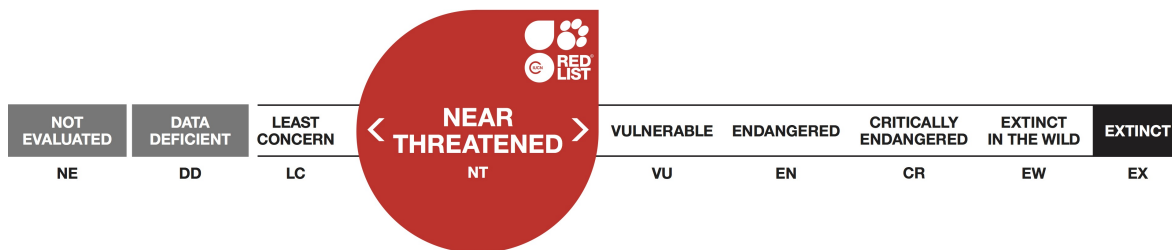


## *Cobalius freyi*, Hydraenid beetle

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



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

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## Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Insecta	Coleoptera	Hydraenidae

**Taxon Name:** *Cobalius freyi* (D`Orchymont, 1940)

**Common Name(s):**

- English: Hydraenid beetle, Minute moss beetle

**Taxonomic Source(s):**

2016. The Azorean Biodiversity Portal. Available at: <http://azoresbioportal.uac.pt/>.

## Assessment Information

**Red List Category & Criteria:** Near Threatened [ver 3.1](#)

**Year Published:** 2018

**Date Assessed:** January 12, 2017

**Justification:**

*Cobalius freyi* is an endemic species present in Flores, Faial, Terceira and Sta. Maria islands. It has a relatively large extent of occurrence (EOO = ca 24,500 km<sup>2</sup>) but a small area of occupancy (AOO = 36 km<sup>2</sup>). However, the AOO is underestimated due to under-sampling. The species occurs in low altitude areas in sea water rocky pools and in humid areas. *C. freyi* is an aquatic phytophagous species. Based upon the small area of occupancy it is assessed as Near Threatened.

## Geographic Range

**Range Description:**

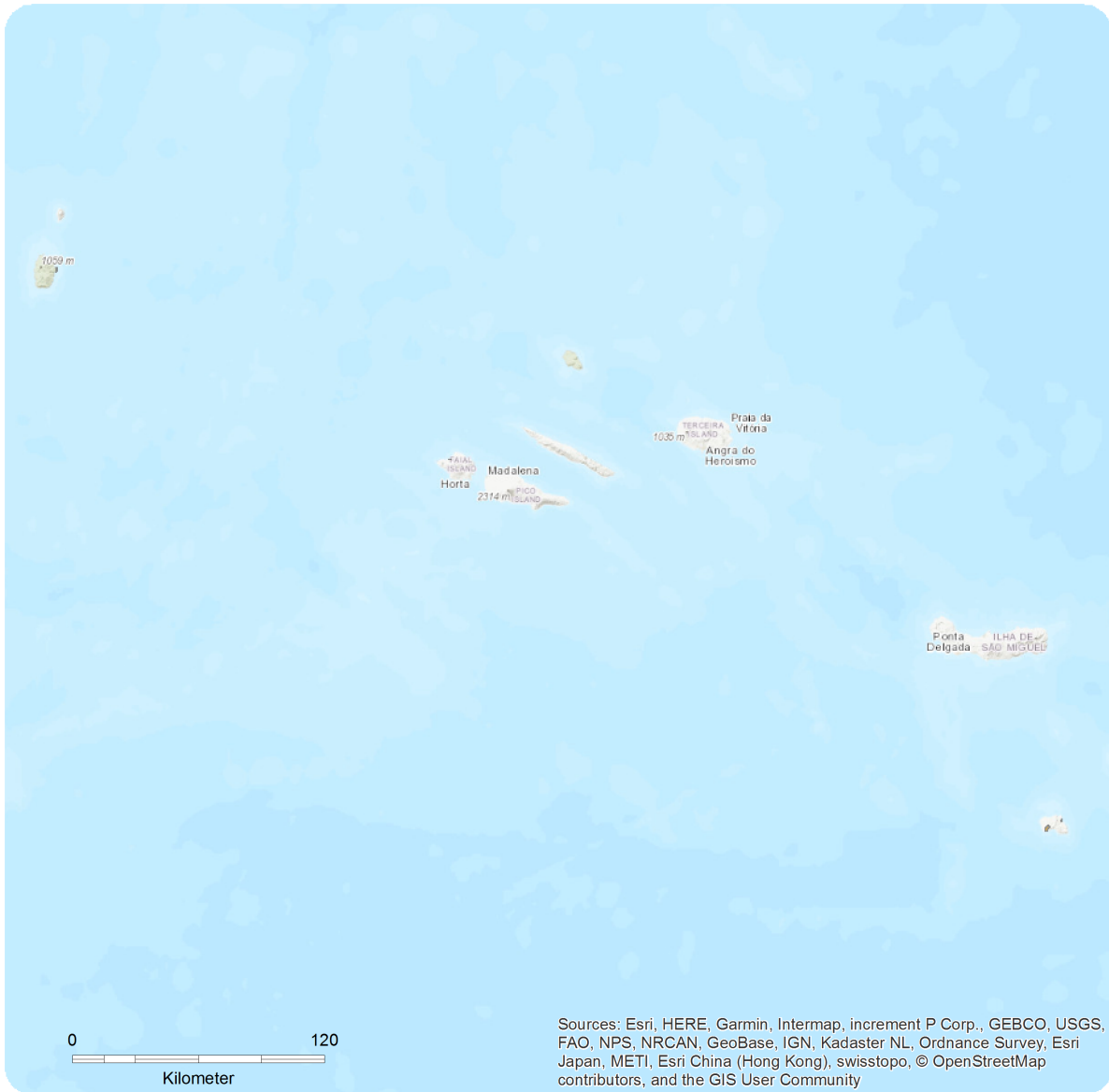
*Cobalius freyi* is an endemic species present in Flores, Faial, Terceira and Sta. Maria islands (Azores, Portugal) (Borges *et al.* 2010), known in low altitude areas and seawater pools. The extent of occurrence (EOO) is ca 24,500 km<sup>2</sup> and the maximum estimated area of occupancy (AOO) is 36 km<sup>2</sup>.

**Country Occurrence:**

**Native:** Portugal (Azores)

# Distribution Map

*Cobalius freyi*



## 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 abundant in all known subpopulations in low altitude areas in several islands (Flores, Faial, Pico S. Jorge, Terceira, S. Miguel and Sta. Maria islands).

**Current Population Trend:** Stable

## Habitat and Ecology (see Appendix for additional information)

The species occurs in low altitude areas in sea water rocky pools and in humid areas of Flores, Faial, Terceira and Sta. Maria islands (Azores) (Svensson 1973). *C. freyi* is an aquatic phytophagous species.

**Systems:** Terrestrial

## Use and Trade

This species is not utilised.

## Threats (see Appendix for additional information)

The main threat to this species is the impact of introduced species and the pollution of coastal rocky pools by agricultural activities (landscape transformation, pollution, habitat destruction).

## Conservation Actions (see Appendix for additional information)

The species is not protected by regional law. The main habitats are well preserved. Further research is needed into its ecology and life history in order to find extant specimens.

## Credits

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

**Reviewer(s):** Danielczak, A.

## Bibliography

Borges, P.A.V., Costa, A., Cunha, R., Gabriel, R., Gonçalves, V., Martins, A.F., Melo, I., Parente, M., Raposeiro, P., Rodrigues, P., Santos, R.S., Silva, L., Vieira, P. & Vieira, V. 2010. *A list of the terrestrial and marine biota from the Azores*. Príncipe, Cascais.

IUCN. 2018. The IUCN Red List of Threatened Species. Version 2018-1. Available at: [www.iucnredlist.org](http://www.iucnredlist.org). (Accessed: 28 June 2018).

Svensson, W. 1973. Papilcornia (Coleoptera) from the Azores. *Boletim do Museu Municipal do Funchal* XXVII: 91-93.

## Citation

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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?
5. Wetlands (inland) -> 5.8. Wetlands (inland) - Seasonal/Intermittent Freshwater Marshes/Pools (under 8ha)	Resident	Suitable	Yes
12. Marine Intertidal -> 12.6. Marine Intertidal - Tidepools	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		
1. Residential & commercial development -> 1.1. Housing & urban areas	Future	Minority (50%)	Slow, significant declines	Low impact: 3
	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		
9. Pollution -> 9.1. Domestic & urban waste water -> 9.1.1. Sewage	Ongoing	Unknown	Rapid declines	Unknown
	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		

### Conservation Actions in Place

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

Conservation Actions in Place
In-Place Land/Water Protection and Management

<b>Conservation Actions in Place</b>
Conservation sites identified: No
Occur in at least one PA: No
Percentage of population protected by PAs (0-100): 0

## Conservation Actions Needed

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

<b>Conservation Actions Needed</b>
5. Law & policy -> 5.4. Compliance and enforcement -> 5.4.3. Sub-national level

## 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
3. Monitoring -> 3.1. Population trends

## Additional Data Fields

<b>Distribution</b>
Estimated area of occupancy (AOO) (km <sup>2</sup> ): 36
Continuing decline in area of occupancy (AOO): No
Extreme fluctuations in area of occupancy (AOO): Unknown
Estimated extent of occurrence (EOO) (km <sup>2</sup> ): 24500
Continuing decline in extent of occurrence (EOO): No
Extreme fluctuations in extent of occurrence (EOO): Unknown
Number of Locations: 5
Continuing decline in number of locations: No
Extreme fluctuations in the number of locations: Unknown
Lower elevation limit (m): 0
Upper elevation limit (m): 10
<b>Population</b>
Continuing decline of mature individuals: No

<b>Population</b>
Population severely fragmented: No
<b>Habitats and Ecology</b>
Continuing decline in area, extent and/or quality of habitat: No
Generation Length (years): 1
Movement patterns: Not a Migrant

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