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NATURAL ENEMY COMPLEX OF COCONUT LACEWING BUG *STEPHANITIS TYPICUS* DISTANT AND PREDATORY POTENTIAL OF MAJOR NATURAL ENEMIES

The lacewing hug *Stephanitis typicus* Distant is a minor pest of coconut, but is suspected as a vector of the dreaded coconut root (wilt) disease (Joseph *et al.,* 1972; Mathen *et al.,* 1987). Pest abundance and disease intensity is positively correlated (Mathen, 1985). Coconut being a perennial tree with limited insecticidal choices and practical difficulties in insecticidal pest suppression, biocontrol is important as a long term strategy. The present investigation was hence conducted to study the natural enemy complex of lacewing bug and the predatory potential of the major natural enemies.

Assessment of natural enemy complex of lacewing bug and the predatory potential of major natural enemies were conducted at different locations in Trichur, Ernakulam, Kottayam and Alappuzha districts. Three locations were selected from each district. Three coconut palms up to seven years in age were selected from each location. Recordings were made from three leaves each at the upper, middle and bottom whorls of each palm. Number of natural enemies present on five pairs of leaflets (on opposite sides) in the top, middle and basal region were observed.

The natural enemies collected from the field were sorted out and predatory / parasitic potential studied by offering them host insects. The natural enemies were kept singly in glass vials. Counted number of adults or nymphs of *S. typicus* were offered to the natural enemies everyday. There was no pre-starving, and prey consumed per day was noted every 24 hours. In the case of the mirid predator *Stethoconus praefectus* (Dist.) predatory potential was assessed from the first day of hatching until adulthood by offering them the lacewing bug prey on split coconut leaflets kept in glass chimneys and covered by moist muslin cloth.

The major natural enemy of the lacewing bug was *Stethoconus praefectus* (Distant) (Miridae: Hemiptera) and the others were a salticid spider *Phidippus* sp. and a lygaeid bug *Geocoris* sp. *Stethoconus praefectus* had five nymphal instars.

The mean consumption of the nymphs of the lacewing bug by the 1st, 2nd, 3rd, 4th and 5th instars of the predator was 4.7, 5.4, 6.6, 6.7 and 5.4 respectively. A nymph of *S. praefectus* consumed an average of 63 nymphs of its prey during its nymphal period of 11 days. The adults of the mirid survived for 5 days in the laboratory. The mean consumption by the adults was 4.6 prey adults / day with maximum consumption on second and third day (5.6 and 5.4 prey adults / day). An average of 23 adults or 25 nymphs of *S. typicus* were consumed by the adults of the mirid in its adult stage.

The major predatory group of natural enemies other than insects against *S. typicus* was spiders, of the family Salticidae. Spiders consumed only the adults of the lacewing bug and the major predatory spider was *Phidippus* sp. which consumed an average of 3.5 prey adults / day. Even though their prey consumption per day is less than the mirid, the spiders offer good scope for bio-control due to their numerical abundance and hardiness. The results on the predatory potential of the mirid indicates

that both the adults and the nymphs have no inhibition in consuming any stage of the prey. Laboratory rearing and multiplication of the mirid is also simple, which thus offers good potential as a biocontrol agent for the population suppression of *S. typicus*.

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