Parasitism rate, host stage preference and functional response of Tamarixia radiata on Diaphorina citri

Abstract

The Asian citrus psyllid Diaphorina citri (Kuwayama) (Hemiptera: Psyllidae), is a serious pest and main threat to citrus production worldwide. The present study was carried out to assess the performance of T. radiata, as biological control agent of D. citri, under insectary condition. The result shows T. radiata, to prefer late (4th and 5th) instar nymphs than early (1st, 2nd and 3rd) instar nymphs of D. citri, with mean parasitism rate of 0%, 0%, 43.3%, 76.9% and 86.0% for 1st, 2nd, 3rd, 4th and 5th instar nymphs respectively. The binomial logistic regression analysis of D. citri nymphs attacked by T. radiata, as a function of host (D. citri nymphs) density offered, shows T. radiata, to display a functional response type II with attack rate of 39.99 and 34.04, and handling time of 0.60 and 0.71 for 4th and 5th instar nymphs of D. citri respectively.

Keyword: Diaphorina citri; Functional response; Malaysia; Parasitoid; Tamarixia radiata