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### Two new remarkable *Callimicra* Deyrolle, 1864 (Coleoptera: Buprestidae: Agrilinae) from Central America

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#### Abstract

Collections from Panamá and the recent Arthropods of La Selva biodiversity inventory project in Costa Rica yielded specimens of two unusual species of the genus *Callimicra* Deyrolle, both of which exhibit striking color patterns. A brief review of the history of treatment of the genus is presented and the two new species are described and illustrated: *Callimicra timmonsae* sp.n. species, and *C. prenatali* sp.n.

**Key words:** Buprestidae, *Callimicra*, Coleoptera, Costa Rica, new species, Panamá

#### Introduction

*Callimicra* is a moderately large Neotropical genus (Bellamy 2008) whose variability and taxonomic treatments cause and reflect difficulty in its definition (e.g., Cobos 1978, Holyński 1993). At present, there are nine named species known from Mexico and Central America, but there is perhaps as many as twice that number of additional undescribed species from the region in extant collections. As I have discussed earlier (Hespenheide 1979), the boundary between the genus *Callimicra* and the very large and somewhat less variable leaf-mining genus *Leiopleura* Deyrolle is difficult to define. Although, to my knowledge, no species of *Callimicra* have been reared, their usually more elongate and robust body form suggests they are borers in stems or wood rather than miners in leaves. Several species have been collected on plants in several genera of the family Euphorbiaceae (see below), and there may be an association of the genus with that family. Coloration of members of the genus *Callimicra* tends to be rather simple and uniform dorsally, typically either monochromatic blue, or with monochromatic blue elytra and a red, green or golden pronotum. The two species described here are unusual in having the blue or purple elytra with transverse bands either of bright green or bright red. A single South American specimen of another undescribed species with similar coloration has been seen in the collection of the Natural History Museum in London, and a species with less strikingly dichromatic elytra was described earlier from Brazil (Hespenheide 1980). These two species were collected either at La Selva Biological station in Costa Rica or as part of the Arthropods of La Selva (ALAS) biodiversity survey on the Volcan Barva Transect above the station. A total of 11 *Callimicra* species are known from La Selva or the Barva transect, only two of which have been described until now.

#### Materials and methods

Specimens were measured to the nearest 0.5 mm.

The following collection codens are used throughout the text:

BMNH	The Natural History Museum, London, England;
BYU	Monte L. Bean Life Science Museum, Brigham Young University, Provo, UT, U.S.A.;
CHAH	Henry A. Hespenheide, University of California, Los Angeles, CA, U.S.A.;
CMNC	Canadian Museum of Nature, Ottawa, Canada;

INBC	Instituto Nacional de Biodiversidad, Santo Domingo de Heredia, Costa Rica;
STRI	Smithsonian Tropical Research Institute, Ancon, Panamá;
UCDC	Bohart Museum, University of California, Davis, CA, U.S.A.;
USNM	National Museum of Natural History, Smithsonian Institution, Washington, DC, U.S.A.

***Callimicra timmonsae* sp. n.**

(Figs. 1, 3)

Holotype ♂ (USNM): **Panamá:** Panamá Pr., Cerro Campana, 850 m, 08°40' N, 79°56' W, 9, 21.iv.1973, H.A. Hespenheide. Allotype ♀ (CMNC): **Costa Rica:** Heredia Pr., La Selva, nr. Pto. Viejo, 50 m, 18.Feb.1980, H.&A. Howden. Paratypes (all ♂♂): **Costa Rica:** Prov. Heredia, F. La Selva, 3 km S Pto. Viejo, 10° 26' N 84° 01' W, 31.iii.1985, H.A. Hespenheide (INBC). **Panamá:** Same data as holotype (BMNH, CHAH, UCDC), also 21.iv.1973, H.A. Hespenheide (CHAH), 21 Apr. '73, H.P. Stockwell (STRI), 18 March 1973, Strauch (CHAH).

**Description:** Holotype male: relatively slender, broadly rounded in front, more attenuate and less broadly rounded behind, strongly shining in green areas, moderately shining elsewhere; inconspicuously minutely and sparsely setose throughout; ventral 3/5 of frons reddish coppery, dorsal 2/5 of frons and pronotum bright green except for narrow line along anterior 2/3 of midline of pronotum black; scutellum black; elytra dark purple with transverse band of bright green for 1/4 of length anterior to middle and posterior 1/5 bluish green; legs and ventral surface black; 3.65 mm long, 1.30 mm wide.

Head: 0.90 mm wide, weakly convex, with fine carina on dorsal 2/5 and weak medial depression becoming strongly, narrowly foveate at middle of front; surface finely punctate and shagreened; grooves above antennal insertions with small paired pores at middle and larger pores at margins of eyes; antennal insertions separated by narrow raised ridge, epistoma narrow and transverse; antennae with two basal antennomeres enlarged, antennomeres 3–5 slender, and 6–11 narrowly triangular.

Pronotum: strongly convex for anterior 3/4 with strong transverse depression across basal 1/4, 1½ times as wide as long at middle, 1/4 narrower at apex than at base, and widest near middle; sides carinate, weakly rounded to apical angles; anterior margin broadly rounded; width at base subequal to humeral angles of elytra, basal margin weakly undulate shallowly rounded anterior to scutellum, posterior angles subquadrate; weak prehumeral carinae 2/3 length of pronotum along lateral margins; disk finely concentrically punctate and shagreened at lateral margins. Scutellum shagreened, triangular, 1<sup>2</sup>/3 wider than long.

Elytra: with humeral angles subquadrate; sides nearly parallel for basal 5/8, then narrowed to tips which are broadly, separately rounded; each elytron with small triangular depression at base interior to humerus, and deeper depression behind humerus along lateral margin for basal 1/3; surface coarsely rugose on basal 1/2, more strongly so and shagreened in green transverse band, then very vaguely rugose on apical 1/2, except more strongly rugulose in and shagreened in blue area.

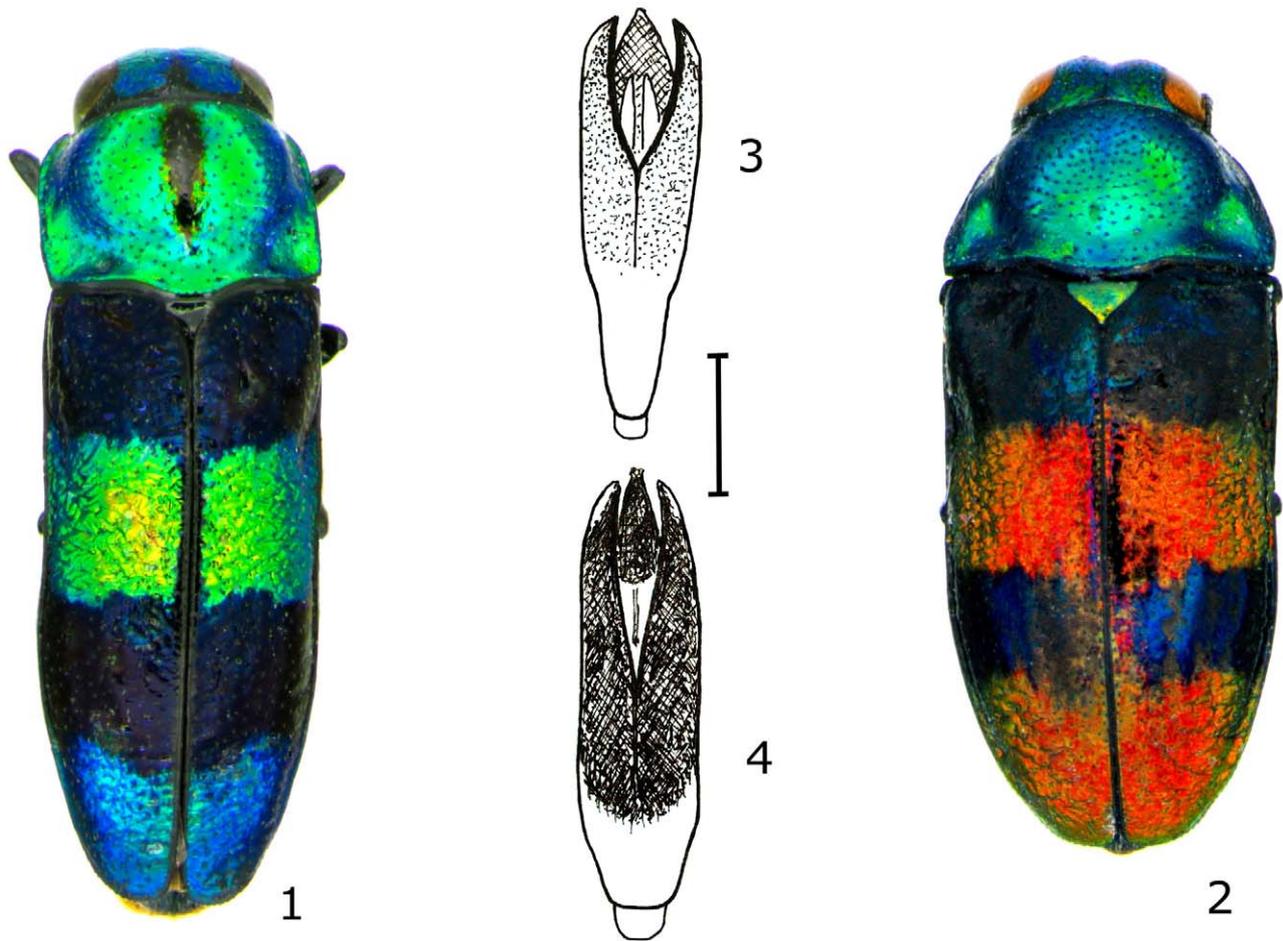
Underside: Prosternum somewhat convex, weakly rounded on anterior margin; prosternal process broad, sides narrowing somewhat between coxal cavities and triangular at apex. Hypomeron with shallow, straight, broad antennal groove internal to pronotal margin for 1/2 length of margin. Abdomen beneath sparsely punctate; intervals faintly shagreened; last ventrite narrowly truncate, weakly emarginate at apex for 1/3 width of ventrite, bounded by faint ridges; protibia scarcely widened at apex, apical 1/2 of external surface with shallow depression for tarsus.

Aedeagus: as in Fig. 3.

Allotype female: As male but front green, 4.40 mm long, 1.60 mm wide

**Etymology:** The species is named in honor of Bess Spiva Timmons.

**Discussion:** *Callimicra timmonsae* has been collected on a vine in the genus *Dalechampia* of the plant family Euphorbiaceae. *Callimicra chrysicollis* Obenberger has been collected several times on *Dalechampia* at the type locality of *C. timmonsae*. Other species of *Callimicra* have been collected on several species of the genus *Acalypha* and on species in the genera *Alchornea* and *Conceveiba*, also in the Euphorbiaceae. This is circumstantial evidence that members of that plant family are larval hosts for some members of the genus. Males of *C. timmonsae* measure 3.30–3.75 mm long (mean = 3.66 mm, n = 9 specimens); the allotype is the only female known.



**FIGURES 1–4.** 1, 3, *Callimicra timmonsae* sp. n., 1. habitus, paratype, 3. male aedeagus, holotype; 2, 4, *Callimicra prenai* sp. n., 2. habitus, allotype, 4. male aedeagus, holotype. Scale bar for aedeagi = 0.5 mm.

***Callimicra prenai* sp. n.**

(Figs. 2, 4)

Holotype ♂ (BYU): **Costa Rica:** Heredia, Estación El Ceibo, 10 km SE La Virgen, elev. 450-550 m, 10° 20' N 84° 05' W, 11-IV-2003, S.M. Clark. Allotype ♀ (INBC): **Costa Rica:** Prov. Heredia, 10 km SE La Virgen, 450-550 m, 10° 20' N 84° 05' W, INBio-OET-ALAS transect, 14-20 Marzo 2003 [printed; also “14-20.IV.2003,” handwritten], J. Prena (INB0003242917). Paratype ♀ (CHAH): Same data as Allotype (INB0003242916).

**Description:** Holotype male: more robust and somewhat flattened, rounded in front but head strongly depressed at middle, broadly rounded behind, strongly shining on pronotum and in red areas, moderately shining elsewhere; inconspicuously minutely and sparsely setose throughout, except on prosternum and anterior margin of metasternum with longer, denser recumbent setae; epistoma and antennae black with reddish reflections, head and pronotum bright green, scutellum golden green, elytra dark blue with purplish reflections on basal 1/4, with transverse bands of bright coppery red for 1/4 of length anterior to middle and on posterior 1/3, joined narrowly along suture and separated otherwise by areas of dark purple with bluish reflections; prosternum black, legs and ventral surface black with golden reflections becoming golden green or greenish at upper lateral margins; 4.20 mm long, 1.75 mm wide.

Head: 1.05 mm wide, strongly convex, with strong medial depression becoming strongly, narrowly foveate at middle of frons; surface rather densely distinctly punctate and shagreened; grooves above antennal insertions with paired pores at middle and slightly larger pores at margins of eyes; antennal insertions separated by narrow raised ridge, epistoma narrow and transverse; antennae with two basal antennomeres enlarged, antennomeres 3–5 slender, and 6–11 narrowly triangular.

Pronotum: moderately convex for anterior 2/3 with strong transverse depression across basal 1/3, nearly 2 times as wide as long at middle, 1/3 narrower at apex than at base, and widest just anterior to base; sides carinate, very weakly rounded to apical angles; anterior margin weakly rounded-angulate; width at base subequal to humeral angles of elytra, basal margin weakly undulate shallowly rounded anterior to scutellum, posterior angles subquadrate; prehumeral carinae from just interior to basal angles along lateral margins for 4/5 length of pronotum, stronger at middle 1/3 of pronotum; disk finely concentrically punctate and shagreened at margins, more narrowly along anterior margin. Scutellum shagreened, triangular, 1<sup>1</sup>/<sub>4</sub> wider than long.

Elytra: with humeral angles subquadrate; sides nearly parallel for basal 5/8, then narrowed to tips which are broadly, separately rounded; each elytron with triangular depression at base interior to humerus, and deeper depression behind humerus along lateral margin for basal 3/8; surface only vaguely rugose in blue and purple areas, strongly rugulose in red areas.

Underside: Prosternum with anterior margin nearly straight; prosternal process broad, sides narrowing somewhat between coxal cavities and triangular at apex. Hypomeron with shallow, straight, antennal groove internal to pronotal margin for 1/2 length of margin. Abdomen beneath sparsely punctate, intervals faintly shagreened; last ventrite truncate with narrow transverse depression bounded by short ridges for 1/3 width; protibia scarcely widened at apex, apical 1/2 of external surface with vague depression for tarsus.

Aedeagus: as in Fig. 4.

Allotype female: As male but front darker green, 5.00 mm long, 2.15 mm wide

**Etymology:** The name honors the collector of the allotype and paratype, Jens Prena, specialist on the weevil group Baridinae.

**Discussion:** In terms of its coloration, this is arguably the most striking and distinctive species in the genus as it is presently defined. The other female paratype is 4.70 mm long. Jens Prena was present at the El Ceibo site in both March and April (<http://viceroy.eeb.uconn.edu/alas/2003.html>), although because the April dates were handwritten and the Clark specimen was collected in April, they are more likely correct.

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