

Athitiya Kaewpadit 2010: Investigation on Biology and Predation Capacity of the Anthocorid Predator, *Orius maxidentex* Ghauri (Hemiptera: Anthocoridae). Master of Science (Entomology), Department of Entomology. Thesis Advisor: Associate Professor Wiwat Suasa-ard, Ph.D. 68 pages.

Investigation on the biology of the anthocorid predator, *Orius maxidentex* Ghauri, when reared with the cotton thrips, *Thrips palmi* Karney, revealed that the incubation period of egg was 3.26 ± 0.44 days. The mean duration of the five-instar nymphs were 2.20 ± 0.40 , 2.18 ± 0.39 , 2.09 ± 0.30 , 2.10 ± 0.29 and 1.83 ± 0.37 days, respectively, and the total nymphal period, 1st - 5th instar, was 13.79 ± 1.26 days. The means longevity of adult male and female were 7.95 ± 1.39 and 9.31 ± 2.51 days, respectively. The biological life table and partial ecological life table of the anthocorid predator, *O. maxidentex*, fed with four species of prey namely cotton whitefly, *Bemisia tabaci* (Gennadius); cotton aphid, *Aphis gossypii* Glover and mulberry red mite, *Tetranychus truncates* Ehara. were constructed. The population parameters obtained from the biological life table analysis were the net reproductive rate of increase (R_0) = 2.6200, 0.6850, 0 and 0; the cohort generation time (T_c) = 17.4200, 16.5180, 0 and 0; the capacity of increase (r_c) = 0.0553, 0.0229, 0 and 0; and the finite rate of increase (λ) = 1.0568, 0.9773, 0 and 0, respectively. The predation capacity of five nymphal and adult stages of the anthocorid predator, *O. maxidentex*, when fed with cotton thrips, *T. palmi*, was statistically different ($P < 0.05$) from those when fed with cotton whitefly, *B. tabaci*; cotton aphid, *A. gossypii* and mulberry red mite, *T. truncates*. The number of individuals consumed by the five nymphal and adult stages of the predator, provided with cotton thrips, *T. palmi*, were 13.90 ± 0.60 , 26.90 ± 1.77 , 28.50 ± 1.82 , 30.15 ± 0.93 and 40.55 ± 1.09 per stage of development, respectively. All experiments were done under laboratory conditions with 25 ± 2 °C, 75 ± 2 %RH.

Student's signature

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