

## ***Ceraspis jaliscoensis*, a new species from México (Coleoptera: Scarabaeidae: Melolonthinae)**

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### **Abstract**

A new Mexican species of *Ceraspis* LePeletier and Serville, *C. jaliscoensis*, from Jalisco state is described, and its male genitalia are illustrated. A key to the Mexican species of this genus and distribution maps of those species are included.

**Key words:** Coleoptera, Scarabaeidae, Melolonthinae, *Ceraspis*, new species, México

### **Introduction**

The genus *Ceraspis* LePeletier and Serville (Coleoptera: Melolonthinae) contains 89 species distributed from México south to Argentina (Delgado 2001). Species diversity is highest in Brazil (55 species) and decreases northward. Frey (1962) reviewed the genus. Later, he described four new species (Frey 1964; 1965; 1969). Delgado et al. (1987) resurrected *C. velutina* (Bates) and Delgado (2001) described one new species.

There are five species of this genus in México: *C. centralis* (Sharp), *C. mexicana* Harold, *C. oaxacaensis* Delgado, *C. pilatei* Harold and *C. velutina* (Bates). *Ceraspis oaxacaensis* and *C. velutina* are endemic to México, the remaining species occur also in Central America (Frey 1962; Delgado et al. 1987; Delgado 2001).

In this paper we describe one new species recently collected in the Mexican state of Jalisco. We also provide an identification key to Mexican species and distribution maps. Types were deposited in the following collections: Centro de Estudios de Zoología de la Universidad de Guadalajara, Jalisco, México (CZUG) and Instituto de Ecología, A. C., Xalapa, Veracruz, México (IEXA).

Morphological terminology in this work follows Torre-Bueno (1989). In addition, scale-like setae are differentiated from scales by the acicular shape and longer than wide, scales being spear-shaped and broader.

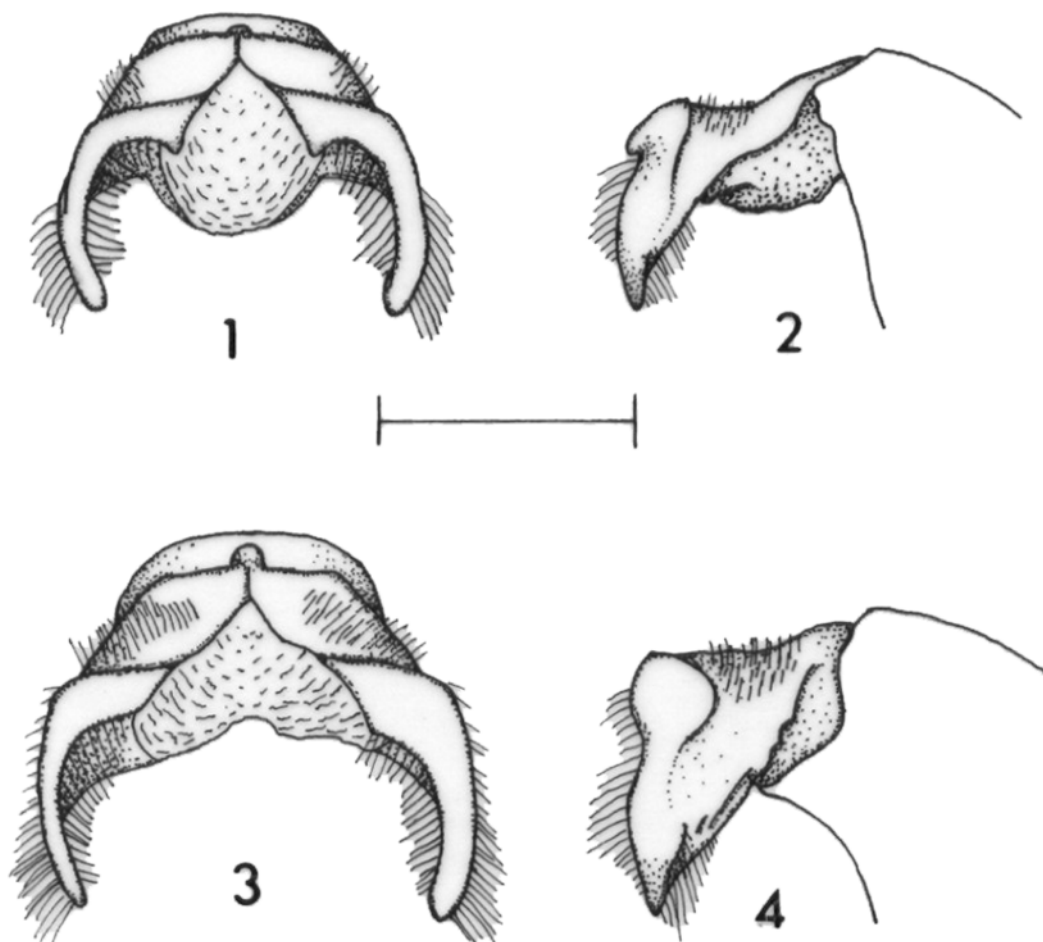
***Ceraspis jaliscoensis* Delgado and Navarrete-Heredia, new species (Figs. 1–2)**

**Type material:** Holotype male deposited at CZUG labeled: "MÉXICO: Jalisco, Mascota, gasolinería de la desviación a Talpa, 5-VI-2004, Alt. 1,400 m, vegetación secundaria, sobre pasto, G. A. Quiroz-Rocha col." Three male paratypes deposited at CZUG and IEXA. Two paratypes labeled: "MÉXICO: Jalisco, Mascota, Cerro La Mona, 5-VI-2004, Alt. 1,433 m, bosque de encino-pino, 20° 27' 44.8" N 104° 45' 2.2" W, bajo musgo, G. A. Quiroz-Rocha col." (CZUG, IEXA). One paratype labeled: "MÉXICO: Jalisco, Mascota, El Atajo, carr. a San Sebastián del Oeste, BMM, 20°38'1.1"N, 104°51'45"W, Alt. 1,413 m, NTP calamar, 5.VI-3.VII.2004, J.L. Navarrete-Heredia and V.H. Gómez" (CZUG).

**Description.** Male, total length 13.7 mm, maximum width (at middle of elytra) 5.8 mm. Body oval-elongate; color dull black on frons, pronotum, most of abdomen and thorax; dull reddish-brown on elytra and middle of abdomen; red on clypeus and legs; surface with small, lanceolate, whitish scales. Clypeus trapezoidal, sides straight, apex bilobed, sides and apex perpendicularly reflexed, surface flat; clypeus and frons densely and coarsely punctate with dense, recumbent scales; vertex sparsely punctate with sparse scales; antennae 9-segmented, club slightly shorter than segments 2–6 combined.

Pronotum swollen, semihexagonal, somewhat wider than long, anterior angles acute and posterior angles obtuse; base as wide as base of elytra, base anterior to scutellum fitting in scutellar base; pronotal surface with appressed scales in a pattern more or less longitudinal, forming glabrous areas as follows: along midline, 2 anterolaterad and 2 posterolaterad to midline and at lateral foveae. Scutellum heart-shaped with moderately dense, recumbent scales. Elytra longer than wide, elytral surface distinctly shagreened with costae scarcely elevated; elytral intervals with scarce, appressed scales smaller than those of pronotum, scales of first and second intervals coalescing at apical region; humeral umbones obtuse and prominent. Venter covered with scales (at sides), scale-like setae and slender and long setae (at midline). Prosternal process slightly curved, extending almost to apex of procoxae. Abdomen in lateral view strongly concave, first visible abdominal sternite broadly concave at middle; sternites 2–5 distinctly longer at sides than at middle; last abdominal sternite with longitudinal central 1/4 produced at apex, with moderately dense, long, yellowish setae, apical margin finely denticulate with narrow membranous border. Pygidium longer than wide, convex in lateral view, surface shagreened, with appressed scales except at basal 2/3 of midline, apex with dense, yellowish setae. Femora and tibiae with sparse, short, yellowish setae; tarsi with dense, long, golden setae. Protibiae tridentate with basal tooth small, without internal spur, with ventral keel serrate; meso and metatibiae with 2 short, apical spurs. Pro and metatarsi (minus claws) short and thickened, shorter

than respective tibiae; first protarsomere with stout, spinose process on ventrolateral face, second protarsomere with same process but smaller; metatarsi (minus claws) slightly longer than metatibiae, less thickened than pro and mesotarsi, metatarsomeres 3–4 as long as wide. All claws simple; unguitactor plate distinctly produced beyond base of claws. Male genitalia with parameres asymmetrical, short, broadly separated, curved at sides and produced at base (Figs. 1–2).



**FIGURES 1–4.** Parameres of male genitalia of *Ceraspis* species. 1, *C. jaliscoensis* holotype frontal view. 2, Same lateral view of left paramere. 3, *C. oaxacaensis* frontal view. 4, Same lateral view of left paramere. Scale line = 1 mm.

**Female.** Unknown.

**Variation in paratypes.** Three males, total length 11.2–12.2 mm, maximum width (at middle of elytra) 4.9–5.1 mm. The color on frons and pronotum is slightly shining black and density of setae and scales slightly varies. In other respects the paratypes do not differ significantly from the holotype.

**Remarks.** *Ceraspis jaliscoensis* is included in the Frey's group 3 based on the presence of scales on the dorsum and venter. *C. jaliscoensis* is most similar to *C. oaxacaensis*, *C. jaliscoensis* is distinguished from other species of this group (except *C. oaxacaensis*), by the following combination of characters: pronotum not rounded, scales of pronotum and elytra arranged in a longitudinal pattern, claws simple and color of pronotum and elytra black or reddish brown. *C. jaliscoensis* is separated from *C. oaxacaensis* by the dorsum that is distinctly shagreened and dull or slightly shining (dorsum with scarce shagreened and shining or slightly dull in *C. oaxacaensis*); by the color of elytra wholly reddish brown (wholly black or only with the elytral margins reddish brown in *C. oaxacaensis*); and by the shape of male genitalia with the parameres shorter and produced at the base (Figs. 1–2) (parameres longer and not produced at the base in *C. oaxacaensis* [Figs. 3–4]).

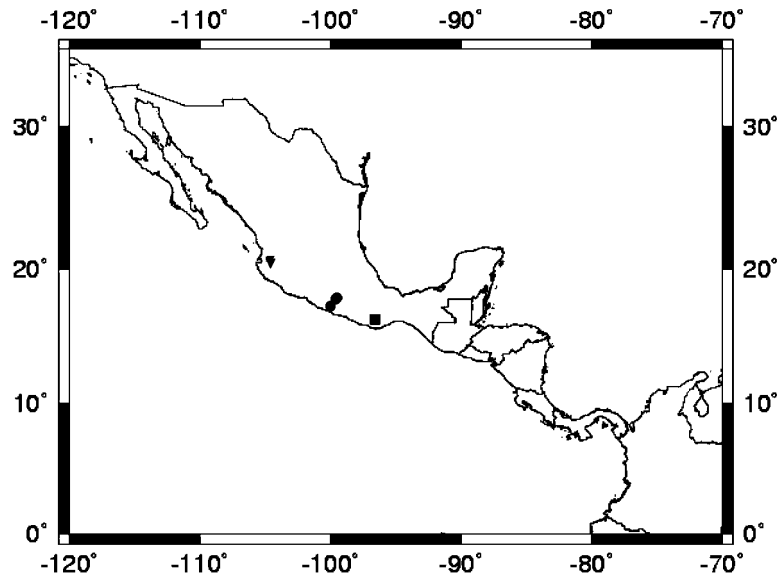
The key of the Mexican species of *Ceraspis* (Delgado 2001) should be modified as follows to include *C. jaliscoensis*:

- 1 Dorsum with vestiture of setae or scale-like setae (acicular shape and longer than wide) ..... 2
- Dorsum with vestiture of scales (spear-shaped and broader)..... 3
- 2 Clypeus bilobed; pronotum almost evenly convex ..... *C. centralis* (Sharp)
- Clypeus straight or broadly emarginate; pronotum distinctly elevated.....  
..... *C. mexicana* Harold
- 3 Pronotum almost entirely covered with recumbent scales (reclining on the surface), not forming a longitudinal pattern..... *C. velutina* (Bates)
- Pronotum with appressed scales (closely applied to the surface), forming a longitudinal pattern..... 4
- 4 Pronotum and elytra red ..... *C. pilatei* Harold
- Pronotum and elytra black or reddish brown ..... 5
- 5 Elytra almost wholly shining black ..... *C. oaxacaensis* Delgado
- Elytra wholly dull reddish brown ..... *C. jaliscoensis* Delgado and Navarrete-Heredia

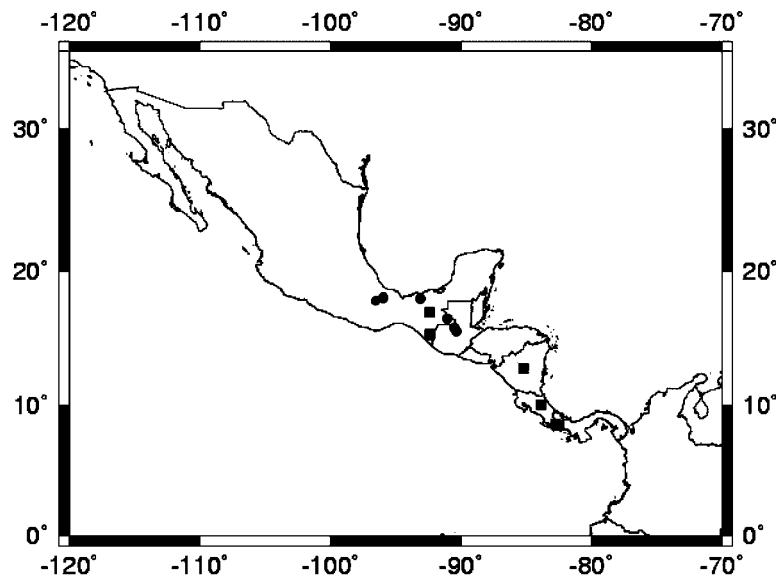
**Distribution.** The discovery of *C. jaliscoensis* extends the distribution of the genus *Ceraspis* from 18° 45' N to 20° 27' N (Figs. 5–7). The new species is found at the highest altitude of any species of this genus (1,433 m). In México, others species are found below 1,000 m (Delgado et al. 1987). Additionally, the distribution of *C. jaliscoensis* extends the range more than 670 km west in México (104° 45' W). Three species of *Ceraspis* are now endemic to México: *C. oaxacaensis* (Oaxaca), *C. velutina* (Guerrero), and *C. jaliscoensis* (Jalisco) (Fig. 5). The remaining non-endemic species occur in southern Mexican states south to Panamá (Figs. 6–7).

**Bionomics.** The adults were collected on grass (1 specimen), under moss (2) and, in a carrion trap baited with squid (1). The carrion-baited trap was probably an accidental capture, since the adults of this genus feed on flowers (Capistrán and Aquino 1992).

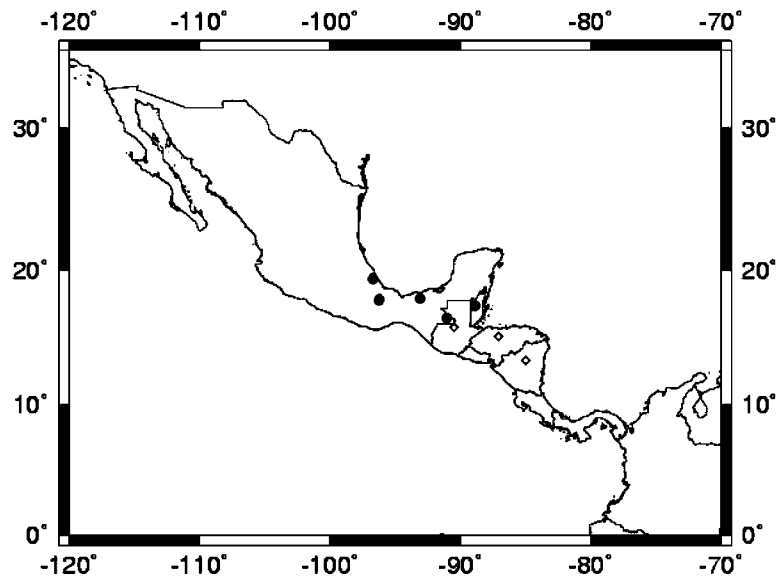
**Etymology.** The specific epithet, *jaliscoensis*, refers to Jalisco, the state where was collected this species.



**FIGURE 5.** Distribution of the Mexican species of *Ceraspis*. *C. jaliscoensis* (triangles), *C. oaxacaensis* (square) and, *C. velutina* (circles).



**FIGURE 6.** Distribution of the Mexican species of *Ceraspis*. *C. mexicana* (circles) and, *C. centralis* (squares).



**FIGURE 7.** Distribution of *Ceraspis pilatei* (circles; empty diamonds, country record without specific data).

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### References

- Capistrán, F. & Aquino, O. (1992) Observaciones sobre la biología de *Ceraspis pilatei* Harold (Coleoptera: Melolonthidae), en el área de Catemaco, Veracruz, México. *Folia Entomológica Mexicana*, 85, 119–122.
- Delgado, L. (2001) A new species of *Ceraspis*, with a key to the Mexican species of the genus (Coleoptera: Melolonthidae; Melolonthinae). *Journal of the New York Entomological Society*, 109 (1), 167–170.
- Delgado, L., Deloya, C. & Morón, M.A. (1987) Descripción del macho de *Ceraspis velutina* (Bates) y nuevos registros de *C. centralis* (Sharp) para México (Coleoptera: Melolonthidae; Macroductylini). *Folia Entomológica Mexicana*, 71, 47–54.
- Frey, G. (1962) Revision der gattung *Ceraspis* Serv., nebst beschreibung einer dazugehörigen neuen gattung (Col. Melolonth.). *Entomologischen Arbeiten aus dem Museum Georg Frey*, 13, 1–66.
- Frey, G. (1964) Neue Melolonthiden (Col.). *Entomologischen Arbeiten aus dem Museum Georg Frey*, 15, 691–701.
- Frey, G. (1965) Neue südamerikanische Melolonthidae (Col.). *Entomologischen Arbeiten aus dem Museum Georg Frey*, 16, 143–151.

- Frey, G. (1969) Neue Macroductylini (Col. Melolonthinae). *Entomologischen Arbeiten aus dem Museum Georg Frey*, 20, 376–402.
- Torre-Bueno, J.R. (1989) *The Torre-Bueno Glossary of Entomology*. Revised edition (compiled by S. W. Nichols). New York Entomological Society, New York, 840 pp.

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