

# Importance of habitat quality and landscape factors for a monophagous shield bug on a rare host plant



## bug on a rare host plant

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### Introduction

- Habitat fragmentation threatens biodiversity worldwide
- Factors at both local and landscape level can affect species, but knowledge is often scarce
- *Canthophorus impressus* lives only on *Thesium alpinum*, with a fragmented distribution mostly in semi-natural grasslands

### Aim

- Assess how the distribution of a monophagous insect is affected by the configuration and quality of its host plant in the surrounding landscape

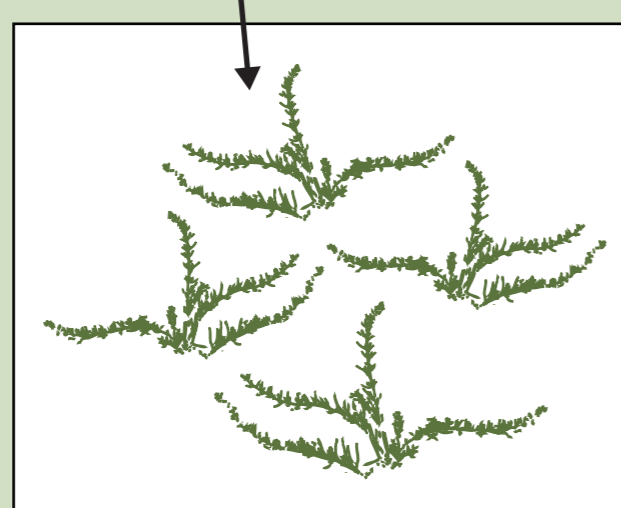
### Methods

- Distribution of *C. impressus* assessed at three spatial scales

#### Plant scale

Measures of habitat quality:

- summed length of branches
- cover of bare ground
- vegetation height
- sun exposure
- aspect and inclination of slope
- number of plants in 1 m radius circle



#### Patch scale

- number of plants in patch

#### Landscape scale

- number of plants
- number of patches
- area of grasslands



### Implications for conservation

- Preserve sites with abundant host plants
- Low to moderate grazing to promote large host plants
- Taking both local and landscape scales into account crucial for successful conservation

### Results

#### Plant scale

- Large host plants most important for occurrence and abundance
- Higher occurrence on plants in southerly slopes
- High sun exposure and bare ground increased occurrence and abundance

#### Patch scale

- Number of host plants in patch not important

#### Landscape scale

- High number of host plants in landscape increased occurrence

