

## Publication

Innate and learned olfactory attraction to flowering plants by the parasitoid *Cotesia rubecula* (Marshall, 1885) (Hymenoptera: Braconidae): Potential impacts on conservation biological control

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In conservation biological control, flowers can be used to increase the biological control potential of parasitoids, which benefit from the offered food sources. Besides exhibiting exploitable nectar, flowers should preferably be olfactorily attractive, as highly attractive flowers are easily located, reducing the time spent searching for food and subsequently increasing the per capita host searching efficiency. In this study we thus focused on the olfactory attractiveness of *Fagopyrum esculentum* Moench (Polygonaceae), *Centaurea cyanus* L. (Asteraceae) and *Vicia sativa* L. (Fabaceae) to *Cotesia rubecula* (Marshall, 1885) (Hymenoptera: Braconidae), a larval parasitoid of the cabbage pest *Pieris rapae* (Linnaeus, 1758) (Lepidoptera: Pieridae). With a Y-tube olfactometer we found that *C. cyanus* and to a lesser extent *V. sativa* successfully attract *C. rubecula*. Also *F. esculentum* attracts *C. rubecula*, but only after a rewarding feeding experience. All three tested flowers seem to be suitable to be exploited in conservation biological control programs to control *P. rapae* in brassica fields. Even though not every flower offering accessible nectar is also innately attractive, it can still be suitable for conservation biological control purposes as feeding experience can change this attraction. In fact, the application of mixtures containing attractive and rewarding flowers could help increase the success of such programs.

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