

ISSN 2007-9133

DUGESIANA

Revista de Entomología



Julio 2017

Volumen 24

Número 2

Disponible en línea

<http://www.revistascientificas.udg.mx/index.php/DUG/index>



DEPARTAMENTO
DE BOTÁNICA Y
ZOOLOGÍA

Dugesiana, Año 24, No. 2, julio 2017- diciembre 2017 (segundo semestre de 2017), es una publicación Semestral, editada por la Universidad de Guadalajara, a través del Centro de Estudios en Zoología, por el Centro Universitario de Ciencias Biológicas y Agropecuarias. Camino Ramón Padilla Sánchez # 2100, Nextipac, Zapopan, Jalisco, Tel. 37771150 ext. 33218, <http://www.revistascientificas.udg.mx/index.php/DUG/index>, glenusmx@gmail.com. Editor responsable: José Luis Navarrete Heredia. Reserva de Derechos al Uso Exclusivo 04-2009-062310115100-203, ISSN: 2007-9133, otorgados por el Instituto Nacional del Derecho de Autor. Responsable de la última actualización de este número: José Luis Navarrete Heredia, Editor y Ana Laura González-Hernández, Asistente Editorial. Fecha de la última modificación 1 de julio de 2017, con un tiraje de un ejemplar.

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***Esquinacoris brailovskyi* gen.nov., sp.nov., the first apterous Carventinae from Costa Rica (Hemiptera: Heteroptera: Aradidae)**

***Esquinacoris brailovskyi* gen.nov., sp.nov., el primer Carventinae áptero de Costa Rica (Hemiptera: Heteroptera: Aradidae)**

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ABSTRACT

The flat bug family Aradidae is represented in Costa Rica by 12 genera and 22 species. Of these only one species *Neoproxius costaricensis* (Kormilev, 1982) belongs to the subfamily Carventinae. A curious single specimen from Esquinas Rainforest, Piedras Blancas National Park could not be assigned to any Neotropical genus and species and is here described as *Esquinacoris brailovskyi* gen.nov., sp.nov.

Key words: Heteroptera, Aradidae, Carventinae, new genus, new species, apterous, Costa Rica.

RESUMEN

La familia Aradidae (chinchas planas o de la corteza) está representada en Costa Rica por 12 géneros y 22 especies. Entre ellas, solo una especie *Neoproxius costaricensis* (Kormilev, 1982) pertenece a la subfamilia Carventinae. Un curioso ejemplar único de Bosque Esquinas, Parque Nacional Piedras Blancas, no podía ser asignado a ningún género ni especie neotropical de modo que se describe aquí como *Esquinacoris brailovskyi* gen.nov., sp.nov.

Palabras clave: Heteroptera, Aradidae, Carventinae, género nuevo, especie nueva, áptero, Costa Rica.

Nature in Costa Rica is still rich in diverse habitats suitable for the flat bug family Aradidae, however, its fauna is only partly investigated and known. The most recent publication titled “Catalog of Aradidae for the Neotropical Region” (Contreras & Coscaron 2012) lists 12 genera and 22 species of this family from Costa Rica, but only one species of the subfamily Carventinae, the macropterous *Neoproxius costaricensis* (Kormilev, 1982) is recorded to date.

Examination of flat bug samples already collected in 2001, brought to light a conspicuous apterous specimen which cannot be assigned to one of the known genera of Aradidae recorded from Mesoamerica. Therefore a new genus and species is proposed for it and described and illustrated below.

MATERIAL AND METHODS

The single specimen was collected in sifting leaf litter of the Esquinas Rainforest surrounding the La Gamba Biological Station, Piedras Blancas National Park, founded and supported by the non-profit organization “Rainforest of the Austrians” since 1991. As it was covered with debris obscuring habitus and body structures, this was cautiously removed by hand to observe the conspicuous fringes and tufts of setae covering the body.

Photos were taken using an Olympus SZX 10 binocular microscope with an attached Olympus E 3 digital camera and processed with Helicon Focus 4.3 software, using Adobe Photoshop and Lightroom 2.3. Measurements

were taken with a micrometer eyepiece and are given in millimeters. Abbreviations used: deltg = dorsal external laterotergite (connexivum); mtg = mediotergite.

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

The holotype is preserved in the collection of the author at the Tiroler Landesmuseum, Innsbruck.

RESULTS

TAXONOMY

Family Aradidae Brullé, 1836

Subfamily Carventinae Usinger & Matsuda, 1959

***Esquinacoris* new genus**

Type species: *Esquinacoris brailovskyi* sp.nov., here designated.

<http://zoobank.org/33D214FF-B989-495A-AE38-92FA041C15AB>

Diagnosis. Small sized flat bug of oval outline, body surface of reddish brown coloration, glabrous and smooth where uncovered, beset with dense patches of stramineous clustered setae elsewhere; thorax and tergal plate depressed and smooth; head of triangular shape, antennae short, segment I longest.

Description. *Head.* About as long as wide across eyes (0.7/0.75) but distinctly wider across lateral postocular projections (0.95); genae produced over clypeus, their apices rounded and cleft, bent upward; antenniferous lobes shorter than clypeus; antennae about 1.4 times as

wide as width of head (1.05/0.75), segment I thickest and longest, bent outward, the following shorter and thinner; eyes inserted in head; postocular lobes angularly projecting laterally beset with clustered setae, then converging to neck.

Pronotum. Strongly transverse (0.5/1.4), lateral parts elevated and beset with clustered setae, depressed and partly glabrous between the elevated portions with a tubercle-like patch of setae at middle; separated from mesonotum by a transverse suture.

Meso-, metanotum and mtg I+II. Fused at middle forming a depressed, smooth and glabrous plate; lateral margins elevated and beset with clustered setae; sutures separating these sclerites are developed only lateral of the median plate.

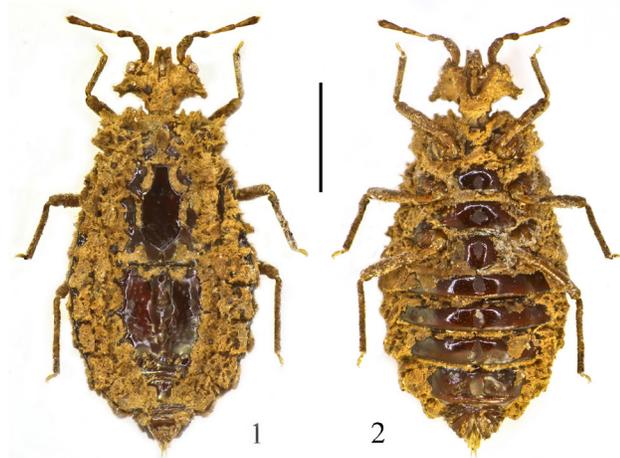
Abdomen. Tergal plate medially depressed, surface glabrous and smooth, slightly raised median ridge bears the dorsal scent gland scars; deltg II-VII laterally elevated, densely beset with clustered setae.

Venter. Rostrum arising from an open atrium, rostral groove deep, shorter than head, closed posteriorly; meso- and metasternum and sternites II-VII smooth at middle and beset with patches of setae laterally; sternites III-VI separated by deep transverse grooves on anterior margin; sternite VII with an oval depression lateral of median chagreened spot, the latter also present at middle of preceding sclerites; spiracles II ventral, III-VIII lateral placed on a tubercle visible from above.

Legs. Femora and tibiae cylindrical, unarmed; tarsi two-segmented, claws with long parempodia.

Etymology. This epithet refers to the Esquinas Rainforest where the species was discovered and >coris< (Greek) for bug.

Discussion. Habitus and body structures of this new genus are unique among apterous Neotropical Aradidae and no relationship can therefore be established at this time.



Figures 1-2. *Esquinacoris brailovskyi* gen.nov., sp.nov. 1.- Holotype female dorsal view; 2.- ventral view. Scale 1mm.

Esquinacoris brailovskyi sp.nov.

(Figs. 1, 2)

<http://zoobank.org/FA002CCB-0C5A-498C-8423-81241557F4CC>

Type locality. La Gamba, Puntarenas, Costa Rica

Holotype female, here designated.: Costa Rica / Puntarenas Env. Golfito / Esquinas Rainforest / 18-22 VI 2001 E.Heiss //; Holotype female/ *Esquinacoris* / *brailovskyi* sp. nov. / des. E.Heiss 2017// (red label).

Description. As the generic description is detailed and based on the holotype, only few additional characters are added here. **Head.** Antennal segments I+II with granulate surface, III + IV smooth, tapering toward base, apex of IV pilose. **Measurements.** Body length 4.0mm; length of antennae 1.025mm, I/II/III/IV = 0.3/ 0.175/ 0.275/ 0.275mm; width of abdomen across deltg III 1.95mm; width of glabrous median thoracic plate 0.65mm.

Etymology. It is a pleasure to dedicate this curious new taxon to my long-time friend and colleague Harry Brailovsky, recognizing his outstanding contributions to the knowledge of Heteroptera, particularly Neotropical Coreidae.

ACKNOWLEDGMENTS

I remember and recognize the friendly services of A. Catalina Torres P. and her team of the Esquinas Rainforest Lodge at the time of my visit and the advice of Prof.M.Schnitzler and the botanists M.Huber and A. Weissenhofer (University of Vienna) who suggested to visit the project site. I also thank Stefan Heim (Tiroler Landesmuseum) for the photos and am grateful to Xanti Pagola-Carte (Donostia - San Sebastian) for Spanish translations and the editor of DUGESIANA, José Luis Navarrete -Heredia for inviting me to contribute to this homage.

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Recibido: 24 de abril 2017

Aceptado: 17 de mayo 2017