Propagation of some indigenous plant species of the Maltese Islands.

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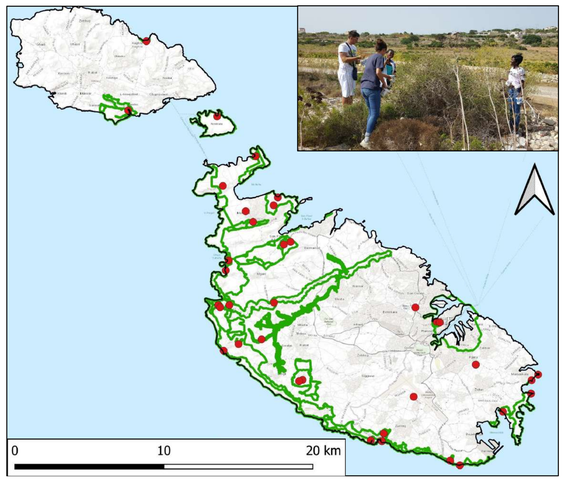
1. Introduction

The Mediterranean basin is a biodiversity hotspot but many of these species are under threat in many countries; the Maltese Islands are especially so due to habitat loss and degradation as a major impact of overpopulation. To stop biodiversity loss, a better understanding of the "know-how" for *ex situ* propagation protocols is required. The aim was to investigate such protocols.

2. Material and Methods

In total 53 field trips were made in 11 different locations. made from May to July and from October to December from 2018 to 2020.



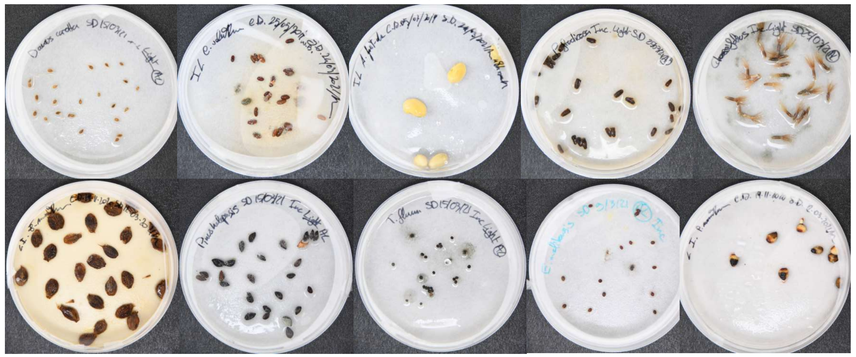
Seeds were cleaned and stored Seed Bank at the Department of Biology, University of Malta.

The germination was tested under 8 different semi-controlled conditions (T°, L/D) as well as in greenhouse.

3. Results

The Seed Bank was established at the Department of Biology hosting 249 accessions from 43 Families and 130 Taxa. Optimum conditions were established through Germination Test, an example is given in FIGURE 1. Tested species are given in TABLE 1.

Germination tests

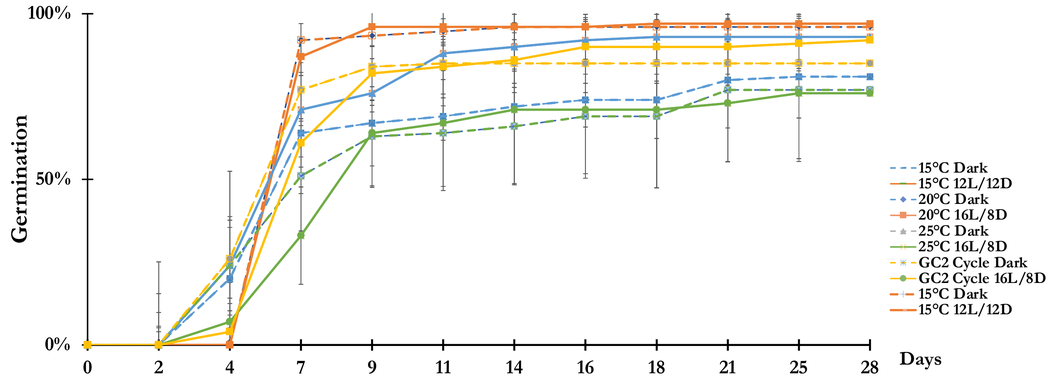


Ferula melitensis

TABLE 1.	Plant species tested	
Tetraclinis articulata	*Euphorbia melitensis*	*Teucrium flavum*
Eryngium maritimum	*Euphorbia dendroides*	*Phlomis fruticosa*
Pancratium maritimum	*Pinus halepensis*	*Ceratonia siliqua*
Prasium majus	*Thymbra capitata*	*Laurus nobilis*
Coronilla valentina	*Drimia marittima*	*Ferula melitensis*
Fagonia cretica	*Periploca laevigata subsp. angustifolia*	*Anagyris foetida*
Quercus ilex	*Cheirolophus crassifolius*	*Achantus mollis*

FIGURE 1

Germination % of *Drimia maritima*

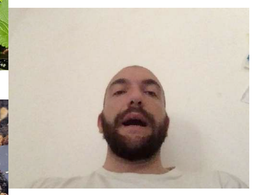


Propagation by seeds, total plantlets : 3594

Thymbra capitata

Prasium majus

Pancratium maritimum



Propagation by cuttings of endemic species, total produced: 216

Seeds of *Cheirolophus crassifolius* and *Helichrysum melitense*, both endemic and critically endangered species, were not viable. Propagation by cuttings using 1-Naphthaleneacetic acid 0.6g/L as rooting hormone was successfully carried out on both species. Roots were developed in 90% of the cuttings.

Cheirolophus crassifolius

Helichrysum melitense

4. Conclusion

All the plantlets produced will be reintroduced into degraded areas of Maltese Natura 2000 protected areas as part of a habitat restoration process.

References

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SiMaSeed - Protecting biodiversity in Sicily-Malta Natura2000 sites through Seed Banks and population reinforcement, has a total budget of 1.806.877 € and involves 4 project partners. This project is part financed by the European Union European Regional Development Fund (ERDF), through the INTERREG V-A Italy-Malta Programme. Co-Financing rate 85% EU Funds, 15% National Funds. Website: http://www.simaseed.unict.it/