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# A new species of *Melzerella* Lima from Bolivia (Coleoptera: Cerambycidae: Lamiinae: Aerenicini) with a key to known species

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## Abstract

A new species of *Melzerella* Lima is described from Santa Cruz Department, Bolivia. A key to the four known species is provided, along with color photographs documenting their vibrant patterns.

**Key words:** key, biodiversity, distribution, longhorned woodborers, neotropics

## Resumen

Una especie nueva de *Melzerella* del Departamento de Santa Cruz, Bolivia es descrita. Una clave para las cuatro especies que se conocen es incluída, con fotografías a color para documentar sus patrones vibrantes.

**Palabras-clave:** clave, biodiversidad, distribución, longicorneos, neotrópicos

## Introduction

The genus *Melzerella* Lima, 1931 contains some of the most strikingly colored and patterned Cerambycidae in the world. They are collected uncommonly and most specimens have been taken at lights. The genus was proposed by Lima (1931), based on *M. lutzi* which was described from Brazil. Lima indicated that the genus fit the tribe Aerenicini (Lamiinae) based on the open mesocoxal cavities; third abdominal ventrite much shorter than either the first or fifth; eyes undivided; head not retractile, and presence of bifid tarsal claws. He defined the genus based on the elongate, cylindrical body; short, vertical frons; large, deeply emarginate eyes with lower lobes larger than upper lobes; short genae; cylindrical prothorax without lateral tubercles, and elongate, truncate elytra possessing dentiform or spinose processes at the suture and apicolaterad. Subsequently, a second species, *M. costalimai* from Venezuela, was described by Seabra (1961). A third species, *M. huedepohli* from Bolivia, was described by Monné (1979). In that paper, he reviewed the three known species and provided an identification key. Martins and Galileo (1998) revised the tribe Aerenicini and provided a new key to the species of *Melzerella*. Herein, we describe a fourth *Melzerella* species and provide a key for identification of all the species.

## Material and methods

During the last 10 years, numerous collecting expeditions to Bolivia involving many coleopterists were made to multiple localities from September through May. These expeditions are part of an ongoing project to survey the cerambycid fauna and develop an identification guide to the Bolivian species. All known collections of Bolivian Cerambycidae (acronyms and collections listed below) in the USA, Brazil, Bolivia, and Germany were examined

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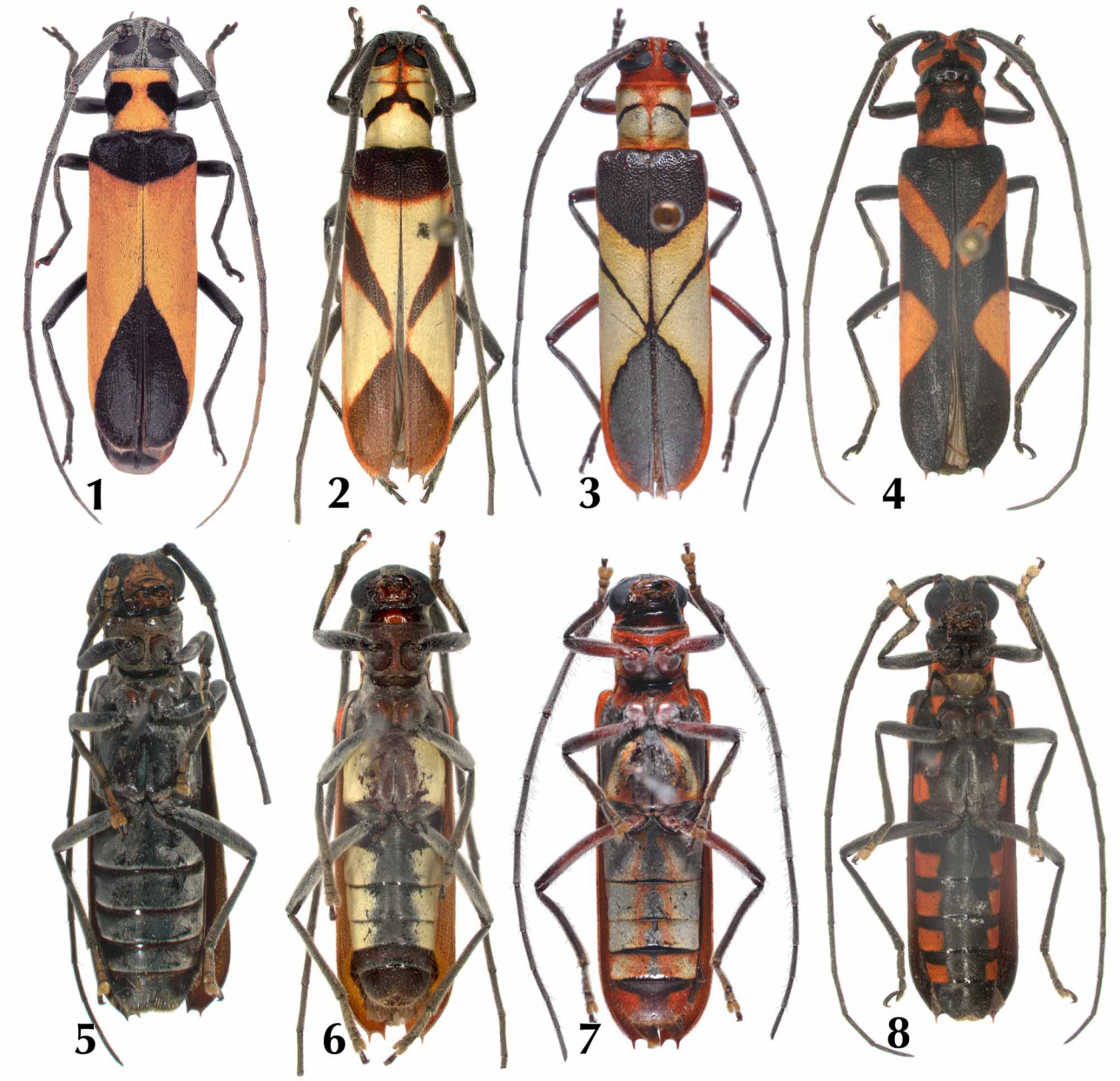
for *Melzerella* specimens. Websites containing photographs, mostly taken by SWL (Martins, *et al*. 2010; Monné, *et al*. 2010), and those included in Bezark (2010) also facilitated this work.

Images were captured with a Zeiss AxioCam HRc camera attached to a Zeiss Discovery.V20 stereomicroscope with a Sycop motorized zoom and focus control. Objectives included PlanApo S 1.0X and 0.63X. For illumination, a Zeiss KL 2500 LCD with ring light attachment was used. Axiovision software enabled preparation of montaged images and automatically calibrated measurements.




**FIGURES 1–8.** *Melzerella* species. **1,** *M. costalimai*; **2,** *M. huedepohli*; **3,** *M. lutzi*; **4,** *M. monnei*, **new species**; **5,** *M. costalimai*; **6,** *M. huedepohli*; **7,** *M. lutzi*; **8,** *M. monnei*, **new species**.

The collection acronyms and institutional abbreviations used in the text are as follows (note that specimens were not located in all these collections, but they were carefully examined for this and other works):

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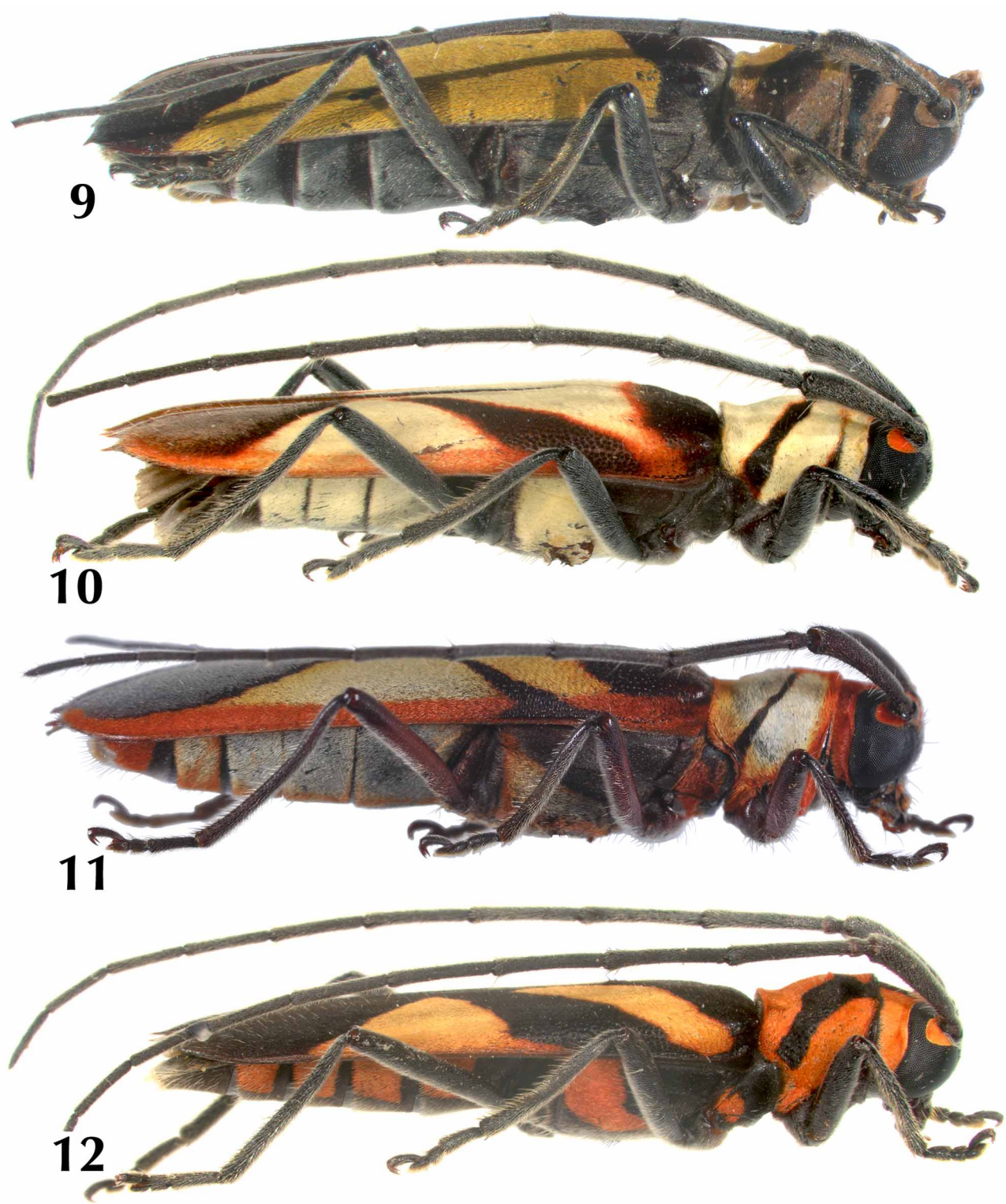
|---|---|
| CDFA | California Department of Agriculture, Sacramento, California, USA |
| CMNH | Carnegie Museum of Natural History, Pittsburgh, Pennsylvania, USA |
| FSCA | Florida State Collection of Arthropods, Gainesville, Florida, USA |
| ACMT | American Coleoptera Museum (James E. Wappes Collection), San Antonio, Texas, USA |
| MFNB | Museum für Naturkunde, Berlin, Germany |

| | |
|---|---|
| MNHN | Muséum National d'Histoire Naturelle, Paris, France |
| MNRJ | Museu Nacional, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil |
| MZSP | Museu de Zoologia, Universidade de São Paulo, São Paulo, Brazil |
| MNKM | Museo de Historia Natural, Noel Kempff Mercado, Santa Cruz de la Sierra, Bolivia |
| SEL | Systematic Entomology Laboratory, USDA, Washington, D.C., USA |
| USNM | National Museum of Natural History, Smithsonian Institution, Washington, DC, USA |
| ZSM | Zoologische Staatssammlung München, Munich, Germany |




**FIGURES 9–12.** *Melzerella* species. **9,** *M. costalimai*; **10,** *M. huedepohli*; **11,** *M. lutzi*; **12,** *M. monnei*, **new species**.

## Taxonomy

### *Melzerella monnei* Wappes and Lingafelter, new species
(Figs 4, 8, 12)

**Diagnosis.** *Melzerella monnei* is distinguished from its congeners by the bold orange to red pubescence on the elytron which forms two broadly separated regions and the unique distribution of orange to red pubescence on the lateral margins of ventrites 1–4 and the thorax.

**Description.** Elongate, 17.4–17.8 mm long; 3.8–4.3 mm wide at humeri. Integument and appendages black but adorned with dense, bold patches of orange to red pubescence. **Head** with dense coating of appressed setae, thickened at base, almost scalelike, surrounding eyes, base of antennal tubercles, and vertex, completely concealing integument. Otherwise, pubescence sparse, gray, suberect, not concealing integument on frons and occiput; moderately but distinctly punctate on frons between lower eye lobes, less so on occiput. Frons bulging, convex; gena vestigial below lower eye lobe and mandibular base; frontal-genal ridge absent; ante-clypeal sulcus transverse; Eye large, bulging, finely faceted; upper lobe connected to lower lobe by 8–9 facets, extending inside plane of antennal tubercle; lower lobe larger than upper lobe, occupying most of head from lateral view. Interantennal impression deep with antennal tubercles moderately elevated in U-shape. Antennae of male extending beyond elytral apex by 2–3 antennomeres. Antennae with sparse, gray setae, longer mesally. Scape long, slender; antennomeres 3–11 gradually decreasing in length. **Prothorax** cylindrical, about as long as wide (2.5–2.7 mm long; 2.5–2.7 mm wide); distinctly narrower than elytral base; dorsally and laterally, densely orange to red pubescent throughout except for black region in pattern of broad inverted U (or separate angled slash marks) at anterior half of pronotum; orange setae dense, scale-like with thickened bases, concealing integument surface; setae in black regions sparse, black, short, suberect, not concealing integument which is sparsely, indistinctly punctate; pronotum without calli or tubercles. Pronotum about 0.14–0.15 length of body. Prosternum sparsely pubescent with suberect, gray setae, most concentrated on prosternal intercoxal process; sparsely punctate; prosternal process broadly expanded at apex, closing procoxal cavities posteriorly. **Elytron** uniformly punctate on basal half, becoming shallow and inconspicuous apically; bold orange to reddish pubescence in two regions: the first, an oblique chevron strip angling at 45 degrees from humerus to suture, the second, a triangular region immediately posterior to middle, with apex approaching, but not attaining suture; setae very dense, scalelike with enlarged bases, obscuring integument. Elsewhere, integument black, not obscured by sparse, short, suberect, black setae. Elytral apices truncate with pronounced spine at suture and apicolaterad. Elytron 12.7–12.9 mm long; 1.9–2.1 mm wide; elytral length/width: 4.8–5.1. **Scutellum** broadly rounded posteriorly or truncate with moderate, black pubescence. **Legs** with femora and tibiae linear, unexpanded; metafemora short, extending to about apical fourth of elytron; sparsely pubescent, not obscuring black integument. **Venter** sparsely pubescent with mixture of short, gray setae not obscuring black integument except on posterior half of mesepisternum and metepisternum, posterolateral corner of metasternum, and sides of ventrites 1–4 which have patches of dense orange to red scalelike setae obscuring integument. Apex of fifth ventrite broadly rounded, without slight middle notch.

**Etymology.** The species epithet is a genitive patronym in honor of Miguel A. Monné for his extensive and important work in Western Hemisphere Cerambycidae, and in recognition of his previous work on *Melzerella*.

**Type material.** Holotype, male: "Bolivia [Dept. Santa Cruz], Cochabamba Carr[etera]., El Sacta, 220 m., 26 Oct 2002, Wappes, Morris & Aramayo" (MNKM). Paratype, male: "Bolivia: Dept. Santa Cruz, Prov. Florida, Refugio los Volcanes, 4 km N. Bermejo, 1806'S, 6336'W, 1045-1200 m., 28 October – 5 November 2007, S. W. Lingafelter, mv/uv lights" (USNM).

## Key to species of *Melzerella*

1. Elytron integument covered on at least middle third by broad region of dense, yellow to orange pubescence. Region of pubescence undivided by glabrous region or differently colored pubescence. Venter without bright yellow, orange, or red pubescence (Venezuela, French Guiana) (Figs 1, 5, 9). . . . . ***Melzerella costalimai*** Seabra
- Elytron with pubescence not as above; divided either by glabrous region near middle or with differently colored pubescence, or both. Venter with bright cream yellow, orange, or red pubescence. . . . . 2
2. Elytron with uniform orange to reddish pubescence in two regions: the first, an oblique chevron strip angling at 45 degrees from humerus nearly to suture; the second, a triangular lateral region just posterior to midlength, with apex approaching, but

not attaining suture. Sides of ventrites 1–4 and metasternum with bold patches of orange to red pubescence (Santa Cruz Department, Bolivia) (Figs 4, 8, 12) ..... ***Melzerella monnei*** Wappes & Lingafelter, new species

- Elytron with areas of cream yellow pubescence with partial or complete orange to reddish margins in an arrangement not as above. Sides of ventrites and metasternum without bold patches of red or orange pubescence ..... 3

3. Middle third of elytron, at least, covered by cream yellow pubescence with a narrow division exposing black integument that extends from outer edge of elytron at level midway between middle and hind legs to suture at the posterior margin of yellow region. Anterior margin of yellow elytral pubescence nearly transverse. Sides of ventrites 1–3 with bold, cream yellow pubescence (Santa Cruz Department, Bolivia) (Figs 2, 6, 10) ..... ***Melzerella huedepohli*** Monné

- Middle third of elytron, at least, covered by cream yellow pubescence with a broader division exposing black integument that extends from outer edge of elytron to nearly level of middle leg and the suture at posterior edge of yellow region. Anterior margin of yellow elytral pubescence deeply angled posteriorly along suture. Sides of ventrites 1–3 with dull gray pubescence (southeast Brazil) (Figs 3, 7, 11) ..... ***Melzerella lutzi*** Lima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