

Research Article / Artículo de Investigación

A new species of *Chrysobothris* (s. str.) Eschscholtz, 1829 (Coleoptera: Buprestidae) from Lambayeque region, Peru

Una nueva especie de *Chrysobothris* (s. str.) Eschscholtz, 1829 (Coleoptera: Buprestidae) de la región Lambayeque, Perú

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Abstract. *Chrysobothris requensis* **sp. nov.** is described and illustrated from specimens collected in a seasonally dry forest locality of the Lambayeque region in northwestern Peru. The new species is similar to several *Chrysobothris* species with green spots on the elytra from which it can be distinguished by the color of the body, shape, and arrangement of green fasciae on the elytra and the male genitalia. Comments on its ecology and distribution in the country are provided.

Key words: Cerro Reque; jewel beetles; Neotropical region; seasonally dry forests; taxonomy.

Resumen. Se describe e ilustra a *Chrysobothris requensis* **sp. nov.**, a partir de especímenes recolectados en una localidad de bosque estacionalmente seco de la región de Lambayeque en el noroeste de Perú. La nueva especie es similar a otras especies de *Chrysobothris* con manchas verdes en los élitros de las cuales se distingue por el color del cuerpo, forma y disposición de las fascias verdes en los élitros y la configuración del genital masculino. Se proporcionan comentarios sobre su ecología y distribución en el país.

Palabras clave: Bosques estacionalmente secos; cerro Reque; escarabajos joya; región neotropical; taxonomía.

Introduction

Chrysobothris Eschscholtz, 1829 is a large and cosmopolitan genus of Buprestidae with more than 700 described species (Bellamy 2008). The genus is most diverse in North and Central America; however, it is poorly known and studied in South America (Hespenheide & Chaboo 2015). In Peru, seven species of *Chrysobothris* are known: *Chrysobothris decolorata* (Gory & Laporte, 1837), *Chrysobothris hypochloris* Erichson, 1847, *Chrysobothris bella* (Kirsch, 1873), *Chrysobothris banghaasi* Théry, 1911, *Chrysobothris peruviae* Obenberger, 1924, *Chrysobothris freyi* (Pochon, 1972) and *Chrysobothris fallax* Juárez-Noé & González-Coronado, 2023 (Obenberger 1940; Pochon 1972; Hespenheide & Chaboo 2015; Juárez-Noé & González-Coronado 2023; Woodley 2023); however, there are probably many still

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undescribed species in the country (Hespenheide & Chaboo 2015).

The Northwestern Peruvian seasonally dry forests are recognized as one of the world's most threatened ecosystems and are considered priority sites and important areas for conservation. The territory of Lambayeque region contains extensive areas of dry forest, dominated by *Neltuma piurensis* (L. Vásquez, Escurra & Huamán) C.E. Hughes & G.P. Lewis (Fabaceae) and *Colicodendron scabridum* (Kunt) Seemann (Capparaceae), are considered as important conservation areas preserving several endemic species of flora and fauna (MINAM 2018).

Herein, we describe and illustrate a new species of *Chrysobothris* from the Lambayeque region in Northwestern Peru.

Materials and Methods

The holotype and paratypes were examined using a Nikon SMZ445 stereomicroscope; measurements of specimens were made using a vernier caliper with 0.05 mm precision, with total length measured from the front of the head to the elytral apices and width measured at widest point of elytra. The photographs were taken with a Nikon Coolpix L320 camera of 16.1 megapixels, while the software used for digital image processing was freeware CombineZ4. Holotype and paratypes material labels data are cited verbatim, with a single slash (/) indicating the change of line, and double slash (//) indicating the change of label.

Collection abbreviations used are as follows:

MUPRG: Museo de Historia Natural "Víctor Francisco Baca Aguinaga" de la Universidad Nacional Pedro Ruiz Gallo, Lambayeque, Peru.

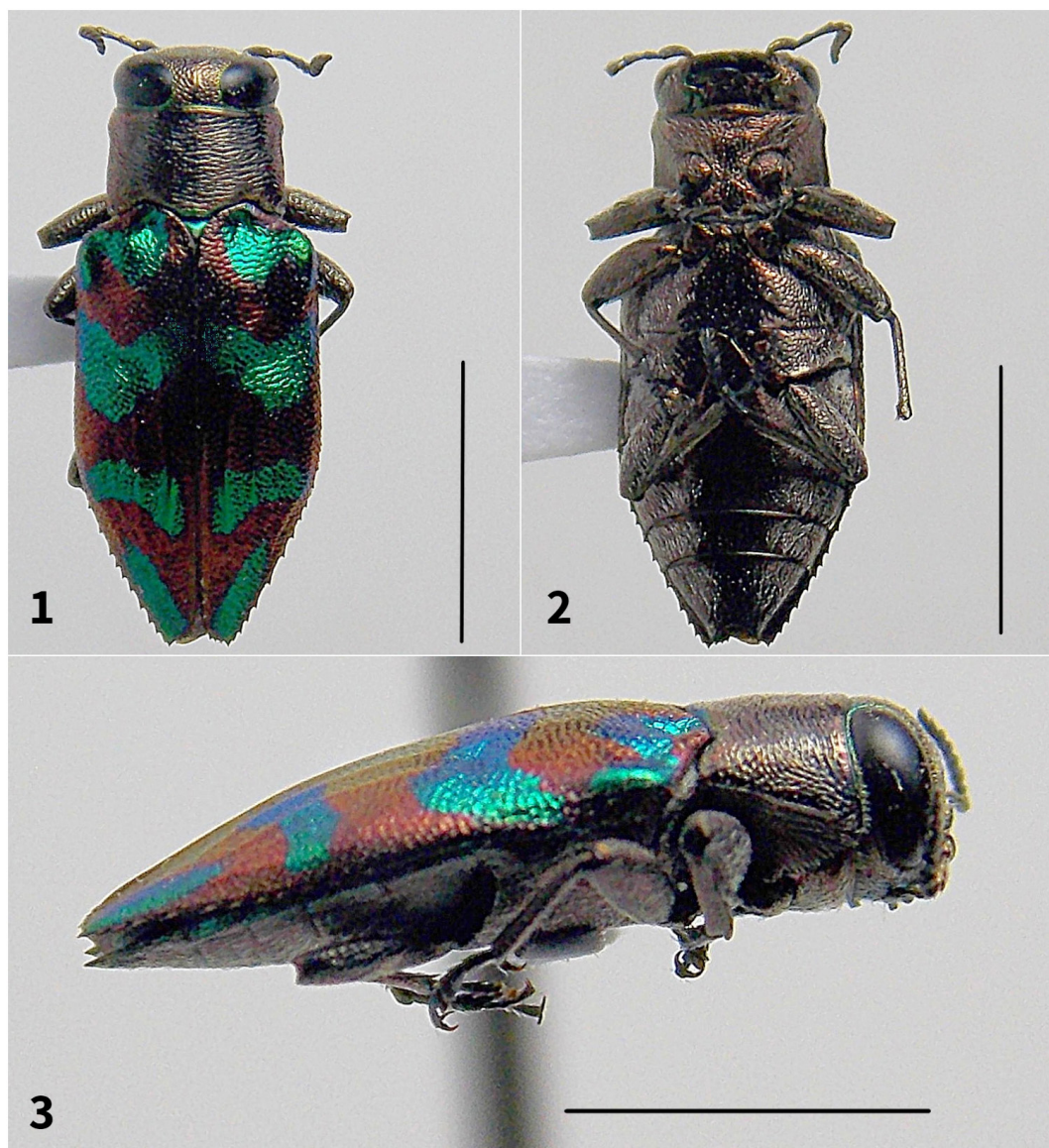
GJNC: Gino Juárez Noé Collection, Piura, Peru.

Results

Taxonomy

Chrysobothris requensis Juárez-Noé, Barboza & Perales, **sp. nov.**
(Figs. 1-7)

Type material. Holotype male // PERÚ, región de Lambayeque, provincia de Chiclayo, distrito de Reque, / Cerro Reque, 06°51'16"S-79°47'37"O, / 40 m, 12-II-2023, colecta manual, R. Barboza leg. [MUPRG]. Paratypes. 1 female, 1 male // PERÚ, región de Lambayeque, provincia de Chiclayo, distrito de Reque, / Cerro Reque, 06°51'16"S-79°47'37"O, / 40 m, 12-II-2023, colecta manual, R. Barboza leg. [MUPRG]. 1 male // PERÚ, región de Lambayeque, provincia de Chiclayo, distrito de Reque, / Cerro Reque, 06°51'17"S-79°47'34"O, / 40 m, 18-II-2023, colecta manual, F. Perales leg. [MUPRG]. 1 female, 1 male // PERÚ, región de Lambayeque, provincia de Chiclayo, distrito de Reque, / Cerro Reque, 06°51'17"S-79°47'34"O, / 40 m, 18-II-2023, colecta manual, F. Perales leg. [GJNC]. 1 female, 1 male // PERÚ, región de Lambayeque, provincia de Chiclayo, distrito de Reque, / Cerro Reque, 06°51'23"S-79°47'23"O, / 40 m, 19-II-2023, colecta manual, F. Perales leg. [MUPRG]. 2 males // PERÚ, región de Lambayeque, provincia de Chiclayo, distrito de Reque, / Cerro Reque, 06°51'17"S-79°47'34"O, / 40 m, 19-II-2023, colecta manual, R. Barboza leg. [MUPRG]. 1 female // PERÚ, región de Lambayeque, provincia de Lambayeque, distrito de Lambayeque, / campus de la Universidad Nacional Pedro Ruiz Gallo, 06°42'25"S-79°54'27"O, / 15 m, 28-III-2023, colecta manual, R. Barboza leg. [MUPRG].



Figures 1-3. *Chrysobothris requensis* sp. nov., male holotype. 1. Dorsal view. 2. Ventral view. 3. Lateral view. Scale: 4 mm. / *Chrysobothris requensis* sp. nov., holotipo macho. 1. Vista dorsal. 2. Vista ventral. 3. Vista lateral. Escala: 4 mm.

Description. Male holotype (Figs. 1-5). Length: 7.10 mm; width: 3.10 mm. Shiny, moderately convex; frons black with coppery-gold reflections; vertex black with green reflections; margins along eyes green; clypeus with coppery-gold and green reflections along margin; antennomeres black, antennomeres 1-3 with faint green reflections, antennomeres 4-11 with coppery-gold reflections; pronotum with dark bronze reflections; scutellum green; elytra purplish-red, with three greenish-blue transversal fasciae as follows: a basal, wide, extending from humerus to near the suture; an antemedian, wide, oblique, from lateral margin to the suture and an at posterior third between lateral margin and the suture; a thin and short greenish blue longitudinal fascia near lateral margin reaching the apex. Ventral surface and legs shiny with dark bronze reflections. **Head.** Frons convex, deeply and densely punctate,

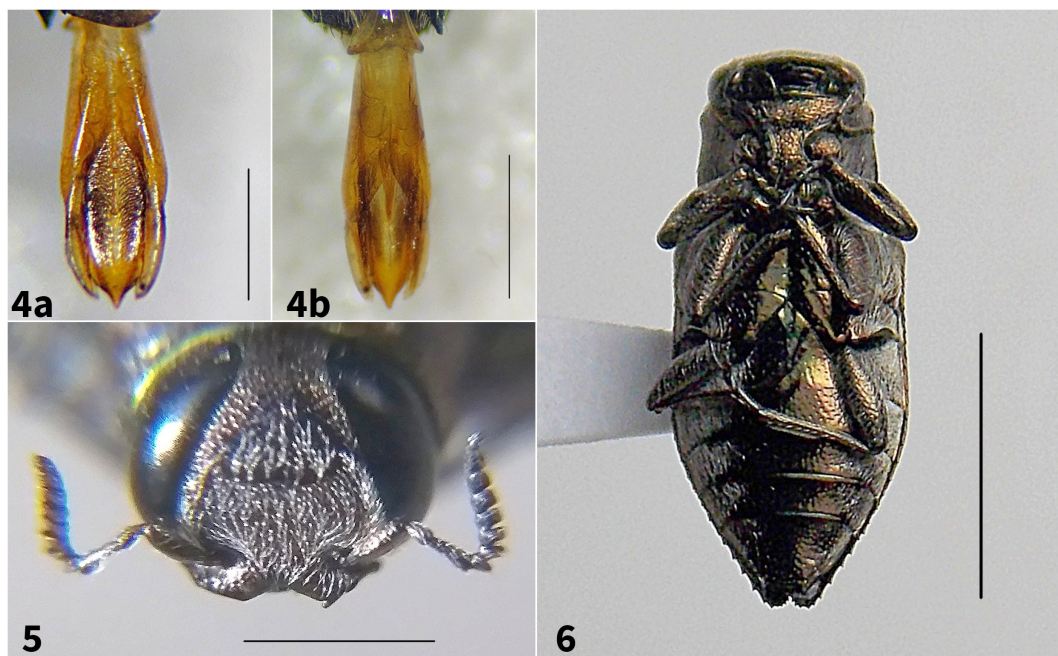
densely clothed with long, silver-white hairs; with a median longitudinal carina and weakly elevated ridge above clypeus and arching above antennal insertions; vertex deeply and densely punctate, glabrous, with a weak median carina; clypeus with anterior margin broadly, deeply, triangularly emarginate; eyes large, separated broadly; antennomere 1 longer than wide, wider at apex; antennomere 2 short, wider than long; antennomere 3 longer than wide, shorter than antennomere 1; antennomeres 4-11 serrate (Fig. 5). **Thorax.** Pronotum with surface evenly convex, wider than long, widest at apical fourth, without depressions; disk deeply and densely rugose; punctures coarse and dense laterally; apical angles obtusely triangular, weakly produced; basal angles subquadrate; hind margin strongly bisinuate, truncate in front of scutellum. Prosternum densely punctate, clothed with short, semierect, dense silver-white hairs; prosternal process wide, flat, densely punctate, front margin acute; meso and metasternum densely punctate, with disk glabrous and clothed with short, semierect, dense silver-white hairs. **Elytra.** 1.4 times longer than wide, width at humeral angles 1.1 times wider than pronotum at hind angles, sides widest behind middle, then tapering to apex; lateral margins serrate from middle to apex; angulate apices terminating in a single acute tooth, margin between apical tooth and suture with two minute teeth; humeral angles rounded; surface densely punctate, punctures shallow at basal third, deeper to apex; basal third slightly rugose. Each elytron with a deep median basal pit, a small and shallow humeral pit, a transverse discal fovea at basal third and an irregularly rounded discal fovea behind middle; three weakly elevated costae as follows: costa 1 from basal third to near apex, costa 2 short, from basal third to half, interrupted by apical fovea, costa 3 following outline of lateral margin, obsolete from near base to half, extending more distinctly from half to near apex; discal fovea at basal third between costae 1-3, discal fovea behind middle between costae 1-2; scutellum small, triangle, with surface densely punctate. **Legs.** Densely punctate, clothed with short, sparse silver-white hairs; Anterior femur with a short, acute tooth, no denticulate on outer margin; Anterior tibia feebly arcuate. **Abdomen.** Finely and densely punctate, clothed with short, silver-white hairs, denser laterally. Ventricle 5 deeply, semicircularly emarginate at apex, with posterior angles acutely produced externally; surface broadly, feebly concave at middle. **Aedeagus.** Parameres subapically slightly widened, apices acute; median lobe strongly narrowed apically, tip rounded (Figs. 4a, 4b).

Female. Similar to male, differs as follows: antennomeres black with faint coppery-gold reflections; ventrite 5 shallowly emarginate at apex, emargination transversely sinuate at middle, with posterior angles acutely produced externally (Fig. 6).

Variation. Most individuals, including the holotype, the frons is densely clothed with silver-white hairs, but in a few individuals is sparsely clothed, while in some specimens the ventrites are glabrous on middle. Males vary from 6-7 mm long (mean = 6.70, n = 7) and 3-3.10 mm wide (mean = 3, n = 7) and females from 6-6.90 mm long (mean = 6.30, n = 4) and 3-3.10 mm wide (mean = 3.10, n = 4).

Diagnosis. *C. requensis* sp. nov., belongs to a complex group of similar species in size, form of body and brilliant maculae and fasciae on elytra. However, is clearly most closely related to *Chrysobothris stephensi* Gory & Laporte, 1837, *Chrysobothris pulchra* Gory & Laporte, 1837, *Chrysobothris sexfasciata* Schaeffer, 1919 and *Chrysobothris chrysoela lernerii* Cazier, 1951 based largely on color pattern and green transversal fasciae on elytra. In *C. stephensi* and *C. pulchra* coloration in dorsal and ventral surface is more brilliant (head, pronotum coppery-red and legs green in *C. stephensi*; head, pronotum and legs green in *C. pulchra*), transversal longitudinal fasciae are narrower with a wide longitudinal fascia at apices (Gory & Laporte 1837). In *C. sexfasciata* the pronotum is purplish, elytra deeply punctate with only one longitudinal costa, basal and antemedian fascia connected at lateral margin, antemedian fascia not reaching the suture, apical fascia rounded, and apices rounded terminating in minute teeth (Fisher

1925, 1942). In *C. chrysoela lernerii* the pronotum and elytra are purplish dark, elytra without longitudinal costae, antemedian fascia not reaching the suture and apices rounded terminating in minute teeth (Cazier 1951). The male genitalia of *C. sexfasciata* have the parameres widest at middle and apices rounded, and median lobe slightly narrowed apically. In *C. chrysoela lernerii* the aedeagus is thin, the parameres are strongly narrowed to apical half, and median lobe gradually narrowing to apex, tip pointed (Fisher 1942; Cazier 1951).



Figures 4-6. *Chrysobothris requensis* sp. nov. 4-5. Male holotype. 4a-4b. Aedeagus, dorsal and ventral view. Scale: 1 mm. 5. Head, frontal view. Scale: 1 mm. 6. Female paratype, ventral view. Scale: 4 mm. / *Chrysobothris requensis* sp. nov. 4-5. Holotipo macho. 4a-4b. Edeago, vistas dorsal y ventral. Escala: 1 mm. 5a. Cabeza, vista frontal. Escala: 1 mm. 6. Paratipo hembra, vista ventral. Escala: 4 mm.

Etymology. The species name refers to Cerro Reque, the place where type material was collected.

Distribution. Known only from the seasonally dry lowland forests up to 40 m altitude in the Lambayeque region of Northwestern Peru (Fig. 8).

Ecology. Most individuals have been collected on live leaves of *Capparicordis crotonoides* (Kunt) Iltis & Cornejo (Capparaceae) infested with mites; a few individuals have been collected on live branches of *C. scabridum* and *Parkinsonia aculeata* Linnaeus (Fabaceae) (Fig. 7) and only one individual was collected dead, wrapped in spider webs, on branches of *N. piurensis*. Presumably, the mites serve as food for the adults and the trees species serve as hosts for larval development but remains to be confirmed.

Remarks. *Chrysobothris requensis* sp. nov., it differs from the other *Chrysobothris* species known from Peru mainly by green transversal fasciae on elytra; *C. hypochloris*, *C. banghaasi*, *C. bella*, *C. peruviae*, and *C. freyi* have green rounded maculae on elytra, while *C. decolorata* and *C. fallax* have dull colorations without green maculae on elytra. The seasonally dry forests in northwestern Peru range the Tumbes, Piura, and La Libertad regions, and as a result it is possible that *C. requensis* sp. nov., also occurs in these areas, as well in other dry forest

habitats along the Peruvian coast. More collecting in these areas would be helpful in further delimiting the distribution of this species.

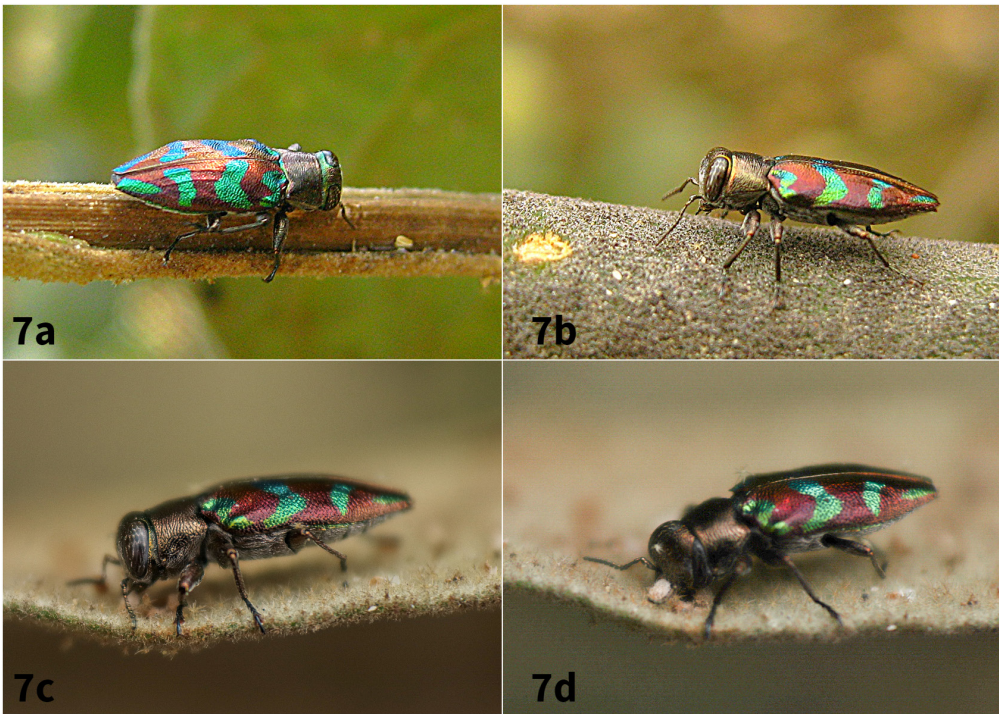


Figure 7. Live specimens of *Chrysobothris requensis* **sp. nov.** 7a. Male holotype. 7b. Female paratype. 7c-7d. Feeding on leaves of *Capparicordis crotonoides*. / Ejemplares vivos de *Chrysobothris requensis* **sp. nov.** 7a. Holotipo macho. 7b. Paratipo hembra. 7c-7d. Alimentándose sobre hojas de *Capparicordis crotonoides*.



Figure 8. Habitat of *Chrysobothris requensis* **sp. nov.**, seasonally dry lowland forests. / Hábitat de *Chrysobothris requensis* **sp. nov.**, bosques estacionalmente secos de tierras bajas.

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