

## First record of the Green Nettle Slug caterpillar, *Thosea aperiens* Wlk., in India\*

by

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**Synopsis:** The seasonal occurrence and life-history of the green nettle slug caterpillar, *Thosea aperiens* Wlk., a new pest of *cholam* (*Sorghum* spp.) in Coimbatore are reported in this paper. Besides *cholam* it attacks *ragi* and redgram. The larvae defoliate the plants and also cause annoyance to persons by inflicting severe pain by the poisonous hairs if they happen to come in contact with the hairs. The moth emergence takes place by October-November and the larvae feed on the leaves till December. The full grown larva forms the cocoon in the soil during December-January. The larva aestivates for about 8 to 9 months and forms the pupa by August-September.

**Introduction:** For the past five years, a green nettle slug caterpillar has been reported to affect the *cholam* (*Sorghum* spp.) crop in the Millets Breeding Station, Coimbatore and round about villages. This pest is commonly known as 'Leaf Scorpion' in view of the severe pain the caterpillar inflicts by its stinging hairs to the persons who come in contact with the slug accidentally. Attempts were made to conduct observations on the life-cycle and the habits of the insect since 1960 and a few moths were reared out from the material collected on *cholam* crop. The moth has been identified as *Thosea aperiens* Wlk. (*Aphendala aperiens* Wlk.) (Cochliidiidae: Lepidoptera). Since this appears to be a new record of the insect on *Sorghum* crop in India the observations made so far are reported in this paper.

**Distribution:** The insect has been first described in 1865 by Walker under the name *Miresa aperiens* in *Catl. Het. B. M.*, 32: 476. Moore (1882-83) has given a brief description with figures of the adult and the larva of the insect under the name *Aphendala aperiens* Wlk. Hampson (1892) has stated that the insect is distributed only in Ceylon. Evidently, it appears that no further work has been done on the insect and it is for the first time that its occurrence in India is reported here.

**Damage Caused:** The insect has been noted mainly as a pest of *cholam* in Coimbatore. However, it was also noted to affect *ragi* (*Eleusine coracana* Gaertn.) plants during 1960 in the Central Farm. In Kavundanpalayam village the junior author during his routine visits made under the Scientists' Corps for Agricultural Production had seen the *cholam* and redgram crops being heavily defoliated by the larvae. The slug caterpillar is a voracious feeder and the plants are completely defoliated, in cases of severe infestation, leaving only the midribs and earheads unaffected. The leaves are eaten from the edges and deep notches caused due to feeding. The presence of even a few numbers of larvae

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was enough to prevent people from entering the fields. When a person accidentally comes in contact with the caterpillar on the plant, immediately it inflicts severe pain by the poisonous hairs on its body. The poison is so virulent and powerful that within a few seconds the pain starts. It is a common experience to see persons not being able to raise their hands even for a few days. A slight swelling also forms at the site of stinging and the region will be hot to feel (local fever). There were also instances in which persons had swelling faces and fever due to the attack. In some instances even persons swooned and became unconscious for a few hours. This powerful stinging effect of the nettle grub caused much annoyance to the cultivators in their cultivation operations and to the Plant Breeders as well in their field observations. As the caterpillar is green it also blends with the colour of the leaf and thus is very difficult to locate it on the plant. This insect is to be considered as a pest of importance as it causes severe damage to rainfed *cholam* crop and also in view of the annoyance it causes at the time of harvest and other field operations.

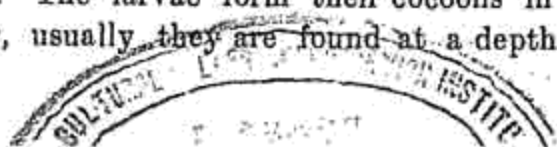
**Life-history:** The life-history of the insect has not been studied in detail as the emergence of moths in the laboratory was rather erratic and egg-laying could not be obtained under captivity. However, with all the available material collected from the fields, observations were pursued which are detailed below. The different instars could not be described here as the eggs were not obtained either in the field or in the laboratory. Thus a brief description of the young, medium and grown up stages of larva is rendered here.

**Young Larva:** 9-12 mm.; orange red in colour; a sub dorsal and a sub lateral series of tubercles on each side, each series having eleven tubercles with brown spines with 10 pink markings of dorsal and sub dorsal rows.

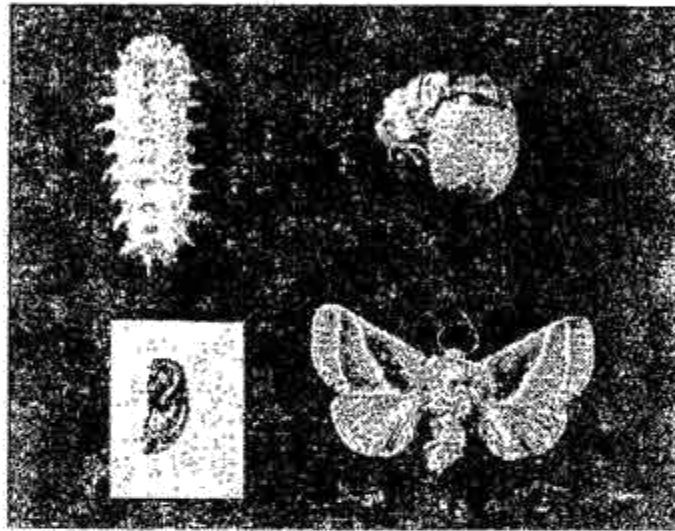
**Medium Larva:** 18-23 mm.; greenish, head brown; a sub dorsal and sub lateral series of tubercles on each side; the sub dorsal series of tubercles longer than the sub lateral series; the tubercles yellowish with light brown or dark spines; eleven tubercles in each row with 10 pink markings of dorsal and sub dorsal series.

**Full-grown Larva:** About 30 mm.; onisciform, head brownish, legs small and rudimentary, retractile; body long oval in outline; grass green or bright green above and purple-brown below; with a sub dorsal series of longer tubercles and a sub lateral series of shorter spinous light pink tubercles with dark spines; a dorsal row of round purple-brown spots in between the rows of tubercles and lateral series of anteriorly oblique fusiform spots; ten in each series. In the sub dorsal series of tubercles the anterior three spines are longer followed by one short, one long, one short, one long, two short, and two long spinous tubercles.

**Cocoon:** The full grown larvae when nearing cocoon formation turn yellowish and shrink in size. The larvae form their cocoons in the soil upto a depth of 6 inches. However, usually they are found at a depth of 3 inches of



the soil. When the field in which there was incidence of the pest on *cholam* crop previously, is ploughed cocoons can be seen exposed from the soil. The cocoon is exactly like a tea seed both in shape and size. The male cocoon is 13 mm. long by 9 mm. broad and that of the female 16 mm. long by 11 mm. broad. The pupa is 12-13 mm. long by 6-7 mm. broad. The freshly formed pupa is at first pale-yellow, but before emergence the legs and wings become dark-grey tinged. There is a hard pointed ridge between the eyes for freeing and pushing off the cap of the cocoon at the time of emergence.



L. to R. : Larva; Cocoon  
Pupa; Adult  
of *Thosea aperiens* Wlk.

**Duration of the Cocoon stage:** The larvae burrow into the soil and form the cocoons during December-January. They remain in a torpid and sbrunken condition inside the cocoon. The cocoons were collected from the field in the neighbouring villages and from the laboratory material and periodically examined for noting the exact period of pupation. The larvae aestivate inside the cocoons as larva for a period of about 8 to 9 months and change into pupa by the end of August or the beginning of September.

**Emergence:** The moths emerge at night during October-November and the empty pupal skin protrudes from the cocoon. The pupal period roughly occupies two to three months.

**Adult:** A short description of the moth as given by Moore (1882-83) is furnished below:

"Fore wing dark cinereous-brown, with a medial very oblique pale, whitish-cinereous line, and a straight submarginal similar line: hind wing paler. Body, palpi, and legs dark cinereous brown, antenna ochreous.

Expanse, ♂  $1\frac{2}{10}$ , ♀  $1\frac{4}{10}$  inch."

**Seasonal occurrence:** The occurrence of the insect is an annual feature and moths emerge by October–November. The larvae feed on the crop till December and form the cocoons in the soil during December–January. The larvae aestivate till August–September and then change into pupae. It is interesting to note that Hutson (1932) has reported in the case of *Thosea cervina* from Ceylon that "The hibernation of the larvae inside the cocoon during cold weather in Assam for 3 or 4 months has already been mentioned, and Andrews confirms this habit of *Thosea cervina* in Assam. It is not unlikely the *cervina* under field conditions in Ceylon may aestivate for several weeks during long hot dry periods or other unfavourable climatic conditions."

**Food plants:** Hutson *et al.* (1929) reported the occurrence of the insect on the cover crop *Dunbaria heynei* in Ceylon. In Coimbatore the insect has been noted to attack *cholam*, *ragi* and redgram. In the insect collection we have specimens collected on Palmyra by Y. R. Rao in Pasalapudi (Godavari district) during August 1911 which have not been identified.

**Natural enemies:** During the course of investigations, from the cocoons collected from the fields and kept in the laboratory one fly belonging to the family Conopidae (Diptera) emerged from a cocoon. The insect is yet to be identified. Imms (1957) states that the larvae of Conopidae are endoparasites of adult bees and wasps or of Orthoptera. Thus the above observation requires confirmation.

**Control:** Spraying endrin 0.02% has been found to be effective in controlling the insect in the Millets Breeding Station.

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