

## Responses and adaptations of *Episyrphus balteatus* and *Adalia bipunctata* to allelochemicals from Brassicaceae plant through their preys

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**T**he sequestration of plant secondary metabolites by aphids is believed to be part of their defensive system. Little is known about its effects on the predators and how the aphidophagous species cope with it. When feeding on the Brassicaceae specialist aphid, *Brevicoryne brassicae*, the development, reproduction and overall fitness of *Adalia bipunctata* and *Episyrphus balteatus* were affected, though to a lesser extent for the hoverfly, when the host plant of the prey was *Sinapis alba*. The latter has high contents of secondary metabolites known as glucosinolates. Only the ladybird parameters were negatively affected when the same aphid fed on low glucosinolates rate *Brassica napus* was used as prey. No negative effect was observed when the generalist *Myzus persicae* fed on this two plants was used as prey when compared to a glucosinolates free host plant, *Vicia faba*. These differences of sensitivity to host plant allelochemicals through the aphid prey are discussed as a different evolution of their detoxification systems related to their habitat and their indigenous or migrant behaviour.

### KEYWORDS:

hoverfly, ladybird, tritrophic interactions, allelochemicals, Brassicaceae, Glutathione S-transferases