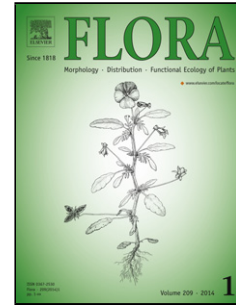


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Oak morphological traits: between taxa and environmental variability

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HIGHLIGHTS

- Principle Component Analysis allows to determine the possible parents of a hybrid and group oak taxa according to their subgenus
- Hybrids and subspecies can be identified using morphometric analysis
- Species leaf characteristics override the environmental influence
- Leaf traits response to environmental gradient is influenced by species plasticity

ABSTRACT

The seven oak species present in Lebanon show taxonomic ambiguity partly due to their great morphological variability among and within species. Very few investigations were conducted on oaks in Lebanon despite the presence of endemic species, and none tried to discriminate these according to their morphology, nor to determine subspecies or identify eventual hybrids. In this study 1328 leaves and 550 fruits were collected covering the whole range of oak species over the Lebanese territory; 24 leaf and 6 fruit traits were recorded and analyzed in order to differentiate among species, to define missing gaps for certain subspecies and to discriminate eventual hybrids and their possible parents. Environmental

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