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=== ORAL PRESENTATION ABSTRACTS ===

Analysis of Genetic Stability of *in Vitro* Plants by Molecular Markers

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Conservation of endangered, rare, vulnerable or endemic plants became of great interest in the last years in order to preserve the natural resources. The most used protocols for plant conservation is *ex situ* conservation in botanical garden collections, or *in vitro* conservation by tissue culture. Both protocols require the previous analysis of the genetic variability in the populations because it is well known that endangered or endemic plants exhibit low level of genetic variation in their population (Hamrick *et al*., 1991). There are several examples of endangered, rare or endemic species with large populations, but individuals are genetically similar or identical. The low genetic diversity variation is due to clonal multiplication or bottlenecks. Thus, knowing the genetic structure and variability is useful before the development of proper conservation strategies. After conservation, the genetic stability of plants should be also investigated, because the success of any conservation method is to preserve populations but the genetic structure and variability as well. Molecular markers as SSR and ISSR are valuable tools for estimation the genetic variability in populations and genetic stability after conservation as well (Varshney *et al.,* 2005).

Several endangered species as *Dianthus giganteus* D'Urv. subsp. *banaticus* (Heuff.) Tutin, endemic for the South-West Carpathians and vulnerable in Romania and *D. spiculifolius* Schur, endemic for Eastern Carpathians and vulnerable in Romania were proposed for *in vitro* conservation. Genetic structure and variability of natural populations was investigated by molecular markers as SSR and ISSR

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previous to *in vitro* culture. After different periods of *in vitro* culture the genetic stability of plants was studied using the same molecular markers and the same PCR condition and programs.

Molecular analysis by SSR and ISSR markers of individuals belonging to natural habitats and *in vitro* plants showed that the genetic differences between somaclones derived from the same individual are low in both species. These differences could be explained by the specific culture conditions. The genetic variability of plants from natural habitats was conserved by *in vitro* culture. Thus, *in vitro* plants could be used for outdoor collection, and for replanting in natural habitats, if necessary.

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