BIOLOGY AND POPULATION DYNAMICS OF THE SUGARCANE PLANTHOPPER *Pyrilla perpusilla* WALKER (HOMOPTERA:LOPHOPIDAE)

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ABSTRACT

Pyrilla perpusilla (Homoptera: Lophopidae) is a major insect pest of sugarcane in Sri Lanka. Although much information is available on *P. perpusilla* from other sugarcane growing countries, the amount of information available on the biology and population dynamics of this pest in Sri Lanka is scanty and limited to dry zone. Therefore present study investigated some aspects of the biology and population fluctuations of *P. perpusilla* resulting from the interaction of biotic and abiotic factors in wet zone of Sri Lanka.

P. perpusilla is a straw-coloured, medium sized bug with a prominent cylindrical rostrum. The adult bug is 15 mm length. Sexes are separate. The female can be distinguished externally from the male by the presence of two rounded pads at the tip of its abdomen which is absent in the male.

Eggs are laid as clusters mainly on the lower surface of leaves near the mid rib. An egg cluster contains a minimum of 17 and maximum of 52 eggs. Incubation period is 7 days. There are five nymphal instars and the nymphal period is 42 to 62 days. The average fecundity is 103±10 eggs per female. Longevity of the adult female is 33.15±1.81 days and that of the male is 25.3±3.31 days.

A hymenopteran egg parasitoid *Parachrysocharis javensis* was recorded during this study. Average percentage parasitism by this parasitoid throughout the study period was 46.91±10. In addition to this parasitoid, nine predators were also recorded, the main predators being *Camponotus* sp, *Diacamma* sp, *Tetragnatha* sp and *Brinckochryriza* sp.

Population size of *P. perpusilla* showed a negative correlation with rainfall and humidity and a positive correlation with minimum temperature.

From this study it is evident that the main factors responsible for the fluctuation of population size of *P. perpusilla* in the wet zone are the egg parasitoid, predators and rainfall.