

EVALUATION OF EGG PARASITIDS ATTACKING THE BEET LEAFHOPPER, *CIRCULIFER TENELLUS*

I.M. Bayoun and G.P. Walker

Department of Entomology, University of California, Riverside, California, U.S.A.

ABSTRACT. Experiments were conducted during 1999 and 2000 to evaluate imported and indigenous parasites attacking eggs of the beet leafhopper, *Circulifer tenellus* (Baker). Two methods were used: vegetation sampling and host exposure. The vegetation sampling method involved collecting beet leafhopper host plants in fields with high beet leafhopper activity, and assessing natural parasite incidence in these samples. Plant samples collected from different locations were placed in emergence containers kept under fluorescent light, under ambient laboratory conditions for three weeks. The proportions of different parasite species emerging from samples were compared throughout the season. The host exposure method involved placing sugar beet seedlings that had been grown hydroponically and infested in the laboratory with beet leafhopper eggs at field sites where parasitism was to be assessed. These infested seedlings were field-exposed for two days after which they were kept in the laboratory for four weeks. Emerging parasites were collected and identified, and percent parasitism was calculated. Sampling using both vegetation sampling and host exposure methods was conducted in various sites in central and southern California. Sites included areas around Fresno, Kern County Water Bank, Rosamond, Riverside, Hemet, and the Coachella Valley. Data from both vegetation sampling and host exposure showed a dominance of indigenous parasite species in different sampling locations. The host exposure method showed *Anagrus nigriiventris* to be the major collected parasite from Riverside. *Aphelinoidea* spp. were dominant in the Rosamond and the Kern County Water Bank sampling sites. *Paracentrobia* sp. was most common in Coachella Valley, Hemet, and the Fresno area. Very few parasites, believed to be imported, were collected with both sampling methods. During both 1999 and 2000, higher rates of parasitism were observed in all locations towards the end of summer and the beginning of fall.