



## Experiment:

### Material:

1. Mix of six different species of parasitoids (*Aphidius colemani*, *Aphidius ervi*, *Aphidius matricariae*, *Aphelinus abdominalis*, *Praon volucre* and *Ephedrus cerasicola*)
2. Sprouts of *Vicia faba* cultivated in four pots on horticultural substrate covered with wood chips
3. *Myzus persicae*

### Method:

Each *Vicia* plant was inoculated with aphids. The plants were kept in a closed growing room at variable temperature (min = 15°C and max = 25°C) during four weeks.

Equal number of each species of parasitoids was released in the same room one week after inoculation with aphids.

Ten days after parasitoids' release, plants were harvested, dissected and carefully analyzed. The wood chips and the pots were also analyzed. The mummies were collected and identified.

In order to be sure to find all mummies, the remaining pots (without plants) were placed in hermetic containers in order to collect hatching adult parasitoids.



Fig. 1: from left to right, mummies of *P. volucre* (white), *A. abdominalis* and *E. cerasicola* (black), *Aphidius* spp. (golden)



Fig. 2: *Vicia* sp. shoots in pots covered with wood chips

## Observations:

Mummies were found on the plants, pots and on the wood chips. 48 % of those mummies have been identified as *Ephedrus cerasicola*. To find all *E. cerasicola* mummies, the plant had to be completely destroyed. Most of them were found hidden on the wood chips or under the edge of the pots. Few were on plants hidden at the nodes level.

In addition to the high parasitism, an important aphid mortality was recorded. This was due to entomophagic behavior of *A. abdominalis* and to high density of parasitoids leading to multiple oviposition.

### Observed ratio of mummies

Fig. 3: Observations of mummies on plants, pots and substratum

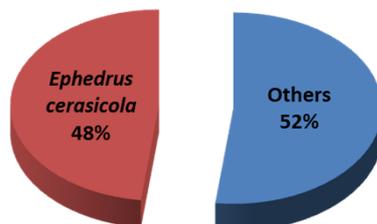


Fig. 4: Most of the *Ephedrus cerasicola* mummies were found hidden in the wood chips



Fig. 5: *Ephedrus cerasicola* mummies on wood chips coming from the pots



## Conclusion:

*Ephedrus cerasicola* is an efficient parasitoid against *Myzus persicae* and other aphid species such as *Aulacorthum solani*. This basic experiment points out that the aphid hides to die and is rapidly mummified after *E. cerasicola* has laid an egg into it. This is due to the change of behavior induced by the parasitoid once the aphid is parasitized. In consequence, it is quite difficult to observe mummies in the field.



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