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DIUNCUSTOMA CYLINDRICUM, N. GEN., N. SP.,
A RHACHODESMID MILLIPED WITH TWO GNATHOCHILARIAL
PROJECTIONS (POLYDESMIDA)

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ABSTRACT

The new genus, *Diuncustoma*, is proposed for *D. cylindricum*, n. sp., a depigmented rhachodesmid milliped species with two uncinat gnathochilarial projections in males, one from each lingual plate. The species occurs in Vera Cruz and Oaxaca, Mexico, and also exhibits a cylindrical body form, which is unique to the family.

The family Rhachodesmidae is a major component of the milliped fauna of Mexico and Central America. The diagnostic feature is loss of the gonopodal cannula, but individuals typically exhibit intense dorsal coloration, like bright orange and turquoise. Hoffman (1980) recognized 17 genera, one of which, *Unculabes* Causey (1971), consists of five cave species in Tamaulipas, San Luis Potosi, and Querétaro, Mexico (Shear 1973). Its species are depigmented and feature a knob or uncinat projection from the gnathochilarial mentum in males. I propose here a second genus of depigmented rhachodesmids that is characterized by two gnathochilarial projections, one from each lingual plate, and the cylindrical body form.

I thank Lynn S. Kimsey, Bohart Entomological Museum, University of California at Davis (UCD), for loaning the specimens, which I discovered among unsorted material while visiting this collection in March 1996. Renaldo G. Kuhler, North Carolina State Museum of Natural Sciences Scientific Illustrator, prepared figs. 2-7.

Diuncustoma, new genus

Type species. *Diuncustoma cylindricum*, new species.

Diagnosis. A genus of depigmented rhachodesmids with an uncinat projection arising basally from each lingual plate of male gnathochilarium. Body form cylindrical, narrowing strongly caudad; paranota present only on segments 2-3, directed ventrad and continuous with rounded configuration. Epiproct narrowed distad, with two acute paramedian apical spines; hypoproct and paraprocts also with long hairs, former generally subtriangular, extended slightly apically. Gonopod prefemur with asetose fossa, acropodite divided basally, solenomere located anteriad.

Distribution. Occurring in epigeal habitats some 210 mi (310 km) to the south-

southeast of *Unculabes* in the interior of southcentral Vera Cruz and the adjoining periphery of Oaxaca (Fig. 1).



Fig. 1. Distribution of *D. cylindricum* (dots) in relation to the general range of *Unculabes* (shaded area).

Species. One is known; others likely exist in the general area of the present localities.

Remarks. I follow the precedent established by Causey (1971) for *Unculabes* and name the genus for the gnathochilarial projections. The species name denotes the overall body form, which is equally distinctive and unique within the family.

Diuncustoma cylindricum, new species

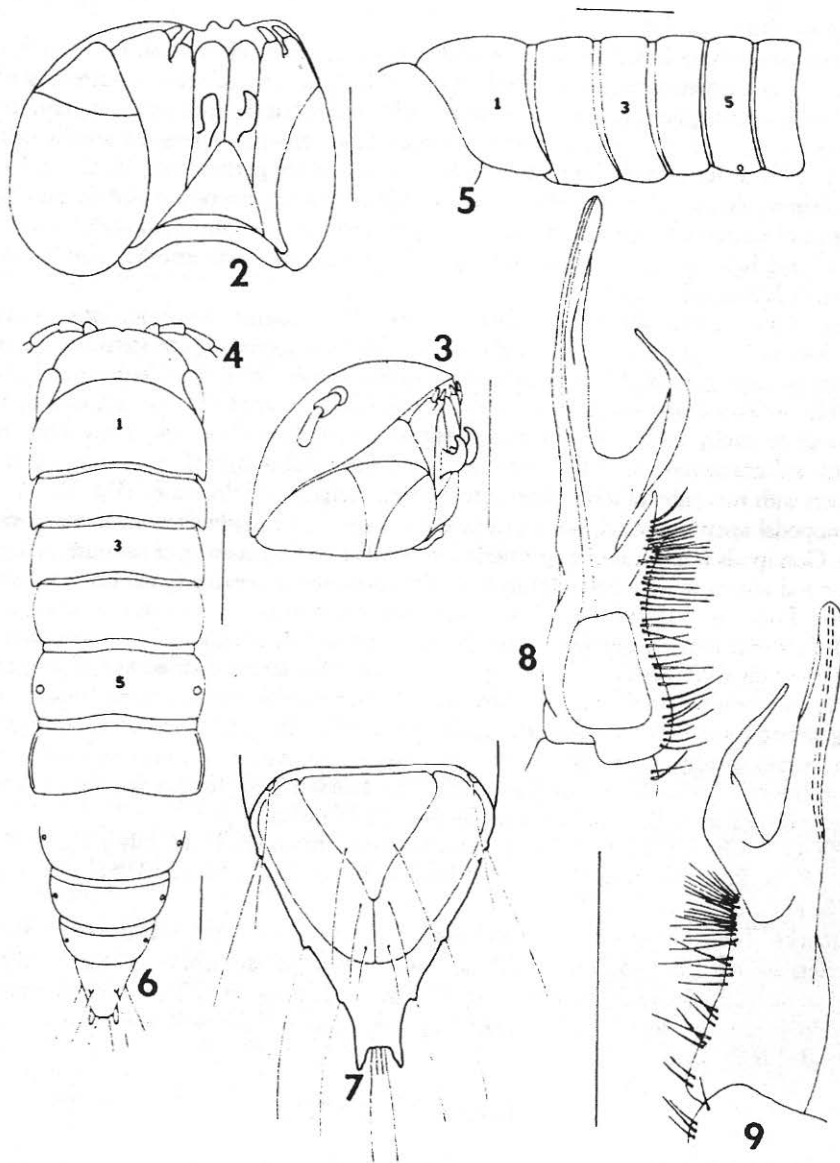
Figs. 2-9

Type specimens. Male holotype and female paratype (UCD) collected by J. S. Buckett, and M. R. & R. C. Gardner, 7 July 1966, 2 mi (3.2 km) W Cordoba, Vera Cruz, Mexico.

Diagnosis. With the characters of the genus.

Description. Length about 18 mm, maximal width about 2.1 mm. Color in life unknown but probably colorless, preserved specimens white without any evidence of pigmentation patterns.

Head capsule smooth, polished; epicranial suture strong, terminating just above interantennal region. Antennae moderately long and slender, articles 3-5 equally setose, 6th densely setose, with 4 apical sensory cones, no other sensory structures apparent, first antennomere



Figs. 2-9. *Diuncustoma cylindricum* holotype. 2, gnathochilarium, oblique ventral view. 3, head capsule, lateral view. 4, segments 1-6, dorsal view. 5, the same lateral view. 6, epiproct and caudal segments, dorsal view. 7, hypoproct and paraprocts, ventral view. 8, telopodite of left gonopod, medial view. 9, the same, lateral view. Scale lines for figs. 2-3 = .50 mm; those for figs. 4-6 = 1.00 mm; line for figs. 7-9 = 1.00 mm for each.

subglobose, 2-5 clavate, 6 of equal width throughout, 7 short and truncate; relative lengths of antennomeres $2 > 6 > 5 > 3 > 4 > 1 > 7$. Genae not margined laterally, ends rounded and extending slightly beyond adjacent cranial margins. Epicranium and interantennal region without setae, facial setae arising in subantennal area, becoming denser in genal and frontal regions, lengths varying. Gnathochilarium of male with an uncinat projection arising basally on

each lingual plate (Figs. 2-3).

Dorsum smooth, polished; body short and slender, generally cylindrical, rounded in cross section, caudal segments narrowing and tapering. Collum broad, ends terminating above those of following tergite (Figs. 4-5); 2nd tergite with short but distinct paranota, continuous with body form; 3rd with slight, indistinct paranota, remaining tergites wholly without paranota, with at most only very faint, indistinct, marginal peritremata, ozopores located laterad, near midlength of metatergites. Epiproct relatively long, extending well beyond caudal extremities of paraprocts, apically truncate but with short projections from each corner, with long marginal hairs arising near midlength and apically, and with another pair on dorsal surface near 2/3 length (Fig. 6).

Sides of metazonites glabrous, without grooves, impressions, or projections. Strictures strong, distinct. Sterna glabrous and without modifications except for 6th sternum, depressed to accommodate gonopodal telopodites. Gonapophyses short and subconical, barely noticeable on 2nd coxae. Legs moderately hirsute, slightly denser in caudal half of body. Podomeres generally short, without modifications, tarsal claws short and stout. Hypoproct generally subtriangular, apically extended, with long submarginal hairs arising distad; paraprocts with two pairs of long submarginal hairs, margins not thickened (Fig. 7).

Gonopodal aperture broad, sides and caudal margin only slightly elevated above metazonal surface. Gonopods *in situ* extending anteriorly in parallel arrangement over sternum of segment 6. Gonopod structure as follows (Figs. 8-9): Sternum not observed. Coxa normal, without processes. Prefemur relatively broad, with elongate, subtriangular, hirsute projection arising from distolateral corner, seminal fossa large, rhomboidal, asetose. Acropodite distinctly narrower basally than prefemur, strongly demarcated from latter, divided at 1/3 length into long, apically blunt, anterior solenomere and shorter caudal branch, latter broad basally, curving strongly anteriorly at midlength, directed toward midlength of solenomere, narrowing distal to curve, apically subacuminate. Prostatic groove opening apically on solenomere.

Distribution. Same as that of the genus. The following additional female samples are tentatively identified as *D. cylindricum* in the absence of males:

MEXICO: VERA CRUZ, Presidio, exact location unknown, F, 15 July 1966, J. S. Buckett, M. R. & R. C. Gardner (UCD). OAXACA, Temascal, F, 16 July 1966, J. S. Buckett, M. R. & R. C. Gardner (UCD).

Remarks. To the best of my knowledge, *D. cylindricum* is the first known cylindrical rhachodesmid. All other species, including those of *Unculabes*, have broad paranota that lie parallel to the substrate and produce a strongly flattened appearance. The paranota that occur in *D. cylindricum*, on segments 2-3, extend directly ventrad (Figs. 4-5) and do not interrupt the rounded body form.

LITERATURE CITED

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