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MASTIGOPROCTUS LIOCHIRUS POCOCK, 1900 IS A JUNIOR SYNONYM OF *MIMOSCORPIUS PUGNATOR* (BUTLER, 1872) (ARACHNIDA: THELYPHONIDA)

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Abstract: Recently collected specimens of *Mimoscorpius pugnator* (Butler, 1872) confirm the presence of this species in Guatemala and go to prove that it is a senior synonym of *Mastigoproctus liochirus* Pocock, 1900 only known from a single immature male from "Guatemala". Therefore, the genus *Mastigoproctus* Pocock is now excluded from the list of Central American taxa.
Key words: Thelyphonida, Thelyphonidae, *Mimoscorpius pugnator, Mastigoproctus liochirus*, taxonomy, Central America, Guatemala.

***Mastigoproctus liochirus* Pocock, 1900: sinónimo posterior de *Mimoscorpius pugnator* (Butler, 1872) (Arachnida: Thelyphonida)**
Resumen: La reciente colecta de un especimen de *Mimoscorpius pugnator* (Butler, 1872) confirma la presencia de esta especie en Guatemala y demuestra que es un sinónimo anterior de *Mastigoproctus liochirus* Pocock, 1900 sólo conocida por un único macho inmaduro procedente de 'Guatemala'. En consecuencia, el género *Mastigoproctus* Pocock queda ahora excluido de la lista de taxones de América Central.
Palabras clave: Thelyphonida, Thelyphonidae, *Mimoscorpius pugnator, Mastigoproctus liochirus*, taxonomía, América Central, Guatemala.

The Central American fauna of whip scorpions (Thelyphonida) shows a low diversity (Víquez & Armas, 2006b), but some of its species are of particular interest for taxonomists. One of such species, *Mimoscorpius pugnator* (Butler, 1872), was originally described from Philippine Islands on base to one adult male, but more than a century later another two males were found in southeastern Guatemala (Armas & Víquez, 2005; Víquez & Armas, 2006b). Thereby, *Mi. pugnator* was suspected to be not an Asiatic but a Central American taxon (Armas & Víquez, 2005).

Pocock (1900) described *Mastigoproctus liochirus* on base to a single immature male from a not precise Guatemalan locality. Since that occasion it has remained as one of the most poorly known whip scorpions of the Central American isthmus. Mello-Leitão (1931) said he examined one immature female from "Mexico", but that specimen, deposited at the National Museum (Rio de Janeiro) seems to be destroyed or lost (Víquez & Armas, 2006b). Lazel (2000) and Rowland (2002) said they examined Central American specimens belonging to this species, but possibly they misidentified such materials (Víquez & Armas, 2006b).

In the present contribution the presence in Guatemala of *M. pugnator* is confirmed, and the taxonomic status of *Ma. liochirus* is clarified.

Material and methods

The examined specimens are deposited in the following collections: Instituto Nacional de Biodiversidad (INBio), Heredia, Costa Rica; Instituto de Ecología y Sistemática (IES), Havana, Cuba; British Museum of Natural History (BMNH), London; Colección de Artrópodos, and Museo de Historia Natural de la Universidad de San Carlos (MUSHNAT), Guatemala.

Type specimen of *Ma. liochirus* was directly examined by C. Víquez; whereas for *Mi. pugnator* we have access to a series of excellent photos.

Images were obtained with a video-camera coupled to the same microscopy, employing the software "Montage Explorer" of the Syncroscopy Company and also with conventional digital camera.

Taxonomy

***Mimoscorpius pugnator* (Butler)**
Fig. 1, 2 A-F, 3 A-F, table I.
Thelyphonus pugnator Butler, 1872:204, Pl. XIII, fig. 5.
Mimoscorpius pugnator: Pocock, 1894:132. Kraepelin, 1897:40. Kraepelin, 1899:207. Mello-Leitão, 1931:24. Werner, 1935:467, fig. 171. Rowland, 1973: 6-7. Rowland & Cooke, 1973:68. Harvey, 2003:68. Armas & Víquez, 2005: 299-301. Víquez & Armas, 2006b:303, 304-305, figs. 7, 13.
Mastigoproctus liochirus Pocock, 1900:299. Pocock, 1902:46, 48, pl. 10, fig. 5. Mello- Leitão, 1931:26, 27, 29, fig. 13. Rowland & Cooke, 1973:68. Valerio, 1981:15, 16, 17, fig. 3. Vázquez Rojas, 1996:69. Lazell, 2000:306, 309. Armas & Maes, 2000:14, 15. Rowland, 2002:192. Harvey, 2003:67. Víquez, 2003: 84, 85, map 1, fig 1. Armas, 2004:53. Víquez &Armas, 2006b:302, 303, 304, figs. 5, 13. **New synonym.**

TYPES. Of *Mi. pugnator*: Male holotype (BMNH), "Philippine island", without other data (not directly examined). For a detailed discussion on type locality, see Armas & Víquez (2005). Of *Ma. liochirus*: Young male holotype (BMNH Cat. No. 1464), Guatemala (Sarg 657. Coll), without other data (examined).

EXAMINED SPECIMENS. *Mimoscorpius pugnator*: GUATEMALA: One adult female (IES), two young females (INBio, IES) and three young males (INBio, IES,

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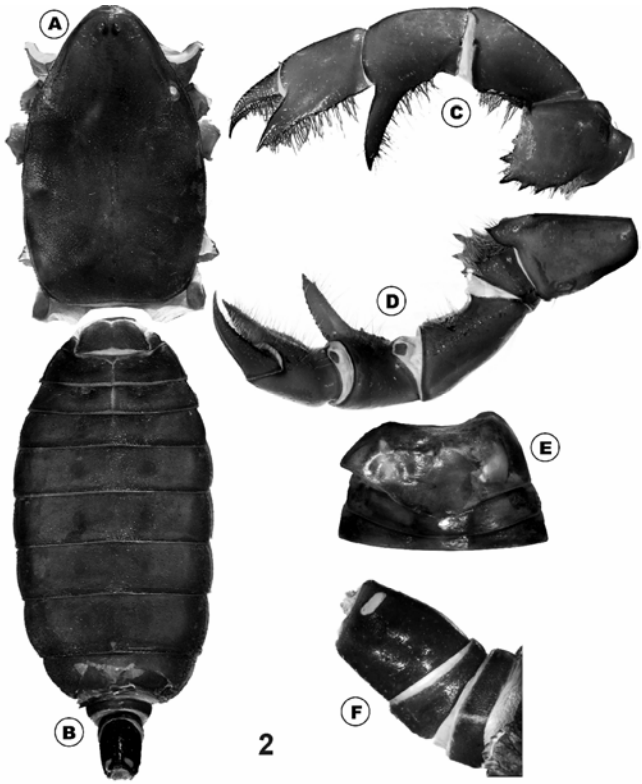

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Fig. 1. Geographic distribution of *Mimoscorpius pugnator*. **Fig. 2.** Holotype (young male) of *Mastigoproctus liochirus*. **A.** carapace; **B.** abdomen, dorsal aspect; **C-D.** pedipalps: **C.** dorsal aspect; **D.** ventral aspect; **E.** sternites II-IV; **F.** pygidium, lateral aspect.

MUSHNAT), departamento Santa Rosa, Taxisco, El Papayo village (14°08'03"N 90°33'52"W), 3-7 July, 2006, 270 m, C. Víquez, J. Huff, D. Ortiz, C. Ávila, & R. Estrada. One male adult (INBio), Departamento Santa Rosa, Taxisco, El Papayo village, 13 June, 2002, C. Ávila Ramos.

DISTRIBUTION. Guatemala: Escuintla and Santa Rosa departments (Fig. 1).

DIAGNOSIS. Carapace with frontal area and ocular tubercle smooth; rest of anterior half is wrinkled, followed toward the posterior part of carapace for dense and fine granules, with scarce median granules in the lateral areas; median eyes at 0.4 mm of the anterior border, each separated for 1.4 times one ocular diameter. Abdominal tergites with abundant fine granules; II-III divided for a median longitudinal suture; in IV-V the suture reaches approximately the first third of the plate. Segment X laterally divided for a suture (pleuron); XII with a pair of large, ovoid ommatoids. Male sternite II (genital) with a pair of lateral posterior inflated areas; posterior margin with a conspicuous median lobe, subrectangular; III and IV not divided; III three times longer than IV; the remainder sternites are smooth, laterally with fine punctuation. Male pedipalps elongated; internal face with long, red bristles; coxa externally and ventrally smooth; apophysis with one distal tooth; trochanter smooth, with six dorsal internal teeth and two ventral ones; femur subcylindrical, almost twice longer than patella, without dorsal tooth, with one small ventral tooth, blunt; patella smooth, relatively short; apophysis elongated, without posterior denticles, and vestigial anterior denticles; tibia elongated, inflated, that basally forms an angle of approximately 45º respect the longitudinal axis; with one ventral internal tooth; movable finger with bifid apex. Legs: tibia IV with one ventral distal spur; basitarsus II-IV with two ventral distal spurs.

Taxonomic status of *Mastigoproctus liochirus*

Among the *Mi. pugnator* specimens collected at Taxisco there are some young males that are morphologically similar to the holotype of *Ma. liochirus*, which was examined and photografied by C. Viquez three years ago. Based on the now obtained evidence, we concluded that the holotype of *Ma. liochirus* (Fig. 2) really is a young specimen of *Mi. pugnator* (Fig. 3).

As the Mexican specimen recorded as *Ma. liochirus* by Mello-Leitão (1931) is lost or destroyed, is not possible to determine its correct identification, but we seriously suspect that it was misidentified, because *Mi. pugnator* seems to be a southeastern Guatemalan taxon.

As result of the present nomenclatural action and other recent taxonomic changes (Víquez & Armas, 2005, 2006a) the genus *Mastigoproctus* Pocock, 1894 is not longer a member of the Central American fauna.

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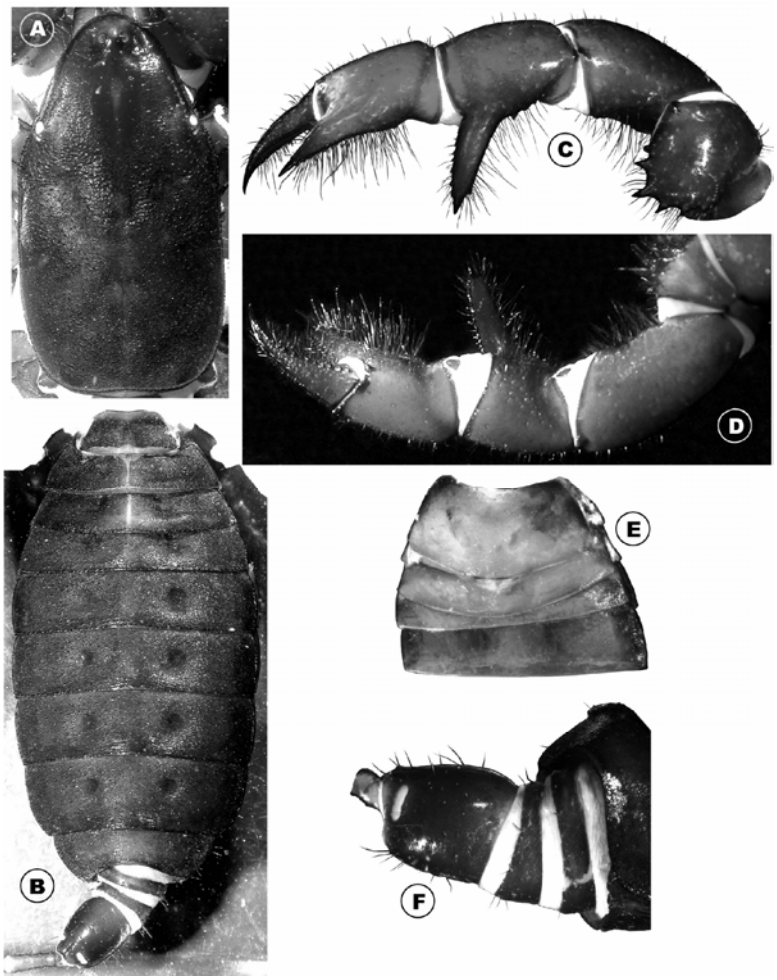

Fig. 3. *Mimoscorpius pugnator*. Young male from Santa Rosa Department, Guatemala. **A.** carapace; **B.** abdomen, dorsal aspect; **C-D.** pedipalps: **C.** dorsal aspect; **D.** ventral aspect; **E.** sternites II-IV; **F.** pygidium, lateral aspect.

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