

**Studies on the Use of *Cybocephalus nipponicus* Endrödy-Younga
(Coleoptera: Cybocephalidae) for Biological Control of *Aulacaspis yasumatsui* Takagi
(Homoptera: Diaspididae) in Taiwan**

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Abstract

Mass reproduction of *Cybocephalus nipponicus* Endrödy-Younga was carried out in a screenhouse, measuring 1080cm x 120cm x 240cm, which has a capacity enough for holding 25 potted cycad plants of 85cm in height. An estimated 1,528.0 adults of *C. nipponicus* adults could be produced in a screenhouse per month. In contrast, only 169.5 ± 125.1 adults of *C. nipponicus* per month were produced in a screen net measuring 90cm x 90cm x 90cm. It was also estimated that a male of *C. nipponicus* was able to prey on 19.4 ± 8.2 of 1st instar crawling nymph in 30 minutes, whereas a female was able to prey on 20.7 ± 5.0 of 1st instar crawling nymph in 30 minutes. There was no significant difference in the mean number of 1st instar crawling nymph consumed by a male and a female. *C. nipponicus* was released in a screenhouse for the control of *Aulacaspis yasumatsui* Takagi. Results of the study showed that a total of 750 pairs of *C. nipponicus* was required to achieve a significant control of eggs and male nymphs of *A. yasumatsui* in the screenhouse in a month. In studying the effect of *C. nipponicus* in controlling *A. yasumatsui* in the field, the result showed that releasing of 50 pairs (25 pairs each on upper and lower leaves) of *C. nipponicus* per month for two consecutive months for a total of 100 pairs could exhibit an effective control of *A. yasumatsui* in the field in 6 months. The *C. nipponicus* ability to disperse was demonstrated by its migrating to a distance of 900m in 6 months from its initial site of release at Ma Heng Heng Road Taitung.

Key words: *Cycas taitungensis*, *Cybocephalus nipponicus*, *Aulacaspis yasumatsui*,
Biological control.

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