

## Releases of Parasitoids for Control of the Olive Fruit Fly

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Activities for the biological control of olive fruit fly project in 2002 included, additional releases of *Psytalia concolor* in Santa Barbara, monitoring potential release sites in Yolo County, sampling a former release site in Riverside, and starting an olive fruit fly rearing system at the Meadowview facility in Sacramento.

Releases in Santa Barbara began September 10, and were made weekly for four weeks. Approximately 500 adults were released on each date, alternating between one of two private properties on Mission Canyon Road. The initial release was caged while subsequent releases were both caged and open. On October 7, fruit from inside the sleeve cage was collected and yielded two *P. concolor*, showing within-season recovery. Two adult *P. concolor* were reared from approximately 200 fruit collected on September 24, at one of the Mission Canyon release sites, which had not received any releases in two years. These could represent parasitoids that have permanently established in this area. An additional 899 fruit were collected on November 5, from four other year 2000 release sites to confirm the establishment of *P. concolor*. No parasitoids were recovered eight weeks after they were placed in paper buckets and held at room temperature (23 °C).

In October, fruitfly parasitoids were collected in Kenya by Dr. R. Wharton, (Texas A & M University) and Robert Copeland. They discovered a large population of *Psytalia lounsburyi* and *Utetes africanus* in a natural forest of wild olive trees at the base of Mt. Kenya. A small number were permitted for release after clearance through the University of California, (UC) Riverside quarantine facility. On October 22, approximately 90 *P. lounsburyi* and 10 *U. africanus* were released into separate sleeve cages at a single property on Mission Canyon Road in Santa Barbara. Seven days later, cages were removed. Approximately 20 of the *P. lounsburyi* were still alive inside the cage when it was opened allowing parasitoids to disperse.

Three locations were monitored in Yolo County for the presence of olive fruit fly. Fruit was collected and traps were placed (ChamP®) in five trees at each location. We plan on releasing *P. concolor* in this area and need background data on the fly population (Table 1). In addition to fruit flies, staff have reared a large number of *Pteromalus* sp. from fruit collected at Jurupa Cultural Center and in Santa Barbara (identified by S. Heydon, UC, Davis).

**Table 1. Olive Fruit Fly Fruit and Trap Field Data 2002, no *P. concolor* were Recovered from the Fruit**

<b>Location</b>	<b>Date Collected</b>	<b>Number Fruit Collected</b>	<b>Flies/Fruit</b>	<b>Flies/Gram</b>	<b>Flies/Trap/Day<sup>1</sup></b>
<b>Davis 1, Yolo County</b>	August 29, 2002	121	0.008	0.013	0.048
	September 25, 2002	147	0.0	0.0	0.177
	November 12, 2002	209	0.191	0.012	----
<b>Davis 2, Yolo County</b>	August 29, 2002	96	0.0	0.0	0.004
	September 25, 2002	144	0.0	0.0	0.037
<b>Jurupa Cultural Center, Riverside County</b>	February 24, 2002	62	0.677	0.713	----
	September 10, 2002	396	0.075	0.096	----
<b>Mission Canyon Road, Santa Barbara County</b>	September 17, 2002	299	1.033	0.798	----
	November 5, 2002	899	0.427	0.390	----
<b>University of California, Wolfskill Field Station, Solano County</b>	August 29, 2002	113	0.0	0.0	0.02
	December 3, 2002	201	0.0	0.0	----
<b>University of California, Davis Bee Biology</b>	September 3, 2002	100	0.01	0.006	----

<sup>1</sup>Traps were not used where data are missing