

## **POPULATION GENETIC STRUCTURE OF GYMNOSPERMIUM SCIPETARUM SUBSP. EDDAE (BERBERIDACEAE), AN ENDANGERED FOREST ENDEMIC FROM THE SOUTHERN APENNINES (ITALY)**

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Assessing genetic diversity of narrow endemic plants is essential for their conservation. *Gymnospermium scipetarum* subsp. *eddae* (Berberidaceae) is an Italian endemic limited to a narrow forest area in Southern Apennines. Here we used random amplified polymorphic DNA (RAPD) markers to investigate population genetic differentiation and diversity in relation to distribution and microhabitat conditions. In all five extant populations and 134 individuals analysed we found a relatively low level of population genetic diversity (average Shannon-Weaver diversity index = 0.280; mean percentage of polymorphic bands = 57.45%; mean Nei's gene diversity  $H_e = 0.187$ ). Genetic diversity at species level was higher than at the population level (PPB = 83.33%,  $H_e = 0.210$ ). AMOVA revealed a very weak differentiation among populations, which seem to share three genetic pools in their genetic structure. The gene flow among populations was high (mean  $N_m = 5.320$ ), and the Mantel test revealed no significant correlation between geographical and genetic distances at the population level.

We argue that information on pattern of genetic diversity obtained for *G. eddae* have important implications for conservation programmes, and in particular for the establishment of ex-situ collections and restocking conservation actions of this narrow endemic plant.