

Spanish Moth or Convict Caterpillar, *Xanthopastis timais* (Cramer) (Insecta: Lepidoptera: Noctuidae)¹

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The Featured Creatures collection provides in-depth profiles of insects, nematodes, arachnids and other organisms relevant to Florida. These profiles are intended for the use of interested laypersons with some knowledge of biology as well as academic audiences.

Introduction

The Spanish moth, *Xanthopastis timais* (Cramer), is unmistakable for any other moth in Florida. The larvae are likewise very colorful and have been called convict caterpillars. The larvae are occasional pests of lilies, mainly in Amaryllidaceae. Spotted larval forms of Spanish moth appear similar to lily borer larvae, *Brithys crini* (Fabricius), (Godfrey 1972) of Europe and the Old World tropics, but only the banded larval form of the Spanish moth occurs in North America.

Synonymy

Xanthopastis timais (Cramer)

Xanthopastis amaryllidis Sepp

Xanthopastis heterocampa Guenée

Xanthopastis regnatrix Grote

Xanthopastis antillium Dyar

Xanthopastis moctezuma Dyar

Xanthopastis molinoi Dyar



Figure 1. An adult Spanish moth, *Xanthopastis timais* (Cramer). Credits: John B. Heppner, DPI

Distribution

The Spanish moth, originally described from Surinam, is found throughout lowland areas of South and Central America, and in the Caribbean. The Spanish moth occurs throughout all lowland Neotropical regions of the Caribbean, and as far south as northern Argentina. In North America, the species has a southeastern distribution, from the Carolinas to Texas, but strays northward along the Atlantic Coast as far as coastal New York, and inland as far north as Kentucky and Arkansas. It occurs in all of Florida (Slosson 1894; see also Dyar 1901, 1902; Frost 1964; and Kimball 1965).

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Figure 2. An adult Spanish moth, *Xanthopastis timais* (Cramer).
Credits: Jennifer L. Gillett-Kaufman, UF/IFAS Department of Entomology and Nematology

Description

Adult Spanish moths are relatively uniform in coloration throughout their range from North America to the Neotropics. Adults have rosy-pink and black forewings, spotted with orange along the wing veins, with a black body and gray hindwings. Some varieties have more white than pink on the forewings. Larvae are variable in Latin America, but in Florida are black with cream-white or yellow-white bands and orange head, prolegs, and posterior end. In addition to the whitish band, each body segment also has a dorsal and a lateral patch of cream-white near each band. The head and posterior end each have two eye-like black spots, making the posterior end appear much like the head. Variation in the Neotropics is mostly in the amount of orange on the head and posterior, and with the yellow-white body banding more as spots than bands. Larvae are up to 5 cm (2 in) long and feed gregariously on leaves, bulbs, and rhizomes of the host plants. Numbers of larvae can damage lily leaves in a short time. The pupa of the Spanish moth is typical for noctuid moths and almost black in color. Eggs are rounded (somewhat flattened) and yellowish, otherwise typical for noctuid moths (Dyar 1901).



Figure 3. Spanish moth larva (convict caterpillar), *Xanthopastis timais* (Cramer), feeding on amaryllis.
Credits: Terry DelValle, UF/IFAS

Life Cycle

In Florida, Spanish moth adults are active from January to early June, and September to December, but may have nearly continuous generations in the southernmost areas of the state and possibly also in greenhouse production. Females lay several hundred eggs grouped in clusters (Bourquin 1935), usually on the lower leaf surfaces. Larvae pupate in loose soil. Larvae have six instars (Bourquin 1935). Larval eclosion takes about eight days under optimal conditions, followed by 17 days of larval feeding. The pupal stage lasts about 19 days. Adults usually live about eight to 10 days, including two to three days for adult flight and mating. A total generation time of seven to eight weeks allows up to six generations per year.

Host Plants

Spanish moth larvae mainly feed on spider lilies and other Amaryllidaceae, plus Iridaceae and Liliaceae (Tietz 1972). Reports of *Ficus* (Moraceae) and *Hibiscus* (Malvaceae) as hosts are probably erroneous, but *Xanthosoma* and *Zantedeschia* (both Araceae) are rare alternate hosts. Incidental records include *Cocoloba uvifera* (Polygonaceae) (DPI record) and *Polianthes tuberosa* (Agavaceae) (Pirone 1970); also, *Lactuca* sp. (Compositae) (Covell 1984) in lab rearings.

Host plant records in Amaryllidaceae include *Amaryllis*, *Clivia*, *Cooperia*, *Eucharis*, *Haemanthus*, *Hippeastrum*, *Hymenocallis*, *Narcissus*, *Pancratium*, *Polianthes*, and *Zephyranthes*; in Iridaceae, *Iris*; and in Liliaceae, *Crinum*, *Leucojum* and *Lilium*.

Damage

Spanish moth larvae cause damage by chewing gregariously on leaves, bulbs, and rhizomes of the host plants. Economic damage to lilies by Spanish moth has been noted by Biezanko and Guerra (1975), Bourquin (1935), Bruner et al. (1975), D'Angelo (1941), Figueiredo and Pereira (1944), Gundlach (1881), Martorell (1976), Monte (1932, 1934), Pirone (1970), and Wolcott (1936, 1951).

Management

Sampling

Periodically examine leaves for Spanish moth caterpillars. Direct observation of larvae on the plant during the early stages of growth in the spring is the best sampling option due to the plant's small size. Adult moth populations can be sampled using a blacklight. Once moths are detected, searching for eggs and larvae is the next step.

Insecticides

Larvae can be treated with a bacterial spray (*Bt*), or more immediate results can be obtained from the application of various pesticides. In French Guiana, an ectoparasitic nematode has been reported on larvae of Spanish moth and other noctuid moths (Rogers et al. 1990). Brunner et al. (1975) note a Tachinid fly parasitoid.

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