

RESEARCH NOTE

A THIRD SPECIES OF THE GENUS *MEXICHTHONIUS* (PSEUDOSCORPIONIDA, CHTHONIIDAE), FROM A CAVE IN TEXAS

The genus *Mexichthonius* was established with the description of *Mexichthonius unicus* Muchmore 1975; the holotype (a female) and only known specimen of this species was taken from under a rock at Ich-Ek, Campeche, Mexico. A second representative of the genus, also a female, was found in rotted wood near Palenque, Chiapas, Mexico, and was described as *Mexichthonius pacal* Muchmore 1978. No other material pertaining to the genus was known until recently, when a single specimen, this time a male, was collected in a cave in Travis County, Texas, USA.

Genus *Mexichthonius*

Mexichthonius Muchmore 1975: 1-2. Type species *Mexichthonius unicus* Muchmore 1975, by original designation.

Diagnosis (emended).—With the description of the new species, below, it is necessary to change the generic diagnosis slightly. *M. exoticus* agrees well with the other two species in all characters but two: 1) in *M. exoticus*, the lateral seta on the apex of the palpal coxa is essentially straight, while the corresponding seta in the other two species is sharply curved medially, and 2) in *M. exoticus*, each finger of the palpal chela is provided with well developed teeth along the entire margin, while in the other two species each finger possesses only a few distinct teeth distally, followed proximally by a series of low irregularities of the margin. In addition, in all three species the small, medial members of the coxal spines are difficult to make out, but they are probably more scale-like than hair-like.

Mexichthonius exoticus new species
(Figs. 1-4)

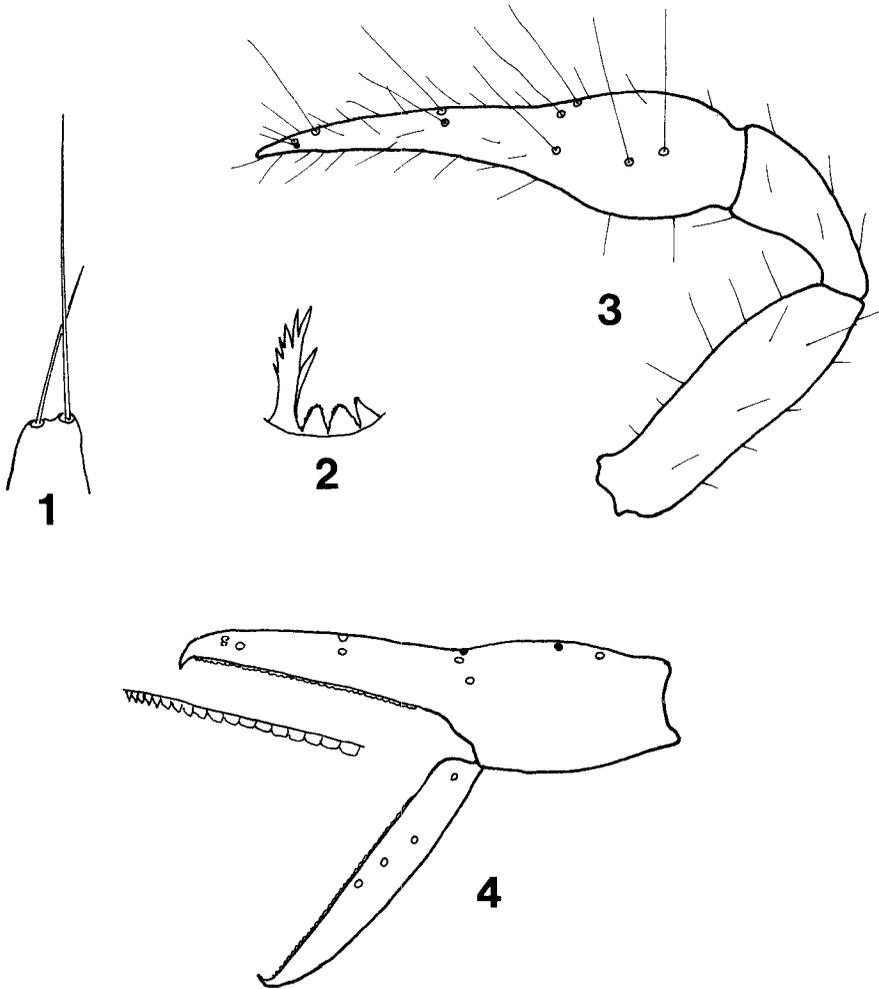
Type.—Male holotype (WM7936.01001) from Five Pocket Cave, Travis County, Texas,

9 November 1993 (Keeley and Horvath); mounted on slide, in Florida State Collection of Arthropods, Gainesville, Florida.

Diagnosis.—Very similar to *M. unicus* and *M. pacal*, but with the lateral seta on apex of palpal coxa straight instead of strongly curved, and with well developed teeth all along margins of both chelal fingers.

Description.—*Male:* (female unknown). With the characters of the genus and the following particular features. Palps tan, other parts straw-colored. Carapace a little longer than broad; epistome broad, serrate; no eyes; chaetotaxy 6-4-4-2-2. Coxal area mostly typical of the genus; apex of palpal coxa (Fig. 1) with two setae, the lateral one shorter than the medial one and nearly straight; apex of coxa I with three microsetae; coxa II with one large, complex coxal spine laterally and 3-4 small, flattened spines medially (Fig. 2). Abdomen typical; tergal chaetotaxy 4:4:6:6:6:6:6:6:4:T2T:0; chaetotaxy of sternites 2-4 is 8:(2)5-4[?]/8 (2): (2) 6 (2):- . Chelicera 0.7 as long as carapace; hand with five setae; flagellum of about eight pinnate setae; galea a small knob. Palp (Fig. 3) rather robust; L/B of trochanter 1.9, femur 3.5, patella 1.9, and chela 3.8; L/D of hand 1.55; movable finger L/hand L 1.55. Trichobothria typical of the genus (Fig. 4), with *isb* and *ib* in tandem on dorsum of hand and *t*, *st* and *sb* closely grouped at middle of movable finger. Fixed finger with about 40 teeth, mostly rectangular but smaller and taller distally (Fig. 4); movable finger with about 35 similar teeth; fixed finger with one internal accessory denticle at level of third tooth. Legs typical, stout.

Measurements (mm): Body L 1.03. Carapace L 0.31. Chelicera L 0.215. Palp: trochanter 0.125/0.065; femur 0.28/0.08; patella 0.17/0.09;



Figures 1-4.—*Mexichthonius exoticus* new species, male holotype. 1, Apex of right palpal coxa, ventral view; 2, Coxal spines on right coxa II; 3, Right palp (trochanter missing), dorsal view; 4, Left chela, lateral view, showing positions of trichobothria (darkened areoles are underneath), with detail of teeth on distal half of fixed finger.

chela 0.42/0.11; hand 0.17/0.11; movable finger L 0.265. Leg IV: femur + patella L 0.27.

Etymology.—The name '*exoticus*' refers to the occurrence of this species far from its congeners.

Remarks.—The new species is very similar to *Mexichthonius unicus* and *M. pacal*, especially in the unique placement of trichobothria *ib* and *isb* on the dorsum of the chelal hand and in the unusual structures of the coxal spines. It differs only slightly from them — in the shape of the lateral seta on the apex of the palpal coxa which is straight rather than sharply curved, and in the possession of well-developed, rather than

obsolescent, teeth along the entire margins of both chelal fingers. It is, without doubt, a representative of *Mexichthonius*.

As *M. unicus* and *M. pacal* are both from southern Mexico (Campeche and Chiapas, respectively), it is quite surprising to find *M. exoticus* in Texas, some 2500 km to the north. Presently extant populations of *Mexichthonius* may actually be separated by this great distance, but it seems much more likely that other populations exist in between, undiscovered because of their minute size and the general lack of collecting of soil faunas in that area.

ACKNOWLEDGMENT

I am greatly indebted to James R. Reddell, of the Texas Memorial Museum, for sending me the specimen upon which this study is based.

LITERATURE CITED

- Muchmore, W. B. 1975. A new genus and species of chthoniid pseudoscorpion from Mexico (Pseudoscorpionida, Chthoniidae). *J. Arachnol.*, 3:1-4.
- Muchmore, W. B. 1978. A second species of the genus *Mexichthonius* (Pseudoscorpionida, Chthoniidae). *J. Arachnol.*, 6:155-156.
- William B. Muchmore:** Department of Biology, University of Rochester, Rochester, New York 14627 USA.
- Manuscript received 28 July 1995, revised 25 September 1995.*