

Biology of *Toxoptera aurantii*, *Planococcus citri*, *Paracoccus marginatus* and *Helopeltis bradyi* infesting cocoa, *Theobroma cacao* L.

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ABSTRACT : Laboratory experiments were conducted to study the biology of major sucking pests of cocoa viz., aphids, *Toxoptera aurantii*, mealybugs, *Planococcus citri* Risso, *Paracoccus marginatus* Williams and Granara de Willink and tea mosquito bug, *Helopeltis bradyi* in the Department of Agricultural Entomology, TNAU, Coimbatore during 2015. The duration of first, second, third and fourth instar nymphs of *T. aurantii* was 1.45 ± 0.43 , 2.15 ± 0.47 , 2.35 ± 0.51 and 2.05 ± 0.37 , respectively. The adults started laying young ones after a pre reproductive period of 1.05 ± 0.44 days. A single aphid produced about 52.17 ± 4.19 nymphs during the reproductive period of 4.40 ± 0.40 days with a longevity of 12.10 ± 1.29 days. The egg period, duration of first, second and third instar nymphs of *P. citri* was 3.50 ± 0.50 , 5.17 ± 0.29 , 6.17 ± 0.58 and 7.33 ± 0.29 days, respectively with pupal period of 4.83 ± 0.76 days. Adult longevity of male and female was 2.50 ± 0.50 and 18.83 ± 1.61 days, respectively. Total life cycle of male was 29.50 ± 1.50 days and 41.50 ± 1.80 days for females. The oviposition period was 10.17 ± 1.26 days and the fecundity was 358.67 ± 3.06 eggs. Biology of *P. marginatus* showed that the egg period, duration of first, second and third instar nymphs was 6.50 ± 0.87 , 3.67 ± 0.58 , 3.92 ± 0.39 and 4.58 ± 0.40 days, respectively with the pupal period of 3.25 ± 0.43 days. Adult longevity of female and male was 19.67 ± 0.59 and 1.52 ± 0.58 days, respectively. Total life cycle was 23.58 ± 1.87 days for males and 39.17 ± 1.04 days for females. The oviposition period was 7.67 ± 0.58 days and the fecundity was 336.67 ± 3.21 eggs. Regarding *Helopeltis bradyi*, the egg period, duration of first, second, third, fourth and fifth instar nymphs of *H. bradyi* was 7.54 ± 0.46 , 1.60 ± 0.42 , 1.10 ± 0.22 , 1.24 ± 0.18 , 1.88 ± 0.40 and 2.52 ± 0.36 days, respectively. Longevity of male and female was 22.20 ± 1.30 and 26.00 ± 0.71 days, respectively. Total life cycle of male was 38.08 ± 1.59 days and 41.88 ± 1.11 days for females. The oviposition period of adult female was 21.80 ± 0.84 days and the fecundity was 137.60 ± 1.82 eggs.

Key Words: Biology, *Toxoptera aurantii*, *Planococcus citri*, *Paracoccus marginatus*, *Helopeltis bradyi*, cocoa.