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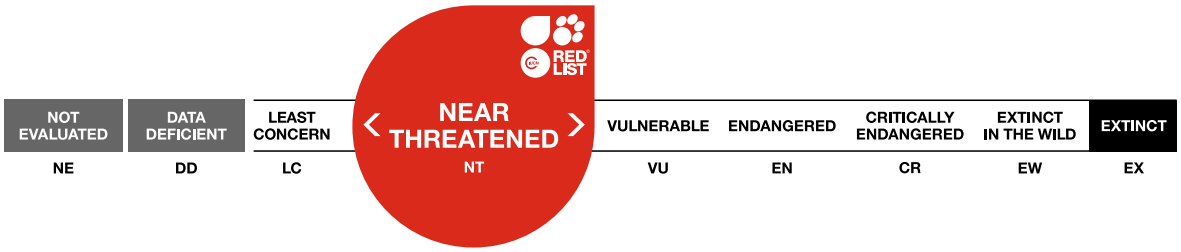
Damaeus pomboi

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



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Oribatida	Damaeidae

Scientific Name: *Damaeus pomboi* Pérez-Íñigo, 1987

Assessment Information

Red List Category & Criteria: Near Threatened B1ab(iii)+2ab(iii) ver 3.1

Year Published: 2021

Date Assessed: April 1, 2018

Justification:

Damaeus pomboi is an endemic species of the Azores (Portugal), known from the islands of S. Jorge, Terceira, S. Miguel and Sta. Maria. From the available data, it has a relatviely small Extent of Occurrence (17,258 km^2), and a limited Area of Occupancy (72 km^2), but these are likely underestimates, 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. 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, despite the incomplete knowledge regarding this species population, distribution, threats and ecology, this species is unlikely to warrant listing under the most threatened Red List categories. Pending further information, the number of locations could be said to be relatively small, and so the species can be precautionarily assessed as Near Threatened. Conservation of natural habitats and invasive species control could potentially aid this species conservation.

Geographic Range

Range Description:

Damaeus pomboi is an Azorean-endemic oribatid mite species known from S. Jorge, Terceira, S. Miguel and Sta. Maria islands (Azores, Portugal) (Borges *et al.* 2010), known from several natural and disturbed areas and also in the lava cave of Algar das Bocas do Fogo, in S. Jorge. It is present in four Natural Forest Reserves; Biscoito da Ferraria and Caldeira Sta. Bárbara e Mistérios Negros (Terceira), Pico da Vara (S. Miguel) and Pico Alto (Sta. Maria). From the available data, the Extent of Occurrence (EOO) would be *ca.* 17,258 km^2 and the Area of Occupancy (AOO) would be 72 km^2.

Country Occurrence:

Native, Extant (resident): Portugal (Azores)

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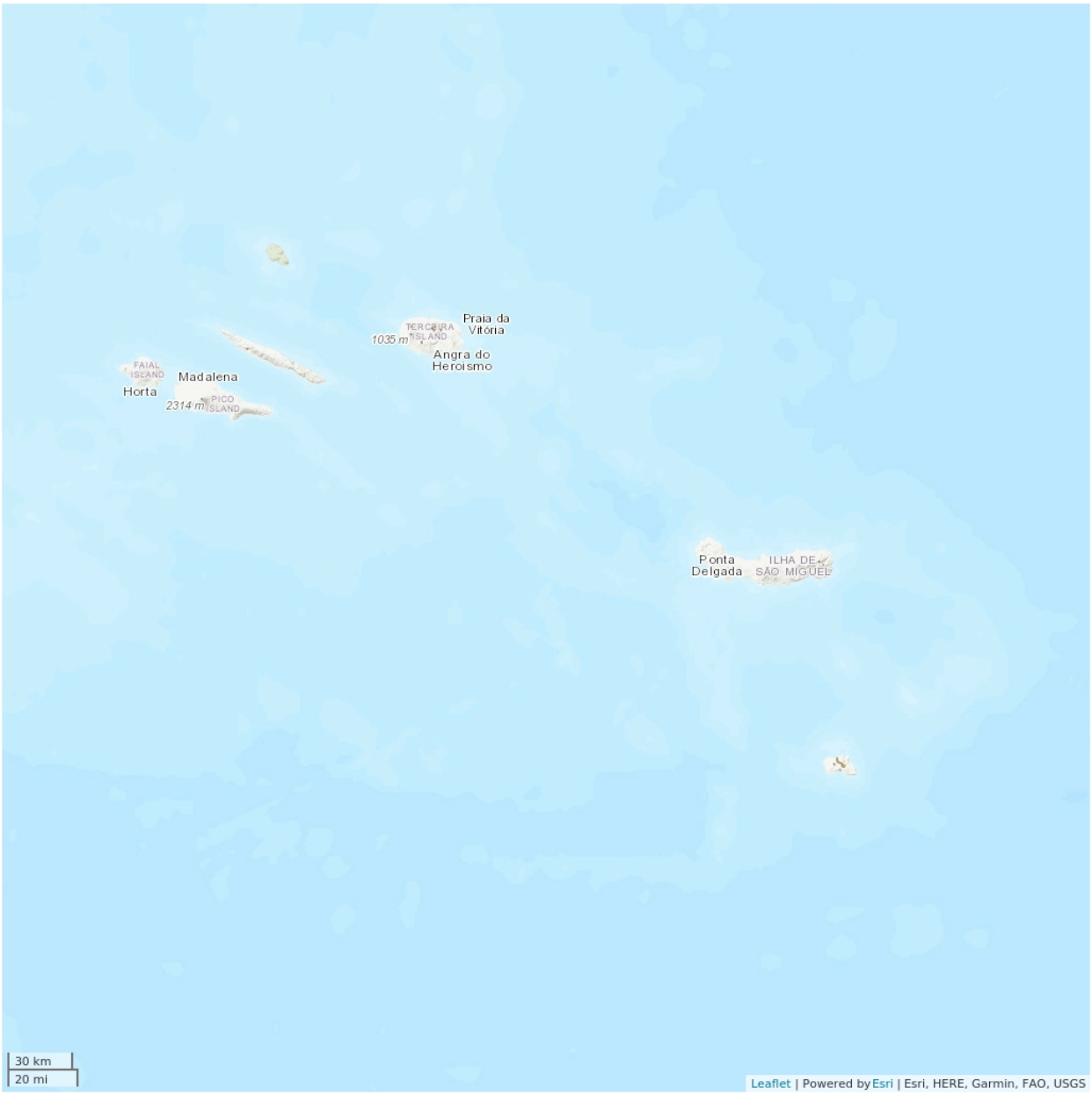
Distribution Map



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 on 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). This species has been collected mainly in native vegetation areas, but also in disturbed sites or in the vicinity of urbanised areas, being present in the leaf litter of native and exotic trees and bushes. It was also collected from native vegetation in the entrance of the lava cave of Algar das Bocas do Fogo.

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 but also in disturbed areas. Other factors that degrade habitat quality, in the form of changes in the soil structure and composition, namely land use changes, agricultural practices, urbanisation, pesticides and nutrient loads or invasive plants might also affect this species.

Conservation Actions (see Appendix for additional information)

The species is not protected by regional law. Part of its habitat is in regionally protected areas (Natural Parks of Terceira, S. Miguel and Sta. Maria). Besides climate change and increased risk of droughts, land-use changes and invasive species are likely one of the main current and future threats faced. 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 also 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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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
1. Residential & commercial development -> 1.1. Housing & urban areas	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 -> 2.1. Annual & perennial non-timber crops -> 2.1.2. Small-holder 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		
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		
9. Pollution -> 9.3. Agricultural & forestry effluents -> 9.3.1. Nutrient loads	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		
9. Pollution -> 9.3. Agricultural & forestry effluents -> 9.3.3. Herbicides and pesticides	Ongoing	Minority (50%)	Very rapid declines	Medium impact: 7
	Stresses:	2. Species Stresses -> 2.1. Species mortality		

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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	Future	Majority (50-90%)	Slow, significant declines	Low impact: 4
	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
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

Research Needed
3. Monitoring -> 3.4. Habitat trends

Additional Data Fields

Distribution
Estimated area of occupancy (AOO) (km²): 72
Continuing decline in area of occupancy (AOO): Unknown
Extreme fluctuations in area of occupancy (AOO): Unknown
Estimated extent of occurrence (EOO) (km²): 17258
Continuing decline in extent of occurrence (EOO): Unknown
Extreme fluctuations in extent of occurrence (EOO): Unknown
Number of Locations: 6-10
Continuing decline in number of locations: Unknown
Extreme fluctuations in the number of locations: Unknown
Lower elevation limit (m): 50
Upper elevation limit (m): 700
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

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