



## Internship in applied insect behaviour Six months for Master 1 or 2, engineer

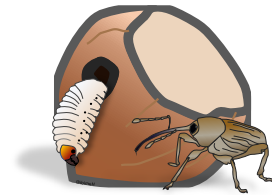
From March to August 2023 (flexible)

At the Entomological lab of ANPN, France, Cancon (47)

Accommodation and scholarship provided

### Study of feeding and oviposition behaviour of the European hazelnut weevil, *Curculio nucum* (Coleoptera, Curculionidae), in insect pest management perspective

In Europe, *Curculio nucum* is the main pest of hazelnuts. Adults drill shell to feed and/or to deposit eggs. Feeding activities lead to aborted embryos and larvae feed on kernel, in both cases, empty nuts are harvested. Without treatment, 80% of yield can be reduced. To date, no biological control is available while hazelnut production increase year after year.



Compounds or natural products could disrupt weevil behaviours towards hazelnuts. These products could act in different ways, from a physical barrier to olfactory or visual mask, or even through repellent cues. However, little is known about feeding and egg-laying behaviours of *C. nucum* as well as about natural products involving in hazelnut protections.

#### Aims of the study

(1) Build a detailed ethogram of feeding and egg-laying behaviours of *C. nucum* towards hazelnuts, (2) select natural products available in the market or in the scientific literature that have been shown active effect against weevils, (3) evaluate their impact on feeding and egg-laying behaviour according to the pre-established ethogram, and finally, (3) the student will have to discuss the advantages and constraints related to the use of these products in French hazelnut orchard.

The student may be asked to assist in other ongoing projects.

**Profile required:** Rigour, autonomy, curiosity and critical sense; Knowledge and interest in ethology; Personal car recommended going to the sites. Expenses at the current rate.

**Supervisor:** Rachid Hamidi, entomologist, and co-supervisor Julien Toillon, Plant ecophysiologicalist.

**Contact:** To apply, send your application (CV and cover letter) to human resources: [recrutement@unicoque.com](mailto:recrutement@unicoque.com); Tel : 05 53 01 60 08 ; [www.anpn.eu](http://www.anpn.eu)