



Coconut Research Institute of Sri Lanka



Advisory Circular No B 2

COCONUT CATERPILLAR AND ITS CONTROL



Picture 1: Palms with coconut caterpillar damage

The Coconut Caterpillar, *Opisina arenosella* earlier known as *Nephantis serinopa* is a serious pest of coconut, which is prevalent in many coconut growing areas of the country. The outbreaks normally occur between February and October. Extensive leaf damage could lead to yield losses.

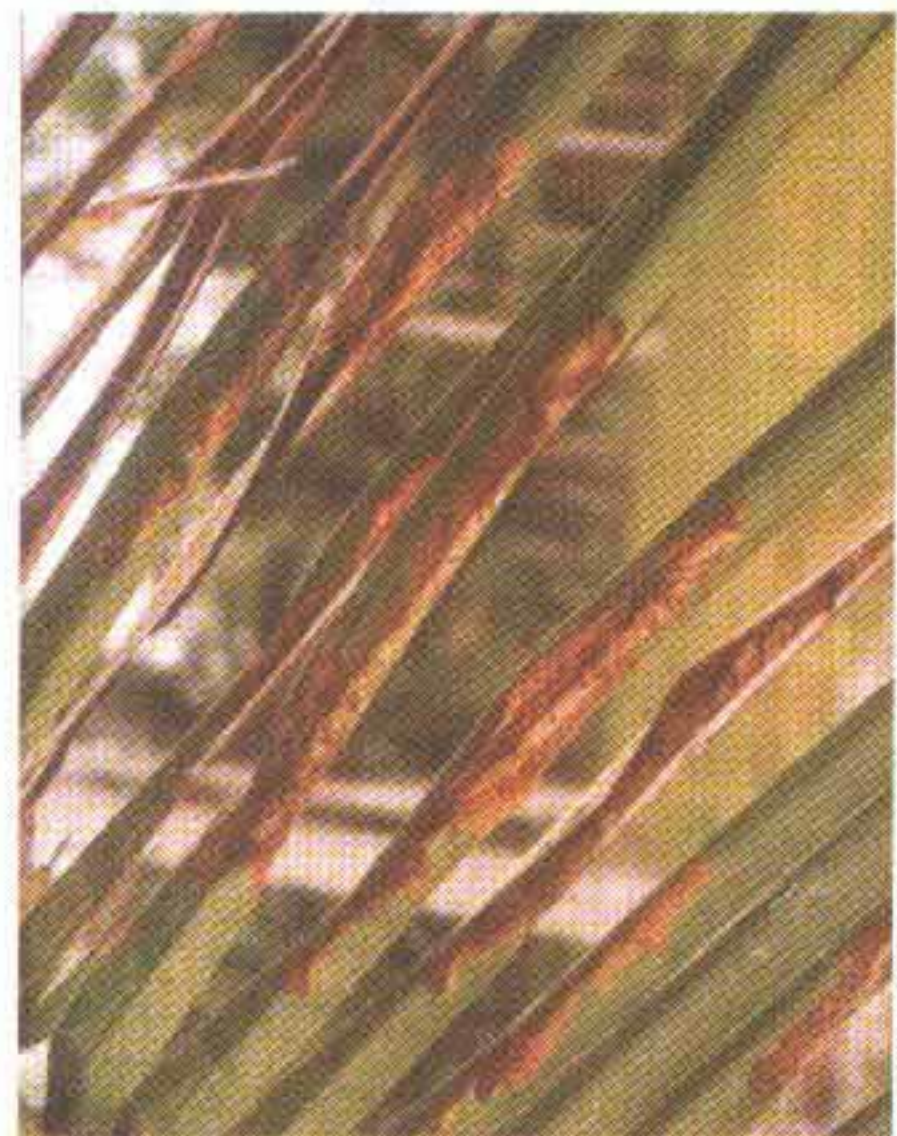
Nature and identification of the damage

The damage is caused by the caterpillars feeding on the tissues of the lower surface of leaves. Freshly damaged tissues appear green and later turn brown and dry up. Infested palms could be easily recognized by the dried up patches on leaflets of the lower whorls of leaves (Pictures 1 & 2). In an outbreak, a large number of leaves are affected and sometimes the epidermis of nuts

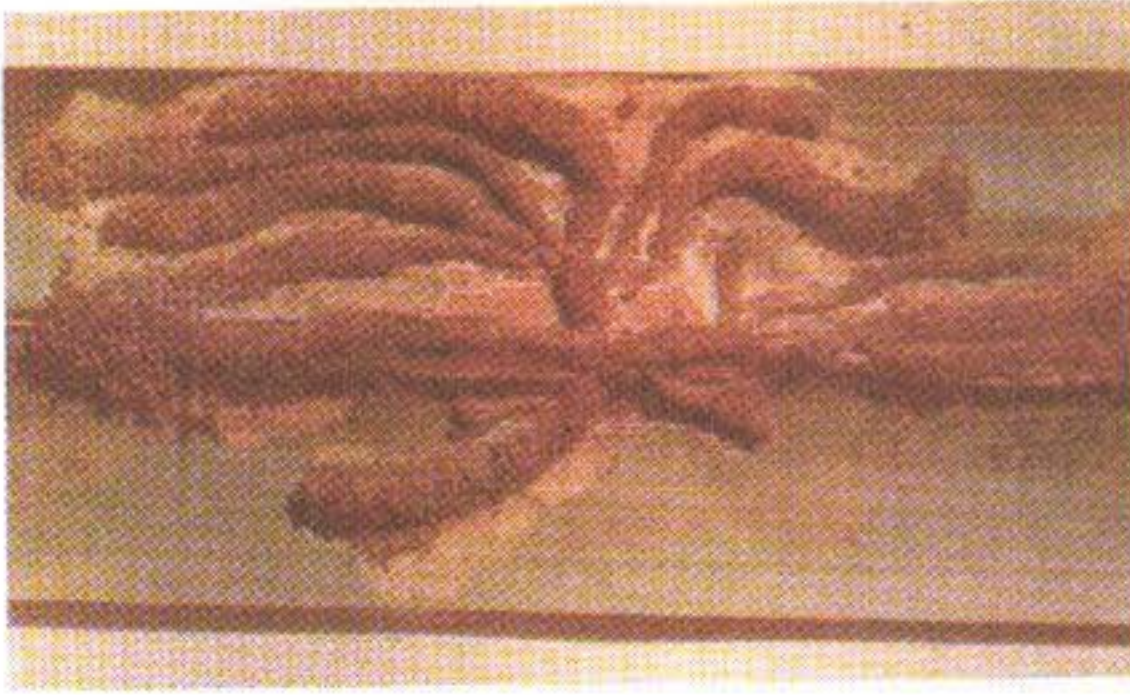
is also attacked. In an examination of infested leaves, the galleries constructed with small pieces of leaf tissues and excreted material of the pest in which caterpillars live, could be seen on the lower surface (Picture 3).

Description of the pest

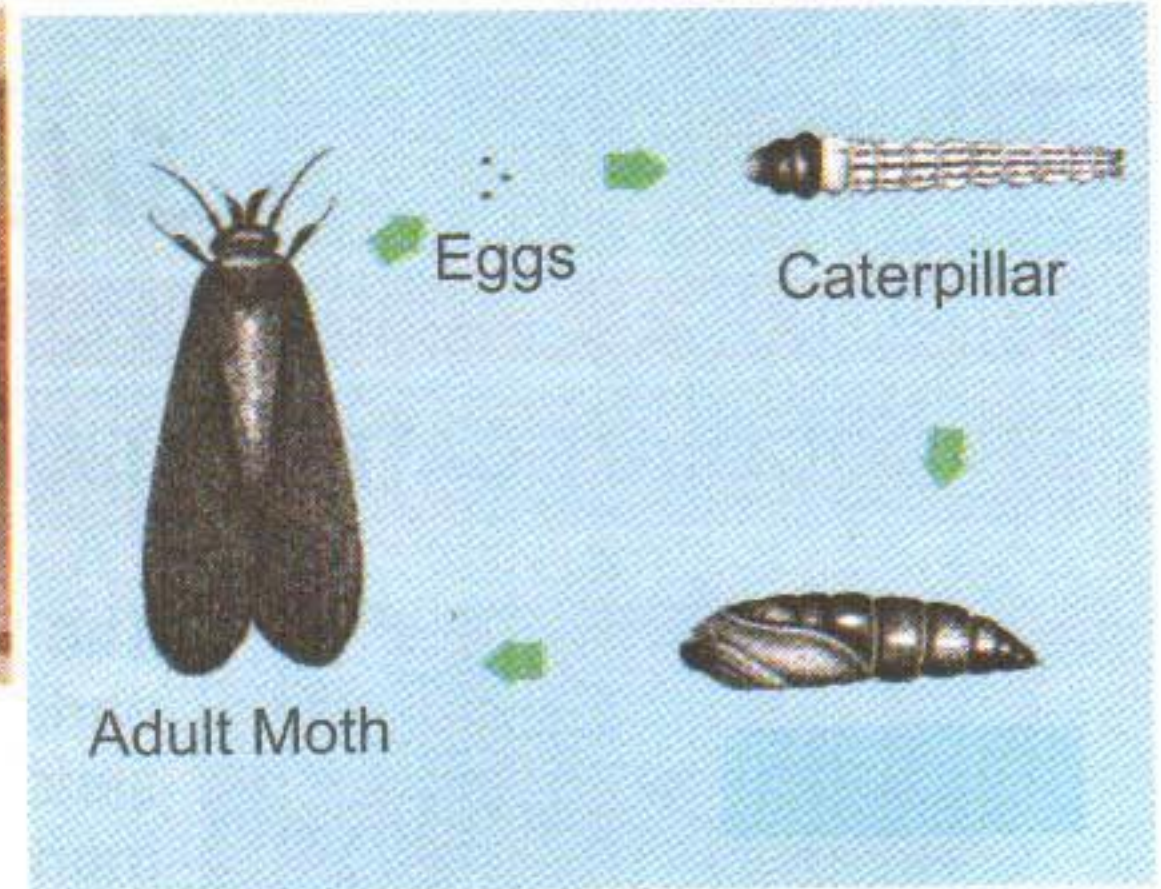
The adult moth is ashy brown in colour and about 12 mm long. Females lay eggs in clusters on the lower surface of leaves. The caterpillars that hatch out have pinkish bodies and gradually turn to a greenish brown colour with the development. The head is brownish black in colour. A full grown caterpillar is about 20mm long and has dark brown longitudinal stripes on the dorsal surface of the body. They feed on the superficial leaf tissues while living inside the galleries. Several such galleries could be seen on one leaflet. The larvae develop into pupae, after 30-40 days. The pupae stage which is spent inside a



Picture 2: A close view of leaflets with caterpillar damage



Picture 3: Galleries of coconut caterpillar



Picture 4: Life stages of coconut caterpillar

cocoon lasts for about 14-21 days and the adults live about 7 days. The total life cycle takes about 2-2½ months. Life stages of the coconut

caterpillar is shown in Picture 4.

Control

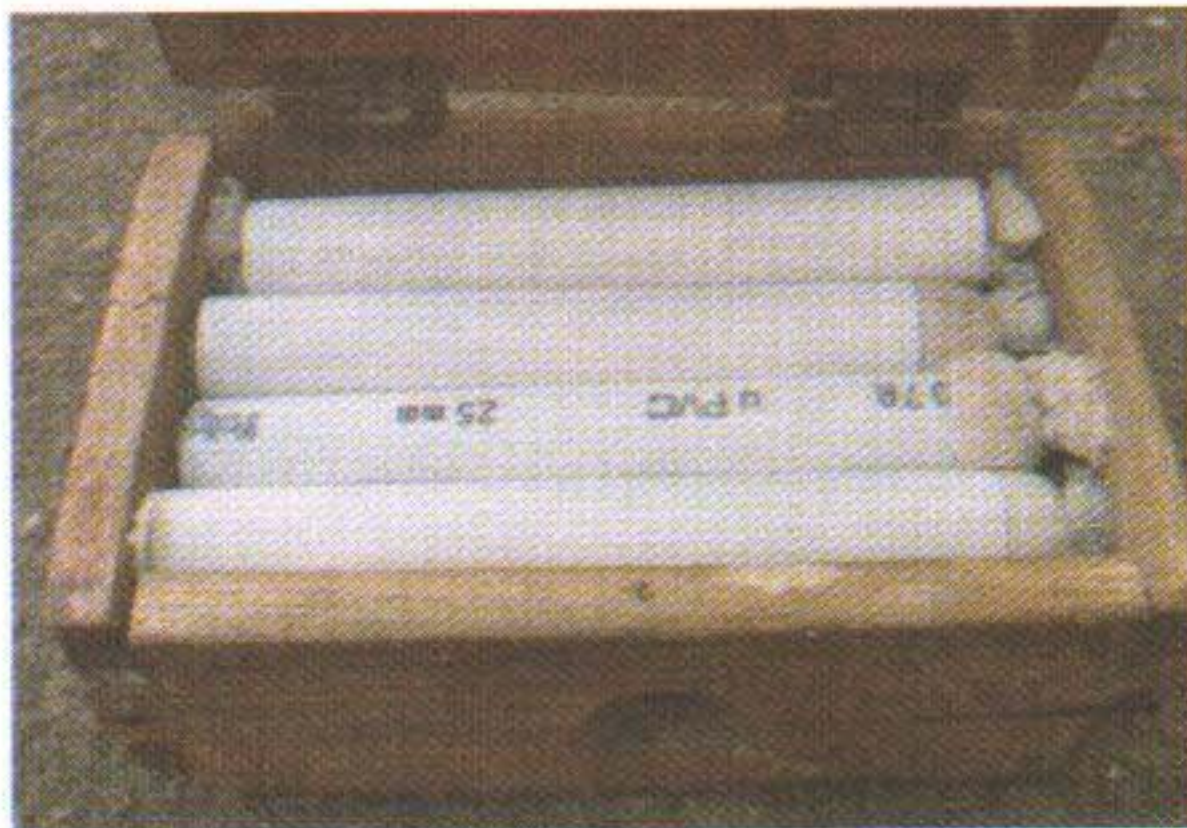
At low population levels, the pest is kept under control by a complex of natural enemies. However, low night temperatures prevail from October to February is unfavorable to the natural enemies disturbing the natural balance and leading to outbreaks in the subsequent period. Therefore, the detection of the pest at early stages is essential to prevent development of outbreaks. If detected at early stages, the pest could be controlled effectively with the adoption of recommended measures.

- (a) If the infestation level is low (less than 30 palms are affected) cut 5-6 infested fronds and burn. It is not advisable to remove more than 5-6 fronds from a palm. If adult moths are present, the fronds should be cut only after 2 weeks. Presence of moths could be detected by tapping the infested leaves and observing flying moths. Laboratory bred parasitoids should be released after removing the fronds.
- (b) If a large number of palms are infested, regular release of lab-bred parasitoids is necessary to control the pest.
- (c) In outbreak situations the parasitoids alone are not able to control the pest completely. In such situations application of the Monocrotophos 60% by trunk injection method is recommended. For seedlings and young palms, it is also recommended to spray Marshal 20 SC (4 ml in 1 liter of water) on infested leaves.

The growers are requested to notify the Coconut Development Officer (CDO) in the area immediately for necessary advice. The CDO will inspect the plantation and assess the pest and parasitoid populations and provide necessary advice to control the pest.

Release of parasitoids

- Several types of the parasitoids of the pest are bred at the Coconut Research Institute for the release in plantations infested by coconut caterpillar. Since the release should be done only after assessing the pest level, the CDO of the area should be informed to obtain required information and report to the Coconut Research Institute, Lunuwila.



Picture 5: A box of tubes containing parasitoids which is ready for despatch

- Tubes containing parasitoids could be collected from the Coconut Research Institute or obtain by mail (Picture 5). These parasitoids should be released near the infested palms as soon as possible.
- Follow the instructions sent with the consignment of parasitoids
- Return the boxes with empty tubes without delay
- Night fires should not be lit after the parasitoids have been released

Trunk injection with systemic insecticide

As the Monocrotophos 60% is highly toxic, it is banned for use in the country except in coconut plantations as a trunk injection. Therefore, to avoid any misuse of the insecticide, it is issued to coconut growers under the supervision of the Coconut Development Officer of the area. If insecticide application is required CDO will provide further advice.

Note: All insecticides are toxic and should be handled with care.