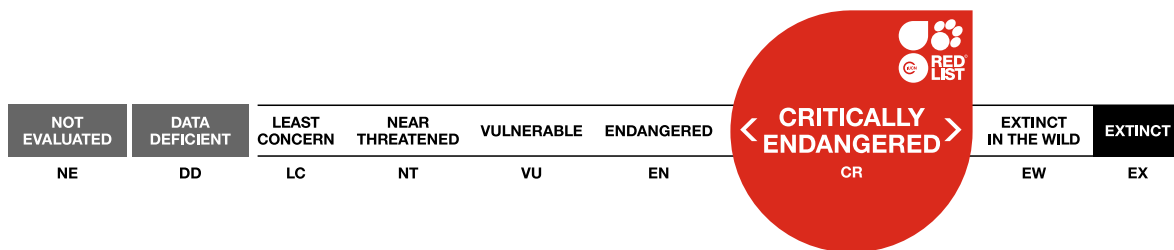


## *Acorigone zebraneus*

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



View on [www.iucnredlist.org](http://www.iucnredlist.org)

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## Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Linyphiidae

**Scientific Name:** *Acorigone zebraneus* 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:** Critically Endangered B1ab(i,ii,iii,v) [ver 3.1](#)

**Year Published:** 2020

**Date Assessed:** September 6, 2017

### Justification:

*Acorigone zebraneus* is a single-island endemic money spider species restricted to São Jorge island in Azores, Portugal (Borges *et al.* 2010). It is a rare species, with a restricted Extent of Occurrence (EOO) (4-20 km<sup>2</sup>) and Area of Occupancy (AOO) (4-20 km<sup>2</sup>), but these values are suspected to be at the upper end of these estimates. 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 trampling of soil by dairy cows. The species occurs in a single patch of native forest at Topo Nature Reserve. In the past, the species has probably strongly declined due to changes in habitat size. The only patch of native vegetation where it occurs is under severe threat due to invasive plants and dairy-cattle disturbance. Therefore, we suggest as future measures of conservation: (1) a long-term monitoring plan of the species; (2) control of invasive species, and (3) restrict the access of cattle. The species is assessed as Critically Endangered (CR).

## Geographic Range

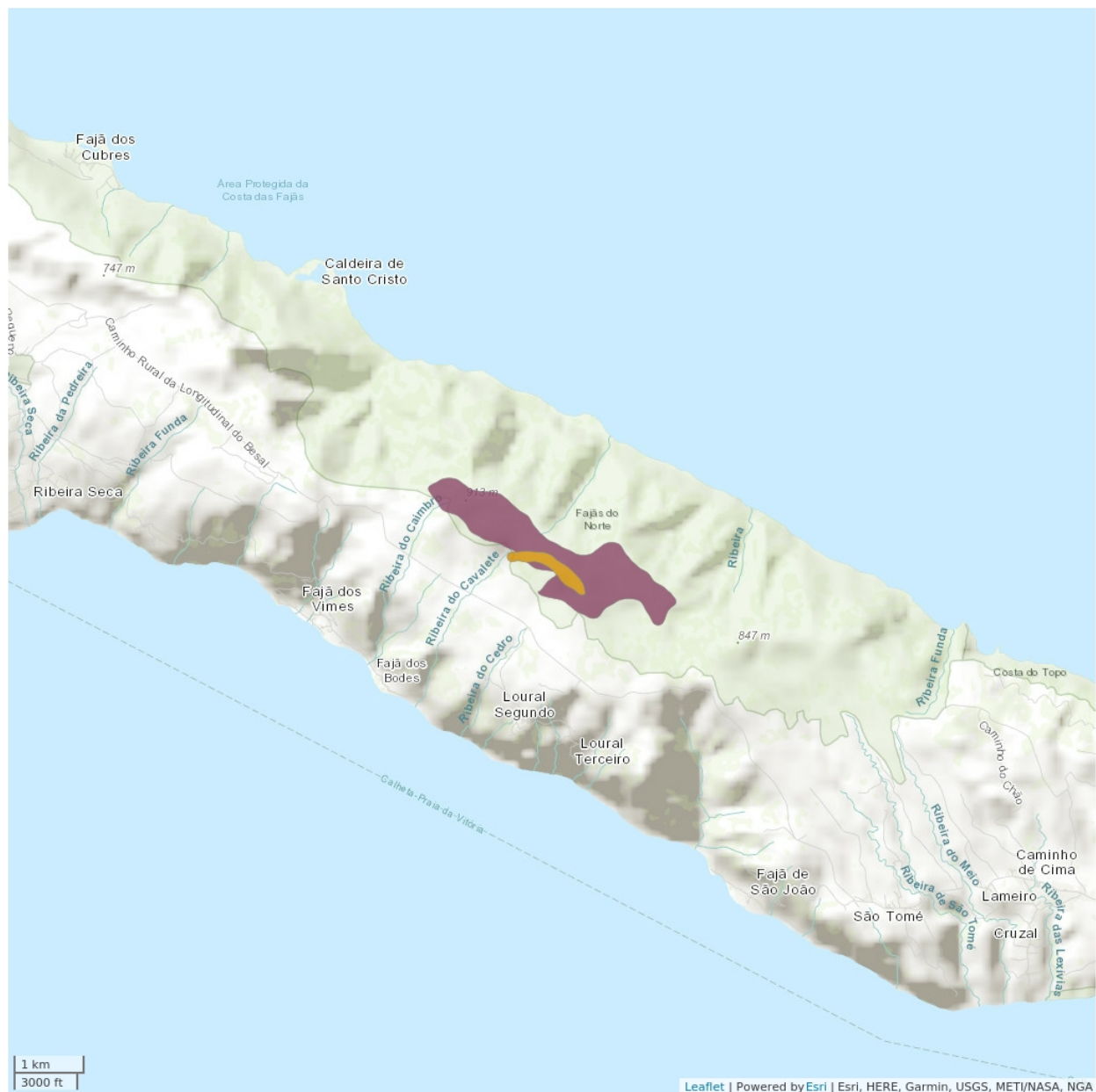
### Range Description:

*Acorigone zebraneus* is a single-island endemic money spider species restricted to São Jorge island in Azores, Portugal (Borges *et al.* 2010), occurring in the Natural Forest Reserve of Topo (Natural Park of S. Jorge). The estimated Extent of Occurrence (EOO) is 4-20 km<sup>2</sup> and the estimated Area of Occupancy (AOO) is 4-20 km<sup>2</sup>.

### Country Occurrence:

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

# Distribution Map



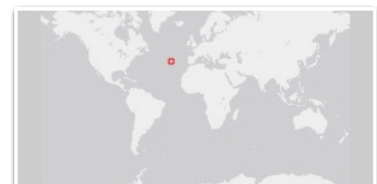
## Legend

- EXTANT (RESIDENT)
- POSSIBLY EXTANT (RESIDENT)

Compiled by:

Azorean Biodiversity Group 2018

NOT EVALUATED	DATA DEFICIENT	LEAST CONCERN	NEAR THREATENED	VULNERABLE	ENDANGERED	CRITICALLY ENDANGERED	EXTINCT IN THE WILD	EXTINCT
NE	DD	LC	NT	VU	EN	CR	EW	EX



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 very rare species, only known from a single sustainable subpopulation with very few individuals found during BALA project intensive sampling (Borges *et al.* 2016). A continuing decline in the number of mature individuals is inferred from monitoring schemes and from the ongoing habitat degradation due to invasions of alien plants (namely *Hedychium gardnerianum*) and soil erosion and degradation due to soil trampling by dairy cows.

**Current Population Trend:** Decreasing

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

The species is restricted to a hyper-humid native forest and builds the sheet weaver web in the ground between holes and the trunks of *Juniperus brevifolia* and *Ilex perado* subsp. *azorica*. The ground is also covered with mosses (*Sphagnum* spp.) and ferns (Borges and Wunderlich 2008). The species occurs in the same habitat of another single-island endemic Linyphid spider, *Savigniorhipis topographicus* (see Crespo *et al.* 2013), which is also restricted to the same native forest fragment (Topo, S. Jorge). The species is active during the night.

**Systems:** Terrestrial

## Threats (see Appendix for additional information)

In the past, the species has probably strongly declined due to a reduction in habitat size and quality (Triantis *et al.* 2010), and the species seems to have survived only at a single site at high elevation native forest of S. Jorge island. The main current threats are: the spread of an invasive plant species, *Hedychium gardnerianum*, which is changing the structure of the forest and the cover of bryophytes and ferns with impacts on web construction, and 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 the number of droughts, and habitat shifting and alteration).

## Conservation Actions (see Appendix for additional information)

The species is not protected by regional law. Its habitat is in a regionally protected area (Natural Park of S. Jorge). However, the Topo Natural Forest Reserve has a low level of protection (currently classified in category V of the IUCN) and is managed mainly for landscape conservation and recreation, one of the lowest protection levels. As also indicated by Crespo *et al.* (2013), 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 and trampling by dairy cattle, should be restored and a strategy needs to be developed to address the current threat by invasive species and cattle 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 other areas of native forest of S. Jorge 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.

**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. 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.

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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.

Crespo, L.C., Bosmans, R., Cardoso, P. and Borges, P.A.V. 2013. On the endemic spider species of the genus *Savigniorhipis* Wunderlich, 1992 (Araneae: Linyphiidae) in the Azores (Portugal), with description of a new species. *Zootaxa* 3745: 330-342.

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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. 2020. The IUCN Red List of Threatened Species. Version 2020-3. Available at: [www.iucnredlist.org](http://www.iucnredlist.org). (Accessed: 10 December 2020).

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

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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 -> 2.3. Livestock farming & ranching -> 2.3.2. Small-holder grazing, ranching or farming	Ongoing	Majority (50-90%)	Slow, significant declines	Medium impact: 6
	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%)	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%)	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%)	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		

## Conservation Actions in Place

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

Conservation Action in Place
In-place research and monitoring

Conservation Action in Place
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>)

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 -> 5.1. Legislation -> 5.1.3. 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



<b>Distribution</b>
Estimated area of occupancy (AOO) (km <sup>2</sup> ): 4-20
Continuing decline in area of occupancy (AOO): Yes
Extreme fluctuations in area of occupancy (AOO): Unknown
Estimated extent of occurrence (EOO) (km <sup>2</sup> ): 4-20
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): 743
Upper elevation limit (m): 941
<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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