

## Preliminary results of a new approach for *in-vitro* culture conservation of the sand bindweed (*Convolvulus persicus*): seeds

Valentin Adrian Kiss<sup>1✉</sup> and Liliana Jarda<sup>2</sup>

<sup>1</sup>Romanian Institute of Science and Technology, Cluj-Napoca, Romania;

<sup>2</sup>Alexandru Borza Botanical Garden, Babeș-Bolyai University, Cluj-Napoca, Romania;

✉Corresponding author, E-mail: [kissvalentinadrian@gmail.com](mailto:kissvalentinadrian@gmail.com).

### Abstract

*Convolvulus persicus* is a critically endangered species, endemic to the embryonic shifting dunes of the Caspian Sea and the Black Sea. The risk factors for the populations of *C. persicus* in Romania have an anthropic origin (Kiss and Szatmari, 2020). At the same time, natural risks are also present, such as the solidification of the sands. The efficient approach of plant conservation involves the combination of *ex-situ* and *in-situ* strategies, having as the main objective the maintenance of genetic diversity. In our case, *ex-situ* conservation presents a viable and even indicated alternative. *In-vitro* conservation has been conducted before by Holobiuc on this species using fragments of the stem or root (Holobiuc *et al.*, 2015) but not seeds. The study aims to obtain an optimal protocol for *ex-situ* conservation using seeds, as well as the multiplication of plant *in-vitro* culture. Seeds from 20 individuals were used and kept over the winter at 18-20 °C, as well as a month at 4 °C. To initiate the *in-vitro* culture, the seeds were disinfected and inoculated into culture vessels containing 50 ml of MS solid medium supplemented with 20% sucrose. The infection rate after 30 days from inoculation is 8%. The germination rate is 1%. Only one of the seeds germinated, and after 20 days from germination, it was passed on a medium supplemented with phytohormones. In conclusion, we can say that germination of *C. persicus* is quite difficult and it is easier to induce *in-vitro* cultures from fragments of the stem or root as was done in Holobiuc's study.

**Keywords:** critically endangered, *in-vitro*, seeds, endemic, *ex-situ* conservation.

**Acknowledgements.** This work was supported by Alexandru Borza Botanical Garden.

## References

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