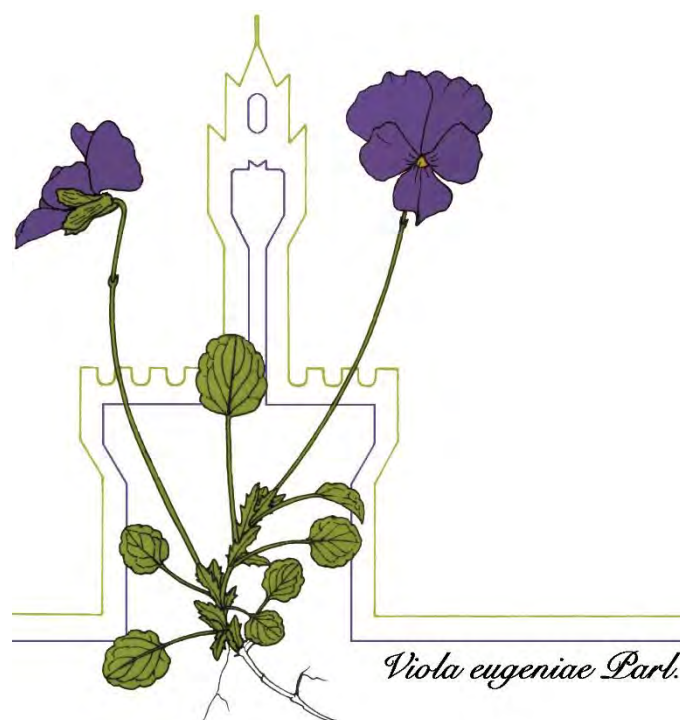


# 117° Congresso della Società Botanica Italiana

VIII INTERNATIONAL PLANT SCIENCE CONFERENCE (IPSC)

BOLOGNA, 7 - 10 SEPTEMBER 2022



## ABSTRACTS

KEYNOTE LECTURES, COMMUNICATIONS, POSTERS

## 9 = Analysis of Sicilian populations of the genus *Capparis* L. for the determination of quercetin content

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The caper is a xerophytic shrub of considerable interest and economic value for its medicinal properties, culinary uses, and cultivation characteristics.

*C. spinosa* L. is a taxon of difficult delimitation because of its wide heterogeneity, extreme phenotypic diversity and the presence of intermediate forms related to hybridization phenomena. In Europe, the genus *Capparis* is represented by a polymorphic complex now referred to a single species, *Capparis spinosa* L., which exhibits high ecological and morphological variability, occurring with subspecies and local varieties in widely different habitats.

The Sicilian territory hosts numerous natural and cultivated populations, well distinguished ecologically and morphologically, and the presence of two intraspecific taxa has been: *Capparis spinosa* subsp. *spinosa* and *Capparis spinosa* subsp. *rupestris*.

Based on studies on wild and cultivated populations of the genus *Capparis*, the objective of this research aimed to quantify the amount of quercetin, a metabolite with interesting biological properties, in the various epigeal parts of the plant through the use of high-performance liquid chromatography (HPLC).

Specifically, the study was conducted on twenty-two stations falling over a wide area of Sicilian territory extending from the provinces of Trapani and Palermo through the "Gessoso-Solfifera" series to the Agrigento area, the Ibleo plateau and the province of Messina, including the Pelagie Islands, Pantelleria, Favignana, Marettimo, Ustica and Salina, so as to include in the analysis a substantial part of the genetic diversity existing in Sicily within both natural and cultivated populations.

The study area extending over much of the Sicilian territory includes populations present on various substrates: volcanic, calcareous, chalky and clayey.

With this aim, sampling was carried out under different growth conditions and at various phenological stages, acquiring information on the taxa collected, their distribution and possible cultivation techniques.

The chemical analyses showed that quercetin is mainly present in flower buttons and leaves. Its occurrence will be largely discussed.

The data acquired may provide a good basis for further scientific investigation to support the identification of ecotypes to be introduced in cultivation for pharmaceutical purposes in order to extract quercetin.

This could be a significant boost for the socio-economic development of rural areas in arid or semi-arid regions of Mediterranean environments. Indeed, the caper is a species with remarkable adaptability to hostile environments and poor soils, and this characteristic makes the caper grove a sustainable crop to cope with the impacts of climate change.