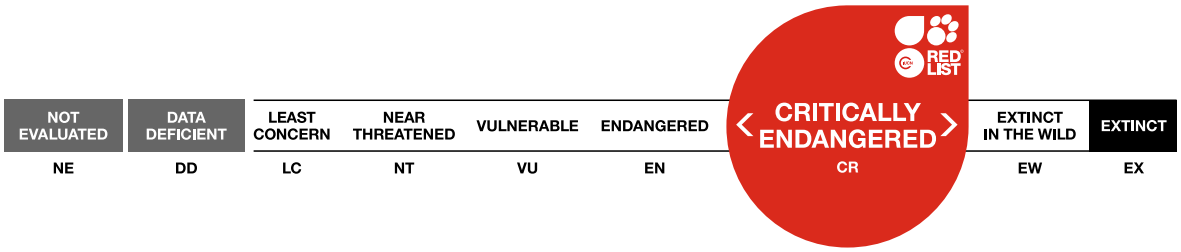
The IUCN Red List of Threatened Species™
ISSN 2307-8235 (online)
IUCN 2021: T58082390A58082423
Scope(s): Global
Language: English

Cheiracanthium floresense

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



View on www.iucnredlist.org

Citation: Borges, P.A.V. & Cardoso, P. 2021. *Cheiracanthium floresense*. *The IUCN Red List of Threatened Species* 2021: e.T58082390A58082423. https://dx.doi.org/10.2305/IUCN.UK.2021-1.RLTS.T58082390A58082423.en

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Araneae	Cheiracanthiidae

Scientific Name: *Cheiracanthium floresense* 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: 2021

Date Assessed: September 20, 2017

Justification:

Cheiracanthium floresense is a single-island endemic species restricted to Flores island in Azores, Portugal (Borges *et al.* 2010). It has a small Extent of Occurrence (EOO = 20-56 km²) and Area of Occupancy (AOO = 20-56 km²). The species is rare and only known from two subpopulations, at Natural Forest Reserves of Caldeiras Funda e Rasa and Morro Alto e Pico da Sé. The surrounding area is highly invaded by alien plants, and in the past, the species has probably strongly declined due to changes in habitat size and quality. Currently, invasive plants *Hydrangea macrophylla, Hedychium gardnerianum* and *Rubus ulmifolius* are changing some of the areas of the species' range 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 small EOO of the species and continuing decline of its habitat area and quality, it is assessed as Critically Endangered. 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:

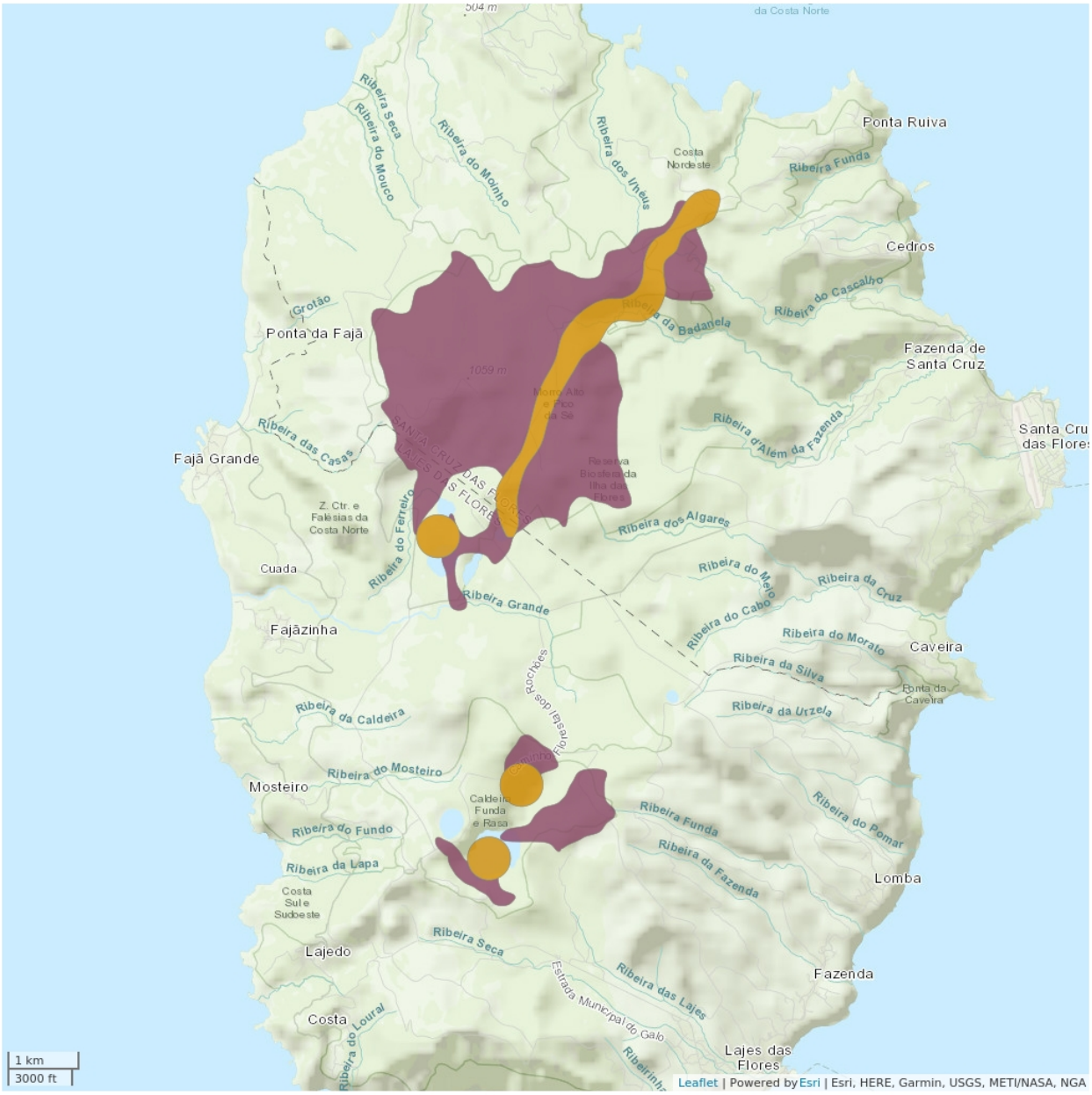
Cheiracanthium floresense is a single-island endemic species restricted to Flores island in Azores, Portugal (Borges *et al.* 2010), occurring in the Natural Forest Reserves of Caldeiras Funda e Rasa and Morro Alto e Pico da Sé (Natural Park of Flores). The estimated Extent of Occurrence (EOO) is 20-56 km^2 and the estimated Area of Occupancy (AOO) is 20-56 km^2.

Country Occurrence:

Native, Extant (resident): Portugal (Azores)

https://dx.doi.org/10.2305/IUCN.UK.2021-1.RLTS.T58082390A58082423.en

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.

https://dx.doi.org/10.2305/IUCN.UK.2021-1.RLTS.T58082390A58082423.en

Population

The species is rare and only known from two subpopulations on Flores island. The smallest patch (Caldeira Funda e Rasa) is currently being invaded by invasive plants (*Hedychium gardnerianum* and *Hydrangea macrophylla*). The surrounding area is already heavily invaded by the same invasive plants and parts are occupied by *Cryptomeria japonica* plantations. A continuing decline in the number of mature individuals is inferred from monitoring schemes at least at Caldeira Funda e Rasa (Borges *et al*. 2016) and from the ongoing habitat degradation (Gaspar *et al.* 2011).

Current Population Trend: Decreasing

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

This species occurs in two fragments of native forest in Flores island (Azores). The largest one is dominated by *Juniperus brevifolia* (Morro Alto e Pico da Sé) (Gaspar *et al.* 2011), but the smallest one (Caldeira Funda e Rasa) is dominated by *Juniperus brevifolia* and *Ilex perado* subsp. *azorica* and is currently heavily invaded by *Hedychium gardnerianum* and *Hydrangea macrophylla*. *Rubus ulmifolius* is also spreading and changing the structure of the habitat. The species has an altitudinal range between 373 and 900 m. Adults were collected in summer. This species occurs mostly in the canopy of endemic trees associated with leaves of *Ilex perado* subsp. *azorica* and *Laurus azorica* in which it builds the web capsule.

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, invasive plants *Hydrangea macrophylla, Hedychium gardnerianum* and *Rubus ulmifolius* are dramatically changing the structure of the forest in the species' southern range. 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). The management of surrounding habitats, namely for *Cryptomeria japonica* plantations, may have also had an impact on individuals.

Conservation Actions **(see Appendix for additional information)**

The species is not protected by regional law, but its habitat is in regionally protected areas. Degraded areas, degraded due to invasive plant species (particularly in Caldeira Funda e Rasa) 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 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 at more sites within the current range dominated by native forest, and to obtain adequate information on population size, distribution and trends. In addition, there is the need of an integrative taxonomic revision of the genus in Azores to evaluate the status of the two single-endemic species and verify if they are valid endemic species or if there are more species restricted to other islands that are currently assigned to the exotic *Cheiracanthium erraticum*. 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).

https://dx.doi.org/10.2305/IUCN.UK.2021-1.RLTS.T58082390A58082423.en

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

https://dx.doi.org/10.2305/IUCN.UK.2021-1.RLTS.T58082390A58082423.en

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*. Princípia, 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. *Cheiracanthium floresense*. *The IUCN Red List of Threatened Species* 2021: e.T58082390A58082423. https://dx.doi.org/10.2305/IUCN.UK.2021-1.RLTS.T58082390A58082423.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

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%)	Causing/could cause fluctuations	Low impact: 5
	Stresses:	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 (Hydrangea macrophylla)	Ongoing	Minority (50%)	Causing/could cause fluctuations	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	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 (Rubus ulmifolius)	Ongoing	Minority (50%)	Causing/could cause fluctuations	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 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)

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 part of 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 -> 1.1. Taxonomy
1. Research -> 1.2. Population size, distribution & trends
1. Research -> 1.3. Life history & ecology
2. Conservation Planning -> 2.2. Area-based Management Plan

https://dx.doi.org/10.2305/IUCN.UK.2021-1.RLTS.T58082390A58082423.en

Research Needed
3. Monitoring -> 3.1. Population trends
3. Monitoring -> 3.4. Habitat trends

Additional Data Fields

Distribution
Estimated area of occupancy (AOO) (km²): 20-56
Continuing decline in area of occupancy (AOO): Yes
Extreme fluctuations in area of occupancy (AOO): Unknown
Estimated extent of occurrence (EOO) (km²): 20-56
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: Unknown
Lower elevation limit (m): 373
Upper elevation limit (m): 900
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

https://dx.doi.org/10.2305/IUCN.UK.2021-1.RLTS.T58082390A58082423.en

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.