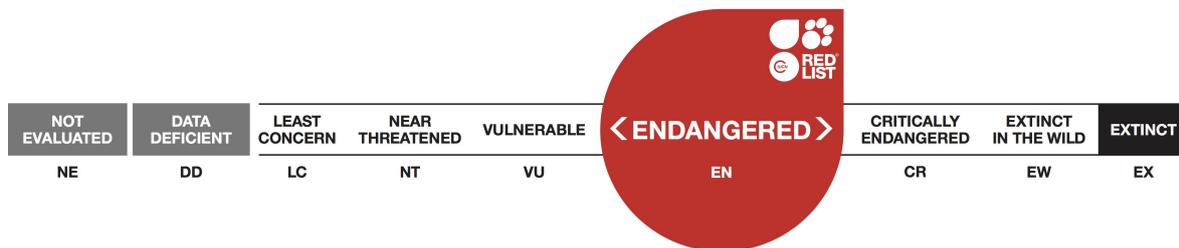


Pseudechinosoma nodosum, True weevil

Assessment by: Borges, P.A.V. & Lamelas-López, L.



View on www.iucnredlist.org

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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Insecta	Coleoptera	Curculionidae

Taxon Name: *Pseudechinosoma nodosum* Hustache, 1936

Common Name(s):

- English: True weevil, Snout beetle, Weevil

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: Endangered B2ab(i,ii,iii,iv,v) [ver 3.1](#)

Year Published: 2018

Date Assessed: January 2, 2017

Justification:

Pseudechinosoma nodosum is an endemic species present in Flores, Faial, Pico, S. Jorge, Terceira, S. Miguel and Santa Maria islands (Azores, Portugal). It has a large extent of occurrence (EOO = ca 33,700 km²) and small area of occupancy (AOO = 100 km²). The species is common and known from at least 13 locations comprehending seven fragmented subpopulations. Most area of occurrence is protected and it is well preserved. In the past, the species has probably strongly declined due to changes in habitat size and quality. One of the most important ongoing threat to this species is the spread of invasive plants changing the structure of the forest floor, decreasing the habitat quality and with potential impacts on several subpopulations. Based on Ferreira *et al.* (2016) the habitat will further decline as a consequence of climate change. Based upon the small area of occupancy and the ongoing impact of invasive plants it is assessed as Endangered.

Geographic Range

Range Description:

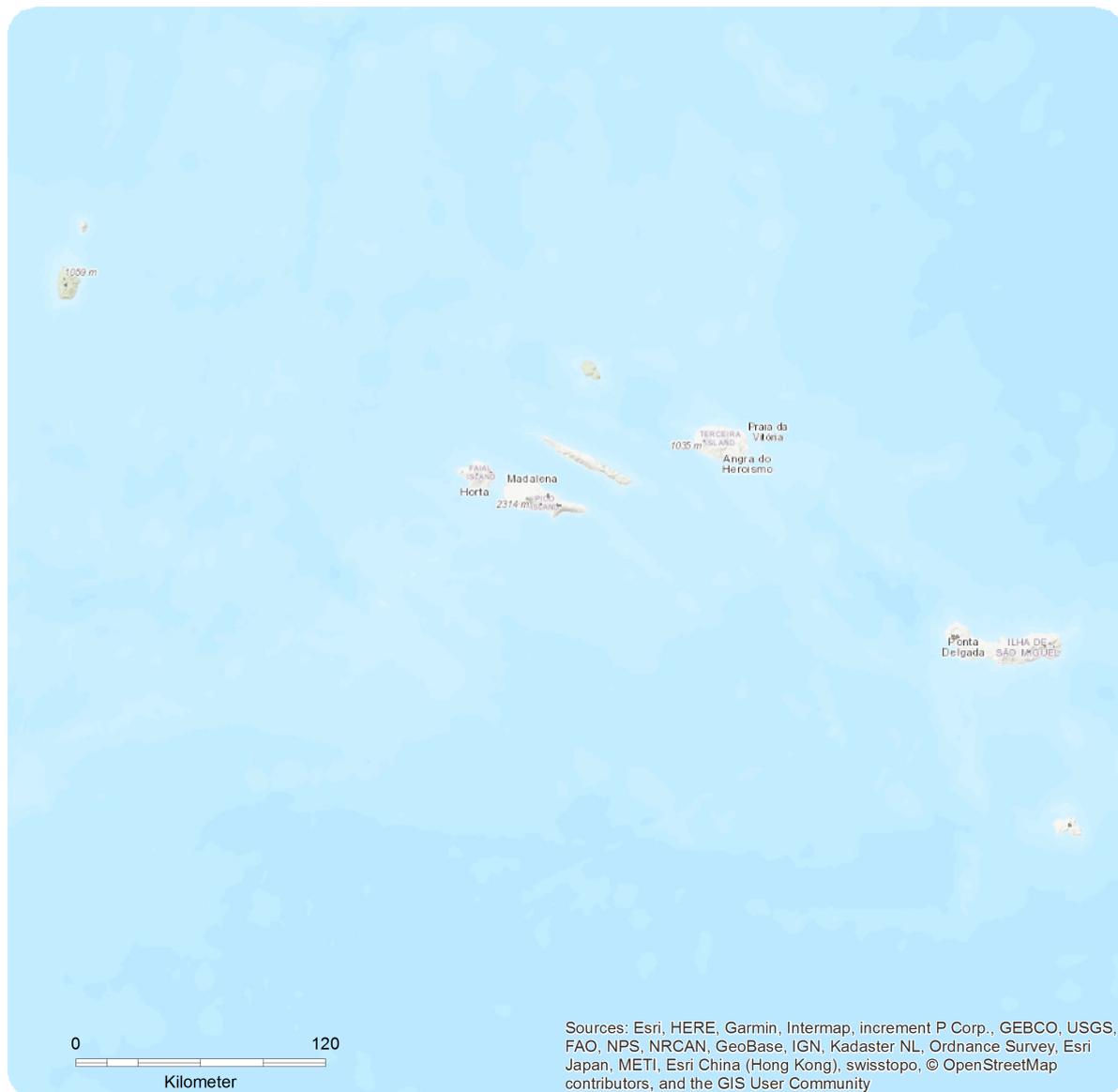
Pseudechinosoma nodosum is an endemic species present in Flores, Faial, Pico, S. Jorge, Terceira, S. Miguel and Sta. Maria islands (Azores, Portugal) (Borges *et al.* 2010), known from Natural Forest Reserves of Caveiro and Mistério da Prainha (Pico); Pico Pinheiro (S. Jorge); Pico Galhardo and Terra Brava (Terceira); Graminhais and Pico da Vara (S. Miguel) and Pico Alto (St. Maria). The extent of occurrence (EOO) is ca 33,700 km² and the maximum estimated area of occupancy (AOO) is 100 km².

Country Occurrence:

Native: Portugal (Azores)

Distribution Map

Pseudechinosoma nodosum



Range

Extant (resident)

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

P. nodosum is a widespread and particularly abundant species in native and few patches of exotic forests. The species currently has a decreasing population density due to the spread of the invasive plant *Hedychium gardnerianum* that is changing the structure of the forest and the cover of bryophytes and ferns in the soil with impacts on the species. This species is assessed here as severely fragmented as at least 50% of its population can be found in subpopulations that are 1) smaller than would be required to support a viable population, and 2) separated from other habitat patches by a large distance. In fact, the species occurs in fragments that are isolated in a matrix of pastures.

Current Population Trend: Decreasing

Habitat and Ecology (see Appendix for additional information)

The species occurs in native forests (mainly dominated by *Juniperus brevifolia*, *Laurus azorica* and *Ilex perado* spp. *azorica*) and *Cryptomeria japonica* plantations in Flores, Faial, Pico, S. Jorge, Terceira, S. Miguel and Sta Maria islands (Azores), with an altitudinal range between 400 and 1200 m. This is an univoltine species. Adults and larvae are herbivores and feed on plant tissues. This is a dead wood specialist (i.e. saprophagous).

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 (Triantis *et al.* 2010; Terzopoulou *et al.* 2015). One of the most important ongoing threat to this species is the spread of invasive plants changing the structure of the forest. Based on Ferreira *et al.* (2016) the habitat will further decline as a consequence of climate change (habitat shifting & alteration and increasing number of droughts).

Conservation Actions (see Appendix for additional information)

The species is not protected by regional law. Its habitat is in regionally protected areas (Natural Parks of Pico, S. Jorge, Terceira, Pico, S. Miguel and Santa Maria). The Terceira Natural Park administration is currently starting control measures of the invasive plants. Further spread of invasive plants needs to be stopped in most islands order to avoid any future declines of the species. Degraded habitats should be restored and 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. Further research is needed into its ecology and life history in order to find extant specimens in more native forest sites and obtain information on population size, distribution and trends. It is also necessary a monitoring plan for the invertebrate community in the habitat in order to contribute to perform a species potential recovery plan in some of the islands. An Area-based Management Plan is needed for some of the subpopulations, namely in Santa Maria and S. Miguel. A 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. & Lamelas-López, L.

Reviewer(s): Danielczak, A.

Contributor(s): Amorim, I.R.

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External Resources

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Appendix

Habitats

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

Habitat	Season	Suitability	Major Importance?
1. Forest -> 1.4. Forest - Temperate	Resident	Suitable	Yes
14. Artificial/Terrestrial -> 14.3. Artificial/Terrestrial - Plantations	Resident	Suitable	Yes
0. Root -> 16. Introduced vegetation	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 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): 81-90
Invasive species control or prevention: Yes
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
3. Monitoring -> 3.1. Population trends
3. Monitoring -> 3.4. Habitat trends

Additional Data Fields

Distribution
Estimated area of occupancy (AOO) (km ²): 100
Continuing decline in area of occupancy (AOO): Yes
Extreme fluctuations in area of occupancy (AOO): Unknown
Estimated extent of occurrence (EOO) (km ²): 33700
Continuing decline in extent of occurrence (EOO): Yes

Distribution
Extreme fluctuations in extent of occurrence (EOO): Unknown
Number of Locations: 13
Continuing decline in number of locations: Yes
Lower elevation limit (m): 400
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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