

**BIOLOGICAL STUDIES ON CERTAIN APHID
SPECIES AND THEIR PARASITOID APHIDIUS
MATRICARIAE HAL. (HYMENOPTERA :
APHIDIIDAE)**

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Aphids are the serious insect pests attacking wheat plants in Egypt. Among their most important aphid parasitoid species is *Aphidius matricariae* Hal. (Hymenoptera: Aphidiidae). Biological studies on two key cereal aphid species; *Rhopalosiphum padi* L., *Schizaphis graminum* Rond. and their parasitoid *A. matricariae* were undertaken under the laboratory conditions of $20 \pm 1^\circ\text{C}$, 50-70% R.H. and 16:8 L:D. Effect of the host plants; wheat and barley on developmental time, longevity and fecundity of *R. padi* and *S. graminum* were studied. Longevity and life cycle of *R. padi* were longer on wheat (13.11 ± 6.1 and 17.39 ± 4.3 days) than on barley (12.2 ± 4.85 and 16.2 ± 4.4 days) and vice-versa for *S. graminum* (14.31 ± 3.68 and 19.63 ± 3.7 days on wheat and 19.13 ± 4.3 and 24.33 ± 4.4 days on barley), respectively. Fecundity of *R. padi* was higher (50.15 ± 18.98 nymphs/female) on wheat than on barley (40.33 ± 14.41) and vice-versa for *S. graminum* (42.81 ± 14.33 nymphs/female on wheat and 59.77 ± 13.16 on barley). Duration of different immature stages, fecundity, survival rate, sex ratio, longevity, host preference and mummies storage period for *A. matricariae* were estimated. Total life cycle was (16.23 ± 0.43 days on *R. padi* and 15.6 ± 0.5 days on *S. graminum*). Total number of eggs/female (e/f), total number of mummies / female (m/f) and percentage of adult emergence were higher on *R. padi* than on *S. graminum*. They reached 86.7 ± 21.8 e/f, 66.83 ± 26.39 m/f and 74.36% on *R. padi* and 83.4 ± 14.62 e/f, 63 ± 21.71 m/f and 70.86 % on *S. graminum*, respectively. Sex ratio (females : males) was 1: 0.9 on *R. padi*, and 0.7 : 1 on *S. graminum*. Longevity averaged 12.47 ± 1.7 for females and 9.23 ± 3.25 days for males, Superior performance of *A. matricariae* was recorded on *R. padi*. Highest emergence rates (94 and 80%) were estimated at 8°C in the mummies stored for one and two weeks, respectively.