

Spanish Moth, *Xanthopastis timais* (Lepidoptera: Noctuidae): A Pest of Amaryllis and Other Lillies¹

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Figs. 1-2. *Xanthopastis timais*, Spanish moth: 1) adult female; 2) full grown larva feeding on *Hippeastrum* leaves.

INTRODUCTION: The Spanish moth, *Xanthopastis timais* (Cramer), is unmistakable for any other moth in Florida (Fig. 1). The larvae are likewise very colorful, and have been called convict caterpillars (Fig. 2). The origin of the name, Spanish moth, is obscure, although it is possible that the name was coined by Slosson (1894), but later authors did not use the common name until fairly recently. The name is not to be confused with the “Spanish-fly,” which refers to a blister beetle in Spain (Coleoptera: Meloidae). Widespread throughout the southeastern United States, the Spanish moth occurs throughout all lowland Neotropical regions and the Caribbean, and as far south as northern Argentina. The larvae are occasional pests of lilies, mainly in Amaryllidaceae. 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). Spanish moth is the same tribe (Glottulini) of the subfamily Hadeninae as the more important lily pest, the lily borer of southern Europe, Africa and Asia, *Brithys crini* (Fabricius). Spotted larval forms of Spanish moth appear similar to lily borer larvae (Godfrey, 1972), but in North America there is only the banded larval form of Spanish moth.

IDENTIFICATION: Adults are relatively uniform in coloration throughout their range from North America to the Neotropics, with their rosy-pink forewings, spotted with orange along the costa and wing termen, and with a black body (thorax densely scaled) and gray hindwings. Some varieties are more whitish instead of pink on the forewings. Originally described from Surinam (Cramer 1780), several named regional forms have been described since then, often based on the variable larvae: *amaryllidis* Sepp, also from Surinam; *heterocampa* Guenée, from Brazil; *regnatrix* Grote, from Pennsylvania; *antillium* Dyar, from Cuba; *moctezuma* Dyar, from Mexico; and *molinoi* Dyar, from Panama. Our population can be called *X. timais regnatrix*.

Larvae are very variable in Latin America, but in Florida are black with cream-white or yellow-white bands and orange head, prolegs, and rump. 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 rump 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 anal plate, and with the yellow-white body banding more as spots than bands. Some varieties have larger black body tubercles, although in all the varieties the tubercles are not very prominent (Dyar 1902, 1903, 1913a,b; Swainson 1901). The larva has been figured in some early illustrated works, the most detailed being by Bourquin (1935) and Figueiredo and Pereira (1944), including chaetotaxy and the pupa. The pupa is typical for noctuid moths and almost black in coloration. Eggs are rounded (somewhat flattened) and yellowish, otherwise typical for Noctuidae (Dyar, 1901).

The adult has likewise been illustrated several times (Hampson 1905, Lima 1950), and even in color by Covell (1984) and Kimball (1965), among others. Larval descriptions have been given by Beutenmüller (1902), Bourquin (1935), Crumb (1956), Dewitz (1883), Dyar (1902, 1903, 1913, 1919), Figueiredo and Pereira (1944), Forbes (1954), Gundlach (1881), Hampson (1905), Monte (1932, 1934), and Swainson (1901).

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DISTRIBUTION: The Spanish moth, originally described from Surinam, is found throughout lowland areas of South and Central America, and in the Caribbean. 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 (Kimball 1965); see also Dyar (1901, 1902), Frost (1964), and Slosson (1894).

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 *Coccoloba 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*, *Pancreatum*, *Polianthes*, and *Zephyranthes*; in Iridaceae, *Iris*; and in Liliaceae, *Crinum*, *Leucojum* and *Lilium*.

BIOLOGY: 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 in greenhouses where the hosts are cultivated. Larvae have 6 instars (Bourquin 1935). Larval eclosion takes about 8 days under optimal conditions, followed by about 17 days of larval feeding. The pupal stage lasts about 19 days, giving a total generation time of about 46 days, including 2-3 days for adult flight and mating. Thus, a 7-8 week generation time allows up to 6 generations per year. Adults can live from 8-10 days. Larvae are up to 5 cm in length and feed gregariously on leaves, bulbs and rhizomes of the hostplants. Numbers of larvae can damage lily leaves in a short time. Females lay several hundred eggs, grouped in clusters (Bourquin 1935), usually on the lower leaf surfaces. Larvae seek sheltered niches for pupation in loose soil. Pupae are active when disturbed.

CONTROL: Larvae can be sprayed with a bacterial spray, or more immediate results can be obtained from application of various pesticides (see Insect Control Guide 1994, for current recommendations). In French Guiana, an ectoparasitic nematode has been reported on larvae of Spanish moth and other noctuids (Rogers et al. 1990). Brunner et al. (1975) note a Tachinidae parasitoid.

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