BIOLOGICAL CONTROL OF THE COCONUT CATERPILLAR

Breeding of Parasites at the Coconut Research Institute.

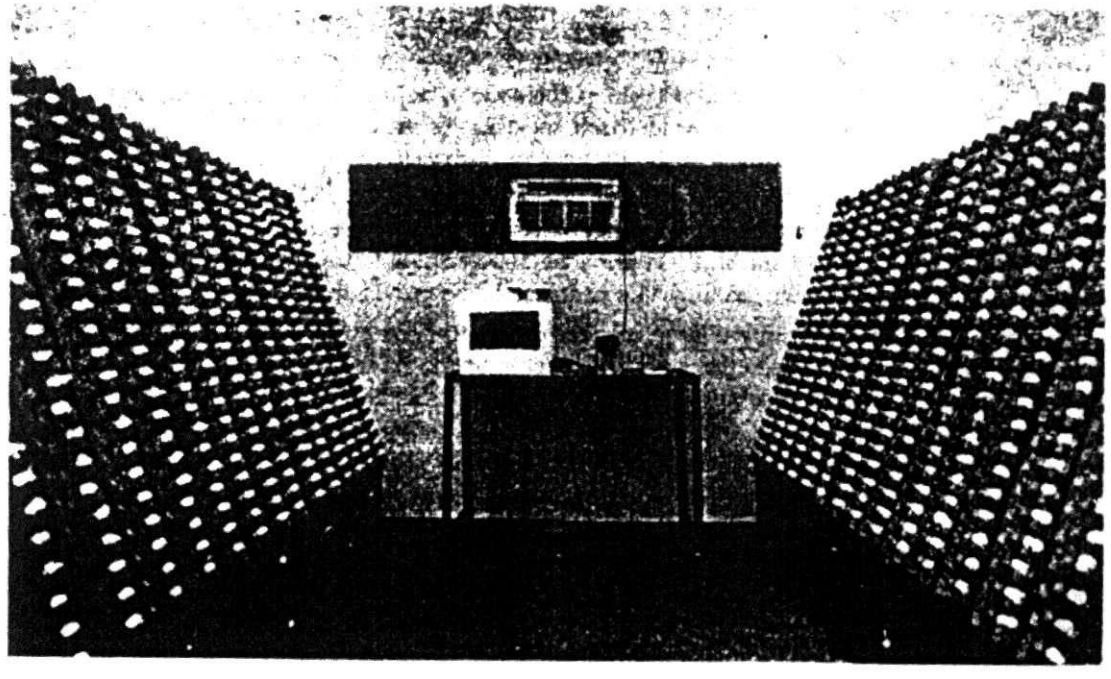
Among insect pests of the coconut palm, the coconut caterpillar (*Nephantis serinopa*) lends itself most easily to control methods by biological means. The natural enemies of *Nephantis serinopa* are legion. Some of them are predators, while others are parasites. They destroy the egg, larva (caterpillar) or pupa (cocoon) of the pest insect.

Not all of these parasites and predators are readily available for release in the field. The parasite that could be easily handled and also is efficient in its function of controlling the pest is the pupal parasite *Trichosphilus pupivora*. This is a tiny wasp insect that could be bred in an insectory ; but an alternate host has to be provided on which it thrives.

When a technique of rearing a large number of insects have to be found, especially under artificial conditions, numerous setbacks and disappointments have to be faced. Such rearing is decidedly an art only to be acquired by dint of much trouble and patience.

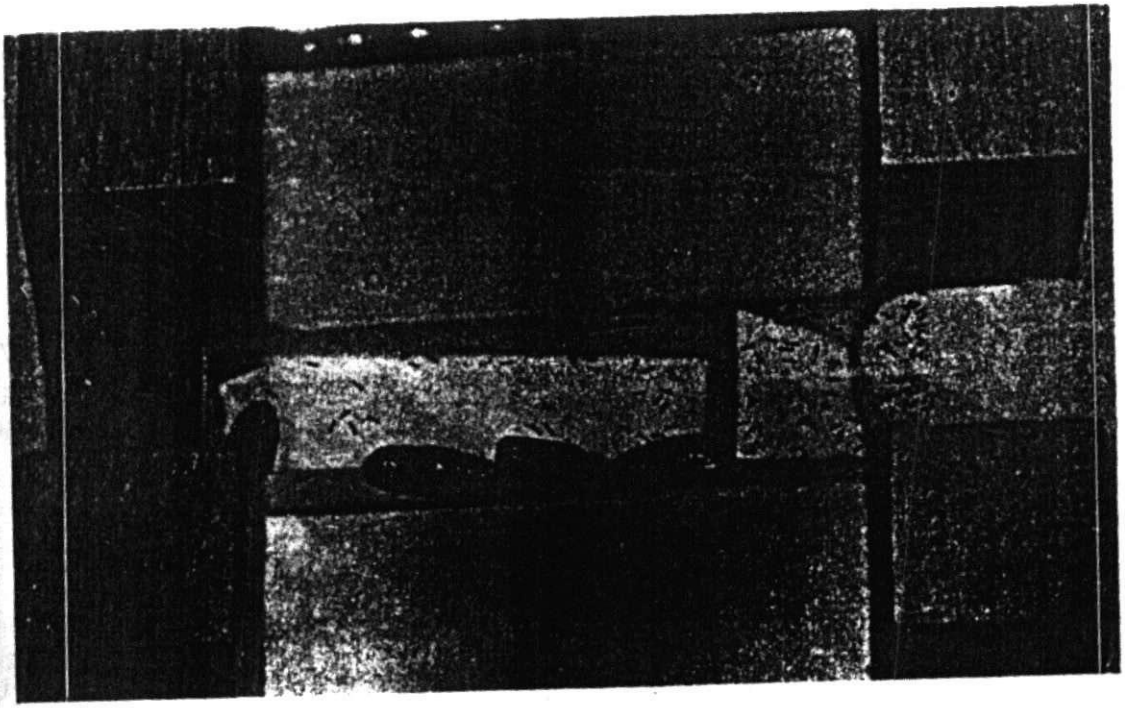
Insectory

The breeding of *Trichosphilus pupivora* is now done in a newly built insectory at the Institute, shown in the photographs. The temperature inside the room being variable and unsuitable, at first many insects died, but now temperature controlling equipment has been installed and the breeding work is in progress.



Interior of Insectory

The first step in this work is the rearing of the host insect *Prodinia litura*. This insect has its stages—egg, larva (caterpillar) adult (moth). The caterpillar feeds on the leaves of the castor plant. (In the photograph the trees by the side of the building are castor plants). When the caterpillars are fully grown, they are allowed to form their pupal cocoons (pupa) in the soil. (In the cages, sterilized soil is provided). The pupae (cocoons) are taken out from the soil (at the correct time) and introduced into glass tubes into which also active *Trichosphilus* insects (parasites) are let loose. The parasitic insects would lay their eggs on those cocoons. The eggs hatch out, the young ones enter the cocoon and in the process of their passing through the stages of development the pupa inside the cocoon gets killed. A similar process of destruction (parasitization) of cocoons of the pest takes place when the parasite is introduced to the coconut caterpillar infested palms.



Parasite Tube

Parasitized pupae (cocoons) of *Prodinia* are despatched in glass tubes by post. Very soon, we shall have sufficient stocks of parasites for release in the field.

This work which was previously carried out by the Entomological Division of the Department of Agriculture, has been taken over by the Crop Protection Division of the Coconut Research Institute.

Proprietors and Superintendents of Coconut Estates are kindly requested to communicate with us whenever outbreaks of the coconut caterpillar occur so that prompt action can be taken by the Institute with despatch of parasites.

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