

Basil Plants Attract and Benefit Generalist Lacewing Predator *Ceraeochrysa cubana* Hagen (Neuroptera: Chrysopidae) by Providing Nutritional Resources

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Abstract : Aromatic plant species are capable of producing and releasing volatile organic compounds spontaneously, which can repel or attract beneficial insects such as generalist predators of herbivores. Attractive plants could be used as crop companion plants to promote biological control of pests. In order to select such plants for future use in horticulture fields, we assessed the attractiveness of the aromatic plants *Ocimum basilicum* L. (basil), *Mentha piperita* L. (peppermint), *Melissa officinalis* L. (lemon balm) and *Cordia verbenacea* DC (black sage) to adults of the generalist lacewing predator *Ceraeochrysa cubana* Hagen (Neuroptera: Chrysopidae). This predator is commonly found in agroecosystems in Brazil and it feeds on aphids, mites, small caterpillars, insect eggs and scales. We further tested the effect of these plant species on the survival, development and oviposition of *C. cubana*. Finally, we evaluated the survival of larvae and adults of *C. cubana* when only flowers of basil were offered. Females of *C. cubana* were attracted to basil but not to the remaining aromatic plants. Larvae survival was higher when individuals had access only to basil leaf than when they had access to peppermint, lemon balm, black sage or water. Adult survival on leaf treatments and on water was no longer than three days. Flowers of basil enhanced predator larvae survival, yet they did not reach adulthood. Adults fed on basil flowers lived longer compared with water, but they did not reproduce. Basil is a promising aromatic plant species to be considered for conservation biological control programs. Besides being attractive to adults of the generalist predator, it benefits larvae and adults by providing nutritional resources when prey or other resources are absent. Financial support: CNPq, FAPEMIG and CAPES (Brazil).

Keywords : basil, chrysopidae, conservation biological control, companion plants

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