



A NEW RECORD OF AN ENDEMIC CUBAN TIGER BEETLE, CICINDELA (BRASIELLA) VIRIDICOLLIS (COLEOPTERA: CARABIDAE: CICINDELINAE), FROM THE FLORIDA KEYS

Author: Schiefer, Terence L.

Source: Florida Entomologist, 87(4) : 551-553

Published By: Florida Entomological Society

URL: [https://doi.org/10.1653/0015-4040\(2004\)087\[0551:ANROAE\]2.0.CO;2](https://doi.org/10.1653/0015-4040(2004)087[0551:ANROAE]2.0.CO;2)

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

A NEW RECORD OF AN ENDEMIC CUBAN TIGER BEETLE,
CICINDELA (BRASIELLA) VIRIDICOLLIS (COLEOPTERA:
CARABIDAE: CICINDELINAE), FROM THE FLORIDA KEYS

TERENCE L. SCHIEFER

Mississippi Entomological Museum, Box 9775, Mississippi State, MS 39762, U.S.A.

ABSTRACT

An endemic Cuban tiger beetle, *Cicindela (Brasiella) viridicollis* Dejean, is reported from Florida, based on a specimen in the Mississippi Entomological Museum. It is the first record of this species in the United States. A description and an illustration of the species are provided.

Key Words: Cicindelidae, Cuba, description, faunistics, immigrant insects.

RESUMEN

Se registra la presencia de un escarabajo tigre endémico de Cuba, *Cicindela (Brasiella) viridicollis* Dejean, en Florida, basado sobre un espécimen del Museo de Entomología de Mississippi. Este registro se representa el primer informe de esta especie para los Estados Unidos. Se provee la descripción y la ilustración de esta especie.

A number of years ago while studying the unidentified Cicindelinae in the Mississippi Entomological Museum at Mississippi State University, I discovered a specimen of *Cicindela* collected in Florida that was unfamiliar to me. After further study and examination of the literature, I identified it as a male *Cicindela viridicollis* Dejean, an endemic Cuban species not previously recorded from the United States. In order to verify my determination, I compared the Florida specimen with Cuban specimens of *C. viridicollis* borrowed from the American Museum of Natural History. The specimen from Florida is similar to those from Cuba in all essential characters. Choate (2003) reported the existence of this Florida specimen, but he did not examine it or report the specimen data.

The Florida specimen of *C. viridicollis* bears the following data: FLA., Monroe Co., Sugarloaf Key, 4 June 1983, W.H. Cross, Blacklight Trap. The late William H. Cross, who collected the specimen, was a U.S.D.A. research entomologist and an avid collector. Cross's field notes state that the specific location of his blacklight trap was at the Sugarloaf Lodge, which is located near mile marker 17 on U.S. Highway 1. According to James Robbins, a former graduate student of Cross who accompanied him on the collecting trip to Florida, the trap was actually located about 100 yards from the Sugarloaf Lodge in an open area with scattered shrubs (pers. comm.). It is unknown whether a population of *C. viridicollis* is or was established at this location, but it seems likely that only a very small or transient population would be overlooked by the numerous collectors that have conducted field work in the Florida Keys.

The possibility that the Florida specimen is actually a mislabeled Cuban specimen is very unlikely. Although Cross collected widely in both

Central and South America, the only collecting he did in the West Indies was in the Bahamas. Also, the Mississippi Entomological Museum, which houses Cross's specimens and where the specimen was labeled, contains no contemporary Cuban insect specimens that could have served as a source for a mislabeled specimen.

Whether the occurrence of a specimen of *C. viridicollis* in the southern Florida Keys is the result of natural dispersal or accidental introduction through human activity is a matter of speculation that is not likely to be resolved. However, another Cuban species of tiger beetle, *Cicindela olivacea* Chaudoir, which is established in the Florida Keys, is hypothesized to have dispersed from Cuba by natural means (Woodruff & Graves 1963), and this may be the case for *C. viridicollis* as well. Peck & Thomas (1998) speculated that Cuba is close enough to southern Florida and the Keys (a distance of about 100 miles) that invasions of tropical species of Coleoptera by both active and passive dispersal are probably recurring phenomena. Supporting this idea is the presence in Florida of a number of Coleoptera species in several families (Cerambycidae, Coccinellidae, Scarabaeidae, and Staphylinidae) that are listed as recent immigrants from Cuba by Frank & McCoy (1992).

The habitat of *C. viridicollis* in Cuba, according to Leng & Mutchler (1916), is "along paths through grassy fields", and they provided a photo of the habitat where they collected it. They also stated that "It flies weakly and, while flying, the brilliant green head and thorax are so conspicuous as to suggest a small bee rather than a *Cicindela*." In Willis's (1968) key to *Cicindela* of North America North of Mexico, *C. viridicollis* will key to the group of three species that have the front trochanters with subapical setae and the middle

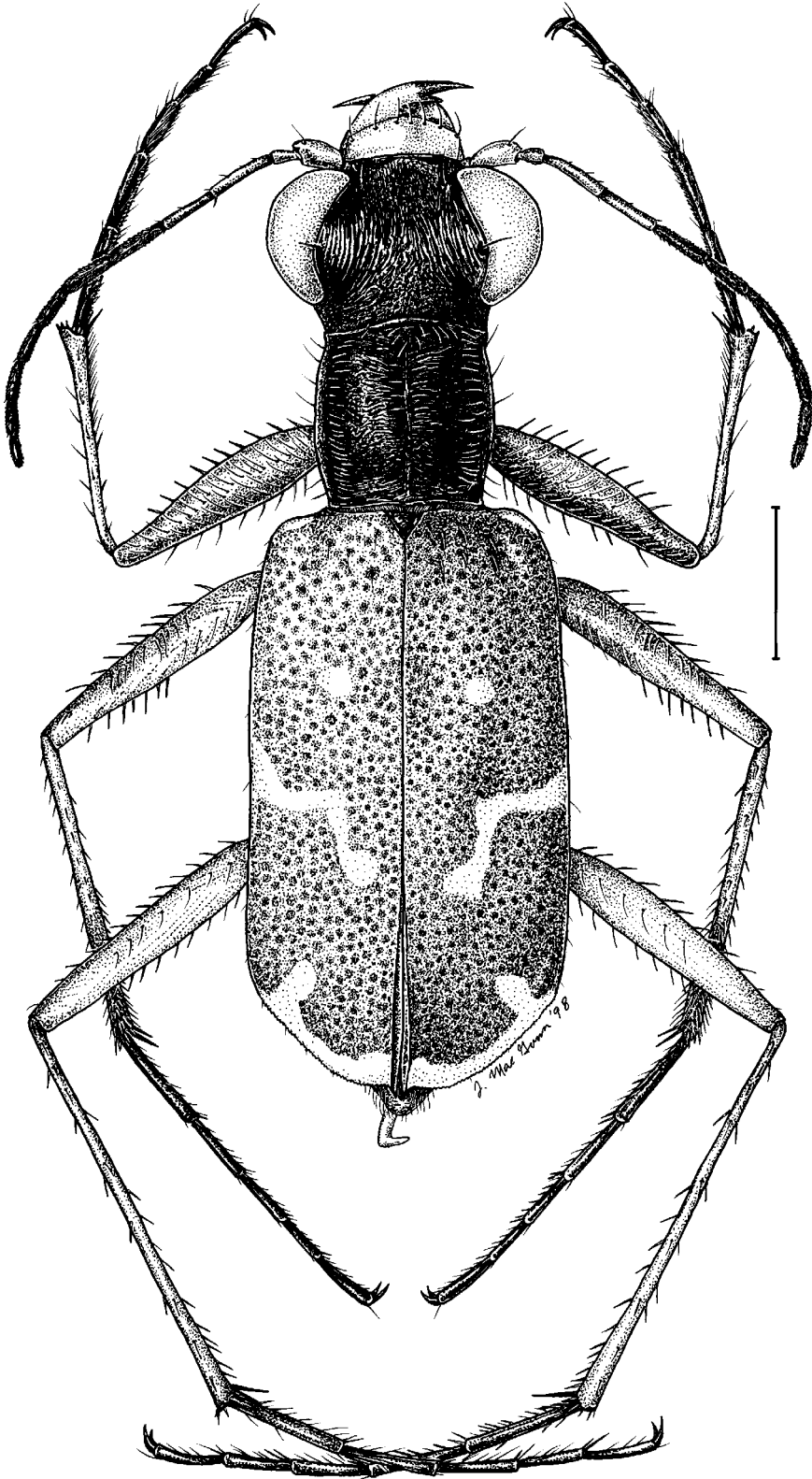


Fig. 1. Habitus of *Cicindela viridicollis* Dejean. Scale bar = 1 mm.

trochanters without subapical setae (couplets 12 and 13). These species, *C. lemniscata* LeConte, *C. wickhami* W. Horn, and *C. viridisticta* Bates, lack the brilliant green head and thorax and contrasting dull brownish-red elytra that characterize *C. viridicollis*. The general habitus of *C. viridicollis* is illustrated in Figure 1, and Choate (2003) provided color photographs of the species as well. The following description of *C. viridicollis* is given as an aid for identification and is based on six Cuban specimens in addition to the one from Florida.

Cicindela (Brasiella) viridicollis Dejean

Fig. 1

Head brilliant metallic green, glabrous except for two pairs of supraorbital setae; frons strongly longitudinally sulcate, sulci extending onto vertex, diverging posteriorly and extending laterally behind eyes; vertex strongly depressed between eyes, transversely rugose anteriorly; occiput transversely rugose medially, rugae extending anteriorly onto vertex; genae longitudinally sulcate; clypeus finely granulate to transversely sulcate; labrum brownish-yellow, subrectangular, about twice as wide as long, anterior margin slightly sinuate, small medial tooth variably present, with 5-8 submarginal setae; mouthparts brownish-yellow, except apex and teeth of mandibles and ultimate segment of both maxillary and labial palpi brown with metallic reflections; underside of head brownish-green, variably yellow-brown medially. Antennae with segment 1 yellowish, glabrous except for a single subapical setae; segments 2-4 yellowish-brown with metallic reflections, glabrous except for a few erect setae; segments 5-11 dark brownish, densely covered with short suberect setae in addition to a few longer erect setae.

Pronotum brilliant metallic green or blue-green; depressed subapically and basally; transversely sulcate becoming rugose laterally, sulci interrupted medially by fine longitudinal line; glabrous except for row of medially directed, short, white, depressed setae on lateral margins, a similar row of laterally directed setae on each side of median line anterior to middle, and a patch of similar anteriorly directed setae subapically. Proepisternum dull greenish-bronze or blackish-bronze with numerous erect white setae on lower half. Prosternum and underside of meso- and metathorax dull metallic brownish-green; glabrous except for white recumbent setae on mesepisternum, mesepimeron, metepisternum, metepimeron, and the lateral portion of the metasternum. Legs brownish-yellow except hind-coxae dull metallic brownish-green, tarsi and apex of tibia dark metallic brownish, and fore- and mid-coxae and femora with metallic reflections anteriorly; recumbent setae lacking except on lateral portion of hind-coxae; suberect, white setae present on fore- and mid-coxae and on all

femora, tibia, and tarsi; males with dense pad of setae on underside of tarsal segments 1-3; subapical setae present on fore-trochanter, lacking on mid-trochanter. Scutellum triangular, brilliant metallic green. Elytra finely granulate, impunctate, dull brassy brownish-red with numerous small green or blue spots superficially resembling punctures, subsutural row of punctures lacking, extreme base metallic green; whitish markings consisting of humeral and post-humeral dots, a slightly sinuate middle band that is sometimes nearly broken, a short marginal band not connected with the apical lunule or humeral dot, and an apical lunule that is sometimes broken and isolating a subapical dot; surface slightly depressed around apical lunule; apices microserrulate and with a small sutural spine; a few scattered, transparent, erect setae present, especially basally.

Abdominal sternites dull metallic brownish-green; recumbent white setae present laterally on segments 1-6; fine, transparent setae present medially on segments 1-7. Segment 6 broadly, deeply emarginate in male, broadly subtruncate in female; segment 7 divided medially in male. Total body length (exclusive of mandibles) 6-7 mm.

ACKNOWLEDGMENTS

I thank Lee Herman (American Museum of Natural History) for the loan of specimens of *C. viridicollis*, David Cross for providing a copy of his father's field notes, James Robbins (Delta Research and Extension Center, Stoneville, MS) for supplying information regarding Cross's trip to Florida, and Joe MacGown for the excellent illustration of *C. viridicollis*. Approved for publication as Journal Article No. J10425 of the Mississippi Agricultural and Forestry Experiment Station, Mississippi State University, with support from State Project MIS-311020.

REFERENCES CITED

- CHOATE, P. M., JR. 2003. A Field Guide and Identification Manual for Florida and Eastern U.S. Tiger Beetles. Univ. Press of Florida, Gainesville. xx + 198 pp.
- FRANK, J. H., AND E. D. MCCOY. 1992. The immigration of insects to Florida, with a tabulation of records published since 1970. *Florida Entomol.* 75(1): 1-28.
- LENG, C. W., AND A. J. MUTCHLER. 1916. Descriptive catalogue of West Indian Cicindelinae. *Bull. American Mus. Nat. Hist.* 35(36): 681-699.
- PECK, S. B., AND M. C. THOMAS. 1998. A Distributional Checklist of the Beetles (Coleoptera) of Florida. Arthropods of Florida and Neighboring Land Areas. Vol. 16. Florida Dept. Agric. Cons. Serv., Div. Plant Industry, Gainesville. viii + 180 pp.
- WILLIS, H. L. 1968. Artificial key to the species of *Cicindela* of North America North of Mexico (Coleoptera: Cicindelidae). *J. Kansas Entomol. Soc.* 41(3): 303-317.
- WOODRUFF, R. E., AND R. C. GRAVES. 1963. *Cicindela olivacea* Chaudoir, an endemic Cuban tiger beetle, established in the Florida Keys (Coleoptera: Cicindelidae). *Coleop. Bull.* 17(3): 79-83.