

Pseudanchomenus aptinoides, Ground-beetle

Assessment by: Borges, P.A.V.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Insecta	Coleoptera	Carabidae

Taxon Name: *Pseudanchomenus aptinoides* Tarnier, 1860

Synonym(s):

- *Azoranchus aptinoides* Tarnier

Common Name(s):

- English: Ground-beetle

Taxonomic Source(s):

De Jong, Y., Verbeek, M., Michelsen, V., Bjørn, P.P., Los, W., Steeman, F., Bailly, N., Basire, C., Chylarecki, P., Stloukal, E., Hagedorn, G., Wetzell, F.T., Glöckler, F., Kroupa, A., Korb, G., Hoffmann, A., Häuser, C., Kohlbecker, A., Müller, A., Güntsch, A., Stoev, P. and Penev, L. 2014. Fauna Europaea – all European animal species on the web. *Biodiversity Data Journal* 2: e4034. DOI: 10.3897/BDJ.2.e4034.

Assessment Information

Red List Category & Criteria: Critically Endangered B1ab(i,ii,iii,iv) [ver 3.1](#)

Year Published: 2018

Date Assessed: November 24, 2016

Justification:

Pseudanchomenus aptinoides is endemic to Azores, occurring in only two islands (Pico and S. Miguel), but considered extinct in S. Miguel due to major historical land-use changes with clearing of original habitat. It has consequently a very small extent of occurrence (EOO = 16 km²) and reduced area of occupancy (AOO = 16 km²). There is a continuing decline in the EOO, AOO, extent and quality of habitat as well as the number of mature individuals as a result of the invasions of non-native plants. The species is particularly restricted to very small fragmented patches of native pristine forest in Pico Island. Therefore, we suggest as future measures of conservation: (1) regular monitoring of the species; and (2) control of invasive species namely *Hedychium gardnerianum*. The species is assessed as Critically Endangered (CR) due to severe fragmentation and continuing decline and EOO.

Geographic Range

Range Description:

Pseudanchomenus aptinoides is an endemic species present in Pico and S. Miguel islands (Azores, Portugal) (Borges *et al.* 2010), known from Natural Forest Reserves of Caveiro, Lagoa do Caiado and Mistério da Prainha, in Pico island and in Furnas, in S. Miguel island. After some surveys in Furnas the species was not found in the last 20 years despite some intensive search, and is potentially considered extinct in S. Miguel. As a consequence of extinction of the population located in S. Miguel, the extent of

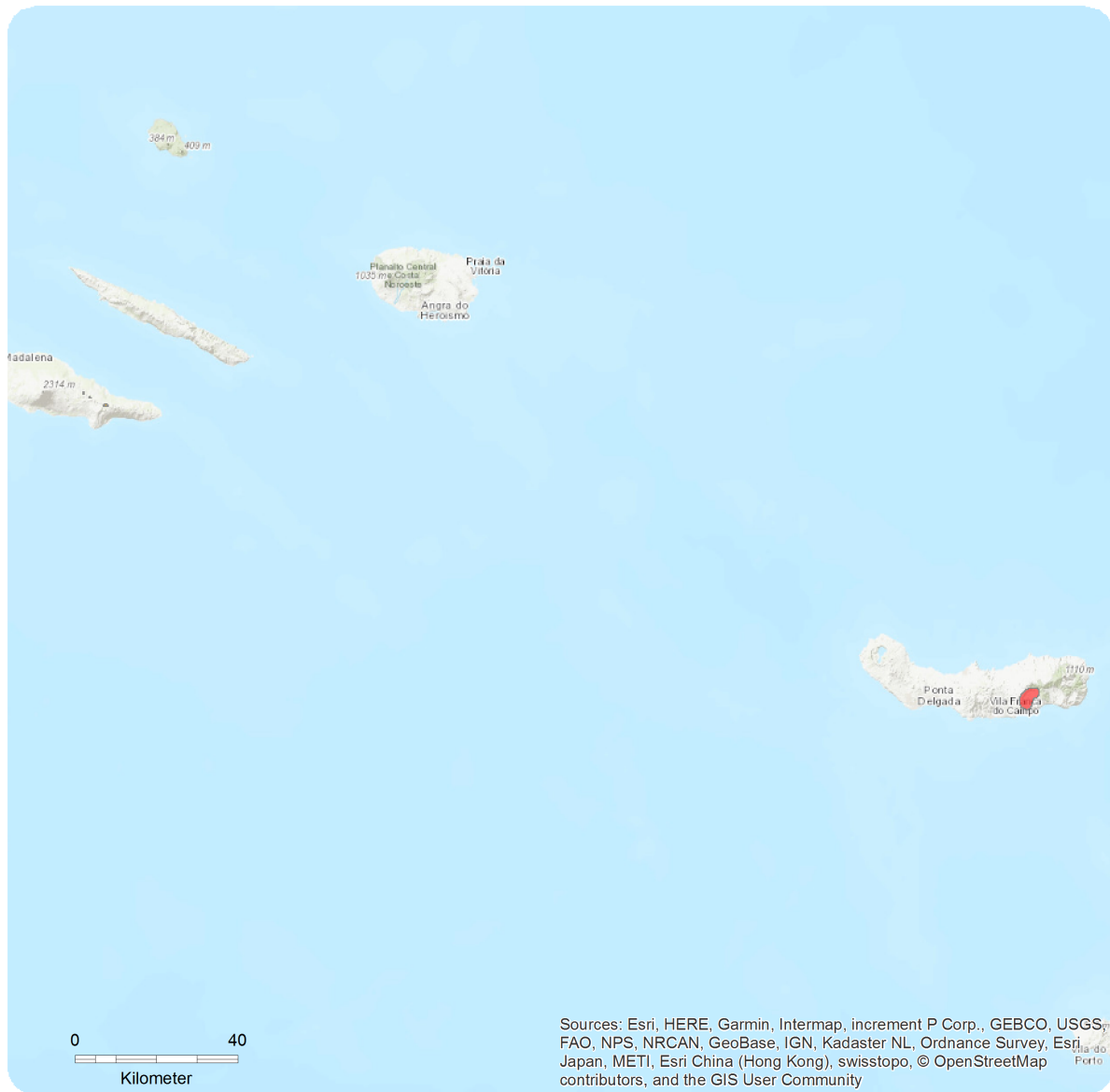
occurrence (EOO) is therefore only 16 km² and the maximum estimated area of occupancy (AOO) is 16 km².

Country Occurrence:

Native: Portugal (Azores)

Distribution Map

Pseudanchomenus aptinoides

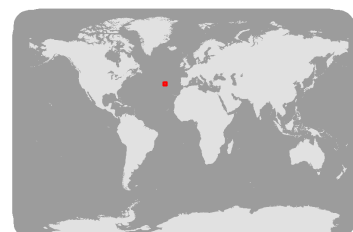


Range

- Extant (resident)
- Possibly Extinct

Compiled by:

Paulo Borges



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



Population

The species is relatively abundant in Pico Island native forest in particular in the pristine fragment of Caveiro. In spite of several sampling efforts in the last 20 years no individuals were sampled in S. Miguel, and consequently the population of this island is considered extinct, which is inferred from major land use changes in this location in the last 100 years.

Current Population Trend: Decreasing

Habitat and Ecology (see Appendix for additional information)

The species occurs in native forests dominated by montane *Juniperus brevifolia* woodland in Caveiro but also lavic formations dominated by *Erica azorica*, in the island of Pico, with an altitudinal range between 800 and 1200 m. The species is considered extinct in S. Miguel island (Furnas). It is a nocturnal predator that lives in native trees and in the soil, particularly in ravines. Based on seasonal data from SLAM traps obtained in several islands between 2012 and 2016 (Borges *et al.* 2017), the adults are active all year, being most abundant in spring and summer.

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). Currently, *Cryptomeria japonica* wood & pulp plantations management and invasive plant species spreading (e.g. *Hedychium gardnerianum*;) are changing the structure of the forest and the cover of bryophytes and ferns in the soil with impacts on the species. 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 species is considered extinct in S. Miguel island due to major historical land-use changes with clearing of original habitat.

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 Pico). Degraded habitats should be restored and of critical importance is the continued expansion and linking of habitat fragments as well as removal of invasive non-native species where this is possible. A strategy needs to be developed to address the future threat by climate change. A habitat management plan is needed and anticipated to be developed during the coming years. Formal education and awareness is needed to allow future investments in restored habitats invaded by invasive plants. Further research is needed into its ecology and life history in order to find extant specimens in S. Miguel and obtain information on population size, distribution and trends in both S. Miguel and Pico islands. It is also necessary an area-based management plan and a monitoring plan for the invertebrate community in the habitat in order to contribute to perform a species potential recovery plan. Monitoring every ten years using the BALA protocol will inform about habitat quality (see e.g. Gaspar *et al.* 2011).

Credits

Assessor(s): Borges, P.A.V.
Reviewer(s): Danielczak, A.
Contributor(s): Lamelas-López, L. & Amorim, I.R.

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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
11. Climate change & severe weather -> 11.1. Habitat shifting & alteration	Future	Whole (>90%)	Slow, significant declines	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance		
11. Climate change & severe weather -> 11.2. Droughts	Ongoing	Whole (>90%)	Slow, significant declines	Medium impact: 7
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.1. Species mortality		
2. Agriculture & aquaculture -> 2.2. Wood & pulp plantations -> 2.2.1. Small-holder plantations	Ongoing	Minority (50%)	Causing/could cause fluctuations	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.1. Species mortality 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	Majority (50-90%)	Rapid declines	Medium impact: 7
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.2. Species disturbance		

Conservation Actions in Place

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

Conservation Actions in Place
In-Place Research, Monitoring and Planning
Systematic monitoring scheme: Yes
In-Place Land/Water Protection and Management
Conservation sites identified: Yes, over part of range

Conservation Actions in Place
Occur in at least one PA: Yes
Percentage of population protected by PAs (0-100): 91-100
In-Place Education
Subject to recent education and awareness programmes: 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
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) (km ²): 16
Continuing decline in area of occupancy (AOO): Yes
Extreme fluctuations in area of occupancy (AOO): Unknown
Estimated extent of occurrence (EOO) (km ²): 16
Continuing decline in extent of occurrence (EOO): Yes

Distribution
Extreme fluctuations in extent of occurrence (EOO): Unknown
Number of Locations: 3
Continuing decline in number of locations: Yes
Lower elevation limit (m): 800
Upper elevation limit (m): 1200
Population
Continuing decline of mature individuals: Yes
Population severely fragmented: Yes
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 1
Movement patterns: Not a Migrant

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