

BOTANICAL GARDENS OF THE EUROPEAN UNION AND EX SITU CONSERVATION

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ABSTRACT. Many botanical gardens in the European Union are also elite institutions worldwide significance in botanical research, plant conservation, education and horticulture. They include more than 100 germplasm banks, which not only conserves collections of spontaneous, but also species of agricultural interest, being one of the most important genetic reserves in the world. Botanical gardens have played an important role in many cultures and civilizations throughout the ages. They fulfill various roles and functions so that it is not easy to define what a botanical garden. However, a convenient definition is that they are institutions which documented collections of living plants kept for purposes of scientific research, conservation, monitoring and education Botanic Gardens Conservation International 1999. Strengthening the major centers of botanical gardens as systematics and taxonomy research in plant taxonomy provides the basis for all applied and integrated approaches to science and plant species and habitat protection or management programs. The importance of placing the subject in numerous taxonomic and conservation of biological diversity permissive custom has been made in the Global Taxonomical Initiative. Guarded and important documentary artifacts, structures and collections of historical and cultural heritage is a rich and varied extensive collections held in botanic gardens. An important biological inheritance is kept in an extensive collection of botanical gardens, plants, bringing together plants from widely separated locations and often inaccessible to study in controlled conditions. Promote botanic gardens as a tourist attraction in most countries with well-developed botanical gardens regard as important tourist wealth. Many now rely on income from visitors who pay to visit these gardens. Larger institutions have sections of public relations and marketing who employ trained personnel, but in smaller gardens such promotion is carried out by untrained employees specifically for this work.

Keywords: botanical gardens, conservation, monitoring, plant taxonomy

INTRODUCTION

Many botanical gardens in the European Union are also leading institutions worldwide significance in botanical research, plant conservation, education and horticulture (Table 1).

Table no. 1. Botanical Gardens in the European Union

Country	Number of Botanical Gardens
Austria	13
Belgium	25
Denmark	8
Finland	8
France	68
Germany	78
Greece	4
Ireland	11
Italy	54
Luxembourg	1
Netherlands	43
Portugal	9
Spain	16

Sweden	9
United Kingdom	77
Total	424

They include more than 100 germplasm banks that preserve collections of flora not only spontaneous but also species of agricultural interest, being one of the most important genetic reserves in the world.

Their collections of museums and libraries are some of the most important and extensive in the world - a significant part of European culture and heritage and an essential resource for botanical studies.

Botanical gardens have played an important role in many cultures and civilizations throughout the ages. Their contribution to cultural development, economic growth and commercial expansion has been of great importance. Today, their roles are many and varied (Table 2), which lists some of the current major activities of botanical gardens in the European Union.

Table no. 2. Current roles and activities botanical gardens in the European Union

- Research, conservation and management "in situ" and "ex situ" wild plant species reintroduction
- Research plant and habitat restoration and Arboriculture Dendrology
- services
- library and information centers for environmental education programs children and adults

- trainings Tourism Research
- Public Recreation and floriculture ornamental horticulture Horticulture
- Training and remedial therapy and Assembly Introduction of new genetic resources of crop cultivation and maintenance
- cultivation of seeds and tissue storage benches
- genes of land
- Herbarium Studies Research Laboratory, including cultivation of plants (tissue culture) "in vitro"
- Research
- Planning ethnobiological urban, resource allocation and use of land

They meet the diverse roles and functions so that it is not easy to define what a botanical garden. However, an appropriate definition is that they are "institutions that maintain documented collections of living plants for purposes of scientific research, conservation, monitoring and education" (Botanic Gardens Conservation International 1999).

In this definition may also include a variety of institutions competing for personal gardens with hundreds of people and different industries, to small institutions with limited resources and activities. Last but not the latter, as is suggested by the Plan of Action, all play a role in botanical resource management, in botany, horticulture, conservation and education.

Botanical Gardens are administered by a large number of organizations and governments. Many are run by local authorities and local funds received. More than 30% of the world's botanical gardens belonging to universities and other research institutes for higher education, only a small proportion of them are private. In recent years it was fashionable, the botanical gardens to win a growing financial and administrative independence, often become an administrator of trust and operating funds gained through charitable efforts.

Plants best represented in the collections of botanical gardens live in the European Union includes many important groups, including carnivorous plants, orchids, palms, cacti and other succulents, ferns, tropical ornamentals, Cicada, plant bulbs, bromeliads and conifers. Many botanical gardens focusing particularly on increasing and maintaining thematic collections of such groups as aromatic and medicinal plants, plant economy, especially fruit trees and wild relatives ornamental plants ethnobotanical and historical interest, alpine and temperate zone trees.

Incentives for increasing awareness of the need of preserving a Plant, numerous botanical gardens have paid particular attention Plant replacement of one whose origins are unknown and material characteristics More recently known wild origin have given priority to maintain Biggest collection of different genetic taxa Plants priority, rare or endangered. Moreover, there is a growing fashion to botanical gardens, and a concentration give priority flora actively growing their own regions, in particular are threatened The care. It is hoped that this action plan will stimulate the work of many botanical gardens in the Other World.

STRENGTHENING THE BOTANICAL GARDENS AS MAJOR CENTERS OF TAXONOMY

Systematic research and plant taxonomy provides the basis for all approaches applied and integrated science and plant species and habitat protection or management programs. Introduction of taxonomic importance in many activities referred to conservation of biological diversity and permissive custom was made in taxonomic Global Initiative (Decision IV/1D, the fourth Conference of Parties of CBD, Bratislava 1998). In many universities, research in systematic botany is mainly restricted to molecular and biochemical studies and botanical gardens are thus not only custodians of valuable resources taxonomic research, but often the most important institutions for the study and teaching of botany systematic and taxonomy floristicii. Approximately 2,500 scientists are employed in approximately 600 European botanical gardens and their associated institutions, some of them (eg. Kew, Leiden, Geneva, Berlin) include major national herbarii. Most are actively involved in systematic and taxonomy, including horticulture taxonomic, floristic, Biogeography, cataloging local flora, etc.. This makes the European botanical gardens are the main sources of taxa and the main source of scientific data needed to supervise and ecogeographical flora, rare or threatened species identification and administration, propagation and cultivation. Several needed taxonomy vegatali are life and botanical gardens have a role in providing training and stimulate an interest in taxonomy to people of all ages, in the hope that some may want to study them further.

GUARDED AND IMPORTANT DOCUMENTARY ARTIFACTS, STRUCTURES AND COLLECTIONS OF HISTORICAL AND CULTURAL

A rich and varied heritage is held in collections in botanical gardens extensive.

An important biological inheritance is kept in an extensive collection of botanical plants, bringing together widely separated plants and often inaccessible locations for studies under controlled conditions. BGCI (Wyse Jackson 1999) estimated that the EU botanical gardens hold up to 50,000 species of plants, representing almost 20% of the flora of higher plants in the world. There are major collections of the Royal Botanic Gardens well known, Kew, Royal Botanic

Garden Edinburgh, Botanical Garden of Copenhagen, and the Jardin des Plantes in Paris.

In addition to these major collections, botanical gardens have some special living collection. Botanical Garden Collection carnivores from the University of Vienna is one of the best in Europe. Salientia collection of the Botanical Garden of Copenhagen is probably the largest in the world, with approximately 1000 species in the Mediterranean, South Africa and the Caucasus. Woody plant collection at the University of Helsinki Botanical Garden has over 2,000 species of shrubs and rhododendrons, azaleas and hidrangee. Palm Garden in Frankfurt is a collection of about 4,500 species of orchids. Historical garden of roses in Munich is one of the most important crop in the history of roses roses in Europe. Rock Garden at the Botanical Garden of Goettingen contains 4,500 species.

Historical garden of roses in Munich is one of the most important crop in the history of roses roses in Europe. Rock Garden at the Botanical Garden of Goettingen contains 4,500 species. Rock Garden at the Royal Botanic Garden Edinburgh is considered by many Iverleith to be the most beautiful in the world with more than 5,000 high-alpine species, Arctic and Mediterranean. Many botanical gardens have important conservation collections. Many endemism in the Canary Islands are grown at the Botanical Garden "Viera Clavijo", Gran Canaria.

Botanical Garden of Copenhagen Danish support wildlife 1000. Kew Millennium Seed Bank of plans to preserve 10% of world flora and representatives of each native British species. Germplasm bank of Cordoba contains extensive collections of species andaluziene. Gene bank of rare and threatened plants in Irish Botanical Garden of Trinity College Dublin maintains germplasm of several species of wild Irish Red Data Book (Book of Irish Red Data).

Some species are cultivated in botanical gardens early introductions: - cedar of Lebanon planted in 1734 at the Jardin des Plantes, Paris. - A yew alley known as Addison's Walk was planted before 1795 in the National Botanic Gardens, Glasnevin. - The Botanical Garden of Padua University *Chamaerops humilis* species exist, Goethe palm, planted in 1585, *Magnolia grandiflora* and *Ginkgo biloba*, both planted in 1786 and *Platanus orientalis* planted in the 1600s and are probably the oldest examples of these species in Europe.

PROMOTING BOTANICAL GARDENS AS TOURIST ATTRACTION

Most countries with well-developed botanical gardens regard as important tourist wealth. Many now rely on income from visitors who pay to visit these gardens. Larger institutions have sections of public relations and marketing employing trained staff, but in smaller gardens such promotion is carried out by untrained staff specifically for this work. Promotion is often based on botanical gardens unmistakable beauty of gardens, which can be an inspiration to visitors, but

can obscure the specific purpose of conservation and plant collections. On the other hand, increasing the number of botanical gardens offer visitors the opportunity to lead the scientific message of conservation and cultural messages to several members of the public.

CONCLUSIONS

Botanical Gardens in the European Union should:

- promote their position as centers of excellence in taxonomic research and teaching and to continue to provide essential data line for plant science
- to increase the importance and continuing relevance attention taxonomic work carried out in botanical gardens and stimulate interest for them to exchange information with other institutions working scientific and field botanists
- provide training and advice on plant identification and taxonomy, for students, professionals and the general public.
- management of expertise to share and preserve heritage collections to their cultural collections are an important part of their institutional mission
- maintain a database with information on heritage and cultural collections.
- develop an institutional policy associated with visitor services and tourism, to ensure that visitors leave the garden with an understanding of their work, the importance and their values.
- work with local tourist authorities, national and international to promote gardens.
- provide information to visitors about the historical and cultural heritage of gardens, plant collections, and preservation of research in progress.
- seek suggestions from the public relations professional organizations on how to promote their gardens for tourists.

ACKNOWLEDGMENTS

This work was cofinanced from the European Social Fund through Sectoral Operational Programme Human Resources Development 2007-2013, project number POSDRU/ CPP107/DMI 1.5/S/77082, "Doctoral Scholarships for eco-economy and bio-economic complex training to ensure the food and feed safety and security of anthropogenic ecosystems"

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