

GENETIC ANALYSIS OF TWO RARE SARDINIAN ENDEMIC OF THE *CENTAUREA* GENUS

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Increasingly rapid environmental changes, caused by human activities at the local- and global scale, are expected to impact wild plant populations by altering their fitness to the environment they presently occupy. This is especially true for narrow endemic plant species, because their genetic structure could reveal high variability in a restricted geographic range and the presence of peculiar genotypes not found elsewhere.

In this study, we have considered *Centaurea filiformis* Viviani and *C. ferulacea* Martelli, two rare chasmophytic endemic entities exclusively found in the impervious Mesozoic limestone regions of central-western Sardinia, where they are distributed in a few scattered populations. These populations usually occur on cliff faces included in the wider protected areas belonging to the Natura 2000 European network. In Sardinia the genus *Centaurea* is represented by three other endemic species.

The aim of the present study is the genetic investigation of the remnant population of these species, in order to plan conservation strategies.

To this purpose we sampled 10 populations of *C. filiformis*, representative of the whole habitat of the species, for a total of 180 plants, which were then genotyped at 10 heterologous microsatellite loci. We also sampled and analyzed by the same markers two populations (40 plants) of the congener *C. ferulacea* and two smaller populations composed of individuals that display intermediate phenotypes between the two species. The presence of these phenotypes is not surprising, given that plants with intermediate morphology were also found in a previous study between *C. horrida* and *C. filiformis*, suggesting that interspecific hybridization could have played a significant role in the evolution of several sections of the *Centaurea* genus. In this work genetic differentiation, the presence of a genetic structure and of a spatial genetic one will be investigated.