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Vegetation patterns in natural and cultural landscapes

Abstract books

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Domina G.

Oral Presentation

Species and habitat biodiversity measure and conservation at different scale in small Mediterranean islands

Special Session: Vegetation patterns in relation to multiscale levels of ecological complexity: from associations to geoseries

Gianniantonio Domina^{1*}, Anna M. Mannino², Francesco M. Raimondo² and Patrizia Campisi²

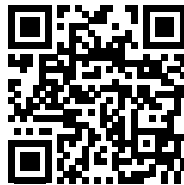
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Small islands are geographically and ecologically well-defined areas in which biological processes are easier to schematize than in the mainland. There is a vast range of biodiversity measures, due to the large concept of biodiversity and the range of spatial, temporal and taxonomic scales used. Many existing measures are well designed and informative. But, very often they are inadequate for purposes beyond those for which they were specifically designed. Knowledge on trends in biodiversity loss is hindered by the absence of reliable basic data for most groups of organisms as well as habitats. Plants are primary producers and key structural elements for most ecosystems and islands are among the best floristically known territories in the Mediterranean.

Large-scale habitat measurements have been aided greatly by advances in remote sensing and GIS software. However, the degree of resolution of this technique is still not adequate for many purposes, such as monitoring many habitats that occurs on the islands (e.g. temporary Mediterranean pools or ephemeral therophytic grasslands). The measure of population size is not practical for many taxa above all in islands that often have sectors of difficult access (e.g. sea cliffs). Lists and distribution mapping of taxa are probably the most commonly used surrogate for overall biodiversity at both local and broader scales. The species level is an accepted standard, because the concept of species is well understood also by the public, and policy makers. Information on the presence of higher plants is available for many Mediterranean islands due to records of visiting naturalists, and formal surveys undertaken by governments and NGOs (e.g. the PIM initiative). In addition, in the islands the lack of records of a species is more easily correlated to its disappearance from that territory than it is in the mainland. Anyway, particular attention has to be put on measurements of rarity and extinction risk. Most extinctions, after a first peak due to a specific phenomenon, have a long after-effects, whereby the species may persist at low numbers with a negligible chance of recovery and a severely diminished role in the ecosystem.

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