BULLETIN OF THE ALLYN MUSEUM

Published by
THE ALLYN MUSEUM OF ENTOMOLOGY
Sarasota, Florida

Number 58 17 June 1980

A NEW SPECIES OF ATLANTEA (NYMPHALIDAE) FROM HISPANIOLA, WEST INDIES

William W. Sommer
232 Commerical St., Theresa, N.Y. 13691

and

Albert Schwartz
Miami-Dade Community College, North Campus, Miami, Fla. 33167

The endemic Antillean nymphalid genus *Atlantea* has been known to occur on three of the four Greater Antillean islands, each with its own endemic species: *perezi* Herrich-Schäffer 1862 (Cuba), *tulita* Dewitz 1877 (Puerto Rico), and *pantoni* Kaye 1906 (Jamaica). Riley (1975:78) noted that butterflies of this genus might well occur on the island of Hispaniola. The presently known distribution is anomalous, in that there are *Atlantea* known from islands west (Cuba, Jamaica) and east (Puerto Rico) of Hispaniola; thus it seemed most reasonable to expect a member of this genus on Hispaniola as well. Brown (1978) suggested that *Atlantea* might well be a representative of a group of butterflies that represent a very old invasion of America and the Antillean region, and that this group might also re-enforce ocean-bottom spreading and continental drift.

We have been collecting butterflies in Haiti since 1977 and were expectant that we might encounter *Atlantea*. These expectations were finally confirmed in 1979 when the senior author secured a slightly flown male near the Haitian capital of Port-au-Prince, at one of the most easily accessible areas from the capital where one can ultimately secure a wide variety of both upland and lowland species with a minimum of effort. The single *Atlantea* differs from the three remaining species in a combination of both size and color and pattern, as well as male genitalia, but it most closely resembles in some details Puerto Rican *A. tulita*. Two fresh specimens of the later species were secured in late 1979 by Daniel K. Lee and the junior author, so that we have been able to compare the Hispaniolan specimen and two fresh Puerto Rican specimens within six months of each other. Strangely, the upperside hindwing pattern of *A. tulita* only remotely resembles the pattern depicted for this species by Riley (1975: Pl. 7, Fig. 12). Comstock's (1944: Pl. 5, Fig. 6) is more accurate. We have been assured by Lee D. Miller that the Riley plate is incorrect in its delineation, and that our fresh *A. tulita*, as well as the three specimens in the Allyn Museum of Entomology, are very similar. Stuart J. Ramos, of the University of Puerto Rico at Mayagüez, stated (*in litt.*, 27 February 1980) that he has no "specimens that look like Riley's illustration." Sexual dichromatism in the genus is extremely limited (see Avinoff and Shumatoff, 1941: 311-312), so that we are likewise certain that our Hispaniolan specimen is not a distinctly different male *A. tulita* that differs from the opposite sex. For the Hispaniolan species we propose the name, from the Greek for "hidden, secret, clandestine) in allu-

sion to the fact that it has remained unknown for more than a century since the first member of the genus was named.

Atlantea cryptadia, new species

Fig. 1B, Fig. 2B, holotype ♂, Fig. 3 (♂ genitalia)

Male. Forewing 25 mm. Upperside orange (Pl. 11H11; all color designations from Maerz and Paul, 1950) with black margins similar to *A. tulita.* One row of orange spots (Pl. 11H11) in forewing dark marginal band. Black hindwing border containing round orange spots, concolor with forewing ground color in Cu_1 and Cu_2, and presumably (see Fig. **1B**) a third spot in M_3. Cu_1 also contains a basal black spot and a discal black spot. Underside of forewing as above with black bar (= sex patch) on inner margin. Hindwing with broad discal band of pale yellow (Pl. 9F6) spots, and smaller white spots on the costa, inner margin, and basally. Postdiscal row of round orange (Pl. 4B12) spots. Marginal row of fine white crescents (Fig. **2B**).

Male genitalia as illustrated (Fig. 3). Most like those of *A. tulita* (see Higgins, 1960: Figs. 14-16) except that: 1) the dorsal lobes of the uncus are broader and more lobate, 2) the inner process of the valva is not so massive, but slightly longer, and 3) the dorsal process of the valva is relatively longer and a bit more heavily toothed. ♂ genitalia preparation M-4045 (Lee D. Miller).

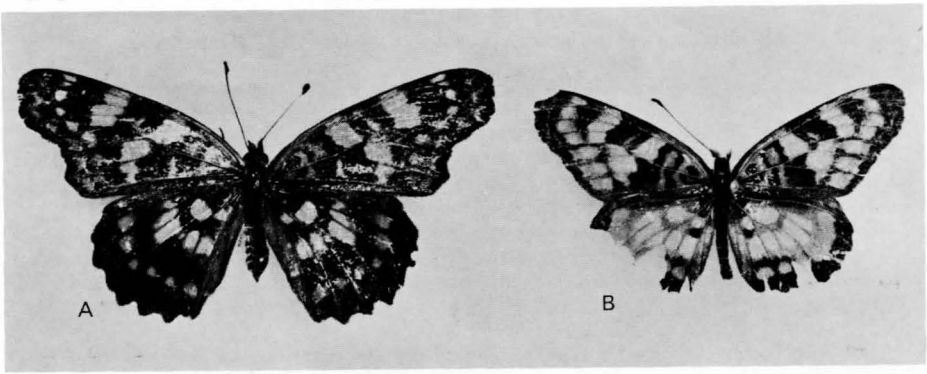

Fig. 1. Dorsal views of: A, *Atlantea tulita,* ♀, Puerto Rico: 17 km NW Sabana Grande, 700 m; B, *A. cryptadia,* holotype ♂.

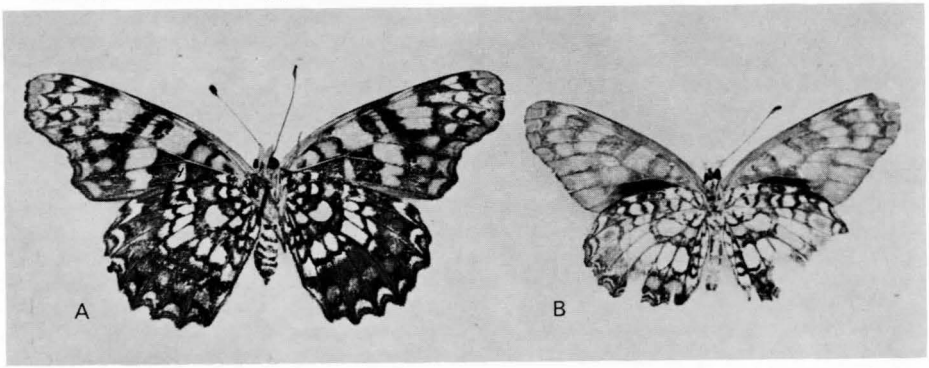

Fig. 2. Ventral views of: A, *Atlantea tulita,* same specimen as Fig. 1; B, *A. cryptadia,* holotype ♂.

Female. Unknown.

HOLOTYPE ♂: HAITI: DEPARTEMENT DE L'OUEST: Boutilliers Road, 734-857 m, 10.vii.1979 (W. W. Sommer), *ex colln.* W. W. Sommer, now in the Allyn Museum of Entomology.

Comparisons. Atlantea cryptadia requires comparison only with *A. tulita;* the new species is very distinct from both Jamaican *A. pantoni* and Cuban *A. perezi.* The former has the forewing upperside contrasting black and yellow, without the orange shades of *A. cryptadia,* and the hindwing upperside is basically black with a submarginal row of orange spots, and yellow discal and basal rows of blotches. *Atlantea perezi* has the forewing upperside dark brown and orange (as does *A. cryptadia*), but additionally has a submarginal line of white dots enclosed within the apical submarginal dark brown area. The forewing underside has two rows of white dots in this same position.

Atlantea cryptadia resembles *A. tulita,* but differs in several respects as follow.

The forewing is shorter and wider with but one row of orange spots (Pl. 11H11) in the marginal band compared with two rows in *A. tulita.* The upperside of the hindwing differs in the absence of submedian and postmedian concentric black bands. The dark margin is much narrower (in *A. cryptadia* 2 mm between Sc and M_3, 5 mm between Cu_1 and 2A; in *A. tulita* 9 mm and 10 mm in the same positions), with orange spots found only in interspaces Cu_1 and Cu_2 (and possibly in M_3). Additionally, interspace Cu_2 contains a basal black spot and a discal black spot. Underside forewing generally paler than that of *A. tulita* with a black bar on the inner margin. Underside hindwing differs in that the basal while spots extend along the costa and inner margin, in contrast to their greater restriction to the basal area and spare extension along the costa and inner margin in *A.*

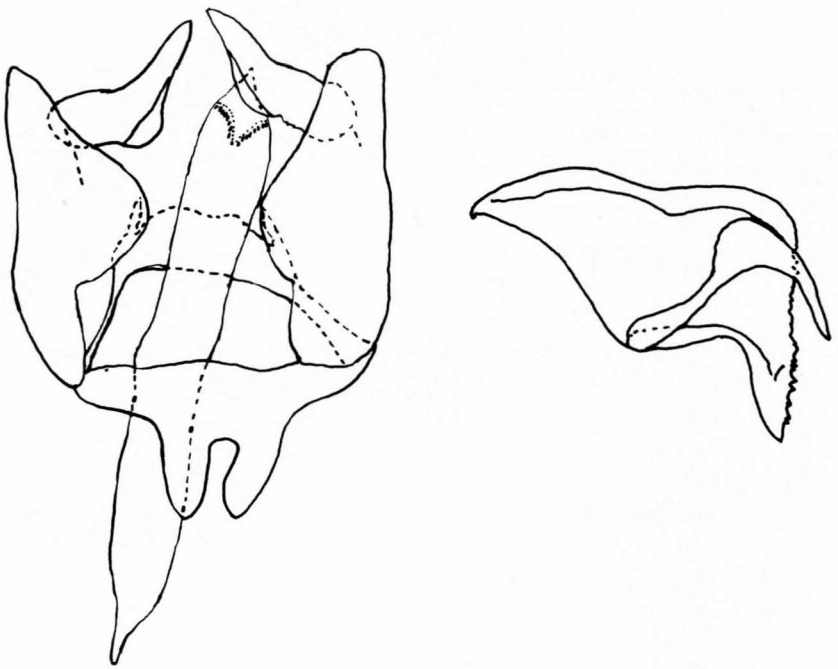

Fig. 3. Genitalia of ♂ holotype of *A. cryptadia* — preparation M-4045 (Lee D. Miller).

tulita. The postdiscal row of round spots is orange (Pl. 4B12) in *A. cryptadia* and brick red (Pl. 5L12) in *A. tulita*.

In comparing *A. cryptadia* with *A. tulita*, it should be noted that although Riley's (1975:78) *description* of *A. tulita* accurately depicts freshly collected specimens from Puerto Rico, the *illustration* (Pl. 7) does not show the hindwing disc as having two concentric black bands on the upperside.

Remarks. As previously noted, the type-locality of *A. cryptadia* is an exceptionally accesible and very rich area as far as butterflies are concerned. Boutilliers road is reached from the main Pétionville-Kenscoff road at an elevation of about 918 m. From this intersection, the road, at first paved and then loose stone and gravel, gradually descends the north face of the Morne l'Hopital to near Port-au-Prince at sea level. The upper portion of the road (within at least those elevations whence the holotype of *A. cryptadia* was taken) is rich in flowers, including *Lantana*, *Daucus*, and *Stachytarpheta* — all extremely attractive to a wide variety and very large numbers of butterflies. *Atlantea cryptadia* was taken along with a number of other species which are basically orange-and-black or orange-and-brown (as is *A. cryptadia*) and as such was not identified until the insect was spread.

ACKNOWLEDGMENTS

We wish to acknowledge the companionship in the field and assistance of John C. Lucio and S. Craig Rhodes in Haiti and Daniel K. Lee in Puerto Rico. Lee D. Miller has prepared the genitalia slide, offered advice, and supplied literature and commented upon the representative sample of *Atlantea* in the Allyn Museum of Entomology. Stuart J. Ramos has been helpful in his comments on Puerto Rican *Atlantea*.

LITERATURE CITED

Avinoff, A., and N. Shoumatoff. 1941. Some new and undescribed Jamaican butterflies. Ann. Carnegie Mus. 28(15): 309-322.

Brown, F. M. 1978. The origins of the West Indian butterfly fauna. *In* Zoogeography in the Caribbean. Acad. Nat. Sci. Phildelphia Spec. Publ. 13:5-20.

Comstock, W. P. 1944. Insects of Porto Rico and the Virgin Islands. Lepidoptera . . . Rhopalocera. Sci. Survey Porto Rico and Virgin Is. 12(4): 321-622. New York Acad. Sci.

Higgins, L. G. 1960. A revision of the melitaeine genus *Chlosyne* and allied species (Lepidoptera: Nymphalinae). Trans R. Ent. Soc. London 112(14): 381-467.

Maerz, A., and M. R. Paul. 1950. A dictionary of color. McGraw-Hill Book Co., Inc., New York, pp. 1-23, 137-208, 55 pls.

Riley, N. D. 1975. A field guide to the butterflies of the West Indies. Demeter Press, Boston, pp. 224, 24 pls.