

TRANSFER OF THE SPHINGID GENUS *SATASPES* FROM THE SUBFAMILY MACROGLOSSINAE TO THE SUBFAMILY SPHINGINAE (LEPIDOPTERA: SPHINGIDAE)

By J. C. E. Riotte¹

Abstract. The sphingid genus *Sataspes* is transferred from the subfamily Macroglossinae to the subfamily Sphinginae based on characters of the adult labial palpus and characters of the larva.

In their revision of the Sphingidae, Rothschild & Jordan (1903) based their higher classification on a certain character of the labial palpus in the adults and the shape of the head of the larva. They separated the family into 2 groups: "Sphingidae asemanophorae" and "Sphingidae semanophorae." Hodges (1971) erected the subfamilies Sphinginae (for the former) and Macroglossinae (for the latter).

As a main character of the labial palpus of the "semanophorae," Rothschild & Jordan (p. 347) established: "The not-scaled area of the inner surface of the first segment of the palpus covered with short sensory hairs, or these hairs, which are seldom vestigial, restricted to a patch." As a decisive character for the larvae they established: "The larvae are not granulose as in Ambulicinae, nor have they ever a triangular head; they are also not regularly banded as in most *Protoparce*, *Hyloicus ligustri*, etc."

In the genus *Sataspes* Moore, 1857 the labial palpus has no sensory hairs whatsoever and the head of the larva is triangular. Also, the larva is granulose and regularly striped and tapers off cephalad as in *Mimas*. Mell (1922), in his exhaustive work on the S China Sphingidae, described for the first time and figured in color larvae of *Sataspes*. My FIG. 1 shows part of Mell's figures. The early stages of *Sataspes* had been listed by previous authors as unknown. Mell stated that the larva is of the Ambulicinae type (now called Smerinthini), that the head has a short point after the 1st molting, which gets sharper and wider with increasing size, and that the abdomen has bands of pointed cones, as well as 7 oblique lateral stripes. These descriptions contradict Rothschild's characters for "semanophore" Sphingidae and would alone be sufficient to remove the genus to the "asemanophores."

Bell & Scott (1937) presented Mell's information for the first time in English, pointing out the ambulicine appearance of the larva and the pupa; nevertheless, they left *Sataspes* in the tribe Dilophonotini.

To support the transfer from the Macroglossinae to the Sphinginae, I also use the labial palpus of the adult. As seen in FIG. 2, the 1st palpal segment does not bear

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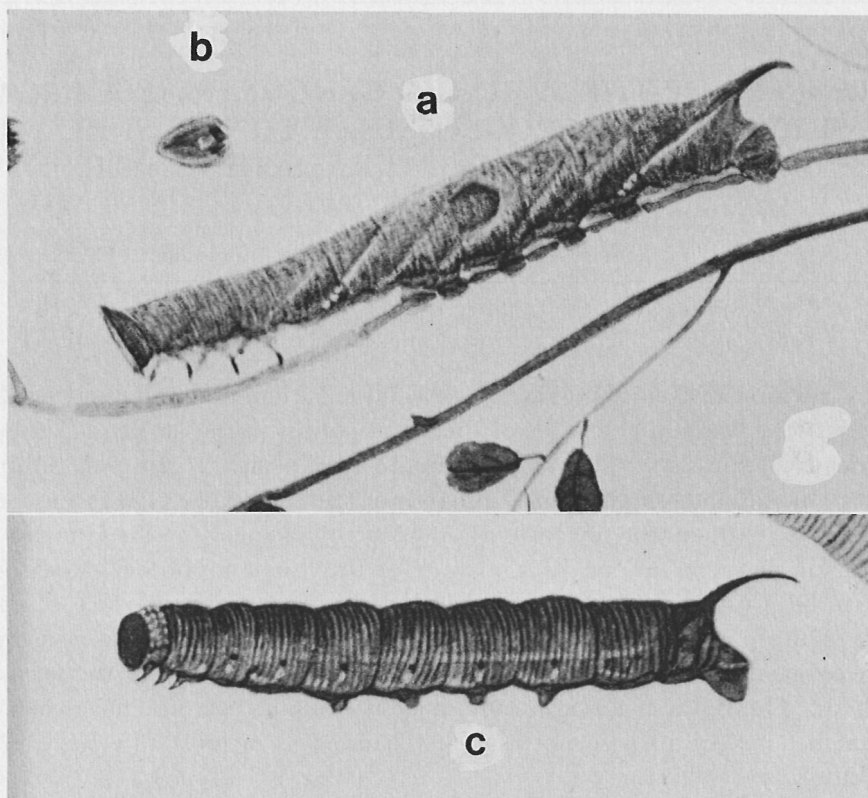


FIG. 1. **a-b.** Larva of *Satsapes infernalis* reproduced from Mell (1922: plate VI: 39): a, mature larva; b, frontal view of head; **c.** Mature larva of *Cephanodes hylas*, belonging to the genus with which *Satsapes* was erroneously associated; reproduced here for comparison from Mell (1922: plate VI: 33).

sensory hairs such as one sees in members of the “semanophores” [e.g., FIG. 3, of *Eumorpha achemon* (Drury)]; instead the palpus of *Satsapes* bears dumbbell-like scales as found in species of other Smerinthini [e.g., FIG. 4, of *Oxyambulyx liturata* (Butler)].

In addition, the adult antennae (FIG. 5) are of *ambulicine* = *smerinthine* character, which puzzled Rothschild & Jordan (1903), and this feature easily classifies *Satsapes* with *Pachysphinx*, *Monarda* and *Cressonia*. The wings are entirely scaled and the insect mimics the carpenter-bee genus *Xylocopa*. This mimicry of a hymenopteran, together with the day-flying habits of *Satsapes*, may have been the reason for associating it with *Cephanodes* and *Hemaris*. However, this association is not warranted. It merely reveals a very interesting, indeed, parallel-evolutionary trend in both sphingid subfamilies.

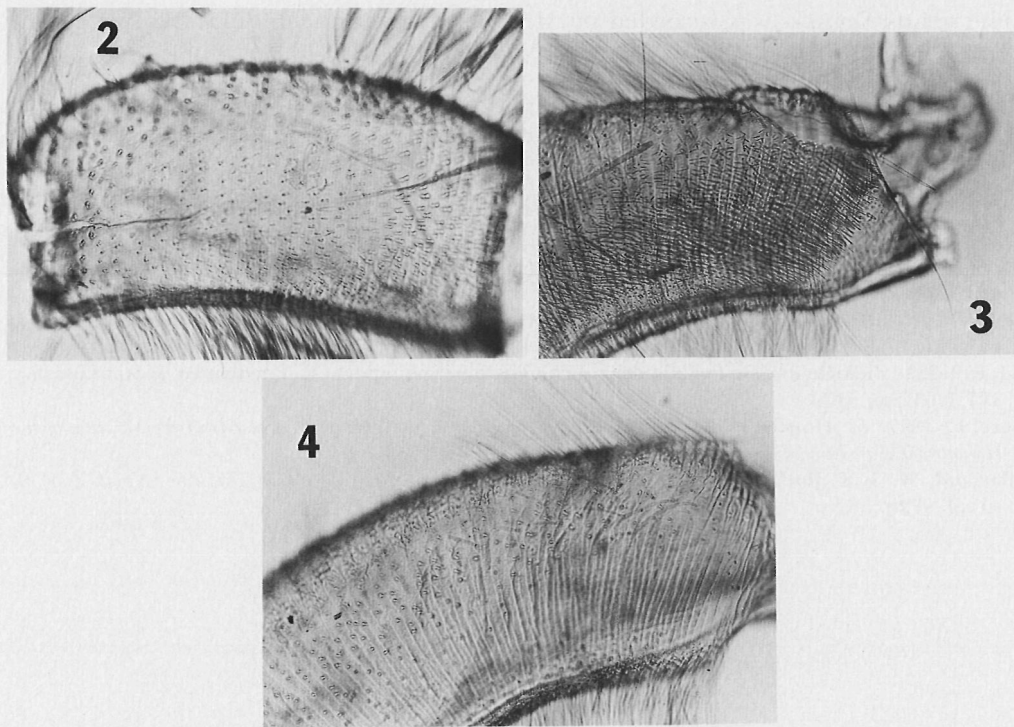


FIG. 2-4. Photomicrographs: 2, labial palpus of *Sataspes infernalis*; 3, labial palpus of *Eumorpha achemon*; 4, labial palpus of *Oxyambulyx liturata*.

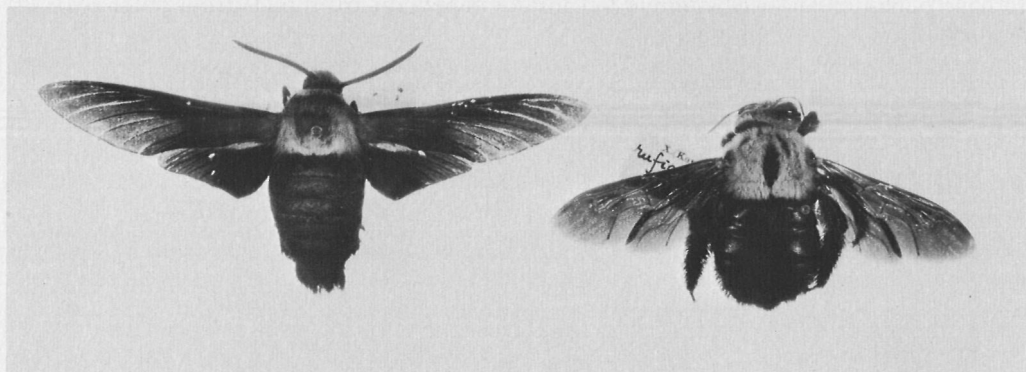


FIG. 5. Adult of *Sataspes infernalis* (left) and *Xylocopa ruficornis* (Fab.) (right), which it mimics. *Sataspes* (Laos, Pakkading, 100-200 m, 23.V.1965, J.L. Gressitt) and *Xylocopa* (S India, Coimbatore, X.1955, P.S. Nathan) specimens in Bishop Museum.

The genus *Sataspes* was recorded by Mell (1922) from the Indo-Malayan Region, North and South India, China, east to Sulawesi (Celebes) and the Philippines.

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NOTE TO PROSPECTIVE AUTHORS

While the emphasis of Pacific Insects is on the Pacific Basin and western source areas, we also have published and will continue to consider papers on arthropods from other parts of the world.