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CARYSTOIDES "MEXICANA" FREEMAN, A SPECIES AND GENUS NEW TO CUBA AND THE CARIBBEAN (HESPERIIDAE)

Few island faunas have been studied as extensively as have the butterflies of the Greater Antilles. Since 1944, there have been six technical book-length treatments of the fauna or major islands (Comstock 1944; Brown & Heineman 1972; Riley 1975; Alayo & Hernández 1987; Smith et.al. 1994; Pérez-Asso et. al. 2009) and the biogeography of the islands has been analyzed extensively (Munroe 1948; Miller & Miller 1989; Davies & Smith 1998). Thus, it surprised us to find a specimen of *Carystoides* (Fig. 1a–b) among miscellaneous Hesperiidae collected by the second author near Santa Clara, Villa Clara Province, on 11 January 2002. *Carystoides* is not previously reported from the Caribbean, and represents a significant new record for the region.

We tentatively identify this specimen as *Carystoides "mexicana"* Freeman, 1969. The genus *Carystoides* is complex with 17 recognized species and two subspecies (Mielke 2005) and species are both very similar and highly variable. Complicating this is the quality of original descriptions for many species. Evans (1955) revised the genus as known at the time, describing six new taxa within the couplets of his taxonomic key to the species, supplemented with freehand drawings of dry-mounted male genitalia that capture the essence of form, but lack detail. More recently, Freeman (1969) described four additional species from Mexico and included black and white photographs of types. Unfortunately, his figures of male genitalia, while superior to those of Evans, are also difficult to interpret

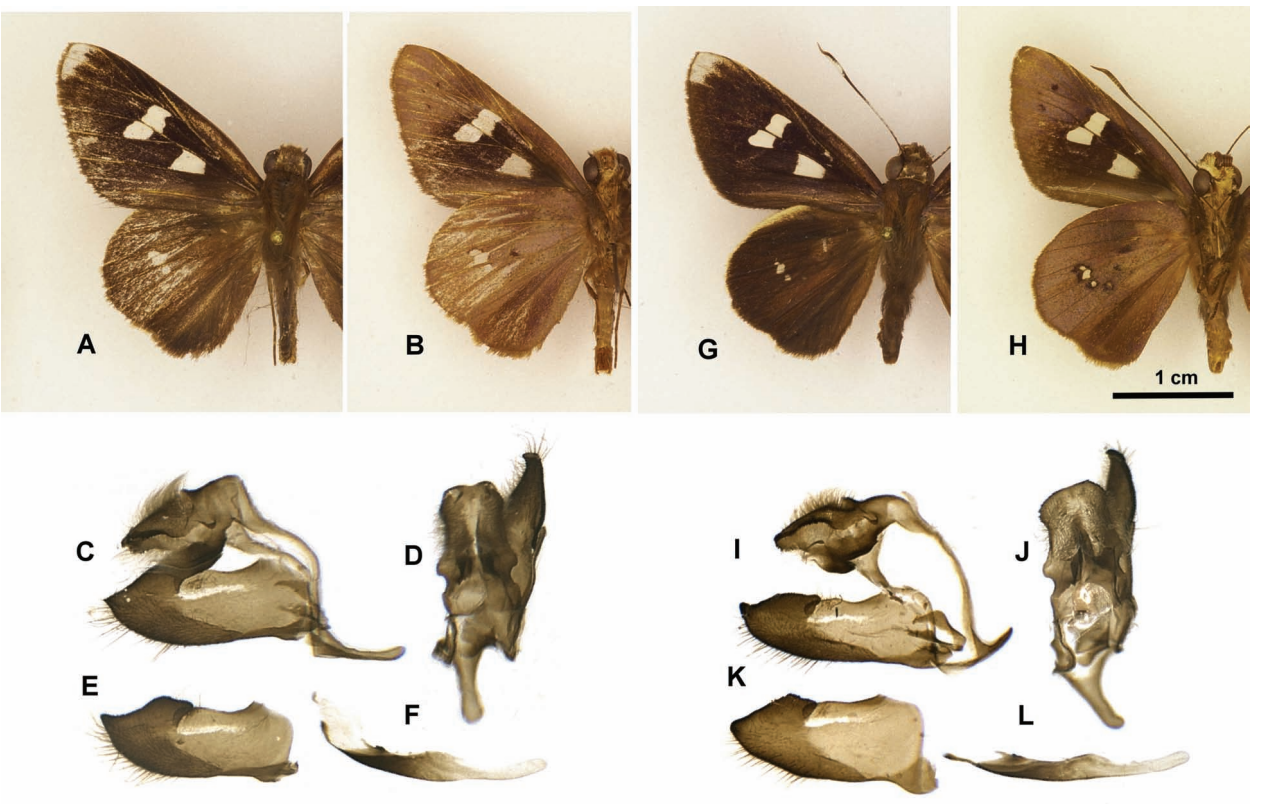


FIG. 1. Male *Carystoides "mexicana"*, wing pattern and genitalia from Cuba and Belize (specimens are in the John Shuey collection). **A–F**, Cuba, Villa Clara Provence, Santa Clara, 11 January 2002, Robert Anderson, Collector: **A)** adult dorsal; **B**) adult ventral; **C)** right valve and uncus, lateral view; **D)** right valve and uncus, dorsal view; **E)** left valve, lateral view; **F)** penis, lateral view. **G–L**, Belize, Orange Walk District, Rio Bravo Conservation Area, Rio Bravo Base Camp, rainforest edge, 12 September 1995, J.A. Shuey, Collector: **G)** adult dorsal; **H)** adult ventral; **I)** right valve and uncus, lateral view; **J)** right valve and uncus, dorsal view; **K)** left valve, lateral view; **L)** penis, lateral view.

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Fig. 2. General view of the habitat in the vicinity of Santa Clara, Cuba. The *Carystoides* was collected along the edge of the forest indicated by the arrows.

relative to species differences. For these reasons, species determinations in the genus are difficult and subject to interpretation.

Over the last decade, the first author has worked through the taxonomy of the *Carystoides* of Belize and adjacent areas and has settled on a tentative taxonomy for the species of Belize. Five species are known from Belize, and by far the most common species has tentatively been determined as *Carystoides "mexicana"*. The Cuban specimen (Fig. 1a–b) is very similar to *C. "mexicana"* from Belize (Fig. 1g–h) and although its wings are worn, its pattern falls within the normal range of specimens tentatively placed under this name from Belize. The genitalia of the Cuban specimen (Fig. 1c–f) indicate a close relationship to Belizean *C. "mexicana"* as well (Fig. 1i–l). However, the distal ends of the valvae are strongly cupped on the Cuban specimen and fall outside the range of genitalia observed in Belize specimens. As more Cuban specimens become known, it is possible that a species or subspecies name could be warranted.

The *Carystoides* was captured within a city park in Santa Clara dedicated to a revolutionary battle won by Che Guevara. The park is a mosaic of highly disturbed habitats with some tropical forest vegetation in the valleys (Figure 2). The specimen was captured adjacent to one of these forest patches.

In Belize, all species of *Carystoides* are found in or along the edges of densely forested habitats. Typically, adults rest on small sapling trunks or lianas in very dense shade, a trait also observed in Mexico by Freeman (1969). During the heat of the day, adults seem sedentary and if disturbed, fly 1–4 meters to a new perch. In the early morning, they can be found visiting nectar sources at the edge of forests but do not typically linger once temperatures begin to rise. Although *C. "mexicana"* is fairly widespread within Belize, Mexico, and Costa Rica, it is closely restricted to forested habitats and has not been seen in open agricultural habitats or savanna. Because of its tight association with densely shaded habitats, it seems an unlikely candidate to disperse across water to Cuba. However, dispersal may take place during dawn and dusk, when adults are most active. We mirror the conclusions of Smith & Hernandez (1992) who described a newly discovered subspecies of forest dwelling *Saliana* from Cuba. Like those authors found for *Saliana*, we believe that *Carystoides* "mexicana" is probably an overlooked

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resident species and the subtle morphological differences between the lone Cuban specimen and Central American specimens may indicate long-term evolutionary isolation.

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