

Ex-situ and in-situ actions to recover species of the Catalogue of Threatened Plants in the Valencian Community (Spain)

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INTRODUCTION

Wildlife and Natura 2000 Network Service (SVS) carries out of the conservation and recovery of wild species and natural habitats in the Valencian Community (Eastern Spain). After 30 years of its activity on plant conservation (1992-2021), enough results have been obtained for at least 76 species (60 terrestrial and 16 aquatic ones), out of 85 taxa which compound the Valencian Catalogue of Threatened Plant Species (CVEFA*, from the Spanish acronym), the higher level of the list of strictly protected species at regional level. CVEFA comprises 2 categories, following the Spanish legal classification: Endangered of Extinction (EP), close to the concept of IUCN's CR category; and Vulnerable (VU), not related with IUCN homonymous category, but closer to the most endangered taxa of EN level.

*Aguilella, A. et al. (eds.) 2010. *Catálogo Valenciano de Especies de Flora Amenazadas*. Generalitat Valenciana. Valencia. [in Spanish]. <https://agroambient.gva.es/estatico/vida-silvestre/Libros%20Colecci%20Biodiversidad/Cat%20a1logo%20valenciano%20de%20especies%20de%20flora%20amenazadas/Fichas%20de%20especies%20en%20peligro%20de%20extinci%20c3%20b3n.pdf>

The SVS censuses 947 populations (monitoring units) of 142 endangered species, 550 of them belonging to the CVEFA, and regularly collects seeds or other propagules for seedbanking. *Ex situ* actions for terrestrial plants are developed at CIEF (Centre for Forestry Research and Experimentation), and CCEDCV (Centre for Conservation of Freshwater Species) carries out with similar actions of aquatic plants and helophytes.



MATERIAL AND METHODS

Ex situ actions are developed according to the handbook of Ferrer-Gallego et al. (2012), based on the GENMEDA procedures. *In situ* conservation, activities of habitat management are made by 12 field teams (Natura 2000 brigades). For those species needing to increase their representativeness on field, conservation translocations are carried out. Conservation introductions/assisted colonisations –neo-populations– and reintroductions, are preferred instead of reinforcements, in order to not to modify the unknown genetic equilibrium of the original populations. Neo-populations are established in suitable habitat close to original ones. The preferred genetic donors for translocations are these closer native populations.

Ferrer-Gallego, P.P. et al. (eds.). 2012. *Manual para la conservación del germoplasma y el cultivo de la flora amenazada valenciana*. Generalitat Valenciana. Valencia. [In Spanish] <https://agroambient.gva.es/es/web/biodiversidad/manual-para-la-conservacion-de-germoplasma-y-el-cultivo-de-la-flora-valenciana-amenazada>



RESULTS AND CONCLUSIONS

61 new autonomous populations showing enough viability have been established. These populations have joined the SVS's program of monitoring units of endangered plant species in the Valencian Community.

1034 lots of seeds of species included in these two categories (1001 lots of 60 species of terrestrial flora and 133 lots of 16 species of aquatic flora,) have been collected and preserved at the SVS germplasm banks, and **104.606 specimens** (63.891 of terrestrial flora and 40.715 of aquatic flora) have been produced in the CIEF and CCEDCV nurseries.

25 species from the category EP (18 of terrestrial flora and 7 of aquatic flora) and **32** VU (19 of terrestrial flora and 13 of aquatic flora) have been object of plant translocations. The joint amount yields 57 species belonging to the CVEFA (37 terrestrial and 20 aquatic taxa).

Most of the seed accessions are included in the active collections (conserved at 4° C). The SVS base collections (at -18° C) regularly transfer seed accessions to the Botanical Garden of the University of Valencia.

As a result of that, **580** populations have been generated from translocations (375 for terrestrial flora and 205 for aquatic plants), in several degrees of evolution.

