

Introduction:
Parasitoid characterize insects that develop as larvae on the tissues of other arthropods (typically insects) and then kill them [1]. Adult female parasitoids aggressively search for hosts and lay their eggs in, on, or near them. The larvae begin feeding on host tissues as soon as they hatch and finish their development either within the host (endoparasitoids) or on the host (ectoparasitoids). Solitary parasitoids grow in or on their hosts alone, whereas gregarious species grow in groups from eggs produced during one or more ovipositions. Insect parasitoids account for at least 14% of the world's one million or so insect species [3]. The adult female parasitoid usually locates and oviposits into the host. Most parasitic species are limited to a single life stage (egg, larva, pupa, adult) and a small number of species. Shared ecology, host taxonomy, and whether the parasitoid develops internally or externally in its host are all factors that determine host range [4,6]. Because of their diversity and the high levels of parasitism they frequently impose on host populations, parasitoids have become popular subjects for ecological research. From the practical standpoint, they have proven to be extremely effective biological control agents against agricultural pests.

This research considering be sufficient for an effective first step in learning about auxiliary insects in order to establish proper breeding methods and then carry out a biological control.

Material and Method
1. Presentation of the sites:
The current project was carried out on three Citrus orchards in the Mazagan region, totaling 30 trees Mostaganem Algeria.

2. Sampling method:
For lemon and orange trees, the process entails collecting three leaves from each of the tree's four cardinal points as well as the center. The samples are analyzed in the laboratory using a binocular magnifying glass.

All adult parasitoid was placed in alcohol 70% for identification.

Results:

<table>
<thead>
<tr>
<th>Parasilaid</th>
<th>Cochineal</th>
<th>Aphid</th>
<th>Leaf miner</th>
<th>Unknown host</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abundance</td>
<td>800</td>
<td>600</td>
<td>400</td>
<td>200</td>
</tr>
</tbody>
</table>

Fig 1: Representative diagram of sampling method

Parasitoid

1. Leaf miner host

Phyllocnistis citrella

2. Cochineal host

Parlatoria ziziphi

3. Aphid host

Aphid spiraecola

Fig 2: Gregarious parasitoid

Fig 3: Solitary parasitoid

Some species of parasitoids with their host

1: Leaf miner host

Phylocnistis citrella Ectoparasitoid pupa Ectoparasitoid adult

2: Cochineal host

Parlatoria ziziphi Pupa Encarsia sp. Adult Encarsia sp.

parlatoria pergandi Pupa Aphytis sp. Adult Aphytis sp.

Families

Fig 4: Parasitoid abundance per host


Conclusion

Citrus orchards of the study location have an unusual auxiliary fauna that plays an essential role in the control of dangerous insect outbreaks. Citrus pest biological control in the Mazagan region, possibly using auxiliaries developed through suitable breeding and release tactics. On the other hand, we must rationalize the chemical applications in our orchards to protect these auxiliaries based on the temperature, duration of release, and number of persons of each auxiliary. These findings could be enough to achieve successful biocontrol.

Acknowledgement

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Fig 5: Parasitoid abundance per families