2nd Mediterranean Plant Conservation Week
"Conservation of Mediterranean Plant Diversity: Complementary Approaches and New Perspectives"
(CARE-MEDIFLORA project & IUCN-MED)

12-16 November 2018, La Valetta, MALTA

Assessing the conservation status of Monocots in the Mediterranean region:
reflections from a recent IUCN Red List evaluation

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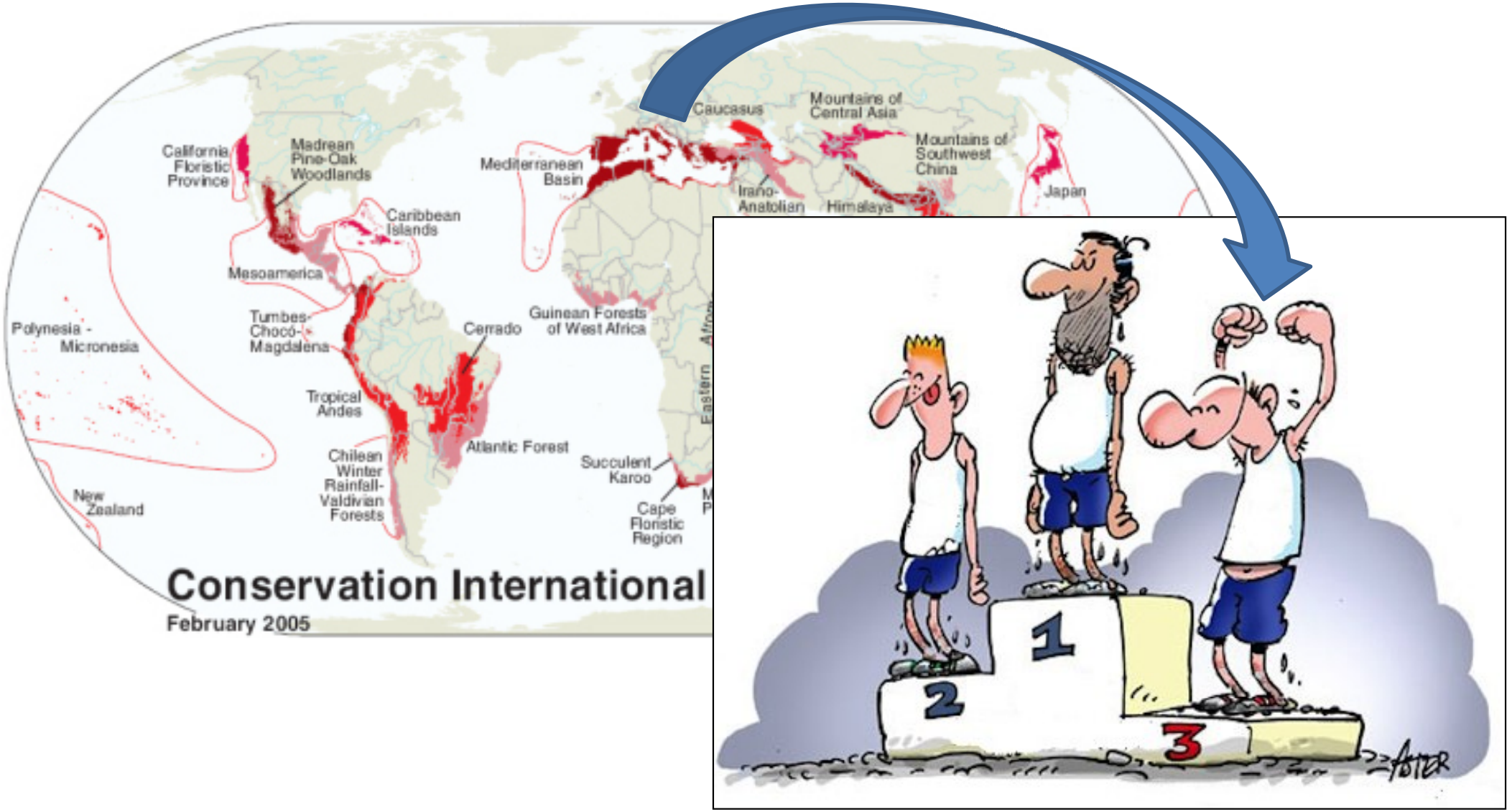
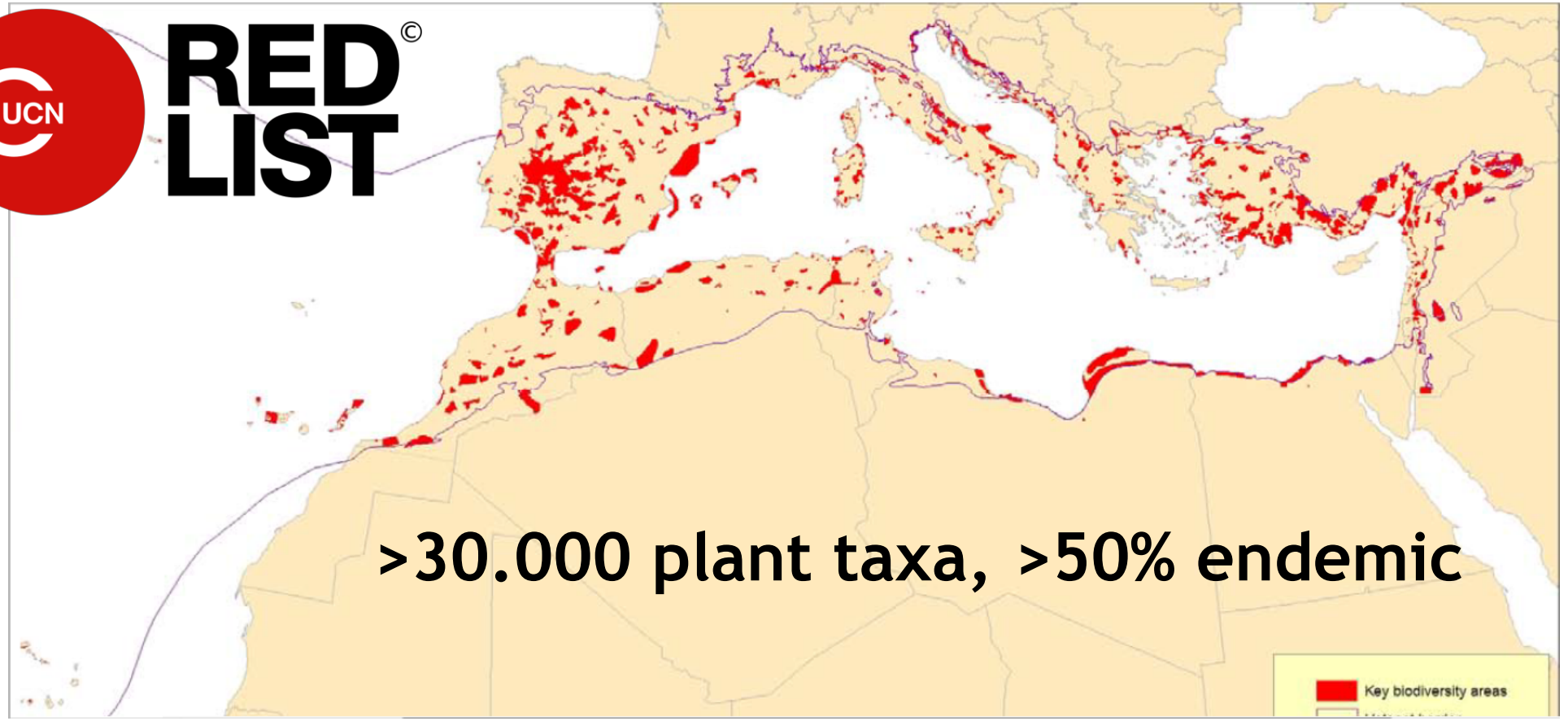
*** IUCN Centre for Mediterranean Cooperation, Spain.
**** Ardeola Environmental Services, United Kingdom.

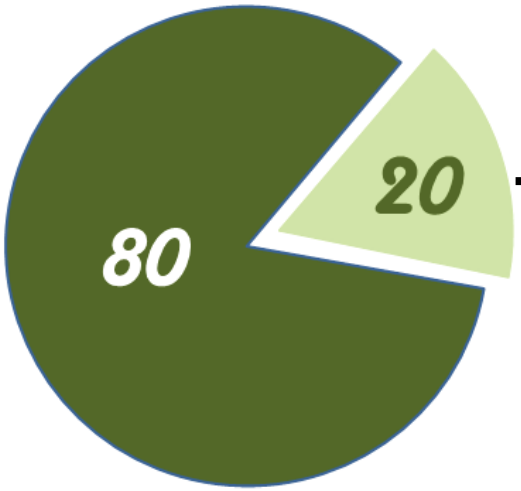
3rd global biodiv. hotspot for plants



« *how many are threatened?* »

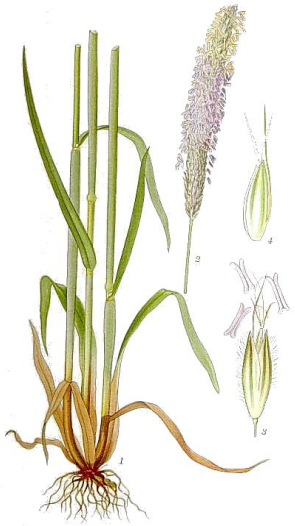


Towards a Mediterranean Red List of threatened plants



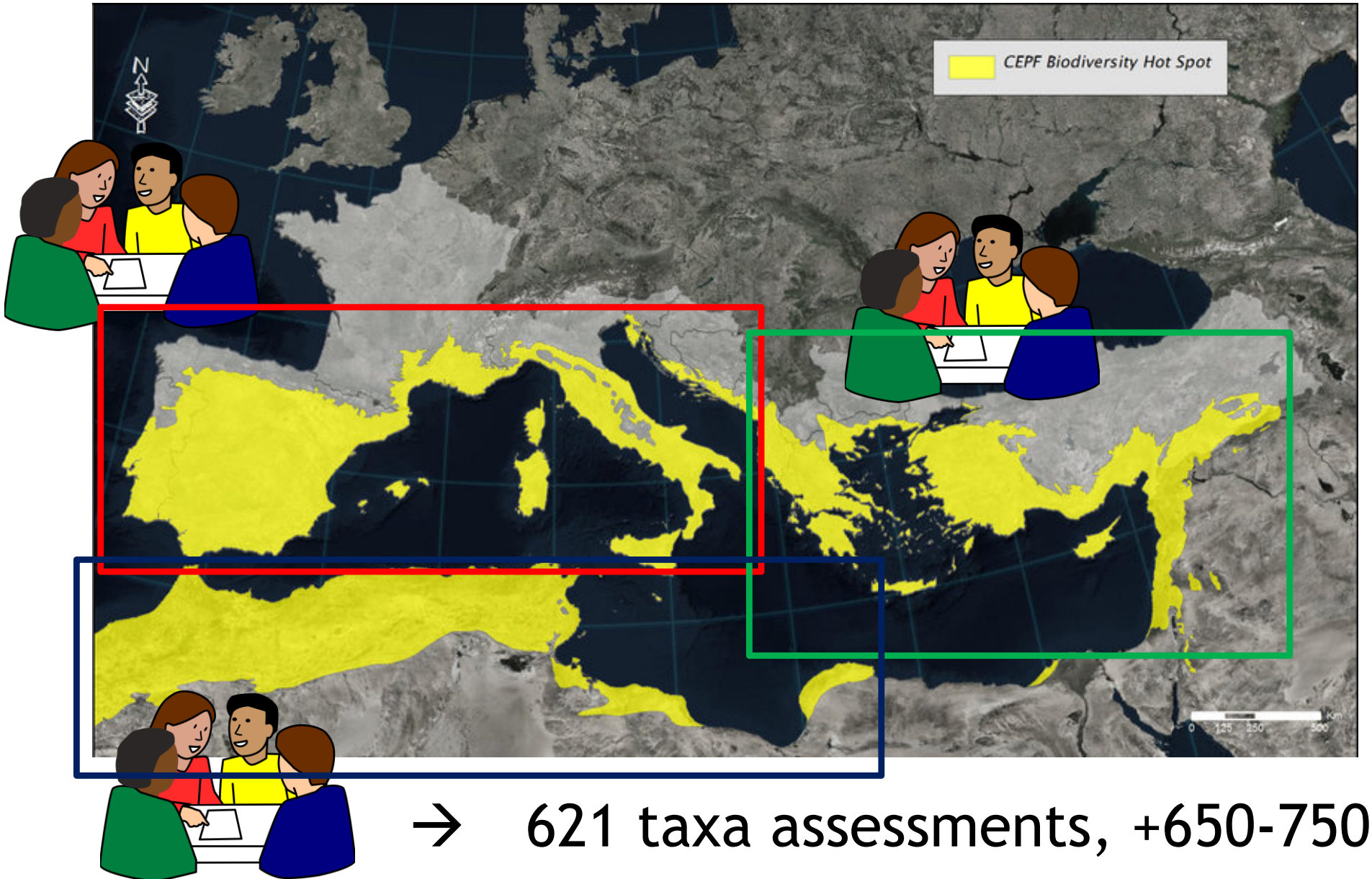
→ **Monocots...**

IUCN RED LIST©



A eight-year project (2012-2018)

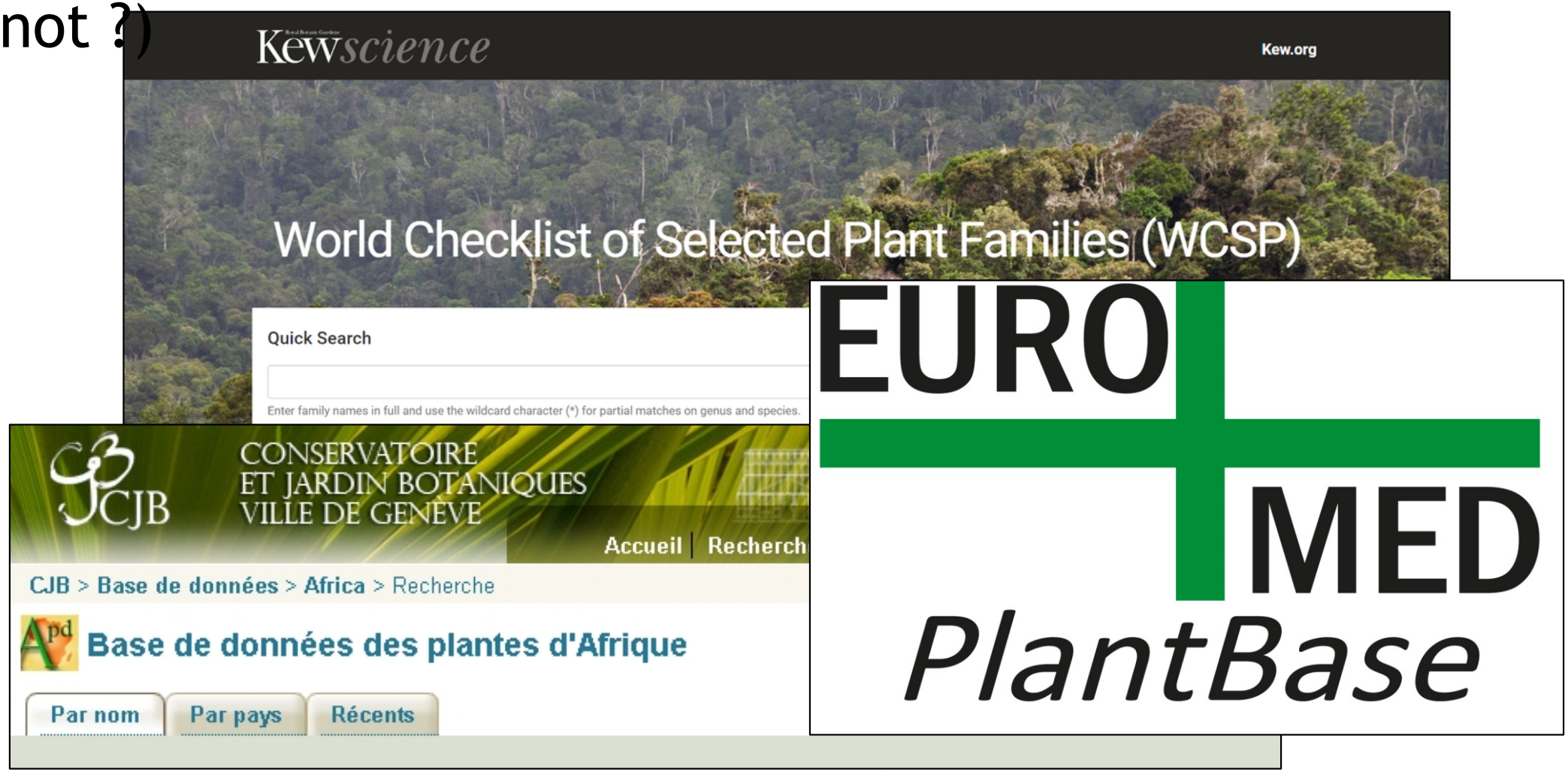
3 workshops (2015-2017), >50 experts, 4 managers :



→ 621 taxa assessments, +650-750 draf

which taxonomic reference to follow

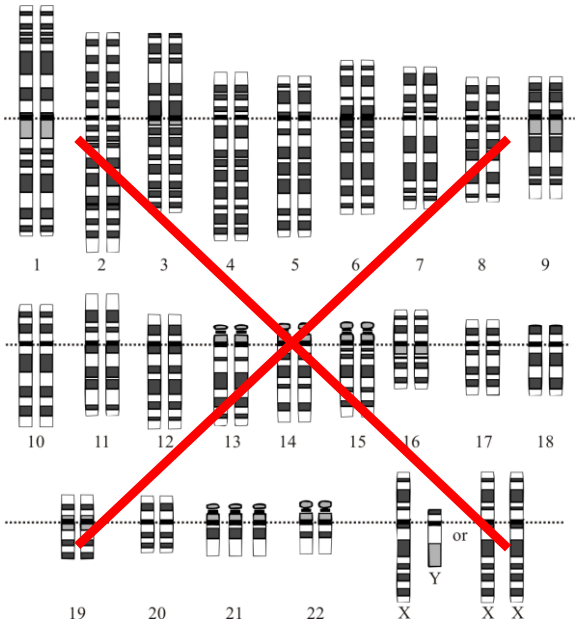
3x or 4x more names than accepted taxa (synonyms… or not ?)

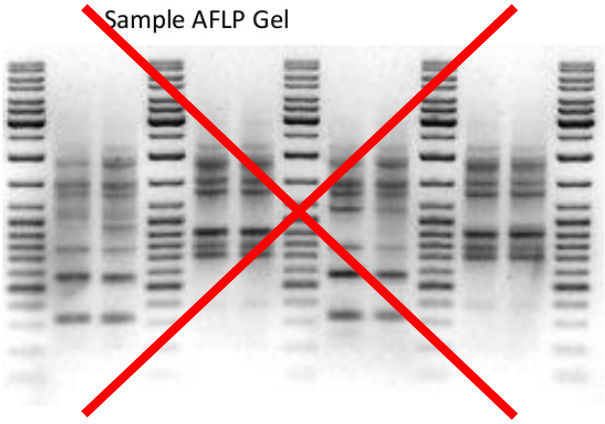


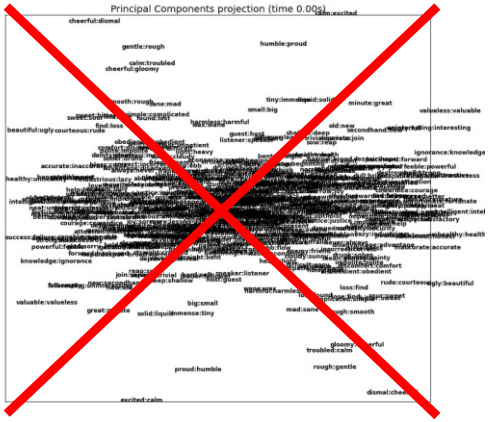
Unsolvable question… → Fluctuant taxonomy !

Fluctuant taxonomy : how and why ?

- 1st property :
  A taxon have to be identifiable in the field





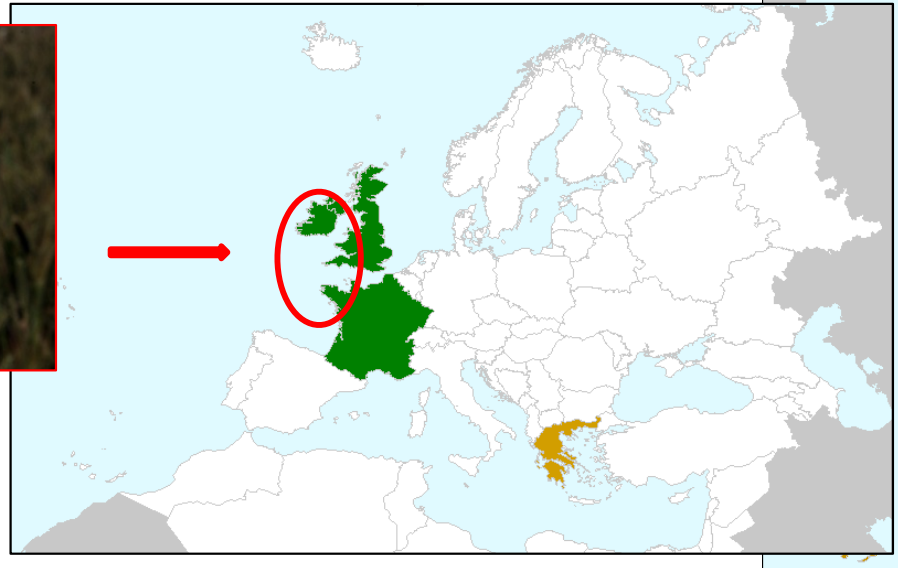


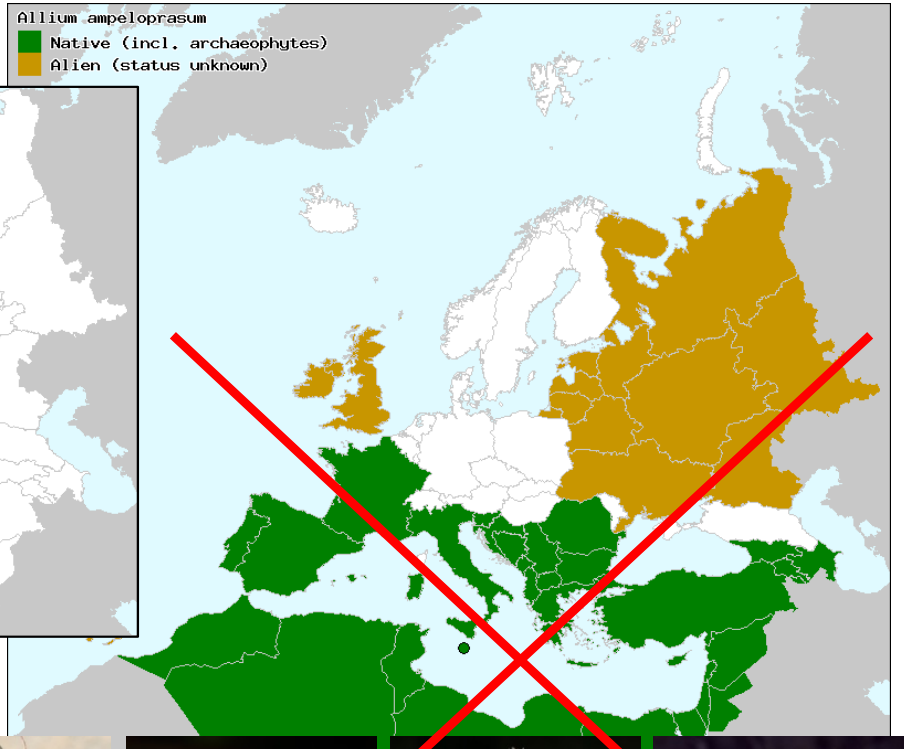
2nd : A taxon have to respond to homogenous conservation issues

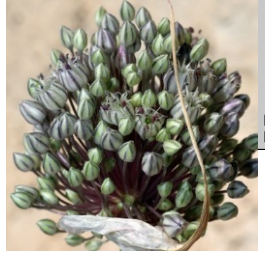
The case of *Allium ampeloprasum* L. :

sensu latissimo (WCSP, E+M…)

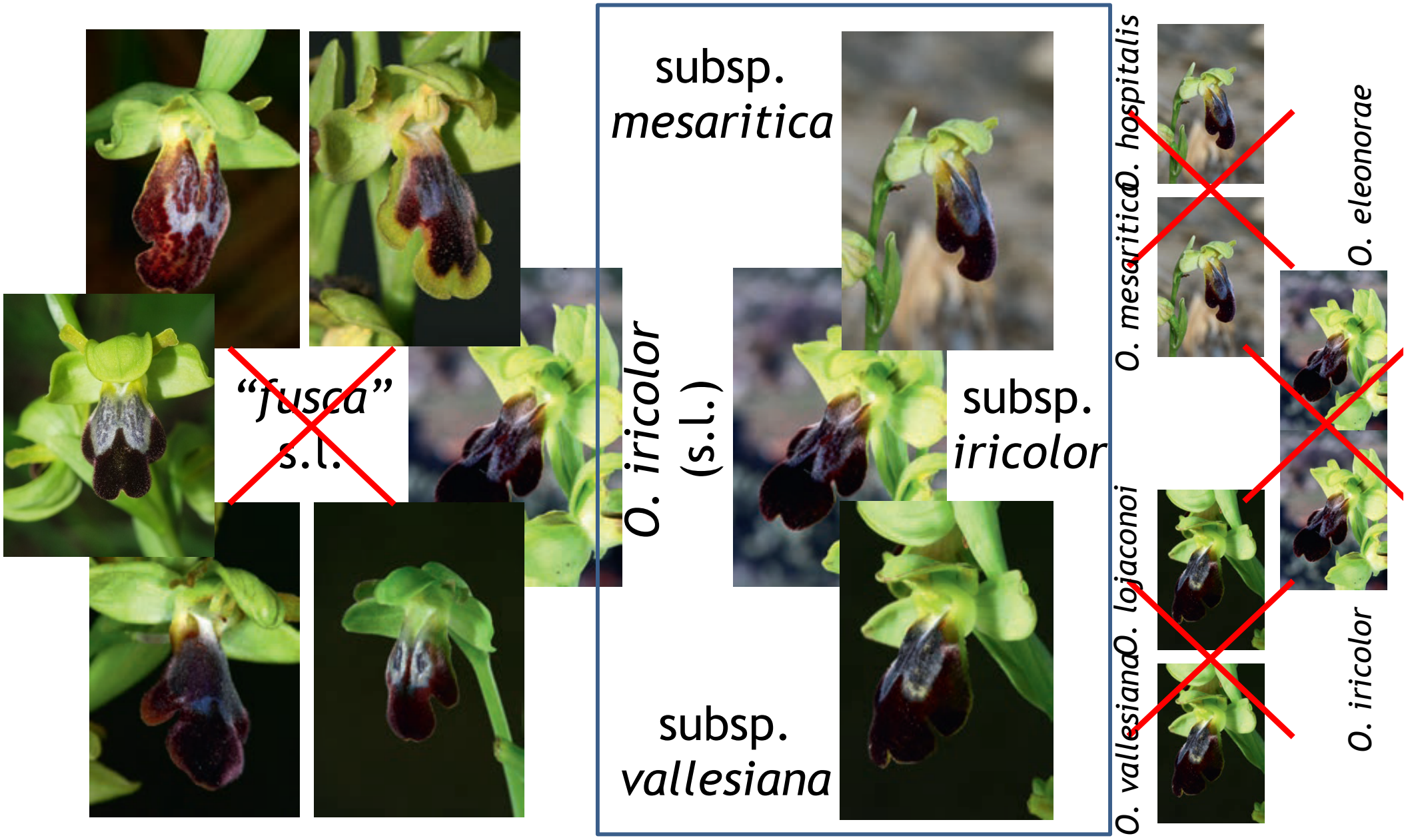
sensu stricto (Jauzein & Tison 2005)







Ex. : the genus *Ophrys* (Orchidaceae)



very lumper position → our compromise ← splitter

Data heterogeneity or deficiency

1) lack of quantitative data (population, nb 'locati

C. Small population size and decline

	Critically Endangered	Endangered	Vulnerable
Number of mature individuals	< 250	< 2,500	< 10,000
AND at least one of C1 or C2			
C1. An observed, estimated or projected continuing decline of at least (up to a max. of 100 years in future):	25% in 3 years or 1 generation (whichever is longer)	20% in 5 years or 2 generations (whichever is longer)	10% in 10 years or 3 generations (whichever is longer)
C2. An observed, estimated, projected or inferred continuing decline AND at least 1 of the following 3 conditions:			
(a) (i) Number of mature individuals in each subpopulation	≤ 50	≤ 250	≤ 1,000
(ii) % of mature individuals in one subpopulation =	90–100%	95–100%	100%
(b) Extreme fluctuations in the number of mature individuals			

D. Very small or restricted population

	Critically Endangered	Endangered	Vulnerable
D. Number of mature individuals	< 50	< 250	D1. < 1,000
D2. *Only applies to the VU category* Restricted area of occupancy or number of locations with a plausible future threat that could drive the taxon to CR or EX in a very short time.	-	-	typically: AOO < 20 km² or number of locations ≤ 5

E. Quantitative Analysis

	Critically Endangered	Endangered	Vulnerable
Indicating the probability of extinction in the wild to be:	≥ 50% in 10 years or 3 generations, whichever is longer (100 years max.)	≥ 20% in 20 years or 5 generations, whichever is longer (100 years max.)	≥ 10% in 100 years

Data heterogeneity or deficiency

2) lack of historical data (trends, decline ratio…)

SUMMARY OF THE FIVE CRITERIA (A-E) USED TO EVALUATE IF A TAXON BELONGS IN AN IUCN RED LIST THREATENED CATEGORY (CRITICALLY ENDANGERED, ENDANGERED OR VULNERABLE).

A. Population size reduction. Population reduction (measured over the longer of 10 years or 3 generations) based on any of A1 to A4

	Critically Endangered	Endangered	Vulnerable
A1	≥ 90%	≥ 70%	≥ 50%
A2, A3 & A4	≥ 80%	≥ 50%	≥ 30%

A1 Population reduction observed, estimated, inferred, or suspected in the past where the causes of the reduction are clearly reversible AND understood AND have ceased.

A2 Population reduction observed, estimated, inferred, or suspected in the past where the causes of reduction may not have ceased OR may not be understood OR may not be reversible.

A3 Population reduction projected, inferred or suspected to be met in the future (up to a maximum of 100 years) *[(a) cannot be used for A3]*.

A4 An observed, estimated, inferred, projected or suspected population reduction where the time period must include both the past and the future (up to a max. of 100 years in future), and where the causes of reduction may not have ceased OR may not be understood OR may not be reversible.

based on any of the following:

(a) direct observation

(b) abundance appropriate to the taxon

(c) a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality

(d) actual or potential levels of exploitation

(e) effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.

B. Geographic range in the form of either B1 (extent of occurrence) AND/OR B2 (area of occupancy)

	Critically Endangered	Endangered	Vulnerable
B1. Extent of occurrence (EOO)	< 100 km²	< 5,000 km²	< 20,000 km²
B2. Area of occupancy (AOO)	< 10 km²	< 500 km²	< 2,000 km²
AND at least 2 of the following 3 conditions:			
(a) Severely fragmented OR Number of locations	= 1	≤ 5	≤ 10
(b) Continuing decline observed, estimated, inferred or projected in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of habitat; (iv) number of locations or subpopulations; (v) number of mature individuals			
(c) Extreme fluctuations in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) number of locations or subpopulations; (iv) number of mature individuals			

Data heterogeneity or deficiency

3) lack of field knowledge (distribution, threats…)

SUMMARY OF THE FIVE CRITERIA (A-E) USED TO EVALUATE IF A TAXON BELONGS IN AN IUCN RED LIST THREATENED CATEGORY (CRITICALLY ENDANGERED, ENDANGERED OR VULNERABLE).[1]

A. Population size reduction. Population reduction (measured over the longer of 10 years or 3 generations) based on any of A1 to A4

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A2, A3 & A4	≥ 80%	≥ 50%	≥ 30%

A1 Popu[illegible] reduction observed, estimated, inferred, or [illegible]cted in [illegible] past where the causes of the reduction are clearly reversible AND understood AND have ceased.

A2 Population reduction observed, estimated, inferred, or suspected in the past where the causes of reduction may not have ceased OR may not be understood OR may not be reversible.

A3 Population reduction projected, inferred or suspected to be met in the future (up to a maximum of 100 years) *[(a) cannot be used for A3]*.

A4 An observed, estimated, inferred, projected or suspected population reduction where the time period must include both the past and the futur[illegible] to a max. of 100 years in future), and where the causes of reductio[illegible]ay not h[illegible]ased OR may not be understood OR may not be [illegible]ible.

based on any of the following:

(a) direct observation *[except A3]*
(b) an index of abundance appropriate to the taxon
(c) a decline in area of occupancy (AOO), extent of occurrence (EOO) and/or habitat quality
(d) actual or potential levels of exploitation
(e) effects of introduced taxa, hybridization, pathogens, pollutants, competitors or parasites.

B. Geographic range in the form of either B1 (extent of occurrence) AND/OR [illegible] of occupancy)

	[illegible]ally Endangered	Endangered	Vulnerable
B1. Extent of occurrence (EOO)	< 100 km²	< 5,000 km²	< 20,000 km²
B2. Area of occupancy (AOO)	< 10 km²	< 500 km²	< 2,000 km²
AND at least 2 of the following 3 conditions:			
(a) Severely fragmented **OR** Number of locations	[illegible]1	≤ 5	≤ 10
(b) Continuing decline observed, estimated, inferred or projected in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of habitat; (iv) number of locations or subpopulations; (v) number of mature individuals			
(c) Extreme fluctuations in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) number of locations or subpopulations; (iv) number of mature individuals			

Data heterogeneity or deficiency

4) lack of biological data (generat° length, fragmentat°, ...)

C. Small population size and decline

	Critically Endangered	Endangered	Vulnerable
Number of mature individuals	< 250	< 2,500	< 10,000
AND at least one of C1 or C2			
C1. An observed, estimated or projected continuing decli of at least (up to a max. of 100 years in future):	25% in 3 years or 1 generation (whichever is longer)	20% in 5 years or 2 generations (whichever is longer)	10% in 10 years or 3 generations (whichever is longer)
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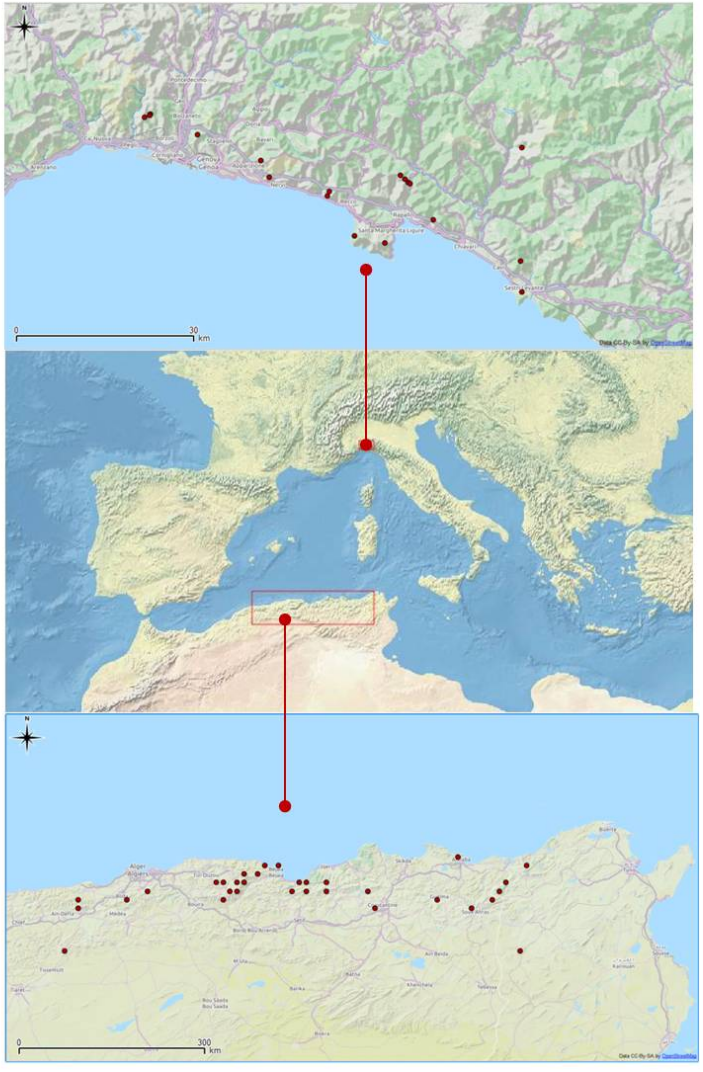
(b) ...observed, estimated, inferred or projected in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of habitat; (iv) number of locations or subpopulations; (v) number of mature individuals			
(c) Extreme fluctuations in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) number of locations or subpopulations; (iv) number of mature individuals			

Functional biology and the resilience capacities

- "severe" vs natural fragmentation ?



« Severely » fragmented ?

If « yes » → **EN**: B2ab(iii,v

If « no » → **VU**: C2a(i)

Orchis patens subsp. *patens*

Functional biology and the resilience capacities

- Positive grazing vs negative "over"grazing ?

(photo by A. Papanastasis)

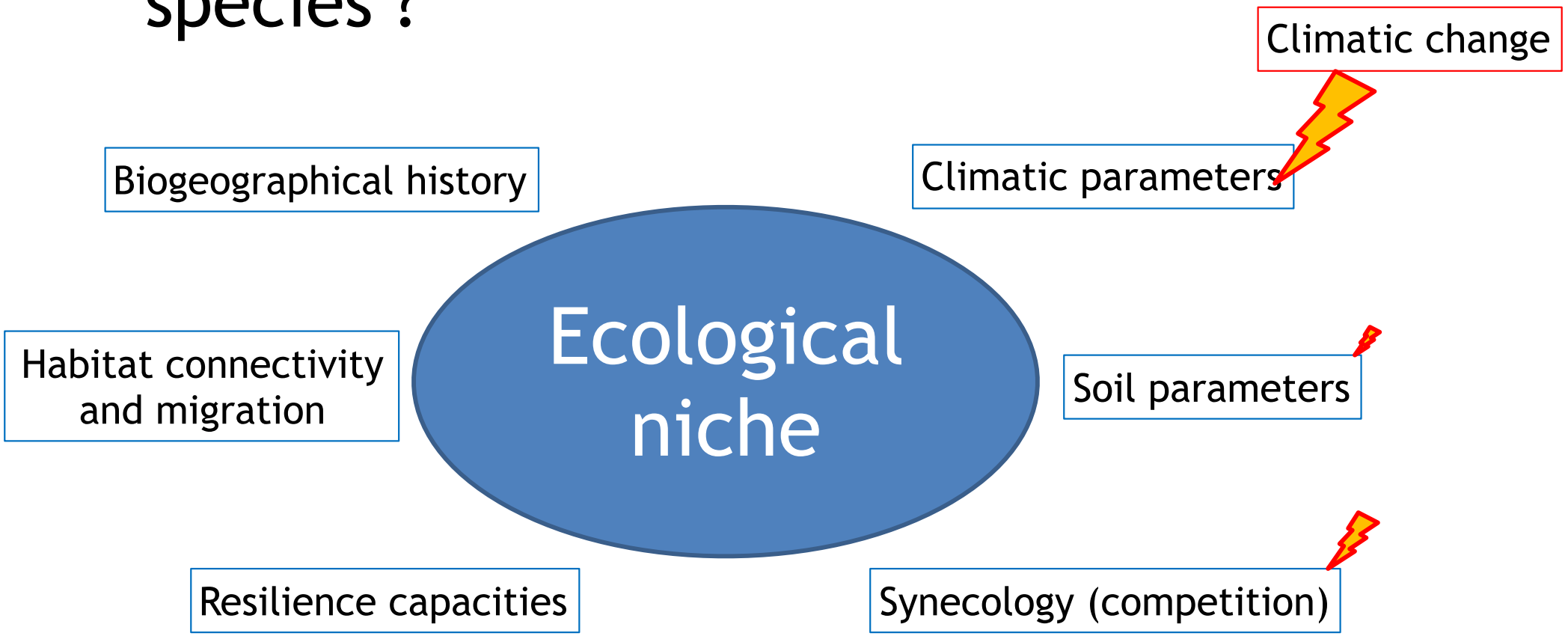
(Office du Tourisme, Salon-de-Provence)

Functional biology and the resilience capacities

- forest fires : a dramatic collapse or an endogenous disturbance ?

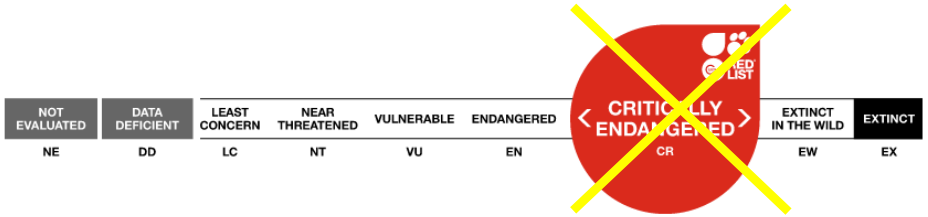
Functional biology and the resilience capacities

- climatic change : what do we know about the climatic vs other needs of each species ?

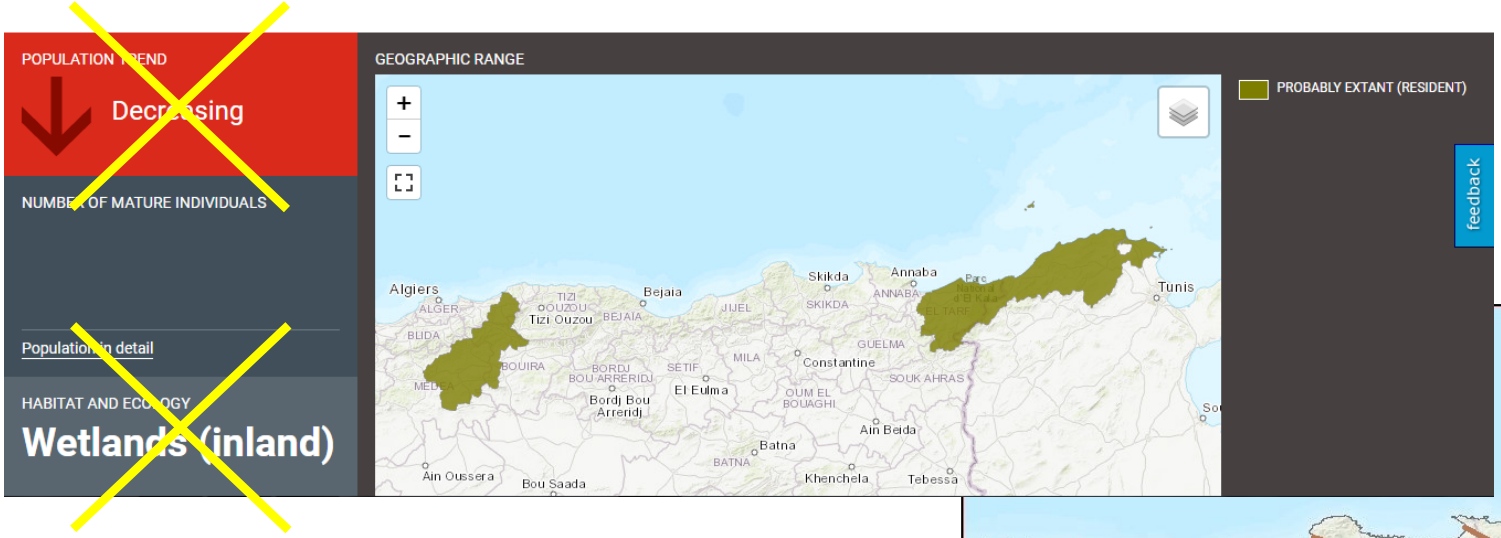


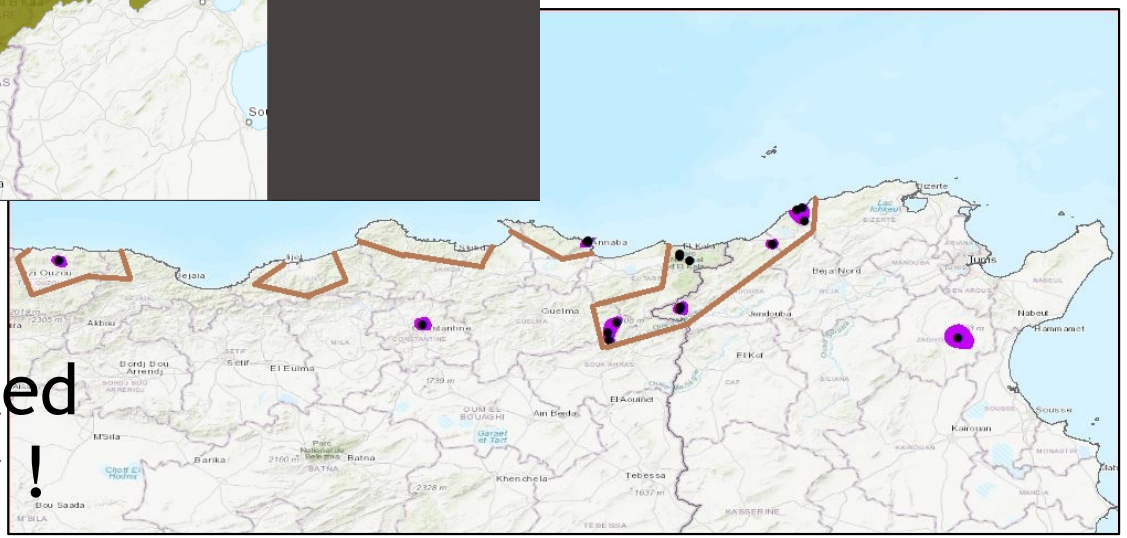
Feedback from reassessing Dicots :

Convolvulus durandoi



LAST ASSESSED
11 February 2009
SCOPE OF ASSESSMENT
Global, Mediterranean, Pan-Africa
Assessment in detail





→ Rainy forests on clay soils…
2017 field : not rare, overlooked
2019 redlist → NT category !

Errol Véla, et al. - *2nd Mediterranean Plant Conservation Week* - 12-16 November 2018 (Malta)

D. Allen

V. Barrios

R. Lansdown

C. N

IUCN

SSC Species Survival Commission

Thanks to all experts of the Mediterranean Plant Specialist Grou