

Funkcionalni pristop pri raziskovanju sukcesije na opuščenih kmetijskih terasah v submediteranskem okolju

Functional approach in succession study on abandoned agricultural terraces in sub-Mediterranean environment

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The chronosequence method was applied for studying successional sere of still managed and abandoned terraced vineyards in NW Istria (Slovenia). 54 relevés were collected using standard procedure of the Braun-Blanquet approach. DCA ordination of the relevés showed clear gradient of successional series. With TWINSpan classification six groups of relevés were defined: still active vineyards (1), ruderal stage (stg.) after abandonment (2), late ruderal/early grassland stg. (3), grassland (4), grassland/scrub/forest stg. (5) and scrub/late forest stg. (6). PCA ordination of 190 species according to 18 plant traits delineated two main groups: annuals, with high SLA, overwintering leaves, seed-propagated species (1) and perennials with high LDMC and vegetative propagation (2). In order to identify the predominant plant traits for studied vegetation the matrix of 43 traits x 54 relevés was analyzed with PCA. The PCA ordination of relevés along the first and second axis delineated three main groups. The first and second groups showed active vineyards and early succession stages, the third DCA group was composed by post-ruderal grasslands and scrub/woodland formation. Earlier stages have significantly lower percentages of perennial, phanerophytes, tussock growth-species and proportion of scleromorphic leaves. The C-S-R components, calculated cumulatively for the relevés of each of the 6 groups showed shifts of declining R component from active vineyards to grasslands and increasing C component from active vineyards, through ruderal stage to grassland (and declining again in reforested stage). The S component did not show any clear trend. It was concluded that relatively quick species turnover during the secondary succession in mild sub-Mediterranean climate and fertile soils of flysch bedrock showed roughly the same patterns by using floristic and functional approach. The post-ruderal (grassland/scrub) phase appeared to be much more homogenous when analyzed by functional approach in comparison with floristic approach.