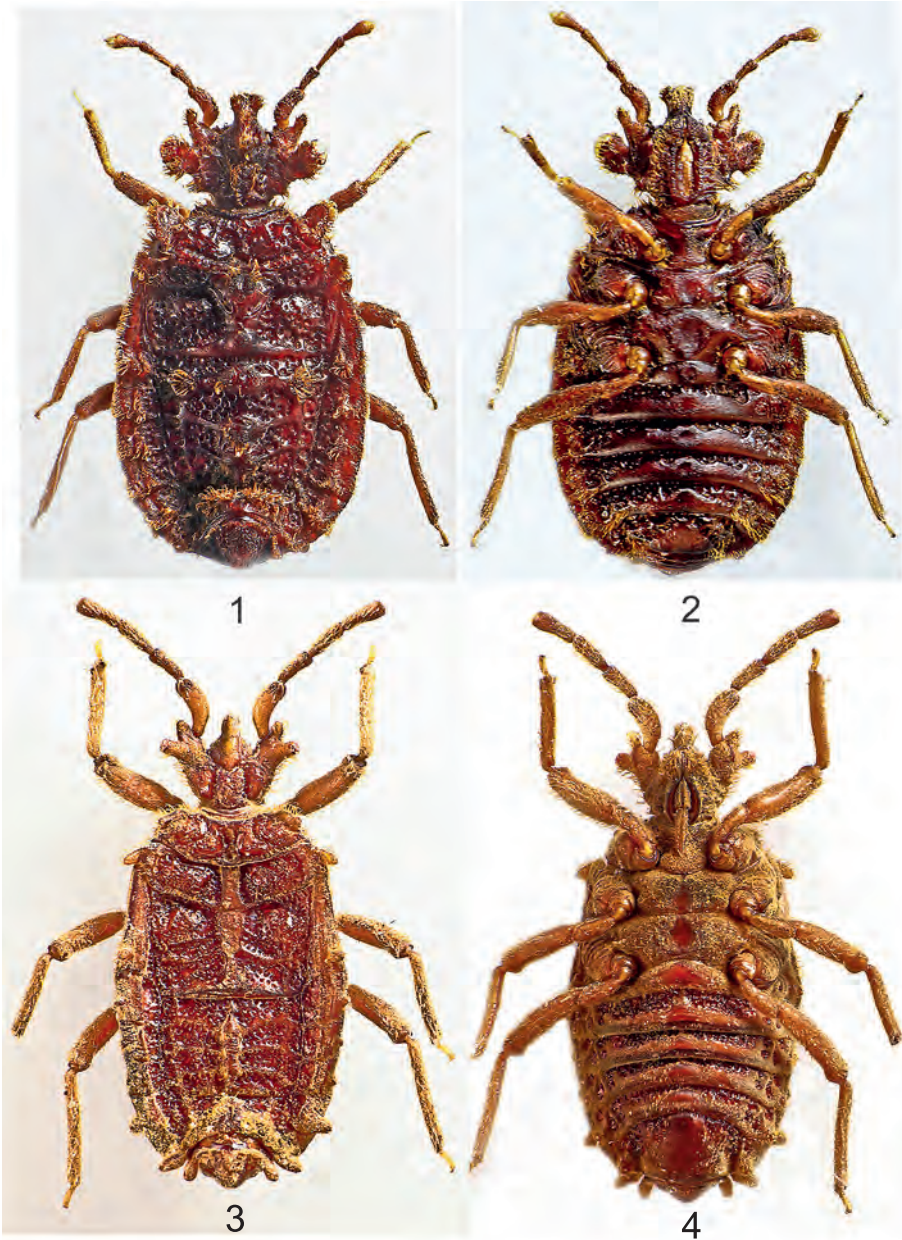


Photo 1-4: (1) *Urucuca laticephala* nov.gen., nov.sp. dorsal view; (2) ventral view; (3) *Bahiamezira cerroensis* nov.gen., nov.sp. dorsal view; (4) ventral view.

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Zeitschrift/Journal: [Linzer biologische Beiträge](#)

Jahr/Year: 2014

Band/Volume: [0046_2](#)

Autor(en)/Author(s): Heiss Ernst

Artikel/Article: [Two new apterous Mezirinae from Brazil \(Hemiptera: Heteroptera: Aradidae\) 1329-1336](#)