Summer diapause of *Chrysocharis pubicornis*, a pupal parasitoid of the garden pea leafminer, *Chromatomyia horticola*.

GL Baeza, K Ohno

Laboratory of Applied Entomology, Faculty of Agriculture, University of Miyazaki, Gakuen Kibanadai Nishi 1-1, Miyazaki City, 889-2192 Japan; glbaeza@hotmail.com

The occurrence of summer diapause in the last larval instar of *Chrysocharis pubicornis*, an Eulophid pupal parasitoid of Agromyzid leafminers, was studied in the laboratory. The effects of three constant temperatures (15, 20 and 25°C) and three photoperiods (12, 14 and 16 h) on diapause induction and termination were evaluated in different combinations. Diapause induction was found to be under control of photoperiod and temperature. Larval development showed a short-day type response; the lowest diapause induction rate (0.67%) occurred at 15°C and 12L:12D, and gradually increased with photoperiod and temperature, reaching the highest value (74.9%) at 25°C and 16L:8D. The critical photoperiod was between 14 and 16h at 25°C. For diapause termination, regardless of photoperiod, the lowest temperature (15°C) caused diapause termination in 90% of individuals, whereas the termination rate at the highest temperature (25°C) was practically 0%; it was only at 20°C when photoperiod exerted effect, with diapause termination nearing 90% at the short photoperiod (12 h) but only 16% at the longest photoperiod (16 h). The adaptation of *C. pubicornis* to the population trend of *C. horticola*, its main host in Japan, as well as the possible implications of summer diapause in a local Agromyzid-leafminer biological control program in greenhouses are discussed.