



S01.02-P -3

CATEGORIZING BASIC FACTORS DRIVING SOIL GENESIS, PEDOVARIABILITY AND PLANT ASSEMBLAGES IN MEDITERRANEAN TEMPORARY WETLANDS (TWS)

Capra Gian Franco*^[1], Caria Maria Carmela^[1], Buondonno Andrea^[2], Seddaiu Giovanna^[3], Vacca Sergio^[1], Bagella Simonetta^[1]

^[1]Università di Sassari ~ Dipartimento di Scienze Botaniche, Ecologiche e Geologiche ~ Nuoro ~ Italy ^[2]Seconda Università di Napoli ~ Dipartimento di Scienze Ambientali ~ Caserta ~ Italy ^[3]Università di Sassari ~ Dipartimento di Scienze Agronomiche e Genetica Vegetale Agraria ~ Sassari ~ Italy

A research was carried out in six Temporary Wetlands (TWs), located in north-western Sardinia (Italy), with the aim to categorize the basic factors driving and linking soil genesis and plant assemblages in Mediterranean basin. In order to satisfy such purpose the main hydrologic parameters as well as soil properties, pedogenic features and vegetation patterns were deeply investigated. Within each TW a central (CB, located on the toe slope), intermediate (IB, on foot/back slope), and outer (OB, on summit) belt was recognized. Soil morphology and pedovariability changed clearly along each OB/IB/CB transect, highlighting evidence of a distinctive soil micro-catena, i.e. from the poorly developed Entisols at the summit to the more evolved Alfisols at the toe slope. Indeed, CB and OB were very clearly defined pedo-environments, with soils belonging either to strongly developed Alfisols or poorly evolved Entisols, respectively, while, the IB seems represents a sort of pedo-transitional environment from OB to CB. The statistical analyses (ANOVA and ANOSIM) performed on the investigated soil physical-chemical parameters showed no significant differences between belts. On the opposite, the ANOSIM analyses of the contribution of each plant species to vegetation cover showed significant differences between belts. The overall correlation (managed by PCA), of the investigated parameters, i.e. topography, hydrology, soils and vegetation reasonably indicates that the combined effect of topography and hydrology acted as primary factors governing soil and vegetation in a complex relationships/feed-backs network, thus combining soil evolution and the subsequent vegetation assemblage, and finally determining belt differentiation.