

## NEWS AND NOTES

### Biology of *Metanastria hyrtaca* Cram., A Defoliator of Cashew

THE cashew tree *Anacardium occidentale* L. is attacked by a variety of insect pests. Of the several species of defoliating hairy caterpillars recorded as its pests, *Metanastria hyrtaca* Cram. (Lepidoptera: Lasiocampidae) assumes serious proportions occasionally (Abraham, 1958; Basheer and Jayaraj, 1964). This pest also defoliates "elengi" (*Mimusops elengi* Linn.), "parijath" (*Nyctanthes arbortristis* Linn.), and country almond (*Terminalia catappa* Linn.) (Fletcher, 1914), babul (*Acacia arabica* Willd.) (Ayyar, 1940), and "moringa" (*Moringa oleifera* Lam.) (Sivagami and David, 1968). In Kerala State, India, where cashew is grown extensively, this pest occurs in a sporadic form attacking isolated trees. The present observations on the biology of this pest were carried out under laboratory conditions with a temperature range of 26–35° C and relative humidity range of 41–100%.

The eggs are laid in clusters on the lower surface of the foliage. They are spherical in shape and ash grey to black in colour. They adhere to each other closely. The surface is smooth with three deep brown, circular spots surrounded by a white halo and arranged in a more or less triangular pattern. Two of them are of the same size and the third one is smaller. The eggs hatch in 9 days.

The larval period lasts for 33 days in males and 35 days in females. The larva has five instars in males and six in females. The duration of different instars also varies in males and females (Table I). The newly hatched caterpillar is jet black in colour with dirty white lines between the segments. It is on an average 4.5 mm long and 1.2 mm broad. The full grown caterpillar is brown with reddish lines dorsally and brown and yellow patches ventrally. On an average it measures 70 mm × 12 mm. There are lateral tufts of hairs on the thoracic segments projecting anteriorly. All the segments bear a thin tuft of hairs on the mid-dorsal line. Short tufts of dirty hairs also occur in

TABLE I

*Duration of larval instars of M. hyrtaca Cram.*

Instar	Duration in days			
	Male		Female	
	Range	Average (20 observa- tions)	Range	Average (20 observa- tions)
I	5-10	6.2	5-6	5.4
II	4-10	5.4	3-5	4.2
III	4-5	4.4	4-5	4.8
IV	5-10	6.4	4-5	4.6
V	10-11	10.4	5-6	5.4
VI	..	..	10-12	11.0
Total		32.8		35.4

small patches on the mesothoracic and abdominal segments.

The full grown larva stops feeding one day prior to pupation. Pupation takes place in a cocoon spun with brown silken threads and the cocoon is attached to the lower surface of leaves. Pupa is dark brown in colour with hairs arranged in regular transverse rows on all segments, those in the head region being more prominent. There are seven pairs of spiracles. The pupa measures on an average 25 mm × 8 mm, and weighs 0.825 g in males and 2.470 g in females. The pupal period lasts for about 12 days in both males and females.

The male moth has a wing expanse of 42 mm and a body length of 25 mm, while the female moth has 70 mm and 33 mm, respectively. The body is not fully concealed by wings in males while at rest unlike as in females. The body colour is chocolate brown and it is deeper in males. There is a dark brown, irregular patch with a white spot on the forewings of males. The males which have mated live for 2-4 days and unmated ones for 3-5 days. The longevity of unmated females is one day while the mated females live for 3-6 days. The oviposition starts a day after emergence and continues

till death. Fecundity ranges between 189-330 with an average of 249 eggs. The sex ratio in a brood works out at 1 : 3 for females to males.

The early instar caterpillars are gregarious in habit. They feed on tender foliage. The full grown caterpillars are voracious feeders and are active during night only. During the day, they congregate on tree trunks or branches and quite often escape notice. The caterpillars can completely defoliate young cashew trees.

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## REFERENCES

- ABRAHAM, E. V. 1958. Pests of cashew (*Anacardium occidentale* L.) in South India. *Indian J. Agri. Sci.* 28 : 531-544.
- AYYAR, T. V. R. 1940. *Hand Book of Economic Entomology for South India.* Government Press, Madras, pp. 528.
- BASHEER, M. AND JAYARAJ, S. 1964. Cashewnut Pests. pp. 261-266. In *Entomology in India, Silver Jubilee Number, Indian J. Ent. Entomological Society of India, New Delhi.*
- FLETCHER, T. B. 1914. *Some South Indian Insects.* Government Press, Madras, pp. 565.
- SIVAGAMI, R. AND DAVID, B. V. 1968. Some insect pests of moringa (*Moringa oleifera* Linn.) in South India. *South Indian Hort.* 16 : 69-71.