

In order to test the persistence of plant communities over time, we decided to compare the intraspecific phylogeographies of five plants from the same community (*Cardamine* gr. *bellidifolia* L., *Cerastium cerastoides* (L.) Britton, *Omalotheca supina* (L.) DC., *Salix herbacea* L., *Sibbaldia procumbens* L., *Veronica alpina* L.). Ten individuals of these six plant species were sampled in three localities in Scandinavia, three localities in the Alps, and two localities in the Pyrenees. The intraspecific phylogeography will be assessed using the AFLP technique. We expect to find concordant phylogeographic patterns if plant communities are stable over time.

Patterns of populational differentiation in *Hypochaeris* (Asteraceae) of the southern Andes Karin Tremetsberger¹, Yan-Ping Guo², Alexandra Müllner¹, Rosabelle Samuel¹ and Tod Stuessy¹

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Less is known about effects of ice ages in southern South America than in Europe and North America. The Andes in southern Chile (south of Temuco) were completely glaciated, whereas only descent of local glaciers occurred throughout other Andean regions. Species of South American *Hypochaeris* sect. *Achyrophorus* are members of the high-Andean flora (Chile and Argentina) and serve to test hypotheses of biogeographic effects of ice ages in this region. We have analyzed three species that differ in ecology and reproductive modes: *H. tenuifolia*, a perennial allogamous pioneer on exposed lava slopes, and *H. acaulis* and *H. palustris*, both inbreeders localized in moist seeps along small arroyos.

Two hypotheses were tested: (1) regional patterns of genetic partitioning north of the glacial boundary do not correlate with isolation by distance and (2) genetic variation within glaciated southern regions is reduced in comparison to populations further north.

AFLP markers provide an estimate of genetic variation within and among populations. In *Hypochaeris tenuifolia*, three primer-combinations were analyzed yielding 206 fragments of which 186 (90%) were polymorphic. *Hypochaeris tenuifolia* has high dispersal and colonizing abilities. Genetic similarities exist between pioneer populations on ash slopes of Volcán Lonquimay (that erupted in 1988) and those more than 100 kilometers away. The distance class correlogram among populations throughout the species also indicates genetic correlations between populations up to 130 kilometers distant. This value is similar to those documented in other alpine species (Alps, Scandinavia). Absence of deep gaps in the infraspecific phylogeny also indicates lack of older historical separations. Isolation by distance may be the main factor responsible for these observed patterns, with past and present long distance gene flow via wind-dispersed seeds swamping effects of Pleistocene differentiation. The only suggestion of ice age isolation may be seen in characteristic fragments that show a slight regional geographic pattern of allelic differentiation characterizing northern, central, and southern parts of the range.

Hypochaeris acaulis and *H. palustris* are small herbs with limited dispersal capabilities and isolated to subalpine seeps. Genetic data reveal patterns of phylogeographic differentiation in these taxa, suggesting impacts from inbreeding as well as local Pleistocene glaciation. Reduction in genetic variation within and between populations is observed in the southern glaciated areas in contrast to northern parts of the range.

Several peripheral Pleistocene refugia for the alpinecushion plant *Saponaria pumila* (Caryophyllaceae) Andreas Tribsch and Peter Schönswitter

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Saponaria pumila (Caryophyllaceae) occurs in the Eastern Alps and in the southern parts of the Eastern Carpathians. Within the Alps its distribution shows strong affinities to presumptive Pleistocene refugial areas for the flora of the siliceous Alps (eastern-most Alps, Dolomites), but also extends to central parts (Hohe Tauern, Defereggener Alpen, Presanella, Sarntaler Alpen). Popu-