

## *PROMECOTHECA ANTIQUA* WSE.

### Leaf Pest of Coco-nuts.

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The main features of the life history of this pest were given in the *New Guinea Agricultural Gazette*, Vol. 2, No. 1, pp. 10 and 11.

#### Parasites.

Egg and larval parasites have been bred from material collected in the plantations from several localities, but were comparatively rare. During a visit to Manus, March, 1937, a larval parasite was found in fairly marked evidence, judging from the number of emergence holes in infested leaflets, although nowhere was the pest serious. A few of the adult wasps were bred out and an attempt was made to breed through a life cycle in the laboratory, but without success. By comparison with broken specimens collected previously in that locality this appears to be the same species as was obtained at that time. This is the only parasite of *Promecotheca* that has been found in any number, and arrangements are in hand to make a detailed study of the species.

#### Mechanical Measures.

For any crop to be effectively protected from the depredations of pests, it is essential that control measures should be undertaken as soon as infestation is observed. In the initial stages, this is generally localized in one or more small areas, and from these centres the succeeding generation, greatly augmented in numbers, spreads far and wide, resulting in the development of a plague.

Attack by *Promecotheca* on young palms may be combated by not only collecting the adults, but by rubbing off the egg masses, which appear as small brown circular convex lumps on the surface, and also by drawing the infested leaflets between the finger and thumb and crushing the young larvae inside. The collection of adults is certainly useful, but alone it does not prevent a considerable increase in the next generation, as is done by combining the measures referred to above.

On older palms, obviously, this will not be possible, but if taken in hand while infestation is localized, the cutting off and burning of the infested fronds, combined with the collection of adults coming down on the cut off fronds, has been proved to very materially check the infestation. Of course, if no action is taken until the pest is well established, any measures then instituted will be a big and costly matter, and will possibly fail to bring about effective control.

#### "Dry Spraying."

With the improved price of copra, methods that could not be considered before are now within the bounds of economic possibilities.

The application of insecticides as a dry powder has become of general use, not only for ground crops, but for tall trees. By this method, the dust is projected into the air as a cloud, by means of a forced draught, and drifts through the plantation with the current of air. Obviously, up to a point, the slower the dust cloud moves, the more perfect the settlement of the fine powder on the foliage; it is, therefore, advisable to carry out "dusting" in the early morning, or the

late afternoon, or when there is but a very light breeze. The early morning is preferable as the foliage is then damp with dew, and this assists in the better adherence of the dust.

Dusting machines with a  $3\frac{1}{2}$  horse-power engine, suitable for young to moderate-sized palms, are now obtainable in England and America, at a cost of fifty (£50) to sixty pounds (£60) sterling, and larger machines (6 horse-power engines) for about ninety pounds (£90) sterling. A machine of the latter type has been ordered by the Department of Agriculture, for use against both *Sexava* and *Promecotheca*.

Details of these machines and suppliers can be obtained from the Department of Agriculture, upon application.

#### Utilization of the "Kurukum" Ant.

It is an old practice to run cane-ropes from palm to palm to facilitate the transference of this ant (*Oecophylla smaragdina*) to attack the *Promecotheca*.

One feature that must be borne in mind, with reference to ants, is that they transport and protect scale insects and mealy bugs for the sugary excretion given off by them. They may also deleteriously affect pollination in the blossoms.