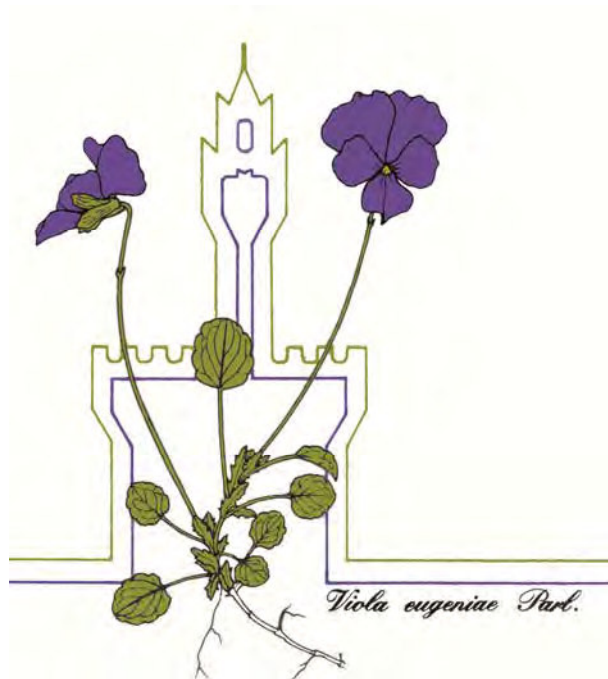


# 112° Congresso della Società Botanica Italiana

IV INTERNATIONAL PLANT SCIENCE CONFERENCE (IPSC)

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## ABSTRACTS

**KEYNOTE LECTURES, COMMUNICATIONS, POSTERS**



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**PICCIN**

## 5 = EARLIEST EVIDENCE OF *PRUNUS DOMESTICA* L. IN ITALY DURING THE PHOENICIAN AND PUNIC PERIODS (6<sup>TH</sup>-2<sup>ND</sup> CENTURY BC)

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During the archaeological excavation in the Phoenician and Punic context of Santa Giusta (Oristano, Sardinia), dated to the 6th - 2nd century BC, several *Prunus* spp. endocarps were recovered in an exceptional state of preservation.

In order to identify the species, and investigate the domestication level of the waterlogged remains, morphometric analysis of the endocarps was performed by computer vision techniques. Currently, digital image analysis represents an accurate, reliable and repeatable alternative to distinguish wild species from cultivated ones (1,2) also at varietal level (3).

Archaeological endocarps were compared with 11 modern populations of *Prunus spinosa* L. and 22 varieties of *Prunus domestica* L. collected from the field catalog of CNR-ISPA (Nuraxinieddu, OR) in Sardinia.

Digital images of both modern and archaeological *Prunus* endocarps were acquired with a flatbed scanner and analysed by the open source software ImageJ v.49, applying a specific plugin (Particles8) (4) able to compute 26 morphometric features.

Applying the stepwise Linear Discriminant Analysis (LDA), a morphometric comparison between the archaeological endocarps and the modern ones was performed.

These analyses allowed to identify 53 and 11 endocarps of *Prunus spinosa* and *Prunus domestica*, respectively, showing that the archaeological endocarps of *P. spinosa* have similarities, in the 92.5 % of the cases, with a wild population that at present grows near the Phoenician and Punic site of Santa Giusta. In addition, the archaeological endocarps identified as *P. domestica* show similarity (81.8 %) with a modern variety of red-violet plum called 'Sanguigna di Bosa', currently cultivated in the village of Bosa (Oristano).

These results, as far as we know, provide the first evidence of *P. domestica* in Italy during the Phoenician and Punic periods.

This study provides an important piece to understand the origin of plum introduction and diffusion in Italy with the aim to produce a similar research to that carried on peach (5).

1) G. Bacchetta, O. Grillo, E. Mattana, G. Venora (2008) *Flora*, 203, 669-682

2) G. Venora, O. Grillo, C. Ravalli, R. Cremonini (2009) *Scientia Horticulturae*, 121, 410-418

3) M. Sarigu, O. Grillo, M. Lo Bianco, M. Ucchesu, G. d'Hallewin, M.C. Loi, G. Venora, G. Bacchetta (2017) *Computers and Electronics in Agriculture*, 136, 25-30

4) G. Landini (2006) *Head & Face Medicine*, 2, 1-9

5) L. Sadori (2009) <http://www.plants-culture.unimore.it/book.htm>