

# COCONUT RESEARCH INSTITUTE



Leaflet No. 34

## THE COCONUT CATERPILLAR AND ITS CONTROL\*

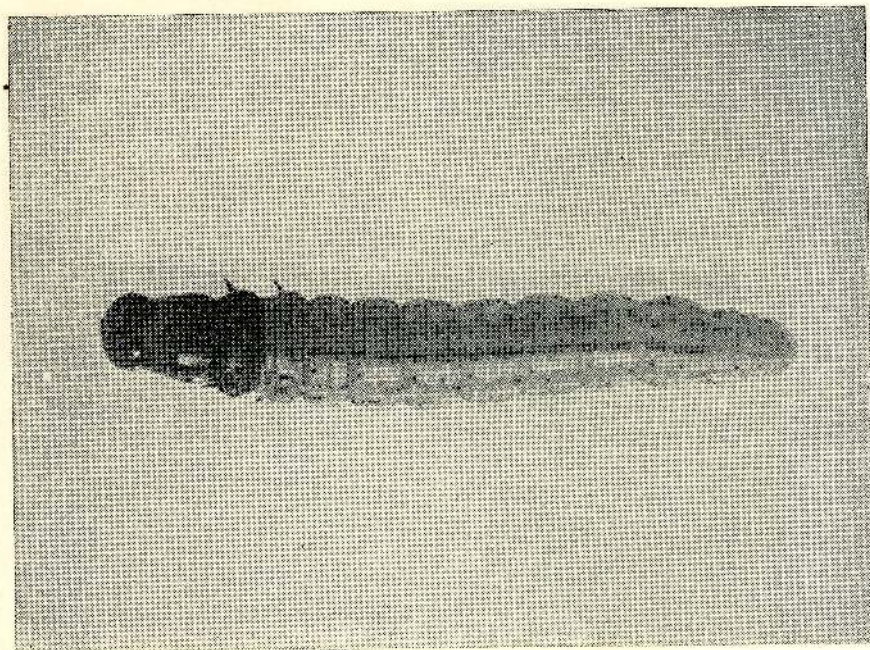
### Distribution

The Coconut Caterpillar, *Nephantis serinopa* Meyr., is a serious pest of coconut, causing considerable damage in the Eastern Province of Ceylon. It is also found in the North-Western, Western, Southern and Central Provinces.

The pest is prevalent during dry weather and appears in large numbers during prolonged periods of drought. With the onset of the rains there is a decline in the pest population and after the rains it starts to multiply rapidly.

### Description of the Pest

The adult moths of *Nephantis serinopa* lay eggs which hatch out into larvae, which when young have a creamy white body and a black head. The larvae then turn into pupae and from them the moths emerge.



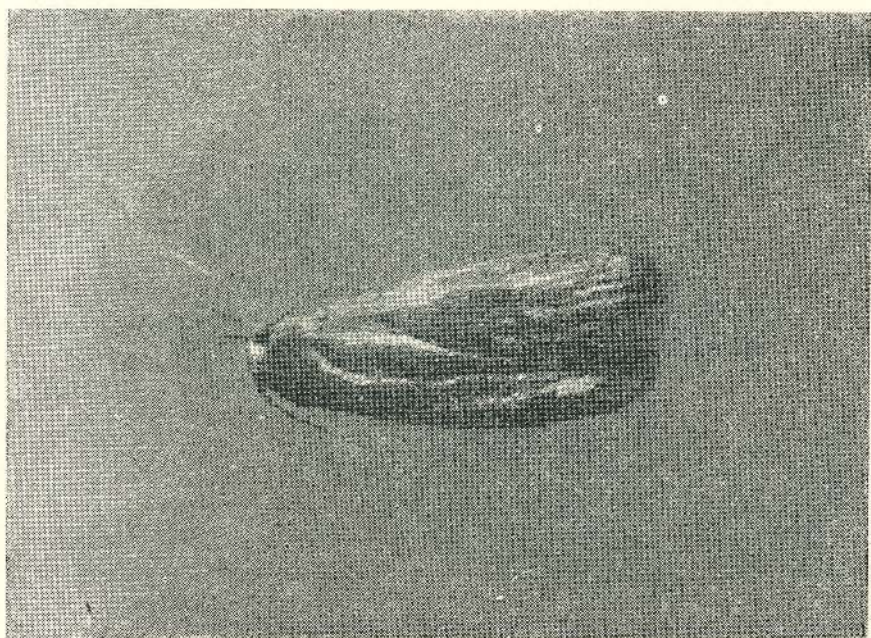
Larva of *Nephantis serinopa*.

\*For further information on this subject please refer to "Biological Control of Coconut Leaf Caterpillar in Ceylon" by Edwin Dharmaraju, C.R.I. Bulletin No. 21.





Pupa.



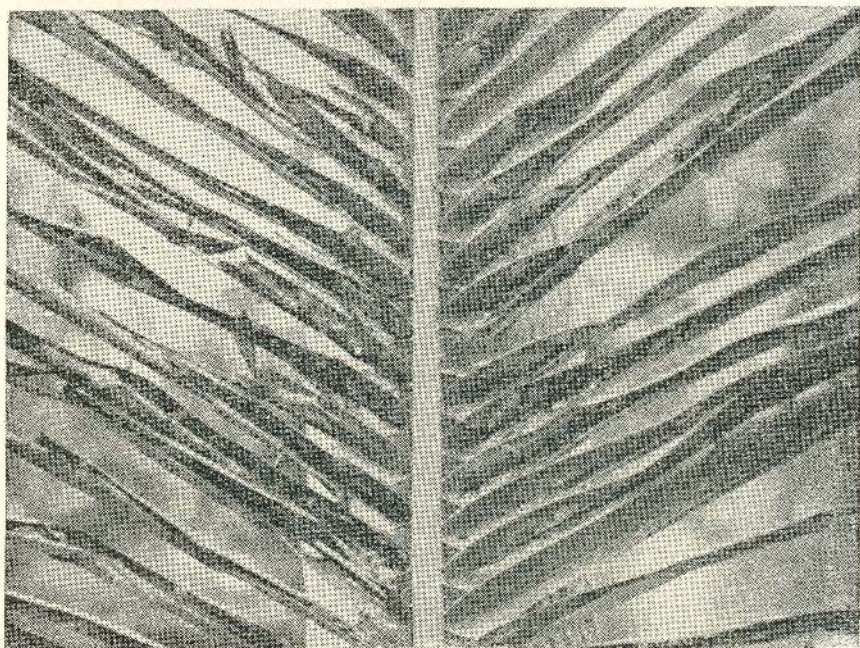
Moth.



The moths are ashy-grey in colour and about  $\frac{1}{2}$  inch long. The entire life cycle, from egg to adult, takes about two months. It is the larvae that cause damage to coconut palms.

### Nature of Damage

Infested palms are easily recognised by the dried up patches in the leaflets. On examining an infested leaf it will be found that the larvae live on the underside of leaflets, in galleries made of small pieces of leaf tissue and excreted material. The larvae feed on the green tissue. Pupae and moths may also be found on the leaflets. If several caterpillars start feeding on a single leaflet this becomes covered with galleries and the attacked portions become brownish grey.



Underside of an infested leaf.

### Control

In the early stages of infestation further spread of the pest can be arrested by cutting and burning the infested leaves. At this stage night fires should be lit at dusk so that the moths, which are nocturnal in habit, are attracted to the fires and are destroyed thereby.

### Biological Control of the Coconut Caterpillar Pest

Certain insect pests are controlled by the application of insecticides. Certain others are controlled by biological means, that is by the action of other living organisms. The Coconut Caterpillar is controlled by biological means.



There are many natural enemies of the Coconut Caterpillar. Some of the insect enemies lay their eggs on the larvae of the Coconut Caterpillar and when the young ones that develop from these eggs start feeding on the pest larvae, the pest gets destroyed. Others parasitise the eggs and pupae of the Coconut Caterpillar. In this way, by making use of these parasites the Coconut Caterpillar can be controlled.

Six of the parasites of the Coconut Caterpillar are multiplied in the Parasite Breeding Stations at Lunuwila and Mylambavelly (in the Eastern Province). Of these, three, namely *Microbracon brevicornis* W., *Perisierola nephantidis* M. and *Stomatomyia bezziana* Bar. and *Elasmus nephantidis* R. are larval parasites, i.e. they lay eggs on the larvae of the Coconut Caterpillar. The other two *Trichospilus pupivora* F. and *Tetrastichus israeli* M & K are pupal parasites, i.e. they lay eggs on the pupae. We hope to release an egg-parasite, *Trichogramma minutum* R., in due course.

When an infestation is observed it should be brought to the notice of the Coconut Research Institute. The following details should be given: the postal address of the estate, directions to visit the estate and the extent of infestation (i.e. the number of palms or acres affected). *Planters in the North-Western, Western, Central and Southern Provinces are requested to write to the Director, Coconut Research Institute, Lunuwila, and planters in the Eastern Province are requested to contact the Senior Technical Assistant Parasite Breeding Station, Mylambavelly, Chenkaladi.*

When in doubt, samples of affected leaves may be sent to us.

Parasites are sent to estates in  $3 \times 1$ " glass tubes by parcel post. Each consignment will consist of ten tubes. At the time of arrival some of the parasites may not have emerged, in which case the tubes should be kept for the parasites to emerge. Generally the parasites sent will emerge while in the post and should be ready for releasing soon after arrival.

The parasites should be released on the CROWNS of infested palms, so that they will come in contact with the pest immediately.

The following instructions should be strictly followed, when releasing parasites :—

1. The parasites should be released as soon as possible.
2. A man has to climb up to the crown of the palm with a tube of parasites.
3. The cotton wool plug should then be removed, the tube slanted and tapped till about half the number of insects fall on the base of a leaf. The parasites will then fly in search of the pest.
4. The tube should be closed with the cotton plug.
5. The remaining parasites should be released on another palm.

6. The insects of all the tubes should not be released on neighbouring palms in one spot. Instead the insects should be released on crowns of several palms, selected far apart, from the entire infested area. (The parasites will fly from palm to palm).
7. When parasites are received subsequently they need not be released on the same palms on which parasites were released earlier. Instead some other palms should be selected as indicated earlier.
8. The empty tubes should be returned with the cotton plugs. They should be packed carefully using the same packing material in the same boxes in which they were despatched.
9. When the infestation is controlled the C.R.I. should be informed so that the despatch of parasites can be stopped.
10. Night fires should *NOT* be lit after the parasites have been released.

October, 1964.

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