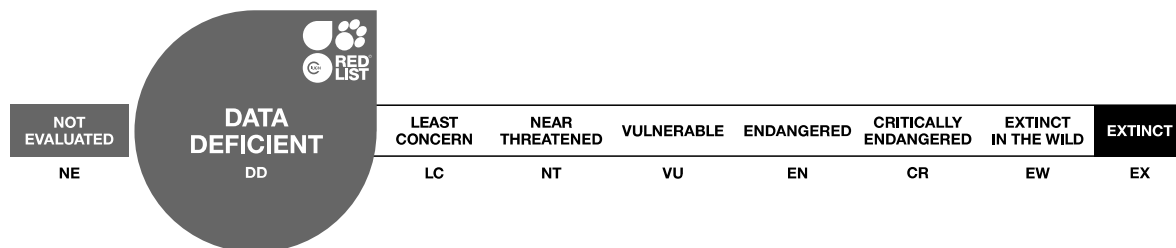


## *Peloptulus borgesii*

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



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

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## Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Arachnida	Oribatida	Phenopelopidae

**Scientific Name:** *Peloptulus borgesii* Pérez-Íñigo & Pérez-Íñigo Jr., 1996

## Assessment Information

**Red List Category & Criteria:** Data Deficient [ver 3.1](#)

**Year Published:** 2020

**Date Assessed:** March 31, 2018

### Justification:

*Peloptulus borgesii* is an endemic species of the Azores (Portugal), described from the island of S. Miguel. From the species description, it would have a very small Extent of Occurrence (4 km<sup>2</sup>) and Area of Occupancy (4 km<sup>2</sup>), which are likely underestimates, as this species probably has a wider distribution through the soil component of the island. It can be assumed that this species is affected by human activities and invasive plant species like *Hedychium gardnerianum* and *Clethra arborea*, which alter the natural structure and composition of the soil. Future climatic changes and increased risk of droughts will also affect this species. However, 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. Conservation of natural habitats and invasive species control could potentially aid this species' conservation. Based upon the incomplete knowledge regarding this species population, distribution, threats and ecology, this species is assessed as Data Deficient (DD).

## Geographic Range

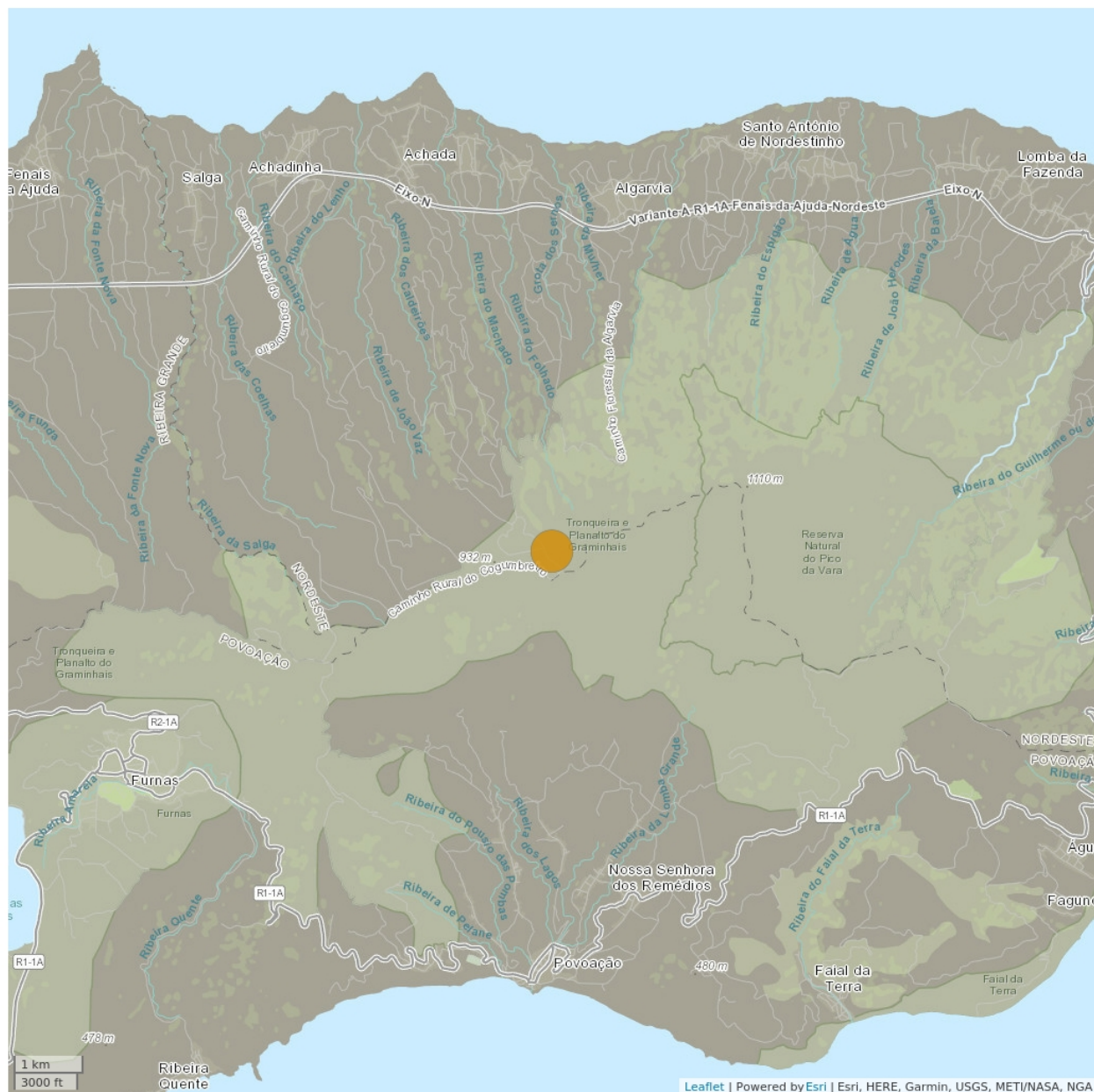
### Range Description:

*Peloptulus borgesii* is an Azorean-endemic oribatid mite species known from S. Miguel island (Azores, Portugal) (Borges *et al.* 2010), described from the Nature Reserve of Graminhais. From the species description, the Extent of Occurrence (EOO) would be ca. 4 km<sup>2</sup> and the Area of Occupancy (AOO) would be 4 km<sup>2</sup>.

### Country Occurrence:

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

# Distribution Map

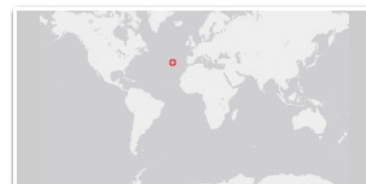
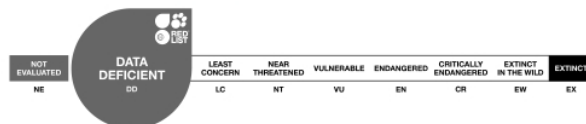


## Legend

● 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.

## Population

No current population size estimates exist for this species. As an oribatid mite, this species 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). *Peloptulus borgesii* was collected in native Laurisilva vegetation.

**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. The area where this species was collected is being threatened by the spread of invasive plants (*Hedychium gardnerianum* and *Clethra arborea*), which are changing the habitat structure. Additionally, 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. Other factors that affect habitat quality like land use changes, pesticides and nutrient loads might also affect this species.

## Conservation Actions (see Appendix for additional information)

The species is not protected by regional law, but it has been collected in a regionally protected area (Natural Park of São Miguel). Land-use changes are likely one of the main current and future threats, and 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. 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):** Russell, N.

**Authority/Authorities:** IUCN SSC Spider and Scorpion Specialist Group

## Bibliography

Behan-Pelletier, V.M. 1999. Oribatid mite biodiversity in agroecosystems: role for bioindication. *Agriculture, Ecosystems & Environment* 74(1-3): 411-423.

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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.

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).

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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 -> 2.2. 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		
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		
8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Clethra arborea)	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		
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>)

<b>Conservation Action in Place</b>
In-place research and monitoring
Action Recovery Plan: No
Systematic monitoring scheme: No
In-place land/water protection
Occurs in at least one protected area: Yes

## Conservation Actions Needed

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

<b>Conservation Action Needed</b>
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

## Research Needed

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

<b>Research Needed</b>
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

<b>Distribution</b>
Estimated area of occupancy (AOO) (km <sup>2</sup> ): 4
Continuing decline in area of occupancy (AOO): Unknown
Extreme fluctuations in area of occupancy (AOO): Unknown
Estimated extent of occurrence (EOO) (km <sup>2</sup> ): 4

<b>Distribution</b>
Continuing decline in extent of occurrence (EOO): Unknown
Extreme fluctuations in extent of occurrence (EOO): Unknown
Continuing decline in number of locations: Unknown
Extreme fluctuations in the number of locations: Unknown
Lower elevation limit (m): 925
Upper elevation limit (m): 975
<b>Population</b>
Continuing decline of mature individuals: Unknown
Extreme fluctuations: Unknown
Population severely fragmented: Unknown
<b>Habitats and Ecology</b>
Continuing decline in area, extent and/or quality of habitat: Unknown



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