The IUCN Red List of Threatened Species™
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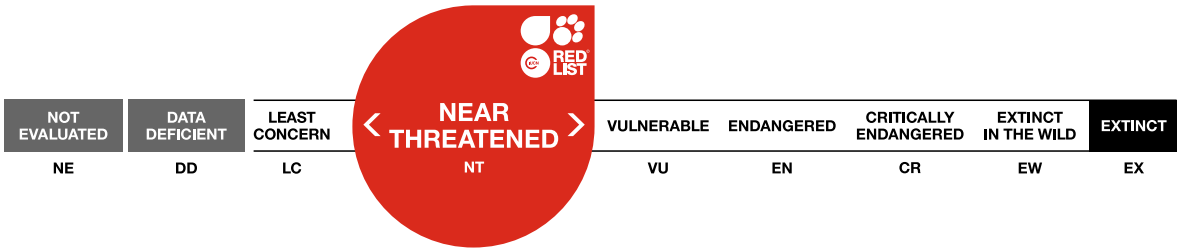
Melanozetes azoricus

Assessment by: Nunes, R. & Borges, P.A.V.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Oribatida	Ceratozetidae

Scientific Name: *Melanozetes azoricus* Wegmann, 1976

Assessment Information

Red List Category & Criteria: Near Threatened B2ab(iii) ver 3.1

Year Published: 2021

Date Assessed: April 1, 2018

Justification:

Melanozetes azoricus is an endemic species of the Azores (Portugal), known from the islands of Flores, Faial, Terceira, S. Miguel and Sta. Maria. From the available data, it has a relatively large extent of occurrence (EOO = 33,695 km^2), but a limited area of occupancy (AOO = 48 km^2), which is likely an underestimate, as this species probably has a wider distribution through the soil component of the islands. It can be assumed that this species is affected by human activities and invasive plant species that alter the natural structure and composition of the soil; and future climatic changes and increased risk of droughts will also affect this species. The present situation of this species needs to be further assessed and further research is needed into its population, distribution, threats, ecology and life history. However, the AOO of the species is relatively small, on the global scale, and if there were more data available it is possible that the species could qualify as threatened under criterion B2. Therefore, it is assessed as Near Threatened. Conservation of natural habitats and invasive species control could potentially aid this species conservation.

Geographic Range

Range Description:

Melanozetes azoricus is an Azorean-endemic oribatid mite species known from Flores, Faial, Terceira, S. Miguel and Sta. Maria islands (Azores, Portugal) (Borges *et al.* 2010), known from a several natural areas. It has been recorded from seven Natural Forest Reserves; Caldeiras Funda e Rasa and Morro Alto e Pico da Sé (Flores), Caldeira do Faial (Faial), Caldeira Sta. Bárbara e Mistérios Negros (Terceira), Graminhais and Pico da Vara (S. Miguel) and Pico Alto (Sta. Maria). From the available data, the Extent of Occurrence (EOO) could be *ca.* 33,695 km² and the Area of Occupancy (AOO) could be 48 km².

Country Occurrence:

Native, Extant (resident): Portugal (Azores)

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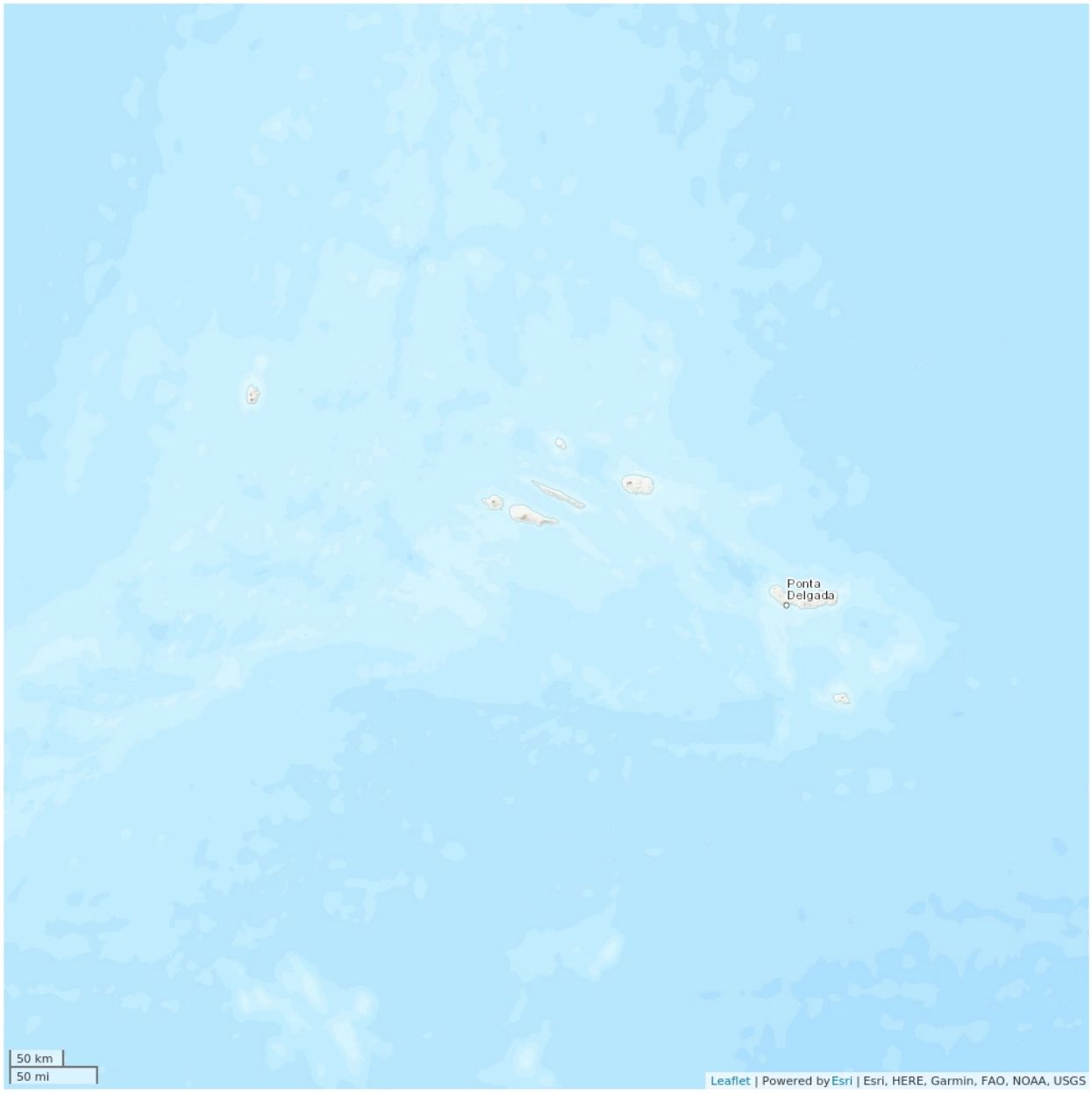
Distribution Map



Legend

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

No current population size estimates exist for this species. This species occurs in natural vegetation areas of several islands, and as an oribatid mite, it is likely common and widespread in the soil habitat.
Current Population Trend: Unknown

Habitat and Ecology (see Appendix for additional information)

The ecology and traits of this species are unknown. Oribatid mites are associated with organic matter in most terrestrial ecosystems, being found throughout the soil profile, in surface litter, on grasses, shrubs or in the bark and leaves of trees, among other habitats. Oribatida are also one of the most numerically dominant arthropod groups in the organic horizons of most soils (Behan-Pelletier, 1999). *Melanozetes azoricus* specimens were collected mainly in native vegetation areas, with several collected from mosses in association with *Juniperus brevifolia*, or in other native vegetation. Other specimens were collected from under *Cryptomeria japonica*.

Systems: Terrestrial

Threats (see Appendix for additional information)

A lack of information regarding the present range of this species precludes an assessment of potential threats. Nevertheless, it can be assumed that this species will be affected by future habitat declines as a consequence of climate change (Ferreira *et al.* 2016) and increased droughts. This species has been found in areas of native vegetation and it can be assumed that factors that degrade habitat quality, in the form of changes in the soil structure and composition, namely land use changes, agricultural practices or invasive plants, might also affect this species.

Conservation Actions (see Appendix for additional information)

The species is not protected by regional law, but its known habitat is in regionally protected areas (Natural Parks of Flores, Faial, Terceira, S. Miguel and Sta. Maria). Besides climate changes and increased risk of droughts, land-use changes and invasive species are likely one of the main current and future threats faced by this species. As such, conservation of native habitats and invasive species control could potentially aid this species' conservation. Further research is needed into its population, distribution, threats, ecology and life history, and it is necessary to develop a monitoring plan for the invertebrate community in order to contribute to the conservation of this species.

Credits

Assessor(s): Nunes, R. & Borges, P.A.V.

Reviewer(s): Danielczak, A.

Authority/Authorities: IUCN SSC Spider and Scorpion Specialist Group

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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.

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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
14. Artificial/Terrestrial -> 14.3. Artificial/Terrestrial - Plantations	Resident	Unknown	-

Threats

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

Threat	Timing	Scope	Severity	Impact Score
2. Agriculture & aquaculture -> 2.2. Wood & pulp plantations -> 2.2.1. Small-holder plantations	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
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 -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.1. Unspecified species	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		
11. Climate change & severe weather -> 11.1. Habitat shifting & alteration	Future	Majority (50-90%)	Slow, significant declines	Low impact: 4
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 1. Ecosystem stresses -> 1.3. Indirect ecosystem effects		
11. Climate change & severe weather -> 11.2. Droughts	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		

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: No
In-place land/water protection
Conservation sites identified: No
Occurs in at least one protected area: Yes

Conservation Actions Needed

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

Conservation Action Needed
2. Land/water management -> 2.1. Site/area management
2. Land/water management -> 2.2. Invasive/problematic species control
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
1. Research -> 1.5. Threats
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): 48
Continuing decline in area of occupancy (AOO): Unknown
Extreme fluctuations in area of occupancy (AOO): Unknown
Estimated extent of occurrence (EOO) (km²): 33695
Continuing decline in extent of occurrence (EOO): Unknown
Extreme fluctuations in extent of occurrence (EOO): Unknown

Distribution
Number of Locations: 6
Continuing decline in number of locations: Unknown
Extreme fluctuations in the number of locations: Unknown
Lower elevation limit (m): 400
Upper elevation limit (m): 900
Population
Continuing decline of mature individuals: Unknown
Extreme fluctuations: Unknown
Population severely fragmented: Unknown
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Unknown

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.