



NOTA BREVE:

**First record of the family
Sternophoridae (Arachnida:
Pseudoscorpiones) from Puerto Rico**

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**First record of the family Sternophoridae
(Arachnida: Pseudoscorpiones)
from Puerto Rico**

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Abstract:

Idiogaryops paludis (Chamberlin, 1932) is recorded from Puerto Rico; this is the first record of the family Sternophoridae Chamberlin, 1923 for this Antillean Island. Descriptions and morphometric data of the specimens are given.

Keywords: Pseudoscorpiones, Sternophoridae, *Idiogaryops paludis*, West Indies, Puerto Rico.

Primer registro de la familia Sternophoridae (Arachnida: Pseudoscorpiones) para Puerto Rico

Resumen:

Se registra *Idiogaryops paludis* (Chamberlin, 1932) para Puerto Rico, constituyendo el primer registro de la familia Sternophoridae Chamberlin, 1923 para esta isla antillana. Se describen los ejemplares y se ofrecen datos de su variabilidad morfológica.

Palabras clave: Pseudoscorpiones, Sternophoridae, *Idiogaryops paludis*, Antillas, Puerto Rico.

Introduction

Sternophorids are small to medium sized pseudoscorpions with twenty species described (Harvey, 2009). Three genera are currently known: *Garyops* Banks, 1909 from North and Central America and the Caribbean; *Idiogaryops* Hoff, 1963 from North America and the Caribbean and *Afrosterophorus* Beier, 1967 from eastern Africa, India, Nepal, Sri Lanka, Southeast Asia and Australasia (Harvey, 1985). The genus *Idiogaryops* has two recognized species: *I. paludis* (Chamberlin, 1932) from USA and U.S. Virgin Islands, *I. pumilus* (Hoff, 1963) from USA and Cayman Islands as well as a third unnamed species from USA (Harvey, 1985). Judson (1998) recorded *I. paludis* from amber of Dominican Republic. During July 2010 two specimens of *I. paludis* were collected from Puerto Rico, representing the second extant record of this species in the West Indies.

Material and Methods

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). Photographs of the habitus were taken with a Sony Cyber-shot DSC-W310 digital camera mounted on a Zeiss Stemi 2000-C microscope through a universal adapter. The specimens are deposited in the Arachnological Collection of the Institute of Ecology and Systematics, Havana, Cuba. The comparison material was revised in the American Museum of Natural History (AMNH), New York, USA.

Results

Idiogaryops paludis (Chamberlin, 1932) (Figs 1–2)

MATERIAL EXAMINED. Puerto Rico: Sabana Grande, 1 male (CZACC 3.3176), 1 female (CZACC 3.3177), Susúa forest, 18°5'23.32"N, 66°55'3.19"W, 17-VII-2010, L.F. de Armas, A. Pérez-Asso, under stones in forest over serpentine, 400 m. U.S.A.: Florida: Archbold Biological Station, Highlands Co., 14 April 1956 (C. C. Hoff), bark of *Pinus elliotti*, 1 female (AMNH, S-2826.2) (slide). Same data as above except 21 April 1956, bark and lichens on trunks of *Ilex cassine*, 1 female (AMNH, S-2877.3) (slide). Same data as above except 1 May 1956, under started bark of dead *Pinus elliotti*, 1 female (AMNH, S-2951.3) (slide). Near Archbold Biological Station, Highlands Co., 29 April 1956, under started bark of dead *Pinus elliotti*, 1 female (AMNH, S-2942.2) (slide). Near Lake Placid, Highlands Co., 22 April 1956, under side of damp live oak log in open, 1 male (AMNH, S-2887.?) (slide).

DESCRIPTION. MALE (Figs 1–2): Carapace 1.29 times longer than broad, with 22 setae, six in the anterior margin, with some lyrifissures and numerous micropores over entire surface. Pedipalpal coxa with 7 setae, including 2 long apical setae in the apex. Chaetotaxy of pedal coxae: I: 4, II: 3, III: 4, IV: 4. Pedipalps with trochanter 1.68, femur 2.76, patella 2.17, chela (with pedicel) 3.60, chela (without pedicel) 3.35 times longer than broad, hand (without pedicel) 1.80 times longer than deep, movable finger 0.89 times longer than hand (without pedicel). With 21 teeth on fixed chelal finger and 20 teeth on movable finger. Tergal chaetotaxy I–XI: 6: 5: 4: 5: 6: 6: 6: 7: 6: 8: 10. Sternal chaetotaxy II–XI: 12: (0)4(0): (1)6(1): 7: 7: 6: 7: 6: 10: 10. Anal cone with two ventral and two dorsal setae. Genitalia as described by Harvey (1985). Femur + patella of leg IV 2.33 times, tibia 3.11 times, tarsus 2.50 times longer than deep. Measurements: Body length 1.97. Carapace length 0.66. Chelicera 0.13/0.08. Pedipalps: trochanter 0.32/0.19; femur 0.47/0.17; patella 0.39/0.18; chela (with pedicel) 0.72/0.20; chela (without pedicel) 0.67/0.20; hand 0.36/0.20; movable finger length 0.32; Leg I: trochanter 0.09/0.08; femur 0.09/0.10; patella 0.14/0.10; tibia 0.15/0.08; tarsus 0.09/0.04. Leg IV: trochanter 0.12/0.11; femur + patella 0.35/0.15; tibia 0.28/0.09; tarsus 0.15/0.06.

FEMALE: Very similar to the male, but little larger in size. Carapace 1.16 times longer than broad, with 24 setae, of which four on anterior margin. Pedipalpal coxa with 7 setae, including two long apical setae in the apex. Chaetotaxy of pedal coxae: I: 4, II: 5, III: 4, IV: 4. Pedipalps with trochanter 1.48, femur 2.50, patella 2.30, chela (with pedicel) 3.35, chela (without pedicel) 3.04, hand (without pedicel) 1.95 times longer than deep, movable finger 0.85 times longer than hand. With 20 teeth on fixed chelal finger and 21 on movable finger. Tergal chaetotaxy I–XI: 6: 7: 5: 6: 8: 8: 8: 6: 7: 8: 10.

Sternal chaetotaxy II–XI: 9: (0)4(0): (1)6(1): 7: 7: 8: 8: 8: 10: 10. Anal cone with two ventral and two dorsal setae. Genitalia pattern as for the genus in Harvey (1985). Femur + patella of leg IV 3.25 times, tibia 2.64 times, tarsus 2.14 longer than deep.

Measurements: Body length 2.30. Carapace length 0.72. Chelicera 0.15/0.09. Pedipalps: trochanter 0.34/0.23; femur 0.50/0.20; patella 0.46/0.20; chela (with pedicel) 0.77/0.23; chela (without pedicel) 0.70/0.23; hand 0.39/0.20; movable finger length 0.33; Leg I: trochanter 0.11/0.09; femur 0.10/0.10; patella 0.16/0.10; tibia 0.17/0.08; tarsus 0.11/0.06. Leg IV: trochanter 0.15/0.10; femur + patella 0.39/0.12; tibia 0.29/0.11; tarsus 0.15/0.07.

REMARKS. Palpal segments of the male and female of Puerto Rico are a little stouter than those in the specimens examined by Hoff and Bolsterli (1956) except the measurements of the length of chela (without pedicel) 0.67 (male) and 0.70 mm (female) which are in the range given by them. The measurements of the palpal segments of the females examined by Hoff (1963) are slightly smaller than those of the Puerto Rican female. The species was previously recorded from under bark of trees (Hoff and Bolsterli, 1956; Hoff, 1963; Weygoldt, 1969; Brach, 1979; Judson, 1998). The Puerto Rican specimens were collected under stones, which is very rare considering that the species of the family Sternophoridae are generally known by corticolous habits. *Afrosterphorus cavernae* (Beier, 1982) is the only noticed record from a different habitat, a cave in Papua New Guinea, but this finding seems to be casual because of the lack of troglitic characters of the species (Harvey, 1985). The occurrence of sternophorids in Puerto Rico it is not a surprise because of the previous records in Florida, U.S. Virgin Islands, Cayman Islands and Dominican Republic. Even when these pseudoscorpions are small and pale, therefore difficult to collect, it is to be expected that new survey efforts in the West Indies will increase the presence of the species of the family in the region.

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Figuras 1–2: *Idiogaryops paludis* (Chamberlin, 1932), male habitus. 1. Dorsal view. 2. Ventral view. Scale bars: 1 mm.

