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## **A taxonomic monograph of the genus *Tylodinus* Champion (Coleoptera: Curculionidae: Cryptorhynchinae: Tylodina) of Chiapas, Mexico**

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**Material examined.** Total 2 males, 2 females. Holotype male (CMNC): **México:** Chiapas, Tapalapa, ca. 14 km NE Coapilla, elev. 2150 m (17°10.958'N, 93°07.091'W), 13.vii.2007, coll. R. S. Anderson, mixed cloud forest litter (steep), 2007-008. Paratypes: **México:** Chiapas, Coapilla: 5 km NE Coapilla, elev. 1990 m (17.17557°N 93.13268°W), 25.v.2008, LLAMA (Wa-A-04-1-13)—1 female (CMNC); Chalchihuitán, Cerros de Chalchihuitán, elev. 2050 m (16° 59'20.8"N, 92° 37'13.1"W), 24.vii.2003, coll. R. S. Anderson—1 male, 1 female (CMNC).

### 36. *Tylodinus pinguis* Luna-Cozar, sp. nov.

(Figures 96–97, 129, 135)

**Diagnosis.** Length male 4.8–4.9 mm. Width male 2.2–2.3 mm. Body 2.2x longer than wide, black. Head clothed with dark brown scales, punctures similar to punctures on rostrum; vertex with two patches of overlapping scales, whitish or pale yellow color, light brown on lateral margin; frons moderately concave; rostrum moderately robust, weakly carinate, apical area punctuate, eyes moderately convex. Pronotum in lateral view strongly convex, outline with anterior constriction, without posterior constriction (Figures 10, 97), in dorsal view with sides slightly divergent from base to midlength, then convergent to apex, constricted beyond middle; disc somewhat hollowed medially, punctures dense to contiguous at base and progressively more widely spaced, smaller and shallower to apex (Figures 14, 96); surface granulate. Elytra with tubercles as follows: I2 with round and large tubercle at declivity base; I3 with two tubercles, first subbasal, second smaller, round at middle of elytra; I4 with laminate tubercle beyond declivity; I5 with two small tubercles in same position as tubercles on I3; I7 with two tubercles in same position as tubercles on I5. Metasternum moderately concave, median section glabrous. Male abdomen with ventrite 1 moderately concave, squamous; ventrite 2 feebly concave, longer than ventrites 3–4 combined, squamous; ventrite 5 flat, without impressions, as long as ventrites 1–2. Femora armed, hind femur reaching elytral apex, tibiae with inner margin slightly sinuate, premicro present. Male genitalia (Figure 129) with median lobe in lateral view weakly curved, slender; in ventral view as long as apodemes, lateral sides moderately swollen at 0.25 length from the base, convergent, apex acute; apical process in lateral view moderately large (0.26–0.34 as long as body of median lobe), straight, moderately curved downward; in ventral view not constricted beyond median orifice, lateral sides convergent.

**Geographic distribution.** México (Chiapas).

**Habitat and elevation.** Specimens were collected from leaf litter in high elevation cloud forest between 2000–2200 m.

**Derivation of specific name.** Name derived from the Latin word *pinguis* = fat.

**Material examined.** Total 2 males. Holotype male (CMNC): **México:** Chiapas, Angel Albino Corzo, Reserva El Triunfo, Polígono 1, elev. 2050 m (15°39'25.56"N, 92°48'32.4"W), 16–21.xi.2002, coll. R. S. Anderson. Paratype: **México:** Chiapas, La Concordia, 4.3 km SE Custepec, Campamento El Quetzal, elev. 2160 m (15°42'N, 92°55'59.9"W), 18.vii.2007, coll. M. G. Branstetter, 1 male (CMNC).

### Literature cited

- Anderson, R.S. (1988) Systematics, Phylogeny and Biogeography of New World Weevils of the Tribe Cleonini (Coleoptera: Curculionidae). *Quaestiones Entomologicae*, 23, 431–709.
- Anderson, R.S. (2010) A taxonomic monograph of the Middle American leaf-litter inhabiting weevil genus *Theognete* Champion (Coleoptera: Curculionidae; Molytinae; Lymanini). *Zootaxa*, 2458, 1–127.
- Blackwelder, R.E. (1947) Checklist of the coleopterous insects of México, Central America, the West Indies and South America. Part. 5. *Smithsonian Institution United States National Museum Bulletin*, (185), I–IV, 765–925.
- Boheman, C.H., Schoenherr, C.J. & Gyllenhaal, L. (1837) *Genera et species curculionidum, cum synonymia hujus familiae. Species novae aut hactenus minus cognitæ ; descriptionibus a Dom L. Gyllenhal, C. H. Boheman, O. J. Fahræus et entomologis aliis illustratæ. Vol. 4. Part I.* Roret, 600 pp.
- Clark, W.E. (1978) Revision of the Neotropical weevil genus *Phymatophosus* (Coleoptera: Curculionidae). *Systematic Entomology*, 3, 103–130.  
<http://dx.doi.org/10.1111/j.1365-3113.1978.tb00107.x>
- Champion, C.G. (1905) *Biologia Centrali-Americana. Insecta. Coleoptera. Rhynchophora. Curculionidae. Curculioninae. Vol. 4. Part 4.* pp. 441–600.

- csi srtm (2008) The CGIAR Consortium for Spatial Information. Available from: <http://srtm.csi.cgiar.org/> (accessed 11 March 2014)
- Craw, R.C. (1999) Molytini (Coleoptera: Curculionidae: Molytinae). ). *Fauna of New Zealand*, 39, 1–65.
- Hijmans, R.J. & van Etten, J. (2012) Raster: Geographic analysis and modeling with raster data. R package version 1.9–64.
- Hopkins, A.D. (1909) Practical information on the scolytid beetles of North American Forests. I. Bark beetles of the genus *Dendroctonus*. *United States Department of Agriculture Bureau of Entomology Bulletin*, 17 (1), 1–17, 8 pls., 95 figs.
- INEGI (2011) Instituto Nacional de Estadística y Geografía. Available from: <http://www.inegi.org.mx/geo/contenidos/datosrelieve/continental/default.aspx> (accessed 11 March 2014)
- Kissinger, D.G. (1968) *Curculionidae subfamily Apioninae of North and Central America. With reviews of the world genera of apioninae and world subgenera of Apion Herbst (Coleoptera)*. Taxonomic Publications South Lancaster, Massachusetts, 559 pp.
- Kuschel, G. (1956) Attelabidae und Curculionidae aus El Salvador. (Ins. Col. Curculionoidea, 21. Beitrag). *Senckenbergiana Biologica*, 37 (3–4), 319–339.
- Lyal, C.H.C. (1993) Cryptorhynchinae (Insecta: Coleoptera: Curculionidae). *Fauna of New Zealand*, 29, 1–302.
- O'Brien, C.W. & Wibmer, G.J. (1982) Annotated checklist of the weevils (Curculionidae *sensu lato*) of North America, Central America and the West Indies (Coleoptera: Curculionidae). *Memoirs of the American Entomological Institute*, 34, i–ix, 1–382.
- O'Brien, C.W. & Askelvold, I.S. (1992) Systematics and evolution of weevils of the genus *Bagous* Germar (Coleoptera: Curculionidae), I. Species of Australia. *Transactions of the American Entomological Society*, 118 (4), 331–452.
- Perpinan-Lamigueiro, O. & Hijmans, R. (2012) RasterVis: Visualization methods for the raster package. R package version 0.10-9. Available from: <http://CRAN.R-project.org/package=rasterVis> (accessed 11 March 2014)
- R Development Core Team (2011) R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. ISBN 3-900051-07-0. Available from: <http://www.R-project.org/> (accessed 11 March 2014)
- Schoenherr, C.J. (1844) *Genera et species curculionidum, cum synonymia hujus familiae. Species novae aut hactenus minus cognitae ; descriptionibus a Dom L. Gyllenhal, C. H. Boheman, O. J. Fahræus et entomologis aliis illustratae. Vol. 8. pt. 1.* Roret, Parisiis, 442 pp.
- Whitehead, D.R. (1976) Classification and evolution of *Rhinochenus* Lucas (Coleoptera: Curculionidae: Cryptorhynchinae), and Quaternary Middle American zoogeography. *Quaestiones Entomologicae*, 12, 118–201.
- Zimmerman, E.C. (1938) Cryptorhynchinae of Rapa. *Bulletin of the Bernice P. Bishop Museum*, 151, 1–75.