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Psalmopoeus victori, the first arboreal theraphosid spider described for Mexico (Araneae: Theraphosidae: Avicullariinae)

Psalmopoeus victori, primera araña terafósida arborícola descrita para México (Araneae: Theraphosidae: Avicullariinae)

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Abstract. A new species of tarantula, *Psalmopoeus victori* sp. nov. (Araneae, Theraphosidae, Avicullariinae) is described from Veracruz, Mexico. It is the first arboreal species described in Mexico and represents the most northerly known distribution for the genus *Psalmopoeus*. A detailed description of the lyra is presented.

Key words: Mygalomorphae, arboreal tarantula, taxonomy, stridulating organ.

Resumen. Se describe una especie nueva de tarántula, *Psalmopoeus victori* sp. nov. (Araneae, Theraphosidae, Avicullariinae) de Veracruz, México. Es la primera especie arborícola descrita en México y la distribución más al norte conocida hasta ahora para el género *Psalmopoeus*. Se presenta una descripción detallada de la lira.

Palabras clave: Mygalomorphae, tarántula arborícola, taxonomía, órgano estridulante.

Introduction

Theraphosid spiders are mainly terrestrial, living in burrows or natural cavities, some of them under rocks or fallen logs. Arboreal species live in cavities of trees or build their nest in epiphytes. Most arboreal species are found in tropical regions of America, Africa, and Asia. In America, arboreal tarantulas are represented by the Avicullariinae genera *Avicularia* Lamarck 1818, *Iridopelma* Pocock 1901, *Pachistopelma* Pocock 1901, *Tapinauchenius* Ausserer 1871, and *Psalmopoeus* Pocock 1895. The distribution of the genus *Psalmopoeus* is from Venezuela and Colombia extending north to Belize and presumably to Mexico (Reichling, 2003). Mexico has the second highest count of known tarantula species worldwide, with ca. 74 species (Platnick, 2014). The only records of a Mexican arboreal theraphosid were an adult male of *Psalmopoeus* seen in Quintana Roo (according to Locht pers. com., this species does not belong to the one described here) and *Avicularia panamensis* (Simon, 1891) mentioned as present in Mexico by Locht (2008). *Avicularia panamensis* was originally described as *Eurypelma panamense*, but Raven (1985) synonymized *Eurypelma* Koch 1850 with *Avicularia* Lamarck 1818. The problem with this generic synonymy is that it resulted in some terrestrial species being placed into the genus *Avicularia*. Gabriel (2009) examined the holotype of *A. panamensis* and determined that this species does not belong to *Avicularia*, and transferred the species to the terrestrial genus *Sericopelma* Ausserer 1875. This created the new combination *Sericopelma panamense* (Simon, 1891).

In 2008-2009, Jiménez and Santa Cruz collected a single female arboreal tarantula from Veracruz, which fits with the diagnosis of *Psalmopoeus* but differs from all known species. This finding confirms the presence of this arboreal genus in Mexico and North America and suggests that it is a new species. Locht (2008) mentions the existence of an undescribed species of *Psalmopoeus* from Quintana Roo, but since it has yet to be described, the species reported here is the first truly arboreal tarantula to be formally described for México. *Psalmopoeus victori* sp. nov. from Mexico is here described and illustrated.

Materials and methods

The general descriptive format follows West et al. (2008) and Raven (2005) with some modifications, e. g., spination and trichobothrial conformation on legs were not studied in the same detail as in Raven's work. All measurements are in millimeters and were taken using an ocular micrometer on a stereomicroscope Nikon SMZ645

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and with a digital caliper with an error of 0.1 mm. Leg and palp measurements were taken along the dorsal central axis of the left side. Abbreviations: AME= anterior median eyes; ALE= anterior lateral eyes; PME= posterior median eyes; PLE= posterior lateral eyes; d= dorsal; p= prolateral; r= retrolateral; v= ventral; Pap= prolateral tibial apophysis; Rap= retrolateral tibial apophysis. CNAN= Colección Nacional de Arácnidos, México D.F.; UNAM= Universidad Nacional Autónoma de México. Spination description follows Pérez-Miles and Locht (2003); that of tarsal scopulae, from Pérez-Miles (1994). Geographical coordinates were obtained with a Garmin GPS 12XL. The pictures for figures 1, 2 were taken with a digital camera attached to a stereomicroscope. Photographs of figure 3 were taken with a reflex digital camera. Types are deposited in CNAN and OUMNH.

Material from the following institutions was examined: OUMNH= Oxford University Museum of Natural History, United Kingdom and INBio= Instituto Nacional de Biodiversidad, Costa Rica. Material examined for comparisons: *Psalmopoeus reduncus* (Karsch, 1880), **Costa Rica**: male, INB0003535315, prov. Punta, San Luis Monteverde, AC Arenal, L N 449250_250850, Jun 1993; female, INB0003535240, prov. Heredia, Estación el Ceibo, L N 256500_527700, 5 Apr 1990; *P. cambridgei* (Pocock 1895), **Trinidad**: male, CNAN-Ar003615; *P. irminia* Saager, 1994, **Venezuela**: 3 males, CNAN-Ar003508.

Description

Subfamily Avicullariinae Simon, 1892
Genus *Psalmopoeus* Pocock, 1895
Type species: *Psalmopoeus cambridgei* Pocock, 1895
Psalmopoeus victori sp. nov.
(Figs. 1-31)
Type material. Holotype male (CNAN-T0086), **Mexico:** Veracruz, Mpio. San Andrés Tuxtla, 26-VIII-2008, V. H. Jiménez, collector (coll.) (matured in captivity). Paratypes: 3 males (CNAN-T0806), from the type locality, grown in captivity by J. I. Mendoza, Mexico City, 14-XII-2012; 1 female (CNAN-T0087), from the type locality 19-I-2009, V. Jiménez and J. Mendoza coll.; 1 female (CNAN-T0088), Veracruz, 19-I-2009, V. H. Jiménez and S. Santacruz coll.; 1 male and 1 female (OUMNH-2011-087), from the type locality, grown in captivity by J. I. Mendoza, Mexico City, 26-V-2010, deposited by E. Hijmensen. Additional material examined:1 juvenile CNAN-Ar003569, Veracruz, 19-I-2009, J. I. Mendoza coll.
Diagnosis: male palpal bulb with a slender embolus 2½ half times longer than tegulum, curved to retrolateral side on apical fourth (Fig. 20). Maxillary lyra with *ca.* 13 spines that gradually increase in size from 0.2 to 0.6 (proximal to distal) in the same straight line as the edge of the oral fringe (Figs. 11-13). Female with 2 independent spermathecae almost as wide as long (Fig. 27). Male with slightly red setae on abdomen (Fig. 29). Female abdomen dorsally black with long red setae, ventrally black. Legs and palpi: femora, patellae, tibiae, and metatarsi with dark green sheen, most notable on femur of palpi and legs I-II. Legs III and IV with dense, long red setae (Fig. 30). *Psalmopoeus victori* sp. nov. is similar to *P. reduncus* but differs from all congeners by the coloration in females, with red setae on the entire abdomen and legs III and IV (Fig. 30), and shape of genitalia of both sexes. The male also differs by the shape of the palpal bulb with a big globose tegulum and long embolus bent retrolaterally in the apical fourth, and in the shape of the maxillary lyra. Male palpal bulb of *P. victori* is similar to those of *P. reduncus* but differs from this by a better-defined separation of the embolus from the tegulum, also in the narrow base of the embolus (best seen in retrolateral face) (Fig. 19). The lyra of *P. victori* has a smaller number of spines, which are wider and more curved than those of *P. reduncus* (Figs. 12, 13). Spermathecae of *P. victori* females differ from those of *P. reduncus* in having more sclerotized lobes,widest at the base (Fig. 27).
Holotype male CNAN T0086 (Figs. 1-7, 9-10, 12, 18-20, 29): body length 32.4 (not including chelicerae and spinnerets), carapace 16.2 long, 15.2 wide. Caput not markedly elevated; fovea recurved, 1.8 wide. Eyes: anterior eye row procurved, posterior eye row recurved. Eye sizes and interocular distances: AME 0.8; ALE 0.85; PME 0.6; PLE 0.7; AME-AME 0.4; AME-ALE 0.2; PME-PME 1.95; PME-PLE 0.2; ALE-PLE 0.05. Eye tubercle, 3.6 wide; 2.5 long; clypeus absent (Fig. 1, 3). Labium 1.65 long; 2.5 wide; with ca.195 cuspules. Maxilla inner corner (left, right) with approximately 221-214 cuspules (Fig. 4). Cheliceral promargin with 9 teeth (first large, second-third medium, fourth small, fifth medium, and sixth-ninth larger, proximal to distal) (Fig. 7). Sternum length 8.0. Sigillae elongated oval, third and fourth pair hardly visible; fourth pair half its length from the margin (Fig. 2). Maxillary lyra (Fig. 12): elongated oval with ca. 13 spines that gradually increase in size from 0.2 to 0.6 (proximal to distal); ventral edge isolated from the oral division in the first 2/3, distally joining this and differing little; spines of the first proximal half shorter and wider, slightly curved; dorsal edge line slightly convex in the same straight line as the edge of the oral fringe and scarcely separated from it; gaps evenly spaced on the first 2/3. Legs: formula: I, IV, II, III. Length of legs and palpal segments (femur, patella, tibia, metatarsus, tarsus, total): I: 18.3, 9.6, 14.7, 13.8, 8.3, 64.7. II: 17.3, 8.1, 13.6, 13.4, 7.4, 59.8. III: 13,