

SEMCLIMED is an example of interregional collaboration for the conservation of the flora. In it participate sixteen research institutes and governmental organizations from five countries-members of the European Union (Spain, France, Italy, Greece and Malta) and three African countries (Tunisia, Morocco and Egypt). The partners of the Project concur in the development of common conservation actions as the loss of biodiversity, expected to result from the climatic change, demands overall actions in a geographic range that exceeds the regional administrative boundaries.

SEMCLIMED PARTNERSHIP

- 1- Generalitat Valenciana-Centre d'Investigació i Experimentació Forestal (CIEF)
- 2- Université Nationale et Kapodistrienne d'Athènes - Laboratoire des Semences (UNKA)
- 3- Institut Botànic de Barcelona/Jardí Bot. de Barcelona (IJBB)
- 4- Conservatoire Botanique National Méditerranéen de Porquerolles (CBNMP)
- 5- Dir. General del Medio Natural Reg. Murcia (DGMN)
- 6- Fundació Jardí Botànic de Sóller - Banc de Germoplasma (JBS)
- 7- Università di Catania - Dipart. di Botanica (DBUC)
- 8- Mediterranean Agronomic Institute of Chania - Conservation de la Diversité Végétale (MAICH)
- 9-Conservatoire des Espaces Naturels du Languedoc-Roussillon (CEN-LR)
- 10- Conservatoire Etudes des Ecosystèmes de Provence /Alpes du Sud (CEEP)
- 11- Università di Cagliari - Dipartimento di Scienze Botaniche - Centro Conservazione Biodiversità (CCB)
- 12- Universitat de València - Jardí Botànic : Banc de Germoplasma (JBUV)
- 13- Università ta' Malta- Argotti Herbarium and University Botanic Gardens (AHUM)
- 14- Institut des Régions Arides- Laboratoire d'Ecologie Pastorale (IRA)
- 15- Institut Scientifique de Rabat -Département de Botanique et Ecologie Végétale (ISR)
- 16- Université de Mansouri- Faculté des Sciences, Egypte

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Climate Change Impact on Mediterranean Flora and Actions for Conservation

SEMCLIMED

The SEMCLIMED Project studies the effects of the new environmental conditions (caused by the global climatic change) on the wild flora of the Mediterranean basin. During the two years of the Project a number of active conservation actions are undertaken regarding *in situ* and *ex situ* conservation of plant species.

Project

GERMINATION AND CLIMATIC CHANGE

This action investigates the effects of the future climatic conditions on the germination behavior of certain plant species of the Mediterranean region. The selection of the species is based on a combination of ecological, biogeographical and bioclimatical criteria. Emphasis is given either on threatened species which need immediate protection or species representative of fragile habitats vulnerable to environmental changes as well as species of wide distribution over the Mediterranean. The germination conditions expected to prevail in the future are set according to climatic change scenarios and are simulated in special plant growth chambers.

ACTIONS IN THE FIELD

The Project develops *in situ* conservation strategies in natural habitats where the target plant species grow. These actions aim to secure the medium and long-term conservation of plant populations and/or plant communities of the Mediterranean which are seriously threatened. They also aim at the restoration and recovery of habitats which are highly degraded or vulnerable to environmental changes.

Activities

CONSERVATION OF THE NORTH AFRICAN FLORA

North Africa is a region particularly vulnerable to environmental changes. Within the framework of the Project, genetic material (seeds) of the endemic flora - rich in species of medicinal interest - from three African countries (Morocco, Tunisia and Egypt) is conserved *ex situ* in Seed Banks. The seeds, collected during field missions, are destined for the enrichment of the collection of the Institute of Arid Areas of Tunisia and for the creation of the new Seed Bank of the Scientific Institute in Rabat (Morocco).

NEW TECHNOLOGIES AND CONSERVATION

Within the framework of SEMCLIMED new techniques for the storage of genetic material (cryopreservation and micropropagation) are applied, aiming at the development of new methods and protocols for the conservation and growth of plant species which are difficult to propagate by conventional means and techniques.

LIVING PLANT COLLECTIONS

This action aims at the adoption of a common work methodology for the creation of collections and the cultivation of rare and threatened plants of the Mediterranean flora. It is being realized through the construction of special sections of rock gardens in selected Botanical Gardens. Among the wild species chosen, a great percentage pertains to the endemic flora of North Africa. Moreover, these collections (rock gardens) constitute tools of education and dissemination that contribute considerably to the acquaintance of the public with the natural heritage and the cultivation of respect for it.