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SCIENTIFIC NOTE

DESCRIPTION OF THE MALE OF *LAMPETIS ALVARENGAI* COBOS, 1972 (COLEOPTERA: BUPRESTIDAE) AND A NEW STATE RECORD FOR BRAZIL

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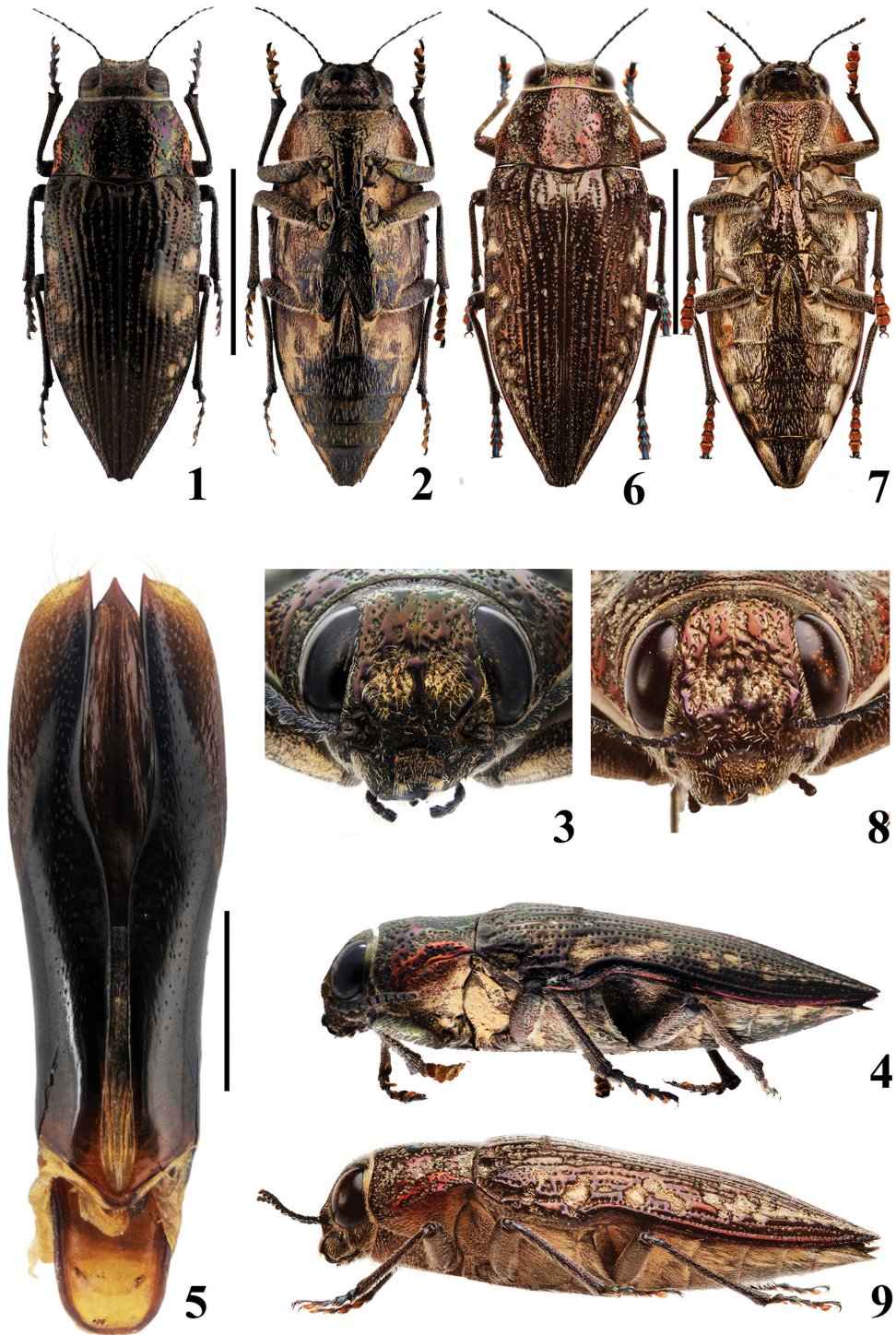
Lampetis Dejean, 1833 contains two subgenera, 279 species, and 66 subspecies that are widely distributed, occurring in the Afrotropical, Madagascar, Nearctic, Neotropical, Oriental, Palearctic, and Patagonian regions (Bellamy 2008). *Lampetis* (*Spinthoptera*) *alvarengai* was described by Cobos (1972), who assigned it to the subgenus *Lampetis* of the genus *Psiloptera* Dejean. However, the subgenus *Lampetis* was later elevated to genus level by Kurosawa (1993), who divided the genus *Psiloptera* into six genera. The original description of *L. alvarengai* was based on two female specimens collected by Moacir Alvarenga in Ceará state, Brazil. The discovery of new specimens allows us to describe and illustrate the previously unknown male. These specimens also represent a **new state record** of this species for Maranhão, Brazil, extending its known distribution by more than 800 km. The specimens were identified following the original description and illustration and comparison with the closest taxon available in Cobos (1972), and sexed based on the external morphological characters proposed by De Nadai *et al.* (2005) and genitalia. Male genitalia were extracted and submerged in a cold solution of 10% KOH for 30 minutes to dissolve soft tissues, later washed with water and mounted on a card. Photographs were taken with the specimen fixed on a Nikon PB–6M macro copy stand, using a Micro–NIKKOR 55mm f/3.5 macro lens mounted on a Nikon PB–6 bellows attached to a Nikon D7000 camera, except the genitalia photograph which was taken in the

same way, but with a Nikon M Plan 10X 0.25 210/0 microscope objective. The photographs were stacked using the focus-stacking software Zerene Stacker 1.04 to extend depth of field and edited in Adobe Photoshop CS5. Measurements were taken in millimeters using a Mitutoyo CD–6” ASX digital caliper. Collection abbreviations used in the text are MZUEL (Museo de Zoología de la Universidad Estadual de Londrina, Paraná, Brazil) and CPCP (Colección Particular de Cristian Pineda, Valparaíso, Chile).

Lampetis (*Spinthoptera*) *alvarengai* Cobos, 1972 (Figs. 1–9)

Material Examined. One male in MZUEL, labeled: a) “BRAZIL, Maranhão state / Feira Nova do Maranhão / 600 m a.s.l. / 21.v.2016 / C.G.C. Mielke leg.” b) “*Lampetis* (*Spinthoptera*) *alvarengai* Cobos, 1972 / C. Pineda & R. Barros det. 2018”. One female in CPCP, same data.

Description. Male (Figs. 1–5): Total length = 23.23 mm; humeral width = 8.83 mm. **Body form:** Navicular. **Color:** Dorsal surface shiny dark bronze. Pronotal lateral margins and epipleura copper-colored. Body with white pilosity concentrated mostly on thoracic-abdominal lateral margins and body depressions. Setose areas covered with light brown wax. **Head:** Vertex irregularly, coarsely punctate, crossed by a fine longitudinal groove. Frons with 2 depressions separated by a longitudinal vermiculate carina. Eyes distinctly convex laterally, converging anteriorly and diverging posteriorly,



Figs. 1–9. *Lampetis alvarengai*. Male: 1) Dorsal habitus; 2) Ventral habitus; 3) Frontal view; 4) Lateral habitus; 5) Aedeagus. Female: 6) Dorsal habitus; 7) Ventral habitus; 8) Frontal view; 9) Lateral habitus. Scale bars = 10 mm for Figs. 1 and 6; 1 mm for Fig. 5.

with inner margins subrectilinear. Antenna with antennomeres 1–4 subcylindrical, antennomeres 5–10 widened, antennomere 11 rounded at apex. **Pronotum:** 1.71 times as broad as long; slightly wider at base (maximum width) than near middle. Anterior and posterior margins bisinuate; lateral margins anteriorly narrowed and crenulate. Disc with 3 longitudinal grooves; median groove concave at base and attenuated anteriorly; lateral grooves shorter than median groove, extending nearly to middle. Punctures irregular in size and distribution, becoming denser along discal grooves; very sparse at sides of median groove. **Scutellum:** Rounded, wider at base, impunctate and glabrous. **Elytra:** Broader than pronotum at base with well-developed humeral angles that are crenulate on outer margin. Latero-basal depressions shallow, forming a continuous depression with lateral grooves of pronotum. Lateral margins with a series of longitudinal irregularly shaped depressions, forming a continuous groove from apical third to apex (not reaching marginal and submarginal striae). Striae marked by round punctures, gradually decreasing in size towards apex; interstriae convex, without punctures, except for some small, very sparse depressions. Apex bidentate with internal tooth slightly longer. **Venter:** Prosternal process smooth and shiny, except in lateral grooves, which are provided with coarse punctures and long setae; sides very slightly arcuate from base to apical third, then arcuately attenuate to apex that is wide and rounded. First abdominal ventrite with strong median longitudinal groove bounded by 2 ridges, not extended along ventrites II–V; ventrite V (last visible) trapezoidal with shallow emargination at middle of posterior margin; ventrites VII and VIII sclerotized, hidden under ventrite V; ventrite VII with a median posterior projection; ventrite VIII broadly rounded posteriorly. Legs robust, tibiae armed with 2 apical spurs on each superior margin. **Aedeagus:** Elongate and strongly sclerotized. Parameres each bearing few long apical setae, very finely punctate-rugose; outer margins abruptly arcuate apicolaterally, with small tooth-like projection on each apical angle of inner margin; inner margins subparallel with curvature near middle. Median lobe longitudinally striated, strongly acuminate apically. **Sexual Dimorphism.** The male specimen differs from the female by the smaller and less robust body; ventrite V weakly emarginate medially, ventrites VII, VIII sclerotized; ventrite VII with median triangular projection; ventrite VIII apically rounded. Females have the posterior margin of the fifth ventrite rounded apically and have only ventrite VII sclerotized and with rounded margin.



Fig. 10. Habitat of *Lampetis alvarengai*. Plains and plateaus of Parnaíba Basin, Brazil. Photograph by Carlos G. C. Mielke.

Distribution. Known from the type locality (Crato, Ceará state, Brazil) and Feira Nova do Maranhão, a **new state record** for Maranhão. Both locations are in northeastern Brazil.

Biology. The adults of *L. alvarengai* that we examined were collected on the elevated plains and plateaus of the Parnaíba Basin (Ross 1990) (Fig. 10). Activity was only observed between 11:00 am and 1:00 pm, probably because the beetles are more likely to fly during the heat of the day. Specimens were collected using an entomological net.

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