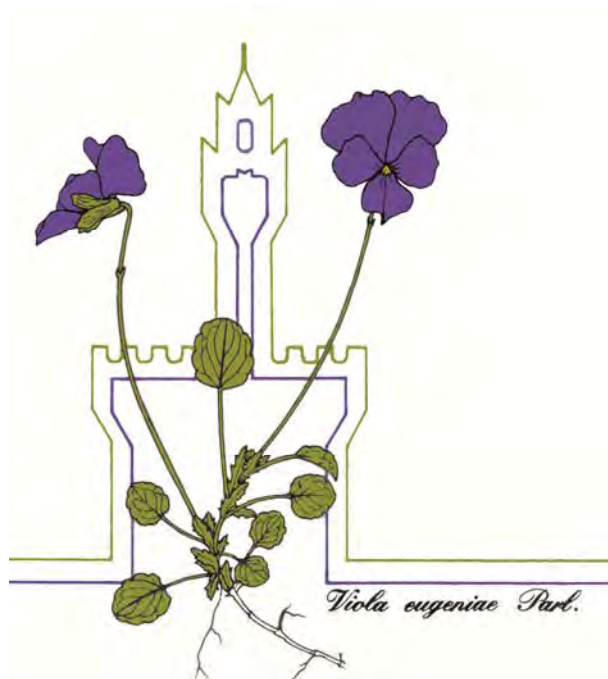


112° Congresso della Società Botanica Italiana

IV INTERNATIONAL PLANT SCIENCE CONFERENCE (IPSC)

Parma, 20 - 23 September 2017



ABSTRACTS

KEYNOTE LECTURES, COMMUNICATIONS, POSTERS

5 = PROTECTING BIODIVERSITY ON PRIVATE PROPERTY: AN EXPERIENCE IN CORLEONE (SICILY)

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Bona Furtuna is an organic farm located 8 km far from Corleone closed to Campofiorito (Palermo). The study area includes the slopes of Castro, Giardinello and Valle Fredda which goes up to Barraù Mt. included in the Special Areas of Conservation (ITA020037) according to the Natura 2000 European Birds and Habitat Directives.

The high level of biodiversity is supported by over 502 taxa of vascular flora, 38 of which are endemic to Sicily (1). The study area is quite diversified from a bioclimatic point of view as well, presenting different gradients from the Lower Mesomediterranean (Upper dry) and the Lower Supramediterranean (Lower subhumid) (2).

The landscape has been shaped by frequent changes in geological strata with the alternation of clayey or marly hills and calcareous reliefs of the Mesozoic period (Sicana facies) (3). This has resulted in a sequence of hills with gentle slopes, irregularly interrupted by isolated mountains with steep, if not abrupt, slopes, which reach the considerable height of 1,420 m a.s.l. (Monte Barraù).

Two different vegetation series were identified:

1. The Holm oak woods series (*Ampelodesmo mauritanici-Quercus ilicis* sigmetum)
2. The Downy oak series (*Oleo oleaster-Quercus virgiliana* sigmetum)

The mature stage of the first series consists of a coppiced holm oak wood (*Ampelodesmo mauritanici-Quercetum ilicis viburnetosum tini*). The degradation of this wood is indicated by shrubberies with *Prunus spinosa* (*Pruno-Rubion ulmifolii*).

The presence of pasture and farming practices is the main cause of the passage to a further stage of degradation of the series, leading to the formation of secondary *Ampelodesmos mauritanicus* grasslands (*Helictotricho convoluti-Ampelodesmetum mauritanici*).

The second series is widespread over clayey substrates (sometimes with a rocky matrix originating from limestone) with hilly morphologies, in stations with a certain environmental xericity (annual average rainfall from 500 mm to 800 mm). The mature formation consists of small remnants of oak woods (*Oleo oleaster-Quercetum virgiliana*) near waterways. In marginal areas (escarpments and steep slopes) hardly exploitable for agricultural uses, fires and grazing have triggered degradation processes that normally lead to the establishment of *Ampelodesmos mauritanicus* grasslands or Mediterranean grasslands, often dominated by *Arundo collina*. During the last fifty years, abandoned areas have been re-colonized by shrubs of Sicilian sumac (*Rhus coriaria*) whose abundance testifies to the ancient and widespread cultivation of this species in the area.

The farm since its founding (year 2013) was distinguished by several voluntary self-protection strategies adopting the following actions: removal of alien species that threaten biodiversity, grazing control, restoring habitat corridors, hunting activity control, fire prevention, preserving wetlands and spring waters, microhabitats protection (e.g. heaps stone, stonewalls and terraces), protection against soil erosion, removal of electrical lines to preserve birds and landscape, restoring polluted sites, organic farming, demolition of buildings with negative visual impact.

The company in accordance with University of Palermo founded different projects including floristic, phytosociological, mycological, zoological and archaeological studies.

Moreover, a new project for a Botanical Garden is coming soon; it will include existing habitats and wild species of native flora and ethno-varieties. This project aims to protect biodiversity *in situ* not only to maintain plant collections but entire plant communities for display education, research, conservation and enjoyment.

- 1) S. Cambria, G. Bazan P, Marino (2015) Abstracts 49° Congresso Società Italiana di Scienza della Vegetazione, p. 47
- 2) G. Bazan, P. Marino, R. Guarino, G. Domina, R. Schicchi (2015) *Annales Botanici Fennici*, 52 (1-2), 1-18
- 3) P. Di Stefano, P. Renda, G. Zarcone, F. Nigro, M.S. Cacciatore (2013) www.isprambiente.gov.it/Media/carg/note_illustrative/619_S_Margherita_di_Belice.pdf
- 4) L. Gianguzzi, P. Cuttonaro, D. Cusimano, S. Romano (2016) *Plant Sociology*, 53 (1), 5-43