LIFE-HISTORY AND BIONOMICS OF PSEUDOCOCCUS SACCHARICOLA TAKH. (HOMOP-COCCIDÆ)—A NEW PEST OF SUGARCANE IN INDIA

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Introduction

Damage caused by the mealy bugs in Louisiana has been estimated at one time to be about five tons per acre. The infestation of Pseudococcus sacchari in Egypt (Hall, 1922) was so intense that the industry was virtually threatened with extinction. Recently Dymond (1929) has shown that the mealy bug "is to a definite extent responsible for the production of dextro-rotatory gum with colloidal matter of a practically objectionable nature". The damage done by the three mealy bugs, Dactylopious (Trionymous) sacchari, Ripersia sacchari and Aclerda japonica which are often found as dense colonies inside the sheathing leaves has been expressed by Lefroy (1908) in the following words: "Actual lessening of the yield of sugar is stated to occur as well as deterioration in quality and we may rank the three species collectively as being of considerable degree of importance."

Another reason why the presence of the mealy bugs is not to be looked upon with equanimity is their probable role in the transmission of virus.......

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diseases. Smyth (1919) and Bruner (1922) have definitely incriminated the mealy bug as a vector of sugarcane mosaic.

On account of their economic importance Pseudococcus sacchari (Trionymous sacchari) the pink mealy bug of sugarcane was the subject of an excellent memoir by Uichanco (1932). Swezey (1913) also studied the biology of the three sugarcane mealy bugs and their natural enemies in Philippines.

Our knowledge of the bionomics of the sugarcane coccids in India is very meagre. In the following pages an attempt is made to study the life-history and biology of Pseudococcus saccharicola which was found in considerable numbers at the Imperial Sugarcane Station, Coimbatore, where the author had the opportunity of first encountering the pest. Its occurrence in other places in India has not so far been reported. It is hoped that the information obtained herein will enable us to tackle the problem of controlling the pest if and when it succeeds in entering other parts of India.

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Material and Methods

The material for this study was collected from the Imperial Sugarcane Station, Coimbatore. For studying the habits of the larvae and observing the number of moults passed through by each sex, freshly emerged first stage nymphs were removed from the mother and placed on pieces of sugarcane leaf in petri dishes. Enough moisture was provided to prevent the drying up of the leaves.

Geographical Distribution and Food Plants

Formosa is at present the only island infested with P. saccharicola. Its presence in Coimbatore was first detected by the author in 1939 and it seems to be the first record of this species from India. Excepting sugarcane, no other alternative host has been mentioned by Takahashi (1928) from Formosa. In India, however, some grasses (unidentified) besides sugarcane serve as alternative host plants.

Reproduction

Notwithstanding the fact that a large number of males are available for inseminating the females, reproduction seems to proceed by amphigony and parthenogenesis. That the females are really parthenogenetic is proved by the fact that the latter, after the last nymphal moult, oviposited in the normal manner even when no males were available to them.