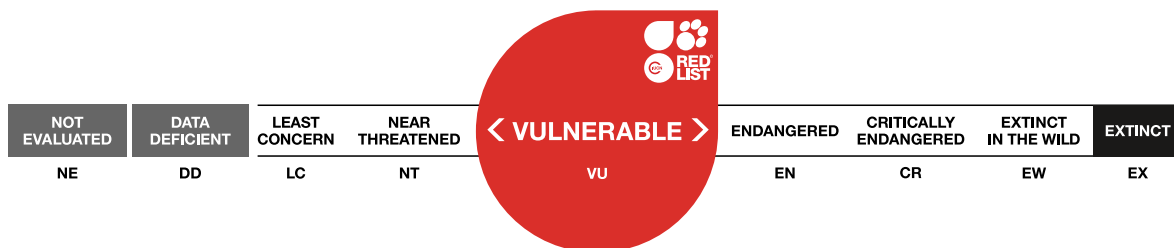


Walckenaeria grandis

Assessment by: Borges, P.A.V. & Cardoso, P.



View on www.iucnredlist.org

Citation: Borges, P.A.V. & Cardoso, P. 2021. *Walckenaeria grandis*. *The IUCN Red List of Threatened Species* 2021: e.T119449753A124930581. <https://dx.doi.org/10.2305/IUCN.UK.2021-1.RLTS.T119449753A124930581.en>

Copyright: © 2021 International Union for Conservation of Nature and Natural Resources

Reproduction of this publication for educational or other non-commercial purposes is authorized without prior written permission from the copyright holder provided the source is fully acknowledged.

Reproduction of this publication for resale, reposting or other commercial purposes is prohibited without prior written permission from the copyright holder. For further details see [Terms of Use](#).

The IUCN Red List of Threatened Species™ is produced and managed by the [IUCN Global Species Programme](#), the [IUCN Species Survival Commission \(SSC\)](#) and [The IUCN Red List Partnership](#). 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](#).

If you see any errors or have any questions or suggestions on what is shown in this document, please provide us with [feedback](#) so that we can correct or extend the information provided.

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Linyphiidae

Scientific Name: *Walckenaeria grandis* (Wunderlich, 1992)

Synonym(s):

- *Savigniorhipis grandis* Wunderlich, 1992

Taxonomic Source(s):

World Spider Catalog. 2017. World Spider Catalog, Version 18.5. Available at: <http://wsc.nmbe.ch>. (Accessed: 05 September 2017).

Assessment Information

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

Year Published: 2021

Date Assessed: May 28, 2018

Justification:

Walckenaeria grandis is an Azorean endemic species, occurring in Flores, Pico, São Jorge, Terceira and S. Miguel islands (Azores, Portugal) (Borges *et al.* 2010). It is a relatively rare species, with a large Extent of Occurrence (*ca.* 18,436-19,600 km²) and a relatively small Area of Occupancy (AOO) (88-172 km²). There is a continuing decline in the AOO, extent and quality of habitat as well as the number of mature individuals as a result of the invasions of non-native plants and trampling of soil by dairy cows. The species is only relatively abundant at high elevation pristine native forests and grasslands. In the past, the species has probably strongly declined due to changes in habitat size. The species is assessed as Vulnerable (VU). We suggest as future measures of conservation: (1) a long-term monitoring plan of the species; (2) control of invasive species, and (3) restriction of the access of cattle to areas of native habitat.

Geographic Range

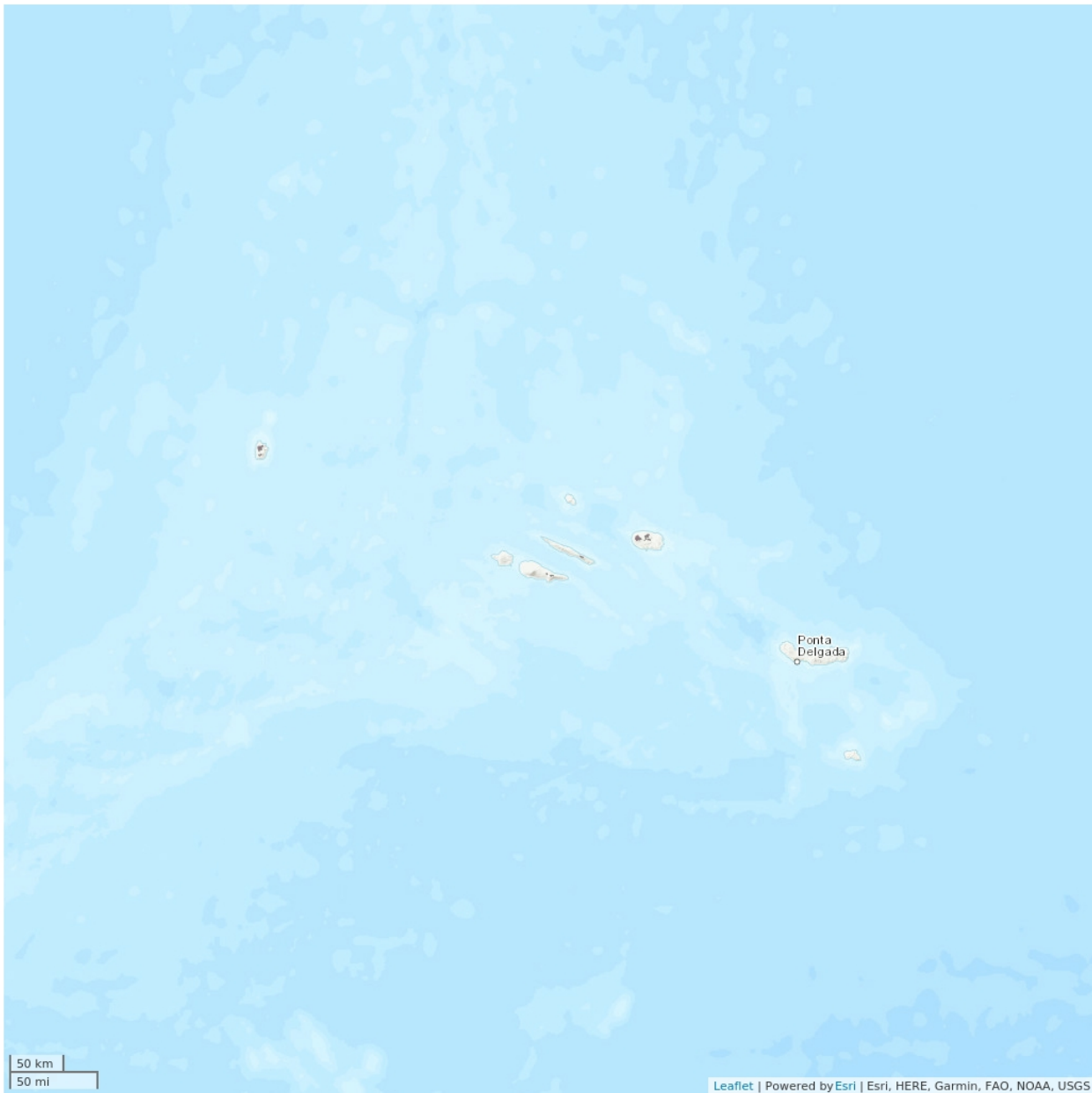
Range Description:

Walckenaeria grandis is an Azorean endemic species occurring in Flores, Pico, São Jorge, Terceira and S. Miguel islands (Azores, Portugal) (Borges *et al.* 2010), known from ten Natural Forest Reserves: Caldeiras Funda e Rasa and Morro Alto e Pico da Sé (Natural Park of Flores); Caveiro and Caiado (Natural Park of Pico); Topo (Natural Park of S. Jorge); Biscoito da Ferraria, Pico Galhardo, Caldeira Sta. Bárbara e Mistérios Negros and Terra Brava (Natural Park of Terceira); Graminhais (Natural Park of S. Miguel). The Extent of Occurrence (EOO) is *ca.* 18,436-19,600 km² and the Area of Occupancy (AOO) is 88-172 km².

Country Occurrence:

Native, Extant (resident): Portugal (Azores)

Distribution Map



Legend

- EXTANT (RESIDENT)
- POSSIBLY EXTANT (RESIDENT)

Compiled by:
Azorean Biodiversity Group 2018



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



Population

This is a relatively rare species that is abundant only at high elevation in very pristine sites. A continuing decline in the number of mature individuals is inferred from monitoring schemes (Borges *et al.* 2016) and from the ongoing habitat degradation due to invasions of alien plants (namely *Hedychium gardnerianum*) in at least two subpopulations (Caldeiras Funda e Rasa at Flores and Galhardo at Terceira) and soil erosion and degradation due to soil trampling by dairy cows (Topo, S. Jorge).

Current Population Trend: Decreasing

Habitat and Ecology (see Appendix for additional information)

The species is restricted mostly to hyper-humid, high elevation native forests dominated by *Juniperus brevifolia* and is particularly abundant in a few remnants of high elevation native grasslands, building its sheet weaver web in the ground. The ground is usually covered with mosses (with the dominance of *Sphagnum* spp. in some areas) and ferns. The species is active during the night. Based on data from SLAM traps (Borges *et al.* 2017) the species is mostly abundant in the summer months.

Systems: Terrestrial

Threats (see Appendix for additional information)

In the past, the species has probably strongly declined due to changes in habitat size and quality (Triantis *et al.* 2010). However, the species seems to have survived in the some native and grassland forests of the Azores, mostly at high elevation pristine sites. The main current threats are: a) the spread of invasive plant species namely *Hedychium gardnerianum*, which is changing the structure of the forest and the cover of endemic trees and shrubs; b) soil erosion due to trampling by dairy cattle (cattle are entering the native areas in S. Jorge island without control by the Conservation Managers). Based on Ferreira *et al.* (2016) the habitat will further decline as a consequence of climate change (increasing number of droughts, and habitat shifting and alteration).

Conservation Actions (see Appendix for additional information)

The species is not protected by regional law, but its habitat is in regionally protected areas (Natural Parks of Flores, Pico, São Jorge, Terceira and S. Miguel). Degraded areas, degraded due to invasive plant species (particularly in Caldeiras Funda e Rasa at Flores and Galhardo at Terceira) should be restored and a strategy needs to be developed to address the current threats from invasive species and trampling by cows, and the future threat from climate change. Formal education and awareness are needed to allow future investments in restored habitats invaded by invasive plants; while further research is needed into its ecology and life history in order to find additional specimens in more sites within the current range dominated by native forest and obtain adequate information on population size, distribution and trends. An area-based management plan is also necessary for the most disturbed sites, including invertebrate monitoring to contribute to a potential species 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. & Cardoso, P.

Reviewer(s): Russell, N.

Contributor(s): Mendonca, E. & Lamelas-López, L.

Authority/Authorities: IUCN SSC Spider and Scorpion Specialist Group

Bibliography

Borges, P.A.V., Costa, A., Cunha, R., Gabriel, R., Gonçalves, V., Martins, A.F., Melo, I., Parente, M., Raposeiro, P., Rodrigues, P., Santos, R.S., Silva, L., Vieira, P. and Vieira, V. 2010. *A list of the terrestrial and marine biota from the Azores*. Príncipeia, Cascais.

Borges, P.A.V., Gaspar, C., Crespo, L., Rigal, F., Cardoso, P., Pereira, F., Rego, C., Amorim, I.R., Melo, C., Aguiar, C., André, G., Mendonça, E., Ribeiro, S.P., Hortal, J., Santos, A.M., Barcelos, L., Enghoff, H., Mahnert, V., Pita, M.T., Ribes, J., Baz, A., Sousa, A.B., Vieira, V., Wunderlich, J., Parmakelis, A., Whittaker, R.A., Quartau, J.A., Serrano, A.R.M. & Triantis, K.A. 2016. New records and detailed distribution and abundance of selected arthropod species collected between 1999 and 2011 in Azorean native forests. *Biodiversity Data Journal* 4(e10948): 1-84.

Borges, P.A.V., Pimentel, R., Carvalho, R., Nunes, R., Wallon, S. & Ros Prieto, A. 2017. Seasonal dynamics of arthropods in the humid native forests of Terceira Island (Azores). *Arquipelago Life and Marine Sciences* 34: 105-122.

Ferreira, M.T., Cardoso, P., Borges, P.A.V., Gabriel, R., Azevedo, E.B., Reis, F., Araújo, M.B. and Elias, R.B. 2016. Effects of climate change on the distribution of indigenous species in oceanic islands (Azores). *Climate Change* 138(3-4): 603-615.

Gaspar, C., Gaston, K.J., Borges, P.A.V. and Cardoso, P. 2011. Selection of priority areas for arthropod conservation in the Azores archipelago. *Journal of Insect Conservation* 15: 671–684.

IUCN. 2021. The IUCN Red List of Threatened Species. Version 2021-1. Available at: www.iucnredlist.org. (Accessed: 25 March 2021).

Triantis, K.A., Borges, P.A.V., Ladle, R.J., Hortal, J., Cardoso, P., Gaspar, C., Dinis, F., Mendonça, E., Silveira, L.M.A., Gabriel, R., Melo, C., Santos, A.M.C., Amorim, I.R., Ribeiro, S.P., Serrano, A.R.M., Quartau, J.A. and Whittaker, R.J. 2010. Extinction debt on oceanic islands. *Ecography* 33(2): 285-294.

Citation

Borges, P.A.V. & Cardoso, P. 2021. *Walckenaeria grandis*. *The IUCN Red List of Threatened Species* 2021: e.T119449753A124930581. <https://dx.doi.org/10.2305/IUCN.UK.2021-1.RLTS.T119449753A124930581.en>

Disclaimer

To make use of this information, please check the [Terms of Use](#).

External Resources

For [Supplementary Material](#), and 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
3. Shrubland -> 3.4. Shrubland - Temperate	Resident	Suitable	Yes
4. Grassland -> 4.4. Grassland - Temperate	Resident	Suitable	Yes

Threats

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

Threat	Timing	Scope	Severity	Impact Score
2. Agriculture & aquaculture -> 2.3. Livestock farming & ranching -> 2.3.2. Small-holder grazing, ranching or farming	Ongoing	Minority (50%)	Negligible declines	Low impact: 4
	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 (Hedychium gardnerianum)	Ongoing	Majority (50-90%)	Rapid declines	Medium impact: 7
	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 -> 11.1. Habitat shifting & alteration	Future	Whole (>90%)	Rapid declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.1. Species mortality		
11. Climate change & severe weather -> 11.2. Droughts	Future	Whole (>90%)	Rapid declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.1. Species mortality		

Conservation Actions in Place

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

Conservation Action in Place
In-place research and monitoring
Action Recovery Plan: No
Systematic monitoring scheme: Yes
In-place land/water protection
Conservation sites identified: Yes, over entire range
Percentage of population protected by PAs: 91-100
Occurs in at least one protected area: Yes

Conservation Actions Needed

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

Conservation Action Needed
1. Land/water protection -> 1.1. Site/area protection
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): 88-172

Distribution
Continuing decline in area of occupancy (AOO): Yes
Extreme fluctuations in area of occupancy (AOO): Unknown
Estimated extent of occurrence (EOO) (km ²): 18436-19600
Continuing decline in extent of occurrence (EOO): No
Extreme fluctuations in extent of occurrence (EOO): Unknown
Number of Locations: 8
Continuing decline in number of locations: Yes
Lower elevation limit (m): 352
Upper elevation limit (m): 1,051
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

The IUCN Red List Partnership



The IUCN Red List of Threatened Species™ is produced and managed by the [IUCN Global Species Programme](#), the [IUCN Species Survival Commission \(SSC\)](#) and [The IUCN Red List Partnership](#).

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](#).