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Three new species and the first known males of the Andean spider genus *Orinomana* Strand (Araneae, Uloboridae)

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Abstract

Three new species of the uloborid genus *Orinomana* Strand, *O. penelope* n. sp. from Ecuador, *O. viracocha* n. sp. from Peru, and *O. florezi* n. sp. from Colombia, are described. Additionally, the male of *O. ascha* Grismado, from Northwestern Argentina, is described for the first time. This material includes the first males known of the genus, providing diagnostic characters for its recognition; the complex and massive embolus with several branches is proposed as a synapomorphy of the genus.

Key words: Uloboridae, *Orinomana*, taxonomy, South America, genital morphology

Introduction

The genus *Orinomana* Strand comprises currently four species endemic from the Andean region of South America (World Spider Catalog 2015), and is mainly recognized by having posterior lateral eyes on prominent tubercles together a high peaked abdomen (Opell 1979, Grismado 2000, 2008). The four species were described on base of female specimens.

The study of the collection of CAS and ICN, together with recently collected material in northwestern Argentina led us to describe three new species from Colombia, Ecuador and Peru, including the first known males of the genus. The study of the morphology of the palps of the newly discovered males provided data to establish the first potential synapomorphies for this enigmatic and rare uloborid genus.

Methods

Specimens are deposited in the California Academy of Sciences, San Francisco (CAS, Charles Griswold), the Museo Departamental de Ciencias Naturales del Valle de Cauca, Cali (ICN-AR, Eduardo Flórez Daza), and the Museo Argentino de Ciencias Naturales “Bernardino Rivadavia” (MACN-Ar, Cristina L. Scioscia). Drawings were made with a camera lucida mounted on an Olympus BH-2 compound microscope. Photographs of the preserved specimens were taken with a Leica DFC 290 digital camera mounted on a Leica M165 C stereoscopic microscope, and the focal planes were composed with Helicon Focus 4.62.2, and some of them were flipped for consistency. Photographs in nature were taken with a Nikon D80 digital camera using a Micro-Nikkor 85 mm lens. Scanning electron micrographs were taken under high vacuum with a FEI XL30 TMP after critical point drying and gold/palladium coating. The format of descriptions follows mostly Opell (1979), except the nomenclature of the male palpal sclerites, where we opted to follow Coddington (1990). The abbreviations are: AS: anterior spermatheca, C: conductor, CD: copulatory duct, Cy: cymbium, E: embolus (branches 1–4: b1, b2, b3, b4), ED: ejaculatory duct, FD: fertilization duct, Fu: fundus, MA: median apophysis, MH: median hematodocha, MOQ: median ocular