
Proposal of a new monitoring method for *Mallota fuciformis* (Diptera: Syrphidae), a saproxylic pollinator

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Abstract

Hoverflies play a key role in pollinating and other forest ecosystem services. They can be used as bioindicators of many different habitats. The presence of species with high environmental requirements, especially in forest ecosystems, can be a fundamental tool for developing the right management plan for biodiversity conservation also in an ecological connectivity perspective. *Mallota fuciformis* Fabricius, 1794 is an elusive saproxylic species listed as threatened in many European countries and internationally recognised as a species of conservation interest. In this paper, we provide for the first time a targeted, fast and effective standardised field protocol for the detection of *Mallota fuciformis* in oak-hornbeam stands and alluvial forests with oaks along lowland streams. Given the short period of flight of the species, 88 sites were considered enough to testify this standardised methodology. The study was carried out in the Piedmont region (Northwestern Italy) between 2019 and 2022. Overall, 48 sites have proved to be positive for the presence of the species. The average detection time was very short in positive sites, suggesting the effectiveness of this approach in fast surveys. The proposed protocol can be extended to other geographical areas. The possibility to apply the proposed methodology for extensive ecological connectivity studies is discussed.

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