



Conference Abstract

Diversity of plant-eating invertebrates as potential prey of carabid beetles in olive groves and vineyards in southern Croatia

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Received: 26 Jul 2019 | Published: 29 Jul 2019

Citation: Kos T, Anđelić B, Jelić M, Šerić Jelaska L, Franin K (2019) Diversity of plant-eating invertebrates as potential prey of carabid beetles in olive groves and vineyards in southern Croatia. ARPHA Conference Abstracts 2: e38570. <https://doi.org/10.3897/aca.2.e38570>

Abstract

Predatory arthropods, among them carabid beetles (fam. Carabidae), play a key role in regulating the plant eating invertebrates in different agroecosystems. Croatian part of Mediterranean is extremely rich in biodiversity, and poorly investigated. Especially, studies on impact of different agricultural practices and use of various pesticides on diversity of beneficial predatory fauna and their trophic interactions have been scarce. Prior to molecular trophic analyses, we sampled invertebrate fauna, as a potential food for predatory arthropods, including carabid beetles, in olive groves and vineyards, both in ecological (EPM) and integrated (IPM) productions, and in pristine natural habitat, typical for that part of karst area. The knowledge on diversity and phenology of potential prey groups is important for developing molecular assays for detecting consumed species, and for better taxonomic resolution of consumed prey species accessed via DNA *metabarcoding analysis* of stomach content. During vegetation season in 2018 in hinterland of Zadar county "Ravni Kotari", in southern Croatia, a survey in the canopy and the ground layer was done using yellow sticky traps Plantella[®], beating net, pitfall traps and Tullgren funnels. Diversity indices were calculated for each collecting method and for each type of agroecosystem. Results showed that with beating net at least 16 groups, with

Tullgren funnels at least 11 and 8 groups of potential invertebrate prey with yellow sticky trap was found. In olive groves 2 and in vineyards 3 of found plant eating groups, respectively could be economically important for production. Diversity and phenology on sites will be presented and discussed in details. This survey contributes to understanding diversity and phenology of different invertebrate prey groups in Mediterranean agroecosystems that could help in sustaining predatory carabids in the field under different pest control practice. The study was conducted under the project activity of HRZZ – Mediteratri and EU INTERREG CBC Pescar.

Keywords

Carabidae, diversity, Mediterranean agroecosystems, phenology, plant-eating invertebrates

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Presented at

19thECM poster

Acknowledgements

This work has been supported by Croatian Science Foundation under the project UIP-2017-05-1046 and the Department of Biology, Faculty of Science, and cosupported by IPA CBC INTERREG EU found project PESCAR "Peaticide control and reduction".

Funding program

HRZZ Instalation grant UIP-2017-05-1046

PESCAR (Interreg-IPA-CBC (HR-BA-ME277)

Grant title

MEDITERATRI - Neonicotinoids and Copper in the Mediterranean Agriculture – their effects on non-target invertebrates through trophic interactions

Hosting institution

Department of Biology, Faculty of Science, University of Zagreb

Ethics and security

I declare to have no ethic and security interests

Conflicts of interest

I declare to have no conflicts interests