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***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 $25 \pm 1^\circ\text{C}$, $65 \pm 5\%$ 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.