GENERAL NOTES

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EARLY STAGES OF MYSCelia CYANIRIS CYANIRIS (DOUBLEDAY) FROM PANAMA (NYMPHALIDAE, NYMPHALINAE)

Additional key words: Natural History, Adelia triloba, Euphorbiaceae, Central America.

The genus Myścelia Doubleday comprises ten species that are distributed from the Southern United States to Northern Argentina (Jenkins 1984, D’Abrera 1987). In a recent systematic revision, Jenkins (1984) considered Myścelia closely related to the genus Catonephele Hübner, and he suggested that Myścelia butterflies oviposit on the Euphorbiaceae, thus sharing this host plant family with members of the genera Biblis F., Mestra Hübner, Hamadryas Hübner, Dynamine Hübner, Eunica Hübner, Catonephele Hübner and Nessaea Hübner. The three species of Myścelia found in Panama and Costa Rica show a color pattern common to many species in the genus: upperside iridescent blue over white bands on a brown ground color and a cryptic brown underside, with females being less brightly colored than males (see DeVries 1987).

Myścelia cyaniris cyaniris (Doubleday), has been observed to oviposit on Dalechampia triphylla and an unidentified canopy vine (both Euphorbiaceae) in Costa Rica (DeVries 1987). Records from Panama include Adelia triloba (Euphorbiaceae), from populations at Cana, Darién (field notes of the late G. Small) and Barro Colorado Island, Panama (A. Aiello, pers. com.). A pupa was found on Croton bilbergianus (Euphorbiaceae) at Barro Colorado Island (A. Aiello, pers. com.). As the life history, early stages and oviposition behavior of Myścelia butterflies are poorly known (DeVries 1987), I here describe the life cycle of M. cyaniris cyaniris, and provide line drawings of the head for each larval instar and photographs of the mature larva and pupa. Material described here originated from the edge of second growth forest in Soberania National Park, Panama Province, Panama, and all early stages were raised in plastic containers at ambient temperature. Although the descriptions reported here are more detailed, my observations show broad similarity to the unpublished notes on material field-reared by G. Small (lot number GS-83-51).

Oviposition behavior and host plant. On 4 November, 1994, I observed a female lay eggs on a small isolated individual of Adelia triloba (ca. 40 cm; Euphorbiaceae) at the edge of the forest under full sun, therefore confirming G. Small’s host plant record. The butterfly examined the young tips of several branches before laying an egg, often leaving the plant to perch in the high branches of neighboring trees, and later returning to it. Several eggs were laid on the plant during each oviposition event, and each egg was deposited singly on the underside of young leaves and buds. Eggs also were found on a larger specimen of A. triloba (ca. 70 cm), located near the forest edge and surrounded by shrubby vegetation. Eggs were collected on the same two plants on 4–7 November, and 8 December, 1994.

Egg (n = 9). White; cylindrical, 0.6 mm wide and 0.6 mm tall; 11 vertical ribs; micropyle surrounded by a marked depression adorned with conspicuous vertical ribs that form a serrated “crown” approximately 0.2 mm tall.

Larva (Figures 1 and 2). First instar (n = 4, 2–3 days). Head beige with short, brownish primary setae; body pale green with very short, dark primary setae; larva rests on a “frass chain” at the tip of the leaf midvein with epiphragm appressed to substrate. Second instar (n = 3, 2–3 days). Head mottled in brown and creamy-white, adorned with ubiquitous small creamy-white tubercles which are slightly more prominent in the genital region of the epiphragm; pair of thick, blunt scoli adorned with small tubercles, and approximately two thirds of the head height; froms with a dark medial line. Body green with short, white, tubercle-like, sub-dorsal, lateral and sub-lateral scoli; body color darker green anteriorly, fading toward posterior section of the body; ventral side yellow-green; thoracic legs brownish, abdominal prolegs yellow-green; larvae rest on a “frass chain” with epiphragm appressed to substrate. Third instar (n = 3, 2–3 days). Head dark brown with ubiquitous small creamy-white tubercles which are slightly more prominent in the genital region of the epiphragm; froms black; head scoli approximately 3.5 times longer than head height, proportionately more slender than the scoli of the second instar, the shaft of each scolus is adorned with three whorls of black spines;
Fig. 1. Frontal view of the head capsules of *Mycelium cyaniris cyaniris* from Soberania National Park, Panama; top to bottom: first to fifth instar.
a six-branched whorl located at the distal tip of the scolus, a four-branched whorl located at two thirds of the length of the scolus, and a four-branched whorl located at one third of the length of the scolus, the latter is followed by a pair of smaller spines located on the anterior side near the base of the scolus; the shafts of the scoli are dark proximal to first whorl of spines and creamy-white between whorls; four pairs of post-genal whitish spines distributed from the top of the head to stemmatal region; single whitish spine below each scolus located at mid distance between base of scolus and stemmatal region. Body green with short, white, sub-dorsal, lateral and sub-lateral scoli; sub-dorsal scoli adorned with three terminal spinules in a whorl; sub-dorsal scoli on thoracic segment T3 and abdominal segments A7 and A8 arise from orange tubercles; A7 with two mid-dorsal scoli, posterior scolus larger than anterior; A8 with one mid-dorsal scolus; ventral side translucent green; legs same as in second instar; larvae no longer rest on “frass chains”, resting on the leaf surface with epicranium appressed to substrate. Fourth instar (n = 3, 2–3 days). Head same as in third instar, except for the frons, which is white. Body similar to third instar; green spotted with white; color light green on the dorsal section of the body, becoming darker on the dorso-lateral and lateral sections; sub-dorsal longitudinal row of white spots giving the appearance of a white stripe to the naked eye;
thin whitish supra-spiracular stripe; ventral side translucent green; thoracic legs and abdomi-
nal pro-legs green; larvae rest on leaf surface with epicranium appressed to substrate. Fifth
instar (n = 3, 4–7 days, Figs. 1–2). Head anteriorly black with ubiquitous small creamy-white
tubercles; frons creamy-white; post-genae creamy white; red marks between occiput and base
of the head scoli; head scoli approximately 2.5 times the head height; the shaft of each scolus
is adorned with three whorls of black spines: a six-branched whorl located at the distal tip of
the scolus, a four-branched whorl located at two thirds of the length of the scolus, and a four-
branched whorl located at one third of the length of the scolus, the latter is followed by a pair
of smaller spines located on the anterior side near the base of the scolus; the shafts of the scoli
are dark proximal to first whorl of spines and creamy-white between whorls; spines of the
proximal and medial whorl with a creamy-white transverse stripe at midlength; single lateral
spine located near the base of the scolus; four pairs of large post-genal whitish spines distribu-
ted from the top of the head to stemmatal region; single whitish spine below each scolus lo-
cated at mid distance between base of scolus and stemmatal region; one small whitish spine
in the stemmatal region, and another immediately posterior to it. Body green spotted with
white; dorsally green, dorso-laterally yellowish green; sub-dorsal longitudinal row of white
spots giving the appearance of a white stripe to the naked eye; dark green stripe immediately
below row of white spots; yellowish longitudinal spiracular stripe; T2–A8 with sub-dorsal scoli
which are yellow at base and green distally, terminating in a whorl of three (T2, A1-7), six
(T3), or four (A8) long spines striped in black and white; T2–3 with green lateral scoli ter-
minating in a whorl of three spines; A2–8 with green lateral scoli adorned with two termi-
nal spines; A1–8 with green sub-lateral scoli with three terminal spines; A1–6 with green
mid-dorsal scoli adorned with two terminal spines; A7 with two green mid-dorsal scoli, an-
terior adorned with two terminal spines, and posterior terminating in a whorl of four spines;
A8 with thick green mid-dorsal scolus terminating in a whorl of five spines; A10 with thick
green scoli terminating in a whorl of five spines and located laterally to the anal plate;
ventral side green to blue-green; thoracic and abdominal legs green to blue-green; larvae rest
on leaf surface with epicranium appressed to substrate.

Pupa (n = 2, 7–8 days, Fig. 3). Body projecting forward to attain a horizontal position.
Color predominantly green with white and brown markings. Head adorned with pair of
short white conical ornaments; antennae whitish; legs pale green; thoracic segments T1
and T2 predominantly dark green dorsally; T2 with a pointed keel; T3 and abdominal seg-
ment A1 pale green dorsally and dark green laterally; A4 with lateral dark green rounded
markings terminating on a yellowish lateral stripe that runs at the edge of wing pad; wing
pad pale green, raised posteriorly to form a ridge, which is marbled in white and brown;
faint dark green dorsal midline; dorso-lateral and ventral regions of the abdomen with a
whitish shade posterior to wing pad; cremaster brown.

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