

## Filogenija in biogeografija skupine *Euphorbia barrelieri* (Euphorbiaceae)

### Phylogeny of *Euphorbia barrelieri* group (Euphorbiaceae)

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*Euphorbia* is one of the largest genera of seed plants with mostly tropical distribution. Around 100 species are native to Europe (*Euphorbia* subg. *Esula*) with the highest diversity in Southern Europe. The *E. barrelieri* group consists of c. five species distributed in the Eastern Alps, Balkan and Apennine Peninsulas. *Euphorbia saxatilis* is endemic to the northeastern Calcareous Alps of Austria, *E. triflora* is disjunctly distributed on Čaven in Slovenia and on Velebit and Gorski Kotar in Croatia, *E. kernerii* on the southern outskirts of the Carnic Alps and the southwestern outskirts of the Julian Alps, and *E. hercegovina* in the Dinaric Mountains from Bosnia and Herzegovina to Montenegro as well as on Pelješac Peninsula in Croatia. *Euphorbia barrelieri* is more widespread, *E. barrelieri* subsp. *barrelieri* is confined to the Apennine Peninsula and *E. barrelieri* subsp. *thessala* to the southern Balkan Peninsula.

The aim of the study was to test hypotheses on the relationships among the taxa based on classical morphological and biogeographical assumptions, as well as to infer the phylogenetic position of the group within *Euphorbia*, using AFLP and chloroplast (*trnT-trnF*) as well as nuclear ribosomal DNA sequences (ITS), respectively.

The sequence data suggest that the *E. barrelieri* group as traditionally circumscribed is not monophyletic, *E. nicaeensis* (incl. *E. glareosa*) and *E. seguieriana* (incl. *E. niciciana*) are nested within it. The sister to the group is *E. pithyusa* from the western Mediterranean. Chloroplast and nuclear phylogenies are incongruent, suggesting a complicated evolutionary history. The ITS phylogeny is in several respects congruent with patterns suggested by AFLP data. *Euphorbia kernerii* and *E. triflora* form distinct clades and should be treated as independent species. *Euphorbia hercegovina* subsp. *javoriensis* is clearly nested within *E. triflora*. Additional studies to better understand the evolutionary history of the group and relationships among the taxa are underway.