

costly measure of control. Moreover, the *Sczawa* shelter on and feed from the lower surface of the foliage and can be reached more readily and cheaply from the ground than from the air.

Moreover, in the dusting trials it has been found that a high percentage of kill was obtained where the "hoppers" had fed on fresh foliage but had crawled over dusted cages and so got a very small amount of the poison on legs and antennae, which were cleaned through the mouth. Thus dusting from the ground will powder the insects as well as the foliage.

## WEEVIL PESTS OF COCOA.

*By John L. Froggatt, B.Sc., Entomologist.*

Two species of weevils, or "snout beetles," have been bred from cocoa trees, one being a pest of economic importance.

### *Pantorhytes Plutus*, Oberth.

The adult beetle is about three-quarters of an inch in length, head, thorax and hind third of elytra (wing covers) and under surface of body and legs, black; one median green stripe and one lateral green stripe on each side of thorax, and black portion of elytra marked with green stripes or spots. The snout is short and thick.

The point of attack may be anywhere on the stem or branches, a fork in between branches being especially favoured, heavy gumming arising at every site of infestation.

The eggs are laid in the bark, apparently singly, for only one larva is found in each channel. The grubs tunnel along the soft, woody tissue just under the bark, which is ultimately killed over the site of infestation, leaving a ragged opening, and seriously affecting the branch attacked. As a general rule the channel is more or less straight, but especially in cases of attack in a fork the branch may be completely girdled and the centre of the fork bored into.

The adults feed on both the bark and leaves, but more on the former. A trial was made on one plantation of spraying young trees, on which the beetles were very prevalent, with arsenate of lead, and the manager reports that the pest has been very considerably reduced by this means.

A trial was also made with paradichlor-benzene introduced into the channels, but proved a failure in killing the grubs, the mass of gum apparently hindering sublimation of the chemical and preventing penetration of the fumes into the head of the channel.

*Pantorhytes plutus*, the green cocoa weevil, has been collected in several parts of the Territory, but has only been recorded as a pest on portions of New Britain.

*Dipterous* larvae are nearly always present in the gum, but are apparently only scavengers.

### *Orthorrhinus Patruelis*, Pasc.

This weevil has been bred from a small green branch of a cocoa tree, but is apparently not numerous. The adult beetle is dark brown in colour, and about half an inch in length; the surface of the elytra is rough and the snout of moderate length.