

# Flower preferences among weed-visiting insects in field edges

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## Background

- Increased improvement of weed control has led to a decrease in the amount of weeds in arable fields.
- Weeds can be a source of pollen and nectar, which pollinating insects are dependent on.
- Higher diversity of weed species leads to higher diversity of pollinating insects.

## Aim

Assess insect visitation rate to weed flowers and the degree of preference among different weed species.

## Method

In thirteen patches of 1 m<sup>2</sup> in Östergötland, Sweden, the following was counted during 30 minutes each field day in July 2020:

- Weed flowers
- Weed flower visiting insects

## Statistical analysis

Negative binomial generalized linear model:

- One model for each weed species and insect group
- Models compared using resulting z-values

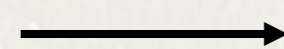


## Results

The following insect groups showed a preference for the following weed species:



Syrphidae



*Matricaria chamomilla*



*Apis mellifera*

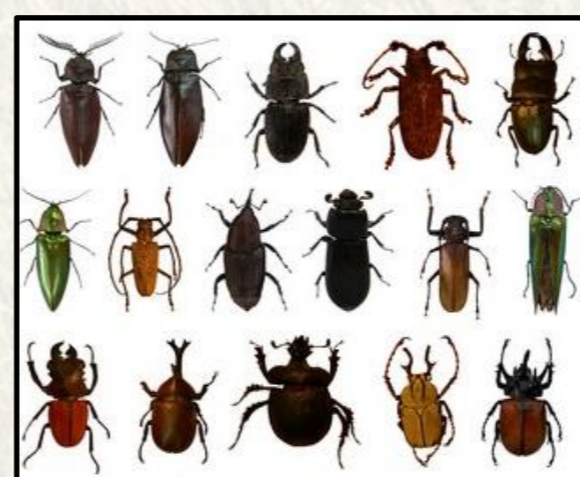
strong →



*Centaurea cyanus*



*Lamium purpureum*



Coleoptera

strong →



*Cirsium arvense*

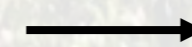


Other Diptera

strong →



*Bombus* spp.



*Galeopsis tetrahit*

## Conclusion

Most of the weed species preferred by the insect groups in this study are present in different types of arable fields. Less weed control in arable fields with these weed species could therefore benefit pollinating insects. *Cirsium arvense* seems to be most important for benefitting pollinators.

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