

## THE BOTANICAL GARDEN OF MEDITERRANEAN SPECIES OF AGRIGENTO WITH REFERENCE TO THE SUSTAINABLE DEVELOPMENT

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### IDEATION

The Botanical Garden of Mediterranean Species of Agrigento (Figure 1) was established in 1990 from the curiosity of one of the authors of this article to discover the motives for which an area of remarkable aesthetic beauty and great potential use in the heart of the Archaeological Park of Agrigento, instead of being valued, had been abandoned. The following year, this curiosity brought about the effect to have the Regional Province of Agrigento confer the assignment to realize the study of feasibility for the requalification of this area of approximately 3,50 that was part of an "agricultural colony", of the complex of the constituent structures of the former Provincial Psychiatric Hospital of Agrigento.

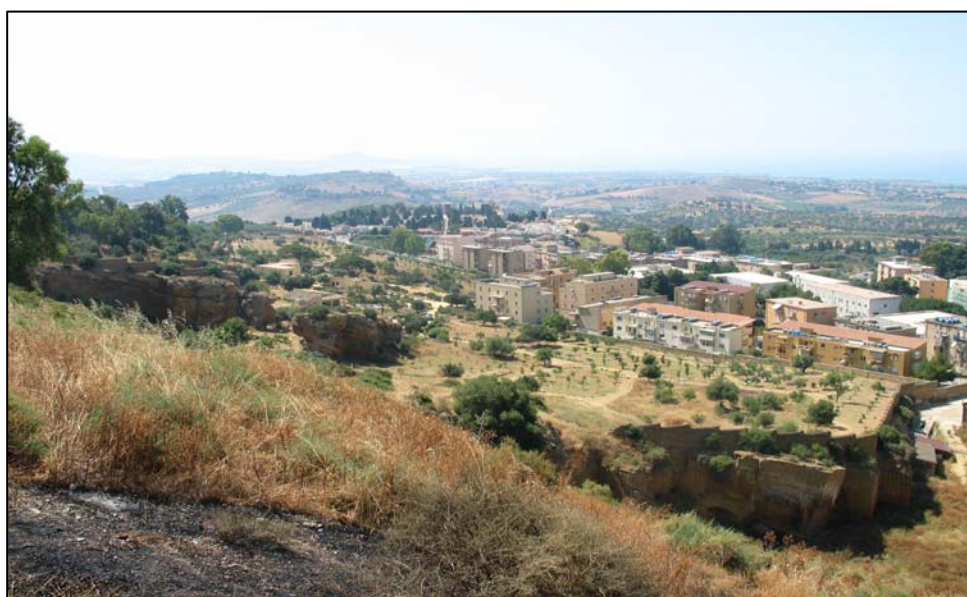


Figure 1. View the botanical garden from Viale della Vittoria

### THE REALIZATION

The purpose of the study carried out in 1992 was to indicate what destination of social use could be given to the area, having defined the field of cultural and recreational activity and use, that was possible to practice, in respect of normative and territorial ties and, at the same time, outline the guide lines for a planning that, while protecting the environmental and socio-cultural components present, would add value by permitting them to take part as forces in the process for a sustainable development.

From the study of the components of the three environmental compartments, abiotic, biotic and socio-cultural, there was a noteworthy incidence in the choice of criteria for the old use of the area, brought about by a cultivation abandoned for over thirty years, from the dismissal of the functions of "agricultural colony" before the entrance in effect of the May 13, 1978 Law, N. 180, which gave reform to the psychiatric hospitals

and its locations in the urban part of the city of Agrigento. Such qualifications which are tied to the presence of fertile grounds and easy public access accompanied also by the noticeable shortage of public grass and from the absence of didactic-museum institutions of scientific nature in the city of Agrigento, have addressed the study of environmental re-qualification to verify the possibility to construct a *green* structure that would be suitable to unite the offers of aesthetic-recreational assets with those of cultural.

Of the various studied alternatives (park, garden in style, colonial garden, botanical garden, arboretum, botanical garden, etc), the conversion of the former agricultural colony into a Botanical Garden, had turned out to be the most searched solution for an environmental potential and for the objectives the Provincial Administration (Agrigento) wanted to fulfill.

In fact, the Botanical Gardens allow to unify, more than any other institution, the aesthetic-recreational aspects with those of cultural for a wide possibility of choice for both themes and the scope of eventual preparations of botanical collections and in the disposition of plants less bound to systematic, bioecological and/or phytogeographical criteria which are inspiring rather than classical botanical garden collections (Raimondo F. M., 1992).

Moreover, museum, didactic and scientific activities characterizing the institutional tasks of the botanical gardens found a perfect correspondence, both with normative and territorial ties, who regulate the activities in Zone A of the Archaeological Park of Agrigento where the site is located with cultural purposes in which the Botanical Garden presents itself as a complementary structure suitable to increase the offer of such assets to the visitors of the Park. Finally, its location on the mountain south of the Atenea Rupe and the protection from cold winds of the I° and IV° quadrants gives the site a striking subtropical character which accompanies an important morphologic variability due to the variations of altitude, the presence of a high tufaceous cliff, important outcrops of rock, gorges and coves (Daina A. et al., 1979). Such peculiarities give rise to numerous microenvironments that put emphasis on the elevated scientific, museum and didactic potentialities that the site can express in its conversion to a Botanical Garden, being suitable to diversify the collections of plants and to enrich them with rupicolous species of striking subtropical character of important naturalistic interest.

These ecological values should also be added with archaeological ones for the presence of numerous vestiges from the network of the hypogea that characterizes the subsoil of the Archaeological Park and the natural and monumental landscapes that give this structure its unique character.

It must be noted that its location in the inside of the city, the presence of several spacious coves (Figure 2), defined and wide open space and the view all the way to the sea of the Valley of Temples, gives the site a considerable and functioning pliability and the ability to realize, in favorable conditions and of particular atmosphere, an immense range of social and even cultural activities for an immense public.

With the approval of the study of feasibility, the Administration of the Regional Province of Agrigento gave the technical staff of the Territory and Atmosphere Councillorship the assignment to write up the executive plan based on the aforesaid study and to contract out the work for the construction of the Botanical Garden that came to an end at the end of 1999.

In 2000, contextually to the delivery for its administrative management to the Councillorship of Agriculture, the Regional Province of Agrigento wanted to entrust the technical-scientific direction of the

Botanical Garden to the Laboratory of Applied Vegetal Biology of the Department of Botanical Sciences of the University of Palermo.

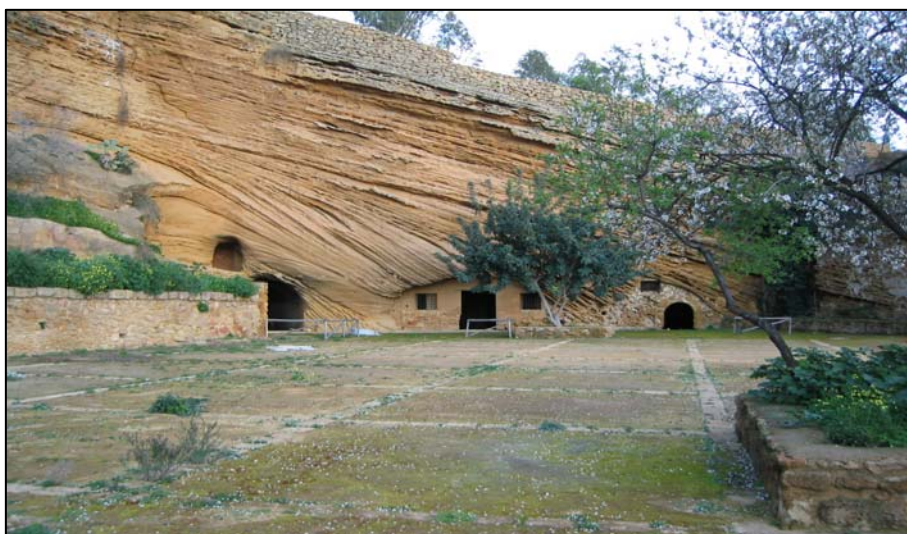


Figure 2. The coves of the botanical garden

#### THE STRUCTURING

The criterion adopted by the technical-scientific direction for the preparation and/or reorder of the vegetal resources had made reference to the significance of "Botanical Garden" as the collections center of plants representative and taxonomically characterized by the flora of the province of Agrigento. For such motive, the Botanical Garden of Agrigento can be classified as a district type in that it is addressed to mainly accommodate cultivated and wild aboriginal species that for centuries have characterized the vegetal landscape of the province of Agrigento. Therefore, the Botanical Garden of Agrigento has been given the name, the Botanical Garden of Mediterranean Species, and has been accredited the name, *Hortus Botanicus Acragantini*, with the national and international scientific institutions.

The principle scope of the plan of development of the vegetal patrimony of the Botanical Garden is to trace, conserve, multiply and document the species threatened by extinction or genetic erosion. Particular attention is reserved to the agro-forestal flora of the province of Agrigento with the scope of creating the richest and most accredited source, scientifically controlled, to draw up whatever necessity to use native plants indispensable in the ecological plannings and agro ecological reorder of the agricultural companies. In relation to the purposes moreover mentioned, several collections have been or are in the course of being achieved regarding:

The edibles native species of remarkable interest covers the collection of "wild vegetables" for the importance that they have assumed in the fields of the dietology, homeopathy, herbal shops, recreational activities and the offer of typical general health products in activities tied to rural tourism. Such commerce interest is also accompanied by a scientific one for the presence of an important number of endemisms in the *Brassica* kind such as: *B. macrocarpa* Guss., *B. rupestris* Rafin. subsp. *hispida* Raim. & Maz., *B. rupestris* Rafin. subsp. *brevisiliqua* Raim. & Maz., *B. villosa* subsp. *villosa* Bivona-Bernardi, *B. villosa* Biv. subsp. *drepanensis* (Caruel) Raim. & Maz., *B. villosa* Biv. subsp. *tinei* (Lojac.) Raim. and Maz. (Figure 3), *B. villosa* Biv. subsp. *bivoniana* Raim. and Maz.

The olive tree varieties that consented to safeguard the cultivars from genetic erosion that characterize the varietal contingent of *Olea europea* L. of the province of Agrigento.

The species *Limonium* *L. albidum* (Guss.) Pignatti, *L. algusae* Brullo, *L. calcarae* (Janka) Pignatti, *L. catanzaroi* Brullo, *L. lopadusanum* Brullo, *L. opulentum* (Lojac.) Greuter, *L. melancholicum* Brullo, Marcenò & Romano (Figure 4), *L. narbonense* (Reichenb.) Pignatti and 6 (Willd.) Fourr. that currently characterize the flora of the territory of the province of Agrigento. This collection has given evidence of scientific importance tied to the considerable number of endemisms that it enumerates and the biotechnical value in the limits of ornamental greens and ecological planning.

The species of the Mediterranean scrub with the purpose to conserve species at most risk and to promote the use of taxa most representative of the scrub formations of the Agrigentino territory. For this purpose a model of intense green with the construction of a low maintenance garden and rock garden for the



Figure 3.-*Brassica villosa* Biv. subsp. *Tinei* (Lojac.) Raim e Maz.



Figure 4.- *Limonium melancholicum* Brullo, Marc. & Rom.

casmophytic species were realized. For the extensive green, a vegetal mantle of a cliff had been reconstructed.

The scientific, museum and didactic activities of the Botanical Garden of Mediterranean Species are also supported by the **Herbarium Horti Botanists Acragantini (AGR)**, currently established by approximately 2500 exsiccata of the Province of Agrigento, constituents of the flora of the "Torre Salsa" reservoir (Sortino S., 2002) and of the S. I. C. "Litorale di Palma di Montechiaro" (Sortino M., 1967). The development program previews the widening of the flora of Sicily, Malta and Magreb.

Another structure complementary to the activities that were carried out at the Botanical Garden is the scientific library with prevailing natural and agro-forestal science resources.

The book endowment consists of approximately 300 texts from the scientific productions of the last twenty years of the departments of the Agrarian Faculty of the University of Palermo and from the magazines, "Naturalista Siciliano" and "Sicilia Foreste". The library is currently increasing the total number of publications in the fields of natural and agro-forestal sciences research operating in the three Sicilian universities.

Finally, it is worth mentioning that a web site is currently being constructed that will illustrate, even through images, the morphologic and structural characteristics of the Botanical Garden, the collections, the connected services, the description and photographic reproductions of the land and marine flora of the territory of the Regional Province of Agrigento.



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