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# PaulisProject



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## ASSESSING NICHE BREADTH OF VASCULAR PLANTS IN MEDITERRANEAN TEMPORARY WETLANDS

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The high interest in Mediterranean temporary wetlands, which are habitats of Community Interest (3120, 3130 and 3170\*) in the Habitat Directive 92/43/EEC, is mainly for their characteristic flora or fauna which includes several rare or endangered species.

Although the attention on the ecology and biodiversity of these habitats is continuously increasing, the majority of the available studies are based on a qualitative approach or separate statistical analyses of physical, chemical and biodiversity data while little information is available on the relation between plants and environmental features (e.g. Bagella et al., 2010).

The aim of this research was to relate a set of plant considered as “indicator” species in Mediterranean temporary wetlands with some relevant environmental factors.

The analysis were performed on 21 species from 42 temporary wetlands located in Sardinia and Apulia (Italy) using a data set describing the main features of the water and the soil. The ecological responses of each plant species in relation to each environmental factor were elaborated using the fuzzy set theory's approach (Zadeh, 1965). According to this method, the species are described as fuzzy sets, which present a specific degree of belonging to the whole range of an ecological factor. This analysis defines the optimum ecological value and the compatibility range of each species in relation to the variability of environmental factors (Andreucci et al., 2000, Biondi et al., 2004, Ceschin et al., 2012).

Based on the results achieved, we defined the autoecology of the indicator species and discussed the possible applications of our results for the management and conservation of Mediterranean temporary wetlands.

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