GET TO KNOW THE COCONUT PESTS

(A discussion with Mr. S. M. P. Subasinghe, Extension Officer, Coconut Research Institute)

Q: Name the major pests of coconut

A: There are five major pests of coconut
The Black Beetle or the rhinoceros beetle
Red Weevil
Coconut Caterpillar
Coconut scale
Coconut Leaf Miner or *Promecotneca cumingi* beetle.

Q: Can you differentiate characteristics of each of them for easy identification?

Black beetle

A: As this beetle bears a prominent backwardly bent tapering horn on its head, it is termed the rhinoceros beetle. Black in colour about 40 mm in length and 20mmin breadth, the female lays eggs in decaying coconut logs, organic matter and cowdung heaps. The eggs hatch out and grubs with thoracic legs feed on decaying organic matter and develop. Next they pupate in cocoons and transform into adults. Male and female adults bore, suck and throw out the chewed up fibres from the base of unopened leaves and petioles. The female beetle has hairs on the posterior end of her abdomen while in the male the posterior end of abdomen is smooth without hairs

Red weevil

Red weevil is a snout bearing insect. Reddish brown in colour with dark spots on its thoracic plate. In the male weevil, the tip of the snout has a velvet pad while in the female the tip is smooth

Coconut Caterpillar

In the early stages of the coconut caterpillar the head is black and the body is creamy white. As they grow the head turns brown and the body light green with brown stripes along its body. Upon maturity the larvae spin silken cocoons inside which they pupate and transform into adult moths. They hide among leaf debris during day time and the female moths lay eggs on the underside of the coconut leaves by night.

Mention must also be made here to the existence of yet another dark slender caterpillar living in dried coconut leaves. But they are harmless as they feed only on dead leaf material. We receive many reports of this caterpillar having mistaken for the real coconut caterpillar.

Coconut scale

The coconut scales are circular shaped leaf sucking insects that congregate on the underside of the leaflets. Their sucking makes the leaves yellow. Each insect is covered by a transparent scaly covering. The sedentary mature female insect lays eggs under the scaly covering. These eggs hatchout and young nymphs emerge. These nymphs possess three pairs of legs and as they stick to one place and start sucking the leaf sap they drop their legs. Then they become sedentary feeders, and put on a scaly protective covering over its body made from its body secretion.

Promecotheca cumingi

The coconut leaf miner is a small brown beetle and resembles the firefly in appearence. It passes the larval and pupal periods in mines inside coconut leaves, and these are visible as the mines are transparent.

Promecotheca cumingi

Q: Now will you identify the nature of damage done by each of these pests.

A: The Black Beetle damages coconut from seedling to adult stages, and the injuries inflic ted at seedling stages may be fatal When tender leaf is bored at its base either it causes the loss of a fair number of leaflets or severing of the frond itself which retards the palm growth. Consequently the damage done to unopened leaves will cause the successive leaves to get choked. In such instances at times the terminal leaf shootsout through another angular direction. The fresh frass on the base of tender leaf is a clear indication of Black Beetle attack.

Red Weevil

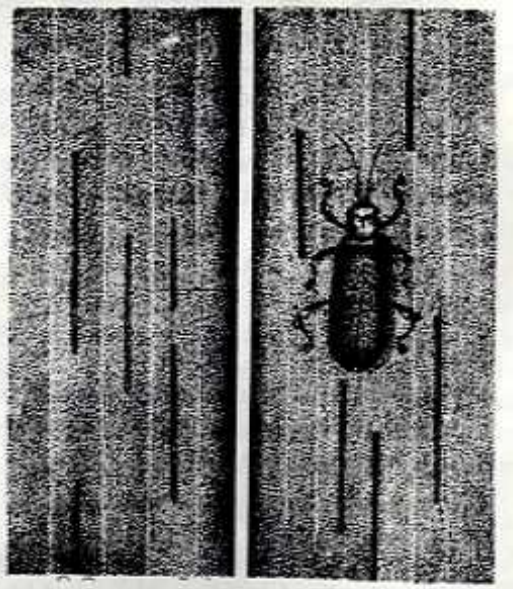
Red weevil attack is discernible only after the damage becomes prominent, including the bud region. A few words on the mode of damage is thought useful at this stage for purposes of prevention. Unlike the Black Beetle the Red Weevil is not capable of making direct injuries to any part of the palm. The female weevil layseggs on existing wounds and crevices on the trunk leaf bases or petioles, and once these eggs hatch out Red Weevil larvae feed and burrow in the palm and multply.

Especially, while examining young palms, if bleeding wounds or weevil emergent holes on trunks are observed, the presence of feeding larvae inside could be detected by the crunching noise if the ear is placed on the trunk. In such instances the young palms can be saved by injecting a systemic insecticide such as Azodrin 60 or Metasystox. By application of coal tar on wounds and crevices found on palm surfaces, egg laying by the pest can be prevented.

Coconut Caterpillar

These caterpillarsfeed voraciously on the green tissue from the underside of leaflets, making galleries out of leaf tissue and excreted material and live inside them, thus turning green leaves greyish brown. Such infested leaves indicate a burnt appearence. When an infested frond is cut and the underside is examined the caterpillar pest damage can easily be recognised by the presence of numerous galleries.

Promecotheca cumingi or **the leaf mining beetle**



The adult beetle damages the leaf

The damage done to the leaf by the adult and its larva is two fold. The adult beetle damages the leaf by feeding on the underside causing parallel streaks, 1/2 to 1 inch in length. The larvae which hatch out from the eggs laid in egg capsules made out of leaf tissues and excreted matter on the lower side of the leaflet, enter into the leaflet and start feeding on the central green tissue thus making mines. In a fully developed mine, three areas are demarcated indicating the activity of three larval instars. This results in drying up of leaves. After complete development the adult beetle cuts open the mine and emerges out

Coconut scale

By rapid multiplication and congregation the scale pest does serious damage to coconut leaves. When large numbers of these insects are feeding by sucking, the leaves manifests mottle yellowing This is then followed by the yellowing of the entire frond which later dries up.
Yellowing of leaves due to this pest could be differentiated from other causes of yellowing by its sporadic appearence.

Q: What are the other important pests that cause damage to coconut?

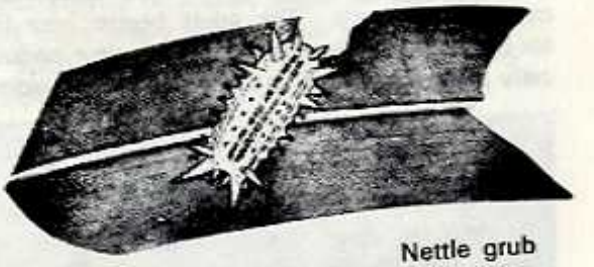
A: There are several minor insect pests of coconut. Two of them are of seasonal occurrence. One of them is Nettle grub which appears in the form of a pest outbreak in the intermediate zone bordering dry zone during the dry weather.

The other pest is the yellow spotted locust which is distributed in the hilly terrain with jungles bordering coconut plantations. During dry weather, they migrate to coconut plantations.

Nettle grub is light green in colour with nettle in clusters over its body. The adult is a moth.

Yellow spotted locust is a greenish coloured locust with yellow spots on its wings.

Both these pests are defoliators and their damage is identical and intensive with only the ekels being left behind. Further they can damage other vegetations and crop plants



Nettle grub

Termite is a pest damaging seedlings either in the nursery or transplanted in the field. Damage by this pest could be easily identified by the presence of sand particles adhering to the damaged portion of the dried tender leaf when it is pulled out. This could be further confirmed by splitting the seed nut of the pest damaged seedling. The other minor insect pest is Bag worm which remaining inside a bag and clinging on to the under side of the leaf feeds on the leaves by making perforations. They damage leaves in the seedling stage as well as in the bearing stage. It also feeds on banana leaves.

Q: In addition to these insects pests are there any other pests damaging coconut?

A: There are some mammalian pest such as rats, bats, bandicoots wild boars and porcupines While rats and bats damage the tender nuts the rest damage seedlings and young palms.