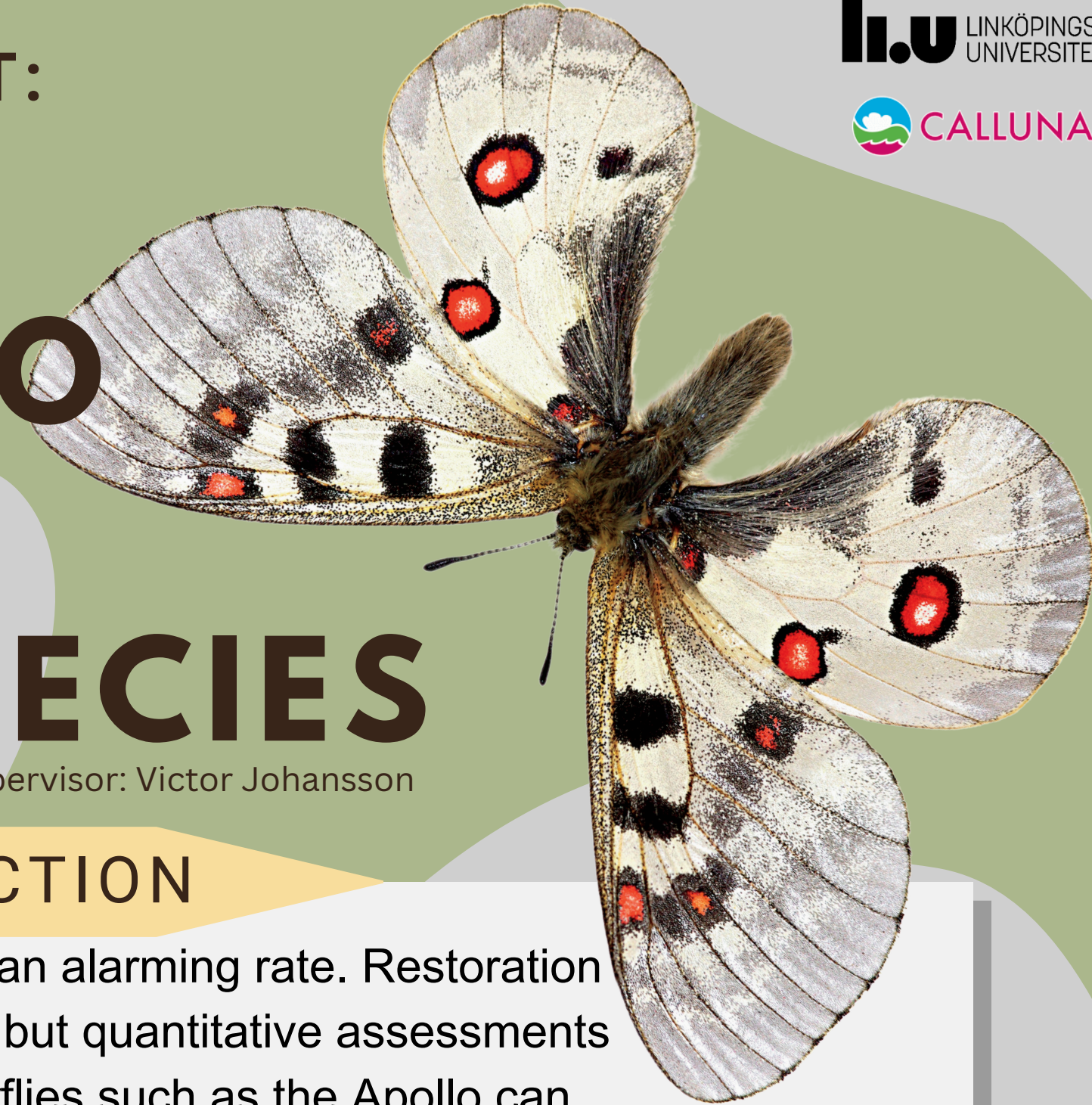


RESTORING **APOLLO** HABITAT:

TARGETED STRATEGIES TO PROTECT A DECLINING SPECIES

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INTRODUCTION

Habitat loss is causing global biodiversity loss at an alarming rate. Restoration projects have been developed to counteract this, but quantitative assessments to determine their success are still lacking. Butterflies such as the Apollo can serve as indicators for assessing the impact of habitat restoration.

The widespread Apollo has experienced population declines of up to 30% in Europe and action is needed to halt further reductions. This study focuses on the habitat preferences of the Apollo and the quality of two differently targeted restoration sites on Gotland, Sweden.

METHODS

Small-scale

- Larva density: Transect surveys
- Larva habitat preferences: Data collected in 2m radius plots, randomly distributed across study areas

Large-scale

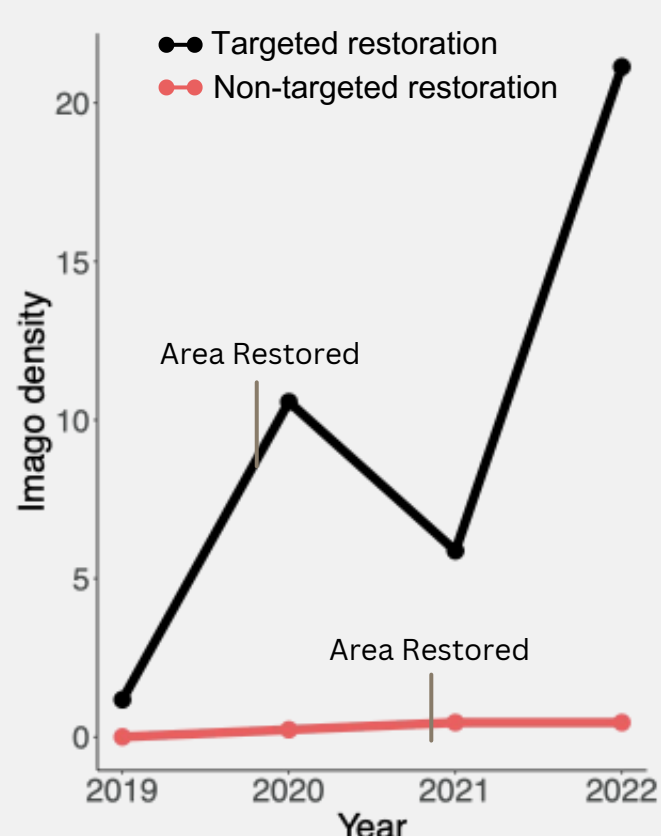
- Imago density: Hectare grid surveys
- Imago habitat preferences: Nectar plant surveys and use of National land cover data

RESULTS

Habitat preferences

- Larva occurrence probability is best explained by host plant and lichen cover
- Imago abundance is best explained by open land cover and nectar abundance

Apollo densities:



- Targeted restoration: Effectively used by larvae, lower imago density decreases and higher increases than in reference areas over time
- Non-targeted restoration: No larva, marginal imago increase over time

CONCLUSION

- Targeted restoration measures were successful in creating suitable habitat for the Apollo, leading to increased utilization of the area by both larvae and adults
- Non-targeted restoration measures did not meet the Apollo's habitat requirements, with no larvae present and low imago densities
- Understanding a species' habitat preferences is key for effective restoration and conservation efforts