

Gietella faialensis, Stone beetle

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



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Insecta	Coleoptera	Gietellidae

Taxon Name: *Gietella faialensis* Menier & Constantin, 1988

Common Name(s):

- English: Stone 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)+2ab(i,ii,iii) [ver 3.1](#)

Year Published: 2017

Date Assessed: January 11, 2017

Justification:

Gietella faialensis is an endemic species from Faial (Azores, Portugal). It has a very small extent of occurrence (EOO = 4 km²) and area of occupancy (AOO = 4 km²). There is a continuing decline in the EOO, AOO, extent and quality of habitat due to natural ongoing erosion of the Capelinhos Volcan. The species occurs only at one location and is associated with a lavicolous habitat. Therefore, we suggest as future measures of conservation: (1) regular monitoring of the species; and (2) maintenance of the habitat. Based upon the small geographic range of the species with only one location and continuing decline of its habitat area and quality, it is assessed as Critically Endangered.

Geographic Range

Range Description:

Gietella faialensis is a single island endemic species from Faial (Azores, Portugal) (Borges *et al.* 2010), known from the protected area of Vulcão dos Capelinhos. The extent of occurrence (EOO) is 4 km² and the maximum estimated area of occupancy (AOO) is 4 km².

Country Occurrence:

Native: Portugal (Azores)

Distribution Map

Gietella faialensis

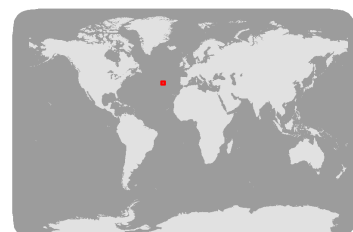


Range

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

The species is very rare and only known from a single subpopulation in Faial island. The only known individuals are the Holotypus and paratypus.

Current Population Trend: Unknown

Habitat and Ecology (see Appendix for additional information)

This species is a lavicolous species, occurring in volcanic formations, mainly in the crater and on the lava of Vulcão dos Capelinhos of Faial island (Oromí *et al.* 1990). This species is saprophagous.

Systems: Terrestrial

Use and Trade

The species is not utilised.

Threats (see Appendix for additional information)

The main threat to this species is the natural erosion of its habitat, a coastal volcano. Based on Ferreira *et al.* (2016) the habitat will further decline as a consequence of climate change (increasing number of droughts). Future volcanic activities in the same area may drive this species to extinction.

Conservation Actions (see Appendix for additional information)

The species is protected by regional law (RAA 2008). Its habitat is in a regionally protected area (Natural Park of Faial). Further research is needed into its ecology and life history in order to find extant specimens. It is necessary a monitoring plan for the invertebrate community in the habitat in order to contribute to the conservation of this species.

Credits

Assessor(s): Borges, P.A.V. & Lamelas-López, L.

Reviewer(s): Danielczak, A.

Bibliography

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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?
0. Root -> 6. Rocky areas (eg. inland cliffs, mountain peaks)	Resident	Suitable	Yes
0. Root -> 17. Other	Resident	Suitable	Yes

Threats

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

Threat	Timing	Scope	Severity	Impact Score
10. Geological events -> 10.1. Volcanoes	Future	Whole (>90%)	Very rapid declines	Medium impact: 7
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 2. Species Stresses -> 2.1. Species mortality		
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		
12. Other options -> 12.1. Other threat	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. 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 entire range
Occur in at least one PA: Yes
Percentage of population protected by PAs (0-100): 91-100

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): 4
Continuing decline in area of occupancy (AOO): Yes
Extreme fluctuations in area of occupancy (AOO): Unknown
Estimated extent of occurrence (EOO) (km ²): 4
Continuing decline in extent of occurrence (EOO): Yes
Extreme fluctuations in extent of occurrence (EOO): Unknown
Number of Locations: 1
Continuing decline in number of locations: No
Extreme fluctuations in the number of locations: Unknown
Lower elevation limit (m): 0
Upper elevation limit (m): 150

Population
Continuing decline of mature individuals: Unknown
Population severely fragmented: No
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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