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First record of the family Pseudochiridiidae (Arachnida, Pseudoscorpiones) from continental South America—a *Pseudochiridium* from a Brazilian cave

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The small pseudoscorpion family Pseudochiridiidae Chamberlin, 1923 comprises two genera and 12 extant species recorded from Asia (Burma, Christmas Island, Indonesia, India, Nepal, Malaysia, New Guinea, Philippines, Nicobars and Sumba), eastern, central and southern Africa (Chad, D.R. Congo, Kenya, South Africa, Tanzania), Madagascar, Seychelles (Aldabra), North America (Florida) and the Caribbean Islands of Dominican Republic and Cuba (Harvey 2013, Barba & Barroso 2013); one unidentified species is mentioned for the fauna of Mexico (Ceballos 2004). A fossil species has been described from Dominican amber by Judson (2007), who predicted the presence of this family in South America.

Here we report the first occurrence of Pseudochiridiidae in continental South America, based on a female of *Pseudochiridium* aff. *insulae* Hoff, 1964, from a Brazilian cave. The specimen was under a rock in the aphotic zone in Lapa da Manga cave, in the city of São Desidério (Bahia, northeastern Brazil).

Knowledge of the biology and ecology of Pseudochiridiidae is poor, but they have been found in leaf litter, dead wood, under tree bark, in caves and in nests of birds and mammals (Judson 2007). Species of *Pseudochiridium* With, 1906 seem to prefer dry habitats, as indicated also by the new record from Brazil. No specimens have been collected during the intensive ecological survey carried out in the Amazon region near Manaus (e.g. Mahnert 1979). Most species have been recorded from a few specimens only, with rare exceptions, such as the collection of 65 specimens of *Pseudochiridium triquetrum* Beier, 1965 from the nest of an apodid bird (Beier 1965).

About 168 named species of pseudoscorpions (out of a world-wide total of about 3800) are known to occur in Brazil, including 28 species in 10 families that have been recorded from Brazilian caves, including the species treated here (Mahnert 2001; Andrade & Mahnert 2003; Ratton *et al.* 2012). In the last decade, collections from Brazilian caves have increased considerably, mostly in areas with mining and hydroelectric ventures, extending the distribution of many families. However, many of the samples obtained have remained unstudied so far, due to the lack of specialists working on this group in Brazil.

The single specimen of *Pseudochiridium* aff. *insulae* was collected in a cave located in a unique karst area of northeastern Brazil, the São Desidério region (Fig. 1), surrounded by a transition of dry vegetation and cerrado phytophysionomies with a remnant of Atlantic Forest (Nimer 1979). This region, with a typical semi-arid climate, is a newly recognized high diversity area for cave species, with regrettably few studies until now, and represents an interesting transition between humid phytophysionomies and drier environments (Nimer 1979), which have favored species isolation. The mosaic of vegetation in this region is the result of many ancient climatic variations, also recorded in the limestone rocks of São Desidério Karst area, where faunal isolation probably occurred, caused by altimetric variation in the water table (Ford & Williams 2007) acting like a physical barrier.

The specimen is preserved in 70% ethanol and deposited in the collections of the Museum of Zoology of São Paulo University (MZUSP). It was mounted on a temporary slide, in glycerin, and studied under a Nikon Optiphot compound microscope; drawings were done with a Nikon drawing tube. The photograph was taken with a Moticam mounted on a Motic stereomicroscope. The map was produced using Quantum Gis 2.0.1. Trichobothrial nomenclature follows Chamberlin (1931). Measurements, which exclude granulation, follow Chamberlin (1931) or, for coxa IV, Judson (2007). One female of *P. insulae* Hoff from the Dominican Republic, recorded by Judson (2007), has been studied (housed in the collections of the Muséum d'histoire naturelle de Genève).

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