

NEW SPECIES AND RECORDS OF *CHRYSOBOTHRIS* ESCHSCHOLTZ (COLEOPTERA: BUPRESTIDAE) FROM MONTSERRAT, SABA, AND ANGUILLA, WITH A KEY TO THE *CHRYSOBOTHRIS THORACICA* SPECIES-GROUP IN THE WEST INDIES

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ABSTRACT

The West Indian *Chrysobothris thoracica* species-group is defined to include *Chrysobothris thoracica* (F., 1798), *Chrysobothris hispaniolae* Fisher, 1925, *Chrysobothris guadeloupensis* Descarpentries, 1981, *Chrysobothris sabae* Maier and Ivie, **new species** (Saba), and *Chrysobothris marskeae* Maier and Ivie, **new species** (Montserrat). New records of *C. thoracica* from Anguilla and several of the Virgin Islands are reported. These rarely collected species are defined, keyed, and illustrated.

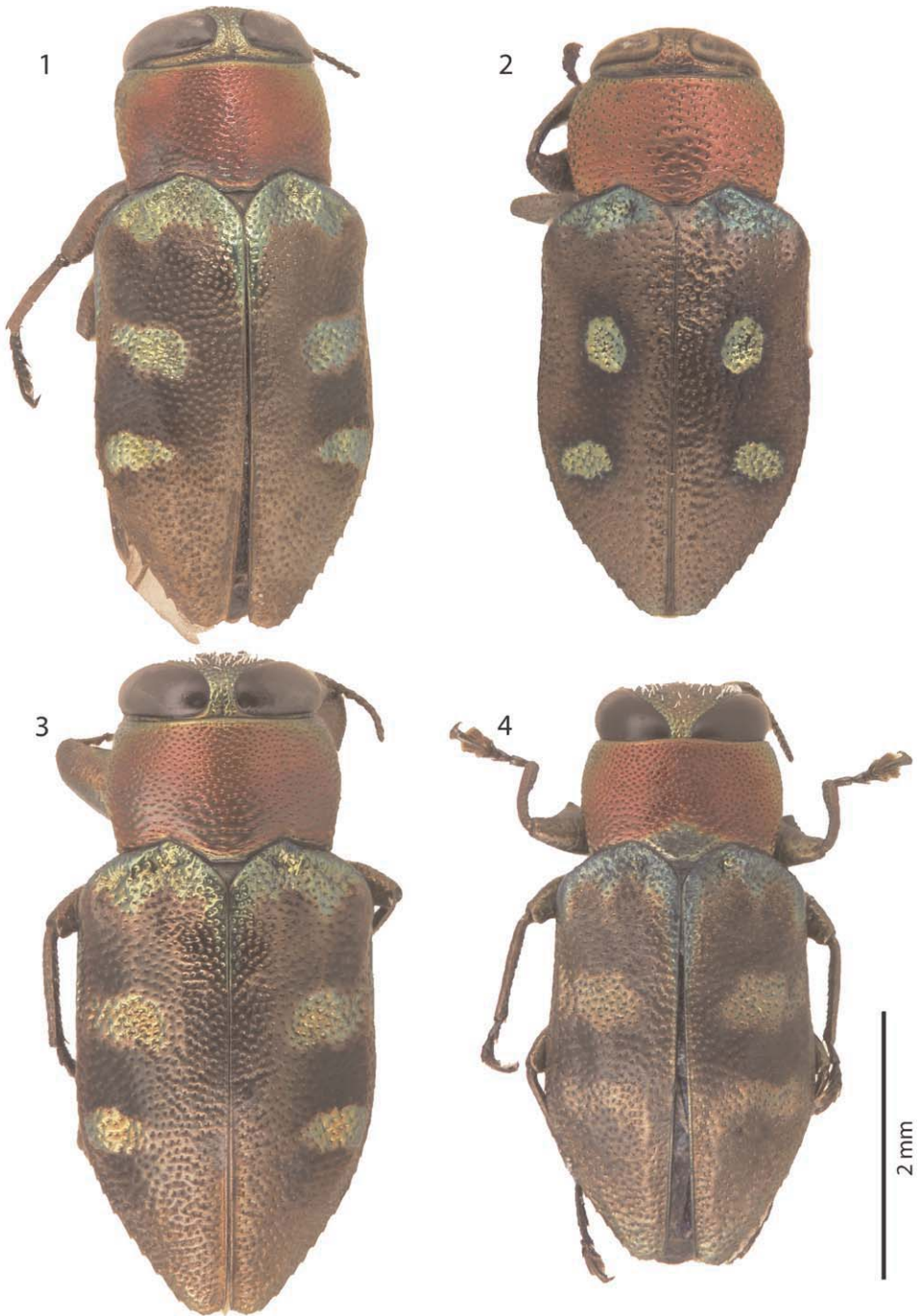
Key Words: Lesser Antilles, Greater Antilles, metallic wood-boring beetles, taxonomy

The West Indies are one of the most diverse of the Global Biodiversity Hotspots (Smith *et al.* 2006). The Buprestidae of the West Indies remain poorly known, having been last treated comprehensively by Fisher (1925). The vast majority of the 143 species recorded from the biogeographic West Indies (Bellamy 2008, 2011) is known from only a few islands (Cuba, Hispaniola, Puerto Rico) or island groups (Bahamas, Virgin Islands, Guadeloupe). Most species are reported from only a single island, and few species are reported from more than a singleton or short series. Given the global rank of the West Indian diversity, the literally thousands of islands in the region, the apparent island endemism, and the paucity of buprestid specimens, the true buprestid fauna is expected to be considerably larger and more widely distributed than recorded.

The northern Leeward Islands, those islands southeast of the Virgin Islands and north of the Guadeloupe Archipelago, are particularly underrepresented. These small islands are the northern portion of two island arcs: the limestone Caribees (Sombrero to Barbuda) to the east and the Volcans (Saba to Montserrat) to

the west. No buprestids were reported from these islands until Ivie *et al.* (2008) recorded seven species from Montserrat, albeit none of which had specific names.

One of these species was recorded as “*Chrysobothris* sp. *thoracica* group,” which led to an examination of a small series of enigmatic specimens from the Northeastern Caribbean. These specimens belong to a group of small *Chrysobothris* Eschscholtz species seemingly limited to the area from Hispaniola to Guadeloupe and characterized by a red pronotum and transversely marked elytra (Figs. 1–4). This *C. thoracica* species-group includes three described species. *Chrysobothris thoracica* (F., 1798) was described from St. Thomas, Virgin Islands, and has subsequently been recorded from a variety of islands of the Puerto Rican Bank (Puerto Rico, St. Thomas, St. John, Sandy Cay, Guana, Anegada) and nearby St. Croix (Fisher 1925; Ivie and Miller 1984; Ivie 2001; Valentine and Ivie 2005). Descarpentries (1981) provided the only record for this species outside the Puerto Rico/Virgin Islands when he described *Chrysobothris thoracica guadeloupensis* Descarpentries from Porte d’Enfer, Grande Terre, Guadeloupe.



**Figs. 1–4.** *Chrysobothris* species, dorsal habitus. 1) *C. sabae*; 2) *C. hispaniolae*; 3) *C. thoracica*; 4) *C. marskeae*.

The only other described member of the group is *Chrysobothris hispaniolae* Fisher, 1925 from Hispaniola. Thus, until Woodley and Touroult (2012) elevated Descarpentrie's subspecies to

species status, the *C. thoracica* species-group included a species on Hispaniola and another on the Puerto Rican Bank and St. Croix, with an outlying subspecies in Guadeloupe, and an unidentified

group-member from Montserrat. However, in between lay many islands of the northern Leeward Islands, with no records of this group. From this starting point, we assembled additional specimens with the same general habitus during inventory work for Montserrat, Anguilla, Saba, and the Virgin Islands.

These specimens show considerable variation in color pattern within the basic plan. Seemingly consistent, albeit minor color differences were noted that, by themselves, are not very convincing of species-level distinctions. The form of the aedeagus of the nomino-typical St. Thomas population of *C. thoracica* varied little from those of Puerto Rico, the other northern Virgin Islands, and St. Croix. However, the aedeagus illustrated by Descarpentries (1981) was quite distinct from that species (Woodley and Touroult 2012). The Montserrat specimens were dissected, compared to both the typical form and the Guadeloupe form, and found to likewise differ from both. Single specimens from Anguilla and Saba were then examined, and the Saba specimen was found to be a male of yet another distinct form. Variation in the genitalia from each area, combined with their corresponding color morphs, indicated that, in fact, four species were represented amongst the material available. Unfortunately, the Anguilla specimen is a female, and insufficient material is at hand to decide the status of that population, leaving it assigned to *C. thoracica* until further material becomes available.

Specimens of this group are rarely collected. Approximately 25 specimens of *C. thoracica* have been collected in the Virgin Islands in the 210+ years since the types were reported, this in spite of some of the most intensive collecting per square kilometer of anywhere in the Neotropics, with over 40,000 mounted beetles examined from these islands (M. A. Ivie, unpublished). Only a handful of specimens from Puerto Rico are known, again in spite of a large collecting effort. Woodley and Touroult (2012) reported only nine specimens from Puerto Rico. We report a half dozen *C. hispaniolae* from Hispaniola, and know of only a handful more (N. Woodley, *in litt.*).

Nine specimens of the Montserrat species were found among more than 13,000 beetles sorted and mounted from among an estimated one million insects collected over a five year period on that island (Ivie *et al.* 2008). The Guadeloupe species likewise eluded capture until 1977, in spite of more than a century of intensive work by many collectors in that island group. Touroult (2005) and Woodley and Touroult (2012) had only a dozen or so specimens to add to the singleton reported by Descarpentries (1981), some of which were reared after the host was identified.

The unique Saba specimen is one of 3,000 beetle specimens collected on that island (M. A. Ivie and D. Sikes, unpublished). Surveys of St. Kitts, Nevis, Barbuda, St. Martin, Antigua, and St. Eustatius have yet to reach this level of inventory effort, and it seems likely that members of this group will eventually be found on them, as well as additional islands of the Guadeloupe group.

## MATERIAL AND METHODS

Specimens were photographed with a JVC® 3CCD KY-F750 digital camera mounted to a Leica® MS5 dissecting microscope, with a Schott® Fostec DCR 111 fiber optic illuminator and a bottomless foam coffee cup as a light diffuser. The camera was attached to an IBM IntelliStation M Pro® and the images were processed using Syncrosopy Auto-montage Pro® ver. 5.03.0020 Beta and enhanced in Adobe Photoshop® CS5.

The aedeagus was extracted from relaxed specimens through the caudal opening in the abdomen, examined, photographed, and subsequently glued to a card below the specimen.

Label information is presented as in Ivie (1985), with line breaks indicated by a semicolon (;) and labels separated by a slash (/). Specimens from the following collections were examined or cited in this study:

- BMNH** – The Natural History Museum, London, UK.
- MNHN** – Muséum national d'Histoire naturelle, Paris, France.
- UAM** – University of Alaska Museum, Fairbanks, AK.
- WIBF** – West Indian Beetle Fauna Project Collection, Montana State University, Bozeman, MT.
- NMNH** – U.S. National Museum of Natural History, Washington, DC.
- ZMUC** – Zoological Museum, University of Copenhagen, Denmark.

## RESULTS

Five species are included in the *C. thoracica* species-group: *C. thoracica*, *C. guadeloupensis*, *C. hispaniolae*, *Chrysobothris marskeae* Maier and Ivie, new species, and *Chrysobothris sabae* Maier and Ivie, new species. These species are grouped together based on size (<8 mm), a mostly metallic red pronotum, the elytra with four greenish blue spots, and their occurrence in the West Indies (Fig. 8). Although the host is known for only one of the species (Woodley and Touroult 2012), all are associated with dry to moist tropical forests.

**KEY TO THE SPECIES OF THE *CHRYSOBOTHRIS*  
*THORACICA* SPECIES-GROUP FROM  
 THE WEST INDIES**

1. Base of pronotum with bluish green patch immediately anterior to scutellum, extending anteriorly to elytral lobes (Fig. 4; Woodley and Touroult 2012, fig. 2).....2
- 1.' Base of pronotum with bluish green patch absent immediately anterior to scutellum, or patch only bordering posterior margin (Figs. 1–3) .....3
2. Aedeagus robust, less than 2.2 times as long as wide (Fig. 6). Montserrat.....  
 ..... *C. marskeae* Maier and Ivie, new species
- 2.' Aedeagus narrow, at least 3.4 times as long as wide (Descarpentries 1981, fig. 4; Woodley and Touroult 2012, figs. 5, 6). Guadeloupe .....  
 ..... *C. guadeloupensis* Descarpentries
3. Lateral margins of pronotum strongly arcuate, pronotum widest at midpoint; posterior margin of pronotum red or greenish, never blue; suture blue at most just behind scutellum, not distinctly and brightly blue to level of first discal macula. Hispaniola ..... *C. hispaniolae* Fisher
- 3.' Lateral margins of pronotum weakly arcuate, pronotum widest in anterior third; posterior margin of pronotum blue; suture bright metallic blue behind scutellum to level of first discal macula. Puerto Rico, Virgin Islands, Leeward Islands .....4
4. Posthumeral blue macula, viewed from the side, distinctly separated from first discal blue macula, reaching only to level of anterior edge of first elytral macula; elytron evenly bronze to apex (Fig. 1). Saba.....  
 ..... *C. sabae* Maier and Ivie, new species
- 4.' Posthumeral blue macula, viewed from the side, confluent or nearly confluent with basal elytral blue macula; elytron changing from bronze to somewhat aeneous in apical portion, often blue-green at apex (Fig. 3). Puerto Rico, the Virgin Islands, Anguilla ..... *C. thoracica* (F.)

***Chrysobothris guadeloupensis*  
 Descarpentries, 1981**

*Chrysobothris thoracica guadeloupensis*  
 Descarpentries, 1981: 181; Touroult 2005: 87;  
 Bellamy 2008: 1687, 2011: 1.

*Chrysobothris guadeloupensis*; Woodley and  
 Touroult 2012: 3.

**Diagnosis.** This species most closely resembles *C. marskeae*, with a pronotal blue patch immediately anterior to scutellum (Woodley and Touroult 2012: fig. 2). It can be distinguished from *C. marskeae* by its narrow aedeagus, which is at least 3.4 times as long as wide (Woodley and Touroult 2012: figs. 5, 6). *Chrysobothris guadeloupensis* is also the only species in the *C. thoracica* species-group known from the Guadeloupe archipelago. For a full description, see Woodley and Touroult (2012).

**Length.** 4.5–6.2 mm (from Woodley and Touroult 2012).

**Distribution.** This species is reported from the islands of Grande Terre, Basse Terre, and La Désirade in Guadeloupe (Woodley and Touroult 2012).

**Type Locality.** Porte d'Enfer, Portland, Grande Terre, Guadeloupe (MNHN).

**Material Examined.** None. Key and diagnosis are based on Descarpentries (1981) and Woodley and Touroult (2012).

**Biology.** *Chrysobothris guadeloupensis* has been reared from *Tamarindus indica* L. and



**Figs. 5–7.** *Chrysobothris* species, male genitalia. 5) *C. sabae*; 6) *C. marskeae*; 7) *C. thoracica*.

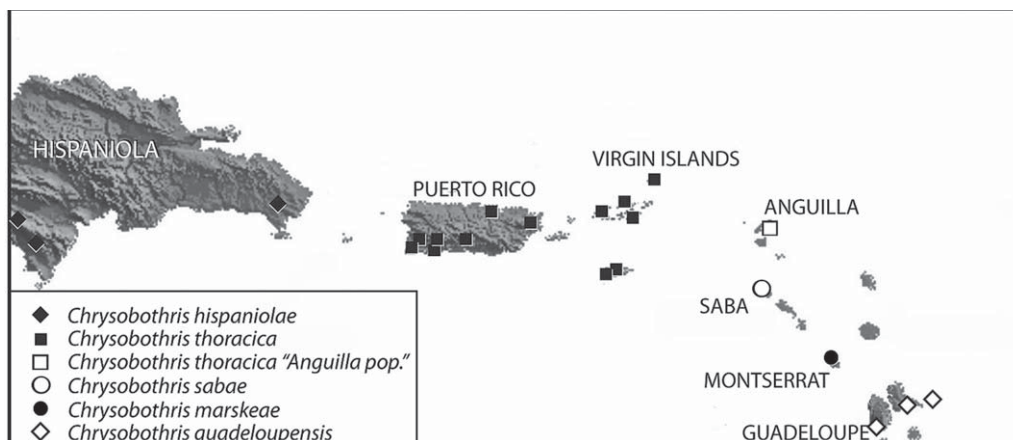


Fig. 8. Distribution of species of the *Chrysobothris thoracica* species-group in the West Indies.

*Acacia tortuosa* (L.) Willd. (Fabaceae) as well as *Laguncularia racemosa* (L.) C. F. Gaertn. (Combretaceae) (white mangrove) (Touroult 2005; Woodley and Touroult 2012). It is widespread in Guadeloupe, mostly in the dry forest zone.

**Remarks.** Originally described as a subspecies of *C. thoracica*, *C. guadeloupensis* was recently elevated to species rank by Woodley and Touroult (2012).

***Chrysobothris hispaniolae* Fisher, 1925**

(Fig. 2)

*Chrysobothris hispaniolae* Fisher, 1925: 121; Obenberger 1934: 636; Blackwelder 1944: 317; Bellamy 2008: 1638, 2011: 1.

**Diagnosis.** This species can be distinguished from all other species in the *C. thoracica* species-group by its distinctive pronotum, which is widest in the middle (widest point of the pronotum is in the anterior third in all other species). This is the only species in the group known from Hispaniola (Haiti and Dominican Republic).

**Length.** 3.9–5.3 mm.

**Distribution.** Hispaniola (Haiti, Dominican Republic: Provinces Pedernales, Barahona, La Altagracia).

**Type Material Examined.** HOLOTYPE: ♂ – Pt. au Prince; Haiti; R.J. Crew/ Type No.; 26811; U.S.N.M./ HOLOTYPE; CHRYSOBOTHRIS; hispaniolae; FISHER (NMNH).

**Non-Type Material Examined.** 1 – DOM. REP. Prov. Pedernales; Cabo Rojo; 09JULY1993, D.S. Sikes; & R. Rosenfeld; sweeping pool/WIBF 059317 (WIBF). 1 – DOMINICAN REPUBLIC: Prov. Barahona; 41.7 km S Barahona; 30AUG1977; P.W. Kovarik colr./ WIBF 059318 (WIBF). 1 –

DOM. REP.: Prov. Pedernales; Par. Nac. Jaragua; 8 km NW Oviado; 30AUG1997; P.W. Kovarik/WIBF 059319 (WIBF). 1 – DOM. REP.: Prov. Altagracia; P.N. del Este, Boca de Yuma; entrance, 05AUG1999, at night; 18°21.904'N, 68°37.087'W; M.A. Ivie, beating veget./ WIBF 059320 (WIBF).

**Biology.** Unknown.

***Chrysobothris marskeae* Maier and Ivie,  
new species  
(Figs. 4, 6)**

**Diagnosis.** This species can be distinguished from all others in the *C. thoracica* species-group by the pronotal blue spot anterior to the scutellum (a character shared with *C. guadeloupensis*) and the robust aedeagus, which is 2.2 times as long as wide. This is the only species in the group that occurs on the island of Montserrat.

**Description.** Male (Fig. 4); length 4.0–6.3 mm, width 2.0–2.8 mm at widest point; brilliant metallic scarlet and olive green dorsally; ventrally metallic blue-black to metallic green; evenly covered with heavy, confluent punctation. Head green dorsally, golden green ventrally and surrounding occiput, with dense, recumbent setae ventrally. Head with micropuncturing and larger punctures, costulate ventrally. Frons green to blue-green metallic, with dense, recumbent white setae above epistoma. Setae on frons set into deep pits, cuticle of frons areolate. Eyes large, covering approximately 1/3 of total head surface area, converging narrowly at vertex and widely at antennal insertions. Antennal cavities twice as wide as long, widely separated. Head with weak inverted “Y” shaped median carina on vertex. Antennae weakly serrate, green with sparse setae. First 3 antennomeres not significantly dilated

apically. Pronotum metallic scarlet dorsally, anterior margin and anterior angles green, with brilliant metallic cyan macula at middle of posterior margin; almost 2 times as wide as long, laterally arcuate, widest in anterior third; anterior margin very weakly bisinuate, emarginate; posterior margin strongly bisinuate, approaching angular. Pronotal disk evenly covered with deep punctation and micropunctation. Scutellum blue-black. Leg metallic blue-black, rugulose, with scattered punctation. Profemur with broad serrate tooth, bordered with 7 small teeth. Protibia with small tooth on interior face. Mesotibia with row of spines on interior face. Prosternal process evenly, deeply punctate and evenly rugulose, expanded behind procoxae. Elytra 2 times longer than wide, parallel in basal third, then gradually expanding to reach widest point at apical third; bronzy black, with slight purple sheen, turning faintly blue-green at apex; entire base of elytron bordered with a thick band of metallic cyan, cyan extending posteriorly to first third of elytral suture turning dull blue-green along elytral suture to apex. Elytron with 2 dull, diffuse blue-green transverse maculae, 1 each at one-third and two-thirds of distance to apex; evenly punctate; distinctly serrate in apical third, with sparse white recumbent setae near serration. Elytral suture bordered with carina. Elytral apex broadly rounded and weakly serrate. Ventrally blue-black, with sparse white, recumbent setae; ventrites evenly punctate. Abdomen metallic violet dorsally. Last ventrite with 3 wide, weak teeth posteriorly. Aedeagus (Fig. 6) robust, 2.2 times as long as wide. Median lobe granulate and with weak median carina dorsally; angle of apex wide (30°). Parameres sclerotized and serrate laterally; completely surrounding median lobe; bordered with carina ventrally.

**Female.** Generally larger than male, with yellow-orange to orange frons, and lacking protibial spine.

**Distribution.** This species is apparently a single island endemic limited to the island of Montserrat, in the West Indies.

**Etymology.** The species name is a patronym in honor of Katharine A. Marske, who was instrumental in the collection and study of beetles on Montserrat.

**Type Material Examined.** HOLOTYPE: ♂ – MONTERRAT: Woodlands; Riverside House; 16°45.99'N, 62°13.34' W; 20–23 AUG 2005; WIBF Group/ WIBF 059321 (from WIBF, deposited in NMNH). PARATYPES: 1 – MONTERRAT: Woodlands; Nancy's House; 20–24 JUNE 2003; M.A. & L.L. Ivie/ WIBF 059322 (WIBF). 1 – MONTERRAT: Woodlands; 16°45'44.8"N, 62°12';56.2"W.; 21MAR-04APR2001, M. Stevens; & B. Beattie, Malaise/ WIBF 059323 (WIBF). 1 – MONTERRAT: Beattie House; Cassava Ghaut,

632 ft.; 16° 45.91'N, 62°12.95'W; 30 MAY – 12 JUNE 2002; Malaise trap, M.A. Ivie/ WIBF 059324 (WIBF). 2 – MONTERRAT: N. Cedar Ghaut; Furlong, 170ft; 16°46.546'N, 62°10.333'W; 04-09 AUG 2005; M. A. Ivie colr/WIBF 059325 (BMNH). 1 – MONTERRAT: Cassava; Ghaut, Beattie House; 16°45.91'N, 62°12.95'W; 17–30 MAY 2002, 632ft; A. Krakower, Malaise/ WIBF 059327 (WIBF). 1 – MONTERRAT: Hope Ridge; 16°45.17'N, 62°12.74'W; 01 AUG 2003, 1051 ft; J. Boatswain & J. Martin; Canopy fogging at dawn/ WIBF 059328 (WIBF). 1 – MONTERRAT: Woodlands; Duryea's Parr. 420'; 16°45.799'N, 62°13.210'W; 16–29 JUNE 2000, in pool; M.A. Ivie & K.A. Guerrero/ WIBF 059329 (WIBF).

**Biology.** Nothing is known about the biology of this species.

### *Chrysobothris sabae* Maier and Ivie, new species (Figs. 1, 5)

**Diagnosis.** This species most closely resembles *C. thoracica* due to its entirely red pronotum; however, it can be distinguished by the humeral and first discal blue maculae completely separated (viewed from the side) and the evenly bronze elytra (Fig. 1). Further, the male genitalia differ from all other species of the group (Fig. 5), the median lobe being more narrowly angulate apically than in *C. thoracica*. *Chrysobothris sabae* is the only species in the group known from Saba, Netherlands Antilles.

**Description.** Male (Fig. 1); length 6.2 mm, width 2.9 mm across at widest point; brilliant metallic scarlet and bronze dorsally; ventrally metallic blue-black to metallic green; evenly covered with heavy, confluent punctation. Head green, with micropunctures and larger punctures, costulate ventrally. Frons green to blue-green metallic, with dense, recumbent white setae. Setae on frons set into deep pits, cuticle of frons areolate. Eyes large, covering approximately 1/3 of total head surface area, converging narrowly at vertex and widely at antennal insertions. Antennal cavities separated by at least 5 times diameter of antennal cavity. Head with weak inverted "Y" shaped median carina on vertex. Antennae weakly serrate, golden green with sparse white setae. First 3 antennomeres not significantly dilated apically. Pronotum metallic scarlet dorsally, anterior margin and anterior angles green, without brilliant metallic cyan macula at middle of posterior margin; almost 2 times as wide as long, laterally arcuate, widest in anterior third; anterior margin very weakly bisinuate, emarginate; posterior margin strongly bisinuate, even angular. Pronotal disk evenly covered with deep punctation and micropunctation. Scutellum blue-black. Leg metallic violet, rugulose,

with scattered punctation. Profemur with broad serrate tooth, bordered with 7 small teeth. Protibia with small tooth on interior face. Mesotibia with row of spines on interior face. Prosternal process evenly, deeply punctate and evenly rugulose, expanded behind procoxae. Elytra 2 times longer than wide, parallel in basal third, then gradually expanding to reach widest point at apical third; bronzy violet, with slight purple sheen, color even to apex; entire base of elytron bordered with thick band of metallic cyan, cyan extending posteriorly to first third of elytral suture turning dull blue-green along elytral suture to apex, distinctly not connected to first elytral macula. Elytron with 2 bright blue-green transverse maculae, 1 each at one-third and two-thirds of distance to apex; evenly punctate; distinctly serrate in apical third. Elytral suture bordered with carina. Elytral apex broadly rounded and strongly serrate. Ventrally blue-black, with sparse white recumbent setae; ventrites evenly punctate. Abdomen metallic blue dorsally. Last ventrite with 3 wide, weak teeth posteriorly. Aedeagus (Fig. 5) narrow, 3.0–3.1 times as long as wide. Median lobe granulate dorsally; angle of apex narrow (15°). Parameres sclerotized and weakly serrate laterally; bordered with weak carina ventrally.

**Female.** Unknown.

**Distribution.** Saba, in the former Netherlands Antilles, now a Public Entity within the Kingdom of the Netherlands.

**Type Material Examined.** Holotype: ♂ – Netherlands Antilles: Saba Isl.: Spring Bay Trail, base of Old; Booby Hill [S4] el. 100m; 17.63353°N, 63.22021° W ±33.7m; dry windswept hill, 10 MAR 2008; D.S. Sikes, J.A. Slowik, G.D.; Alpert/UAM100023314 (from UAM, deposited in the NMNH).

**Etymology.** This species is named for the island on which it was collected, Saba, in the former Netherlands Antilles, now a Public Entity within the Kingdom of the Netherlands.

**Biology.** Nothing is known about the biology of this species.

### *Chrysobothris thoracica* (F., 1798)

(Figs. 3, 7)

*Buprestis thoracica* Fabricius, 1798: 138.

*Buprestis amabilis* Herbst, 1801:144; Fisher 1925: 123.

*Chrysobothris thoracica*; LaPorte and Gory 1837: 96; Fisher 1925: 123; Obenberger 1934: 636; Blackwelder 1944: 318; Ivie and Miller 1984: 294; Ivie 2001: 56; Valentine and Ivie 2005: 276; Bellamy 2008: 1687, 2011: 1; Woodley and Touroult 2012: 3.

**Diagnosis.** This species most closely resembles *C. sabae* due to its entirely red pronotum; however,

it can be distinguished by the humeral and first discal blue maculae confluent and the elytra with bluish green cast at apex (Fig. 3). Furthermore, the male genitalia (Fig. 7) differ from all other species of the group, with a broader apex of the median lobe than that seen in *C. sabae*. *Chrysobothris thoracica* is known from throughout the Virgin Islands and Puerto Rico. For a full description, see Woodley and Touroult (2012).

**Length.** 4.5–6.7 mm.

**Distribution.** Puerto Rico, St. Thomas, Great St. James, St. John, Sandy Cay, Jost Van Dyke, Guana, Necker Island, Anegada. Records that are tentatively included: St. Croix, Anguilla.

**Type Locality.** St. Thomas, 3 syntypes in ZMUC (Zimsen 1964).

**Non-type Material Examined.** 1 – VIRGIN IS: St. John; Est. Lameshur Bay; Yawzi Point Trail; 15JULY1994, night; M.S. Becker, beating/ WIBF024912 (WIBF). 1 – VIRGIN IS: St. John; Est. Lameshur Bay; Yawzi Point Trail; 24 JULY 1994; M.S. Becker, beating/ WIBF 025145 (WIBF). 1 – VIRGIN IS: St. John; Est. Lameshur Bay; Europa-Lt. Lameshur; Bay 25JULY1994; M.S. Becker, at night/ WIBF022927 (WIBF). 1 – VIRGIN IS: Gt. St. James; house area, 10OCT1994; M.A. Ivie colr; on loblolly/ WIBF 024390 (WIBF). 1 – VIRGIN IS: Gt. St. James; house area, 10OCT1994; M.A. Ivie colr; on loblolly/ WIBF 024392 (WIBF). 1 – BR. VIRGIN IS: Anegada; FLAMINGO POND; 22AUG1980/ ex. white;mangrove/ M A Ivie; colr./ WIBF 013094 (WIBF). 2 – BR. VIRGIN IS: Anegada; 23AUG1980/ ex. *Croton*/ M A Ivie; colr./ WIBF013095, WIBF 013096 (WIBF). 1 – BRITISH VIRGIN ISLS.; Guana I., plantation; area 16–20 Oct 1992; coll. R.R. Snelling/ ex malaise trap; dry evergreen; forest/ WIBF 016836 (WIBF). 1 – BRITISH VIRGIN IS: Jost Van Dyke; North Side Bay; 24 JULY 1994; M. A. Ivie colr./ WIBF 026554 (WIBF). 1 – BRITISH VIRGIN; ISLANDS; Necker Is./ 11-X-1994; W. Lu WIBF 059315 (WIBF). 3 – BR. VIRGIN IS: Sandy Cay; 25–26 MAY 2000; M.A. Ivie & E.A. Ivie/ WIBF059312, WIBF059313, WIBF 059314 (WIBF). 1 – BRITISH VIRGIN ISL.; Guana Island, 0–80m.; 13–26 July 1986; S.E. Miller & M.G. Pogue/ WIBF 013097 (WIBF). 1 – ANGUILLA: Sandy Ground; 18°12'20"N, 63°05'30"W; 24–30 March 1992; collrs. W.E. Steiner; & J.M. Swearingen/ Malaise Trap in *Acacia*; scrub, hillside above; salt pond/ WIBF 059316 (NMNH).

**Biology.** This species has been swept from the shrub *Croton* sp. (Euphorbiaceae) and beaten from dead vines and the tree *L. racemosa*. However, MAI has taken it repeatedly from living trees of *Pisonia subcordata* Sw., (loblolly/water mampoo, Nyctaginaceae), suggesting this may be a true host.

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