STUDIA UNIVERSITATIS BABEŞ-BOLYAI BIOLOGIA, LXI, 1, 2016 (p. 35-36)

## === ORAL PRESENTATION ABSTRACTS ===

# *In vitro* Culture for *ex situ* Conservation of the Vulnerable Species *Moehringia Janke* Griseb ex Janka

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*Moehringia jankae* **Griseb.** ***Ex*** **Janka** is an European endemite in the West area of Black Sea Region, being a Dobrogean element which can be found in the East side of Romania (in Hârşova, Moşu Hill, Macin National Park, between Greci and Macin, Consul Hill Reservation, Canaralele Hârşova, Topolog, Tuşan-Măgurele Hill, Cheia Jurassic Recife, Călugareni, Colţanii Mari Rocks) and also in Bulgaria.

The purpose of our study was the evaluation of the natural populations, the identification of new populations in the distribution area and the elaboration of the *ex situ* preservation methodology based on biotechnological approach. Despite plant preservation is made usually in situ in the natural habitats, additionally *ex situ* measures can be useful in different situations, especially for vulnerable taxa, with reduced populations, with limited areas or problems with reproduction or seeds germination. *In vitro* collection establishment as *ex situ* preservation method is based on the elaboration of short and medium term cultures protocols, further long-term procedures can be also applied.

Basic requirements for an *in vitro* storage system are: to maintain genetic stability, to ensure long term storage without loss of viability and to save money, labor and energy. The plants resulted from different period of *ex vitro* maintenance can be used for repopulation programs of the natural habitats or for culture in botanical gardens.

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In the case of *M. jankae*, the initiation of aseptic *in vitro* cultures was started from seeds collected from the plants from Cheia Jurassic Recife. For the endangered plants species, the seeds germination represents an important biological aspect which ensures *in situ* survival of the species and *ex situ* approaches.

Because in this taxon the seeds had a high contamination rate, different methods of sterilization was tested using single or combinations of treatments. The best results were registered in the case of mercuric derivate, despites the sterilization rate was quite low (max. 22 %); meanwhile the germination rate of sterilized seeds was reduced at 14% registered after their vernalization 60 days at 4$^{o}$C (in the case of the use of thimerosal as sterilising agent).

The plant regeneration from the culture initiated from explants originated from seedlings was evaluated after 4 and 8 weeks taking into account: the % of viable explants; the mean number of nodes/regenerants, the mean length of the tallest regenerated shoot, the rhyzogenesis.

The *in vitro* response of *M. jankae* was good, morphogenesis occurred at good rates on all media tested (on MS supplemented with BAP 1 mg/l+ 0,1 mg/l AIB, MS + zeatine + 0,1mg/l AIB, or adenine sulphate 50 mg/l and 0,5 mg/l AIB and thidiazuron 0,05 mg/l+ IBA 0,01 mg/l).

The acclimatization of regenerated plants was tested on solid, liquid and semisolid substrates. The short term multiplication technology further ensures material for medium and long term preservation, meanwhile producing plants for outdoor collections.

**Acknowledgements:** The studies were financed by "Innovative biotechnologies for the preservation of endemic and/or endangered species of Caryophyllaceae from Romania for Natura 2000 Network consolidation"(TEHNAT), PN-II-PT-PCCA-2013-4-1764 Nr.71/2014 research project.