

**P 20: Intraspecific diversity of *Achillea collina* Becker evaluated by molecular genetic markers**

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DOI 10.5073/jka.2016.453.053

**Abstract**

*Achillea* species has been known and utilized worldwide in folk medicine and in up-to date phytotherapy as well. In our recent study we wanted to evaluate the intraspecific diversity of *A. collina* and to look for reliable, relatively simple molecular method for differentiation of different accessions. Five cultivated genotypes and six populations of wild origin were investigated. Besides, for comparison and control six other species were involved into the trial. The DNA samples were evaluated by RAPD (11 primers) and ISSR (12 primers) methods.

In the RAPD analysis 140 bands (97.14 % polymorph) were detected. They distinguished primarily among species and less characteristically among the *A. collina* populations. With ISSR primers we detected 188 bands (97.34 % polymorph). ISSR markers and combined RAPD and ISSR method enabled an informative intraspecific evaluation of *A. collina* accessions. The largest genetic distances were proven between *A. ptarmica* and the members of sect. *Achillea* (genetic distances 0.52 - 0.72). Similarity is highest (genetic distance 0.27) among the populations where geographical distances of the original locations are only 52-55 km. Nei's genetic distances of cultivated populations are also relatively low (0.23 - 0.36) and a common origin for the majority of these genotypes was assumed.

Keywords: *Achillea collina*, PCR, RAPD, ISSR