

Parasites Associated with the *Leucaena* Psyllid, *Heteropsylla cubana* Crawford, in Hawaii¹

JOHN W. BEARDSLEY² and GRANT K. UCHIDA²

ABSTRACT

Four species of parasitoid Hymenoptera have been reared from the *Leucaena* psyllid, *Heteropsylla cubana* Crawford, in Hawaii. In addition to the purposely introduced primary parasite *Psyllaephagus yaseeni* Noyes (Encyrtidae), three species of hyperparasites have been reared. These are a pteromalid, *Pachyneuron siphonophorae* (Ashmead), and two encyrtids, *Syrphophagus aphidivorus* (Mayr) and *Syrphophagus* sp. A key to parasitoids reared from *H. cubana* in Hawaii is presented.

The *Leucaena* psyllid, *Heteropsylla cubana* Crawford, was first found in Hawaii in April, 1984. The initial outbreak and resulting widespread defoliation of *Leucaena leucocephala* throughout Hawaii caused the Hawaii Department of Agriculture to seek natural enemies of this pest in Tobago and Trinidad, BWI. This effort resulted in the introduction, and eventual release in 1987, of an encyrtid, first identified as *Psyllaephagus*, sp. near *rotundiformis* (Howard) and described subsequently as *P. yaseeni* Noyes (1990). This parasitoid was found established on Oahu in February 1988 (Nagamine et al. 1990), and now occurs on all major islands of the state (Uchida and Beardsley, unpublished).

Nagamine (1990) reported rearing the pteromalid *Pachyneuron siphonophorae* (Ashmead) from *H. cubana* mummies collected on Oahu, in February 1988, and Beardsley and Uchida reared the encyrtid *Syrphophagus aphidivorus* (Mayr) from this host during August 1988. Both these species are widespread hyperparasites which have been reared previously in Hawaii from various species of aphids.

In September 1988 we reared a second species of *Syrphophagus*, as yet unidentified, from *H. cubana* mummies collected at Waimanalo, Oahu. This species had not been collected previously in Hawaii, and its origin is unknown. It does not fit published descriptions of any of the North American and Japanese *Syrphophagus* species that we have checked, and may be undescribed.

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²Department of Entomology, University of Hawaii, 3050 Maile Way, Honolulu, Hawaii 96822.

KEY TO PARASITOID HYMENOPTERA FROM
HETEROPSYLLA CUBANA IN HAWAII

1. Mesopleuron enlarged, convex; marginal vein of forewing not greatly thickened; postmarginal vein about as long as stigmal (Family Encyrtidae) 2
 Mesopleuron not enlarged; marginal vein of forewing conspicuously thickened, wider at apex than base, postmarginal vein much longer than stigmal (Family Pteromalidae) *Pachyneuron siphonophorae* (Ashmead)
2. Female antenna entirely dark, without contrasting whitish segments; male antenna dark, setae of funicle segments about as long as segment which bears them; marginal vein of forewing distinctly longer than wide, about as long as stigmal, or slightly less; hyperparasites (*Syrphophagus*, formerly *Aphidencyrtus*) 3
 Female antenna with funicle segments sordid whitish, club a bit darker; male antenna with funicle sordid brownish, setae of funicle segments much shorter than segment which bears them; marginal vein of forewing punctiform (ie. not appreciably longer than wide); primary parasite *Psyllaephagus yaseeni* Noyes
3. Middle tibia entirely yellow; cheeks with greenish metallic luster *Syrphophagus* sp., unidentified
 Middle tibia with dark band at base; cheeks with purplish metallic luster *Syrphophagus aphidivorus* (Ashmead)

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