

# Impact and ecological adaptation of *Leptoglossus occidentalis* (LO) (Hemiptera, Coreidae) on *Pinus pinea*

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2014

Project planning  
 Academic year

2015

## 01 Population genetics

- > Can we find a **genetic structure** in the **Iberian populations**?
- > Can we **trace the invasion path(s)** of LO populations in the Iberian Peninsula?



224 specimens captured



13 sites in the Iberian Peninsula



Mit DNA Cyt b  
 Microsatellites

**mit DNA** All haplotypes previously found in European populations were also present in the Iberian Peninsula although presenting different relative haplotypes frequencies

**Microsatellites** results are still being analyzed

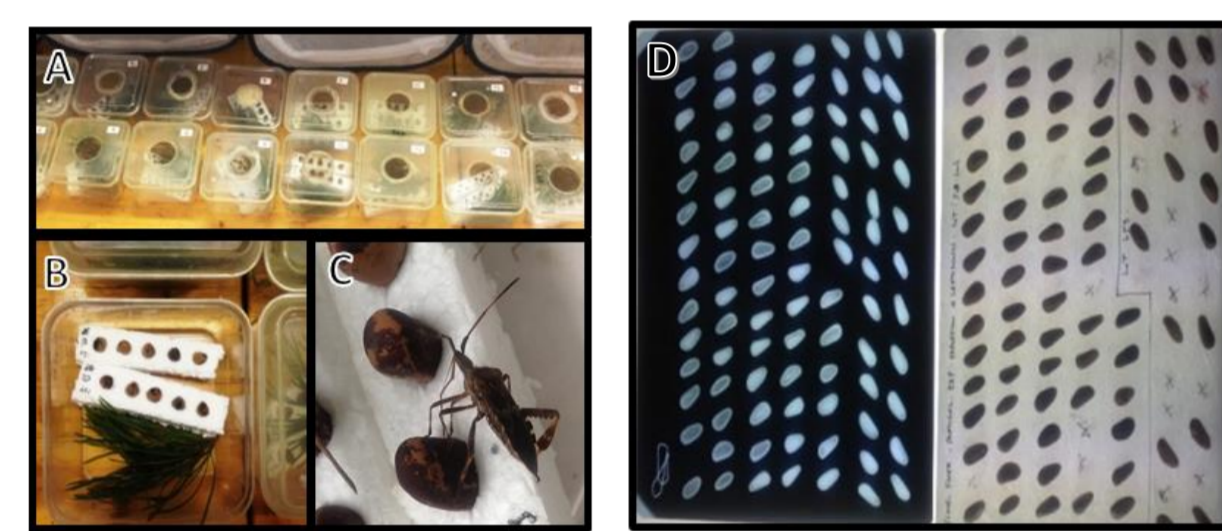


Fig 1. Experiment of exposition of matured seeds to LO: (A) trial boxes, (B) trial box detail, (C) adult of LO feeding and (D) x-ray to seeds

- > The characterization of the damage has already been completed.
- > The estimate of the damage in the field needs more sampled years. Furthermore, there are also ongoing lab trials.

## Impact assesement

02

- > Is LO the main responsible for the decline of **Stone Pine cone production and seed yield losses**?
- > Can we **characterize and estimate LO damage** on *P. pinea* seeds

2016

## 03 Host preferences and management

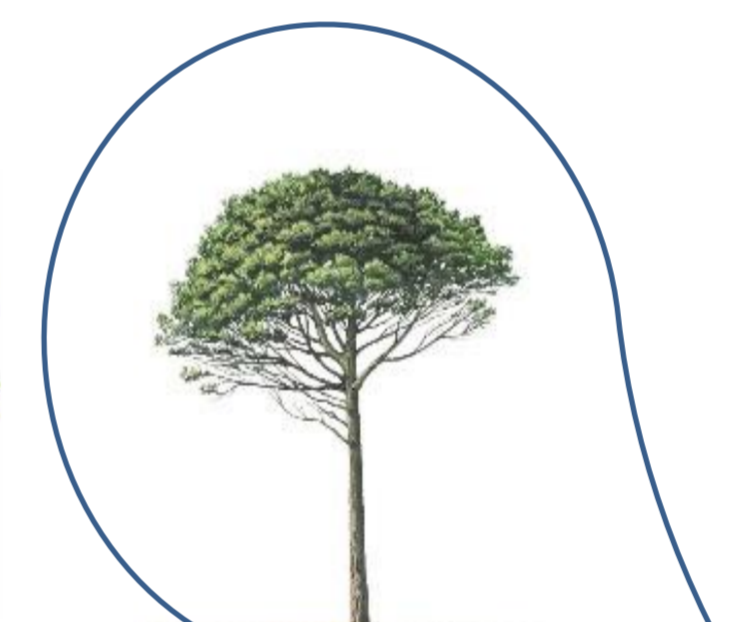
- > Does LO have a preference among the most common pines in Portugal?
- > Will host plant management influence LO attack and fertility?



Pinus pinaster



Pinus halepensis



Pinus pinea

**Host choice tests**  
 (lab and semi-natural conditions)

**Host management study**  
 (plots with four treatments: irrigation, ferti-irrigation, fertilization and control)

- > No notorious preference among hosts, apparently. Study is still ongoing
- > Host management study ongoing

## Behaviour studies

04

- > Lab studies to be carried on during this summer and extended until the end of the year

- > What are the **preferences and thermal tolerances** of LO?

- > Can we control LO density using **field traps**?

2017

## 05 Egg parasitoids

- > Is *Ooencyrtus pityocampae* an efficient parasitoid of LO eggs?

2018

Manuscript writing



40 years

