Releases of Parasitoids for Control of the Olive Fruit Fly

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Activities for the biological control of the olive fruit fly project in 2003 included sampling from former release sites in southern California, performing additional releases of *Psyttalia concolor* in Santa Barbara, and monitoring potential release sites in Yolo County. We also initiated a laboratory culturing program for *P. concolor*, which is reported by R. Rodriguez elsewhere in this volume.

Sampling of former release sites began on August 20, 2003 in Santa Barbara. At that time, olive fruit were so heavily attacked by the olive fruit fly (OLFF) that much of the fruit had fallen to the ground. A total of 53 olives were collected and returned to the laboratory in Sacramento in order to rear parasitoids. One adult *P. concolor* was recovered from olives collected on the ground. No parasitoids were recovered from samples collected October 7, 2003, the last date these former release sites were sampled.

Olives were also collected from two other areas in southern California where *P. concolor* was released between 1999 and 2001: the Jurupa Cultural Center in Riverside and private residential yards in Palos Verdes. No *P. concolor* were recovered from olives collected at either of these locations.

New releases of *P. concolor* were made in Santa Barbara on December 4, 2003 at a residential site that still had some infested olives remaining on the tree. A total of 600 *P. concolor* were released, 100 that we had reared in Sacramento and 500 that were shipped from Hawaii. Previous releases had not been made at this house, and no *P. concolor* was recovered from the 89 olives collected on the day of release.

Future release sites have been established in Davis, California where olive fly trap data has been collected over the last two years. The OLFF populations have been increasing rapidly at this site, with a five-fold increase in the number of flies caught per trap per day (Figure 1). An even greater increase was measured in the number of fly larvae per dry weight of olive over the same period of time. Additional releases of biological control agents are anticipated in 2004.

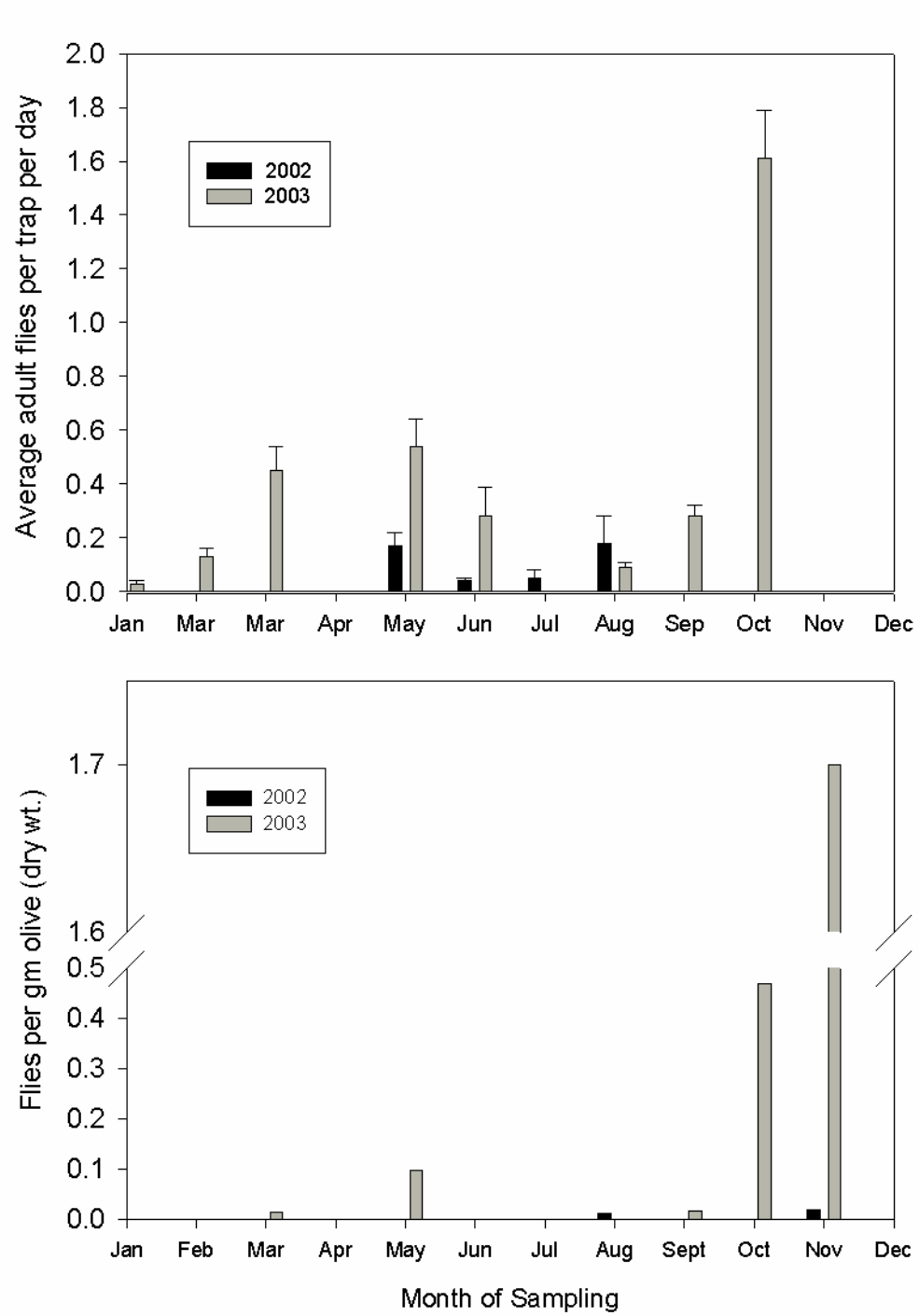

Figure 1. Olive fruit fly population at a future release site in Davis, CA.

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