

## Submitted Abstract

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<b>Title</b>	Sources Of Trait Variability In Clonal Shrubs Along Elevation Gradients In The Pyrenees.
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## Abstract

The study of plant functional traits has become a widely used approach to investigate ecosystem functioning and ecosystem responses to environmental changes. While numerous studies have focused on plant trait variability between individuals of different species (interspecific variability) less attention has been given to intraspecific and intraindividual variability. We aimed to assess the sources of trait variability among different levels of organisation (species, population, clone, ramet) in clonal dwarf shrubs of cold ecosystems, with special focus on intraindividual variability. For this, we sampled four species, *Dryas octopetala*, *Empetrum hermaphroditum*, *Vaccinium myrtillus* and *Vaccinium uliginosum* in three locations along elevation gradients in the Pyrenees. At each location, we selected four clones of each species and sampled five ramets within each clone. We measured height, total leaf biomass and the Huber value (sapwood area:leaf area) for each ramet, and we measured specific leaf area and leaf dry matter content in five leaves of each ramet. Preliminary results show that although trait variability remains the largest at interspecific level, the contribution of each organisation level within species differed substantially between the study species. For some species and traits, inter- and intraindividual variability was larger than the variability explained by elevation, and some species showed a remarkably high intraindividual (intraclonal and/or intraramet) variability. We discuss the importance of evaluating the sources of intraspecific variability in trait-based studies aiming to understand ecological patterns at community and ecosystem scale, and the implications of our results for alpine plant species under a changing climate.