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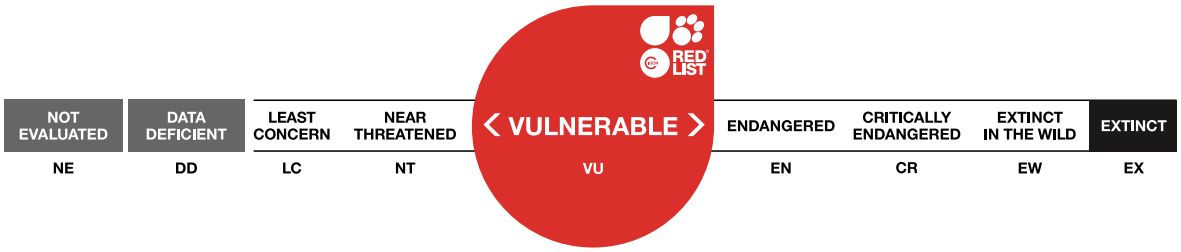
Canariphantes acoreensis

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 acoreensis* (Wunderlich, 1992)

Synonym(s):

- *Lepthyphantes acoreensis* Wunderlich, 1992

Taxonomic Source(s):

Platnick, N.I. 2014. The World Spider Catalog, Version 14.5. P. Merrett & H.D. Cameron (eds). American Museum of Natural History. Available at: http://research.amnh.org/iz/spiders/catalog/index.html. (Accessed: 31 March 2014).

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: Vulnerable B2ab(i,ii,iii,iv,v) ver 3.1

Year Published: 2021

Date Assessed: October 14, 2017

Justification:

Canariphantes acoreensis is a money spider species that occurs on four islands of the Azorean archipelago: Faial, Pico, São Jorge and Terceira (Azores, Portugal) (Borges *et al.* 2010, Crespo *et al.* 2014). It has a large Extent of Occurrence (EOO = *ca*. 36,838 km²) and a relatively small Area of Occupancy (AOO = 196 km²). The species is only abundant in very pristine sites (e.g. sites with a high habitat quality index *sensu* Gaspar *et al.* 2011) and rare at most sites. Currently, invasive plants (*Hedychium gardnerianum* and *Pittosporum undulatum*) are impacting some of the areas and decreasing the quality of the habitat. Based on Ferreira *et al.* (2016) the habitat will further decline as a consequence of climate change. Based upon the relatively small AOO of the species and continuing decline of its habitat area and quality, it is assessed as Vulnerable. Therefore, we suggest as future measures of conservation: (1) regular monitoring of the species; and (2) control of invasive species namely *Hedychium gardnerianum*.

Geographic Range

Range Description:

Canariphantes acoreensis is a money spider species occurring on four islands of the Azorean archipelago: Faial, Pico, São Jorge and Terceira (Azores, Portugal) (Borges *et al.* 2010, Crespo *et al.* 2014). On these four islands it is known from twelve Natural Forest Reserves: Caldeira do Faial and Cabeço do Fogo (Natural Park of Faial); Mistério da Prainha, Caveiro and Caiado (Natural Park of Pico);

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Pico Pinheiro and Topo (Natural Park of S. Jorge); Biscoito da Ferraria, Pico Galhardo, Caldeira Guilherme Moniz, Caldeira Sta. Bárbara e Mistérios Negros and Terra Brava (Natural Park of Terceira). The Extent of Occurrence (EOO) is *ca*. 36,838 km^2 and the estimated Area of Occupancy (AOO) is 196 km^2.

Country Occurrence:

Native, Extant (resident): Portugal (Azores)

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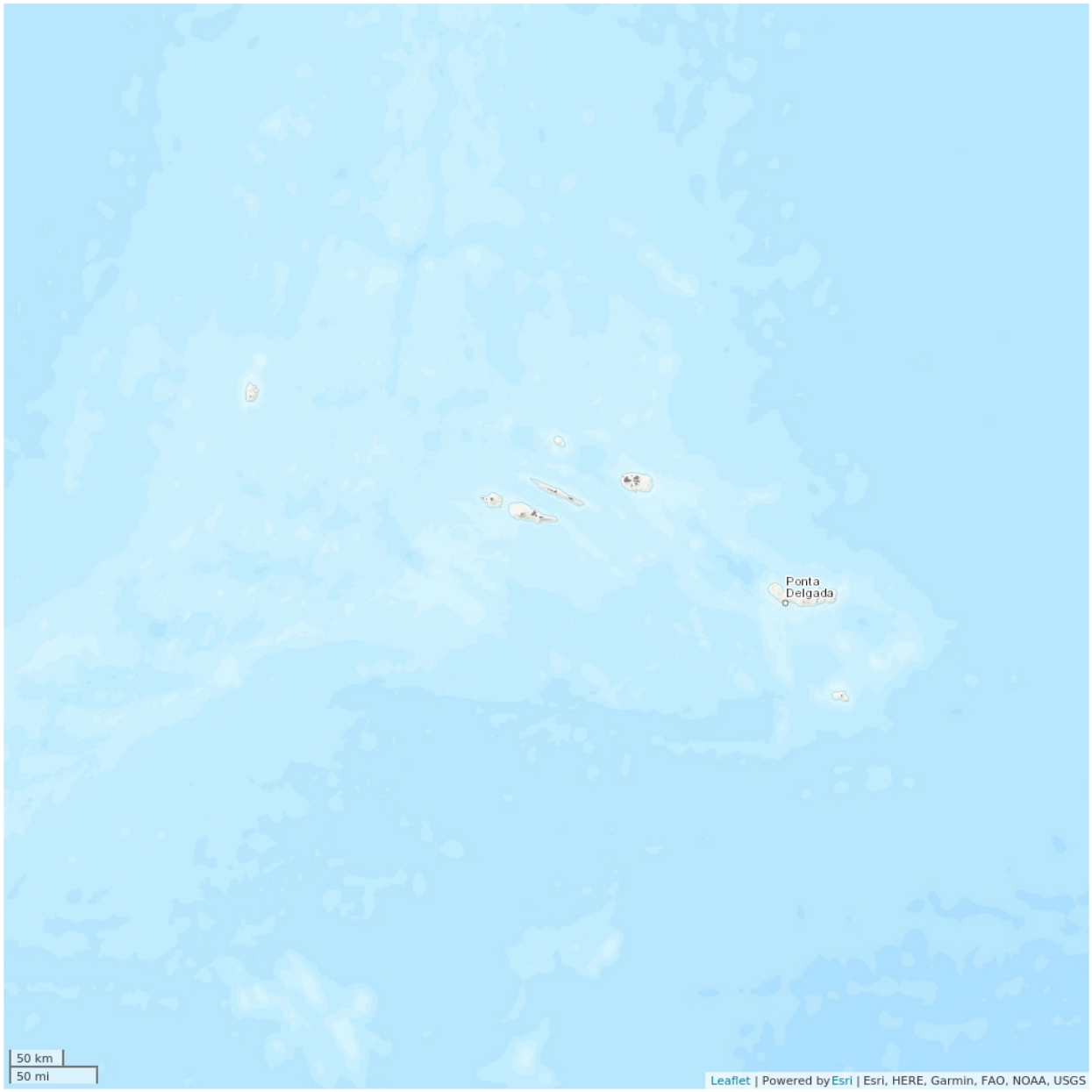
Distribution Map



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.

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Population

The species is only abundant in very pristine sites (e.g. sites with a high habitat quality index *sensu* Gaspar *et al.* 2011) and rare in most of these. Despite the fact that *Canariphantes acoreensis* has been recorded between 352 and 1,051 m elevation, the species is particularly abundant only between 700 and 1,051 m, although many of the known sites are currently being invaded by invasive plants (e.g. *Hedychium gardnerianum*, *Pittosporum undulatum*). A continuing decline in the number of mature individuals is inferred from monitoring schemes (Borges *et al.* 2016) and from the ongoing habitat degradation.

Current Population Trend: Decreasing

Habitat and Ecology (see Appendix for additional information)

Despite the fact that this species has been recorded between 352 and 1,051 m elevation, *Canariphantes acoreensis* is particularly abundant only between 700 and 1,051 m in very pristine sites (see Gaspar *et al*. 2011). This species builds typical sheet-webs at ground level, usually using small holes in places with high humidity in dense forest.

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 plant species is a 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. Management of *Cryptomeria japonica* plantations around the main core areas of native forest in some of the twelve Natural Forest Reserves will be critical for the long-term maintenance of this species. 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 several regionally protected areas (Natural Parks of Faial, Pico, São Jorge and Terceira). Degraded areas, degraded due to invasive plant species should be restored and a strategy needs to be developed to address the current threat from invasive species and the future threat from climate change. 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 native or exotic forest and to 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.

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Reviewer(s): Russell, N.

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

Authority/Authorities: IUCN SSC Spider and Scorpion Specialist Group

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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

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	Minority (50%)	Rapid declines	Medium impact: 6
	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 (Pittosporum undulatum)	Ongoing	Minority (50%)	Very rapid declines	Medium impact: 7
	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 (Hedychium gardnerianum)	Ongoing	Majority (50-90%)	Rapid declines	Medium impact: 7
	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 -> 11.1. Habitat shifting & alteration	Future	Whole (>90%)	Rapid declines	Medium impact: 6
	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%)	Rapid declines	Medium impact: 6
	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		

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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
Area based regional management plan: No
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

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Additional Data Fields

Distribution
Estimated area of occupancy (AOO) (km²): 196
Continuing decline in area of occupancy (AOO): Yes
Extreme fluctuations in area of occupancy (AOO): Unknown
Estimated extent of occurrence (EOO) (km²): 36838
Continuing decline in extent of occurrence (EOO): Yes
Extreme fluctuations in extent of occurrence (EOO): Unknown
Number of Locations: 6
Continuing decline in number of locations: Yes
Extreme fluctuations in the number of locations: No
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

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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.