Plant species translocation in Mediterranean: lessons from the Antiquity on the meaning and value of the alien species

Pietro Minissale

Department of Biological Geological and Environmental Sciences - University of Catania - Italy
Question: The high diversity of the Mediterranean flora is always explained by climatic conditions and variability; geology and above all paleogeography and consequently isolation/connection?

Reconstructed geometry and bathymetry (in meters) of the Mediterranean region during the Messinian period (Govers et al. 2009) The time of reconstruction is 5.65 Ma.

Model topography in m for Last Glacial Maximum LGM (Mikolajewicz 2011 Clim. Past, 7, 161–180)

Answer: Not only, humans played an important role on different and varied levels. Many topics could be discussed but another question is: did the Mediterranean globalization, occurred in antiquity mainly with Greek, Phoenicians and after Romans, leave traces in the floristic assemblages, recognizable today?

Phoenician (in yellow) and Greek (in red) cities and colonies around 8th to 6th century BC
Materials and Methods

The study is based on data from literature, herbarium specimens and field researches in order to pointing out the exact distribution of selected species in Mediterranean area.

*Origanum onites* L.
Distribution of *Origanum onites* in Mediterranean Turkey, Greece, Italy/Sicily/Syracuse.
*Tetraclinis articulata* (Vahl) Masters


Phoenician vessel ca. 700 B.C

<table>
<thead>
<tr>
<th>Population</th>
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<tbody>
<tr>
<td>Algeria</td>
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<td>1 Zemarora</td>
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<td>2 El Fedjoudj</td>
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<tr>
<td>3 Saida</td>
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<tr>
<td>Morocco</td>
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<td>4 Khenifra</td>
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<td>5 El Ksiba</td>
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<td>6 Oujda</td>
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<td>7 Hassi Berkane</td>
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<td>8 Ain el Aouada</td>
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<td>Malta</td>
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<td>9 Wied Mizieb</td>
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<td>10 Argotti</td>
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<td>11 Gnien Ingraw</td>
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<td>Spain</td>
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<tr>
<td>12 Cenizas</td>
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<tr>
<td>13 Sabinar</td>
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<td>Tunisia</td>
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<td>14 Cape Bon</td>
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Rhus tripartita (Ucria) Grande

Rhus tripartita (family Anacardiaceae) has been traditionally used to treat a wide range of ailments (Shahat et al. 2016). In particular in Tunisia it is a plant which is traditionally used for the treatment of ulcer and diarrhea (Barka et al. 2017).

Shahat et al. 2016 Treatment with Rhus tripartita extract curtails isoproterenol-elicited cardiotoxicity and oxidative stress in rats BMC Complementary and Alternative Medicine 16:351

Distribution from Brullo et al. 1998

In 405 BC Carthaginians sacked Kamarina and in the same year a peace treaty was signed which confirmed Carthaginian control over Selinus, Akragas, Gela and Kamarina.
Due to their high contents in phenols, flavonoids and other phytochemicals, *Rhus* species are widely used in both modern and traditional medicine. The extracts showed antimalarial, antimicrobial, antitumorigenic, antioxidant, antiviral, hypoglycaemic, leukopenic atherosclerosis and anticonvulsant properties (Itidel et al. 2013)
Palermo was founded as a port-city by the Phoenician settlers of Tiro (today's Lebanon) between the 7th and 6th centuries BC Solunto was founded Phoenicians e and after occupied by Greek colonists.

The only one location of *Rhus pentaphylla* in East Mediterranean
Salvia fruticosa Mill.

Liber Z.; Radosavljević, I.; Bogdanović, S.; Satovic, Z. N. 2014. Natural hybridization between Salvia officinalis L. and Salvia fruticosa Mill. (Lamiaceae) on the island of Vis (Croatia): evidence from morphological and molecular data. Book of abstracts - 8th Conference on Medicinal and Aromatic Plants of Southeast European Countries. Tirana

Distribution from Liber et al. 2014

Confirmed Italy
Not confirmed Italy
Confirmed Croatia
Salvia fruticosa in Apulia and Basilicata

http://www.storia-riferimenti.org/archeologia/magnagrecia/metaponto.htm
http://www.museotaranto.it

Metaponto ~ 700 BC
Taranto 706 BC
Salvia fruticosa Mill. in Calabria

Salvia fruticosa in Sicily

Roger D. Woodard (2008), Map of "Greek dialects", in: The Ancient Languages of Europe
Acanthus mollis L.

*Acanthus mollis* L., is West Mediterranean species, although many Mediterranean countries Floras are in contradiction with respect to its native distribution.

*Acanthus mollis* probably native distribution (draft). North Africa *Acanthus mollis* subsp. *platiphyllus*; Centre Mediterranean *Acanthus mollis* subsp. *mollis*
In Syracuse, *A. mollis* is widespread. From this city, probably, the acanthus was brought to Dalmatia. Today it is in fact present almost exclusively in the Adriatic islands which were Syracusan colonies.

Thanks for your attention!

p.minissale@unict.it