



Donus multifidus

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Citation: Borges, P.A.V. & Lamelas-López, L. 2017. *Donus multifidus*. *The IUCN Red List of Threatened Species 2017*: e.T97160451A99166634. <http://dx.doi.org/10.2305/IUCN.UK.2017-3.RLTS.T97160451A99166634.en>

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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Insecta	Coleoptera	Curculionidae

Taxon Name: *Donus multifidus* (Israelson, 1984)

Synonym(s):

- *Hypera multifidus* Israelson, 1984

Taxonomic Source(s):

De Jong, Y., Verbeek, M., Michelsen, V., Bjørn, P.P., Los, W., Steeman, F., Bailly, N., Basire, C., Chylarecki, P., Stloukal, E., Hagedorn, G., Wetzell, F.T., Glöckler, F., Kroupa, A., Korb, G., Hoffmann, A., Häuser, C., Kohlbecker, A., Müller, A., Güntsch, A., Stoev, P. and Penev, L. 2014. Fauna Europaea – all European animal species on the web. *Biodiversity Data Journal* 2: e4034. DOI: 10.3897/BDJ.2.e4034.

Assessment Information

Red List Category & Criteria: Critically Endangered B1ab(i,ii,iii,iv,v)+2ab(i,ii,iii,iv,v) [ver 3.1](#)

Year Published: 2017

Date Assessed: December 26, 2016

Justification:

Donus multifidus is a single island endemic species from Santa Maria (Azores, Portugal). It has a very small extent of occurrence (EOO = 4 km²) and area of occupancy (AOO = 4 km²). There is a continuing decline in the EOO, AOO, extent and quality of habitat as well as the number of mature individuals as a result of the invasions of non-native plants. The species occurs only at one location. Therefore, it is assessed as Critically Endangered (CR).

Geographic Range

Range Description:

Donus multifidus is a single island endemic species from Santa Maria (Azores, Portugal) (Borges *et al.* 2010), where it is restricted to the highest elevations of the island (450 to 550 m Asl) and to the unique native primary forests. The size of its remaining native habitat is 0.09 km², but the AOO is 4 km². Its extent of occurrence (EOO) is therefore also 4 km².

Country Occurrence:

Native: Portugal (Azores)

Distribution Map

Donus multifidus



Range

Extant (resident)

Compiled by:

Paulo Borges



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



Population

The species is very rare and only known from a single sustainable subpopulation. A continuing decline in the number of mature individuals is inferred from the ongoing habitat degradation due to invasions of alien plants.

Current Population Trend: Decreasing

Habitat and Ecology (see Appendix for additional information)

The species occurs in native forests of high altitude in Sta. Maria island (Azores), with an altitudinal range between 450 and 550 m. Adults and larvae are herbivores and feed on plant tissues.

Systems: Terrestrial

Use and Trade

The species is not utilised.

Threats (see Appendix for additional information)

In the past, the species has probably strongly declined due to deforestation. The most important ongoing threat to this species is the spread of invasive plants (*Hedychium gardnerianum* and *Pittosporum undulatum*) that are changing the habitat structure in the main native forest, namely decreasing the cover of bryophytes and ferns in the soil and promoting the spread of other plants. Based on Ferreira *et al.* (2016) the habitat will decline as a consequence of climate change (increasing number of droughts), which may drive this species to extinction, because it is dependent on humid forests.

Conservation Actions (see Appendix for additional information)

The species is protected by regional law (RAA 2012). Its habitat is in a regionally protected area (Natural Park of Santa Maria). Further spread of invasive plants needs to be stopped in order to avoid any future decline of the species. Degraded habitats should be restored and a strategy needs to be developed to address the future threat by climate change. A habitat management plan is needed and anticipated to be developed during the coming years. Further research is needed into its ecology and life history in order to find extant specimens in the Pico Alto region (including non-native habitats) and obtain information on population size, distribution and trends. It is also necessary an area-based management plan and a monitoring plan for the invertebrate community in the habitat in order to contribute to perform a species potential recovery plan. Monitoring every ten years using the BALA protocol will inform about habitat quality (see e.g. Gaspar *et al.* 2011).

Credits

Assessor(s): Borges, P.A.V. & Lamelas-López, L.

Reviewer(s): Danielczak, A.

Bibliography

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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?
1. Forest -> 1.4. Forest - Temperate	Resident	Suitable	Yes

Threats

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

Threat	Timing	Scope	Severity	Impact Score
11. Climate change & severe weather -> 11.1. Habitat shifting & alteration	Future	Whole (>90%)	Slow, significant declines	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance		
11. Climate change & severe weather -> 11.2. Droughts	Ongoing	Whole (>90%)	Slow, significant declines	Medium impact: 7
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.1. Species mortality		
2. Agriculture & aquaculture -> 2.2. Wood & pulp plantations -> 2.2.1. Small-holder plantations	Ongoing	Minority (50%)	Causing/could cause fluctuations	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance		
8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Pittosporum undulatum)	Ongoing	Majority (50-90%)	Rapid declines	Medium impact: 7
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.2. Species disturbance		
8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Hedychium gardnerianum)	Ongoing	Majority (50-90%)	Rapid declines	Medium impact: 7
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.2. Species disturbance		

Conservation Actions in Place

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

Conservation Actions in Place
In-Place Land/Water Protection and Management
Conservation sites identified: Yes, over entire range
Occur in at least one PA: Yes
Percentage of population protected by PAs (0-100): 91-100

Conservation Actions Needed

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

Conservation Actions Needed
2. Land/water management -> 2.1. Site/area management
2. Land/water management -> 2.2. Invasive/problematic species control
2. Land/water management -> 2.3. Habitat & natural process restoration
4. Education & awareness -> 4.1. Formal education
4. Education & awareness -> 4.3. Awareness & communications
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
2. Conservation Planning -> 2.2. Area-based Management Plan
3. Monitoring -> 3.1. Population trends
3. Monitoring -> 3.4. Habitat trends

Additional Data Fields

Distribution
Estimated area of occupancy (AOO) (km ²): 4
Continuing decline in area of occupancy (AOO): Yes
Extreme fluctuations in area of occupancy (AOO): Unknown
Estimated extent of occurrence (EOO) (km ²): 4
Continuing decline in extent of occurrence (EOO): Yes

Distribution
Extreme fluctuations in extent of occurrence (EOO): Unknown
Number of Locations: 1
Continuing decline in number of locations: Yes
Lower elevation limit (m): 450
Upper elevation limit (m): 550
Population
Continuing decline of mature individuals: Yes
Population severely fragmented: No
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 1
Movement patterns: Not a Migrant

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