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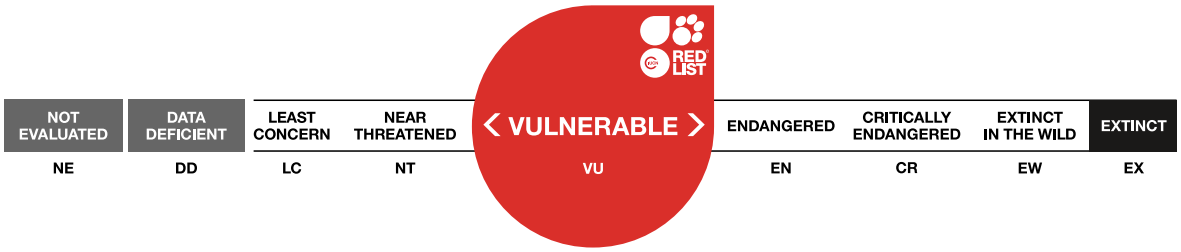
Neon acoreensis

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



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Salticidae

Scientific Name: *Neon acoreensis* Wunderlich, 2008

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).

Borges, P.A.V. and Wunderlich, J. 2008. Spider biodiversity patterns and their conservation in the Azorean archipelago, with descriptions of new species. *Systematics and Biodiversity* 6(2): 249-282.

Assessment Information

Red List Category & Criteria: Vulnerable B2ab(ii,iii,iv,v) ver 3.1

Year Published: 2021

Date Assessed: January 19, 2018

Justification:

Neon acoreensis is a salticid spider species occurring on seven islands of the Azorean archipelago (Azores, Portugal) (only absent from Graciosa and Corvo) (Borges *et al*. 2010). It has a large Extent of Occurrence (EOO = ca. 37,107 km²), but a relatively small Area of Occupancy (AOO = 112-220 km²). The species is only present in very pristine sites (e.g. sites with a high habitat quality index *sensu* Gaspar *et al.* 2011) and it is rare at most sites. Currently an invasive plant, *Hedychium gardnerianum*, is changing 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. As such the number of locations could be small (10 or 11, depending on the full extent of the species on S. Miguel). The species is precautionarily listed as Vulnerable, but further research is required. 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:

Neon acoreensis is a jumping spider species occurring on seven islands of the Azorean archipelago (Azores, Portugal) (only absent in Graciosa and Corvo) (Borges *et al.* 2010). Within these seven islands it is known from twelve Natural Forest Reserves: Caldeiras Funda e Rasa and Morro Alto e Pico da Sé (Natural Park of Flores); Cabeço do Fogo (Natural Park of Faial); Mistério da Prainha and Caveiro (Natural Park of Pico); Pico Pinheiro and 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) and Pico Alto (Natural Park of S. Maria). The Extent of Occurrence (EOO) is ca. 37,107 km^2 and the Area of Occupancy (AOO) is 112-220 km^2.

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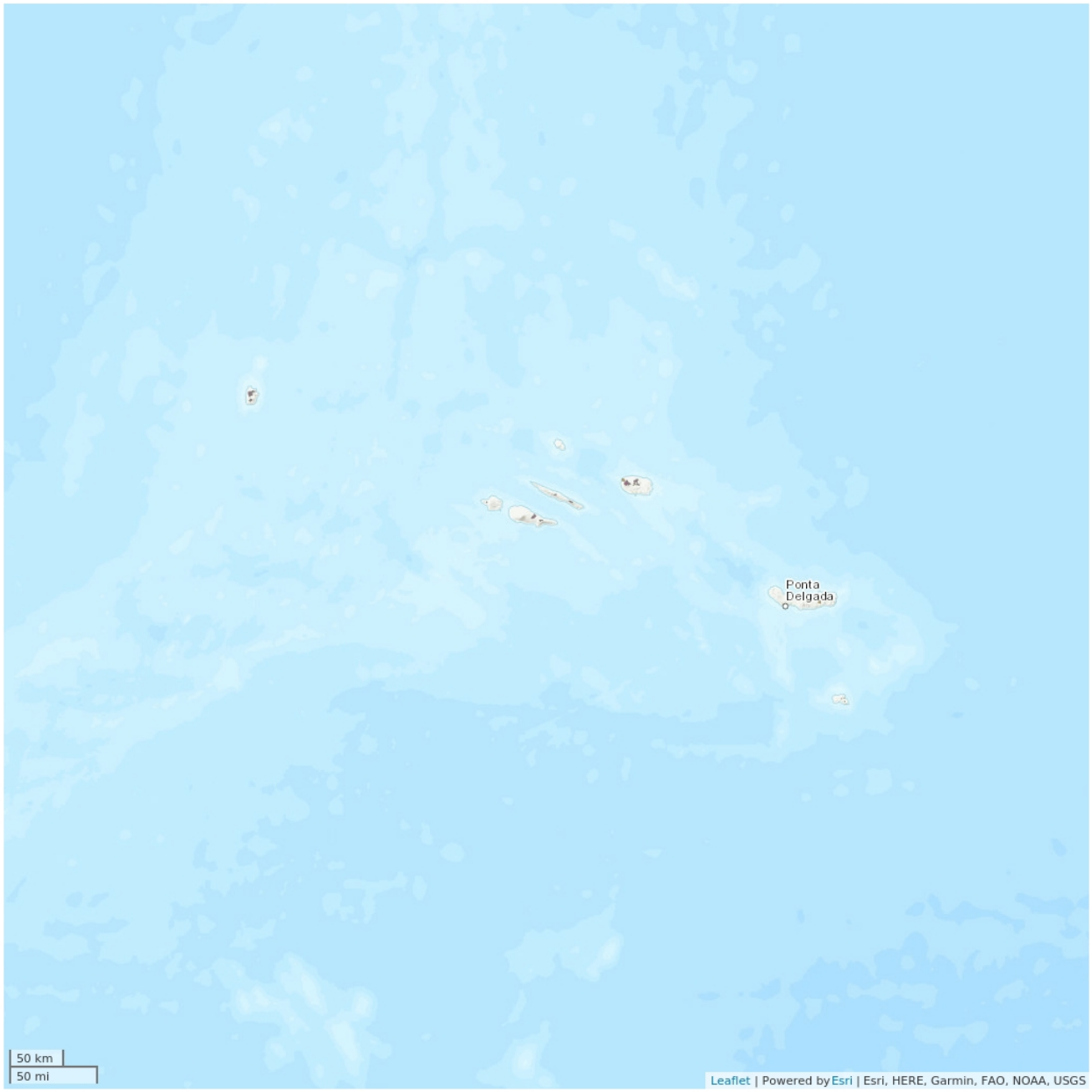
Country Occurrence:

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.

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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 at most sites. Despite the fact that *Neon acoreensis* has been recorded between 320 and 1,051 m elevation, the species is particularly abundant only between 700 and 1,051 m. Many of the known sites are currently being invaded by invasive plants (e.g. *Hedychium gardnerianum*) or degraded by uncontroled cattle trampling in some native shrub grasslslands. 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 320 and 1,051 m elevation, *Neon acoreensis* is particularly abundant only between 700 and 1,051 m in very pristine sites (see Gaspar *et al*. 2011). This species lives in the ground, and is associated with herbaceous vegetation, but can also be found in the canopies of several endemic trees. It is frequent in open spaces in forest.

Systems: Terrestrial

Threats **(see Appendix for additional information)**

Currently, the rapid advance and expansion of invasive plants species is the major threat (particularly *Hedychium gardnerianum*), which is changing the structure of the forest and natural grasslands, as well as the cover of bryophytes and ferns in the soil, which will impact the species' habitat quality. Ongoing soil erosion due to trampling by dairy cattle (cattle are entering the native areas in Flores, Pico and S. Jorge island without control by the Conservation Managers) is another 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, but its habitat is in regionally protected areas (Natural Parks of Faial, Flores, Pico, S. Jorge, Terceira, S. Miguel and S. Maria). Degraded habitats on some islands, degraded due to invasive plant species, should be restored (e.g. S. Maria) and a strategy needs to be developed to address the current threat from invasive species in all islands, and the future threat by climate change. The management of cows entering native areas in some islands is also critical. A habitat management plan is needed and one is anticipated for the coming years. 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 obtain adequate information on population size, distribution and trends, particularly on S. Miguel. 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

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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
3. Shrubland -> 3.4. Shrubland - 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%)	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 -> 2.2. 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	Whole (>90%)	Slow, significant 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	Majority (50-90%)	Rapid declines	Low impact: 5
	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 -> 11.2. Droughts	Future	Whole (>90%)	Rapid declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 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)

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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: 81-90
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

Additional Data Fields

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Distribution
Estimated area of occupancy (AOO) (km²): 112-220
Continuing decline in area of occupancy (AOO): Yes
Extreme fluctuations in area of occupancy (AOO): No
Estimated extent of occurrence (EOO) (km²): 37107
Continuing decline in extent of occurrence (EOO): No
Extreme fluctuations in extent of occurrence (EOO): No
Number of Locations: 10-11
Continuing decline in number of locations: Yes
Extreme fluctuations in the number of locations: No
Lower elevation limit (m): 320
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

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.