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A new Colombian species of *Cryptocellus* (Arachnida, Ricinulei), with notes on the taxonomy of the genus

RICARDO BOTERO-TRUJILLO^{1,2}

¹División Aracnología, Museo Argentino de Ciencias Naturales “Bernardino Rivadavia”, Avenida Ángel Gallardo 470, CP: 1405DJR, C.A.B.A., Buenos Aires, Argentina. E-mail: rbt@macn.gov.ar

²Associate Researcher, Laboratorio de Entomología, Unidad de Ecología y Sistemática–UNESIS, Departamento de Biología, Pontificia Universidad Javeriana, Bogotá, Colombia

Abstract

Cryptocellus sofiae **sp. nov.** is described based on males and females obtained from the easternmost part of Colombia, in Vichada Department. The new species is placed in the *adisi* species-group, based on the morphology of the male copulatory apparatus and the presence of polygonal (navicular or calyx-like) setae. With this addition, the group now comprises four species. A key for the identification of the members of this group is provided. Some taxonomic remarks about the *adisi* group and the genus *Cryptocellus* Westwood, 1874 are made.

Key words: *adisi* group, *Cryptocellus sofiae* **sp. nov.**, Vichada

Resumen

Se describe a *Cryptocellus sofiae* **sp. nov.** en base a machos y hembras provenientes de la región más oriental de Colombia, en el Departamento de Vichada. La nueva especie es asignada al grupo de especies *adisi*, en consideración a la morfología del aparato copulador masculino y la presencia de setas poligonales (naviculares o en forma de cáliz). Con esta adición, el grupo ahora reúne cuatro especies. Se proporcionan una clave para la identificación de los miembros del grupo. Se presentan algunas consideraciones respecto al grupo *adisi* y el género *Cryptocellus* Westwood, 1874.

Introduction

Ricinulei is a rare arachnid order comprising both extant and fossil species. There are 74 recognized extant species, placed in three genera. *Ricinoides* Ewing, 1929, currently consisting of 11 species, is known from 14 countries of western and central Africa. *Pseudocellus* Platnick, 1980 contains 25 species and occurs from southern U.S.A. (Texas) south to Panama and the Caribbean Islands, with most species having been described from Mexico. *Cryptocellus* Westwood, 1874 is so far known from 38 named species (not including the new species described here) and exhibits a distribution that overlaps with that of *Pseudocellus* in southern Central America, occurring from Honduras southward through tropical South America to Brazil (Harvey 2003; Naskrecki 2008; Penney *et al.* 2009; Tourinho & Saturnino 2010; Tourinho *et al.* 2010, 2014; Muriene *et al.* 2012; Pinto-da-Rocha & Andrade 2012; Valdez-Mondragon & Francke 2013).

Since Platnick's (1980) phylogenetic hypotheses for extant ricinuleids, the above-mentioned three genera have been recognized, and their monophyly was recently supported by molecular data (Muriene *et al.* 2012). During the 1980s, *Cryptocellus* received special attention in a series of publications by N.I. Platnick and coworkers (Platnick & Shadab 1976, 1977, 1981a, 1981b; Platnick & Paz 1979; Platnick 1980), wherein the knowledge of the genus was significantly increased, including the establishment of the *foedus*, *centralis* and *magnus* species-groups. More recently, Tourinho & Saturnino (2010) reviewed the species-group divisions of *Cryptocellus* and proposed the *peckorum* and *adisi* species-groups.

A representative selection of species from the different species-groups of *Cryptocellus* for phylogenetic analyses that also include members of the other genera, will be necessary to unravel the relationships existing between those groups with the most varied morphologies. This will not be an easy task, though, due the rarity of ricinuleids and the absence of suitable fresh material of many species for DNA isolation. Once additional data becomes available, it should be possible to address the question of whether additional genera might need to be recognized (i.e. for species of *Cryptocellus* formerly gathered in species-groups).

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