

***Chrysobothris bimaculata* (Coleoptera: Buprestidae),  
a new species from Jamaica, with a key to the genus  
in Jamaica**

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**Abstract.** *Chrysobothris bimaculata* sp. nov. from Jamaica is described, illustrated, and compared to related species. A revised key to the species of *Chrysobothris* Eschscholtz, 1829 known to occur in Jamaica is provided.

**Key words.** Coleoptera, Buprestidae, taxonomy, new species, Neotropical Region, Caribbean, West Indies

### Introduction

The last comprehensive treatment of the family Buprestidae in Jamaica was by FISHER (1925), who recorded 15 species from the island in his revision of the West Indian fauna. Nine of these species were recorded only from Jamaica, and another was represented by an apparently endemic subspecies. Since then, another seven species have been described from Jamaica, only one of which has been recorded from elsewhere, while another species known only from Jamaica has since been found in the Dominican Republic (MACRAE & NELSON 2003), bringing the known buprestid fauna of Jamaica to 22 species with 16 apparent endemics (BELLAMY 2008). Many of these species, especially the endemics, are poorly represented in collections, indicating that the island remains undersampled and the actual fauna likely is much larger. This is especially true for the genus *Chrysobothris* Eschscholtz, 1829, all of which are endemic (four species and one subspecies) (BELLAMY 2008). Recently, Enrico Ruzzier (The Natural History Museum, London, UK) sent to me a unique female of *Chrysobothris* that he collected at the Windsor Research Center in Jamaica in 2014. The specimen does not key in FISHER (1925) due to the form of the pronotum, and in coloration it is quite unlike any known West Indian species, although the elytra bear a superficial resemblance to the Mexican species *C. polymetallichroma* Westcott, 1998. The species is described herein due to its distinctiveness, the apparent difficulty of obtaining specimens of this genus in the West Indies (MAIER & IVIE 2013), and the importance of the West Indies as a Global Biodiversity Hotspot (SMITH et al. 2006).

## Materials and methods

Measurements were made using a vernier caliper with 0.05-mm precision, with length measured from the front of the head to the elytral apices and width at the widest point. Holotype label data are cited verbatim, with data on separate lines of the same label separated by a slash (/), data from separate labels separated by a double slash (//), and annotations enclosed within square brackets ([ ]).

## Taxonomy

### *Chrysobothris bimaculata* sp. nov.

(Fig. 1)

**Type locality.** Jamaica, Trelawny Parish, Cockpit Country, Windsor Research Center, 18°21'19"N, 77°38'49"W, ca. 100 m a.s.l.

**Type material.** HOLOTYPE: ♀, "JAMAICA, Trelawny, / Cockpit country, Windsor / research center [p] // 18°21'19" N 77°38'49" W / 26–29.v.2014 / E. RUZZIER leg. [printed white labels] // HOLOTYPE / *Chrysobothris / bimaculata* / MacRae [printed red label]" (BMNH).

**Diagnosis.** Very small, convex above and below, elytra widest just behind middle and narrowing apically; eyes narrowly separated on vertex by less than length of antennomere III; pronotal surface evenly, weakly transversely punctate; elytral surface evenly, moderately punctate, without visible costae or foveae; above submetallic black with shining green, blue, red, and violet markings, head green to blue-green from frons to narrowly behind eyes, black behind, central area of frons golden-green, clypeus blue-green; pronotum with central aeneous reflections, front margin, base, and lateral areas green (blue-green in certain lights); elytra with base and basal two-fifths of suture and lateral margins green (blue-green in certain lights) that are expanded posteriorly, the lateral more strongly so, each elytron with large, red post-median spot that is more violaceous posteriorly, dark area surrounding spot with distinct violaceous reflections, apices bright green, green area extending forward along apical one-fourth of suture and along lateral margin to narrowly connect with basal green area; below shining metallic black with lateral green, violet, and red markings; lateral portions of thorax underneath brassy to reddish cupreous, narrowly bright green on abdomen; legs with femora blue to blue-green, tibiae and tarsi dark violaceous.

**Description.** Holotype female (Fig. 1). Size 5.00 mm long × 2.15 mm wide, subdepressed.

**Head** rather evenly shallowly convex, coarsely densely punctate, with an arcuate carina on vertex that ends in a distinct chevron at top of frons and an irregularly transverse callosity at middle; white setae on lower frons short, suberect, longer and subdepressed on clypeus; front margin of clypeus moderately broadly, deeply, arcuately emarginate; antennomere I dark blue, bright green at base, II and III dark violaceous, IV–XI black with brassy reflections.

**Pronotum** shallowly evenly convex, vaguely depressed on each side of middle before base; surface with punctures smaller, shallower, and sparser than on head, especially at middle, becoming confused laterally and with transverse rugae developing; front margin broadly, weakly produced at middle; hind margin evenly bisinuate, truncate in front of scutellum; sides slightly swollen, margins entire, nearly straight, front angles broadly triangular; setae short, sparse, barely visible on disk.



Fig. 1. *Chrysobothris bimaculata* sp. nov. Holotype female, dorsal habitus. Scale bar = 1 mm.

**Elytra** distinctly wider than pronotum, constricted basally, widest behind the middle, then gradually evenly converging to moderately rounded apices; basal margins weakly angularly produced at middle, lateral margins distinctly serrate from behind middle to apices; basal depressions distinct, humeral depressions present but shallow; surface without any visible costae; rather evenly moderately shallowly punctate, punctures similar to those on pronotum, becoming finer and sparser apically, setae short, sparse, indistinct; elytra covering eighth tergite.

**Underside.** Prosternum broadly lobed in front, coarsely densely punctate, with setae moderate, dense, recumbent. Abdomen without lateral callosities, moderately and sparsely punctate, setae long, recumbent; last visible ventrite with lateral margins entire, with weakly developed submarginal ridges, apex with a broad shallow emargination that is limited ventrally by a fine weakly arcuate margin. Anterior femur with a large broadly triangular acute tooth that is not denticulate on outer margin. Anterior tibia slightly arcuate, simple.

**Differential diagnosis.** *Chrysobothris bimaculata* sp. nov. is easily distinguished from all other known West Indian species by the unique pattern of markings on the elytra, in particular

the two large round red postmedian spots. From the five other species known from Jamaica it also differs by the form of the pronotum; widest at the base with the sides straight and slightly converging towards the apex. In *C. insulana* Fisher, 1925 and *C. sexfasciata jamaicensis* Fisher, 1925 the pronotum is widest at the middle with the sides evenly arcuate; in *C. gowdeyi* Fisher, 1930 it is widest near the apex with the sides feebly expanded from the base; in *C. pseudinsularis* Hoscheck, 1931 it is widest at the base with the sides evenly arcuate; and in *C. quadrimaculata* (Fabricius, 1776) it is widest and strongly angulate near the apex. It is further distinguished from *C. gowdeyi* by the rounded elytral apices not produced into apical spines.

**Collecting circumstances.** Nothing is known about the biology of this species. The area around the type locality contains some of the island's few remaining tracts of moist low to middle elevation forest (PECK & KUKALOVA-PECK 1975). The single type specimen was collected by beating leaves on the tops of trees with a butterfly net during the early morning hours (E. Ruzzier, pers. comm.).

**Etymology.** The specific epithet, an adjective, refers to the two large red elytral spots.

**Distribution.** Known only from the type locality in Jamaica.

**Comments.** *Chrysobothris bimaculata* sp. nov. is one of many West Indian species in the genus exhibiting bright red spots or maculae on the elytra or pronotum; otherwise not common in the genus. These are often combined with brilliant metallic green, blue, or violaceous markings, as a result making Carribean *Chrysobothris* among the most ornate in the genus. The functional significance of this distinctive color motif is unknown.

### Key to the species of *Chrysobothris* known to occur in Jamaica

- 1 Elytra acuminate at apices and prolonged into an acute spine at middle of each elytron, elytra bright red, each elytron ornamented with green or blue-green along sutural margin from basal depression to middle before turning transversely outward and expanding to lateral margin, a transverse fascia at apical fourth, and a large spot along lateral margin from apical fifth to apex; length 8.5 mm. .... *C. gowdeyi* Fisher, 1928
- Elytra rounded at apices, without a distinct spine at middle of each elytron. .... 2
- 2 Sides of pronotum strongly angulate near the apical angles, pronotum dark violaceous with a transverse green fascia at apex and transverse reddish-cupreous postmedian fascia, elytra dark violaceous, each elytron with narrow bright green fasciae along basal and sutural margins, a bright green transverse median fascia, and a large bright red spot in the basal and apical halves; length 8.5 mm. ... *C. quadrimaculata* (Fabricius, 1776)
- Sides of pronotum not strongly angulate near apical angles. .... 3
- 3 Pronotum widest at middle, sides more or less evenly arcuate. .... 4
- Pronotum widest at base, sides straight or evenly arcuate. .... 5
- 4 Sides of pronotum strongly arcuate; profemur with the tooth serrate on outer margin; elytra reddish-cupreous-purpureous, each elytron with blue-green markings as follows: basal fascia extending around humeral angle, not connecting with oblong antemedian spot, irregular transverse fascia at apical third reaching lateral margin, small apical spot; length 6.0 mm. .... *C. insulana* Fisher, 1925

- Sides of pronotum weakly arcuate; profemur with the tooth not serrate on outer margin; elytra dark purpurescent, each elytron with blue-green markings as follows: basal fascia extending past humeral angle along lateral margin, connecting with weakly oblique antemedian fascia, irregular transverse fascia at apical third not reaching lateral margin, small apical spot; length 4.3 mm. .... *C. sexfasciata jamaicensis* Fisher, 1925
- 5 Sides of pronotum evenly arcuate; elytra shiny coppery to purple, each elytron with bright emerald green basal and postmedian spots; length 5.8 mm. ....  
..... *C. pseudinsularis* Hoscheck, 1931
- Sides of pronotum nearly straight; elytra black, each elytron with a large bright red postmedian spot, basal margin and basal half of lateral margin and suture blue-green, apical one-sixth bright green; length 5.0 mm. .... *C. bimaculata* sp. nov.

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