PSEUDOSCORPIONS FROM FLORIDA AND THE CARIBBEAN AREA. 8. A NEW SPECIES OF *BITUBEROCHERNES* FROM THE VIRGIN ISLANDS (CHERNETIDAE)[1]

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ABSTRACT

A new species, *Bituberochernes jonensis*, from St. John, U.S. Virgin Islands, is described. It has a protuberance only on the palpal chela, and none on the tibia. The generic diagnosis is revised to reflect this and other differences.

Among the pseudoscorpions which I collected in 1974 and 1975 on St. John, U.S. Virgin Islands, were some chernetids which appeared similar to the genus *Bituberochernes* Muchmore (1974) but differed in that the male had a protuberance only on the palpal chela and none on the tibia. Both sexes were taken, but as *B. mumae*, the type species of *Bituberochernes*, was known from the male only, it was impossible to make complete and accurate comparisons. More recently, Dumitresco and Orghidan (1977) reported *B. mumae* from Cuba and described the female in detail; and I also studied some females from Cuba and the Cayman Islands. It is now obvious that the 2 species are very similar in most respects and can be considered congeneric.

Genus *Bituberochernes* Muchmore

The original generic diagnosis of *Bituberochernes* Muchmore (1974: 77) required some revision as a result of the description of the female of *B. mumae* Dumitresco and Orghidan (1977) and the description of *B. jonensis* n. sp. below. The following changes and additions must be made:

—carapace may have 1 or 2 transverse furrows.

—11th sternite may be entire or divided.

—11th tergite may have 2 or 4 distinct tactile setae.

—genitalia generally as shown by Dumitresco and Orghidan (1977, Figs. 11 and 12).

—palpal tibia of male with or without a distinct rounded, setiferous protuberance on medial side.

—palpal chela of male with a small, bare, conical protuberance on medial side at base of finger.

—palp of female unspecialized, but with tibia nearly equal to femur in length.

—number of "sense spots" on chelal hand varying from 50 to ca. 100.

—nodus ramosus of venom duct in movable finger of chela at or proximal to level of trichobothrium *t*.

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—trichobothrium *ist* at level of or proximal to *est*.

—leg I of male may have some specially long setae on tibia and tarsus in addition to the short, specialized sensory setae.

—leg I of female unspecialized.

Bituberochernes jonensis Muchmore, NEW SPECIES

Figs. 1-4

MATERIAL: Holotype male (WM 3706.03001) and many paratypes of both sexes and all 3 nymphal stages collected from under bark of fallen trees along the Reef Bay Trail, Virgin Islands National Park, St. John, U.S. Virgin Islands, 11-VI-1974 (W. B. Muchmore); many others found at same location on 20-VII-1975. The types are in the Florida State Collection of Arthropods, Gainesville.

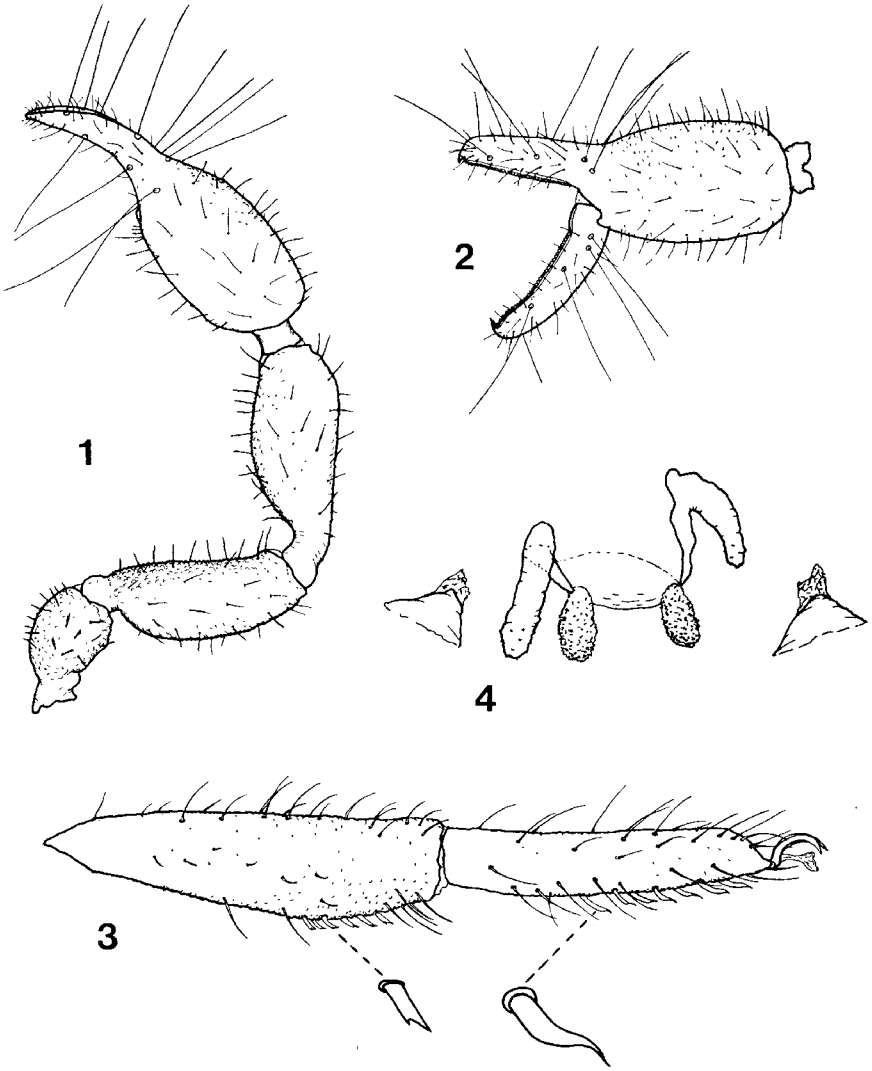
DIAGNOSIS: Generally similar to *B. mumae*, but male with a protuberance only on the chelal hand, none on the palpal tibia.

Description of Male: With the revised generic characters as outlined above, and with the following particular features. Carapace longer than broad; with a shallow median furrow only; surface granulate; 2 distinct eyespots present; 65-70 short, dentate vestural setae, with 4 at anterior and 8 at posterior margin. Tergites 1 and 11 entire, 2 partly divided, 3-10 divided; sternites 4-11 divided. Tergal chaetotaxy of holotype 10:9:9:10:12:13:13:14:12:11:T11T:2; sternal chaetotaxy 59:(2)4-5/9(2):(1)7(1):12:15:18:17:15:15:T3T5T3T:2; setae generally as in *B. mumae*, but anterior genital operculum with 10 long, heavy setae centrally, flanked by 49 smaller ones, and 11th tergite with only 2 clearly tactile setae (T), laterally situated.

Chelicera 1/3 as long as carapace; hand with 5 setae, *sb* and *b* terminally denticulate, *es* long, acuminate; flagellum of 3 setae, the distal one dentate; galea slender, with 3-4 very small subterminal rami; serrula exterior with 23 blades.

Palp relatively slender; tibia longer than femur (Fig. 1). Trochanter 1.75-1.8, femur 2.75-2.9, tibia 2.65-2.7, and chela (without pedicel) 2.9 times as long as broad; hand (without pedicel) 1.5-1.6 times as long as deep; movable finger 0.85-0.87 as long as hand. All surfaces heavily granulate, except chelal fingers, which are smooth. Tibia normal, that is, without any medial protuberance. Chelal hand with a small, conical, bare protuberance on medial side at base of finger; without any special setae flanking the protuberance; with a field of about 100 conspicuous "sense spots" on the medial surface behind the protuberance. Each chelal finger with 50-55 marginal teeth, the distal 6-8 larger and sharper than the others and borne on a projecting, curved ridge; each finger with 10-12 external accessory teeth; only fixed finger with an internal accessory tooth. Only movable finger with well developed venedens and venom duct; nodus ramosus distinctly proximal to trichobothrium *t*. Trichobothria positioned as shown in Fig. 2, much as in *B. mumae*, but *ist* proximal to *est* rather than at same level.

Legs moderately slender; leg IV with entire femur 2.7-2.8 and tibia 3.9-4.0 times as long as deep. Leg I with tibia bearing 5-6 short, truncate, sensory (?) setae along ventral side toward distal end, and tarsus with 12-15 short, heavy, acuminate setae similarly placed toward the distal end (see



Figs. 1-4. *Bituberochernes jonensis* Muchmore, new species. 1) Dorsal view of palp; 2) Lateral view of chela; 3) Tibia and tarsus of Leg I, showing sensory setae; 4) Female, spermathecae and related structures.

Fig. 3). Leg IV: tarsus with very long tactile seta 1/3 length of segment from proximal end.

Description of Female: Much like male in most respects, but with the following particular measurements or features. Slightly larger overall. A few more setae on abdominal segments; anterior genital operculum with about 35 setae arranged in a broad triangular field (as shown in Dumitresco and Orghidan, Fig. 12A); posterior operculum with a row of about 10 setae. Internal genitalia as illustrated in Fig. 4; this is similar to the situation in *B. mumae* (as shown by Dumitresco and Orghidan in their Fig. 12B) and is also basically similar to the situation in *Pachychernes shelfordi* (cf. Much-

more, 1975, Fig. 9). Cheliceral galea slightly longer and with longer rami than in male. Palp much like that of male, but without a protuberance or "sense spots" on the chelal hand, and tibia about equal in length to femur. Leg I not modified, that is, without sensory setae on tibia and tarsus.

MEASUREMENTS (mm): Figures for males given first, followed in parentheses by those for females. Body length 3.12-3.25 (3.20-4.30). Carapace length 1.00-1.02 (1.04-1.16). Chelicera 0.325-0.34 (0.33-0.37) long. Palpal femur 0.89-0.95 (0.88-0.98) by 0.325 (0.32-0.36); tibia 0.96-1.00 (0.89-0.99) by 0.36-0.38 (0.37-0.42); chela (without pedicel) 1.35-1.42 (1.45-1.64) by 0.46-0.49 (0.495-0.55); hand (without pedicel) 0.75-0.79 (0.83-0.95 by 0.49-0.51 (0.47-0.51); pedicel ca. 0.09 long. Leg IV: entire femur 0.82-0.835 (0.84-0.96) by 0.30-0.31 (0.31-0.355); tibia 0.64-0.67 (0.67-0.73) by 0.16-0.17 (0.17-0.19).

ETYMOLOGY: The species is named for St. John (Jon), where it is found.

REMARKS: In spite of the fact that the new species lacks a protuberance on the palpal tibia, it certainly is closely related to *Bituberochernes mumae*. All other characters of the male and the genitalia of the female are so similar that the 2 species can be considered congeneric, as above. It would be possible to recognize 2 genera, based upon the presence or absence of the prominent tibial protuberance, but I feel that such splitting is unwarranted in the face of the large number of similarities.

In all of the male specimens of *Bituberochernes* I have examined (from Florida, Cuba, Little Cayman Island, and St. John), the characteristic protuberance on the chelal hand is bare, contrary to the assertion of Dumitresco and Orghidan that it is provided with setae like that on the tibia of *B. mumae* (1977: 109). In fact, there are setae inserted around the base of the elevation, but not *on* it.

The "sense spots" on the chelal hand are undoubtedly some sort of sensory organs. It is not clear that they are the same as the "poroides" recognized by Athias in gamasid mites (see Dumitresco and Orghidan 1977: 109). The exact nature of these and other such organs must await more detailed study using electron microscopy.

Along with *B. jonensis* under the loose bark were a few specimens of *Aphelolpium* sp. and *Olpiolum* sp. and a single specimen of *Peripatus* sp.

Acknowledgments

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