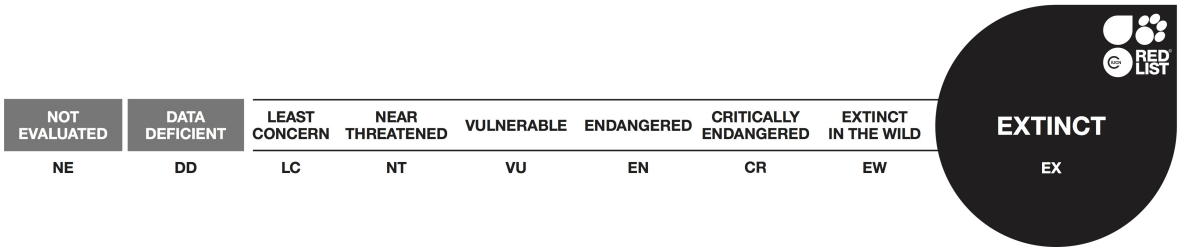
The IUCN Red List of Threatened Species™
ISSN 2307-8235 (online)
IUCN 2008: T97111002A99166539
Scope: Global
Language: English

Calathus vicenteorum, Ground beetle

Assessment by: Borges, P.A.V.



View on www.iucnredlist.org

Citation: Borges, P.A.V. 2018. *Calathus vicenteorum*. The IUCN Red List of Threatened Species 2018: e.T97111002A99166539. http://dx.doi.org/10.2305/IUCN.UK.2018-1.RLTS.T97111002A99166539.en

Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Insecta	Coleoptera	Carabidae

Taxon Name: *Calathus vicenteorum* Schatzmayr, 1939

Common Name(s):

- English: Ground beetle

Taxonomic Source(s):

Roskov, Y., Abucay, L., Orrell, T., Nicolson, D., Kunze, T., Culham, A., Bailly, N., Kirk, P., Bourgoin, T., DeWalt, R.E., Decock, W., De Wever, A., eds. 2016. Catalogue of Life. Available at: http://www.catalogueoflife.org.

Identification Information:

The most similar species is *C. lundbladi* that is endemic to S. Miguel; the eyes are flatter than in *C. mollis* and the hind wings are reduced (Lindroth 1060).

Assessment Information

Red List Category & Criteria: Extinct ver 3.1

Year Published: 2018

Date Assessed: July 16, 2016

Justification:

Calathus vicenteorum was endemic to Santa Maria (Azores, Portugal). It had a very small extent of occurrence (EOO = 0-4 km²) and area of occupancy (AOO = 0-4 km²). The species occurred only at one location and is considered extinct (Terzopoulou *et al.* 2015). The last record dates from 1957. Exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual (Borges *et al*. 2016). Therefore, it is assessed as Extinct.

Geographic Range

Range Description:

Calathus vicenteorum is a single island endemic species restricted to Santa Maria (Azores, Portugal) (Borges *et al.* 2010), known from high elevation native forest (550 m a.s.l.). This large bodied species is considered extinct (Terzopoulou *et al.* 2015). The size of its remaining native habitat is 0.09 km².

Country Occurrence:

Regionally extinct: Portugal (Azores)

http://dx.doi.org/10.2305/IUCN.UK.2018-1.RLTS.T97111002A99166539.en

Distribution Map

Calathus vicenteorum

Range

Extinct

Compiled by:

Paulo Borges

NE DD LC NT VU EN CR EW EX EXTINCT

The boundaries and names shown and the designations used on this map do not imply any official endorsement, acceptance or opinion by IUCN.

http://dx.doi.org/10.2305/IUCN.UK.2018-1.RLTS.T97111002A99166539.en

Population

The species is only known from a single subpopulation. A continuing decline in the number of mature individuals is inferred from historical records. According to Terzopoulou *et al.* (2015) this species is extinct.

Habitat and Ecology (see Appendix for additional information)

The species occurred in the native forest of the Santa Maria Island (Azores), with an altitudinal range between 450 and 550 m. It is considered extinct (Terzopoulou *et al.* 2015). The last specimens found in 1957 were captured associated with *Calluna vulgaris*. This is a predator species with nocturnal activity.

Systems: Terrestrial

Use and Trade

The species is not utilised.

Threats (see Appendix for additional information)

In the past, the species has probably strongly declined due to changes in habitat size and quality and its large body size (Terzopoulou *et al.* 2015). Based on Ferreira *et al.* (2016) the habitat will further decline as a consequence of climate change (increasing number of droughts and habitat shifting & alteration). The most important ongoing threat to this species is *Cryptomeria japonica* wood & pulp plantations management and the spread of invasive plants (*Hedychium gardneranum* and *Pittosporum undulatum*) that are changing the habitat structure in the main native forest, namely decreasing the cover of bryophytes and ferns in the soil and promoting the spread of other plants.

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 Santa Maria). Further research is needed into its ecology and life history in order to find extant specimens and obtain information on population size, distribution and trends.

Credits

Assessor(s): Borges, P.A.V.

Reviewer(s): Danielczak, A.

Contributor(s): Lamelas-López, L.

http://dx.doi.org/10.2305/IUCN.UK.2018-1.RLTS.T97111002A99166539.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.

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: 603-615.

IUCN. 2018. The IUCN Red List of Threatened Species. Version 2018-1. Available at: www.iucnredlist.org. (Accessed: 28 June 2018).

Lindroth, C.H. 1960. The Ground-Beetles of the Azores (Coleoptera: Carabidae) with some reflexions on over-seas dispersal. *Boletim do Museu Municipal do Funchal* 13(31): 5-48.

Terzopoulou, S., Rigal, F., Whittaker, R.J., Borges, P.A.V. & Triantis, K.A. 2015. Drivers of extinction: the case of Azorean beetles. *Biology Letters* 11: 1-4.

Citation

Borges, P.A.V. 2018. *Calathus vicenteorum*. The IUCN Red List of Threatened Species 2018: e.T97111002A99166539. http://dx.doi.org/10.2305/IUCN.UK.2018-1.RLTS.T97111002A99166539.en

Disclaimer

External Resources

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 -> 2.1. Annual & perennial non-timber crops -> 2.1.1. Shifting agriculture	Past, unlikely to return	Minority (50%)	Rapid declines	Past impact
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.2. Species disturbance 2. Species Stresses -> 2.3. Indirect species effects -> 2.3.7. Reduced reproductive success		
8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.1. Unspecified species	Past, unlikely to return	Whole (>90%)	Very rapid declines	Past impact
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.2. Species disturbance 2. Species Stresses -> 2.3. Indirect species effects -> 2.3.7. Reduced reproductive success		

Conservation Actions in Place

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

Conservation Actions in Place
In-Place Land/Water Protection and Management
Conservation sites identified: Yes, over entire range
Occur in at least one PA: Yes

Conservation Actions Needed

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

Conservation Actions Needed
2. Land/water management -> 2.1. Site/area management
2. Land/water management -> 2.2. Invasive/problematic species control

http://dx.doi.org/10.2305/IUCN.UK.2018-1.RLTS.T97111002A99166539.en

Conservation Actions Needed
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

Distribution
Estimated area of occupancy (AOO) (km²): 0-4
Continuing decline in area of occupancy (AOO): Yes
Extreme fluctuations in area of occupancy (AOO): Unknown
Estimated extent of occurrence (EOO) (km²): 0-4
Continuing decline in extent of occurrence (EOO): Yes
Number of Locations: 1
Continuing decline in number of locations: Unknown
Lower elevation limit (m): 450
Upper elevation limit (m): 550
Population
Continuing decline of mature individuals: Unknown
Population severely fragmented: Unknown
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 1

Habitats and Ecology
Movement patterns: Not a Migrant

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.