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

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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; Murienne 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 (Murienne 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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References


