SEMCLIMED:

IMPACT OF CLIMATE CHANGE ON MEDITERRANEAN FLORA AND CONSERVATION ACTIONS.

Plant: J.B Capellá. Jardi Botanic de Sóller

People : Grand Atlas, Morocco

As part of the Interreg IIIB MEDOCC community initiative, the SEMCLIMED project is dedicated to studying the impact of new environmental conditions generated by climate change on certain groups of native flora in the Mediterranean basin. Lasting approximately two years, the project has outlined different courses of action in the area of preventive active conservation, both inside and outside the natural habitats in which the plant species live. Under the coordination of the Valencian Autonomous Government's Centre for Forest Research and Experimentation (CIEF), a total of 15 research centres and public bodies and five EU member states are taking part (Spain, France, Italy, Greece and Malta), together with three countries representing the southern shore of the Mediterranean (Tunisia, Morocco and Egypt).

SEMCLIMED extends the networking process that began with the GENMEDOC project (www.genmedoc.org) for the ex situ conservation of the genetic resources of Mediterranean native flora. Its development allowed common working methods to be established and collective goals to be set for plant conservation in the face of climate change.

SEMCLIMED's main goal is to evaluate the impact on seed germination behaviour which new, future environmental conditions provoked by climate change may have. On the one hand, systematic testing is carried out on the germination process under different experimental conditions, which simulate future climate scenarios predicted to occur over the next few years. Plant species have been selected in accordance with a combination of biogeographical, ecological and bioclimatic criteria, with particular attention being paid to those which grow

The Interreg IIIB MEDOCC Community initiative (http://www.interreg-medocc.org), co-financed with European Regional Development Funds (ERDF), promotes transnational co-operation through the formation of partnerships and contributes to projects which promote sustainable, harmonious and balanced development in the Western Mediterranean.

in habitats that are very sensitive to environmental change (coastal dunes, Iberian gypsum vegetation, high mountain habitats, etc.). On the other hand, various conservation activities are being developed inside –in situ- and outside –ex situ- the natural habitats in which the species live. In situ conservation measures include reinforcing, restoring and reintroducing plants into the ecosystems, which are particularly sensitive to aridification, and also into those in which there are known alterations in the stability of plant populations due to climatic disturbances.

As a preventive conservation measure, a new bank of North African seeds has been established for the ex situ conservation of the genetic plant material of a high proportion of endemic flora. This initiative aims to guarantee the existence of species which are of interest due to their exclusivity and which are distributed across the heart of a territory that is highly fragile and vulnerable to environmental changes, as is North Africa. The seeds collected during the expedition campaigns will serve to increase the number of germplasm bank accessions at the Arid Regions Institute, Tunisia, (Tunisia Institute of the Arid Regions) and to constitute the initial seed batches in Morocco's first germplasm bank, installed at the Rabat Scientific Institute.

The GENMEDOC project (www.genmedoc.org), "Creation of a network of conservation centres for the genetic material of the flora of Mediterranean regions in the MEDOCC area", also financed with ERDF funds through the Interreg IIIB MEDOCC Community initiative, has set up a network of seed banks for the wild flora of the Western Mediterranean. The main aims which have been established cover everything from the exchange of technical information among the partners involved to the adoption of common working protocols for the ex situ conservation of the genetic resources of Mediterranean flora, especially those which are classified as endemic, rare or endangered, and which are found in Sites of Community Interest (SICs) and habitats included in Directive 92/43/EEC.

For certain species which present confirmed handling and production difficulties, in addition to the practices traditionally used for the ex situ conservation of plant genetic resources, new techniques are applied which have been developed through plant biotechnology (cryoconservation and micropropagation or in vitro cultivation) with the principal aim of optimising the conservation and/or production protocols of plant species with confirmed multiplication difficulties. Finally, several live collections of rare and endangered plants of the Mediterranean flora have been designed to ensure their ex situ conservation and to provide material for propagation and research. These collections are located in the botanical gardens, which are participating in the project, and together constitute an important educational and informational resource.

The SEMCLIMED project represents a further example of collaborative networking in aid of the conservation of Mediterranean native flora. All of the activities are being developed in the regions involved in the project in a collective, consensual manner, since the loss of biodiversity caused by the impact of climate change requires global responses within a wider geographical framework than that offered by regional or local administrations.

Pablo Ferrer/Esther Tortosa Lis

*BANC DE LLAVORS FORESTALS-CIEF
Generalitat Valenciana.
Avda. Comarques del País Valencià 114. 46930
Quart de Poblet
Valencia, Spain.
flora.cief@gva.es
gestio.cief@gva.es