



# 13th International Symposium on Syrphidae

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Primiero San Martino di Castrozza, Italy

UNIMORE  
UNIVERSITÀ DEGLI STUDI DI  
MODENA E REGGIO EMILIA



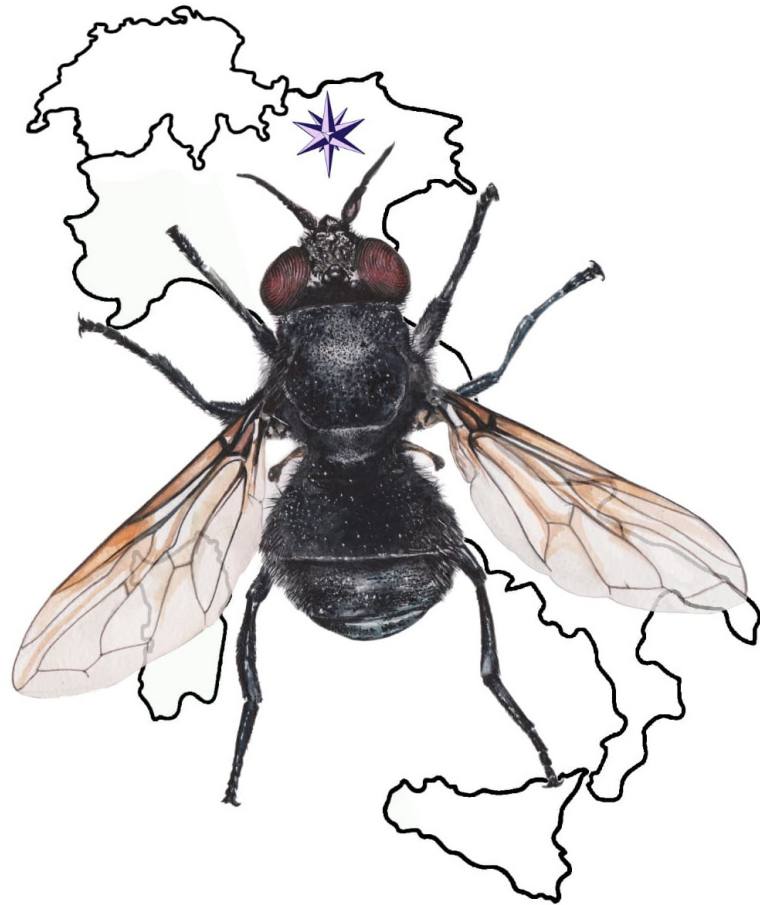
MUSEO  
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PANEVEGGIO  
PALE DI SAN MARTINO  
Parco Naturale



## BOOK OF ABSTRACTS

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## Hoverfly research within WildPosh project

Marija Miličić<sup>1</sup>, Andrijana Andrić<sup>1</sup>, Ljiljana Šašić Zorić<sup>1</sup>, Jelena Ačanski<sup>1</sup>, Jelena Purać<sup>2</sup>, Danijela Kojić<sup>2</sup>, Mihajla Đan<sup>2</sup>, Iva Gorše<sup>2</sup>, Milica Radenković<sup>2</sup> & Ante Vujić<sup>2</sup>

<sup>1</sup> University of Novi Sad, BioSense Institute – Research Institute for Information Technologies in Biosystems, Novi Sad, Serbia

<sup>2</sup> University of Novi Sad, Faculty of Sciences, Department of Biology and Ecology, Novi Sad, Serbia

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Hoverflies are increasingly threatened by pesticide exposure, one of the most pervasive yet insufficiently understood environmental pressures affecting their diversity and ecosystem functions they provide. WildPosh is a multi-actor, transdisciplinary project whose overarching mission and ambition are to significantly improve the evaluation of risk to pesticide exposure of wild pollinators, and enhance the sustainable health of pollinators and pollination services in Europe. Within the WildPosh project, hoverflies represent one of the focal groups for advancing pesticide risk assessment. An integrated monitoring framework is being developed to identify contamination sources and exposure routes by integrating hoverfly sampling with residue analysis of nectar, pollen, and plant material from focal forage plants used by adults and larval stages, across semi-natural habitats located near conventionally managed agricultural fields. Furthermore, pupae and adults of selected test species are evaluated for pesticide sensitivity by assessing short-term mortality, as well as chronic and sublethal effects, including survival to emergence, fluctuating asymmetry, and behavioural disruption, with laboratory and semi-field experiments also addressing larval stages across species with different feeding strategies. RNAseq analyses are conducted to identify pesticide-induced disruption of detoxification and immunity pathways, linking molecular responses to phenotypic sensitivity. In parallel, annotated genomes of umbrella hoverfly species are generated using whole-genome sequencing (WGS). The project also compiles a dedicated trait database reflecting sensitivity and exposure risk, as well as harmonised distributional data for hoverflies at national and continental scales to support large-scale ecological modelling and regulatory applications. Together, these efforts aim to provide a mechanistic and evidence-based foundation for improving pesticide risk assessment frameworks for hoverflies in Europe.

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