

A NEW SPECIES OF *CHORANTHUS* FROM HISPANIOLA (LEPIDOPTERA: HESPERIIDAE)

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ABSTRACT.— *Choranthus maria* is described from a single female reared from a larva found feeding on the leaves of a young *Sabal* palm. The type locality is a tropical hardwood forest near Sosúa, on the northern coast of the Dominican Republic, Hispaniola. The closest relatives of *C. maria* are *C. schwartzi* and perhaps *C. melissa* which are also endemic to Hispaniola. These other species differ from *C. maria* in color pattern, morphology of the female genitalia, biogeographical distribution, and probably larval hostplants.

KEY WORDS: *Achylodes*, *Anastrus*, *Asbolis*, Bahamas, *Choranthus maria* new sp., Cuba, *Cybaenes*, Dominican Republic, *Ephyriades*, *Euphyes*, Haiti, *Nyctelius*, Palmae, *Panoquina*, *Perichares*, *Phocides*, *Polygonus*, *Proteides*, Puerto Rico, *Pyrgus*, *Pyrrhocalles*, *Sabal*, *Urbanus*, Virgin Islands, *Wallengrenia*, West Indies.

The genus *Choranthus* is a biogeographically intriguing group of hesperiine skipper butterflies found in the West Indies. Three species have been previously described from Hispaniola, yet two others occur on nearby Puerto Rico. In addition, Jamaica, Cuba, and the Bahamas each have one endemic species (Gali, 1983). *Choranthus vitellius* Fabricius from Puerto Rico and the Virgin Islands is most closely related to *Choranthus haitensis* Skinner from Hispaniola. Similarly, *Choranthus radians* Lucas from Cuba and *Choranthus richmondi* Miller from Andros and the Exuma Islands, Bahamas, are close relatives (Riley, 1975). As far as is known, these species feed on grasses in the larval stages. *Choranthus borinconus* Watson from Puerto Rico and *Choranthus lillae* Bell from Jamaica form a different species group (Miller, 1965), and the larvae of the former feed on palms (Riley, 1975).

The most common species on Hispaniola, *Choranthus haitensis* Skinner, occurs throughout the island from sea level to at least 1129m elevation (Schwartz, 1989). Two recently described Hispaniolan species have much more restricted distributions. *Choranthus melissa* Gali has been found only between 732–1281m elevation in southern Hispaniola in the Sierra de Baoruco, Massif de la Selle, and Sierra Martín García. Similarly, *Choranthus schwartzi* Gali occurs between 488–1007m along the eastern edge of the Cordillera Central (Schwartz, 1989).

In late November 1988, Thomas C. Emmel and I collected butterflies in Puerto Plata and La Vega Provinces, Dominican Republic. During this trip, I found some hesperiid larvae on palms in a tropical hardwood forest near Sosúa on the northern coast. One of these larvae eventually pupated, and an adult representing a new species of *Choranthus* emerged. Colors noted in the description are from color charts in Maerz and Paul (1930).

Choranthus maria Minno, new sp.

Diagnosis.— *Choranthus maria* most closely resembles *C. schwartzi* in color pattern (Figure 1), but the former has more black, especially on the forewings. The female holotype of *C. maria* has a distinctive black streak from the base of the upper forewing, through the cell, to the outer black border. The shape of the female genitalia is also very similar to that of *C. schwartzi*, but the lamella antevaginalis appears to be a bit broader in *C. maria* (compare illustrations in Figure 2 with those in Miller, 1965 and Gali, 1983).

Description.— *Males*: not known.

Females.— (Fig. 1, dorsal, top left; ventral, bottom left). Head, thorax and abdomen covered with yellow and black scales which blend to an olivaceous color when viewed without a lens. Eyes black. A tuft of long, black "eyelash" scales at the base of each antenna. Antennal shaft yellow, intersegmental areas ringed with black. Club mostly black, nudum 4/7 (see discussion under Remarks below). Apiculus equally black and yellow, about one-third the length of the club. Proximal segments of palpi covered with shaggy, light-yellow and black scales. Terminal segment with appressed black, light-yellow, and golden-yellow scales.

Forewing: Upper side of the forewings golden-yellow (plate 10, color L- 8) and black. Veins outlined with black. Outer black border broad, with an inward point between CU₂-2A. A black streak extends parallel to the costal margin from the middle of the base of the wing through the cell to the outer black border. This streak contains two small golden spots before the distal end of the cell, and a small diffuse golden spot between M₁-M₂ at the junction with the outer black border. Fringe black at the apex, gradually shading to gold at the tornus. Forewings 11.5mm long.

Underside of the forewings golden-yellow (plate 11, color L- 9) along



Fig. 1. Comparison of females of *Choranthus maria* (new species) and *Choranthus schwartzi* Gali. TOP LEFT, *C. maria*, holotype, forewing length = 11.5mm, dorsal surface. BOTTOM LEFT, *C. maria*, holotype, ventral surface. TOP RIGHT, *C. schwartzi*, La Vega, La Palma, 19km W. Jayaco, 3300 ft., 21 Jul 1983, A. Schwartz, forewing length = 15.5mm, dorsal surface. BOTTOM RIGHT, *C. schwartzi*, *ibid.*, ventral surface.

the costa, median lighter yellow. Base of wing (except for the costal portion), inner margin, and end of cell, black. Diffuse black spots toward the outer margin between the veins. Apex covered with light-yellow and black scales which blend to an olivaceous color (plate 13, color L-5).

Hindwing: Upperside of the hindwings golden-yellow (plate 10, color L-8) with black veins and black margins. The costal black border reflexed inward to the end of the cell. The outer black border has an inward point between CU_2-2A , and is interrupted by a narrow golden streak from the base of the wing along 2A.

Underside of the hindwings mostly covered with light-yellow and black scales which blend to an olivaceous color (plate 13, color L-6). End of cell with a faint, diffuse black spot. Anal area mostly golden-yellow (plate 10, color L-8).

Legs: The middle legs have one pair of tibial spurs; hind legs, two pairs of tibial spurs. All legs covered with light-yellow, golden-yellow, and black scales on the femur. Tibia and tarsus mostly golden-yellow.

Female genitalia (Fig. 2): with a long slender lamella antevaginalis, which is slightly notched at the tip. The lamella postvaginalis is broad and notched. The corpus bursae is membranous

with fine folds.

Holotype ♀.— DOMINICAN REPUBLIC.— Puerto Plata Prov.: 1.5Km E. Sosúa, 23 Nov 1988, M. C. Minno & T. C. Emmel (reared ex. larva on *Sabal*). The holotype will be deposited in the Allyn Museum of Entomology (Sarasota), Florida Museum of Natural History.

Paratypes.— No other adult specimens are known.

Etymology.— *Choranthus maria* is named in honor of my wife, Maria.

REMARKS.— Miller (1965) revised *Choranthus* and recognized two subgroups. The *lilliae* group was characterized as having the apiculus half as long as the club, nudum of 13 segments, uncus short, and forewing length greater than 17mm. Members of the *radians* group, on the other hand, have an apiculus only one-third as long as the club, nudum of 12 segments, a longer uncus, and are smaller in size. The short apiculus and small size of *C. maria* would place it in the *radians* group. The apiculus of the holotype of *C. maria*, however, appears to be aberrant. Two of the seven apicular segments are partially fused. In addition, as other

species in the *radians* group have an apiculus composed of eight segments, one segment must be lost altogether. Other specimens of *C. maria* are expected to have an eight-segmented apiculus.

Choranthus maria is a species of low elevation. I collected larvae within 15m of the ocean. *Choranthus haitensis* also occurs in coastal areas of Hispaniola and was abundant at the edges of the forest at the Sosúa locality. *Choranthus melissa* and *C. schwartzi* are montane species confined to specific regions of the island (Schwartz, 1989) allopatric to *C. maria*.

The larvae of *C. maria* were found on the leaves of young *Sabal* palms, 1-1.5m tall. The shelters are formed by tying the edges of the tips of individual leaf segments together. Other palm-feeding skippers such as *Pyrrhocalles antiqua* Herrich-Schäffer and *Asbolis capucinus* Lucas construct shelters in the same way.

Scott Zona, who has completed a monographic study of *Sabal*, examined my slides of a young and a mature specimen of the food plant and identified the host as probably *Sabal causiarum*-(Cook) Beccari. *S. causiarum* occurs at low elevation (100 m) and has mostly spherical fruit 7.1-10.8mm in diameter and 7.5-10.4mm high. Another less abundant species, *Sabal domingensis* Beccari, is found between 150-1000m in La Vega, Santiago and Espaillat Provinces. This endemic palm has larger (11.5-14.1mm diameter), pyriform fruit.

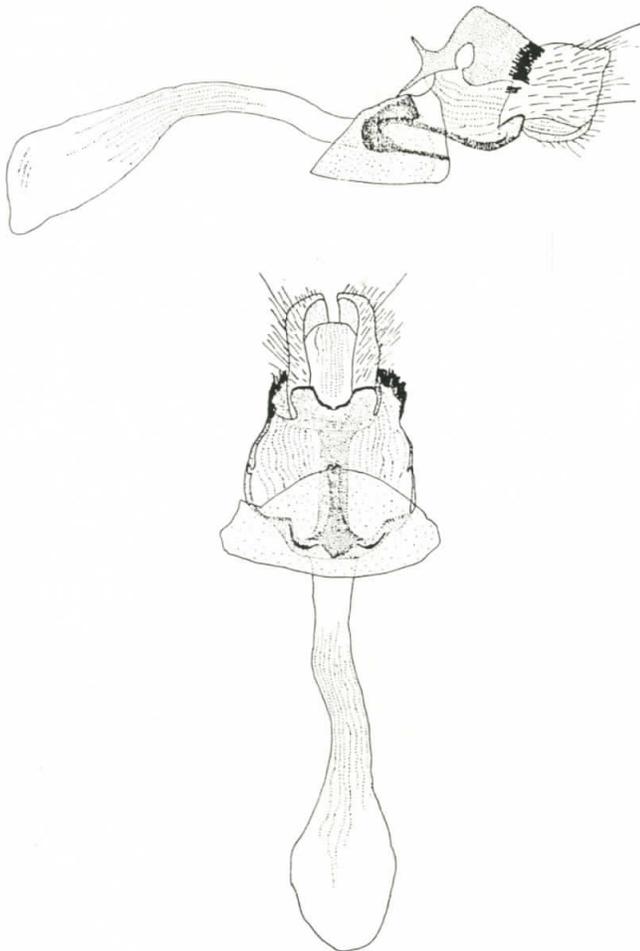


Fig. 2. Genitalia (length approximately 6 mm) of the female holotype of *C. maria*. TOP, lateral view. BOTTOM, ventral view.

The species of *Sabal* eaten by *C. maria* (probably *S. causiarum*) was abundant and widespread in low elevations (<100m) of Puerto Plata Province, Dominican Republic. I did not observe any *Sabal* species in La Vega Province or at higher elevations of Puerto Plata Province. *C. haitensis* is a grass-feeder (Riley 1975) and I found larvae of this skipper on *Panicum maximum*, both at the Sosúa locality and near Jarabacoa. The host plants of *C. melissa* and *C. schwartzi* are unknown, but are most likely to be grasses. The only other *Choranthus* known to feed on palms is *C. borinconus* (Watson) from Puerto Rico (Riley, 1975), which, like *C. maria*, occurs at low elevations (Miller, 1965).

The habitat in which the larvae of *C. maria* were found is a narrow strip of tropical hardwood forest located approximately 1.5 km east of Sosúa. The forest is about 30m wide and seems to extend for several kilometers along the coast. A dirt road and extensive pastureland form a sharply-delineated southern boundary. The western portion of the forest is being encroached upon by urban development. The vegetation at the type locality is growing in shallow soil covering a limerock base, similar to that found in the upper Florida Keys. The formation would be called dry seasonal forest under Beard's classification (Beard, 1944, 1955).

The larvae of *C. maria* were found in partially cleared areas of the tropical hardwood forest, where most of the understory vegetation had been removed, and where large broadleaf trees provided partial shade. Under these conditions young *Sabal* palms were locally abundant.

Adults of *C. maria* must be highly secretive. Two collectors failed to find any adults at the Sosúa locality after two days of collecting, although the larvae were rather abundant. Other hesperiids found at this locality were: *Phocides pigmalion bicolora* Boddaert, *Proteides mercurius sanchesii* Bell & Comstock, *Polygonus leo ishmael* Evans, *Urbanus proteus domingo* Scudder, *Anastrus sempiternus dilloni* Bell & Comstock, *Achlyodes thraso sagra* Evans, *Ephyriades zephodes* Hübner, *Pyrgus oileus* Linnaeus, *Pyrrhocalles antiqua* Herrich-Schäffer, *Perichares philetus* Gmelin, *Cymaenes tripunctus* Herrich-Schäffer, *Wallengrenia druryi* Latreille, *Choranthus haitensis* Skinner, *Euphyes singularis* Herrich-Schäffer, *Panoquina sylvicola woodruffi* Watson, *Panoquina ocola* Edwards, and *Nyctelius nyctelius* Latreille.

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