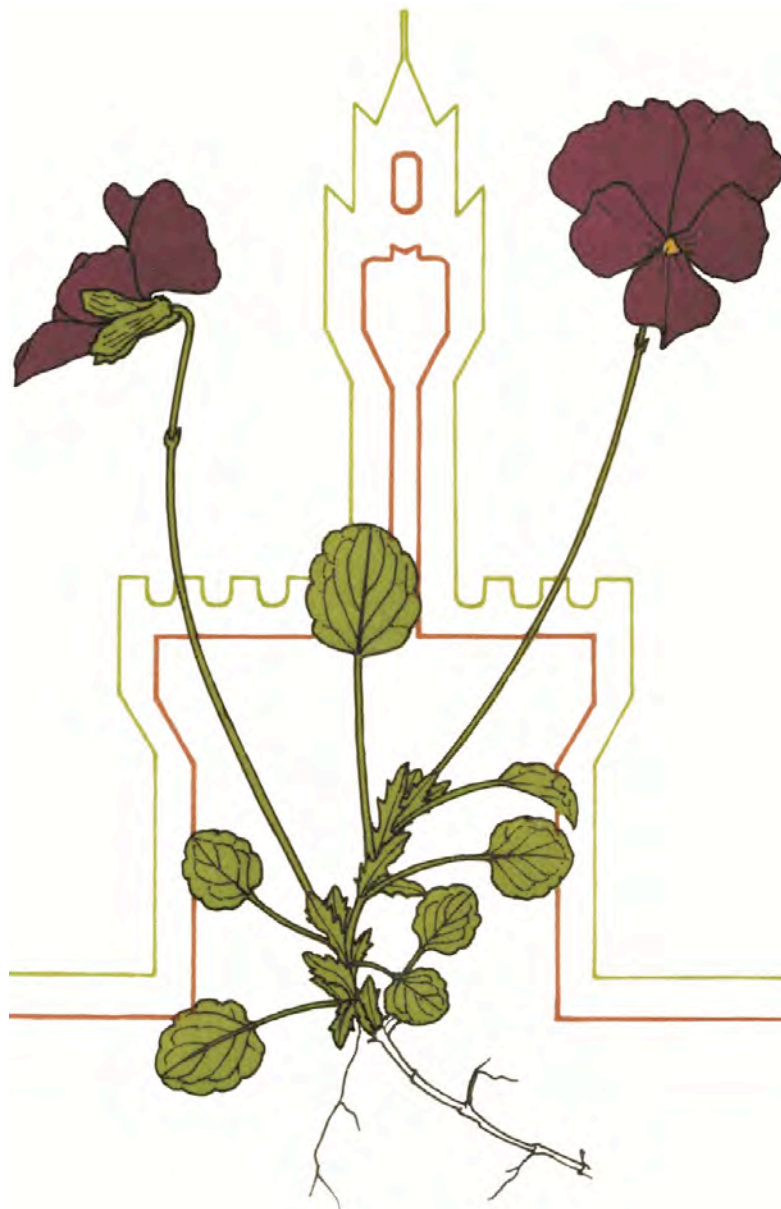


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from Nature to Technological Exploitations

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3.1 = INVESTIGATION ON OLD-GROWTH FORESTS OF SICILY: PRELIMINARY RESULTS

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Old-growth forests are natural forests that have developed over a long period of time, without experiencing severe, stand-replacing disturbance a fire, windstorm, or logging (1). According to UNEP/CBD/SBSTTA definition (2), an old-growth forest is a primary or a secondary forest which has achieved an age at which structure and species normally associated with old primary forests of that type have sufficiently accumulated to act as a forest ecosystem distinct from any younger age class. In a thematic contribution to the National Biodiversity Strategy (3, 4), the authors report the following definition of Italian old-growth forests: Forest in which human disturbance is absent or negligible, and in which natural dynamics create a mosaic of all the forest regeneration phases, including the senescing one. Such phase is characterized by large old trees, deadwood (snags logs and coarse woody debris) and a vascular plant species composition that is consistent with the biogeographical context and includes highly specialized taxa related to the small-scale disturbance and the microhabitats resulting from structural heterogeneity. In Sicily, 472 hectare were recognized as old-growth forests mainly distributed in Regional Natural Parks, Reserves, Site of Community Importance (SCI) and, Special Protected Areas (SPA). In particular, 18 forest areas, located over 1000 m of altitude and characterized by high index of woodiness, were surveyed in the provinces of Caltanissetta, Catania, Messina and Palermo. In the frame of a research project granted by the University of Palermo, an investigation was carried out in the “Bosco Pomieri”, an old-growth forest included in the Madonie Park (N.-Sicily). In 2013, a multidisciplinary research team started to analyse vascular plant and the cryptogamic diversity, and also carrying out some plant physiology tests and an environmental monitoring. The “Bosco Pomieri” is a mixed oak wood characterized by the presence of many old trees of *Quercus petraea* (Matt.) Liebl. subsp. *austrorhynrenica* Brullo, Guarino & Siracusa and a dense shrub layer with *Ilex aquifolium* L. In the forest area we also find *Fagus sylvatica* L., *Acer pseudoplatanus* L., *A. obtusatum* W. & K., *Ulmus glabra* Huds., *Sorbus torminalis* L., *Malus sylvestris* (L.) Mill., and, sporadically, *Quercus cerris* L. and *Q. pubescens* s.l. Shrubby species, such as *Daphne laureola* L., *Crataegus laciniata* Ucria, *Ruscus aculeatus* L. and, *Rhamnus catharticus* L., are also present in the investigated area (5, 6). Preliminary results of the investigation carried out in the “Bosco Pomieri” are here reported. At present, 9 benthic algal taxa of algae belonging to the Divisions *Cyanophyta*, *Rhodophyta*, *Chlorophyta*, and *Bacillariophyta* are currently listed. 74 lichens, mainly epiphytic, belonging to the genera *Caloplaca* Th. Fr., *Lecanora* Ach., *Physcia* (Schreb.) Michx. and *Ramalina* Ach. Fungi are currently represented by 62 saprotrophic, parasitic and mycorrhizal species.

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