

Teratocytes of *Cotesia plutellae* and Anti-metamorphic Effect of the Parasitization on *Plutella xylostella*

Sunyoung Lee and Yonggyun Kim

Department of Agricultural Biology, Andong National University, Andong 760-749

An endoparasitic wasp, *Cotesia plutellae*, parasitized the diamondback moth, *Plutella xylostella*, and inhibited larva-pupal metamorphosis. The parasitized larvae extended their larval stage by ≈ 2 days and died after wasp emergence. Teratocytes, derived from the extraembryonic cells of the growing wasp embryo, began to release into the hemocoel of the parasitized larval and kept the maximal populations (≈ 450 cells/ $\mu\ell$) until the early last larval instar during which their cell size reached the maximum ($\approx 70 \mu\text{m}$ in diameter). To test a hypothesis that the wasp parasitization inhibits juvenile hormone (JH) degradation, which leads to extend larval stage and block metamorphosis, the activities of JH esterase (JHE) were analysed by use of a surrogate substrate, HEPTAT (Methyl 1-heptylthioacetothioate). Parasitization by *C. plutellae* did not inhibit the JHE activity. Another hypothesis that the ecdysteroidogenic pathway is inhibited by the wasp parasitization is being suspected. These results also suggest that the anti-metamorphic action of *C. plutellae* may be related with the teratocytes and their products.