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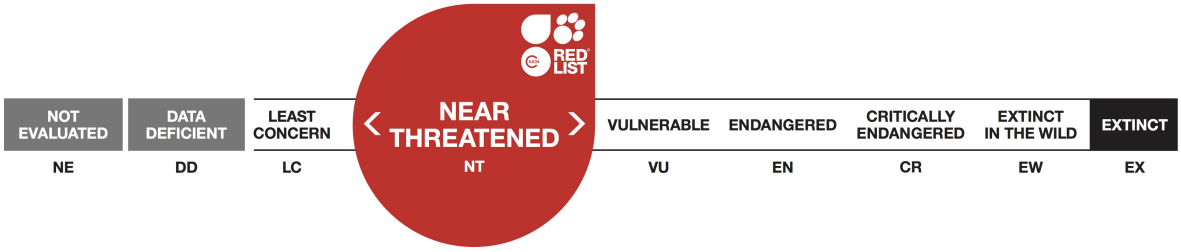
Dactylorhiza elata, Stately Dactylorhiza

Assessment by: Vela, E.V., Tison, J.-M. & Pinto Cruz, C.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Plantae	Tracheophyta	Liliopsida	Orchidales	Orchidaceae

Taxon Name: *Dactylorhiza elata* (Poir.) Soó

Synonym(s):

- *Dactylorhiza durandii* (Boiss. & Reut.) M.Lainz
- *Dactylorhiza mumbyana* (Boiss. & Reut.) Aver.
- *Dactylorhiza sesquipedalis* (Willdenow) M.Lainz
- *Orchis elata* Poiret
- *Orchis sesquipedalis* Willdenow

Regional Assessments:

- Europe

Common Name(s):

- English: Stately Dactylorhiza
- French: Orchis Elevé

Taxonomic Source(s):

The Plant List. 2016. The Plant List. Version 1.1. RBG Kew. Available at: http://www.theplantlist.org/.

Taxonomic Notes:

This species has been the subject of significant taxonomic confusion and uncertainty at both the species and sub-specific levels. For this reason, the decision has been taken to asses this taxon at species level and not to attempt to assess sub-specific taxa.

According to recent molecular studies, *Dactylorhiza brennensis* from central France is distinct from *D. elata* (J.-M. Tison pers. comm. 2016).

Assessment Information

Red List Category & Criteria: Near Threatened ver 3.1

Year Published: 2017

Date Assessed: December 18, 2015

Justification:

Mediterranean regional assessment: Near Threatened (NT)

The species is found from southwestern Europe and northwestern Africa. In two countries within the Mediterranean distribution (France and Portugal) populations or habitat of this species have declined by more than 30% over three generations. In another two countries (Algeria and Morocco) a similar decline is suspected but cannot yet be confirmed, and in Spain populations appear to be relatively abundant however there is no information on population trends. Elsewhere the species is known only from single

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sites in Sardinia and Tunisia. whilst the extent of occurrence is very large, the area of occupancy (AOO) is possibly restricted however distribution data are inadequate to confirm the AOO.

Therefore whilst the rate of decline cannot be measured throughout the range of the species, the Mediterranean population decline is confirmed, it is ongoing and is not reversible, consequently this species is close to classification as Vulnerable (A2c and A4c). Further to this, if monitoring data become available to provide an indication of population trends in Spain and these show that it is in decline then it is clear that the species should be considered threatened at both the Mediterranean and global scales. This species is therefore classed as Near Threatened, approaching Vulnerable (A2c+4c).

Geographic Range

Range Description:

Dactylorhiza elata is found in the western Mediterranean region, where it is known from southwestern Europe and northwestern Africa.

In Europe the species is confirmed in Spain, Portugal and mainland France. In France the species is present in western and southwestern parts of the country, from Pays-de-la-Loire to Languedoc-Roussillon (Lozère, Hérault, Gard, Aude and Pyrénées-Orientales) for the Mediterranean part, but absent from eastern France (including Provence). In southwestern France (especially Lot Département), large sub-populations covering several hectares were known in the 1980's, however during the period 2000-2010's, these populations became extinct or were reduced to a few individuals. The extent of occurrence (EOO) within France has likely not much varied during recent decades, however the area of occupancy (AOO) and the number of plants have dramatically collapsed (J.-M. Tison pers. comm. 2016). The situation in Spain is not well known, however the same situation as in France is likely, with suitable habitat (mesophilous lowlands) also having undergone significant decline in area and in quality. A record of the species from Sardinia (Italy) requires confirmation as it could be another species. There is also an old record from Corsica but this is also considered very unlikely (J.-M. Tison pers. comm. 2016).

In North Africa, records are from Morocco, Algeria and Tunisia. In Algeria it has been recorded at a number of sites, including Tlemcen, Akfadou, Semaoune, Guelma, Sidi Fritis, Ouled Driss and Ain Roua (Kreutz *et al.* 2013, 2014).

It is not yet possible to define the geographical limits of the various sub-specific taxa which precludes assessment of their conservation status. Outside the Mediterranean region the species distribution extends to northern and western France, northern parts of Portugal and Spain, and also in southern Morocco.

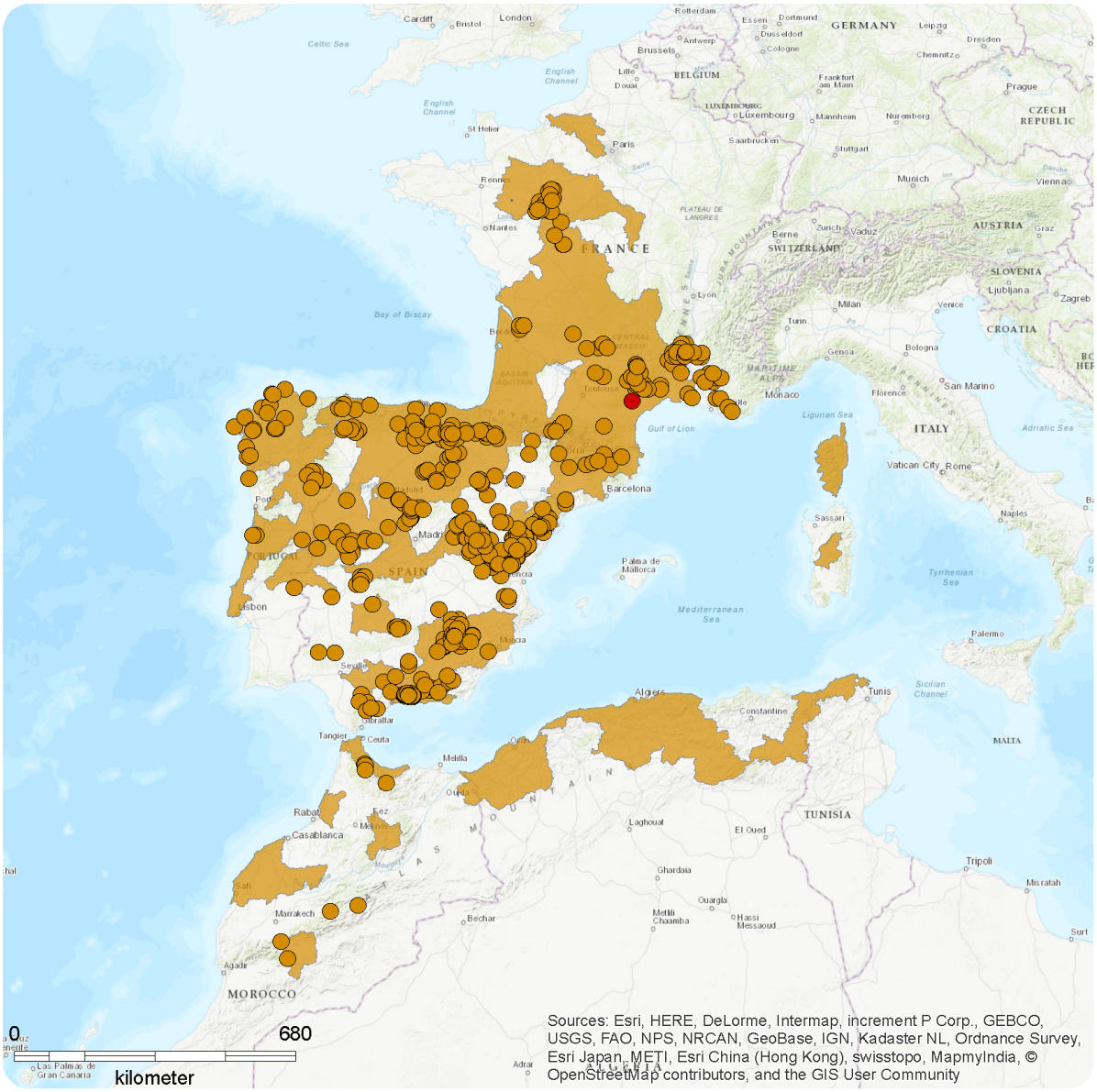
The extent of occurrence (EOO) exceeds 1,500,000 km^2 and is probably more or less stable, however the area of occupancy (AOO) is more restricted and may approach the threshold of 2,000 km^2. The altitude range of the species extends to 2,000 m asl and is probably present at higher altitudes in North Africa.

Country Occurrence:

Native: Algeria; France (France (mainland)); Morocco; Portugal (Portugal (mainland)); Spain (Spain (mainland)); Tunisia

Distribution Map

Dactylorhiza elata



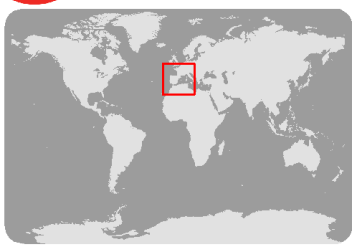
Range

- Extant (resident)
- Extinct
- Extant (resident)

Compiled by:

IUCN International Union for Conservation of Nature

NE DD LC LEAST CONCERN NT VU EN CR EW EX



The boundaries and names shown and the designations used on this map do not imply any official endorsement, acceptance or opinion by IUCN.

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Population

The species is present in numerous localities in the western Mediterranean however most populations are declining due to habitat conversion and degradation. At least in North Africa, Portugal and France, the decline in populations can be estimated at 30% in the last 20 years, mainly involving habitat loss and degradation.

In Morocco the species is rather common but it is often found as isolated individuals; it has been recorded from more than 12 localities distributed in the Rif, the Moyen Atlas, the Haut Atlas, the North and Middle Atlantic Moroccan plains.

In Algeria recent records from Berrihane indicate around 20 individuals. At Sidi Freitas around 100 individuals were observed in 2015 (G. de Bélair pers. comm. 2016), at Souk Ahras more than 100 individuals were observed in 2015 in a very small area, with around 100 individuals another site near a reservoir also observed in 2015. These two sites in Souk Ahras were first recorded in 2014 (G. de Bélair pers. comm. 2016). At Tlemcen 20 individuals were observed, in Akfadou and Semaoune 50 individuals were observed in each site; at Djurdjura more than 50 individuals observed, at Ain Roua more than 500 individuals (K. Rebbas pers. comm. 2016). However many historical localities have been lost as a result of urbanization, conversion to agriculture and fly-tipping in montane gullies.

In Tunisia the species is known in Kroumirie area (in Aïn Draham, El Fedja - but very rare), it has been lost from several historic localities.

In France the species is rather widespread in the French Mediterranean area, however it is considered as VU (A2ac+4ac) at the national level, indicating that there been a decline of >30% the causes of which have not ceased and are irreversible, and J.-M. Tison (pers. comm. 2016) reports significant declines in AOO and in the number of individuals.

In the Iberian Peninsula this species occurs throughout most of the peninsula (962 records in Anthos.es and found in nine provinces in Portugal). Whilst there is no information on population size or trends, a similar trend in habitat extent and quality to France is expected (J.-M. Tison pers. comm. 2016).

Presence in Sardinia requires confirmation, however if confirmed, it is considered one of the rarest orchids in Italy with only one population in Sardinia reported (GIROS 2016).

Current Population Trend: Decreasing

Habitat and Ecology **(see Appendix for additional information)**

Dactylorhiza elata is a perennial herbaceous geophyte that is found in humid and wet grasslands of tall grasses and rushes with very wet calcareous soils or soils flushed by calcareous waters. It also grows at the sides of streams and springs and is a light demanding plant. Its flowering takes place in spring and in early summer.

This species does not reproduce until its third year, it lives up to ten years and therefore the generation length is estimated at seven to eight years (J.-M. Tison pers. comm. 2015).

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This species is a component of the European habitat type E3.1 (Mediterranean tall humid grassland).

Systems: Terrestrial

Use and Trade

The plant is used in horticulture.

Threats (see Appendix for additional information)

The habitat of the species is subject to numerous anthropogenic threats including drainage of wet grassland, conversion to agriculture, conversion of wetlands, and urbanization. Throughout most of its range its habitat is threatened by different factors but there is no information to quantify declines. In North Africa it is possible that bulbs of this species are included in harvest of orchid bulbs which are collected for alternative medicine.

Conservation Actions (see Appendix for additional information)

This species is included under Annex II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and under annex B of the EU regulation of trade of fauna and flora (Commission regulation (EU) No 1320/2014). In France, the species is listed as Vulnerable (A2ac+4ac) (UICN France, FCBN and MNHN 2012) and protected in three regions (Centre, Corse, and Poitou-Charentes), but there are no conservation measures in the French Mediterranean continental area.

There are no known conservation measures in place in North Africa and the following actions are recommended for this part of the plants distribution especially:

- Monitoring of existing sites and research to confirm the species current distribution.
- Research to confirm the current population size and trend.
- Conservation of habitat.
- Control of harvesting of the species from the wild.
- E*x situ* conservation in seeds banks.
- Legal protection of the species.

Credits

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External Resources

For Images and External Links to Additional Information, please see the Red List website.

Appendix

Habitats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Habitat	Season	Suitability	Major Importance?
4. Grassland -> 4.4. Grassland - Temperate	Resident	Suitable	Yes
5. Wetlands (inland) -> 5.1. Wetlands (inland) - Permanent Rivers/Streams/Creeks (includes waterfalls)	Resident	Suitable	Yes
5. Wetlands (inland) -> 5.4. Wetlands (inland) - Bogs, Marshes, Swamps, Fens, Peatlands	Resident	Suitable	Yes
5. Wetlands (inland) -> 5.9. Wetlands (inland) - Freshwater Springs and Oases	Resident	Suitable	Yes

Threats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Threat	Timing	Scope	Severity	Impact Score
1. Residential & commercial development -> 1.1. Housing & urban areas	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
1. Residential & commercial development -> 1.3. Tourism & recreation areas	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
2. Agriculture & aquaculture -> 2.1. Annual & perennial non-timber crops -> 2.1.2. Small-holder farming	Ongoing	Majority (50-90%)	Slow, significant declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
2. Agriculture & aquaculture -> 2.1. Annual & perennial non-timber crops -> 2.1.3. Agro-industry farming	Ongoing	Majority (50-90%)	Slow, significant declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
5. Biological resource use -> 5.2. Gathering terrestrial plants -> 5.2.1. Intentional use (species is the target)	Ongoing	Minority (50%)	Unknown	Unknown
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
9. Pollution -> 9.3. Agricultural & forestry effluents -> 9.3.4. Type Unknown/Unrecorded	Ongoing	Unknown	Unknown	Unknown
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		

Conservation Actions in Place

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(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Actions in Place
In-Place Education
Included in international legislation: Yes
Subject to any international management/trade controls: Yes

Conservation Actions Needed

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Actions Needed
1. Land/water protection -> 1.2. Resource & habitat protection
2. Land/water management -> 2.1. Site/area management
3. Species management -> 3.4. Ex-situ conservation -> 3.4.2. Genome resource bank
5. Law & policy -> 5.1. Legislation -> 5.1.2. National level
5. Law & policy -> 5.4. Compliance and enforcement -> 5.4.3. Sub-national level

Research Needed

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Research Needed
1. Research -> 1.2. Population size, distribution & trends
1. Research -> 1.3. Life history & ecology
1. Research -> 1.6. Actions
3. Monitoring -> 3.1. Population trends

Additional Data Fields

Distribution
Estimated area of occupancy (AOO) (km²): 1500-5000,3000
Continuing decline in area of occupancy (AOO): Yes
Estimated extent of occurrence (EOO) (km²): 1500000
Continuing decline in extent of occurrence (EOO): Unknown
Lower elevation limit (m): 5
Upper elevation limit (m): 2000

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Population
Continuing decline of mature individuals: Yes
Extreme fluctuations: No
Population severely fragmented: No
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 8

The IUCN Red List Partnership

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The IUCN Red List Partners are: Arizona State University; BirdLife International; Botanic Gardens Conservation International; Conservation International; NatureServe; Royal Botanic Gardens, Kew; Sapienza University of Rome; Texas A&M University; and Zoological Society of London.