

# Trapped in the forest

## - The case with the longhorn beetle *Tragosoma depsarium* L. in south-east Sweden



LÄNSSTYRELSEN  
ÖSTERGÖTLAND

Alexander Nilsson

Supervisors: Per Milberg & Karl-Olof Bergman, *IFM Biology, Conservation Ecology Group*



Linköping University  
INSTITUTE OF TECHNOLOGY

### Background

Implementation of modern clear-cutting forestry and fire suppression at a landscape level during the 1900s have led to a recent, dramatic decline in *Tragosoma depsarium* numbers.

### Aims

1. Find the current distribution of *T. depsarium* in Östergötland County.
2. Investigate the effect of the surrounding landscape at different spatial scales on the beetle's occurrence.

### Results

- In Östergötland County, 11 out of the 100 suitable sites harboured *T. depsarium*
- Amount of protected areas and clear-cuts successfully explained beetle presence at the landscape scale.
- Pine logs could not explain the presence of the species, despite being considered a pine specialist.

### Methods

So called "live traps" for beetles were placed in pre-selected, suitable habitats and baited with pheromone.

The traps were removed after the first catch, or left in the field for a maximum of 6-9 days.



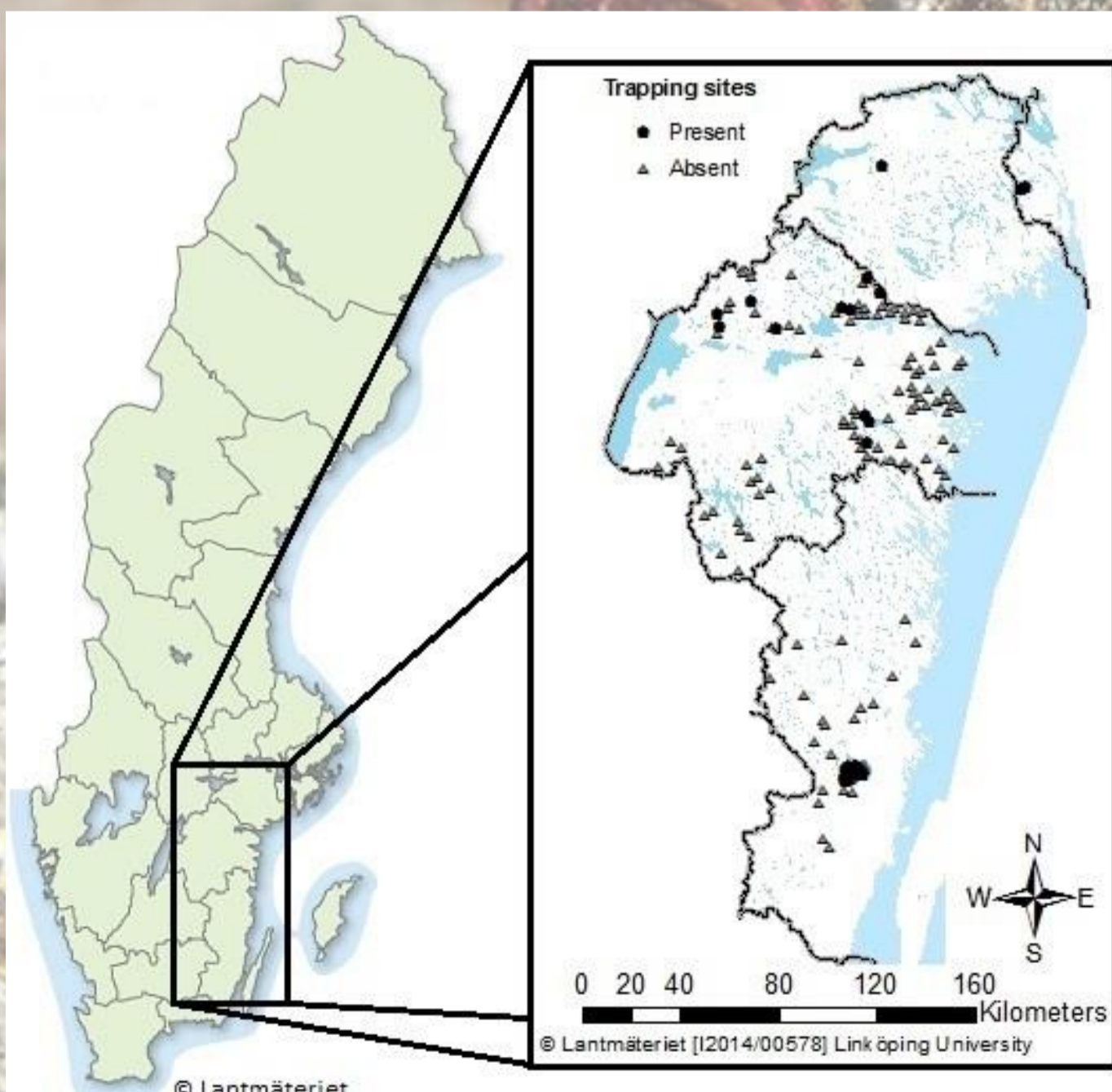
A beetle trap with a pheromone bag inside.



An average sized *Tragosoma depsarium*.

### Conclusions

- *T. depsarium* is not evenly distributed in the landscape, but rather concentrated to a few areas indicating isolated populations.
- A majority of the sites in Östergötland had no beetles despite no difference in pine log availability compared to occupied sites.



A map over Sweden (left) and an enlarged picture over the study areas to the right.

▲ = Empty site      ● = Site with beetle(s)



An average sized emergence hole with rough edges from *T. depsarium*.

### Conservation implications

Creation of breeding substrates (thick, bark-free & sun-exposed pine logs) at occupied sites should enhance small populations.

Prescribed fires and selective cutting as well as active forestry are effective measures to open up our increasingly densified forests.

Contact information: [aleni997@student.liu.se](mailto:aleni997@student.liu.se)