The Code of Conduct. A first step towards more aware and responsible gardening.

LIFE medCLIFFS

5th Mediterranean Plant Conservation Week, CY-2025
Limassol, Cyprus
11th April 2025

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5MPCW
CY-2025

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CSIC Consejo Superior de Investigaciones Científicas
Generalitat de Catalunya Departament d'Acció Climàtica, Alimentació i Agenda Rural
Diputació de Girona
museu de ciències naturals de Barcelona
Flora Catalana
Federació d'Agricultors Viveristes de Catalunya
institut botànic Centre mixt CSIC
Parc Natural de Cap de Creus
Life
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Towards an integrative management of Invasive Alien Plant Species in Mediterranean sea cliffs of European interest (LIFE20 NAT/ES/001223) – Is a nature conservation project financed by the EU program LIFE.

LIFE20 NAT/ES/001223
Biodiversity

DURATION
1/10/2021 – 30/9/2026

COORDINATED BY:

CSIC
Consejo Superior de Investigaciones Científicas

institut botànic de Barcelona
Centre mixt CSIC

PARTNERS:

Generalitat de Catalunya
Departament d'Acció Climàtica, Alimentació i Agenda Rural

Parc Natural de Cap de Creus

Diputació de Girona

nat museu de ciències naturals de Barcelona

Flora Catalana
Viu, gaudeix i aprèn amb la nostra flora

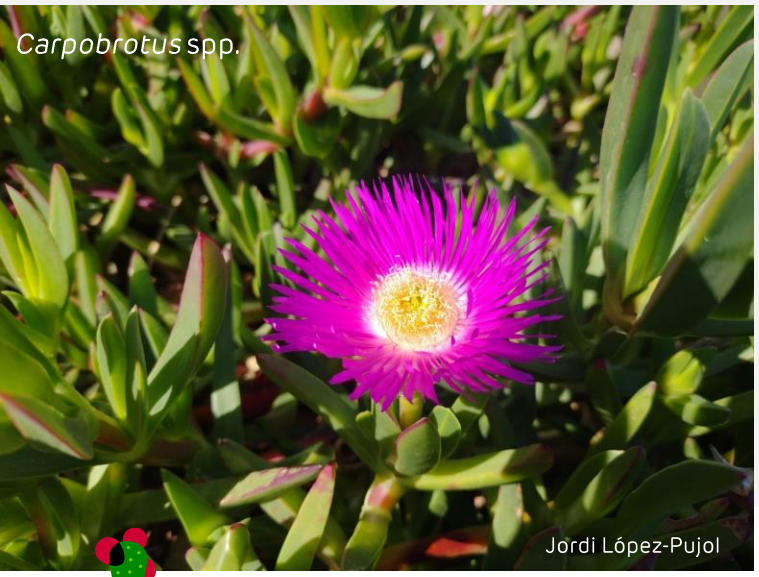
Federació d'Agricultors Viveristes de Catalunya

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What is an invasive plant species (IAPS)?

- Alien plant species (allochthonous)
- Spread easily and fast
- Easily adapt to a wide range of conditions
- Cause a negative impact

- Not all alien species are invasive!
- In Catalonia (NE Spain) we have around 100 IAPS (~30% are found on the coast)











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Why are IAPS a problem?

- Great reproductive and adaptation capacity
- Absence of natural competitors
- Absence of natural predators

- **Interfere with the ecosystem equilibrium**
  - Habitat modification, loss or destruction
  - Pollinator competition
  - Biodiversity decline
  - Economic costs linked to management
  - Sociocultural losses



Opuntia stricta Gerard Carrión

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HCI 1240 Vegetated cliffs with endemic statices (*Limonium* spp.) of the Mediterranean coasts



Good: A habitat is in a situation where it is prospering and with good prospects to do so in the future as well

Poor: A habitat is in a situation where a change in management or policy is required to return the habitat to favourable status but there is no danger of disappearance in the foreseeable future

Bad: A habitat is in serious danger of disappearing (at least regionally)

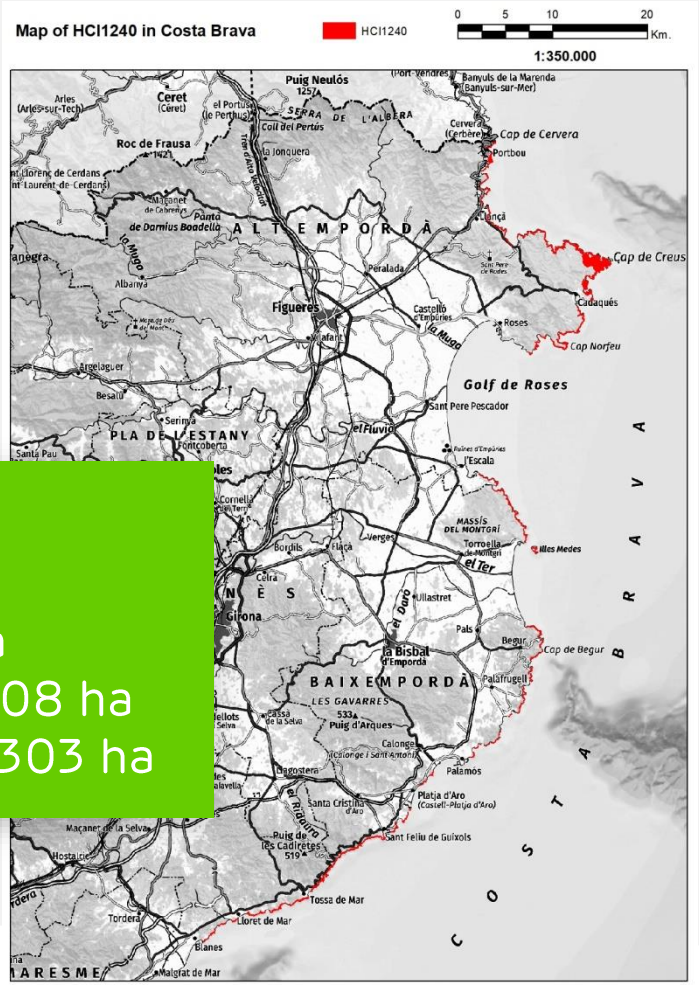
Unknown: The information available for the habitat type is scarce and does not allow a proper assessment of its conservation status

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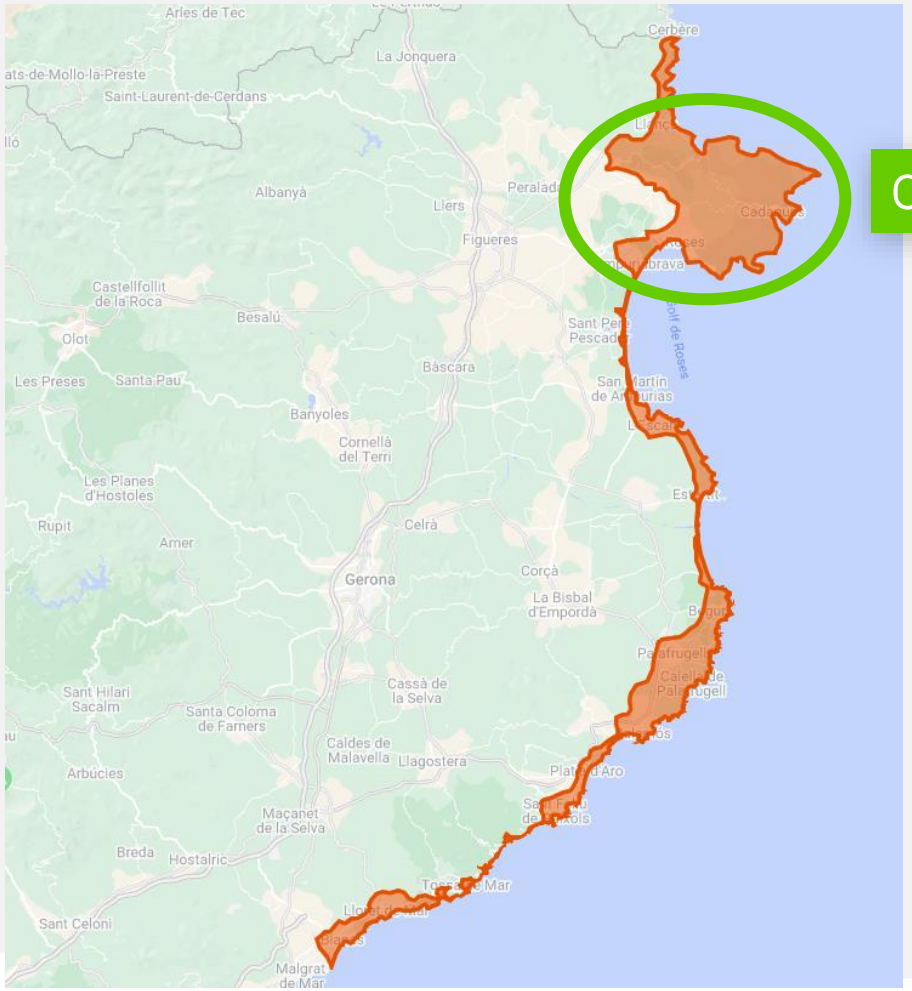
https://eunis.eea.europa.eu/habitats/10015

HCI 1240 Vegetated cliffs with endemic statices (*Limonium* spp.) of the Mediterranean coasts



HCI 1240

Spain 1266 ha
Costa Brava 608 ha
Cap de Creus 303 ha



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HCI 1240 Vegetated cliffs with endemic statices (*Limonium* spp.) of the Mediterranean coasts



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https://eunis.eea.europa.eu/habitats/10015

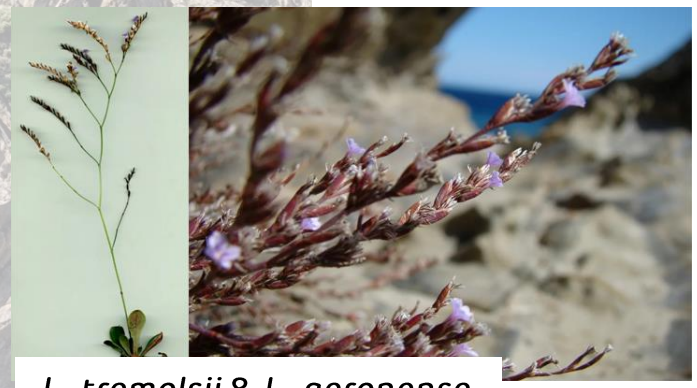
HCI 1240 Vegetated cliffs with endemic statices (*Limonium* spp.) of the Mediterranean coasts



Crithmum maritimum



Daucus carota subsp. *hispanicus*



L. tremolsii & *L. geronense*



Pallenis maritima



Plantago subulata

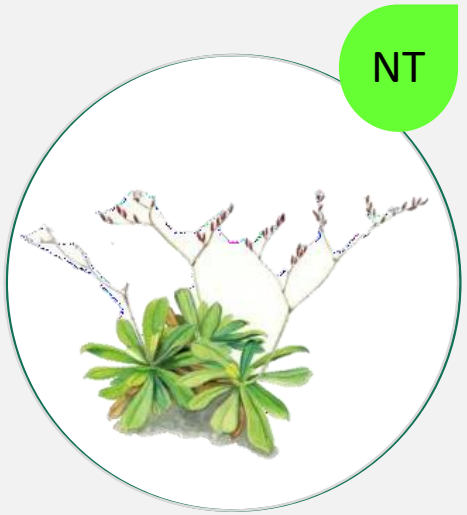


Armeria ruscinonensis

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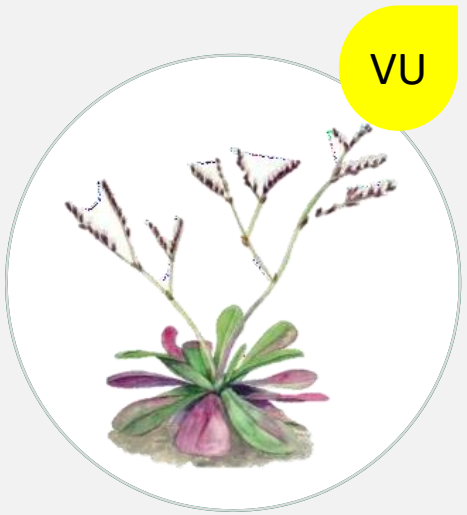
www.lifemedcliffs.org

https://eunis.eea.europa.eu/habitats/10015



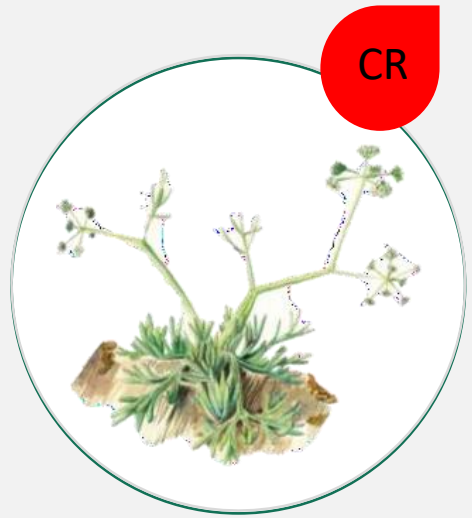
Limonium tremolsii





Limonium geronense





Seseli farrenyi



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IUCN International Union for Conservation of Nature (IUCN)



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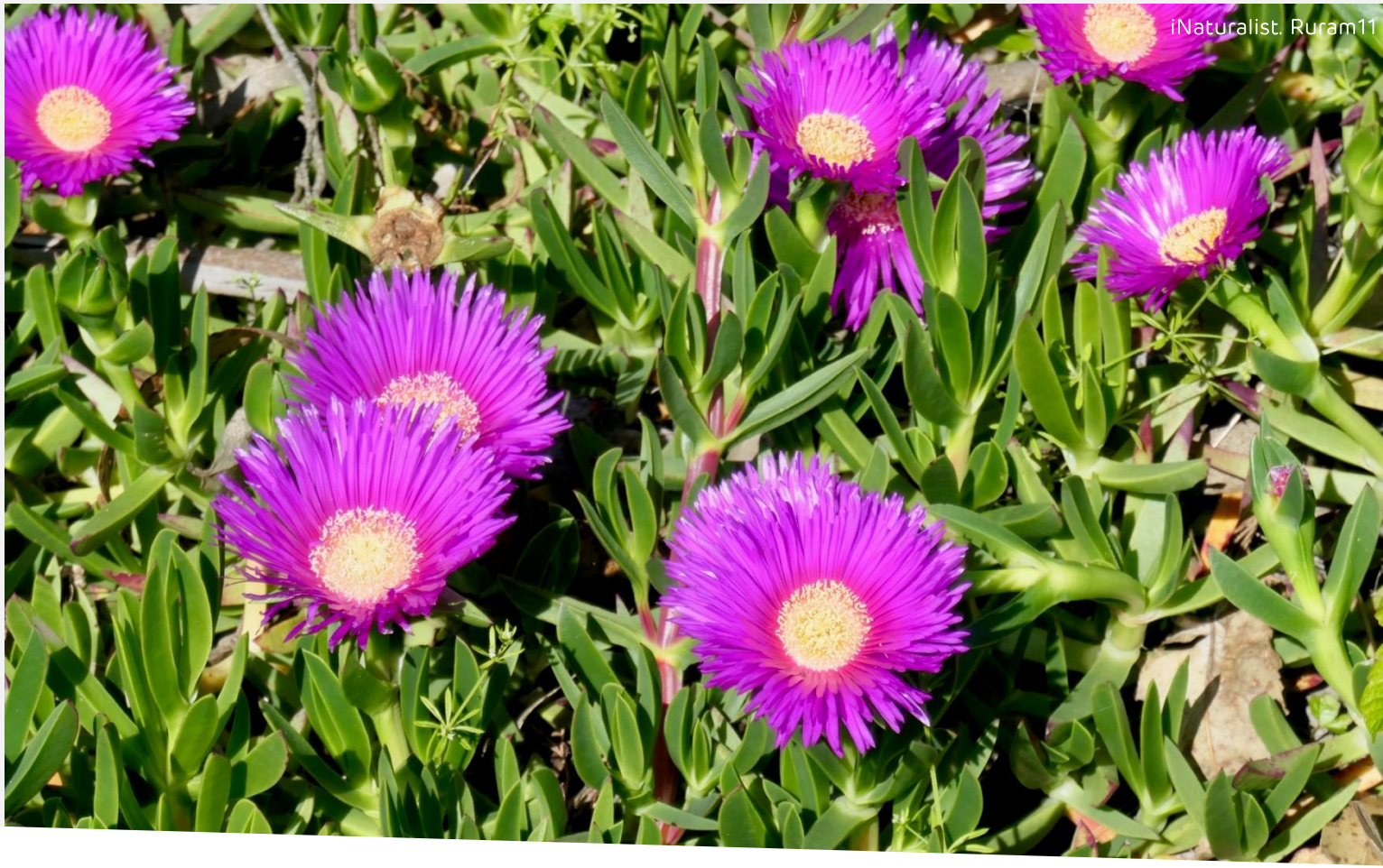
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General goals

Improve the management of invasive plant species

Raise awareness about this problem: change people's perspective



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Specific objectives

1

Prevention

- 3 species lists
- Code of Conduct and label
- Legal implementation

2

Early detection

- Citizen science
- Volunteers and observator networks
- Monitoring

3

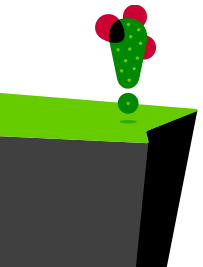
Quick response

- Invasion risk modelling
- Risk maps for invasive and potentially invasive species

4

Eradication

- Improvement or adaptation of protocols for IAPS on cliffs
- Actions in private gardens



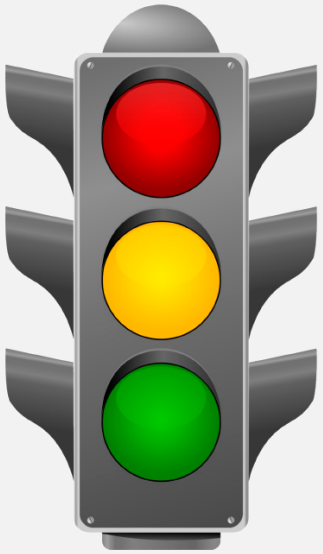
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1 Prevention: lists, Code of Conduct & label



CONSENSUS LIST
Species whose aggressive invasive character advises to avoid or discontinue their use.

WATCH LIST
Species excluded from the consensus list, with no restriction of use but which may become invasive in certain conditions.

WHITE LIST
Native and non-invasive exotic ornamental species, that would substitute those included in the consensus list.





Quality label
(next step!)

Figure C4-2. Proposed "traffic lights like" system for the consensus, watch and white lists.

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1 Prevention: lists, Code of Conduct & label

1. What is for sale?
2. Invasive behaviour potential scale
3. How invasive and where?

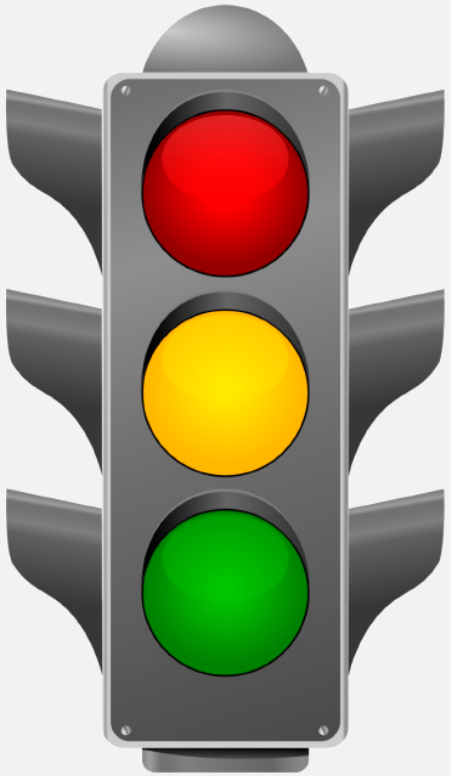
Partner:

Federació d'Agricultors Viveristes de Catalunya

1 Prevention: lists

Partner:

Federació d'Agricultors Viveristes de Catalunya



CONSENSUS LIST
Species whose aggressive invasive character advises to avoid or discontinue their use.

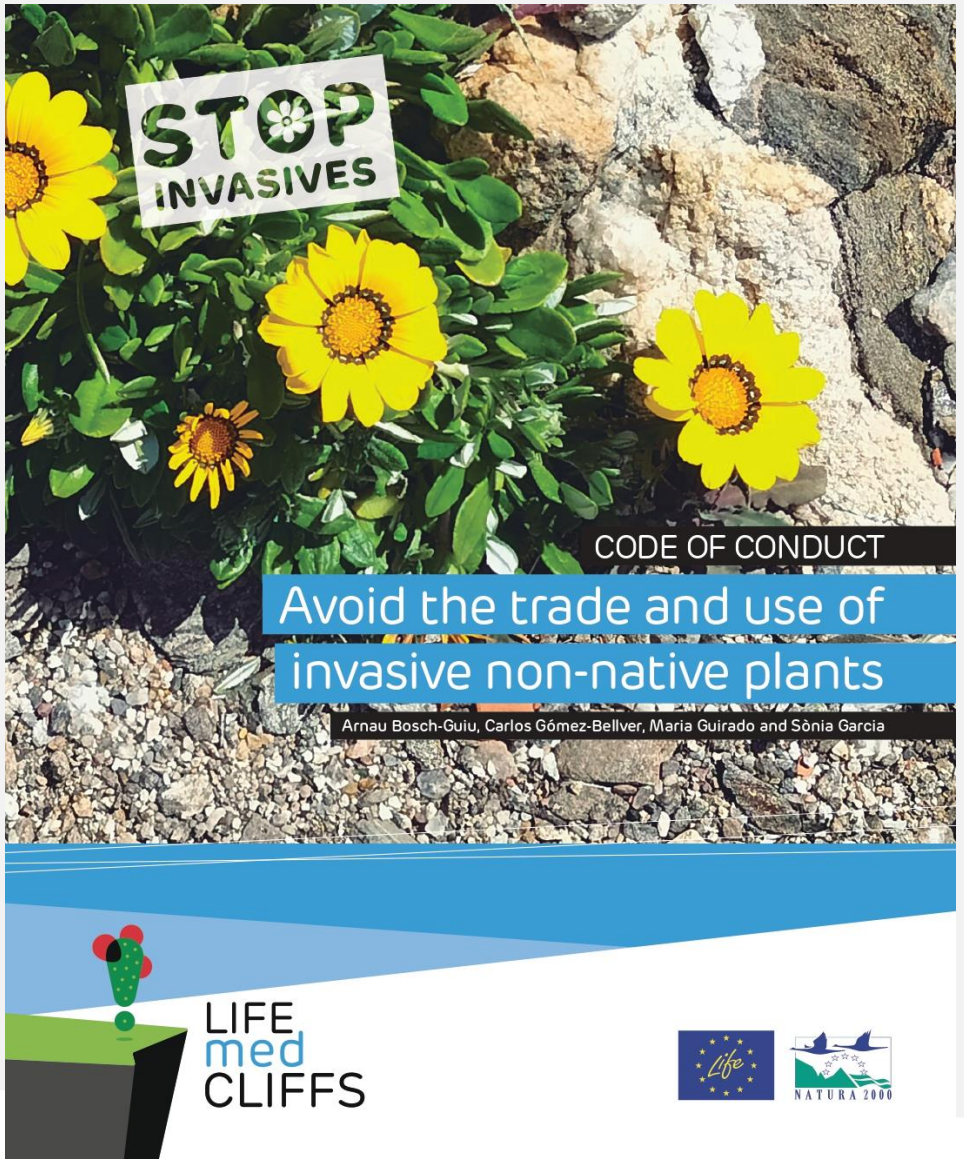
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Species excluded from the consensus list, with no restriction of use but which may become invasive in certain conditions.

WHITE LIST
Native and non-invasive exotic ornamental species, that would substitute those included in the consensus list.

Figure C4-2. Proposed "traffic lights like" system for the consensus, watch and white lists.

1 Prevention:
Code of Conduct





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1 Prevention: Code of Conduct

1. Know and respect the law

Download it here!



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1 Prevention: Code of Conduct

1. Know and respect the law
2. Know and promote the 3 LIFE medCLIFFS lists

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1 Prevention: Code of Conduct

1. Know and respect the law
2. Know and promote the 3 LIFE medCLIFFS lists
3. Remove invasive species from catalogues and collections

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1 Prevention: Code of Conduct

1. Know and respect the law
2. Know and promote the 3 LIFE medCLIFFS lists
3. Remove invasive species from catalogues and collections
4. Understand and be aware of what you are trading with and planting

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1 Prevention: Code of Conduct

1. Know and respect the law
2. Know and promote the 3 LIFE medCLIFFS lists
3. Remove invasive species from catalogues and collections
4. Understand and be aware of what you are trading with and planting
5. Promote the use of non-invasive species (White list)

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1 Prevention: Code of Conduct

1. Know and respect the law
2. Know and promote the 3 LIFE medCLIFFS lists
3. Remove invasive species from catalogues and collections
4. Understand and be aware of what you are trading with and planting
5. Promote the use of non-invasive species (White list)
6. Commit to informing and raising awareness about the problem of invasive species

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1 Prevention: Code of Conduct

1. Know and respect the law
2. Know and promote the 3 LIFE medCLIFFS lists
3. Remove invasive species from catalogues and collections
4. Understand and be aware of what you are trading with and planting
5. Promote the use of non-invasive species (White list)
6. Commit to informing and raising awareness about the problem of invasive species
7. Promote environmentally-friendly gardening activities

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1 Prevention: Quality label (next step!)

1. Provide evidence to the public about their commitment
2. As an advertisement for the business
3. As merit for funding and subventions
4. Earn the people's trust



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Plant another one!

Alternatives to invasive plants

(from an aesthetic and physiological perspective)

Focusing on using:

Autochthonous (A)

Sterile (S)

Low risk of invasion (lri)

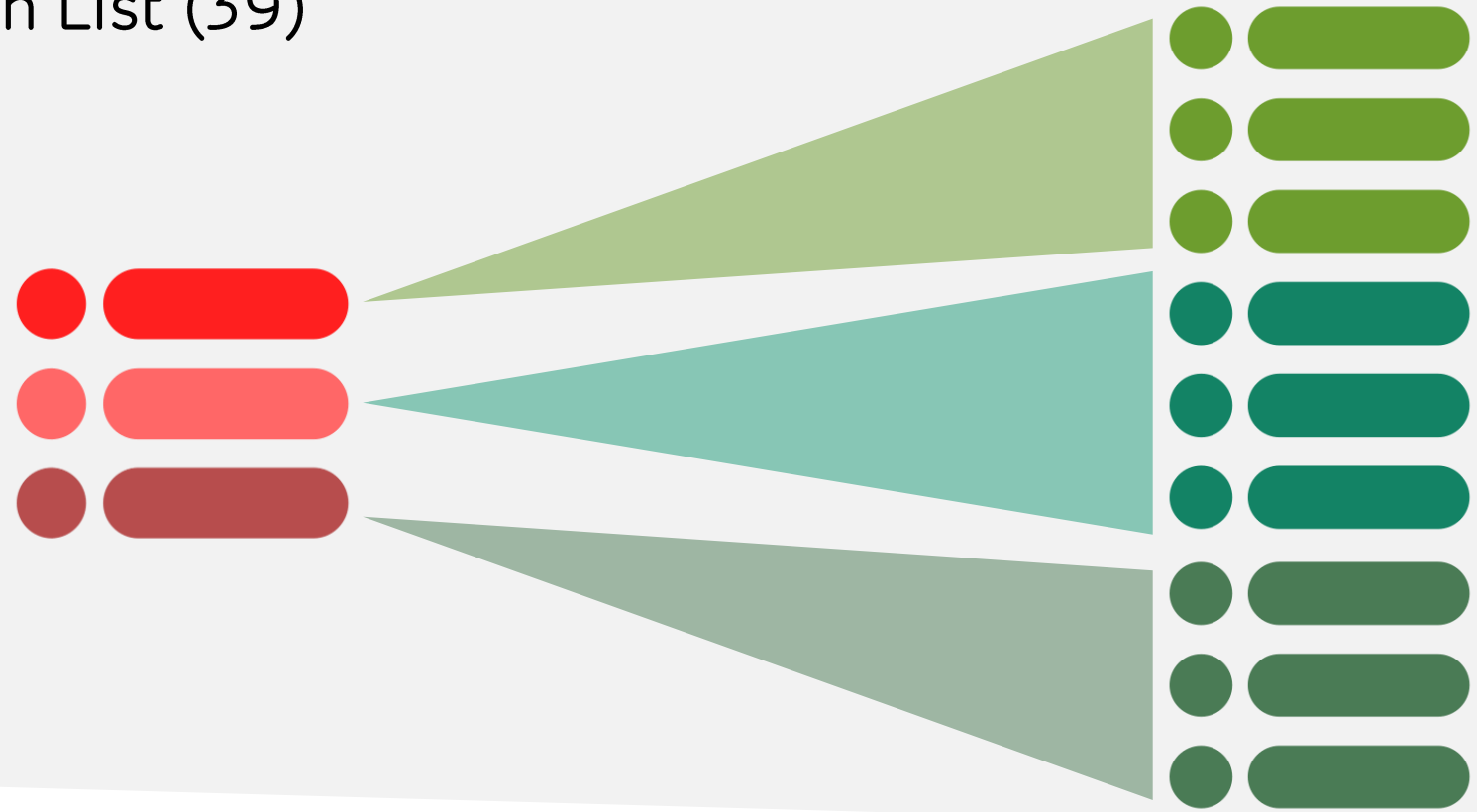
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LIFE medCLIFFS Lists

- Consensus List (94)
- Watch List (39)
- White List (2235)



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Alternatives

Lonicera japonica





Requirements

It is a twining vine able to climb up to 10m high or more in trees, with opposite, simple oval leaves. When its stems are young, they are slightly red in colour and the older ones brown. The flowers are double-tongued, opening white and fading yellow and sweetly vanilla-scented. The fruit is a black spherical berry.

Grows in part shade and rich soil, but it can tolerate full sun and drought and therefore is able to grow in a wide variety of habitats. Prefers average, dry to moist, well-drained soils.

Alternatives



Clematis flammula (liana)
Clematis recta (bush)





Lonicera etrusca (liana)
Lonicera implexa (liana)
Lonicera periclymenum (bush)

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https://floracatalana.host/flora/cataleg

Cheesewood **Pittosporum tobira**







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Pittosporum tobira

Alternatives





Cheeswood
(*Pittosporum tobira*)



Dwarf Cheesewood [sterile]
(*Pittosporum tobira* var. *nanum*)

Myrtle [autochthonous]
(*Myrtus communis*)





Mexican orange [low risk]
(*Choysia ternata*)

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Pittosporum tobira

Myrtle • *Myrtus communis* (**A**)





https://floracatalana.host/flora/galeria-taxon-subesp-percadacat?field_nom_cientific_value=myrtus+communis&field_etiquetes_target_id=&field_categoria_value=All

Myrtus communis subsp. *tarentina*



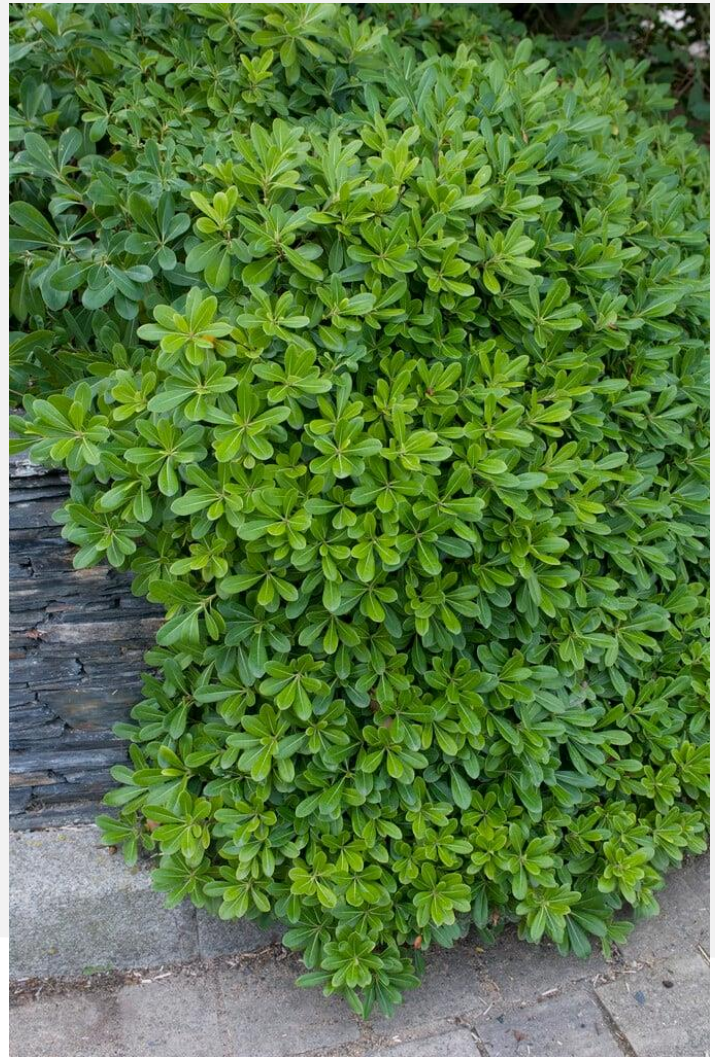
https://www.rhs.org.uk/plants/59207/myrtus-communis-subsp-tarentina/details

Pittosporum tobira

Dwarf Cheesewood • *Pittosporum tobira* var. *nanum* (**S**)



https://www.rhs.org.uk/plants/61258/pittosporum-tobira-nanum/details



Pittosporum tobira

Alternatives

Mexican orange • *Choisya ternata* (**Iri**)



https://plantasflores.com/choisya-ternata/





https://www.gardensonline.com.au/gardenshed/plantfinder/show_2186.aspx

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Pittosporum tobira

Mock privet • *Phillyrea latifolia* (**A**)







https://floracatalana.host/flora/galeria-taxon-subesp-percadacat?field_nom_cientific_value=Phillyrea%20latifolia&field_etiquetes_target_id=&field_categoria_value=All

Pittosporum tobira

Lentisk • *Pistacia lentiscus* (**A**)





https://floracatalana.host/flora/galeria-taxon-subesp-percadacat?field_nom_cientific_value=pistacia+lentiscus&field_etiquetes_target_id=&field_categoria_value=All

Pittosporum tobira

Mediterranean buckthorn • *Rhamnus alaternus* (**A**)





https://floracatalana.host/flora/galeria-taxon-subesp-percadacat?field_nom_cientific_value=rhamnus+alaternus&field_etiquetes_target_id=&field_categoria_value=All

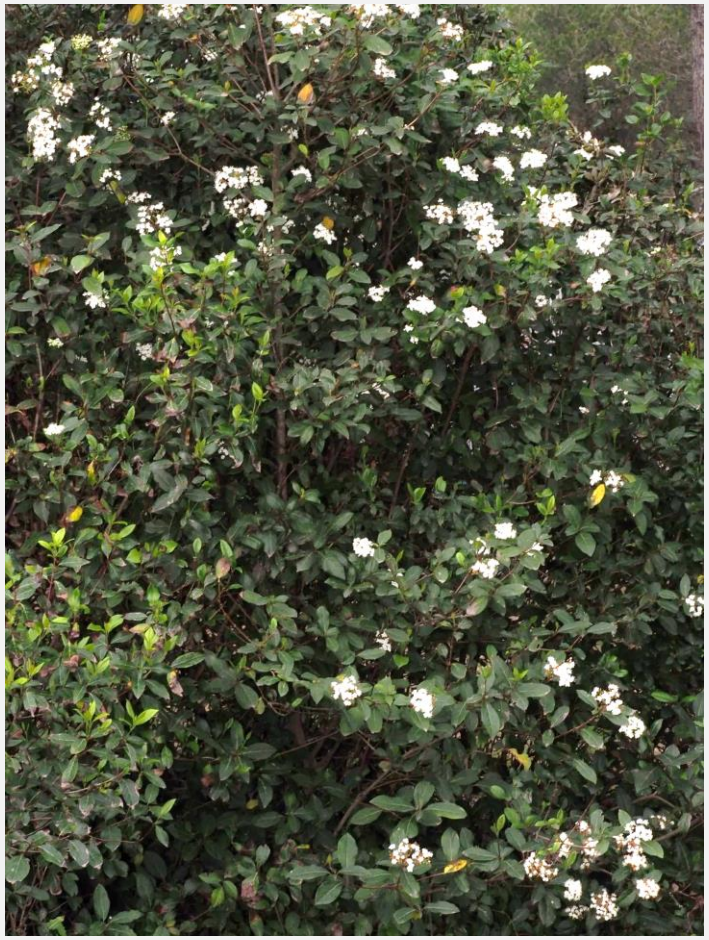
Pittosporum tobira

Alternatives

Laurustinus • *Viburnum tinus* (A)







https://floracatalana.host/flora/galeria-taxon-subesp-percadacat?field_nom_cientific_value=viburnum+tinus&field_etiquetes_target_id=&field_categoria_value=All

Pittosporum tobira

Alternatives

- Myrtle • *Myrtus communis* (**A**)
- Dwarf Cheesewood • *Pittosporum tobira* var. *nanum* (**S**)
- Mexican orange • *Choisya ternata* (**Iri**)
- Mock privet • *Phillyrea latifolia* (**A**)
- Lentisk • *Pistacia lentiscus* (**A**)
- Mediterranean buckthorn • *Rhamnus alaternus* (**A**)
- Laurustinus • *Viburnum tinus* (**A**)

- Little water

Pittosporum tobira

Alternatives

- Myrtle • *Myrtus communis* (**A**)
- Dwarf Cheesewood • *Pittosporum tobira* var. *nanum* (**S**)
- Mexican orange • *Choisya ternata* (**Iri**)
- Mock privet • *Phillyrea latifolia* (**A**)
- Lentisk • *Pistacia lentiscus* (**A**)
- Mediterranean buckthorn • *Rhamnus alaternus* (**A**)
- Laurustinus • *Viburnum tinus* (**A**)

- Little water
- High sun exposure

Pittosporum tobira

Alternatives

- Myrtle • *Myrtus communis* (**A**)
- Dwarf Cheesewood • *Pittosporum tobira* var. *nanum* (**S**)
- Mexican orange • *Choisya ternata* (**Iri**)
- Mock privet • *Phillyrea latifolia* (**A**)
- Lentisk • *Pistacia lentiscus* (**A**)
- Mediterranean buckthorn • *Rhamnus alaternus* (**A**)
- Laurustinus • *Viburnum tinus* (**A**)

- Little water
- High sun exposure
- Salinity

Pittosporum tobira

Alternatives

Myrtle • *Myrtus communis* (**A**)

Dwarf Cheesewood • *Pittosporum tobira* var. *nanum* (**S**)

Mexican orange • *Choisya ternata* (**Iri**)

Mock privet • *Phillyrea latifolia* (**A**)

Lentisk • *Pistacia lentiscus* (**A**)

Mediterranean buckthorn • *Rhamnus alaternus* (**A**)

Laurustinus • *Viburnum tinus* (**A**)

- Little water
- High sun exposure
- Salinity
- Pretty

Pittosporum tobira

Alternatives

- Myrtle • *Myrtus communis* (**A**)
- Dwarf Cheesewood • *Pittosporum tobira* var. *nanum* (**S**)
- Mexican orange • *Choisya ternata* (**Iri**)
- Mock privet • *Phillyrea latifolia* (**A**)
- Lentisk • *Pistacia lentiscus* (**A**)
- Mediterranean buckthorn • *Rhamnus alaternus* (**A**)
- Laurustinus • *Viburnum tinus* (**A**)

- Little water
- High sun exposure
- Salinity
- Pretty
- Resemblance

Pittosporum tobira

Alternatives

- Myrtle • *Myrtus communis* (**A**)
- Dwarf Cheesewood • *Pittosporum tobira* var. *nanum* (**S**)
- Mexican orange • *Choisya ternata* (**Iri**)
- Mock privet • *Phillyrea latifolia* (**A**)
- Lentisk • *Pistacia lentiscus* (**A**)
- Mediterranean buckthorn • *Rhamnus alaternus* (**A**)
- Laurustinus • *Viburnum tinus* (**A**)

- Little water
- High sun exposure
- Salinity
- Pretty
- Resemblance
- *Diversity?*

Gazania rigens







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https://floracatalana.host/flora/galeria-taxon?field_referencia_imatge_value=VTax2977.&field_categoria_value=All

Gazania rigens

Gold coin • *Pallenis maritima* (**A**)





https://floracatalana.host/flora/galeria-taxon?field_referencia_imatge_value=VTax3060.&field_categoria_value=All

Gazania rigens

Alternatives

Strawflower • *Helichrysum stoechas* (**A**)





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https://floracatalana.host/flora/galeria-taxon-subesp-percadacat?field_nom_cientific_value=helichrysum+stoechas&field_etiquetes_target_id=&field_categoria_value=All

Gazania rigens

Alternatives

Eternal flower • *Helichrysum italicum* (**A**)



https://www.rhs.org.uk/plants/34062/helichrysum-italicum/details



https://floracatalana.host/flora/galeria-taxon-subesp-percadacat?field_nom_cientific_value=Helichrysum%20italicum&field_etiquetes_target_id=&field_categoria_value=All

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Gazania rigens

Silver ragwort • *Jacobaea maritima* (**A**)







https://floracatalana.host/flora/galeria-taxon-subesp-percadacat?field_nom_cientific_value=senecio+cineraria&field_etiquetes_target_id=&field_categoria_value=All

Gazania rigens

"Jorjado" • *Asteriscus intermedius* (**Iri**, Canarian)





https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:77091461-1/images

Gazania rigens

Alternatives

Gold coin	• *Pallenis maritima* (**A**)
Strawflower	• *Helichrysum stoechas* (**A**)
Eternal flower	• *Helichrysum italicum* (**A**)
Silver ragwort	• *Jacobaea maritima* (**A**)
"Jorjado"	• *Asteriscus intermedius* (**Iri**)

- Little water
- High sun exposure
- Salinity
- Pretty
- Resemblance

Dimorphotheca ecklonis





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https://floracatalana.host/flora/galeria-taxon-subesp-percadacat?field_nom_cientific_value=dimorphotheca+ecklonis&field_etiquetes_target_id=&field_categoria_value=All

Dimorphotheca ecklonis

Coneflower • *Echinacea* spp. (**Iri**)



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https://www.flickr.com/photos/blondinrikard/

Dimorphotheca ecklonis

Shrubby globularia • *Globularia alypum* (**A**)











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https://floracatalana.host/flora/galeria-taxon?field_referencia_imatge_value=VTax2775.&field_categoria_value=All

Dimorphotheca ecklonis

Alternatives

Oxeye daisy • *Leucanthemum vulgare* (**A**)











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https://floracatalana.host/flora/galeria-taxon-subesp-percadacat?field_nom_cientific_value=Leucanthemum%20vulgare&field_etiquetes_target_id=&field_categoria_value=All

Dimorphotheca ecklonis

Alternatives

Purple daisies

- *Aster* spp. (**Iri, "A"**)
- *Galatella* spp. (**Iri, "A"**)



Aster willkommii

https://floracatalana.host/flora/galeria-taxon?field_referencia_imatge_value=VTax2998.&field_categoria_value=All

Galatella sedifolia

https://floracatalana.host/flora/galeria-taxon?field_referencia_imatge_value=VTax2995.&field_categoria_value=All







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Dimorphotheca ecklonis

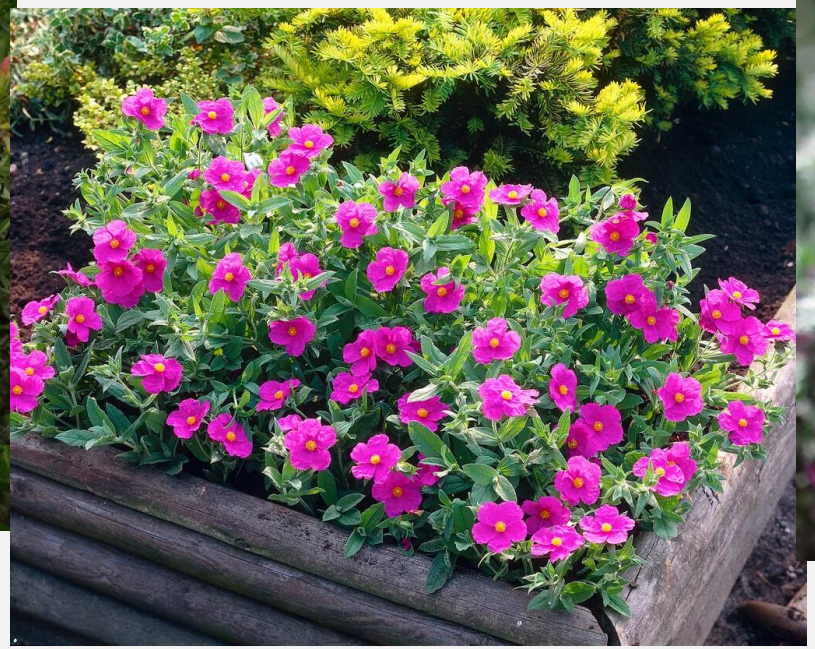
Alternatives

Rockroses • *Cistus* spp. **Iri, "A"** *C. clusii*, C. creticus, C. crispus** (***A**)



Cistus clusii

https://floracatalana.host/flora/galeria-taxon?field_referencia_imatge_value=VTax1228.&field_categoria_value=All



Cistus creticus

https://www.rhs.org.uk/plants/22292/cistus-creticus/details



Cistus crispus

https://floracatalana.host/flora/galeria-taxon?field_referencia_imatge_value=VTax1227.&field_categoria_value=All

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Dimorphotheca ecklonis

"Magarza" • *Argyranthemum frutescens* (**Iri**, Canarian)



(© Buga B.)
https://www.inaturalist.org/observations/243857897

Dimorphotheca ecklonis

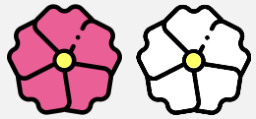
Alternatives

Coneflowers • *Echinacea* spp.(**Iri**)

Shrubby globularia • *Globularia alypum* (**A**)

Oxeye daisy • *Leucanthemum vulgare* (**A**) 

Daisies • *Aster* spp. (**Iri, "A"**)

Rockroses • *Cistus* spp. (**Iri, "A"**) 

"Magarza" • *Argyranthemum frutescens* (**Iri**) 

- Little water
- High sun exposure
- Salinity
- Pretty
- Resemblance
- *Variety*

Observations and reflections

- There is no perfect match (e.g. Cactaceae and Aizoaceae)

- We do not want to fight the ornamental plant business
- We want to collaborate with them

- We want to change the perspective of “pretty flowers”
  - Give credit to our local flora
  - How **beautiful** do plants need to be to be considered **valuable** enough?

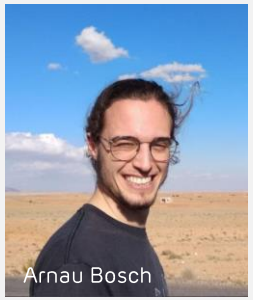
































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Diputació de Girona

nat museu de ciències naturals de Barcelona

Co-funded by the European Union

Flora Catalana

Federació d'Agricultors Viveristes de Catalunya

institut botànic Centre mixt CSIC

Parc Natural de Cap de Creus

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Moltes gràcies!

Thank you!

Ευχαριστώ πολύ!

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