

SCIENTIFIC NOTE

Establishment of *Encarsia smithi*
(Silvestri) (Hymenoptera: Aphelinidae) on
Pohnpei for Control of the Orange Spiny
Whitefly, *Aleurocanthus spiniferus*
(Quaintance) (Homoptera: Aleyrodidae)

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ABSTRACT. *Aleurocanthus spiniferus* (Quaintance) was recognized as a serious problem on Pohnpei in 1987. *Encarsia smithi* (Silvestri) was released on January 7, 1988. The parasite was recovered on April 28, 1988, and an effective control of *A. spiniferus* was achieved by February 1989.

The orange spiny whitefly (OSW), *Aleurocanthus spiniferus* (Quaintance), was identified as a serious pest of citrus trees in the Kolonia district of Pohnpei in 1987. Surveys conducted on October 21, 1987 failed to find any natural enemies of OSW. The undersurfaces of leaves were heavily infested by OSW and the upper surfaces were covered with black sooty mold.

On January 7, 1988, 150 adults of *Encarsia smithi* (Silvestri) were shipped from Guam to Pohnpei. Of these only 65 survived shipment. The parasites were field released on the same day at two sites, about a mile apart, in the district of Kolonia.

On April 28, 1988, we conducted surveys of OSW in Kolonia to determine the status of establishment of *E. smithi*. OSW infested leaves from citrus trees at each release site were collected, pooled, and four sub-samples were drawn at random for counting OSW and *E. smithi* emergence holes. The number of emergence holes in 100 OSW was determined, to derive at the percentage of parasitism. The number of trees from which OSW infested leaves were collected varied, depending upon the number of trees found in that site. The April 28, 1988 survey indicated the establishment of *E. smithi*.³ The percentage of parasitism ranged from 2 to 6%, $\bar{x} = 3.75$ and 1 to 8%, $\bar{x} = 4.25$ at release sites 1 and 2, respectively.

Further surveys conducted on February 6 and 7, 1989 revealed that the percentage of parasitism had increased to between 24.3 and 56.0, $\bar{x} = 41.3$. These results represent parasitism over the whole district of Kolonia, as we could not find OSW infested leaves in the original *E. smithi* release sites. In general, the OSW population was very low in Kolonia, and it was not considered to be a problem in February 1989.

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³Identity of adult parasites reared from *A. spiniferus*, collected on Pohnpei during November 1990, was confirmed as *E. smithi* by M. Marutani and R. Muniappan.

