

Assessing floristic representativeness in the protected areas national system of Chile : are vegetation types a good surrogate for plant species?

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Abstract

Conservation planning relies heavily on representativeness patterns. In Chile, this has not been assessed at the species level. This study evaluates floristic representativeness in the National System of Protected Areas (SNASPE). Species rarefaction and non-parametric estimators were used to extrapolate total representativeness. Given that conservation planning in Chile is mainly based on protecting vegetation types, the effectiveness of using vegetation types as a surrogate of plant species was evaluated based on richness and complementarity. The study found available information for 42% of the 96 protected areas of continental Chile. According to this information the SNASPE protects at least 48% of the native vascular flora. The southern area protects the largest number of species, most of which are non-endemic natives. The largest number of endemic protected species was found in the central-northern area. The SNASPE in its full range is projected to protect 64% of the vascular flora of Chile. Richness and complementarity surrogacy analyses showed weak effectiveness of vegetation types as a surrogate of plant species, although complementarity performed slightly better than richness. Surrogacy effectiveness was lower for endemic species, probably due to their narrow distributions that are more easily missed when vegetation types are considered instead..

Keywords

Biodiversity surrogates, Endemism, Plant species conservation, SNASPE, Surrogacy, Systematic conservation planning.