

## **WEAK EFFECT OF LANDSCAPE STRUCTURE ON SPIDER ABUNDANCE AND TAXONOMICAL DIVERSITY IN CROP FIELDS OF WESTERN POLAND**

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Spiders are considered to be indicators of habitat quality, broadly used for an assessment of human pressure in a farmland. In 2007 – 2009, with the use of a suction trap, we studied the influence of crop types (sugar beet, cereal and alfalfa fields) and landscape type (uniform – UL, and diverse – DL) on spider abundance and alpha, beta and gamma diversity in an intensively farmed, lowland region in W Poland, locally rich in semi-natural habitats. We expected that due to presence of many seminatural habitats the spider assemblages in a DL are noticeably more diverse than in UL in terms of taxonomical richness, total abundance and functional diversity. In general, the total species richness (27 spp.) and abundance of spiders (in most fields and years  $<10 \text{ ind m}^{-2}$ ) was very low when compared to other agricultural regions in Europe. Gamma diversity was only slightly higher (by 3 spp.) in DL than in UL; the same applied to beta diversity. The abundance of spiders was insignificantly affected by crop types or landscape type. The diversity of hunting guilds tended to be slightly higher in DL. Summarizing, DL and UL were unexpectedly similar in terms of spider abundance and taxonomic richness. The species composition of assemblages in DL was more diverse (in space and time) than in UL, which also resulted in a higher functional diversity (i.e. more hunting guilds and/or a more balanced share of guilds) in the former. It seems that higher functional diversity of spider assemblages show potential effect of landscape structure on these animals, but farming intensification (observed also in the study area) strongly reduces this potential of diverse landscape. The results suggest, that at high agricultural input the facilities for protection of biodiversity by local agri-environmental measures are limited.