

"Geneto-floristics": reševanje florističnih in sistematskih vprašanj z molekulskimi metodami

"Geneto-floristics": solving floristic-systematic problems with molecular tools

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My presentation aims to brake down reciprocal reservations of "field/morphological guys" and "molecular guys". I illustrate this with two examples of my own research.

In the course of molecular phylogeographical investigations in *Androsace* a previously unrecognised entity from the Komovi mountains (Črna Gora) was identified as a clearly separated new species, *Androsace komovensis*. It morphologically resembles *A. mathildae* from the Abruzzo mountains (Italy), but differs in the persistent, dense and regular indumentum of the leaf margin. Molecular phylogenetic data indicate that *A. komovensis* is not closely related to *A. mathildae*, but is sister species to the Eastern Alpine *A. hausmanni*.

Papaver alpinum s.l. is an extraordinarily polymorphic taxon. We tested previous hypotheses about relationships and taxonomical status of the numerous described taxa within this species group by applying molecular approaches. In addition we re-evaluated morphological characters used in previous taxonomic treatments in light of the molecular results. The ancestral sequence haplotypes were widespread and dominant throughout the Alps, whereas peripheral populations in other mountain ranges were often characterised by haplotypes directly derived from the central haplotypes. AFLP data corroborated the pattern of a 'centrifugal radiation' and additionally showed that most populations were genetically distinct, presumably due to the effect of genetic drift in small and isolated populations. The morphological data did not reveal clear patterns of variation; only the Pyrenean and Sierra Nevada populations differed in two non-overlapping characters. Our study implied that previous taxonomic concepts of *P. alpinum* s.l. were highly artificial, and that either nearly all populations have to be raised to some taxonomic rank or that, preferably, no infraspecific taxa should be recognised at all. The only segregate possibly deserving taxonomic rank is the Iberian subsp. *lapeyrousianum*.