

The Italian Botanical Society and Botanic Gardens in service to raise awareness of plant diversity conservation.

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Summary

The Italian Botanical Society was founded in Florence in 1888 with the aim of developing and promoting research in Plant sciences in Italy. Botanic Gardens were instituted in Italy almost five centuries ago as true scientific structures; besides their role in support of scientific research their educational and didactic activities - open to a large public - are of fundamental importance. Sensitive to the problem, the Italian Botanical Society support a working group interested in pre-university education. During these years a network was established involving Botanic Gardens as educational agencies, various organizations, local bodies and schools; some of the results were discussed during joint meetings or published in the *Informatore Botanico Italiano*, the magazine that reaches all members, in order to encourage plant-based education. Among others, the experience of one of the oldest Italian Botanic Garden - that of Padua - is here emphasized.

Introduction

In autumn 1716 the "Societa' Botanica Fiorentina", the first botanical society in Europe, was established by the great botanist Pier Antonio Micheli. Due to a series of difficulties this society unfortunately stopped its activities. Again in Florence, to underline the importance of this city in Italian Botanical history, in 1841 the Italian Central Herbarium (-Erbario Centrale Italico) by means of Filippo Parlatore and thirty years later (-1874) the first International Congress of Botany were established. These important steps, in addition to the union of the Italian Nation (-1861) and others, brought to the constitution of the Italian Botanical Society (-SBI) on January 8 in 1888, with the aim of developing and promoting research in Plant sciences in Italy.

Italy can also underline the the institution of the first Botanic Gardens, almost five centuries ago - Summer 1544 in Pisa, July 1545 in Padua, December 1545 in Florence) as true scientific centres growing medicinal plants for the "*Lectura simplicium*". Over the years they evolve from static conservatories of living collections to true reservoirs of biodiversity. In addition to the support of scientific research, the educational and didactic activities - open to a large public - are of fundamental importance.

How is the SBI organized and how does the SBI act?

At present 19 Working Groups touching various topics from flora and vegetation to algology, mycology or conservation and 13 regional sections open to all those interested are active through an annual social congress, annual social field excursion, smaller meetings and workshops. The Working Group for Botanic Gardens and Historical Gardens of the S.B.I established in 1969, co-ordinates more than 50 institutions, mostly university but also some municipal ones, Botanical Gardens, Alpine Gardens, Arboreta... Moreover, the SBI publishes the "*Informatore Botanico Italiano*", like a newsletter distributed to all members and reporting papers of various national activities, updating the Italian flora, ecc..., and the international journal "*Plant Biosystem*" dealing with all aspects of plant biology.

Discussion

The role of Botanic Gardens as a link-agency between Universities and the rest of the world is well recognized.

The SBI seen not only as a group of scientists but also of active people promoting the propagation of culture is sensitive to the problem of education. These two realities in addition to the fact that in recent years the demand on initiatives in environmental education and actions for common education programmes focused to public awareness are increasing, brought to a network between SBI members and Botanic Gardens as educational agencies involving various organizations, local bodies and schools. The SBI supporting the working group interested in pre-university education, includes now in the printed news also a part dedicated to Didactic, School

and University in order to encourage plant-based education. The first manuscript was on educational tours in the Naples Botanical Garden, already sensible to the problem since years - MENALE et al., 1999).

Keeping in mind that the current status of Italian Botanic Gardens is heterogeneous regarding staff, facilities and proposed activities, only some examples going from northern to southern Italy are mentioned here, more can be found in the "Informatore Botanico Italiano".

At the Viotte Alpine Garden (Trentino Region, Northern Italy) in order to increase awareness of biodiversity issues and the current need for its conservation you can participate at a non competitive treasure hunt (Fig. 1) and then win an envelope of seeds (BONOMI & TISI, 2000). A didactic thesis on systematic botany of the University of Florence is the result of the need of the Forestal Botanic Garden situated at the Abetone pass (Tuscan Region, Central Italy) to stimulate the understanding of biodiversity concept (Fig. 2), the curiosity and following increasing sense of observation of the young generation who to transmit all of this to the older local population (LONGHI et al., 2004)



Fig. 1 Here children must recognize the real bilberry from the false one by colouring a worksheet and testing the fruit.



Fig. 2 - An original botanic glossary as play-cards realized at the Forestal Botanic Garden of Abetone, called OBFary.

Various events were organized in order to favour the overlapping of educational formation and the spread of education. Thanks to the S.B.I., the didactic conference at Vico del Gargano (Region of Puglia, South Italy) and the national competition have made the school a joint force of the National Park of Gargano (Informatore Botanico Italiano 33, 2001). The workshop "Botanica hands on" organized at the Museo Tridentino di Scienze Naturali (Trento - June 1998) for teachers aimed at the acquisition of methods, experiences (Fig. 3), materials and working sheets for the creation of environmental education projects on sustainable development (TISI & Bedini, 2000).



Fig. 3 - Scenes of the Workshop.

Since 1990, at the Botanical Garden of Padua, didactic files have been given to teachers to be verified in their own classes giving useful advice and suggestions. This procedure has made the teaching staff feel involved and gratified having a heart in transforming the experiment in the Garden into an open air class. The particular didactic experiments for blind schoolchildren become a very important initiative in Italy where blind and non-blind are in the same class. A series of contacts have been taken with pre-university schools by experimenting with new didactic strategies for the teaching of Natural Sciences. An articulated plan for the use of didactic material for blind pupils has been arranged in close collaboration with blind schoolboys and teachers in cooperation with the Padua section of the Italian Blind Union.



Fig. 4 Different collections for seeing and not seeing students.



Fig. 5 "Save the trees in the Botanical Garden", a game of collaboration set up on the tested methodology of the role including pedagogical cognitive, social, creative and recreational aspects.



Fig. 6 Wooden puzzle made from 48 varieties of wood and bark corresponding to the principal essences in the Garden as a didactic help for blind students.

Finally the "Red Book of the Heuganean Hills" must be mentioned, because it is not only a list of endangered species to be protected, but also expresses the effort of an environmental education distributed during lessons and particular activities to the schools. A section of the Garden grows plants of this particular area explaining to the visitors the significance of the *in-situ* and *ex-situ* conservation.

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