

# Coconut Research Institute Sri Lanka.

## THE COCONUT CATERPILLAR AND ITS CONTROL

The Coconut Caterpillar, *Opisina arenosella*, (earlier known as *Nephantis serinopa*) is a serious pest of coconut, causing considerable damage in all coconut growing areas in Sri Lanka.

The pest favours 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.

### Nature of damage and identification

Infested palms are easily recognised by the dried up patches in the leaflets. Worm-like larvae or caterpillars are found in galleries made of small pieces of leaf tissue and excreted material attached to the lower surface of the leaflet. The larvae feed on the superficial layers of the underside of the leaflet. The pupae, which is a resting stage, and the adult moths may also be found on the leaflets. When several caterpillars feed on a single leaflet it becomes covered with galleries, and almost the entire leaflet becomes greyish brown (Fig. 1). In severe infestations, green nuts are also attacked, and galleries could be seen on the nut surface.

The adult moths which are ashy-grey in colour and are about 12 mm long, lay eggs which hatch out into caterpillars, which during the early stages have a creamy white body and a dark brown head. The larvae then develop into the resting stage (pupae) and from them the moths emerge (Fig. 2 to 4). The entire life cycle, from egg to adult, takes about two months. It is the worm-like larvae that cause damage to coconut leaves.

## **Control Measures**

It is important to notify the Director of the Coconut Research Institute, Lunuwila, and the Coconut Development Officer of the area if the presence of this pest is suspected. The following information should also be given.

1. Name of the land and location
2. Owner's name and address
3. Directions to the land
4. Number of trees or area affected

Planters in the North Western, Western, Central, Southern and Northern Provinces are requested to write to the DIRECTOR, COCONUT RESEARCH INSTITUTE, LUNUWILA, and planters in the Eastern Province are requested to contact the OFFICER-IN-CHARGE, PARASITE BREEDING STATION, MYLAMBAVELY, CHENKALADY.

If in doubt, please send us samples of affected leaves for confirmation. Once the infestation is notified, the plantation will be inspected and advice given.

In the early stages of the infestation some control of the spread of the pest can be achieved by cutting and burning the infested leaves. At this stage night fires may be lit at dusk so that the moths, which are attracted to light, are destroyed by the fire.

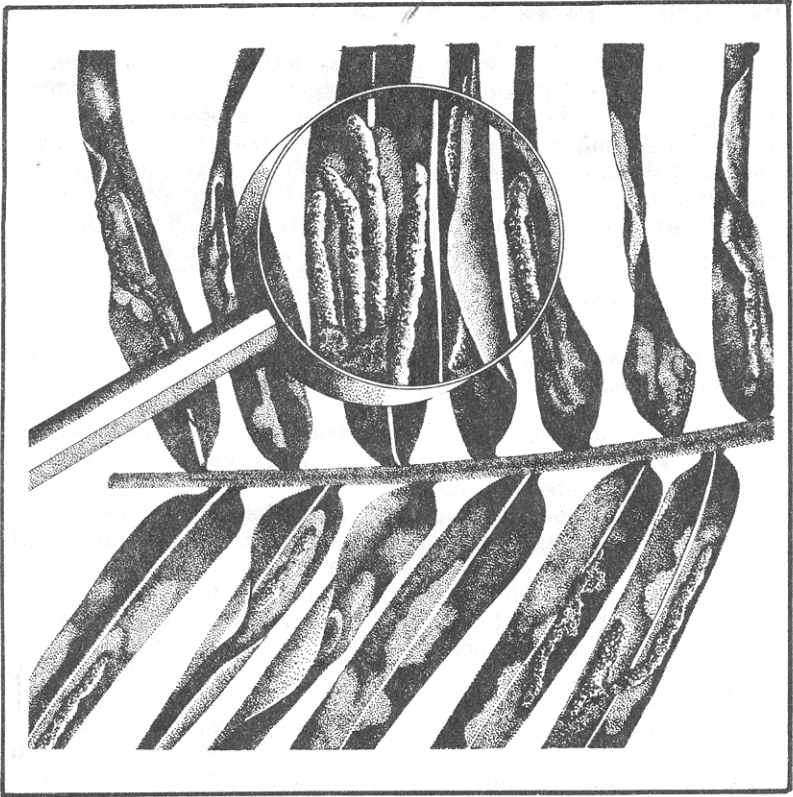
The use of chemical insecticides for the control of this pest, particularly in tall palms, is very limited. Spraying of tall palms is difficult because it requires power sprayers and a large volume of insecticide, and can therefore be very expensive.

The Institute has developed a biological control programme for this pest, where other parasitic insects are used to control the pest. If the pest infestation is very severe, the Institute may recommend restricted use of chemical insecticides. In such instances, the Institute will assist the grower in spraying.

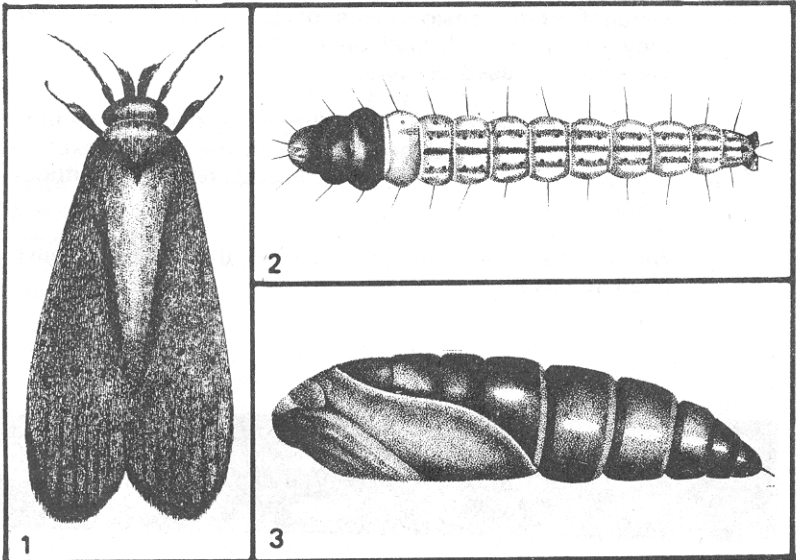
## **Biological Control**

There are many natural enemies (parasitic insects) of the Coconut Caterpillar. Some of the parasites lay their eggs on the caterpillar and the young ones that develop from these eggs start feeding on the pest caterpillar, thereby destroying it. There are other parasites which attack the egg and pupal stages of the Coconut Caterpillar. In this way, the infestation of the Coconut Caterpillar can be brought under control.

The parasites of the Coconut Caterpillar are mass reared in the Parasite Breeding Stations at Lunuwila and at Mylambavelly, in the Eastern Province.



Underside of an infested leaf



1 Moth

2 Larva

3 Pupa

## **Despatch of Parasites to Estates**

Parasitic insects are sent to estates and holdings in tubes or other suitable containers by parcel post. Each consignment will consist of five to ten tubes. At the time of arrival some of the parasites may not have become adult insects, in which case the tubes should be kept in a cool dry place away from sunlight for the parasites to emerge. Generally the adult parasites will emerge while in the post and should be ready for releasing soon after arrival.

### **Release of parasites**

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

1. The parasites should be released as soon as possible
2. A climber has to be sent 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 until about half the number of insects fall on the base of a frond. The parasites will then fly in search of the pest. The tube should then be closed and the remaining parasites should be released on another palm.
4. The insects in 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, within the entire infested area. The parasites will fly from palm to palm.
5. When further consignments of parasites are received, they should be released on palms on which parasites were not released earlier.
6. Empty tubes with the plugs should be packed carefully using the same packing material in the same boxes in which they were despatched and returned without delay.
7. Night fires should not be lit after the parasites have been released.