

## **Biodiversity at risk**

### **LIFE SEEDFORCE on the starting line Saving Italian native plants from extinction using seed banks**

#### **MUSE, Trento Science Museum, launched an European Project involving 15 partners from Italy, France, Malta and Slovenia.**

Italy hosts many plants of Community interest, 104 plant species are included in the Habitats Directive, many of which can be found only in our regions. According to the latest report on the implementation of the Habitats Directive, 58 of these are in a bad state of conservation, among the others, the dragon's head, the Ligurian gentian and the Mt. Tombea saxifrage from the Alps, Capo Palinuro cowslip in the Mediterranean, the Linosa snapdragon, the Aeolian broom from Sicily and the Sardinian Ribes, with current trends indicating a clear negative outlook for their populations. LIFE SEEDFORCE has been designed to reverse this trend, using SEED banks to restore and reinFORCE the endangered native plants of Italy (LIFE20 NAT/IT/001468). The project is funded by the European Commission through the LIFE programme, with an overall budget of 7,790,685 Euros. It aims to recover and strengthen the endangered population of Italian native plants thanks to seed banks.

The project, which formally began on the 1st October and will continue until the end of 2026 and will be implemented in 10 Italian regions (Abruzzo, Campania, Emilia-Romagna, Friuli-Venezia Giulia, Liguria, Lombardy, Sardinia, Sicily, Trentino-Alto Adige, Veneto), in France (Provence-Alpes-Côte d'Azur), Malta and Slovenia. The large partnership, led by MUSE (Science Museum of Trento) involves the Department of Environmental Biology - Sapienza University of Rome, the Conservatoire Botanique National Méditerranéen de Porquerolles, France, the Monte Barro Park, Legambiente, the Maiella National Park, the University of Ljubljana, Biotechnical faculty- Botanic garden, Slovenia, the University of Malta, the University of Cagliari, the University of Catania, the University of Genoa, the University of Palermo, the University of Padua, the University of Tuscia and the University of Udine. The project is also co-financed by the Ministry of Environment, Climate Change and Planning (MECP) of Malta and by the Italian Network of Germplasm Banks for the ex situ conservation of Italian native flora.

Specifically, LIFE SEEDFORCE will significantly improve the conservation status of 29 species of plants of Community interest reported in unfavourable conservation status, taking concrete actions in 76 SCI/SAC areas located in the 3 Italian biogeographical regions (Alpine, Mediterranean and Continental) and in the bordering regions in France, Slovenia and Malta. Notably, 17 of these 29 species are endemic to Italy and 10 are priority species (i.e. species for which the European Union has a particular responsibility because of their distribution area. The priority status aims to encourage the rapid implementation of measures to ensure their conservation).

"It's the first time that a Life project adopts a national approach taking action to save top priority species in Italy" - comments Mr. Costantino Bonomi, curator of Botany at MUSE and project coordinator - SEEDFORCE will carry out a rescue operation on large scale, focusing on 29 species, 28 of which are Italian, particularly rare and endangered, existing in 76 hot-spots of biodiversity, 59 of which in Italy, covering all districts from the Alps to the Po Valley, the Apennines, Sicily and Sardinia. Thanks to an integrated approach, the threats menacing the 139 populations (107 in Italy)

will be removed or mitigated. More than 25,000 individuals of these rare species (20,000 in Italy) will be transferred, massively propagated in greenhouses and in laboratories in order to break the isolation that currently condemns them to extinction".

Rare plants available for everyone: the LIFE SEEDFORCE project will approach the market and sell the surplus production of plants with garden value, making these species better known in our cities.

The risk of extinction for these species is related to intrinsic factors because of small declining and isolated populations, human-induced habitat modifications, such as discontinued traditional agricultural practice (e.g grazing, coppicing and haymaking), the invasion of alien species, high-impact recreational activities and tourism.

LIFE SEEDFORCE, through an integrated ex situ/in situ approach, will help mitigate or remove these threats by improving habitat quality and strengthening target populations in the 76 selected sites (SCIs/SACs) where these 29 species are still growing or recently disappeared. Planned activities include revegetation control (shrub and tree removal, haymaking), protection from overgrazing and trampling with fencing, and eradication of invasive alien species. For the intrinsic threats associated with small and fragmented populations, SEEDFORCE will increase population size with a carefully selected genotype mix that mimics the natural gene flow, breaking plant isolation and curing habitat fragmentation.

The objectives will be achieved through the expertise and collaboration of all partners who will improve the habitat quality in the 76 SCIs/SACs which cover a total of 450,250 hectares. Partners will ensure that each site can support a vital population of the target species, collecting germplasm of the target flowers and plants, without affecting the natural reproductive potential of the species. Seeds and other propagation material will be conserved for long term; used for propagation, producing a total of at least 50,000 individuals, using all partners' facilities including seed germination labs and plant nurseries. 139 populations of the 29 target species will be reintroduced and reinforced in the 76 sites of Natura2000 network; they will be constantly monitored in collaboration with the management authorities in order to achieve the greatest results and to provide the country with an effective tool that will help to fulfil its contractual obligation and deficiencies related to the infringement procedure (2015/2163).

The project will not only address stakeholders, throughout its duration, information and awareness campaigns will be carried out targeted at the general public and at specific audiences. Plant conservation and biodiversity issues will be showcased with travelling exhibitions and printed materials, highlighting the value of the unique natural heritage of endemic and rare species. Digital tools such as websites, social media and press office activities will target interested audiences, while specific actions will reach out to young people and school pupils.

**The target species:** 1. *Astragalus verrucosus* - 2. *Bassia saxicola* - 3. *Campanula sabatia* - 4. *Cytisus aeolicus* - 5. *Galium litorale* - 6. *Limonium strictissimum* - 7. *Linum muelleri* - 8. *Ribes sardoum* - 9. *Silene hicesiae* - 10. *Adenophora liliifolia* - 11. *Botrychium simplex* - 12. *Centranthus amazonum* - 13. *Crepis pusilla* - 14. *Dracocephalum austriacum* - 15. *Elatine gussonei* - 16. *Eleocharis carniolica a*- 17. *Eryngium alpinum* - 18. *Gentiana ligustica* - 19. *Gladiolus palustris* - 20. *Himantoglossum adriaticum* -21. *Kosteletzkya pentacarpos* - 22. *Leucojum nicaeense* - 23. *Linaria flava* - 24. *Linaria pseudolaxiflora* - 25. *Liparis loeselii* - 26. *Marsilea quadrifolia* - 27. *Primula palinuri* - 28. *Saxifraga tombeanensis* - 29. *Woodwardia radicans*

**LIFE SEEDFORCE Press Office:**

Laura Biffi: [l.biffi@legambiente.it](mailto:l.biffi@legambiente.it) - Mob. 349.5768894

Milena Dominici: [m.dominici@legambiente.it](mailto:m.dominici@legambiente.it) – Mob. 349.0597187

**MUSE (Museo delle Scienze di Trento) Press Office:**

[media@muse.it](mailto:media@muse.it) – T. +39 0461 270 337