

Effect of Temperature on Killing of *Liriomyza huidobrensis* (Diptera: Agromyzidae) by the Parasitoids *Chrysocharis pentheus* and *Closterocerus okazakii* (Hymenoptera: Eulophidae)

Ching-Chin Chien^{1,*} and Shu-Chen Chang²

Abstract

Chien, C. C. and S. C. Chang. 2013. Effect of temperature on killing of *Liriomyza huidobrensis* (Diptera: Agromyzidae) by the parasitoids *Chrysocharis pentheus* and *Closterocerus okazakii* (Hymenoptera: Eulophidae). *J. Taiwan Agric. Res.* 62(1):71–82.

Liriomyza huidobrensis (Blanchard), is one of the major pest of winter vegetables in Taiwan and it prefers cool climate. *Chrysocharis pentheus* (Walker) and *Closterocerus okazakii* (Kamijo) are the parasitoids, attacking larvae of *L. huidobrensis*. The objective of this study was to determine effect of temperature on killing of larvae of *L. huidobrensis* by the parasitoids *C. pentheus* and *C. okazakii*. The experiments were conducted under four constant temperatures, 15, 20, 25 and 30°C. The total number of hosts killed by *C. pentheus* was 17, 45, 288 and 114 at 15, 20, 25 and 30°C, respectively; the total number of hosts killed by *C. okazakii* was 25, 74, 139 and 123 at 15, 20, 25 and 30°C, respectively. Results showed that host-killing capability was significantly higher at 25 and 30°C than at 15 and 20°C for both parasitoids, with the highest number of host-killing at 25°C for *C. pentheus*.

Key words: *Chrysocharis pentheus*, *Closterocerus okazakii*, *Liriomyza huidobrensis*, Temperature, Host-killing capability.

Received: July 30, 2012; Accepted: January 7, 2013.

* Corresponding author, e-mail: chien@tari.gov.tw

¹ Former Research Fellow, Applied Zoology Division, Taiwan Agricultural Research Institute, Taichung, Taiwan, ROC.

² Assistant Research Fellow, Applied Zoology Division, Taiwan Agricultural Research Institute, Taichung, Taiwan, ROC.