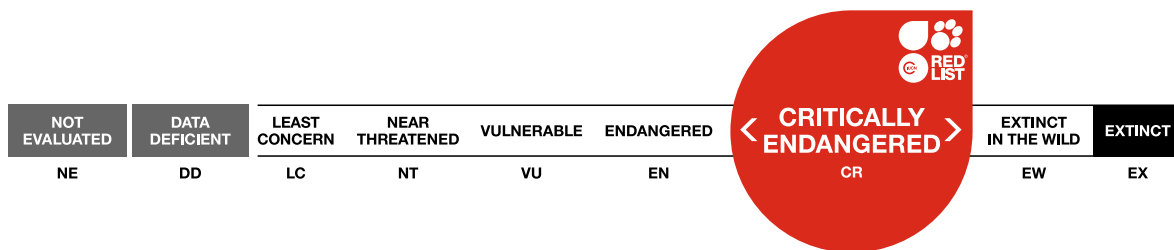


## Canariphantes relictus

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



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## Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Linyphiidae

**Scientific Name:** *Canariphantes relictus* Crespo & Bosmans, 2014

### Taxonomic Source(s):

Crespo, L.C., Bosmans, R., Cardoso, P. and Borges, P.A.V. 2014. On three endemic species of the linyphiid spider genus *Canariphantes* Wunderlich, 1992 (Araneae, Linyphiidae) from the Azores archipelago. *Zootaxa* 3841: 403–417.

## Assessment Information

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

**Year Published:** 2021

**Date Assessed:** September 11, 2017

### Justification:

*Canariphantes relictus* is a single-island endemic species restricted to S. Maria island (Azores, Portugal) (Crespo *et al.* 2014). It is a very rare species, with a restricted Extent of Occurrence (EOO) (8 km<sup>2</sup>) and Area of Occupancy (AOO) (8 km<sup>2</sup>). The species only occurs in a small patch of exotic modified forest, dominated by *Cryptomeria japonica*, *Pittosporum undulatum* and *Acacia* spp. 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; and in the past, the species has probably strongly declined due to changes in habitat size. The species is assessed as Critically Endangered (CR). We suggest as future measures of conservation: (1) a long-term monitoring plan of the species; (2) careful management of the areas of exotic plantations around Pico Alto native forest patch, and (3) control of invasive plant species.

## Geographic Range

### Range Description:

*Canariphantes relictus* is a single-island endemic species restricted to S. Maria island (Azores, Portugal) (Crespo *et al.* 2014), known from Natural Forest Reserve of Pico Alto (Natural Park of S. Maria). The Extent of Occurrence (EOO) is 8 km<sup>2</sup> and the maximum estimated Area of Occupancy (AOO) is 8 km<sup>2</sup>.

### Country Occurrence:

**Native, Extant (resident):** Portugal (Azores)



## Population

The species is very rare and only occurs in a marginal small patch of exotic forest (dominated by *Cryptomeria japonica* and the invasive species *Acacia* spp. and *Pittosporum undulatum*) included in a Natural forest Reserve of S. Maria island (Crespo *et al.* 2014). 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 *Pittosporum undulatum* and *Hedychium gardnerianum*) and *Cryptomeria japonica* management.

**Current Population Trend:** Decreasing

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

The species only occurs in a marginal small patch of exotic forest (dominated by *Cryptomeria japonica* and the invasive species *Acacia* spp. and *Pittosporum undulatum*) included in a Natural forest Reserve of S. Maria island (Crespo *et al.* 2014). It has an altitudinal range between 400 and 560 m. Adults were collected from June to August (Crespo *et al.* 2014). This species builds a typical sheet-web at ground level.

**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). Currently, the rapid advance and expansion of invasive plants species is the major threat, particularly *Hedychium gardnerianum* but also *Pittosporum undulatum*, which are changing the structure of the forest and the cover of bryophytes and ferns in the soil which will impact the species' habitat quality. Since the known specimens were captured in a marginal area dominated by *Cryptomeria japonica*, *Pittosporum undulatum* and *Acacia* spp., the type of management of *Cryptomeria japonica* plantations around the main core area of native forest of Pico Alto (S. Maria) will be critical for the long-term maintenance of this rare species. Since there are plans for future removal of old plantations of *Cryptomeria japonica*, the current habitat of the species is under threat. 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, however, its habitat is in a regionally protected area (Natural Park of S. Maria). Despite this, the Pico Alto Forest Reserve has an intermediate level of protection (currently classified in category III) and we strongly recommend a future change to category I, a wilderness area managed mainly for wilderness protection, so that its natural features can be properly safeguarded. Degraded areas, degraded due to invasive plant species should be restored and a strategy needs to be developed to address the current threat by invasive species and the future threat of climate change. There should also be careful management of the areas of *Cryptomeria japonica* exotic plantations around the Pico Alto native forest patch. Formal education and awareness is 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 other areas of forest on S. Maria 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):** Lamelas-López, L. & Mendonca, E.

**Authority/Authorities:** IUCN SSC Spider and Scorpion Specialist Group

## Bibliography

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.

Crespo, L.C., Bosmans, R., Cardoso, P. and Borges, P.A.V. 2014. On three endemic species of the linyphiid spider genus *Canariphantes* Wunderlich, 1992 (Araneae, Linyphiidae) from the Azores archipelago. *Zootaxa* 3841: 403–417.

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](http://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.

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## External Resources

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# 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
2. Agriculture & aquaculture -> 2.2. Wood & pulp plantations -> 2.2.2. Agro-industry plantations	Ongoing	Whole (>90%)	Rapid declines	High impact: 8
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects 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 ( <i>Acacia longifolia</i> )	Ongoing	Whole (>90%)	Rapid declines	High impact: 8
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects 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 ( <i>Hedychium gardnerianum</i> )	Ongoing	Whole (>90%)	Rapid declines	High impact: 8
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects 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 ( <i>Pittosporum undulatum</i> )	Ongoing	Whole (>90%)	Rapid declines	High impact: 8
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects 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%)	Slow, significant declines	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects		

			2. Species Stresses -> 2.1. Species mortality	
			2. Species Stresses -> 2.2. Species disturbance	
11. Climate change & severe weather -> 11.2. Droughts	Future	Whole (>90%)	Slow, significant declines	Low impact: 5
	Stresses:		1. Ecosystem stresses -> 1.2. Ecosystem degradation	
			1. Ecosystem stresses -> 1.3. Indirect ecosystem effects	
			2. Species Stresses -> 2.1. Species mortality	
			2. Species Stresses -> 2.2. Species disturbance	

## Conservation Actions in Place

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

<b>Conservation Action in Place</b>
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
Area based regional management plan: No
Occurs in at least one protected area: Yes
Invasive species control or prevention: Yes

## Conservation Actions Needed

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

<b>Conservation Action Needed</b>
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 -> 5.1. Legislation -> 5.1.3. Sub-national level

## Research Needed

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

<b>Research Needed</b>
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

<b>Distribution</b>
Estimated area of occupancy (AOO) (km <sup>2</sup> ): 8
Continuing decline in area of occupancy (AOO): Yes
Extreme fluctuations in area of occupancy (AOO): No
Estimated extent of occurrence (EOO) (km <sup>2</sup> ): 8
Continuing decline in extent of occurrence (EOO): Yes
Extreme fluctuations in extent of occurrence (EOO): No
Number of Locations: 1
Continuing decline in number of locations: No
Extreme fluctuations in the number of locations: No
Lower elevation limit (m): 400
Upper elevation limit (m): 560
<b>Population</b>
Continuing decline of mature individuals: Yes
Population severely fragmented: No
<b>Habitats and Ecology</b>
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 1

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