



Coconut Research Institute of Sri Lanka



Advisory Circular No B 1

COCONUT LEAF MINER

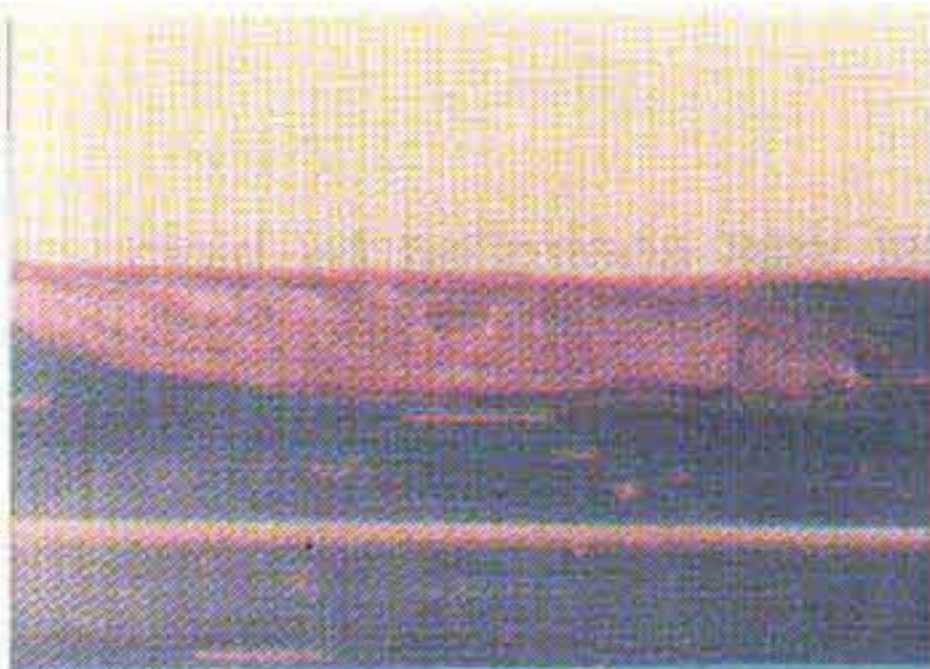
The coconut leaf miner *Promecothea cumingi*, (or "Cumingi" as it is commonly called) is a beetle pest of coconut first recorded in Sri Lanka in 1970. It was first observed in the Dehiwala area, but soon spread to other areas, in the Western, Southern and North Western Provinces. It is now under complete control by the natural enemies. But outbreaks had occurred occasionally.



Picture 1: Adult insect and its damage

Nature of damage and identification

The damage is inflicted by both the adult beetle and the young or immature stages, called larvae. The adult beetle causes damage by feeding on the leaf tissue, leaving behind characteristic 1-3 cm long streak-like grooves on the lower surface of the leaf (Picture 1). The larvae are found within the leaf tissue inside "blister-like" formations, which are known as mines. The leaf tissue over the larval mines die and turn brown (Picture 2).



Picture 2. Leaf mines

A severely damaged plantation appears brown, presenting a burnt-up appearance from a distance. A closer examination would show the presence of elongated brown patches, which are the larval mines.

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Pest Description

Adult

The adult beetle which is about 9 mm in length is reddish brown in colour. It is similar in size and appearance to the firefly (*Kalamediriya*). The adult lives for about 2 1/2 months and lays eggs almost throughout this period.

Egg

The eggs are laid in 2 mm long oval cavities on the underside of the leaf. These cavities are then covered with chewed up leaf matter and mucilage to form a capsule. These egg capsules can be seen as small "cyst-like" swellings on the lower side of the leaflets. The eggs hatch in about 9 - 12 days.

Larva

A flattened tiny "worm like" larva hatches out from the egg. This larva enters the leaf and feeds on the green tissue between the upper and lower surfaces of the leaf, forming a mine. The mine increases in size as the larva feeds and develops. A fully formed mine is about 10 cm long and 1 cm broad and contains a single larva. The larva is always inside the mine and can be seen only if the mine is opened. There are three larval instars (stages of development) and a full grown 3rd instar larva is about 12 mm long. The larval period lasts for about 30 days.

Pupa

The full grown larva changes into the next stage of its life, the resting stage called a pupa, which is about 7 mm long. The pupa is not as flattened as the larva. Inside the mine, the pupa develops into an adult in about 12 days. The adult emerges through the upper surface of the leaf by making a semi - circular cut.

Control Measures

The original infestation of this introduced pest was controlled by biological means using two exotic insect parasitoids *Dimmokia javanica* and *Pediobius parvulus*. These parasitoids were multiplied in the laboratories of the Coconut Research Institute and released in large numbers in the infested areas. A tiny wasp-like *Dimmokia javanica* which attacks the larvae of the pest soon became established and was responsible for successful control of the pest. Both parasitoids are firmly established in the field and keeps the pest under very satisfactory control.

If the presence of *Promecothea* is suspected the Coconut Development Officer of the area should be notified for necessary action to be taken.