**Riverine forests of the Iberian Peninsula: classification and bioclimatic features**

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Riverine forests on the Iberian Peninsula have been classified in the order *Populetalia albae,* where three alliances have been recognized: *Populion* for Mediterranean forests*, Alnion incanae* for temperate forests and *Osmundo-Alnion* for western Mediterranean silicicolous alder forests. We have carried out a revision of these forests in the Iberian Peninsula based on the analysis of large vegetation-plot databases. The aims of this study are: 1- to evaluate the syntaxonomical classification compared to the numerical one. 2- to test the diagnostic value of the character species of each alliance in relation to numerical classification. 3- to establish the climatic features they are linked to.

The data set was built using the Information System of the Iberian and Macaronesian vegetation: SIVIM, as well as the BIOVEG database from the University of the Basque Country. A stratified resampling by community and 10 x 10 km UTM grid was carried out. The resampled data set, formed by 1506 relevés and 1359 taxa, was submitted to agglomerative clustering (Bray-Curtis distance, flexible method). The Ochiai fidelity index of each species for the resulting clusters was also calculated.

Climatic data were obtained from the Climatic Digital Atlas of the Iberian Peninsula. Two bioclimatic indices were calculated: continentality index (Ic) and the ombrothermic index of the warmest two month period (Ios2). The non-parametrical Kruskal-Wallis test was used to analyse the differences among clusters in relation to the bioclimatic indices.

The agglomerative clustering cut at 4.2 distance level produced three clusters, to a large extent matching with *Populion, Osmundo-Alnion* and *Alnion* alliances. The first cluster is linked to a Mediterranean climate, and the latter two to a sub-Mediterranean and a Temperate one. The main difference with current syntaxonomy is the classification of Cantabrian alder forests (*Hyperico-Alnenion,* currently in *Alnion*) within the cluster related to *Osmundo-Alnion*. Nevertheless, further partition (distance: 3) divides the latter into two clear subclusters: one related to *Hyperico-Alnenion* and the other to *Osmundo-Alnion*. The clusters related to *Alnion incanae* and *Hyperico-Alnenion* show high fidelity indexes of *Fagetalia* and *Alnion* species. The cluster related to *Osmundo-Alnion* is defined floristically by some atlantic species, whilst only tree species of Mediterranean riparian forests show high fidelity indexes for the cluster related to *Populion*.