

New records on releases and recoveries of *Encarsia lahorensis* (HOW.).

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After several attempts began since October 1973, the first important introductions of *Encarsia lahorensis* (HOW.) from California to Italy were carried out in September 1974 and August 1975. Since 1976 the parasite was reared, studied and released in some areas of Italy and of the other Mediterranean countries infested by *Dialeurodes citri* (ASHIM.).

After its establishment in the initial experimental field at Portici, the species was released by using the bouquet method. In several areas near Portici the parasite reproduced actively and spread to a distance of 3-4 km from the release sites in 1-2 years, even where the plants have a scattered distribution. The degree of parasitization reached in the same period was even more than 20-30 %.

Subsequently the parasite was released in other citrus growing areas in Campania, Calabria and Sicily. In Calabria were initially sent citrus plants with white flies parasitized by *E. lahorensis* (about 1,000 parasite-carrying plants), to start with a large scale release carried out by the regional phytopathological bureau.

E. lahorensis material was also sent to Greece (Corfu), Israel and Turkey (VIGGIANI and MAZZONE, 1978). In 1979 the parasite was introduced in Sardinia by the Institute of Agricultural Entomology, University of Sassari.

Since February 1977 the regional phytopathological bureau of Calabria (Catanzaro) started a mass-rearing of *E. lahorensis* under glasshouse at Lametia (140 citrus plants) and at Cropani (2,500 citrus plants).

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After about 6-7 months on this material a percentage of active parasitization of 45,64 (apparent parasitization of 55,08 %) has been noted at Lametia and of 72,36 % (83,28 %) at Cropani. These carrying parasite plants and others 3,600, on which the parasites was subsequently introduced, have been used in a nursery of bitter orange of about 200,000 plants (loc. Botricello) and in the main citrus growing areas in Calabria (LUPPINO, 1978).

In October 1976 *E. lahorensis* was introduced in Corfu island from Italy. After an inoculum of about 30 females and 20 males by the bouquet method, the parasite reproduced in the subsequent years and became well established. In October 1978 parasitized host stages have been detected up to about 500 m from the release point (PAPPAS and VIGGIANI, 1979).

The introduction of *E. lahorensis* in Sicily, started in 1977, has been successful. At present the parasite has well established in the initial experimental areas in Palermo and in Catania (LIOTTA, 1978 ; BARBAGALLO, 1979, pers. com.). For 1980 releases of *E. lahorensis* are planned in the most important citrus growing areas infested by *Dialeurodes citri*.

A survey on the present distribution of *E. lahorensis* in Campania began in 1980. Up to now the parasite has been recovered in Naples, in the city (Villa Pignatelli), at about 10 km from the nearest released point in Portici (1976), on *Ligustrum*. Another important new reproductive area of *E. lahorensis* has been discovered at Castellammare di Stabia, at about 11 km from the nearest released point (S. Egidio Montalbino).

Our data on dispersal activity of *E. lahorensis* are clearly in contrast with those available from California. In Sacra-

mento the dispersion of the parasite was very slow, averaging only about 6 m a year (in NGUYEN and SAILER, 1979, pers. com. of M. ROSE, 1977). On the other side, our results agree with the greater capability of *E. lahorensis* in Florida (NGUYEN and SAILER, 1979).

Once again the conclusion is that in biological control only the actual impact of a biotic agent in the different ecological conditions of its host can give us a reliable indication on its antagonistic value.

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