

Pacific Pests, Pathogens, Weeds & Pesticides - Online edition

Noni shield-bearer moth (431)

Common Name

Noni shield-bearer moth. This fact sheet is a draft awaiting identification of the moth. Noni, *Morinda citrifolia*, is a fruit-bearing tree in the coffee family, Rubicaceae, used as a traditional medicine.



Photo 1. Numerous mines in noni leaf caused by *Antispila* species.

Scientific Name

Possibly, *Antispila* species. A moth in the Heliozelidae.

Distribution

South Asia (India), East Asia (China, Japan), Africa (Madagascar), North and South America, Europe, Oceania, It is recorded from Australia and Tonga.



Photo 2. Close-up of mines on noni containing larvae of *Antispila* species. Note oval missing areas of leaf cut by larvae before falling out on silken threads to pupate on bark or leaves on soil.

Hosts

Noni; no other host has been recorded for this moth in Tonga.



Photo 3. Single mine of *Antispila* species on noni. Note, the expansion of the mine to a blotch.

Symptoms & Life Cycle

The larvae of the moth make extensive mines in the leaves of noni trees (Photo 1). Like other shield-bearer moths, it is likely that eggs are laid into the underside of the leaves, and the larvae eat out (mine) the tissue between the upper and lower epidermis. The mines are at first curled; later, they expand to form blotches (Photos 2&3).

The legless larvae with dark heads are clearly seen within the mines, either one or two being present (Photo 2). When mature, the larvae cut distinctive shield-shaped cases from the leaf, and drop down on a silken thread attaching the case to bark, a leaf or some other object, to pupate, leaving behind a characteristic pattern of scattered holes, approximately 6 mm diameter. The adult is small, metallic, day-flying, with a shiny smooth head. There are incomplete white bands across the wings, broadening to the edges, contrasted against a dark-grey background. The hind wings are heavily fringed.

Impact

Leaves of noni trees are heavily infested with leaf mines, and develop numerous holes. Leaves are so damaged that they likely drop early, but whether the damage impacts on yield of fruit is unknown.

Detection & inspection

Look for the characteristic mines and holes in the leaves.

Management

There is insufficient evidence that the damage by the leafminer warrants control measures.

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Information from Charley Eiseman (2019) Leafminer of North America (1st Edition). (<http://charleyeiseman.com/leafminers/>); and Antispila. Wikipedia. (<https://en.wikipedia.org/wiki/Antispila>); and from Miller L, et al. (2018) A preliminary molecular phylogeny of shield-bearer moths (Lepidoptera: Adelioidea: Heliozelidae) highlights rich undescribed diversity. Molecular Phylogenetics and Evolution 120:129-143.

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