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Division of Plant Industry

Urticating Caterpillars in Florida: 3. Puss Caterpillar and Flannel Moths (Lepidoptera: Megalopygidae)[1]

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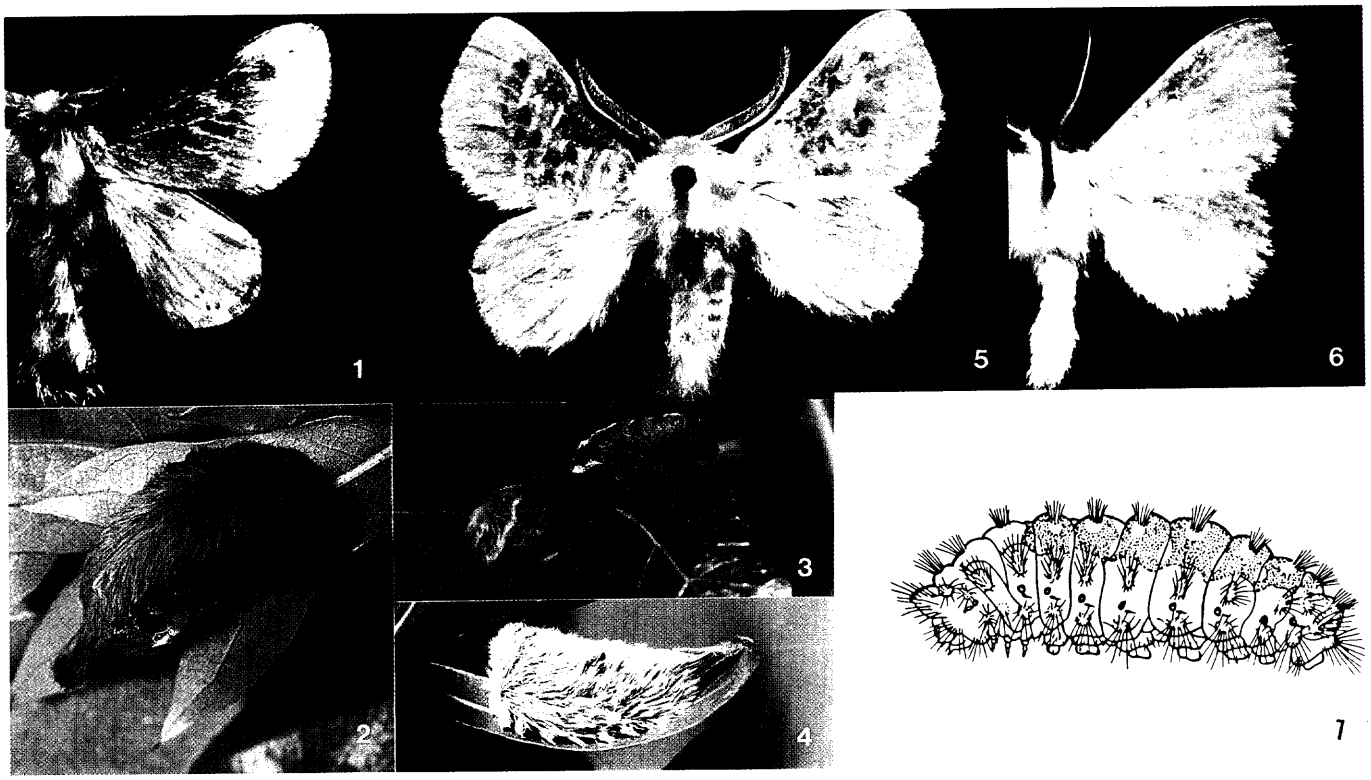

Figs. 1-7. Flannel moths and larvae: *Megalopyge opercularis*, 1) adult; 2) larva (typical form); 3) larvae (brown forms); 4) larva (white form); *Lagoa crispata*, 5) adult; *Norape ovina*, 6) adult; 7) larval schematic. (Sizes ca. 1.5x for figs. 1 and 5-7; figs. 3-4 somewhat reduced).
Figure credits: J. B. Heppner (Figs. 3-4), H. O. Hilton (Figs. 1, 5-6), U. S. Public Health Service (Fig. 7).

INTRODUCTION: The flannel moths (family Megalopygidae) include some of the most commonly encountered poisonous caterpillars in Florida. They have urticating or "stinging" spines and setae, a well-known chemical defense found in several families of Lepidoptera. A previous circular (Heppner 1995) described the related slug caterpillars (family Limacodidae). All Megalopygidae apparently have stinging spines, although in some species they are more developed than in others and many smaller species are not generally encountered. The most common one in Florida is the puss caterpillar, *Megalopyge opercularis* (J. E. Smith). This species has the full setal pattern, falsely giving it a smooth and harmless appearance, while the upright poison spines (Fig. 8) are hidden beneath the long covering setae. The other general larval form found in this family, as in the caterpillar of the white flannel moth (*Norape ovina* Sepp), has the setae reduced in number, with clumps of spines more clearly evident (Fig. 7).

The urticating property of the larvae is due to a poison gland at the base of each seta (Figs. 8-9). A toxin is injected whenever a seta is touched and broken (Gilmer 1925). The chemical nature of urticating poisons is not fully known, but some caterpillar glands have been found to contain formic acid or histamine (Beard 1963).

IDENTIFICATION: Caterpillars of *Megalopyge* typically have the "puss" caterpillar look, with long wavy hair-like setae covering the upright poison setae. In *M. opercularis*, the larvae tend to be lighter when young (even white) and generally turn to brown when older, but even last instar larvae have variable color forms (Figs. 2-4). Other flannel moths have the open setal arrangement as found in *Norape* and *Lagoa*. The family is characterized by the retracted larval head beneath the prothoracic segment and the unique lepidopteran larval configuration of 7 pairs of prolegs (segments A3-6 and 10 with crochets). Adults are small moths (ca. 12-40 mm in wingspread), often with extensive hair-like setae on the body and forewings. Most adults are brown to yellow in coloration, with various markings; some are white.

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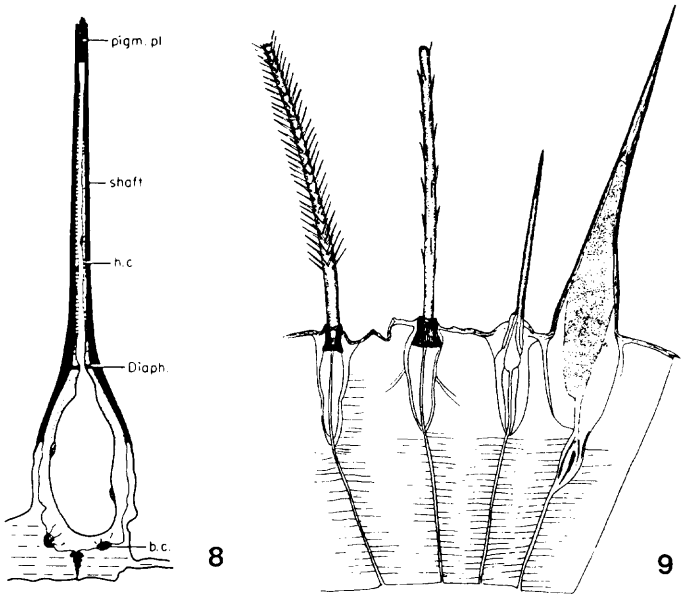

Figs. 8-9. Poison glands and setae of Megalopygidae: 8) *Megalopyge opercularis* (after Foot 1922) (pigm. pl = pigmented plug at tip of seta; diaph. = chitinous diaphragm between bulb and tip; b.c. = bulb sac cells of poison gland; h.c. = hollow channel of poison duct); 9) *Lagoa crispata* (after Baerg 1924), showing normal setae (left two) and poison spine (right two).

DISTRIBUTION: The most common species in Florida also occur through most of eastern North America. The genus *Megalopyge* has a number of species in the Neotropics, but only one is resident in the eastern United States. In Florida, only 5 species of the family are recorded: 3 species of *Lagoa*, and 1 species each in *Megalopyge* and *Norape*. There are 11 species of Megalopygidae recorded for North America north of Mexico, while 236 species occur from Mexico to Argentina. The Megalopygidae are restricted to the New World.

HOST PLANTS: The flannel moths are leaf feeders on a variety of shrubs and hardwood trees, including oaks (*Quercus*), maples (*Acer*), elms (*Ulmus*), willows (*Salix*), beech (*Fagus*), hickory (*Carya*), and such shrubs as *Avicennia*, *Camellia*, *Hibiscus*, *Prunus*, and roses (*Rosa*). Some palms are also recorded as hosts. The puss caterpillar has 34 genera of hosts recorded, but some of the records represent only infrequent hosts: it is most common on oaks in Florida. *Citrus* spp. are also included among the hostplants of the puss caterpillar in Florida, but citrus is not a primary host.

BIOLOGY: The puss caterpillar typically has 2 generations per year, but may have 3 generations in southern Florida. Likewise, for the other flannel moths that are known in North America. Young larvae feed in groups, dispersing as they grow older. Larvae are most commonly encountered only prior to pupation, when they wander in search of a twig or concealed location to attach their hard cocoons. Larvae can then be on tree trunks and branches, where persons may touch them before noticing their presence. The caterpillars are not generally so common as to cause a nuisance, but there have been local population explosions where many people have been "stung": a well-known case was in Texas, where the species is also common (Foot 1922).

The poisons of the larval setae often produce painful reactions, well recounted by Murtfeldt (1876). Other symptoms have been noted by Foot (1922). Some of the tropical species also can produce strong reactions (James and Harwood 1969).

CONTROL: Caterpillars can be sprayed with a bacterial spray if present in large numbers (Anonymous 1994), but generally the larvae are not of economic importance other than as a nuisance when touched. Remedies for relief of urticating pain include initial removal of any remaining inserted spines by the use of adhesive tape, followed by ice compacts, mentholated vaseline, or an antihistamine medicine (Riley and Johannsen 1938; Genung 1964; Biery 1977; Frazier and Brown 1980). Allergic reactions, although rare, can be severe in persons sensitive to such stings (Bishopp 1923; Wirtz 1984).

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