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GROUND DWELLING INSECTS AS ENVIRONMENTAL INDICATORS OF RIPARIAN HABITATS IN AGRICULTURAL MEDITERRANEAN LANDSCAPES

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Abstract

Human activities have intensively relied on and utilized riparian areas that have led to their substantial degradation. This is the reason why easy-to-use, reliable, inexpensive monitoring tools that describe the ecosystem integrity of riparian areas need to be developed. Bio-indicators are such tools, with many recommending the use of ground-dwelling insects. This study evaluates the use of diversity indices on ground-dwelling insects for three representative riparian habitats of Greece. The studied areas were along torrents with intermittent flow and natural woody riparian vegetation within a flat or hilly landscape and along a stream with perennial flow with woody monoculture riparian plantation vegetation. Based on the number of different species identified and the diversity indices, the riparian habitats along the torrents presented the greatest diversity due to the natural vegetation with the more complex canopy structure. Overall the significant differences found, indicate the usefulness of insects and particularly *Silpha obscura* (Coleoptera: Silphidae) for evaluating riparian habitats in agricultural dominated landscapes of Greece and the Mediterranean.

Key words: bio-indicators, riparian vegetation structure, stream flow, diversity indices

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