
Hoverflies (Diptera, Syrphidae) of the Parco delle Gole della Breggia - Biodiversity and habitat assessment using the Syrph the Net method

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Abstract

Since 2018, the "Working Group Sirfidi Ticino" has promoted a series of research on Syrphidae (Diptera) in the southern region of the Swiss Alps (Canton Ticino). Applying the Syrph the Net (StN) methodology, the environments in the geological park Parco delle Gole della Breggia located in the extreme south of Switzerland were assessed by means of one of these researches. Therefore, hoverflies were sampled with 6 Malaise traps at three survey sites between April 2018 and May 2019. During this period, we found 1229 specimens belonging to 97 hoverfly species, which corresponds to approximately one third of the current hoverflies known for the southern region of the Swiss Alps. StN analyses showed a functional integrity of 51%, corresponding to a good ratio between the observed and the expected species. The environments with the most complete hoverfly community were the *Castanea* forest (76%) and the Eastern thermophilus *Quercus* forest (68%), while the worst results were obtained for the wetland environments, i.e. the Fen carr macrohabitat (55%) and the Reed/tall sedge beds macrohabitat (50%). The richness of hoverfly species in the Parco delle Gole della Breggia is probably due to the complex mosaic of different environments and the highly diversified structures (rock walls, different types of watercourses, ruderal spaces and meadows) that create a high variety of ecological niches. Although of lower quality than forests macrohabitats, a result probably also due to the very limited surface area of these environments, the wetland environments are very valuable for the area as they support several rare and threatened species. The proportion of threatened or declining species found during this study is relatively high, highlighting the important role of Parco delle Gole della Breggia in the conservation of hoverflies in the southern region of the Swiss Alps.

Keywords: habitat evaluation, monitoring, southern Alps, species diversity, Switzerland, Syrph the Net

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