

GEOGRAPHIC DISTRIBUTION AND DIVERSITY ASSESSMENT OF PLANT GENETIC RESOURCES IN SHKODRA REGION

Belul Gixhari¹, Frano Palushaj², Bari Hodaj³, Hekuran Vrapit⁴

¹Plant Production Department, Agricultural University of Tirana, Tirana, Albania,
E mail: gizharibelul@ubt.edu.al

²Plant Protection Department, Agricultural University of Tirana, Tirana, Albania,

³Horticulture Department, Agricultural University of Tirana, Tirana, Albania,

⁴Plant Protection Department, Agricultural University of Tirana, Tirana, Albania

Abstract

Geographic distribution of diversity for 227 geo-referenced observations of ex situ and in situ Plant Genetic Resources collection data including 30 species, from three districts of Shkodra County was carried out, using grids of 5 x 5 km and 10 x 10 km cells to assess the number of observations per species and per district, the area of occupancy and diversity indices. Geospatial analysis detects areas of high (alpha) diversity. Combination of study results for species richness, Simpson index (1-D), Shannon index, Evenness, Brillouin, Menhinick, Margalef, and Equitability (J) diversity indices show that areas of Malesi e Madhe and Puka districts were richer and more even than other areas. Cluster analysis (ward) method show the Equitability, Simpson (1-D), and Evenness indices (1st cluster group) tend to give similar comparative measures, and Brillouin, Menhinick, Shannon, and Margalef indices with similar comparative measures were included into the second cluster group. Diversity observed in Malesi e Madhe areas is significant and comparable with diversity present in Puka and Shkodra districts areas, but the diversity among PU and SH districts are non-comparable. Presence of high species diversity in Malesi e Madhe district areas suggests presence of a greater number of successful species and more relative stable ecosystems, where more ecological niches are available, and environmental changes were less likely to be damaging to the ecosystem as a whole.

Keywords: *Diversity indices, geographic spatial analysis, species distribution*