



Fig. 1. Life history of *Pyrilla perpusilla*.

structure and has prominent red eyes. A pair of whitish brown anal processes, covered with white mealy wax, are also found which help in up and downward active movement of the insect.

Life history : (Fig. 1). It breeds throughout the year. The female lays eggs in clusters (300 to 500 eggs) on the lower surface of the leaves during summers (April) and inside the leaf-sheaths during winter (October and November). The eggs are oval, shining and pale-white or greenish in colour. They are covered by a white filamentous material secreted by the anal tuft of the females. The cluster of eggs is arranged in 3 to 5 longitudinal rows containing 30 to 50 eggs each. The eggs are hatched into nymphs after 7 to 22 days of laying in summers but in winters the hatching period increases. The nymphs are dirty white in colour and are provided with a pair of anal tufts of 1 mm. The nymphs start to suck the cell sap of the leaves. After five moults, the nymphs are changed into imagines and this takes about 6 to 8 weeks in summer and about 4 months in winter. The life span of the adult male is 5 to 7 weeks and that of the female is about 5 to 8 weeks. In monsoon season the whole life cycle is completed in 40 to 60 days only. It is recorded that four overlapping generations of *Pyrilla* occur in a year and it is difficult to say as to when one generation is started and completed. The actual periods recorded for the egg laying of first, second, third and fourth generations are April, June, August and November to December respectively.

Damage : Both nymphs and adults suck the cell sap of succulent leaves of sugarcane by their (Z-67)

rostrum. As a result, the leaves turn pale yellow and dry up. They secrete a sweet sticky transparent liquid known as HONEY DEW which attracts the harmful fungi resulting into a good growth of black shooty mould due to which the rate of photosynthesis is retarded thereby loss in the manufacture of food by the sugarcane plant. Because of the attack of this pest the quality and quantity of sugar is affected. The per cent decrease of sucrose content has been recorded from 2 to 5 and the total reduction in sugar has been noticed to be about 35%.

Prevention and control :

- (1) The egg masses should be collected and destroyed by burning, burying or spraying phenyl water.
- (2) The quantity of nitrogen should be well balanced in the soil.
- (3) The resistant varieties of sugarcane should be taken e.g., Co. 385.
- (4) Ratoon crops should be avoided.
- (5) The spraying of 0.25% endosulfan or 0.025% fenitrothion is much effective.
- (6) The dusting of infested crop by 5 to 10% BHC dust from September onwards is also very much effective.
- (7) The spraying of 0.12% to 0.25% wettable powder of agroicide at the rate of 30 to 60 gallon per acre is quite effective.
- (8) The spraying of 0.01% endrin emulsion at the rate of 500 litre per acre or 0.25 to 0.35 litre endrin of γ -BHC mixed with 10 litre kerosene oil should be fogged on crops.

Economic Importance

Insects are of great importance to the mankind due to the vital role played by them in human health and economy. Some are beneficial while others are harmful in different ways. The insects attack a large number of crops in the field. Some of the insect pests of important crops are given in this chapter.

PESTS OF SUGARCANE

Sugarcane is one of the most important cash crop in some regions of India. This crop is attacked by a number of insect pests which cause great damage to it.

1. *Pyrilla perpusilla* Walker (Sugarcane Leaf hopper)

Class Insecta
Order Hemiptera
Family Lophopidae
Genus *Pyrilla*
Species *perpusilla*

Distribution : The sugarcane leaf hopper is commonly distributed through out India. The great loss due to this pest has been recorded from Uttar Pradesh, Madhya Pradesh and Maharashtra. In Uttar Pradesh this pest causes severe damage in Meerut, Muzaffarnagar and Saharanpur districts.

Food plants : Though *Pyrilla* is a major pest of sugarcane but it also attacks maize, wheat, barley, bajra, oats, sorghum, sudan grass etc. Sometimes this pest is found on bhindi, karela and cauliflower but these vegetables are not alternative host plants of *Pyrilla*.

General appearance : The adult insect is pale straw in colour and very active. Its body length is about 8 to 10 mm. The head is prolonged anteriorly into snout-like