

FIVE NEW SPECIES OF CADDISFLIES (TRICHOPTERA) FROM MEXICO

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Abstract.—Five new species of Trichoptera from the tropical region of Mexico, Chiapas and Veracruz states, are described: *Protophila phyllisae* (Glossosomatidae), *Chimarra (Chimarra) alata* and *C. (C.) crena* (Philopotamidae), *Zumatrichia longispina* (Hydroptilidae), and *Helicopsyche tuxtlensis* (Helicopsychidae). The male genitalia are figured and described.

During a recent study of the material deposited in the collections of the National Museum of Natural History, Washington, D. C. (USNM) and Instituto de Biologia, Universidad Nacional Autonoma de Mexico (IBUNAM), I found five new species of Trichoptera that were collected in different years in Mexico. These species occur mainly in the tropical rain forest area, particularly in the states of Veracruz and Chiapas, where it is common to find small streams and even fairly large rivers with a large caddisfly fauna.

In the studies of the Neotropical fauna, many species from this region have been described by Mosely (1937, 1954), Ross (1956, 1959), Denning (1962, 1964), and Flint (1967, 1974); however, because of the richness and diversity of the Trichoptera fauna, it is believed that many more species remain to be described.

FAMILY GLOSSOSOMATIDAE

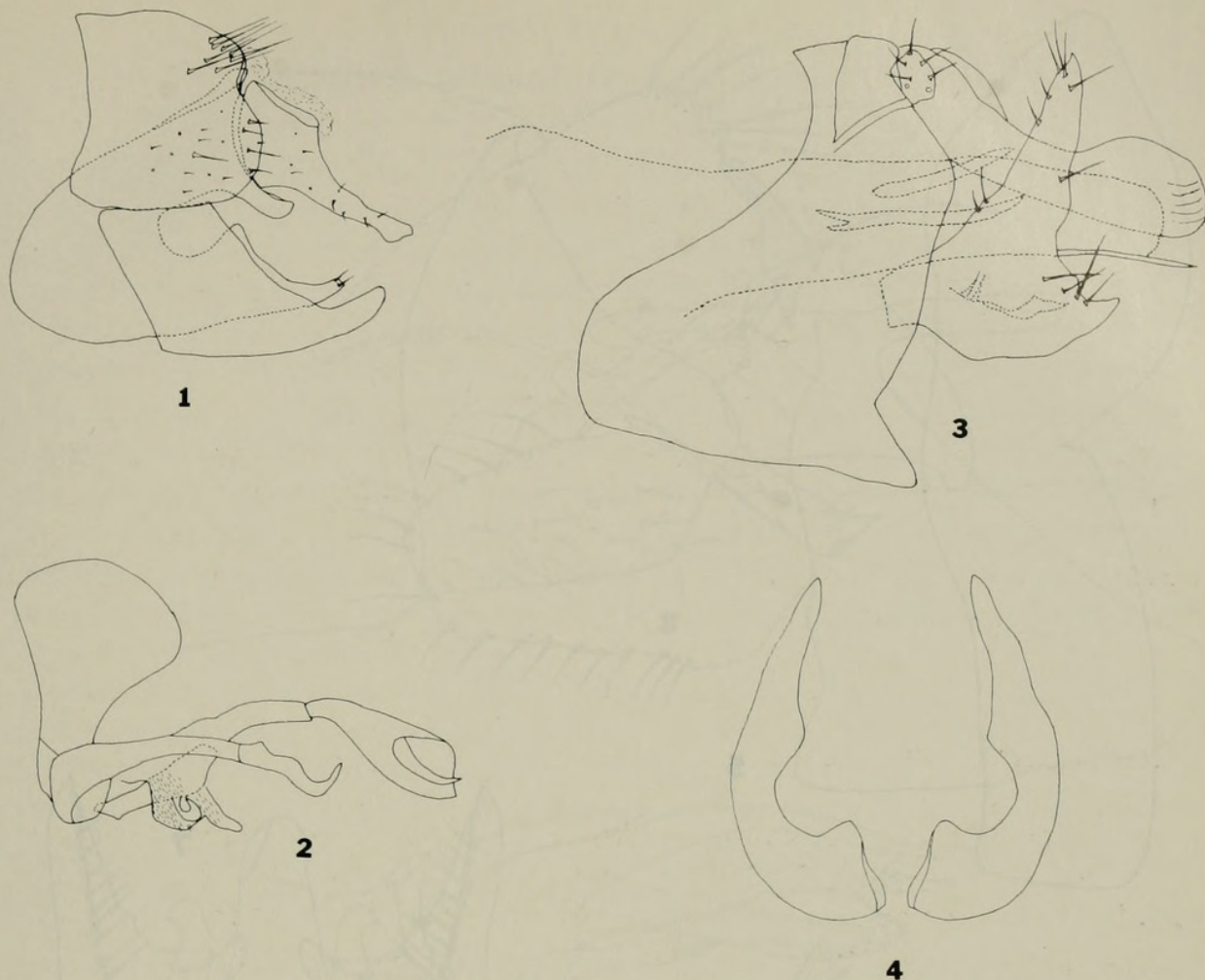
Protophila phyllisae Bueno-Soria, NEW SPECIES

Figs. 1, 2

Diagnosis.—This species is closely related to *Protophila alexanderi* Ross (1941), from which it differs in the shorter and undivided 8th sternum, the long twisted spine of the aedeagus, and the lateral processes of the 10th tergum.

Adult.—Length of forewing 3 mm. Color uniformly brown in alcohol, faintly paler along anastomosis. Sixth sternum with a pointed apicomesal process. Male genitalia: Eighth tergum with posterior margin bearing a brush of setae; sternum barely produced posteriorly. Ninth segment rounded anteriorly, sternum produced posteriorly. Tenth tergum heavily sclerotized, apical portion narrowed and long, ending rectangularly at apex. Aedeagus somewhat constricted in cylindrical portion, so that ventral margin appears slightly narrowed at this point and the apex somewhat knoblike; with a pair of basoventral processes and paired, long, twisted spines, arising laterally, which extend posteriad beneath ventral margin of the 10th tergum.

Material.—Holotype ♂: MEXICO, Chiapas, Agua Azul, 59 km southwest from



Figs. 1–4. 1, 2, *Protoptila phyllisae*. 1, Male genitalia, lateral. 2, Aedeagus, lateral aspect. 3, 4, *Chimarra (C.) alata*. 3, Male genitalia, lateral. 4, Clasper, caudal aspect.

Palenque, 23 July 1978, J. Bueno (IBUNAM). Paratypes: Cascada de Misolha, 20 km southwest from Palenque, 18 May 1981, C. M. and O. S. Flint Jr., 3 ♂ (USNM).

I am pleased to name this species for Mrs. Phyllis Spangler.

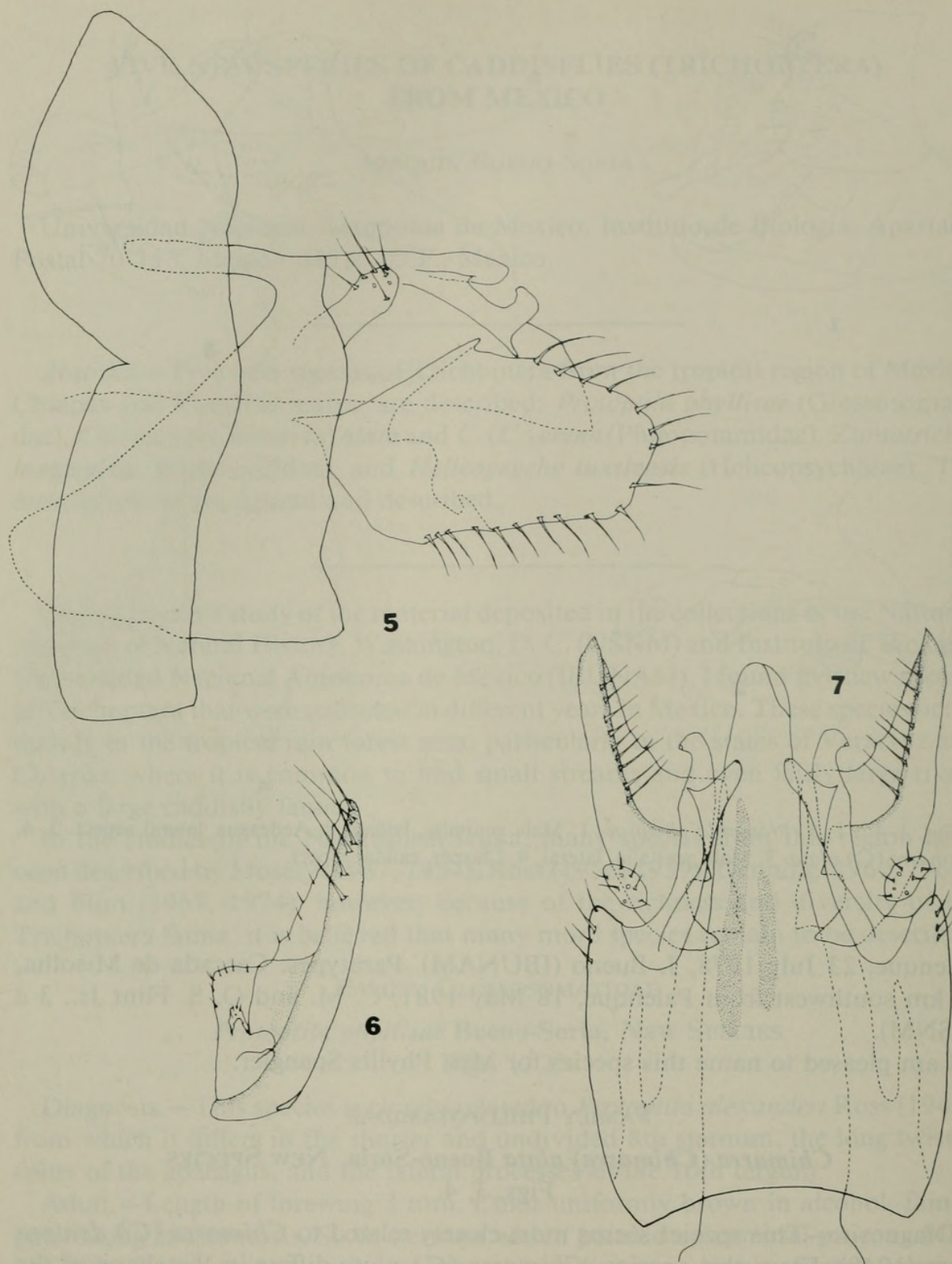
FAMILY PHILOPOTAMIDAE

Chimarra (Chimarra) alata Bueno-Soria, NEW SPECIES

Figs. 3, 4

Diagnosis.—This species seems most closely related to *Chimarra (C.) dentosa* Ross (1948). From this species, *Chimarra (C.) alata* differs in the shape of the clasper in caudal view, which has a wider groove without sclerotized ridges on the mesal face.

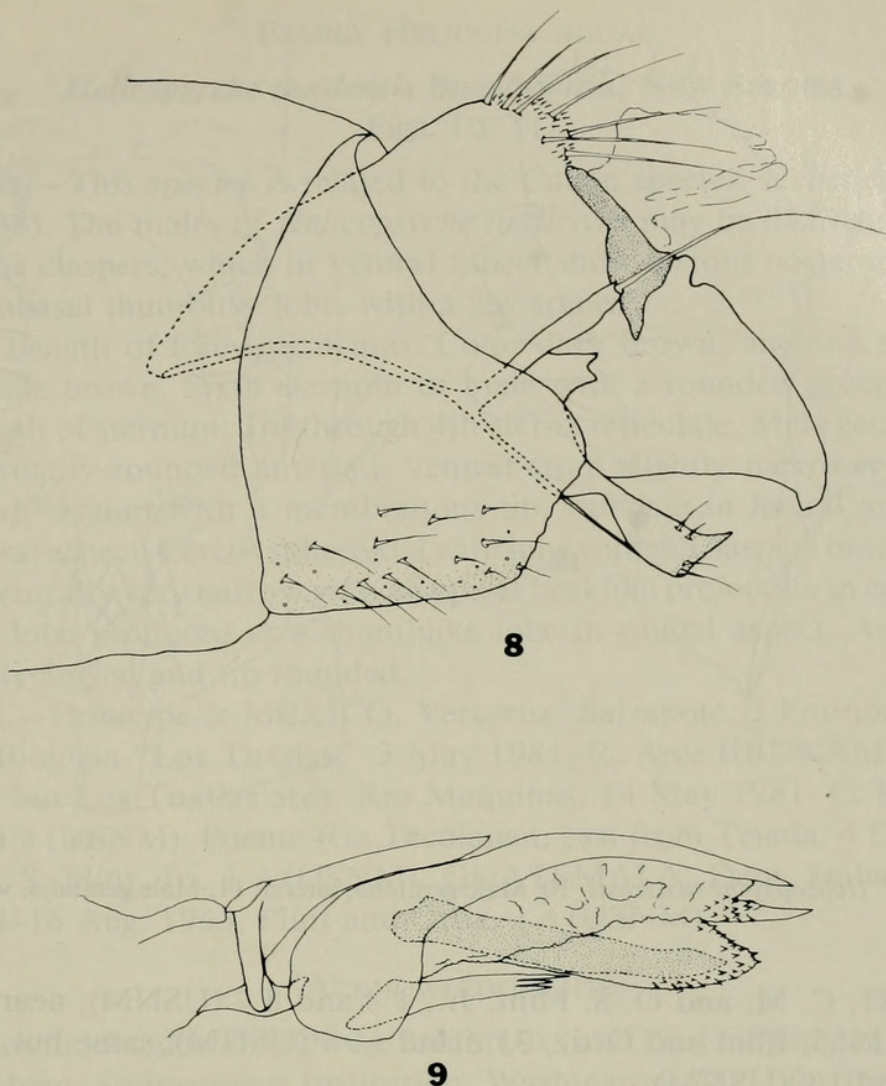
Adult.—Length of forewing 5 mm. Color in alcohol reddish brown. Male genitalia: Ninth segment sinuate, dorsally semimembranous, with a pointed posteroventral keel. Cerci small, rounded, with a short basal stalk. Tenth tergum mostly membranous, narrower mesally with apex rounded. Clasper, triangular from lateral aspect, dorsal portion tapering dorsally to a narrow apex; posteroventral angle projecting at apex; mesal face with a wide groove with almost smooth



Figs. 5–7. *Chimarra (C.) crena*. 5, Male genitalia, lateral. 6, Clasper, dorsal aspect. 7, Male genitalia, dorsal aspect.

surface. Aedeagus prolonged into a pointed process ventroapically, and internally with 3 short spines.

Material.—Holotype ♂: MEXICO, Chiapas, Bonampak, 350 m, 21 May 1980, J. Bueno (IBUNAM). Paratypes: Chiapas, Rio Contento, 7 km north Ocosingo,



Figs. 8, 9. *Zumatrichia longispina*. 8, Male genitalia, lateral. 9, Aedeagus, lateral aspect.

20 May 1981, C. M. and O. S. Flint Jr., 7 ♂ (USNM). NICARAGUA, 5.3 mi east from Matagalpa, 30 July 1967, O. S. Flint, Jr., 11 ♂ (USNM).

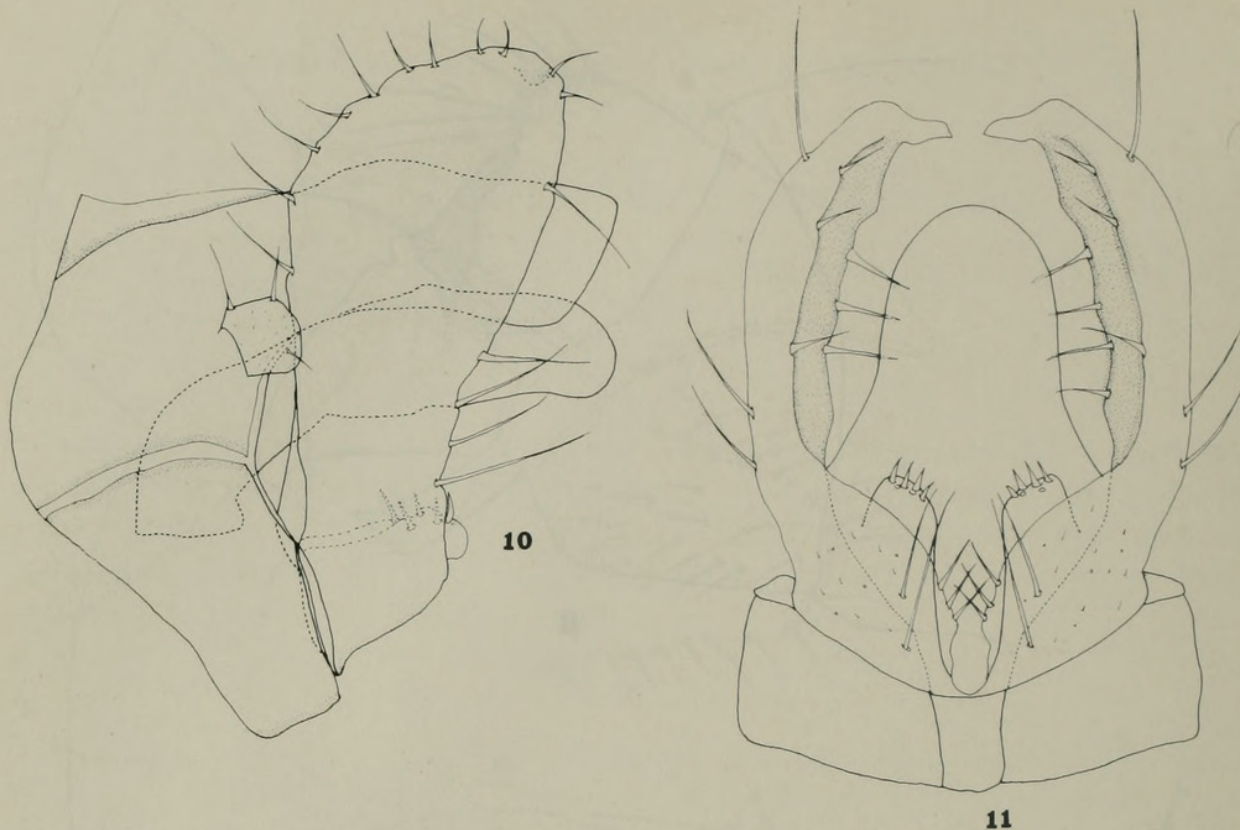
***Chimarra (Chimarra) crena* Bueno-Soria, NEW SPECIES**

Figs. 5, 6

Diagnosis.—This species is related to *Chimarra (C.) ovalis* Ross (1959), differing in the longer clasper and much higher and outwardly curved ventral lobes of the 10th tergum in dorsal aspect.

Adult.—Length of forewing, 6–7 mm. Color fuscous, bases of legs slightly paler. Male genitalia: Ninth segment with anterior margin oval; with posteroventral process about as long as wide. Lateral lobes of 10th tergum narrow and heavily sclerotized, with 2 terminal processes, 1 ventral and curved outwardly and 1 dorsal and angled dorsad. Claspers fairly long and broad; with a series of long dorsal spines; with a broad projection on basodorsal margin. Aedeagus with 2 spines; dorsal one longer than ventral one.

Material.—Holotype ♂: MEXICO, Veracruz, Rio Jamapa, 6 km east from Coscomatepec, 26 May 1981, J. Bueno and H. Velasco (IBUNAM). Paratypes: Same data as holotype, but 2 May 1981, C. M. and O. S. Flint, Jr., 5 ♂ and 5 ♀ (USNM);



Figs. 10, 11. *Helicopsyche tuxtlensis*. 10, Male genitalia, lateral. 11, Male genitalia, ventral aspect.

26 May 1981, C. M. and O. S. Flint, Jr., 1 ♂ and 8 ♀ (USNM); near Huatusco, 25–26 July 1965, Flint and Ortiz, 31 ♂ and 11 ♀ (USNM); same but 22–24 July 1966, 1 ♂ and 1 ♀ (USNM).

FAMILY HYDROPTILIDAE

Zumatrachia longispina Bueno-Soria, NEW SPECIES

Figs. 8, 9

Diagnosis.—This species is a member of the *filosa* group and is most closely related to *Zumatrachia anomaloptera* Flint (1968), especially in the structure of the 10th segment. However it is abundantly distinct in the shape of the claspers and aedeagus, particularly in the presence of 2 large internal spines.

Adult.—Length of forewing 3 mm. Color brown, with patches of golden-yellow hair. Male genitalia: Eighth sternum with long posterolateral setae, ventrally with a straight posterior margin. Ninth segment with anterolateral angle enlarged; posterolateral lobe slender, with a single, enlarged apical seta. Claspers with basodorsal process short; apically with a short tooth; scooplike in lateral aspect. Aedeagus with usual mesal and basal structures; apically with a well-developed dorsolateral hood produced into an apicomesal point, beneath which is a membranous lobe bearing a dark, apical point; laterally with a pair of membranous lobes each bearing a long, dark spine and with a spinulose inner surface; ventrolaterally a pair of smaller processes with divided tips. Lateral penis sheath broad, and rounded dorsally, apex beaklike.

Material.—Holotype ♂: MEXICO, Veracruz, Los Tuxtlas area, Rio La Palma, 7–14 May 1981, C. M. and O. S. Flint, Jr. (USNM). Paratypes: Same data as holotype, 3 ♂ deposited in USNM and 2 ♂ deposited in IBUNAM.

FAMILY HELICOPSYCHIDAE

Helicopsyche tuxtensis Bueno-Soria, NEW SPECIES

Figs. 10, 11

Diagnosis.—This species is related to the Cuban species, *Helicopsyche hageni* Banks (1938). The males of *Helicopsyche tuxtensis* may be distinguished by the shape of the claspers, which in ventral aspect show a stout posterodorsal spine, and a mesobasal thumblike lobe, with a few spines.

Adult.—Length of forewing 4 mm. Color dark brown, antenna stramineous, forewing pale brown. Sixth sternum of male with a rounded process, about as long as length of sternum; 3rd through 4th sterna reticulate. Male genitalia: Ninth segment broadly rounded anteriorly; ventral strap slightly narrower than dorsal strap. Tenth tergum with a membranous tip, truncate in lateral and shallowly cleft in dorsal aspect. Cercus spheroidal with long spines. Claspers broadly rounded dorsally, ventrally very narrow with an apical beaklike projection in caudal aspect; mesobasal lobe produced as a thumblike lobe in caudal aspect. Aedeagus with base slightly angled and tip rounded.

Material.—Holotype ♂: MEXICO, Veracruz, Balzapote, 3 km north from Estacion de Biologia "Los Tuxtlas," 3 May 1981, R. Arce (IBUNAM). Paratypes: Same date but Los Tuxtlas area, Rio Maquinas, 14 May 1981, C. M. and O. S. Flint, Jr., 1 ♂ (USNM); Puente Rio Tecolapan, east from Tejada, 4 Dec. 1974, C. M. and O. S. Flint, Jr., 1 ♂ (USNM). GUATEMALA, Dept. Izabal, Matias de Galvez, 14–16 Aug. 1965, Flint and Ortiz, 1 ♂ (USNM).

ACKNOWLEDGMENTS

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