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A NEW *PACHYOLPIUM* SPECIES (PSEUDOSCORPIONES: HESPEROLPIIDAE) FROM CUBA

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Abstract: A new species of the genus *Pachyolpium* is described from Guantánamo province, Cuba. *Pachyolpium alegreae* **n. sp.** is the second species of the genus recorded in the country.
Key words: Pseudoscorpions, Hesperolpiidae, *Pachyolpium*, new species, Cuba.

Una especie nueva de *Pachyolpium* (Pseudoscorpiones, Hesperolpiidae) de Cuba
Resumen: Se describe una especie nueva del género *Pachyolpium* de la provincia de Guantánamo, Cuba. *Pachyolpium alegreae* **sp. n.** es la segunda especie del género registrada en el país.
Palabras clave: Pseudoscorpiones, Hesperolpiidae, *Pachyolpium*, especie nueva, Cuba.

Taxonomía / Taxonomy: *Pachyolpium alegreae* **n. sp.**

Introduction

The genus *Pachyolpium* Beier, 1931 is represented by 22 species and 2 subspecies in the Neotropical region (World Pseudoscorpiones Catalog, 2022). In the Antilles are known 10 species and two subspecies of this genus *P. amplum* (Hoff, 1964) in Jamaica; *P. arubense* Beier, 1936, *P. arubense arubense* Beier, 1936 and *P. arubense variabile* Tooren, 2002 in Lesser Antilles; *P. aureum* Hoff, 1945 in Puerto Rico; *P. brevifemoratum* (Balzan, 1887) in British Virgin Islands; *P. brevipes* (With, 1907) in some Lesser Antilles; *P. confundens* Hoff, 1945 recorded in Puerto Rico; *P. confusum* Tooren, 2002 in Saint Barthélemy and Saint Eustatius, Lesser Antilles; *P. furculiferum* (Balzan, 1892) in Cayman Islands, St. Vincent and Grenadines, and U.S. Virgin Islands; *P. isolatum* (R. V. Chamberlin, 1925) in Jamaica; finally *P. medium* Hoff, 1945 is present in Dominican Republic, Jamaica, Puerto Rico and Cuba.

Pachyolpium alegreae **n. sp.** is describe here and constitutes the second species of the genus known from Cuba.

Materials and methods

The specimens studied herein were dissected and examined as temporary glycerine mounts in cavity slides. After examination, specimens were preserved in 70% ethanol in glass vials, with the dissected appendages separated in glass microvials. Microscopic examinations were carried out with a Zeiss Axiolab light microscope, which was also used to take measurements of the appendages; illustrations were prepared through the photographed structures taken with a digital camera connected to the microscope, and later digitally traced using the computer software Corel Draw X6. The measurements follow Chamberlin's (1931) reference points and are given in millimeters. Proportions are given as length/breadth for carapace, chelicerae and pedipalps and as length/depth for legs. Terminology and reference points for measurements largely follow Chamberlin (1931), with modifications to the nomenclature of the segments of pedipalps and legs (Harvey, 1992). The use of the terms rallum, antiaxial and paraxial follows Judson (2007). The map was produced with the computer program MapInfo Professional Version 10.5 after the locality data were stored in an Excel database.

Abbreviations. CZACC: Zoological Collections of the Institute of Ecology and Systematics, Havana, Cuba.

Results

***Pachyolpium alegreae* n. sp.**
Figs 1-6

TYPE MATERIAL. ♂ holotype, Baitiquirí bay, San Antonio del Sur, Guantánamo, 20°02'00"N, -74°52'00"W, 21-VII-2006, A. Alegre leg., under stone, near the sea in a place with black mangrove (CZACC 3.4385). ♀ paratype, same data as the holotype (CZACC 3.4386).

DIAGNOSIS (♂, ♀). It differs from other species of the genus by presenting the longest mobile finger of the pedipalpal chela (♂) 0.76 mm, (♀) 0.80 mm and a greater number of marginal teeth on both fingers of the pedipalpal chela (60-64). Pedipalp with femur length (♂) 0.83 mm, (♀) 0.91 mm, (♂) 3.95 times as long as broad, (♀) 3.37; length of chela with pedicel (♂) 1.44 mm, (♀) 1.60 mm, (♂) 3.60 times longer than broad, (♀) 3.20. Male genitalia with wide lateral apodemes.

ETYMOLOGY. The species is named after the Cuban arachnologist and biospeleologist Aylin Alegre Barroso, who collected the type material.

DESCRIPTION (♂ holotype). Species with big size within the genus, body length 2.90 mm. Carapace, chelicerae and pedipalps reddish; opisthosoma and legs yellowish.

Carapace. Longer than broad. Lateral surfaces reticulated. With four eyes well developed. With 28 setae, four in the anterior margin and four in the posterior one. With some lyrifissures and small pores over entire surface.

Coxal area. Manducatory process with 2 distal setae on each side, pedipalpal coxa with 15 setae, one longer in the anterior margin. Pedal coxa I: 9 setae, II 10, III 9, IV 11.

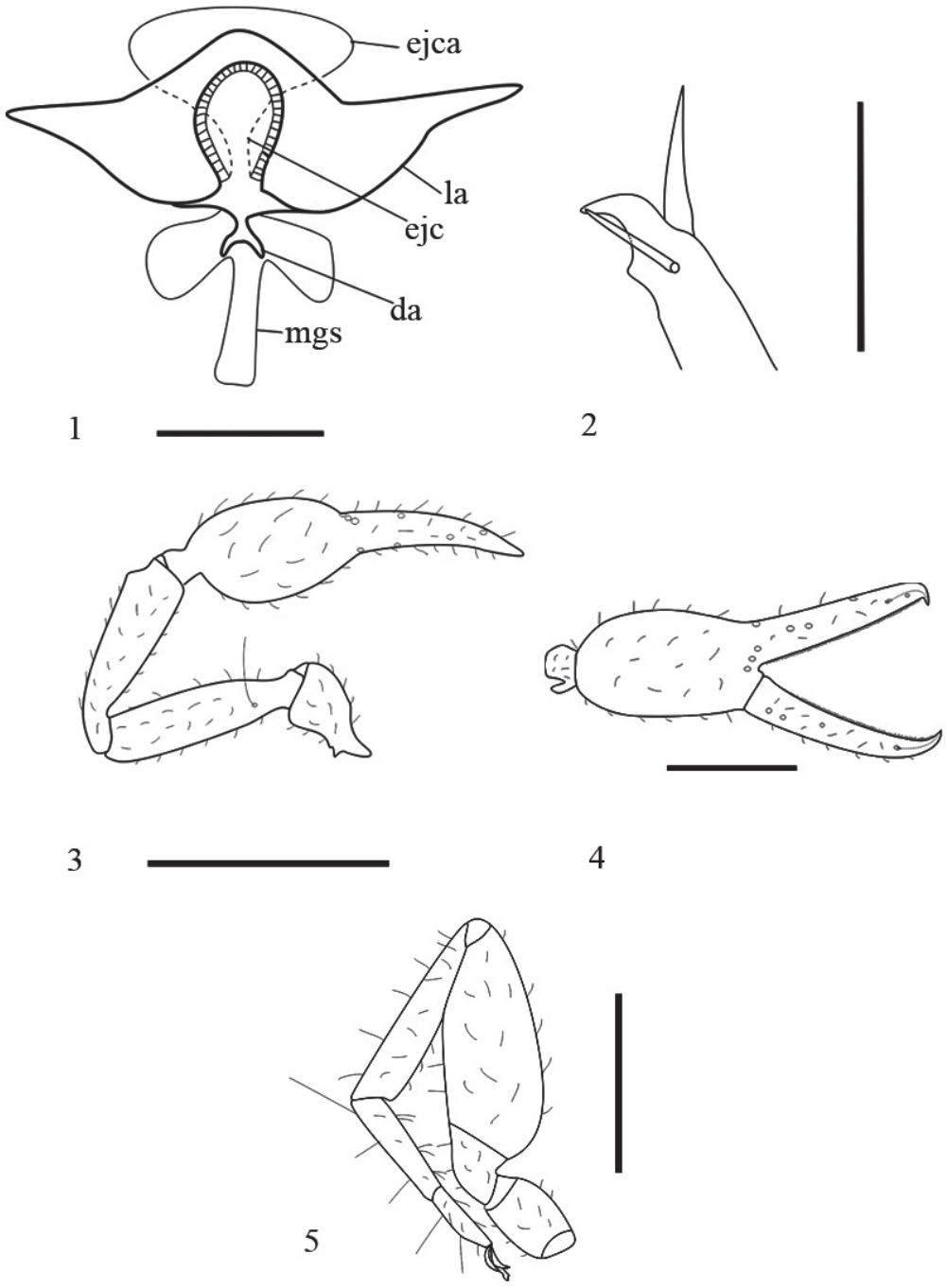


Fig. 1-5. *Pachyolpium alegreae* **n. sp.**, male holotype: **1**, male genitalia, ventral view; **2**, distal end of movable finger of chelicera showing the galea and subapical lobe; **3**, left pedipalp, dorsal view; **4**, right chela, antiaxial view, setae omitted; **5**, leg IV, antiaxial view. Abbrevations: da, dorsal apodeme; ejca, ejaculatory canal atrium; ejc, ejaculatory canal; la, lateral apodeme; mgs, median genital sac. Scale lines: 1mm (Fig. 3), 0.5 mm (Figs 4, 5), 0.1 mm (Figs 1, 2).

Opisthosoma. Oval, pleural membranes smooth and longitudinally striate. Chaetotaxy of tergites: 4:7:9:9:12:12:10:10:1T7T1:1T6T1:2T8T3:2. Chaetotaxy of sternites: 6/14:[1-1]:(0)5(0):(0)8(0):12:11:13:12:10:1T2T2T:2T1TT2:2. Genitalia as shown in Fig. 1.

Chelicera. Five setae on hand and one on movable finger. Galea simple and sharpened in the right chelicera (Fig. 2), in left chelicera the galea is apically trifid. Fixed finger with seven teeth, distal tooth larger than others. Lamina exterior with convex outer margin. Subapical tooth of movable finger small (Fig. 2). Rallum with three serrate blades, one blade bigger than the two others. Serrula exterior with 24 blades.

Pedipalps (Fig. 3). All articles dark brown, smooth with few granules. Femur with a conspicuous dorsal tactile seta in the distal third. Trichobothria as in Fig. 4. Fixed finger with trichobothrium *it* more or less in the halfway between *et* that to *est*, *est* closer of *ist* than to *it*, *isb*, *esb* y *eb* grouped at the base of fixed finger. Movable finger with trichobothrium *sb*

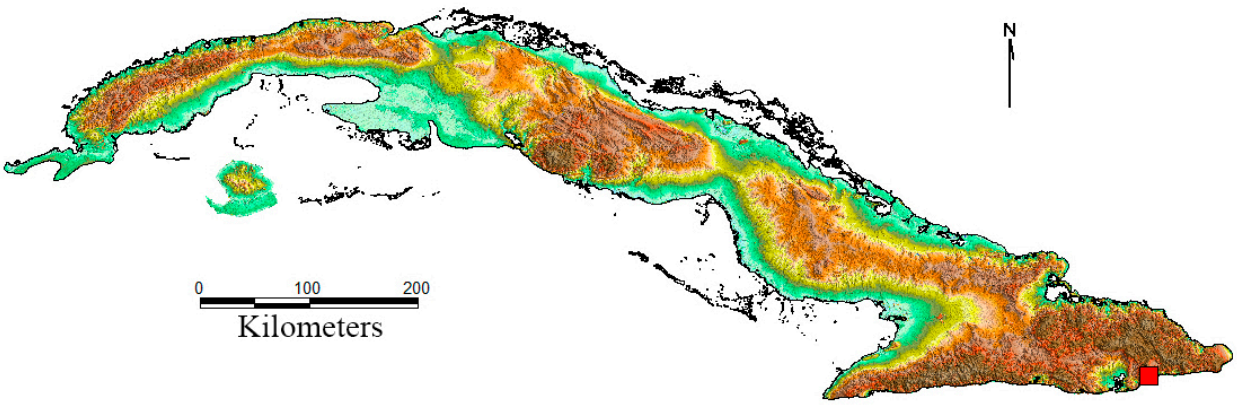


Fig. 6. Geographic distribution of *Pachyolpium alegreae* **n. sp.** in Cuba.

closer to *b* than to *st*. Both chelal fingers with venedens and venom apparatus, nodus ramosus of fixed finger proximal to trichobothrium *et*, in the movable finger is located at level of trichobothrium *t*. Fixed finger with 60, movable finger with 64 marginal teeth, the distal ones contiguous and pointed, the proximal ones flat until almost disappear at the finger base.

Legs. All articles smooth with few granules. Claws smooth and arolia longer than claws. Leg I with femur longer than the patella. Leg IV (Fig. 5) with chaetotaxy of metatarsus T2-3-6-3.

Measurements (in mm) followed by ratios in parentheses. Body 2.90. Carapace 0.85/0.60 (1.42). Chelicera 0.26/0.16 (1.63). Pedipalp: trochanter 0.44/0.26 (1.69), femur 0.83/0.21 (3.95), patella 0.77/0.24 (3.21), chela with pedicel 1.44/0.40 (3.60), chela without pedicel 1.33/0.40 (3.33), hand without pedicel 0.56/0.41 (1.37), movable finger 0.76, ratio movable finger/hand without pedicel 1.36, femur/carapace 0.98, chela with pedicel/carapace 1.69. Leg I: trochanter 0.18/0.14 (1.29), femur 0.38/0.09 (4.22), patella 0.20/0.10 (2.00), tibia 0.32/0.08 (4.00), metatarsus 0.20/0.05 (4.00), tarsus 0.14/0.04 (3.50). Leg IV: trochanter 0.29/0.16 (1.81), femur+patella 0.78/0.27 (2.89), tibia 0.62/0.12 (5.17), metatarsus 0.35/0.08 (4.38), tarsus 0.22/0.05 (4.40).

Female paratype. Similar to the male, but with larger size. Carapace with 29 setae, four in the anterior margin and five in the posterior one, with some lyrifissures and small pores over entire surface.

Chelicera with serrula exterior with 24 blades. Pedipalpal coxa with 21 setae, one longer in the anterior margin, pedal coxa I: 12 setae, II 13, III 12, IV 16. Pedipalpal chela with 62 teeth in the margin of the fixed finger and movable finger with 61. Chaetotaxy of tergites: 5:7:9:11:13:13:12:12:1T6T1: T1T7T1:3TT3T:2. Chaetotaxy of sternites: 6:(0)7(0):(0)1 1(0): 6:15:13:14:10:T2T3T2T:2T1T2:2. Genitalia with two lateral cribriform plates and a group of small medial cribriform plates. Leg IV with chaetotaxy of metatarsus T2-2-6-3.

Measurements. Body 3.08. Carapace 0.93/0.70 (1.32). Chelicera 0.33/0.19 (1.76). Pedipalp: trochanter 0.53/0.33 (1.60), femur 0.91/0.27 (3.37), patella 0.93/0.34 (2.73), chela with pedicel 1.60/0.50 (3.20), chela without pedicel 1.48/0.50 (2.95), hand without pedicel 0.70/0.48 (1.46), movable finger 0.80, ratio movable finger/hand without pedicel 1.14, femur/carapace 0.98, chela with pedicel/carapace 1.80. Leg I: trochanter 0.24/0.18 (1.33), femur 0.48/0.12 (4.00), patella 0.29/0.13 (2.23), tibia 0.40/0.09 (4.44), metatarsus 0.28/0.07 (4.31), tarsus 0.19/0.05 (3.80). Leg IV: trochanter 0.39/0.18 (2.17), femur+patella 0.87/0.30 (2.90), tibia 0.69/0.14 (4.95), metatarsus 0.41/0.09 (4.82), tarsus 0.24/0.06 (4.00).

REMARKS: *Pachyolpium alegreae* n. sp. is a large species within the genus 2.90 mm (♂), 3.08 mm (♀). It differs from similar species as *P. amplum* (Hoff, 1964) from Jamaica in the body size, in the robustness of the palpal chela, where the Cuban species is more slender, 3.33x in *P. alegreae*, 2.65x in *P. amplum*; in the different number of teeth in both chelal fingers (more than 60 in *P. alegreae*, less than 50 in *P. amplum*) and in the length of the chelal movable finger (0.76-0.80 mm in *P. alegreae*, 0.68 mm in *P. amplum*). The species was collected under stones, near the sea with black mangrove (*Avicennia germinans*) in a place with special characteristics of aridity and drought. Pseudoscorpions of the families Olpiidae and Hesperolpiidae usually inhabit in xeric environments (Harvey & Leng, 2008). Until present, this species is known only from the type locality in Guantanamo province (Fig. 6).

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