2nd Mediterranean Plant Conservation Week
“Conservation of Mediterranean Plant Diversity: Complementary Approaches and New Perspectives”
S3 - Ex situ and in situ plant species conservation: collaborations, strategies, communication
November 13th 2018 - Malta

Hierarchisation of plant species Prioritisation of conservation actions

Towards a conservation strategy for flora, from biogeographical to regional level in the South Western Alps

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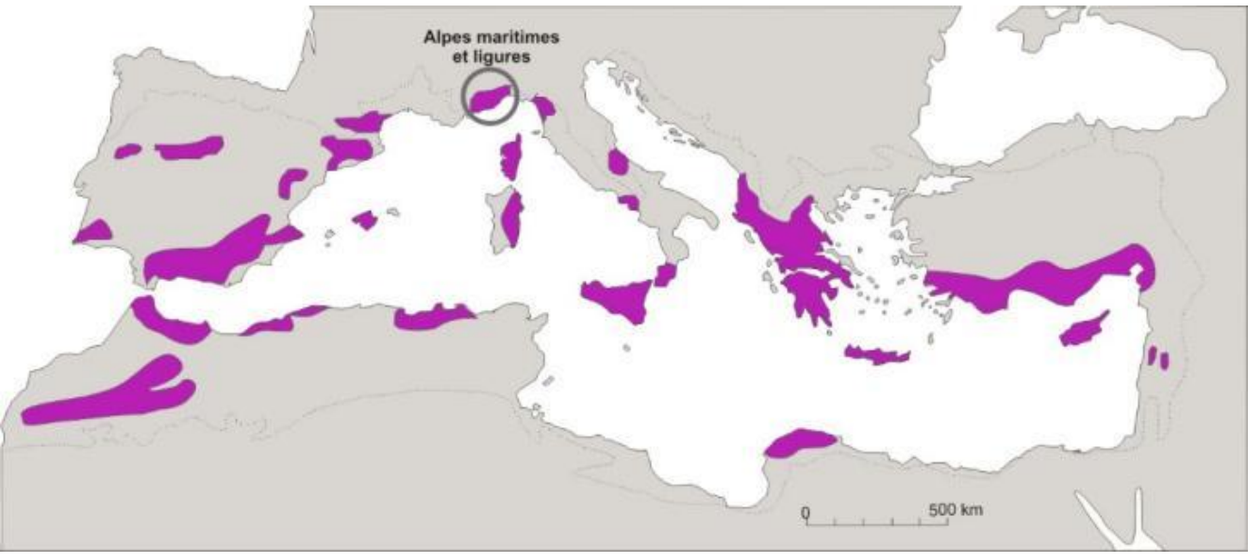
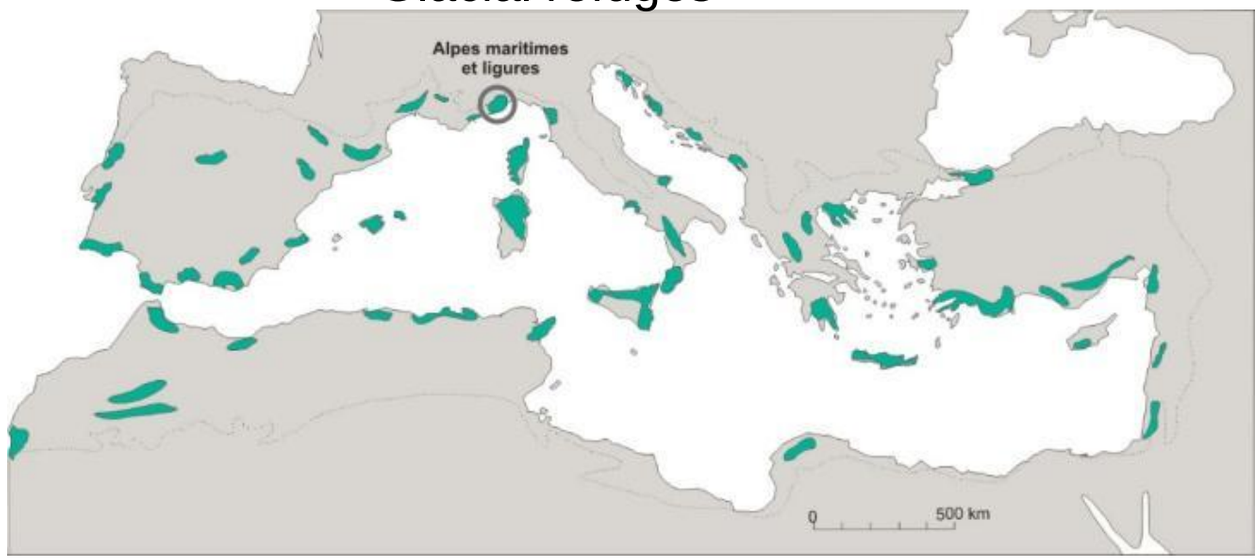
South Western Alps: high diversity and strong concerns

- Maritime and Ligurian Alps: regional biodiversity hotspot in the Mediterranean basin
- Endemism centre (> 150 endemic species)
- Glacial refuge
- ~ 4000 indigenous species in the South Western Alps
- Strong human impact leading to habitat loss
- Many endemic species shared between two countries: France and Italy

Endemism centres



Glacial refuges



(Médail & Quézel, 1997; Médail & Diadema, 2009)

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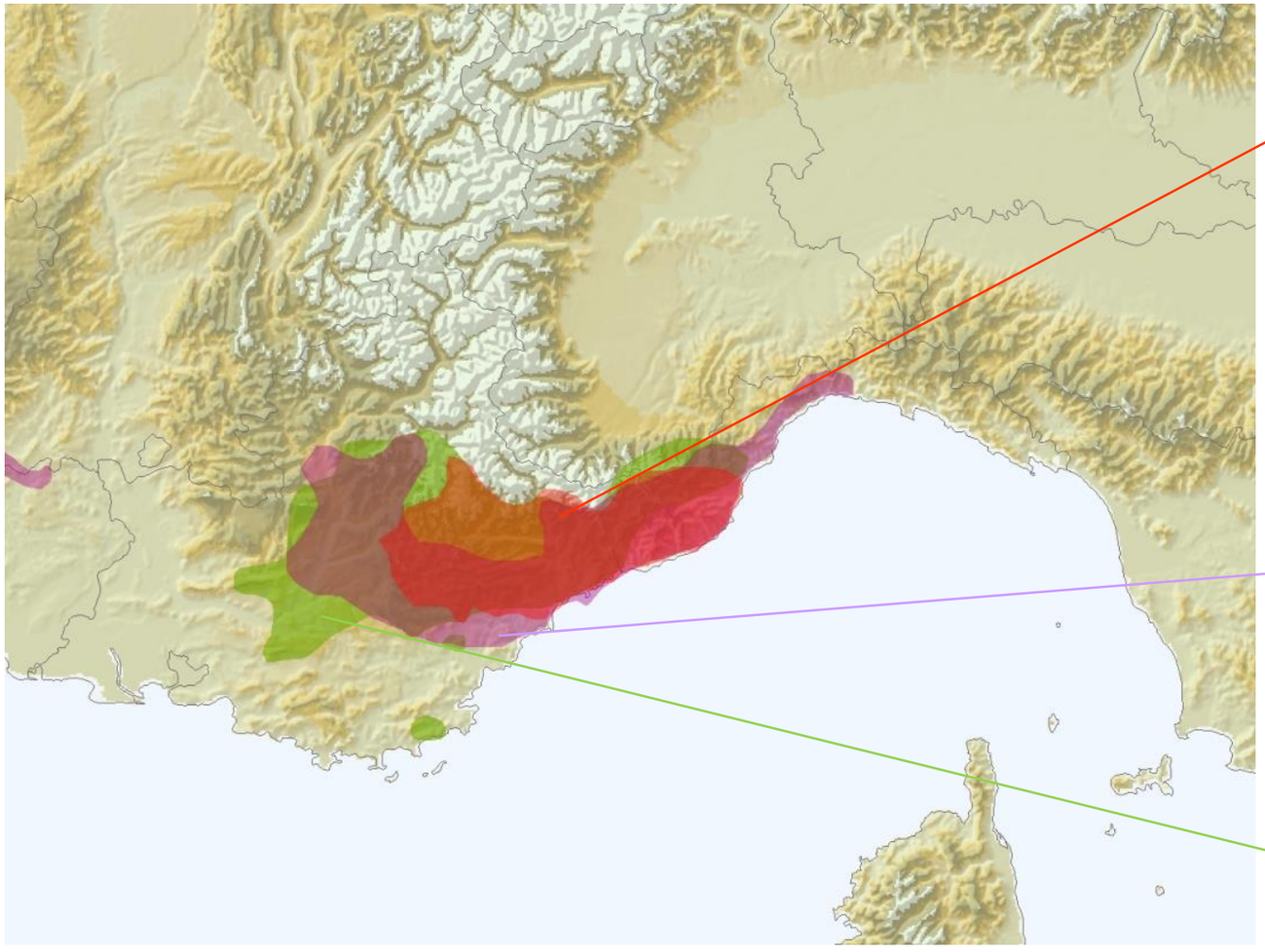
Importance of cross-border approaches



European programs

- ALCOTRA Biodivam (2014-2015)
- ALCOTRA ADM Progres (2015)

Towards a conservation strategy for flora: from biogeographical to regional level

- Resources are limited: it is not possible to implement conservation actions for all species
- Funding is at administrative levels (national, regional)
- Need for a strategy that can be used at both:
  - ➢ Biogeographical level: matching species distribution
  - ➢ Administrative level: matching funding

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A strategy in four steps

- Step 1 — Hierarchisation of taxa
- Step 2 — Typification of actions
- Step 3 — Prioritisation of projects
- Step 4 — Choice of projects

(1) Define objective
(2) List biodiversity assets
(3) Weight assets

(4) List management projects

(5) Estimate costs
(6) Estimate benefits
(7) Estimate likelihood of success

(8) State constraints
(9) Choose set of projects

Project Prioritization Protocol of Joseph et al. (2009)

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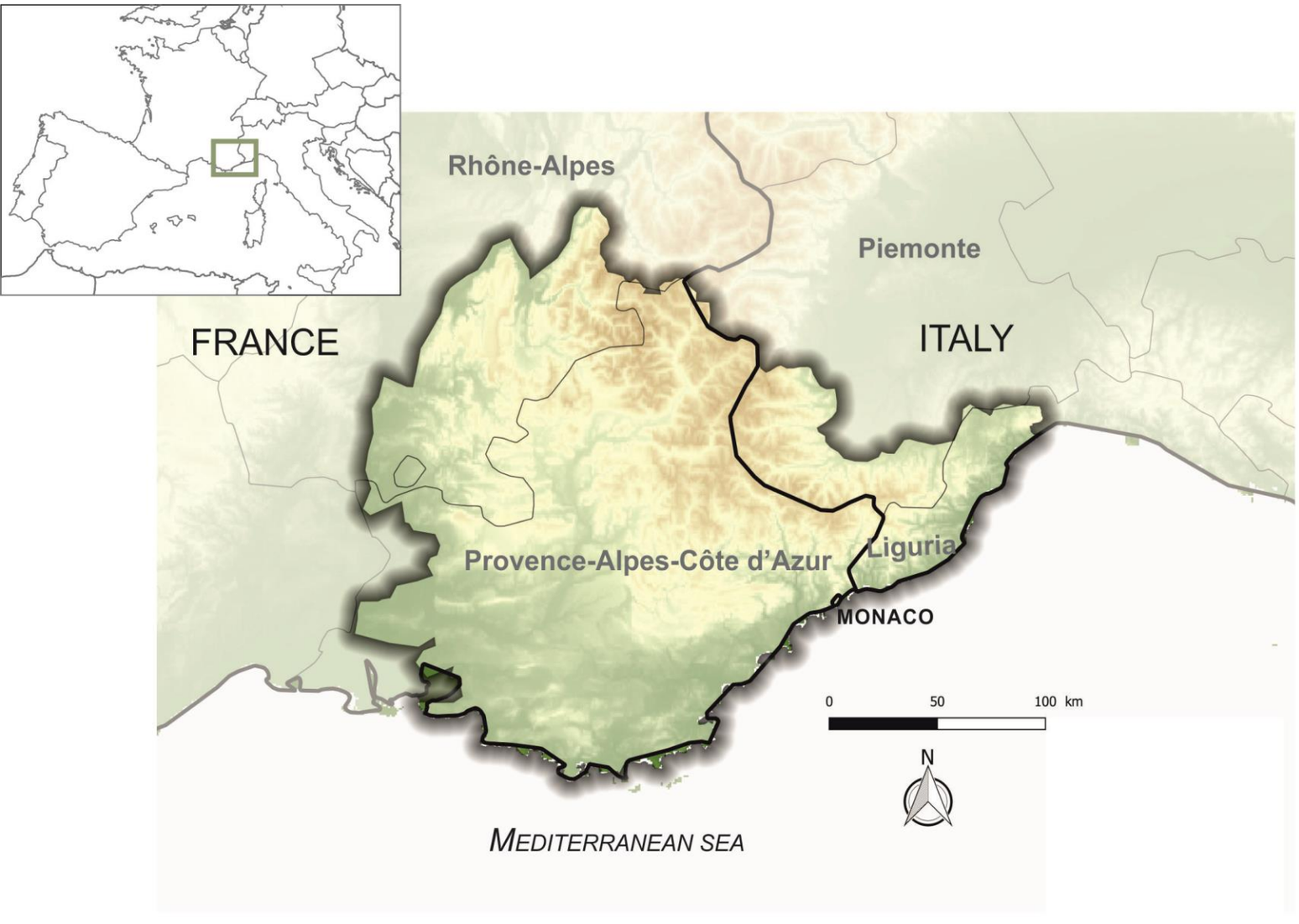
Step 1: hierarchisation of taxa

- Method developed by Gauthier et al. (2010)
- Implemented at the South-Western Alps scale (Le Berre et al., 2018)
- Implemented at the Provence-Alpes-Côte d’Azur region scale



- 3 criteria:

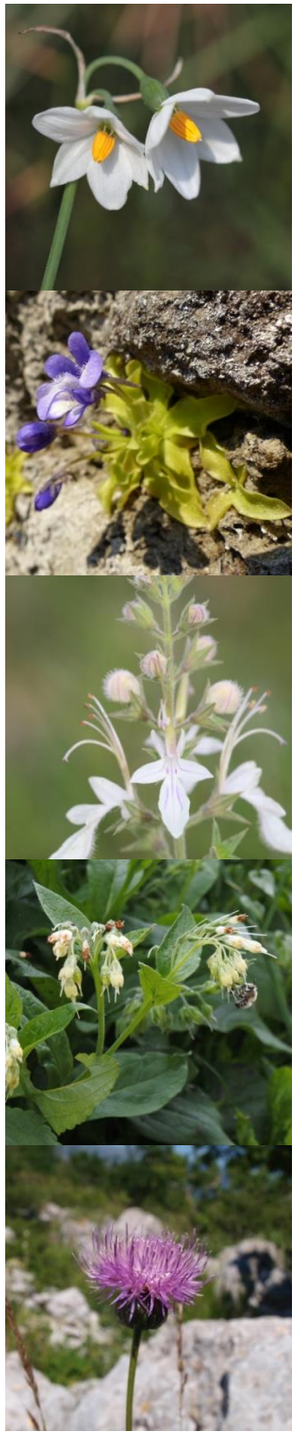
➢ Biogeographical rarity

➢ Local rarity

➢ Potential threats: habitat vulnerability + artificialisation

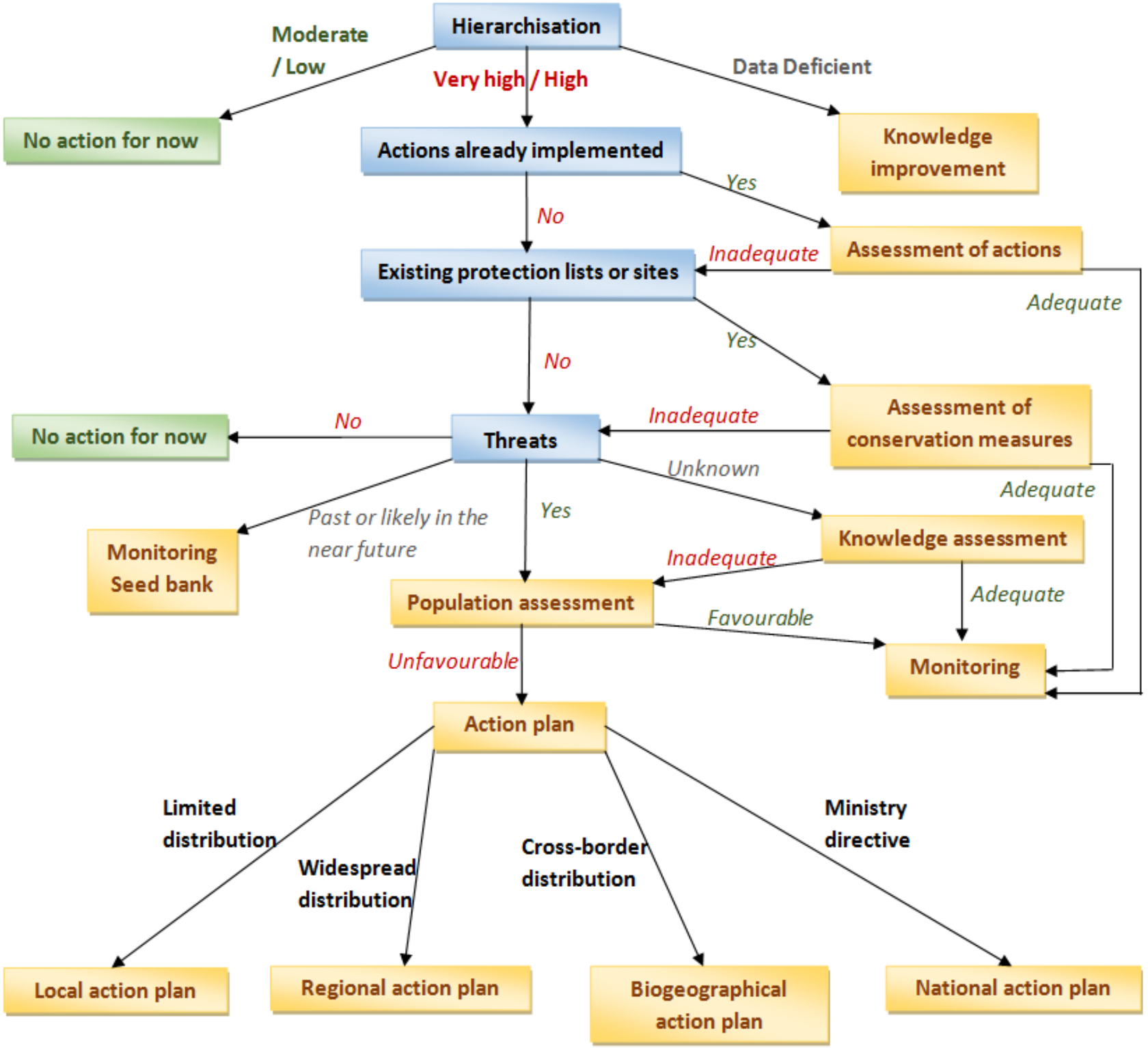
• Taxa ranked by score

• Conservation concern (Very high, High, Moderate, Low or Data deficient) for each taxon



Step 2: typification of actions

- What to do for which taxon?
- Decision tree



Step 3: prioritisation of projects

- Prioritisation = resource allocation
- Only actions can be prioritised

$$\text{Project efficiency} = \frac{\text{Taxon score} \times \text{Project benefit} \times \text{Project likelihood of success}}{\text{Project cost}}$$

- Taxon score = hierarchisation score
- Benefit for biodiversity: probability of the species being secure in 50 years with and without management
- Likelihood of success: probability of the project to be successfully implemented

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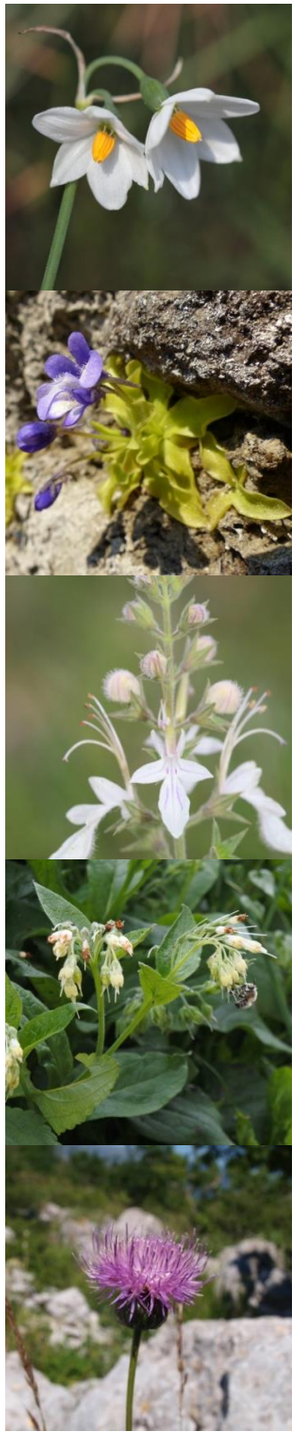

Step 4: choice of projects

- Should be implemented at the last moment

Depends on:

- Availability and source of financial resources
- Human resources and partnership
- Eligible geographical area
- Type of aimed project (action plan, monitoring, population assessment…)
- Maximal number of projects
- Legislation
- Practical criteria (e.g. well-known species, restricted distribution, species easy to monitor…)

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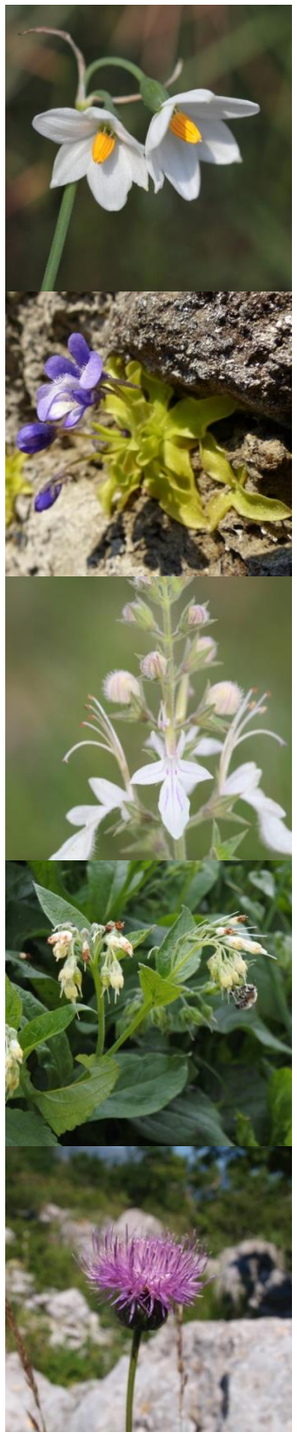

Conclusion

- Fast decline of biodiversity
- Need for a strategy that can be used at different scales
- Reproducible methods
- Robust criteria
- Need for cross-border collaborations

➢ Head resources towards species which need them most and towards projects with high efficiency

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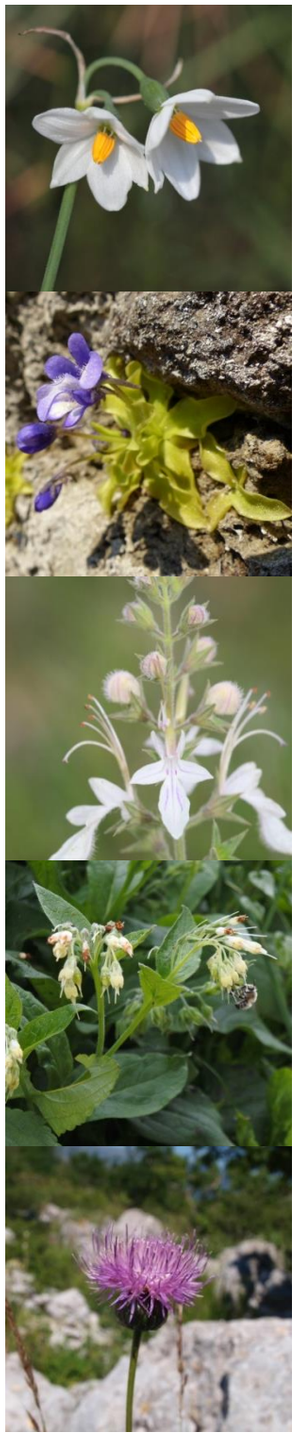

Thank you for your attention!

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