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New Sonoran distribution records for *Chalcolepidius approximatus* Erichson (Coleoptera: Elateridae)

Nuevos registros de distribución para *Chalcolepidius approximatus* Erichson (Coleoptera: Elateridae) en Sonora

Chalcolepidius Eschscholtz was most recently revised by Casari (2002) who summarized the historical records of 63 species. *Chalcolepidius approximatus* Erichson is one of 37 species recorded from Mexico, is known only from Mexico, and is now the eighth species reported from Sonora, along with *C. apacheanus* Casey, *C. lenzi* Candèze, *C. oxydatus* Candèze, *C. smaragdinus* LeConte, *C. sulcatus* (Fabricius), *C. virginalis* Candèze, and *C. webbi* LeConte. Casari gave the distribution of this species from the Mexican states of Chiapas, Colima, Durango, Guanajuato, Guerrero, Michoacán, Morelos, Oaxaca, Puebla, Tamaulipas, and Veracruz.

The second author recently collected and submitted for determination two specimens of *C. approximatus* from MEXICO: SONORA, Municipio de Moctezuma, 10.6 km (by air) NNW of Tepache, 23.2 km (by air) SSE of Moctezuma, 29.62944°N 109.54222°W, 715 m elev., 11 September 2012, T.R. Van Devender and A.L. Reina-G. (2 specimens, PJJC). This collection spurred the examination of three other specimens collected from MEXICO: SONORA, Municipio de Yécora, ca. 4 km (by air) ENE of Yécora, 28.3825°N 108.885556°W, 1655 m elev., pine-oak forest, 03 July 1993, J. Palting (3 specimens, UAIC). Additionally, Martín Leonel Zurita García graciously confirmed specimens collected from: MÉXICO: SONORA, Rancho Las Peñitas, 29 Km SE Tecoripa y 3 Km S [7.3 km (by air) SSE of San Javier, Sierra San Javier], 733 msnm, 28°32´415´´N, 109°41´27.8´´W, 17 October 2004, S. Zaragoza (5 specimens, CNIN). Together, these 10 specimens provide a **new state record** for Sonora. The previously published most northerly location is Ciudad Durango (24.02639°N 104.66722°W, 1895 m elevation), in southern Durango, approximately 795 km south-southeast of Tepache and 720 km from Tecoripa on the west side of the Sierra Madre Occidental, and 650 km from Yécora, Sonora.

Chalcolepidius approximatus is a large (23-40 mm length) black species largely covered with white scales dorsally (Fig. 1). The pronotal disc has shining olivaceous scales, while the lateral portions each side have dense white scales forming a vitta extending from the apical to posterior margins and with a generally straight to slightly undulate medial edge. The venter is usually covered with olivaceous scales in the typical specimens from central and southern Mexico, but Sonoran specimens have extensive areas of white scales (Fig. 2). The scutellum is large and flat, subtriangular, and with an anterior emargination. The elytra have well elevated alternate interstices that are usually glabrous from wear. Except for the extensive white scale pattern on the venter these specimens are typical *C. approximatus* in all particulars, including genitalia.

Chalcolepidius larvae are generalist subcortical predators (Casari 2002). The Tepache specimens were on the trunk of a dead Mexican palo verde, or locally "bagote", *Parkinsonia aculeata* L., and found with *Trachyderes mandibularis* Dupont (Coleoptera: Cerambycidae). The Yécora specimens were observed ovipositing on a standing dead pine, probably Apache pine, *Pinus englemannii* Carrière, on which was also a *Chalcophora* sp. (Coleoptera: Buprestidae).

The Tepache specimen was found in foothills thornscrub that is the transitional vegetation between desertscrub in the Sonoran Desert to the west and the oak woodlands and pine-oak forests of isolated Madrean Sky Island mountain ranges (Reina-G. and Van Devender 2005; Martínez-Yrízar *et al*. 2010). The Rancho Las Peñitas site is in the Sierra San Javier, the southern-most Sky Island range separated from the Sierra Madre Occidental and with the vegetation being the northern-most location of tropical deciduous forest. These ranges are separated from the main cordillera of the Sierra Madre Occidental in eastern Sonora where the Yécora specimens were collected in pine-oak forest, and are subsequently contiguous with the montane tropical forests to the south. The biotas of these northern tropical deciduous forests in Sonora and foothills thornscrub are in part derived from wetter forests, in this case those in southern portions of the Sierra Madre Occidental, and southward (Ceballos and García 1995).

The general environment of eastern Sonora is a transition between the New World tropics and the northern temperate zone at about 29°N-30°30'N. Moctezuma is located on the southwestern edge of the Sierra la Madera, a biotically important Sky Island range. To the south and east between Moctezuma and Tepache, there is an extensive (ca. 320 km^2) basalt plain, which supports very open foothills thornscrub vegetation. The surface geology of the area is very unusual with basalt rocks separated by a dark, clay rich soil, which is very sticky when wet, and significantly contracts on drying.

The Coleoptera of the region have received relatively little attention (Bailowitz and Palting 2010, and references), but the biota is rich in neotropical taxa as demonstrated for some elateroid beetles by Zaragoza-Caballero and Ramírez-García (2009). Botanical exploration in the region is more complete, but during the summer rainy season the density and diversity of herbs in the open spaces are very high and new species of annual plants (*e.g., Verbena moctezumae* and *Glandularia malpaisana*) continue to be described (*e.g.,* Nesom and Van Devender 2010; Van Devender and Nesom 2012). As demonstrated by the finding of *C. approximatus* there are surely additional biological novelties to be expected.

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Figure 1. Dorsal aspect of *Chalcolepidius approximatus* from Municipio de Moctezuma, Sonora. Photograph by T.R. Van Devender.

Figure 2. Ventral aspect of *Chalcolepidius approximatus* from Municipio de Moctezuma, Sonora. Photograph by T.R. Van Devender.