

**MEGANELTUMIUS JUANI, NEW GENUS, NEW SPECIES
(COLEOPTERA: BRUCHIDAE)**

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Abstract

Meganeltumius Romero and Johnson and *M. juani* Romero and Johnson are described. This **new genus** and **species** are quite distinct due to the combination of the large gibbosities on the prothorax, the gibbosities on the elytra, the elongate genitalia, and especially the unique pattern of serrations on the metafemur. The hind femur is armed on its inner edge with about eight small serrations beginning about 0.5 from the base and ending at the apex in a subapical spine. This pattern of serrations and spines on the metafemur is unique to this genus of bruchids. All of these characters separate this species from any other and the pattern of serrations and spine on the metafemur separate this genus from any genus known to us. It resembles a large species of *Neltumius* Bridwell, consequently the name.

When we discovered specimens of *Meganeltumius juani* Romero and Johnson, we at first thought that they were members of the genus *Neltumius* Bridwell because of the overall coloration and the gibbosities on the pronotum and elytra. However, upon further examination, especially the spines of the hind femur and the male genitalia, we learned that this was distinctly different from *Neltumius* and describe it here as a new genus with one species. Nevertheless, it seems to be closely related to species of *Neltumius*.

Materials and Methods

We use the term ocular index as the ratio of the width across the eyes over the narrowest distance between the eyes (Kingsolver 1990).

In the preparation of the genitalia for study we used the techniques and nomenclature described by Kingsolver (1970) and modified by Romero and Johnson (1999). The genitalia were stored in genitalia vials.

Specimens of *Meganeltumius juani* belong to Jesús Luna Cozar and the Colección Zoológica, Universidad Autónoma de Queretaro, Queretaro, Estado de Queretaro, Mexico.

Meganeltumius Romero and Johnson, **new genus**

Type species. *Meganeltumius juani* Romero and Johnson.

Etymology. Named because it resembles a large member of the genus *Neltumius* Bridwell, but with significant differences. The generic name refers to the larger body size when compared to species of *Neltumius*.



Fig. 1. *Meganeltunius juani*, male adult. 1) Lateral view.

Description of Characters Diagnostic of the Genus. The following combination of characters distinguishes this genus from other genera known to us. The dimorphic antennae are subpectinate in males and serrate in females. The pronotum has two paired, well-defined gibbosities, the posterior pair is larger than the anterior pair (Fig. 1). The elytron has a gibbosity anteriorly between stria 2 and 5 and two more small gibbosities on stria interval 2, one mesal and one posterior to it (Fig. 2). The hind femur is especially diagnostic in that it is armed on its inner edge with about eight small serrations beginning about 0.5 from the base and ending at the apex in a subapical spine about 0.5 as long as the width of the tibial base (Figs. 3, 4). This pattern of serrations and spines on the metafemur is unique to this genus of bruchids. The genitalia are very elongate and the lateral lobes are cleft to about 0.65 their length (Figs. 5, 6). These elongate genitalia differ significantly from the shorter genitalia of species of *Neltunius* (Kingsolver, 1964; Romero and Johnson, submitted).

Meganeltunius juani Romero and Johnson, **new species**

Description. Male. Integument Color. Antennal segments yellowish with apex and base dark brown, some specimens with first two and last four segments black, rest of segments dark brown; head, thorax, abdomen black; legs yellowish, except ventral spot on femur, dorsal spot on tibia and first two tarsal segments yellowish with apex and base dark brown, rest of tarsi black.

Vestiture. Antenna clothed with gray pubescence; frons sparsely covered with gray and pale yellow hairs; prothorax with intermixed gray, pale yellow and dark pubescence, with paired brown spots at apex and base; base of prothorax with mesal yellowish spot; scutellum covered with white pubescence; dorsum clothed with brown, gray, and pale yellow hairs in distinctive pattern; sides with intermixed gray, pale yellow and dark pubescence and venter mainly with gray hairs; legs clothed with gray and pale yellow hairs with median brown band on posterolateral face of each tibia; without tuft of hair on first abdominal sternum; pygidium with indistinct pattern of gray, pale



Fig. 2. *Meganeltumius juani*, male adult. 2) Dorsal view.

yellow and dark pubescence; with a faint, longitudinal line of whitish hairs and a subtriangular spot of whitish hairs at apex; elytron with mesal, subtriangular spot, flanked basally with gray hairs (Fig. 2).

Head. Antenna with first two segments and the last filiform, segment 3–10 subpectinate; frons with strong, median carina glossy, head finely punctate; labrum foveolate, apical portion finely striate; clypeus bare, with anterior line of unisetose foveolae; eyes rounded, dark brown to black; ocular sinus 0.6 to 0.66 width of eye.

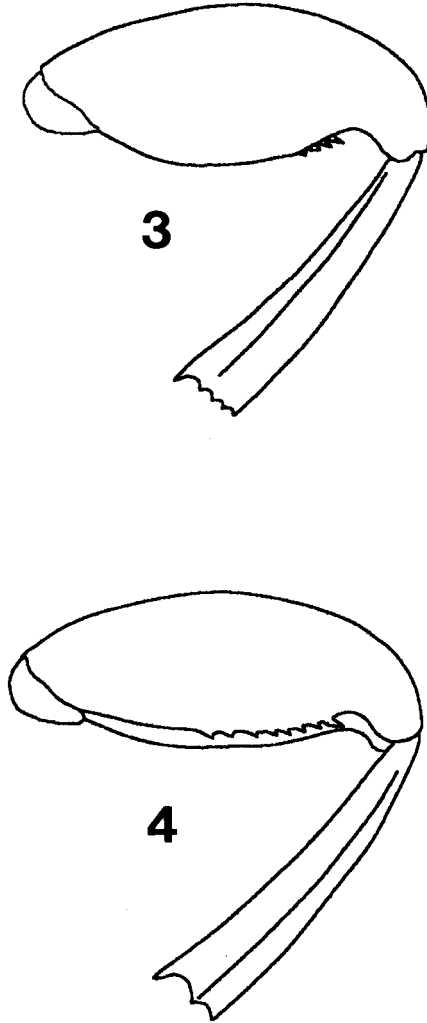
Prothorax. Subconical, pleura slightly concave; disk with two anterior and two posterior gibbosities, second protrudes two times higher than first (Fig. 1); base strongly lobed at middle, posterior corners acute (Fig. 2); basal margin with carina.

Mesothorax and Metathorax. Scutellum small, subquadrate, bidentate at apex; elytron evenly convex; humerus prominent, granulate, with vague serrate carina connecting base of striae 6 and 7; with gibbosity anteriorly between stria 2 and 5, two more small gibbosities on stria interval 2, one mesal and one posteriorly; stria interval 6 bulky; striae narrow, deep with setiferous punctures hardly discernible; metepisternum micropunctate without unisetose foveolae; hind coxa microfoveolate and setose, short area near trochanteral insertion with setose foveolae, small elongate lustrous area on anterior portion; hind femur constricted basally and apically, expanded medially to slightly wider than width of coxa (Figs. 3, 4); undersurface of femur very shallowly sulcate, armed on inner edge with about eight small serrations beginning about 0.5 from base and ending in a subapical spine about 0.5 as long as width of tibial base (Fig. 4); tibia with lateral and ventral carinae, inner face convex; apex with five spinules, the outer lateral and inner ventral subequal, others smaller; claws lobed at base.

Abdomen. First abdominal sternum three times as long as second; second, third and fourth subequal; fifth slightly elongate and slightly emarginate apically; sterna 2–5 with a line of strong, black setae; pygidium ovate and convex.

Size. Length (pronotum–elytra) 2.31 to 2.61 mm. Width 1.32 to .35 mm. Maximum thoracic depth 1.32 to .35 mm.

Genitalia. Median lobe elongate, thin, with ventral valve acuminate at apex, dorsal valve membranous and subquadrate; armature of internal sac formed by anterior linear cluster of minute

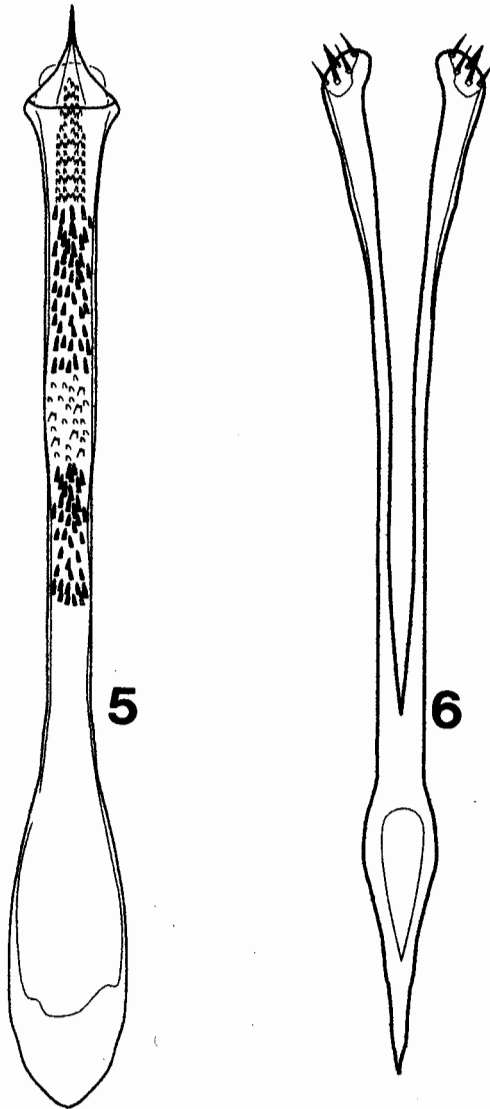


Figs. 3–4. *Meganeltumius juani*, male adult. 3) Hind leg, lateral view; 4) Hind leg, medial view.

scales, followed by a median cluster of small spines interrupted by a group small scales, basal portion with granulated sclerites (Fig. 5). Lateral lobes elongate, very thin, cleft to 0.65 their length (Fig. 6).

Female. Similar to male except antennae serrate, the inner face of hind tibia flat, with lateral dorsal and ventral carina well developed, first sternum without tuft of hairs; fifth sternum not emarginate, pygidium somewhat gibbous at apex, gray-pale yellow with dark T-shaped mark in apical half connected with vague spots near apex, narrow median line gray-pale yellow.

Size. Length (pronotum-elytra) 2.55 to 2.70 mm. Width 1.5 to 1.53 mm. Maximum thoracic depth 1.47 to 1.5 mm.



Figs. 5-6. *Meganeltumius juani*, male genitalia. 5) Median lobe, ventral view; 6) Lateral lobes, ventral view.

Host Plants. Unknown.

Type Series. Male Holotype: MEXICO. Cerro El Cimataro, Queretaro, 30-IX-1998, R. Jones collector. Female Allotype: same data as holotype. Paratypes: MEXICO. Cerro El Cimataro, Queretaro, 30-IX-1998, R. Jones collector; Cerro El Capula, Queretaro, 30-VII-2000, J. L. Cozar collector; Cerro El Ermitaño, Km 6 carr. Queretaro. Humilpan, Queretaro, 6-VII-1999, J. L. Cozar collector; Cerro El

Zamorano, 7 km NE Trigos, Colon, Queretaro, 9-III-1997, F. Landeros collector; Cañon Zuñigas, Amealco, Queretaro, 8-VII-2000, R. Jones collector, 2,100 m; 20°20'28"N, 100°07'10"W.

Holotype, and paratypes deposited in the Colección Nacional de Insectos, Instituto de Biología, Universidad Nacional Autónoma de México, México. Paratypes deposited in the Colección Entomológica del Instituto de Fitosanidad, Colegio de Postgraduados, Montecillo, México. Allotype and paratype deposited in the C.D. Johnson collection. One paratype in the U.S. National Museum of Natural History, Washington, D.C., USA, and two paratypes in Colección Zoológica, Universidad Autónoma de Queretaro, Queretaro, Estado de Queretaro, México.

Distribution. Mexico (Queretaro).

Discussion. As discussed above under the genus, this species and genus are quite distinct due to the combination of the large gibbosities on the prothorax, the gibbosities on the elytra, the elongate genitalia, the unique pattern of serrations on the metafemur, and the elongate genitalia. All of these characters separate this species from any other and the pattern of serrations on the metafemur separates this genus from any genus known to us.

Etymology. This species is named in memory of the late Juan Romero Beristain, father of the first author.

Acknowledgments

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