

# Coconut Research Board



## Promecotheca Cumingi

(Adult *Promecotheca cumingi*)

*Promecotheca cumingi* is a beetle pest of Coconut recently introduced to Sri Lanka. It was first observed in the Dehiwala area in the Colombo District. Since then the pest has been carried into several other areas. The mode of dispersal has been as follows

- (a) Gardual spread of the pest by itself from the periphery of the area of first infestation.
- (b) Rapid dispersal along the major road and rail communication lines that traverse the main infested area, by vehicular traffic and the agency of man.

The second method accounts for the pest outbreaks in pockets in various parts of the Western, Southern and North Western Provinces.

**Life History:** The life cycle of the pest consists essentially of four stages.

**Egg:** The eggs are oval in shape and nearly white in colour. They are embedded in white or buff coloured egg cases made up of partly digested fragments of coconut leaves and mucilage.

- Larva:** The larvae are creamy white creatures with a golden brown head. They are always inside the mines and are never exposed. They actively feed on the parenchymatous green tissue of the leaflets. Three larval instars are present separated by resting and moulting periods. The larval stage may occupy about 20-30 days.
- Pupa:** The pupae are pale creamy white creatures which turn golden brown as development proceeds. The pupal stage may occupy about 10 days.
- Adult:** The pupae develop into adult insects which rest for about 2 days inside the mine. Then they emerge from the mine by cutting a crescentic slit on the upper surface of leaflet. The adult may live for a period of five months.

### Nature of damage and identification:

The larvae which hatch out of the eggs feed on leaf tissue between the lower and upper surfaces and in so doing mine through the leaflet. The resulting damage gives the frond a brown or scorched appearance. The pupae which develop from the mature larvae also live inside the mine. The adults which develop from the pupae escape from the mine, by cutting a hole on the upper surface of the leaflet as indicated above.

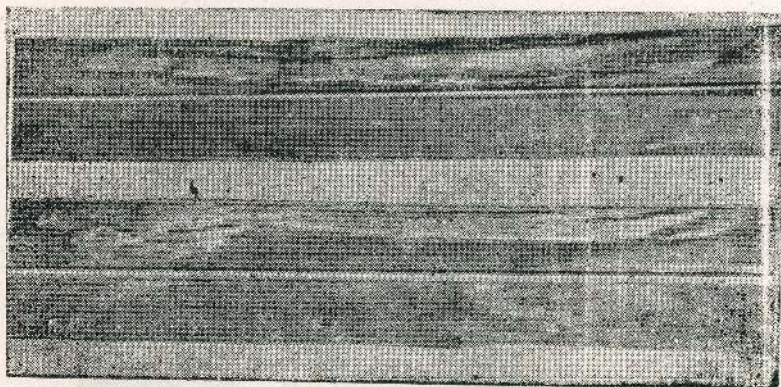
### Symptoms:

The following symptoms characterize *Promecotheca Infestation*:-

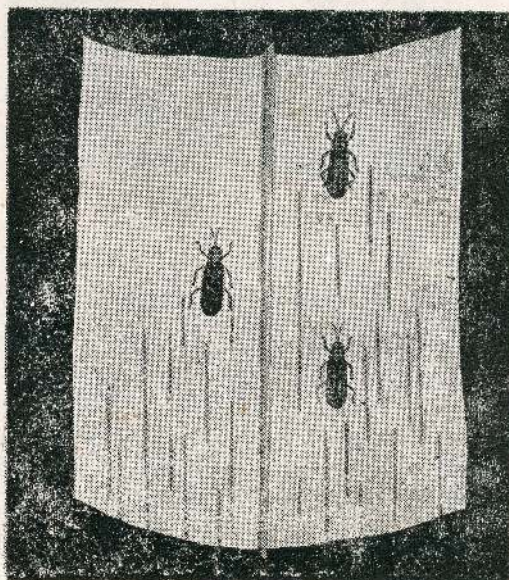
- (a) The presence of parallel streaks on the lower side of the leaflets consequent to the feeding of adult beetles.
- (b) The presence of very characteristic larval mines which are brownish in colour. The length of a mine could be between 1 cm. (0.4") to 7 cm. (2.8").
- (c) The presence of adult *Promecotheca cuningii* beetles at the time of inspection.

### Control measures:

During the very early stages of infestation, the pest could be controlled to some extent by cutting and burning the affected leaves. This can be recommended only when detection is made very early and a few fronds and a few palms only have been attacked. The most effective method of control is by the release of the parasites of the pest. Some years ago this same pest was controlled in the Fiji Islands by this method of Biological Control. In this method large numbers of parasites are multiplied in the laboratory and released in affected areas. The parasites lay their eggs on the pest or inside its body, and when



(Leaflets showing Larval Mines)

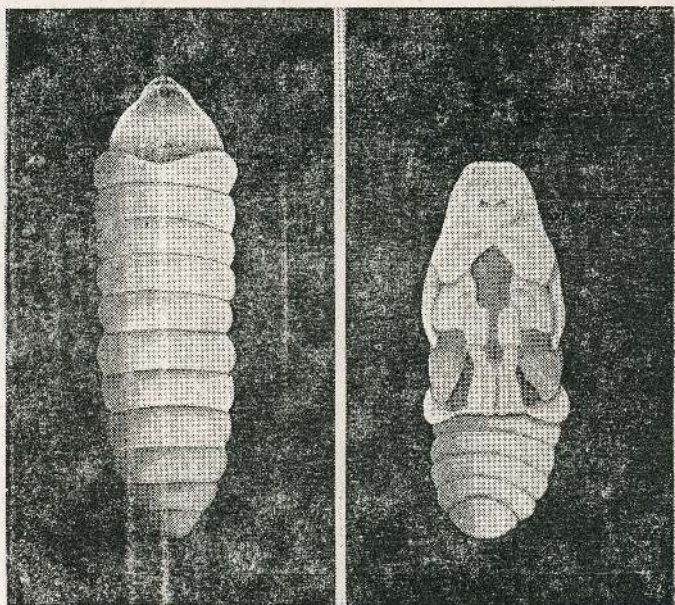


(Adult Feeding  
on Coconut)  
Leaflet causing  
parallel streaks  
on the under side  
of the leaflets

these eggs hatch out the young larvae of the parasites feed on the body contents of the pest larvae and thereby destroy them. In this way the pest population is reduced as it is not given a chance to complete its life cycle.

This Institute is breeding the following parasites at its special laboratory in Colombo.

- (a) A parasite that attacks the larval stage of the pest — (laying its eggs on the body:) (1) *Dimmockia javanica* Ferr.
- (b) A parasite that attacks the larval and early pupal stages of the pest (laying its eggs inside the body cavity:) (2) *Pediobius parvulus* Ferr.



(Larva)

(Pupa)

**Supply of parasites :** If the presence of *Promecotheca* is suspected the Officer-in- Charge of the Biological Control Laboratory, 291/27, Havelock Terrace, Havelock Town, Colombo 6, (Telephone: 85957) or The Director, Coconut Research Board of Sri Lanka, Lunuwila.— (Telephone: 95 Dankotuwa) should be informed immediately. The following information may be included in such communications, to facilitate speedy action:

**Name of the land and situation:**

**Owner's name and address:**

**Directions to the land:**

**Numbers of trees or acres affected:**

Once this information is received an officer will be detailed to inspect and take necessary action regarding the release of parasites when he is satisfied that *Promecotheca* infestation is positive,

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Prepared by the Crop Protection Division, Coconut Research Board of Sri Lanka, Lunuwila,—Ceylon.