

Oosorption in Four Eulophid Wasps (Hymenoptera: Eulophidae) Parasitic on Leafminers (Diptera: Agromyzidae)

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Abstract

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Four eulophid wasps, *Hemiptarsenus varicornis* (Girault), *Neochrysocharis formosa* (Westwood), *Chrysoncharis pentheus* (Walker) and *Closterocerus okazakii* (Kamijo) are important native parasitoids of leafminers in Taiwan. The types of their oosorption and oogenesis are similar. As these species were fed only on honey at 25°C, the average numbers of mature eggs in their ovaries of 0-day-old female wasps were 0.5, 4.5, 0.0 and 4.3, respectively, increased significantly in 1-day-old females, and reached the top at 2- or 3-day-old for 3 days, being 2.0–2.4, 15.9–17.2, 5.3–6.2 and 8.7–9.9, respectively. However, the numbers decreased to 1.7–0.0, 14.7–3.1, 3.8–0.5, and 7.1–0.8, respectively, from 5- or 7-day-old to 25-day-old of the female age. As these four wasps were fed on honey only without host for 25 days, then fed on host and honey for 3 or 5 days more, only 2.3–3.8 new mature eggs were found in their ovaries. The results indicated that these four eulophid wasps could salvage nutrients in the oocytes by oosorption to regulate their oviposition times during the absence of hosts, but this strategy was not very effective. Therefore, to enhance the leafminers control efficacy of these four eulophid wasps, the stable field conditions such as providing nectar food sources to prolong their longevity are suggested.

Key words: Oosorption, *Hemiptarsenus varicornis*, *Neochrysocharis formosa*, *Chrysoncharis pentheus*, *Closterocerus okazakii*, Leafminers.

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