PSEUDOSCORPIONS FROM FLORIDA AND THE CARIBBEAN AREA. 10. NEW *MEXOBISIUM* SPECIES FROM CUBA[1]

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ABSTRACT

Two new species are described, *Mexobisium armasi* and *M. sierramaestrae*, both from Oriente province. In addition, a new form from Isla de Pinos is noted (tritonymph only) but not described.

Dr. Luis F. de Armas, of the Instituto de Zoologia, Academia de Ciencias de Cuba, sent me a considerable collection of pseudoscorpions from various locations in Cuba. Among these were representatives of 3 new forms of *Mexobisium* Muchmore (1972), 2 of which can be described at this time.

Mexobisium armasi Muchmore, NEW SPECIES

Fig. 1-6

MATERIAL: Holotype ♂ (WM4212.01001) and 3 paratypes (1 ♂ and 2 ♀♀) from under rocks, at 500 m, near Puerto Boniato, Santiago de Cuba, Oriente, Cuba, 18 & 27-V-1972, by Luis F. de Armas. Types are in the collection of the Instituto de Zoologia, Academia de Ciencias de Cuba, La Habana.
DIAGNOSIS: Similar to *Mexobisium cubanum* Muchmore (1973) but larger and more robust (palpal femur > 0.70 mm long, l/w < 3.1) with more rounded chelal hand, and with greater numbers of setae on carapace (> 40) and abdominal tergites and sternites (10-12 and 15-17, respectively).
DESCRIPTION: Male and ♀ generally similar, but ♀ slightly larger. Carapace and palps reddish brown, other parts lighter brown. Carapace 1.33 x as long as broad; anterior margin with a prominent triangular epistome at center, and a small, but distinct, conical protuberance at each anteroventral corner; no eyes; surface smooth, but with a wide transverse, membranous band near posterior margin; about 44 vestitural setae with 6 at anterior and 6 at posterior margin. Coxal area typical of genus.

Abdominal tergites with reticulated surfaces, sternites smooth; pleural membranes with longitudinal rows of very low, lenticular elevations, many with spinules. Tergal chaetotaxy of holotype 8:10:10:12:12:12:12:13:12:10:T1T:2; sternal chaetotaxy of holotype ♂ 12:[2-2]:(3)15(3):(3)13(3):17:2/15:16:15:13:11:T1T1T1T:2; genital opercula and internal genitalia of ♂ as in Fig. 1; genital opercula of ♀ as in Fig. 2, internal genitalia of ♀♀ too faint to make out details.

Cheliceral hand with 6 setae; flagellum of 2 very small, apparently simple

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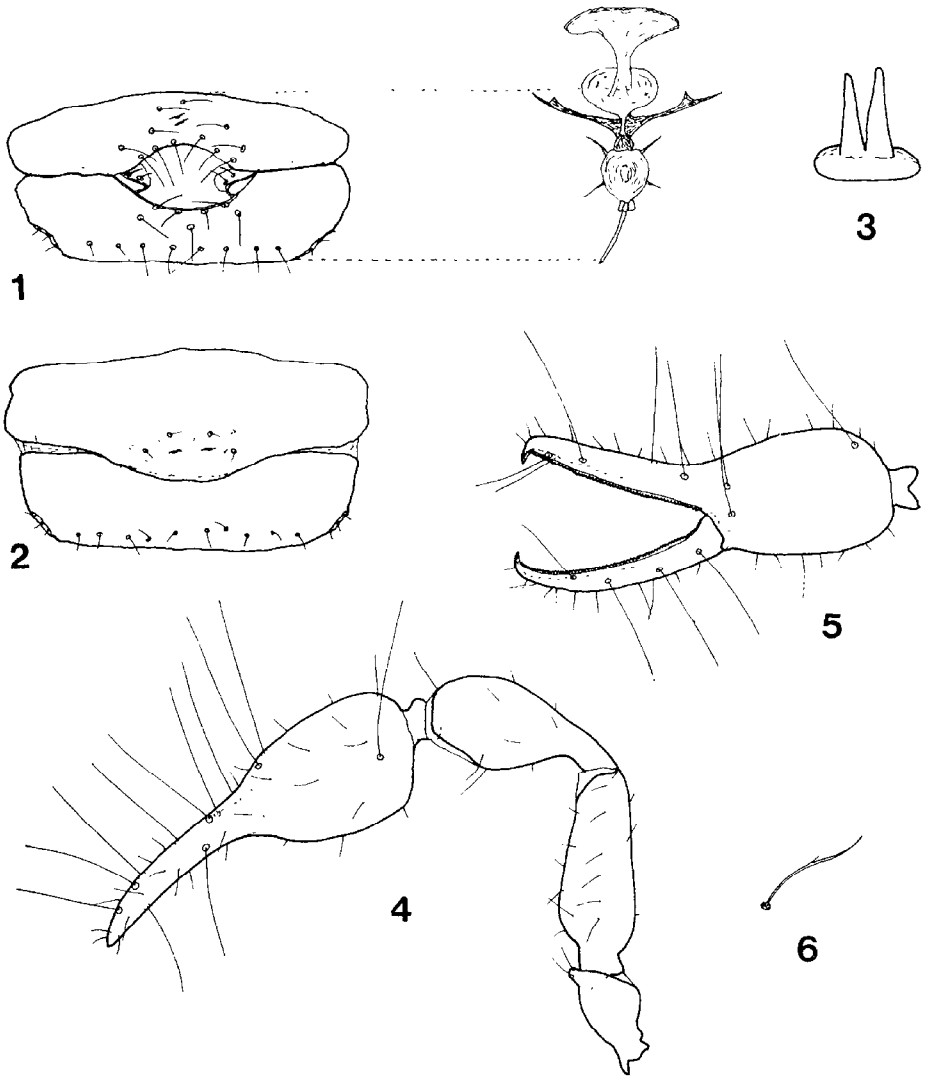

Fig. 1-6. *Mexobisium armasi* Muchmore, new species. 1) ♂ genital opercula and internal genitalia; 2) ♀ genital operculum; 3) cheliceral flagellum; 4) dorsal view of right palp; 5) lateral view of left chela; 6) subterminal tarsal seta.

setae (Fig. 3); fingers with 6-8 irregular teeth; serrula exterior of 29-30 blades; galea long, simple, gently curved.

Palp only moderately long and slender, femur 0.8-0.9 and chela 1.45-1.55 x as long as carapace. Proportions of segments as shown in Fig. 4; trochanter 2.15-2.3, femur 2.9-3.0, tibia 2.2-2.35, and chela (without pedicel) 2.9-3.1 times as long as broad; hand (without pedicel) 1.4-1.6 x as long as deep; movable finger 1.1-1.3 x as long as hand. Trichobothria of chela as shown in Fig. 5. Fixed finger with 65-70 and movable finger with 63-67 marginal teeth, all but proximal ones with cusps; venom apparatus well developed in both fingers, nodus ramosus toward middle of each finger.

Legs moderately slender; leg IV with entire femur 2.8-3.0 and tibia 4.9-

5.1 x as long as deep. Spines well developed on tarsi of legs I, II and III, very small on tarsus IV; subterminal tarsal setae curved and with a strong, lateral spinule near middle (Fig. 6); leg IV with a prominent tactile seta on tibia and each tarsal segment.

MEASUREMENTS (mm): Minima and maxima for the 4 specimens; ♀♀ are larger. Body length 2.75-3.5. Carapace length 0.85-0.985. Chelicera 0.41-0.465 by 0.19-0.235. Palpal trochanter 0.41-0.51 by 0.19-0.22; femur 0.70-0.83 by 0.24-0.27; tibia 0.64-0.75 by 0.28-0.33; chela (without pedicel) 1.23-1.44 by 0.41-0.50; hand (without pedicel) 0.56-0.69 by 0.38-0.47; pedicel 0.10 long; movable finger 0.70-0.76 long. Leg IV: entire femur 0.59-0.69 by 0.21-0.24; tibia 0.54-0.64 by 0.11-0.13; basitarsus 0.14-0.16 by 0.07-0.08; telotarsus 0.295-0.30 by 0.06-0.07.

ETYMOLOGY: The species is named for Dr. Luis F. de Armas of Havana, Cuba, who collected the specimens.

REMARKS: In the relatively large number of setae on the carapace (40-44) *M. armasi* is similar to *M. goodnighti* Muchmore from Belize; in addition, like *M. goodnighti*, the new species has many setae on the abdominal sclerites, including some on the disc of sternite 6. However, unlike that species, *M. armasi* does possess a furrow on the carapace and has only 4 setae on the anterior operculum of the ♀.

In some previous descriptions of *Mexobisium* species (Muchmore 1973), it is indicated that there are 8 setae at the anterior margin of the carapace. This is not correct, strictly speaking, as can be seen in the illustration of the carapace of *M. pecki* (1973: 64, Fig. 1); the 2 lateral setae at the front are actually "preoptic" in position. In the present paper, only the 6 setae at the actual anterior margin are counted.

Mexobisium sierramaestrae Muchmore, NEW SPECIES

Fig. 7 and 8

MATERIAL: Holotype ♂ (WM4214.01001) and paratype ♀ from litter, at 150 m, in the Sierra Maestra near Uvero, El Cobre, Oriente, Cuba, 25-V-1972, by L.F. de Armas. Types are in the collection of the Instituto de Zoologia, Academia de Ciencias de Cuba, La Habana.

DIAGNOSIS: Between *Mexobisium cubanum* and *M. armasi* in size, but more robust than either, with palpal chela only 2.6 x as long as broad; setae as in *M. armasi*.

DESCRIPTION: Male and ♀ similar except for sexual differences. Carapace and palps golden brown, other parts lighter. Carapace 1.4 x as long as broad; anterior margin with small triangular epistome, and anteroventral corners each with a small, conical protuberance; no eyes; surface smooth, but with a wide transverse, membranous band near posterior margin; nearly 40 vestitural setae with 6 at anterior and 6 at posterior margin. Coxal area typical.

Abdominal tergites and sternites nearly smooth; pleural membranes with low granules, most with apical spinules. Tergal chaetotaxy of holotype ♂ 9:10:11:12:11:12:12:12:12:8:T2T:2; sternal chaetotaxy 11:[2-2]:(3)14(3):(3)12(3):18:2/17:17:16:13:11:T1T1T1T:2, Sternal chaetotaxy of ♀ 4:(3)10(3):(2)12(2):17:2/15:15:14:12:11:T1T1T1T:2. Genital opercula and internal genitalia much like those of *M. armasi*.

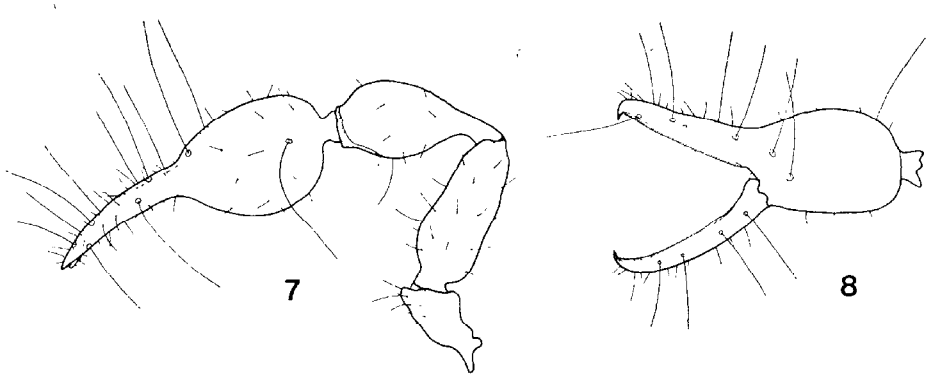

Fig. 7 and 8. *Mexobisium sierramaestrae* Muchmore, new species. 7) dorsal view of right palp; 8) lateral view of left chela.

Cheliceral hand with 6 setae; flagellum of 2 small, apparently simple setae; fixed finger with 5-6 irregular teeth, edge of movable finger with an irregular lamella; serrula exterior of 26-27 blades; galea thin and pointed, that of ♀ longer and gently curved.

Palp rather robust (Fig. 7); femur 0.8 and chela 1.4 x as long as carapace; trochanter 2.05-2.15, femur 2.7-2.8, tibia 2.15-2.2 and chela (without pedicel) 2.6 x as long as broad; hand (without pedicel) 1.4 x as long as deep; movable finger 1.12-1.14 x as long as hand. Trichobothria as in Fig. 8. Fixed finger with 61 and movable finger with 58-64 cusped teeth; venom apparatus well developed in each finger, with nodus ramosus near middle.

Legs moderately slender; leg IV with entire femur 2.9 and tibia 5.1 x as long as deep. Spines well developed on tarsi of legs I, II and III, obsolescent on leg IV; subterminal tarsal setae simple or with a very small spinule near middle; leg IV with a fine tactile seta on tibia and each tarsal segment.

MEASUREMENTS (mm): Figures given first for holotype ♂, followed in parentheses by those for the ♀. Body length 2.71 (2.93). Carapace length 0.78 (0.77). Chelicera 0.36 (0.36) by 0.17 (0.18). Palpal trochanter 0.41 (0.39) by 0.19 (0.19); femur 0.64 (0.65) by 0.24 (0.23); tibia 0.60 (0.60) by 0.28 (0.27); chela (without pedicel) 1.09 (1.08) by 0.41 (0.41); hand (without pedicel) 0.52 (0.51) by 0.38 (0.36); pedicel 0.08 long; movable finger 0.58 (0.58) long. Leg IV: entire femur 0.54 (0.55) by 0.19 (0.19); tibia 0.51 (0.51) by 0.10 (0.10); metatarsus 0.12 (0.12) by 0.07 (0.07); telotarsus 0.24 (0.24) by 0.06 (0.06).

ETYMOLOGY: This species is named for the Sierra Maestra, where it was found.

REMARKS: While this and the preceding species were found only 70 km apart, they are evidently quite distinct; they differ in several characters, including body size and proportions of palpal segments.

It is interesting to note that 2 distinct species of scorpions have been described from these same 2 localities, *Alayotityus nanus* Armas from Puerto Boniato and *A. sierramaestrae* Armas from Uvero (Armas 1973).

Mexobisium sp.

Two tritonymphs belonging to this genus were collected by Dr. Armas at Loma de Columbia, Isla de Pinos, Cuba, on 17-VI-1974. Because of their

size and proportions, they appear not to belong to any of the 3 other known Cuban species of *Mexobisium*. However, it seems unwise to describe them as new at this time.

ACKNOWLEDGMENT

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A NEW SPECIES OF *MACROPEZA* (DIPTERA: CERATOPOGONIDAE) WITH BIOLOGICAL NOTES ON THE GENUS

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ABSTRACT

Detailed descriptions are given for a new species of biting midge from Virginia, *Macropeza pamunkeiana* Knausenberger and Wirth, together with comparative notes on *M. blantoni* Wirth and Ratanaworabhan, the only other known speices of the genus in the Western Hemisphere. The new species appears to prefer small stream environments, and has austral affinities. Notes on the known biology of the genus are provided.

In connection with studies on the biosystematics of biting midges, the authors examined benthic and light trap samples taken during continuing, long-term research by colleagues on the river-reservoir ecosystem of the North Anna River in the Piedmont of Virginia (Simmons and Voshell 1978). Two light trap samples yielded specimens of an interesting new species of *Macropeza* Meigen, a genus in the tribe Sphaeromiini, closely related to *Probezzia* Kieffer. Until recently, *Macropeza* was not known to occur in North America (Wirth and Ratanaworabhan 1972). Indeed, the immature stages of most Sphaeromiini remain almost completely undescribed, despite

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