

Urticating Caterpillars in Florida: 2. Slug Caterpillars (Lepidoptera: Limacodidae)¹

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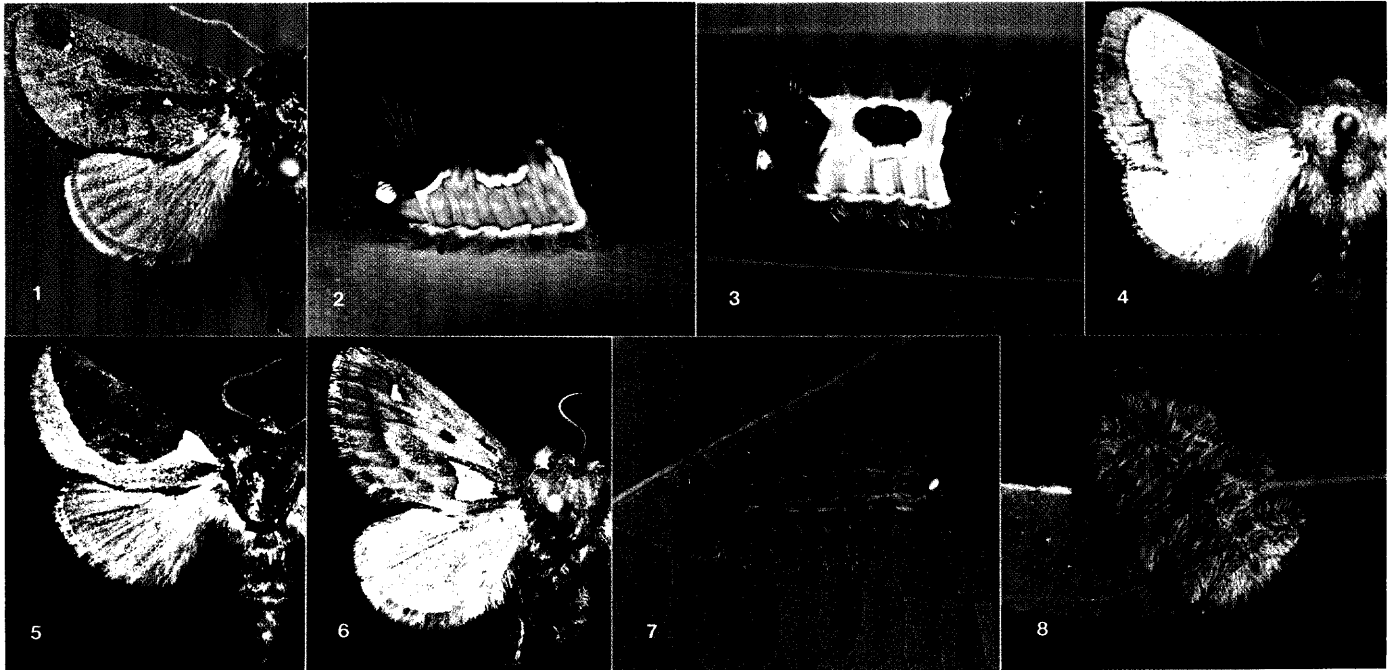


Plate 1. Slug moths and larvae: 1) *Acharia stimulea* ♂; 2) larva (lateral view); 3) larva (dorsal view); 4) *Parasa indetermina* ♂; 5) *Prolimacodes badius* ♂; 6) *Euclea delphinii* ♂; 7) larva (dorsal view) [white parasite on thorax?]; 8) *Phobetron pithecium* larva (dorsal view).
Photo credits: D. H. Habeck (Fig. 2), H. O. Hilton (Figs. 1, 4-6), M. C. Minno (Figs. 3, 7-8). [Sizes ca. 1.5x]

INTRODUCTION: Urticating or "stinging" spines and setae of some caterpillars are a well-known chemical defense found in several families of Lepidoptera. A previous circular (Heppner 1994) described the Io Moth (Saturniidae) and presented general notes about stinging spines and dermal reactions (Rothschild *et al.* 1970; Wirtz 1984). Herein, the slug caterpillars, which include some of the most well-known examples of stinging caterpillars, are discussed. All Limacodidae apparently have stinging spines, although in some species they are more developed than in others. Some examples of Florida slug caterpillars and adults are shown in the accompanying plates (line drawings are reproduced from a series of articles by Dyar (1895-99), with various details of spines and other larval features). There are 25 species recorded for Florida. The most commonly encountered is the saddleback caterpillar, *Acharia stimulea* (Clemens) (formerly in the genus *Sibine*) (Plate 1, Figs. 1-3; Plate 2). A number of species of this genus occur in the Neotropics, but only one is resident in the United States. Other species in Florida that are common include the hag moth (*Phobetron pithecium* (J. E. Smith)) (Plate 1, Fig. 8); Plate 4), Nason's slug caterpillar (*Natada nasoni* (Grote)) (Plate 3), the skiff moth (*Prolimacodes badius* (Hübner)) (Plate 1, Fig. 5; Plate 10), the spiny oak-slug caterpillar (*Euclea delphinii* (Boisduval)) (Plate 1, Fig. 6; Plate 5), and the stinging rose caterpillar (*Parasa indetermina* (Boisduval)) (Plate 1, Fig. 4; Plate 6).

The urticating property of the setae of the larvae is due to a poison gland at the base of each seta. A toxin is injected into the skin 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 *Acharia* typically have long spines front and rear, with a smoother central dorsum, often with a color patch, thus appearing like a kind of "saddle." Other limacodids have various spine vestitures. The family is characterized by the retracted larval head beneath the prothoracic segment, and the reduction of thoracic legs and prolegs (segments A1-7 and 10).

DISTRIBUTION: Most of the Limacodidae in Florida also occur throughout eastern North America.

HOST PLANTS: The slug caterpillars are leaf feeders on a variety of hardwood trees for the most part, including oaks (*Quercus*), maples (*Acer*), elms (*Ulmus*), willows (*Salix*), beech (*Fagus*), hickory (*Carya*), and such shrubs as *Bumelia*, *Hibiscus*, *Prunus*, and roses (*Rosa*). Some palms are also recorded as hosts. The saddleback caterpillar has the largest diversity of recorded hosts, but some of the records may represent only resting sites prior to pupation. *Citrus* spp. are also included among the hostplants of the saddleback and a few other slug caterpillars in Florida, but citrus is not a primary host for these species.

BIOLOGY: Florida populations of most of the slug caterpillars appear to have several generations per year, especially in south Florida. Species like the saddleback caterpillar occur almost year-round in south Florida and are mostly encountered as solitary caterpillars.

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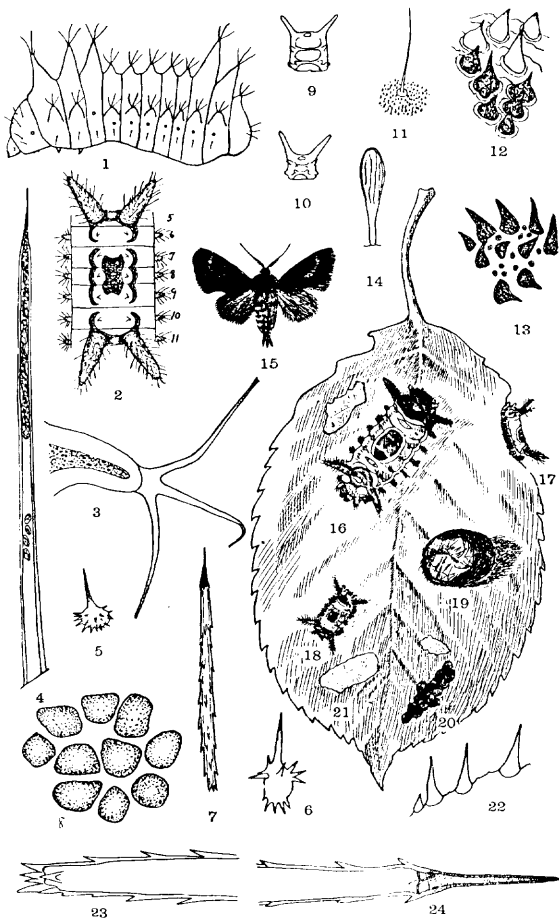


Plate 2. *Acharia stimulea* (Clemens), saddleback caterpillar.

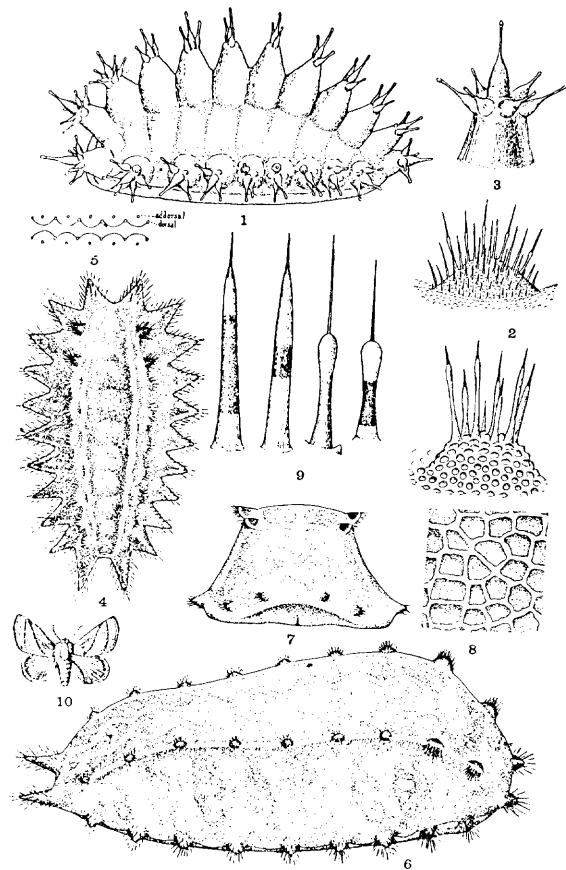


Plate 3. *Natada nasoni* (Grote), Nason's slug caterpillar.

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; Frazier and Brown 1980). Allergic reactions, although rare, can be severe in persons sensitive to such stings (Wirtz 1984).

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DETAILS OF PLATES 2-11 (reproduced from Dyar 1895-99)

- Plate 2. *Acharia stimulea* (Clemens): 1) 1st instar; 2) 3rd instar; 3-7) various spines; 8) integument; 9-10) frontal views of larva; 11-13) integument and spines; 14) spatulate seta; 15) adult; 16-18) larval stages; 19) cocoon; 20) eggs; 21) feeding damage of 1st instars; 22) spines on a scolus; 23-24) enlarged ends of spine in Fig. 7.
- Plate 3. *Natada nasoni* (Grote): 1) 1st instar; 2-3) spine details; 4) 4th instar; 5) integument detail; 6-7) last instar; 8-9) details of integument and spines; 10) adult.
- Plate 4. *Phobetron pithecium* (J. E. Smith): 1-2) 1st instar; 3-4) later instars; 5-7) last instar; 8-12) various setae and spines; 13-14) adult ♂ and ♀; 15) [number missing] integumental setae.
- Plate 5. *Euclaea delphinii* (Boisduval): 1-5) adult forms; 6-9) last instar forms; 10-17) spine and setal details.
- Plate 6. *Parasa indetermina* (Boisduval): 1) 1st instar; 2) later instar; 3) last instar; 4-11) integument and spine details; 12) adult.
- Plate 7. *Parasa chloris* (Herrich-Schäffer): 1-2) 1st instar; 3-5) last instar; 6-7) feeding damage; 8) egg; 9) venter prior to molt; 10-16) spine and setal details; 17) adult.
- Plate 8. *Isa textula* (Herrich-Schäffer): 1-2) 1st instar and tubercle close-up; 3-5) last instar; 6) lateral view of one segment; 7) last instar; 8) feeding damage; 9-10) adult ♀ and ♂.
- Plate 9. *Lithacodes fasciola* (Herrich-Schäffer): 1) 1st instar; 2-3) later instar; 4) segment close-up; 5) integument close-up; 6) last instar; 7) adult. *Adoneta spinuloides* (Herrich-Schäffer): 8) 1st instar; 9-11) last instar; 12-14) various spines; 15) adult.
- Plate 10. *Prolimacodes badius* (Hübner): 1 & 3) 1st instar; 2) enlarged tubercle; 4) early instar; 5) seta enlarged; 6-8) front, dorsal and lateral views of later instar; 9) feeding damage; 10) adult; 11-12) integument closeups; 13-14) last instar forms.
- Plate 11. *Apoda biguttata* (Packard): 1) 1st instar; 2) 2nd instar; 3-4) later instars; 5) adult; 6) details of 2nd instar; 7-8) last instar; 9-10) integumental details.