

Nota Científica
(Short Communication)

**FIRST RECORD OF THE FAMILY PSEUDOCHIRIDIIDAE
(ARACHNIDA: PSEUDOSCORPIONES) FROM CUBA**

Barba Díaz, R. & Alegre Barroso, A. 2013. Primer registro de la familia Pseudochiridiidae (Arachnida: Pseudoscorpiones) en Cuba. *Acta Zoológica Mexicana (n. s.)*, 29(3): 696-700.

RESUMEN. Se registra *Pseudochiridium insulae* Hoff, 1964 para Cuba, constituyendo el primer registro de la familia Pseudochiridiidae Chamberlin, 1923 para esta isla de las Antillas. Se describen los ejemplares y se ofrecen datos de su variabilidad morfométrica.

Pseudoscorpions of the family Pseudochiridiidae are very difficult to collect because of their small size. They inhabit in leaf litter, under stones, under bark of trees, in caves and in nests of birds and mammals. At present there are 2 genera and 12 recent species distributed in the tropical and subtropical regions of the world (Harvey, 2011). Hoff (1964) recorded the first pseudochiridiid from the western hemisphere when he described *Pseudochiridium insulae* Hoff, 1964 from Florida, USA. In Mexico an unidentified species of *Pseudochiridium* With has also been recorded (Mejía & Guerrero, 1993; Ceballos, 2004). Judson (2007a) recorded a male of *Ps. insulae* (V. Mahnert, det.) from Dominican Republic and described the fossil species *Ps. lindae* Judson, 2007 from Dominican amber. Among the pseudoscorpions of the Arachnological Collection of the Institute of Ecology and Systematics, Havana, Cuba, were found two specimens belonging to *Ps. insulae* Hoff, 1964. These specimens represent the second record of the species from the Antilles.

Microscopic examinations were made with a Zeiss Axiolab light microscope. Temporary slide mount where made in glycerin cavity slides. Measurements (in millimeters) follow Chamberlin (1931), and were made using an ocular graticule. The ratios given are the length/width index of an article, except for legs that are the length/depth index. Morphological terminology follows Chamberlin (1931), with modifications to the nomenclature of the segments of pedipalps and legs (Harvey, 1992). The terminology of the cheliceral rallum ("flagellum") is adopted from Judson (2007b). Photographs of the habitus were taken with a Sony Cyber-shot DSC-W310 digital

Recibido: 11/04/2013; aceptado: 24/05/2013.

camera mounted on a Zeiss Stemi 2000-C microscope through a universal adapter. The map was produced with the computer program MapInfo Professional Version 10.5 after the locality data were stored in an Excel database. The specimens are deposited in the Arachnological Collection of the Institute of Ecology and Systematics, Havana, Cuba.

***Pseudochiridium insulae* Hoff, 1964**

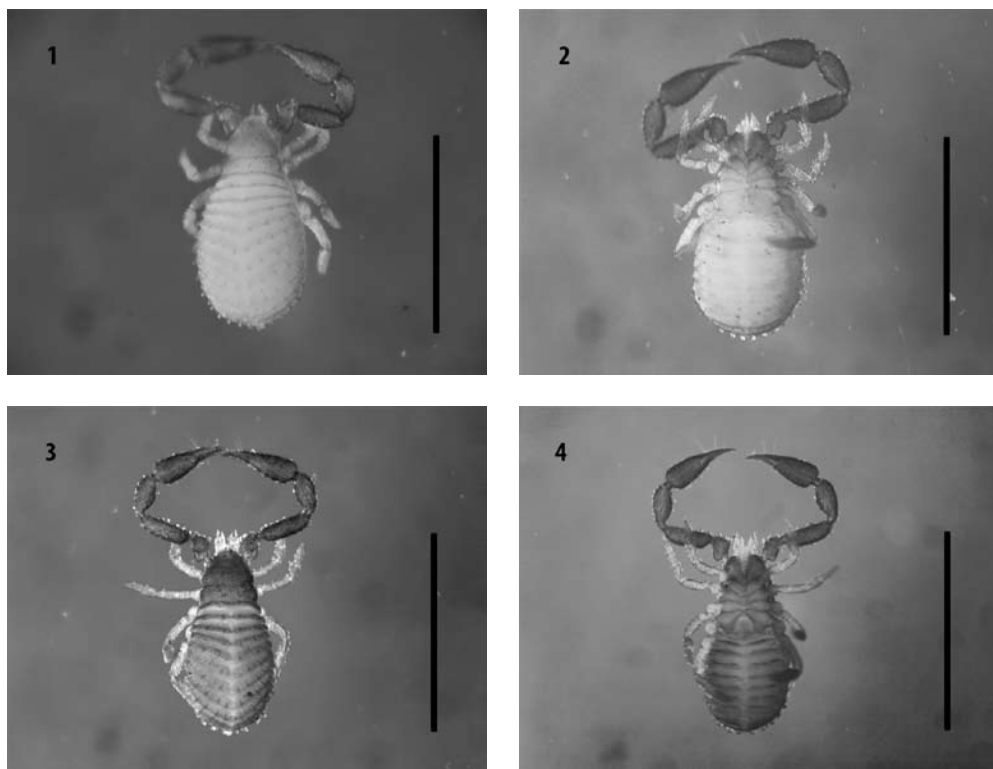
(Figs 1-5)

Material examined. CUBA: Pinar del Río: 1 female (CZACC 3.3184), 200m N of La Bajada, Guanahacabibes, 21°55'26.4"N, 84°28'30"W, 17-VIII-2001, L.F. de Armas, semi-deciduous forest. 1 male (CZACC 3.3185), Sierra de Guane, Salto de los Portales, Guane, 22°12'46.8"N, 84°2'52.8"W, 18-VII-2008, A. Hernández, leaf litter.

Description. FEMALE (Figs 1-2): Carapace 0.94 times longer than broad, with 31 setae, 4 in each of the anterior and posterior margins. Chaetotaxy of pedal coxae: I: 5, II: 5-9, III: 16-18, IV: 60. Pedipalps with trochanter 1.82, femur 3.27, patella 2.15, chela (with pedicel) 3.11, chela (without pedicel) 2.85, hand (with pedicel) 1.93, hand (without pedicel) 1.67 times longer than broad, movable finger 0.84 times longer than hand (without pedicel). With 23 teeth on fixed chelal finger and 21 on movable finger. Anterior genital sternite with 17 small simple setae, posterior genital sternite with 4. Tergites divided, all except the first chevron-shaped; tergal chaetotaxy I-XII (hemitergites left + right) 2+2: 3+3: 4+3: 4+4: 5+5: 5+5: 5+5: 6+5: 6+5: 5+5: 5+5: 2. Sternal chaetotaxy IV-XII (hemisternites left + right) 6+6: 13+12: 11+10: 10+10: 8+9: 6+7: 6+6: 2+2: 2. Genitalia not observed. Chelicera with number of setae of the hand, galea and number of plates in the serrula exterior as described by Hoff (1964), rallum composed of 3 blades, the most distal blade serrate; movable finger with subapical lobe long and curved. Femur + patella of leg IV 3.86 times, tibia 3.33 times, tarsus 5.50 longer than deep.

Measurements. Body length 1.05. Carapace length 0.375, width of the posterior margin 0.40. Chelicera 0.12/0.06. Pedipalps: trochanter 0.20/0.11; femur 0.35/0.107; patella 0.28/0.13; chela (with pedicel) 0.47/0.151; chela (without pedicel) 0.43/0.151; hand (with pedicel) 0.29/0.15; hand (without pedicel) 0.25/0.15; movable finger length 0.21. Leg I: trochanter 0.083/0.07; femur 0.11/0.063; patella 0.11/0.065; tibia 0.13/0.05; tarsus 0.18/0.04. Leg IV: Coxa IV 0.17/0.18, femur + patella 0.27/0.07; tibia 0.20/0.06; tarsus 0.22/0.04. .

MALE (Figs 3-4): Very similar to the female, but little smaller in size. Carapace 0.93 times longer than broad, with 30 setae, 4 in each of the anterior and posterior margins. Chaetotaxy of pedal coxae: I: 5-6, II: 7, III: 14, IV: 21-24. Pedipalps with trochanter 1.89, femur 3.44, patella 2.36, chela (with pedicel) 3.35, chela (without pedicel) 3.00 times longer than broad, hand (with pedicel) 2.08, hand (without pedicel) 1.85 times longer than deep, movable finger 0.79 times longer than hand (without pedicel). With



Figures 1–4. *Pseudochiridium insulae* Hoff, 1964. 1. Female habitus, dorsal view. 2. Ventral view. 3. Male habitus, dorsal view. 4. Ventral view. Scale bar: 1 mm.

22 teeth on fixed chelal finger and 21 teeth on movable finger. Genital area a little damaged, anterior genital sternite with a median group of more than 40 long and simple setae, posterior genital sternite with four internal setae. Tergites I-X weakly divided and visible in dorsal view, tergal chaetotaxy I-XII (hemitergites left + right) 2+2: 3+3: 3+3: 4+3: 3+4: 3+5: 5+4: 5+4: 4+4: 4+4: 5+5: 2. Sternal chaetotaxy III-XII (hemisternites left + right) 8: 6+7: 9+7: 9+9: 7+7: 7+5: 6+5: 3+4: 2+2: 2. Femur + patella of leg IV 3.57 times, tibia 3.00 times, tarsus 4.22 times longer than deep. Tarsi of all legs with a fine hispid ornamentation ventrally and laterally.

Measurements. Body length 0.925. Carapace length 0.325, width of the posterior margin 0.35. Chelicera 0.12/0.055. Pedipalps: trochanter 0.17/0.09; femur 0.31/0.09; patella 0.26/0.11; chela (with pedicel) 0.435/0.13; chela (without pedicel) 0.39/0.13; hand (with pedicel) 0.27/0.13; hand (without pedicel) 0.24/0.13; movable finger length 0.19; Leg I: trochanter 0.09/0.06; femur 0.10/0.058; patella 0.10/0.06; tibia

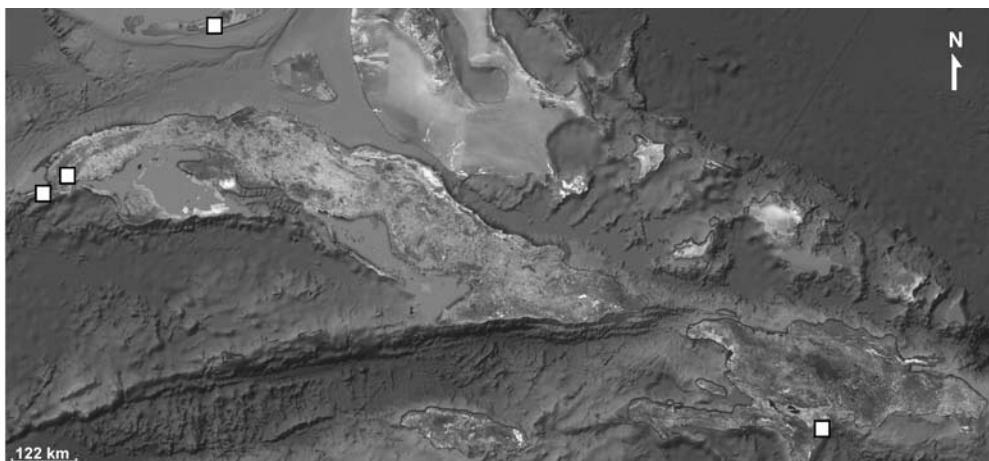


Figure 5. Map showing the geographical distribution of *Pseudochiridium insulae*.

0.115/0.05; tarsus 0.17/0.04. Leg IV: trochanter 0.12/0.07; femur + patella 0.25/0.07; tibia 0.18/0.06; tarsus 0.19/0.045. Coxa IV 0.16/0.13.

Remarks. The Cuban specimens of *Pseudochiridium insulae* have the measurements and proportions of palpal segments very similar to the specimens from Florida, USA described by Hoff (1964), the length/width of the chela (without pedicel) 0.39/0.13 mm and 3.00 times longer than broad in males, and 0.43/0.151 mm and 2.85 times longer than broad in females. Hoff (1964) doubtfully stated that the Floridian specimens have two blades in the rallum of the chelicera whereas the Cuban specimens definitely have three blades, but it could be because of the position of the chelicera during the permanent preparation of the specimen in his study.

Until present the species is known from Stock Island, USA, Dominican Republic and western Cuba (Fig. 5). The presence of *Ps. insulae* in the western of Cuba it is not a surprise because the relation between the pseudoscorpion fauna of this part of the island with the Floridian fauna (pers. obs). However the record from Dominican Republic could suggest the presence of this species in other parts of Cuba, which must to be verify through better collect efforts using for example litter sifter method.

ACKNOWLEDGEMENTS. I am indebted to L. F. de Armas (Institute of Ecology and Systematics, Havana, Cuba) for collecting one of the specimens and for helpful comments to the manuscript. To Juan Antonio Zaragoza (Department of Ecology, University of Alicante, Spain) and two anonymous reviewers for critical revision of the manuscript. To A. Hernández for collecting one of the specimens. This result is part of the PNAP Zoological Collections, of the Ministry of Science, Technology and Environment, Cuba.

LITERATURE CITED

- Ceballos, A.** 2004. Pseudoscorpionida, pp. 417–429. In: Llorente Bousquets, J., Morrone, J. J., Yáñez Ordóñez, O. & Vargas Fernández, I. (Eds.), *Biodiversidad, taxonomía y biogeografía de Artrópodos de México*. Vol. 4. Facultad de Ciencias, UNAM, México.
- Chamberlin, J. C.** 1931. The arachnid order Chelonethida. *Stanford University Publications, Biological Sciences*, 7: 1–284.
- Harvey, M. S.** 1992. The phylogeny and classification of the Pseudoscorpionida (Chelicerata: Arachnida). *Invertebrate Taxonomy*, 6: 1373–1435.
- Harvey, M. S.** 2011. Pseudoscorpions of the World, version 2.0. Western Australian Museum, Perth. Online at <http://www.museum.wa.gov.au/catalogues/pseudoscorpions/> (accessed February 2013).
- Hoff, C. C.** 1964. A new pseudochiridiid pseudoscorpion from Florida. *Transactions of the American Microscopical Society*, 83: 89–92.
- Judson, M. L. I.** 2007a. First fossil record of the pseudoscorpion family Pseudochiridiidae (Arachnida, Chelonethi, Cheiridioidea) from Dominican amber. *Zootaxa*, 1393: 45–51.
- Judson, M. L. I.** 2007b. A new and endangered pseudoscorpion of the genus *Lagynochthonius* (Arachnida, Chelonethi, Chthoniidae) from a cave in Vietnam, with notes on chelal morphology and the composition of the Tyrannochthoniini. *Zootaxa*, 1627: 53–68.
- Mejía B. B. & Guerrero, C.** 1993. Pseudoscorpiones de la selva baja caducifolia de Chamela, Jalisco. *Memoria del XXVIII Congreso Nacional de Entomología, Chohula, Puebla, México*: Sociedad Mexicana de Entomología, pp. 404–405.

RENÉ BARBA DÍAZ^{1,2} & AYLIN ALEGRE BARROSO¹

¹ División Colecciones Zoológicas y Sistemática, Instituto de Ecología y Sistemática, Carretera Varona 11835, e/ Oriente y Lindero, Reparto Parajón, Boyeros, La Habana, Cuba.

² Corresponding author: <renelilo@hotmail.com>