

COMPARISON OF THE PARASITISM RATE AND DEVELOPMENT TIME OF TWO DIFFERENT SPECIES OF PARASITOIDS OF THE PAPAYA MEALY BUG, *PARACOCCLUS MARGINATUS*, IN THE NORTHERN REGION OF SRI LANKA

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Papaya (*Carica papaya*) is one of the healthiest fruit available throughout the year in Sri Lanka. *Paracoccus marginatus*, (Papaya Mealybug) is one of the invasive alien species native to Mexico and Central America, causes severe economic loss in papaya. It becomes a challenge to manage them with just chemical control because these insects have numerous hosts. Therefore, the present study was carried out to assess the, Surveillance of locally available parasitoids on papaya mealybug in Northern region of Sri Lanka: Identification of species, Compare the parasitism rate and developmental time with different parasitoid species. For this study, Mealybug mummies from infested papaya plants in different location in Northern region were collected and emerged parasitoids from the mummified mealybug were carefully separated by using aspirator for identification purpose. To compare the parasitism rate and developmental time of this emerged parasitoid with *Acerophagus papayae*, a choice test was carried out in second instar of the mealybug. Completely randomized design was used with three replicates for parasitism rate treatment and five replicates for developmental time treatment for each parasitoid species. Altogether sixteen treatment combinations were used and a single experimental unit was considered as control for both treatment. Emerged parasitoid species was identified as *Anagyrus* sp by Horticultural Research and Development Institute (HORDI), Gannoruwa, Peradeniya, Sri Lanka. Parasitism rate was observed higher in *Acerophagus papayae* (57%) than *Anagyrus* sp (27%). Developmental time was observed lower in *Acerophagus papayae* (13.59 days) than *Anagyrus* sp (15.33days). Due to these results *A. papayae* was reported as efficient parasitoid to Northern region in Sri Lanka to control papaya mealybug. Further studies are needed to find out the other biological control agents and compatibility of bio-rationales and chemical insecticides with parasitoids at field level.

Key words: *Papaya mealybug*, *Acerophagus papayae*, *Anagyrus* sp, *Biological control*, *Parasitism rate*, *Developmental time*.