Activities of WG4 on Forest Genetic Resources in the Mediterranean Region

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Cost Action FP1202 “Strengthening conservation: a key issue for adaptation of marginal/peripheral populations of forest trees to climate change in Europe (MaP-FGR)”, produced a lot of outputs:

• Concluded in 2016: **Outputs still continue and a worldwide attention is focused on Marginal populations:**

  - **- the web site** [http://map-fgr.entecra.it/](http://map-fgr.entecra.it/)
  - **- the special issue on iForest** [https://iforest.sisef.org/archive/?action=collection&arg=cost_fp1202](https://iforest.sisef.org/archive/?action=collection&arg=cost_fp1202)
  - **- the special issue with national reports on Annals of Silvicultural Research** [https://journals-crea.4science.it/index.php/asr/issue/view/210](https://journals-crea.4science.it/index.php/asr/issue/view/210)
COST Action 1202 was focal for SM WG4:

- Marginal Peripheral populations (MaPs), may contain valuable adaptive genetic information.

- MaPs are particularly vulnerable to anthropogenic influences and current rapid and intense climatic changes.

- Their genetic resources must be inventoried, monitored, managed and possibly protected.
Sixth Mediterranean Forest Week

- 31 EU countries
- 6 SM Near Neighbour Countries
- 13 SM countries have participated
- 5 specific organizations (Bioversity International, CIHEAM, FAO, EFIMED, IUFRO)

Narrow collaboration of other institutions/projects/partners:
5 Training Schools (2013-2016): [Link](http://map-fgr.entecra.it/?page_id=79)

- (GREECE 2013)
- (ITALY 2014)
- (SPAIN 2015)
- (DENMARK 2016)
- (SERBIA 2016)

80 trainees in total

STSMs (2013-2016): 55 young research officers

Committee on Mediterranean Forestry questions, Silva Mediterranea - Lebanon, 04.04.2019
Important Opinion Paper
Fady et al., 2016. Evolution-based approach needed for the conservation and silviculture of peripheral forest tree populations. September 2016
Forest Ecology and Management 375:66-75. DOI: 10.1016/j.foreco.2016.05.015


http://map-fgr.entecra.it/
the Action was presented and the **Policy brief** distributed during:

- **COFO 2013**.
- **World Forestry Congress** (Durban, Sept 2015)
- **38th European Forestry Commission** (Geneva, Nov 2015)
- **COP21** (Paris, Dec 2015)
On the Regional and National reports

- Forest tree Marginal Populations in Europe - Report on the state of knowledge on forest tree marginal and peripheral populations in Europe.
- Report for Atlantic region.
- Report for Baltic region.
- Report for Continental region.
- Report for Mediterranean region.
- Report for southeastern Europe.

https://journals-crea.4science.it/index.php/asr/article/view/1586
Research Articles Patterns of genetic diversity in European beech (Fagus sylvatica L.) at the eastern margins of its distribution range. Ciocîrlan E, Sofletea N, Ducci F, Curtu AL. *vol. 10, pp. 916-922* (online: 10 December 2017) - doi: [10.3832/ifor2446-010](https://doi.org/10.3832/ifor2446-010)


Present and future:

The SM Seed Stand Survey, update and revision after M. Topak (1997), in connection with the Status of Med. FGR.

Prima proposal as a source for hunting funds

Presented proposal for a IUFRO Task Force: Strengthening the Mediterranean nursery system for forest reproductive material procurement to adapt to the effects of the climate change. Preliminarily approved by IUFRO and to be prepared the full version for ending April. Even if considered a little too regional they consider the proposal a good opportunity and suggest a collegial work is done

Side event in collaboration with Euforgen/EFI during the 2019 Mediterranean week in Lebanon;
The main goal is now producing SM Seed Source Directory and revision, in connection with the Status of Med. FGR.
It is now the due time:

• to review the Directory, enlarging it to other forest trees.

• to rebuild and update the database with descriptors and indicators describing the state of the populations, their marginality value, risks and future uses in view of climate scenarios.

A Template will be realised following the experience in other projects and spread to the WG 4 partners.
Opportunities: Partnership for Research and Innovation in the Mediterranean Area (PRIMA)

A **consortium** must consist of at least three institutions with 1 institution from Croatia, Cyprus, France, Germany, Greece, Italy, Luxembourg, Malta, Portugal, Slovenia, or Spain + 1 institution from Algeria, Israel, Jordan, Tunisia, Turkey, Morocco, Egypt, or Lebanon + 1 institution from any of these countries.

One expected impact of this Topic is:

“Valorisation of the local biodiversity that has naturally adapted and show resilience to environmental constraints in the Mediterranean conditions.”
Title: Resilient Forest Genetic Resources for the sustainability of Mediterranean agro-ecosystems (RESILMED-FGR)

• Specific goals and priorities:

a. Rejuvenating/updating the list of the Mediterranean Forest Basic Materials (FBM) (Topak, 1997) and establishing a Mediterranean Basic Materials (MBM) database collating information from national Forest Reproductive Materials (FRM) registers.

b. Designing an efficient network of seed sources, primarily aimed to preserve FGRs as a foundation of the resilience of rural and forest systems (agro-ecosystems) in the Mediterranean region and to support the Mediterranean forest nursery networks.

c. Learning from the past and from the experimental tests. That could be another important Topic
PRIMA, initial Idea, transformed into a Task Force proposal to IUFRO
With the aim to strengthening the WG4 group in view of future research proposals:

1) **Surveying also broadleaved species** and their residual or marginal populations and their management *in situ*;

2) **Identification of the most endangered populations** and the creation of **decision support tools** to guide their *ex situ* movement or, in extreme cases, their **assisted migration**;

3) **The study of the causes of success and failure** in the Mediterranean region to take into account when preparing the possible models.

Unfortunately, there is **not enough time to conduct preliminary research** and both technical and experimental actions will need to be put in place.
**IUFRO Task Force proposal**: Strengthening the Mediterranean nursery system for forest reproductive material procurement to adapt to the effects of the climate change.

Comments from referees: The major risk is that the proposal would be intended as a technical topic, while scientific answers have to be supplied and made available to the Mediterranean like context.... Therefore, we need to show a scientific vision of the problem....
Preliminarily approved by IUFRO now we have to prepare a **full version for ending April** [deadline 30 April 2019]. Please, read the draft pre-proposal in the WG4 report.

Even if evaluators considered it as probably too regional, they considered the proposal a good opportunity and suggest a collegial work is done. A **List of Research officer to be involved actively** is required, not only from the geographic area but also from others and from relevant IUFRO Units.

Needed a **prompt feedback by Member States** to approve the pre-proposal and to build a **list of expert researchers and officers** able to collaborate actively at the work proposed.
Submitted a **side-event proposal** to this 6th MFW EFI (interacting WG4 with Euforgen/EFI)

**Title of the side event:** "**Developing national strategies for the conservation of forest genetic diversity**"

**Date:** 1 April 2019

**Title of the Presentation for WG4:** “**Managing FGR in the Mediterranean environment and in the context of the climate change: interacting challenges**”

WG 4 on forest genetic resources of FAO Silva Mediterranea
Context

In a time of changing climate, the **genetic diversity of forest tree species may become extremely important** to enable the adaptation capacity of forest ecosystems. It is likely that countries will need the genetic diversity now present outside the national borders.

Rationale

Many forest species have their distribution ranges around the Mediterranean Sea; in order to have an effective conservation of species diversity, all countries should be implementing a coordinated conservation strategy. (therefore connected to the Updating FGR DB)

Event Objectives and Outputs

Objectives

Define the **state of the art in conservation of forest tree species** in the Mediterranean

Transfer of **knowledge between countries** for the development of a circum-Mediterranean conservation strategy.
A last-minute proposal by the WG4 Leader:

The Committee is proposed to push for forest genetic resources, totally neglected, in order to develop an International Treaty similar to the FAO International Treaty on Agricultural Genetic Resources and Food.

A very effective way to obtain the necessary financial support to ensure their ex situ protection.

In the entire area of Silva Mediterranea and beyond, the collections and experimental networks are being almost abandoned, while they would be formidable tools to study the effects of the changing climate.
Grazie!

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