***Ooencyrtus pityocampae* (Mercet) rearing on three substitute hosts in laboratory to implement a biocontrol of *Thaumetopoea pityocampa* (Den. & Schiff.)**

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**Abstract**

Egg parasitoids are considered as efficient biological control agents and are used worldwide for control of several pests in many crops. *Ooencyrtus pityocampae* (Mercet) (Hymenoptera: Encyrtidae) is a polyphagous egg parasitoid which parasitises *Thaumetopoea pityocampa* (Denis & Schiffermüller)(Lepidoptera: Notodontidae) eggs. To implement a biocontrol of pine processionary moth with these parasitoids, it is first necessary to rear *O. pityocampae*. Because of allergy risks and problems of long life cycle and behavior, *Thaumetopoea pityocampa* is not easy to rear so the use of substitute host is unavoidable. In this project, *Philosamia ricini* (Danovan) (Lepidoptera: Saturniidae), *Halyomorpha halys* (Stål) (Hemiptera: Pentatomidae) and *Nezara viridula* (Linnaeus) (Hemiptera: Pentatomidae) were evaluated all three as substitute hosts. Different biological characteristics of *O. pityocampae* were determined for each one at 25 ± 1°C, 65 ± 5% RH, and a photoperiod of 16:8 h (L: D): development time, emergence rate, longevity, parasitism rate and fecundity. Results show that all three can be used to rear *O. pityocampae*.

**Keywords:** *Ooencyrtus pityocampae, Philosamia ricini, Halyomorpha halys, Nezara viridula,* rearing, biocontrol.