

## *Cryptorchestia chevreuxi*

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



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**Citation:** Nunes, R. & Borges, P.A.V. 2021. *Cryptorchestia chevreuxi*. The IUCN Red List of Threatened Species 2021: e.T124930200A124930916. <https://dx.doi.org/10.2305/IUCN.UK.2021-1.RLTS.T124930200A124930916.en>

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## Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Arthropoda	Malacostraca	Amphipoda	Talitridae

**Scientific Name:** *Cryptorchestia chevreuxi* (de Guerne, 1887)

**Synonym(s):**

- *Orchestia chevreuxi* de Guerne, 1887

## Assessment Information

**Red List Category & Criteria:** Vulnerable B2ab(iii,iv,v) [ver 3.1](#)

**Year Published:** 2021

**Date Assessed:** March 30, 2018

**Justification:**

*Cryptorchestia chevreuxi* is an Azorean-endemic species present on the islands of Corvo, Flores, Faial, Pico, Graciosa, Terceira, S. Miguel and Santa Maria (Azores, Portugal). This species is abundant in Azorean soil. It has relatively large Extent of Occurrence (EOO = ca. 38,180 km<sup>2</sup>), but a limited Area of Occupancy (minimum AOO = 176 km<sup>2</sup>), although the latter is likely underestimated. It occurs in at least five Natural Forest Reserves. Nevertheless, habitat quality for this species is decreasing in some areas due to land use changes, the impact of human activities and the spread of invasive species (*Pittosporum undulatum*, *Hedychium gardnerianum* and *Clethra arborea*) which are changing the habitat structure. Based on Ferreira *et al.* (2016) the habitat will also decline as a consequence of climate change. Further research and monitoring is needed into its population, ecology and life history, but based on available information, the species is assessed as Vulnerable (VU).

## Geographic Range

**Range Description:**

*Cryptorchestia chevreuxi* is an Azorean-endemic species, present on the islands of Corvo, Flores, Faial, Pico, Graciosa, Terceira, S. Miguel and Santa Maria (Azores, Portugal) (Borges *et al.* 2010). It occurs in the humid soil of the islands. Within these islands it is known from at least five Natural Forest Reserves: Caldeiras Funda e Rasa and Morro Alto e Pico da Sé (Flores); Caldeira do Faial and Cabeço do Fogo (Faial); and Pico Alto (Sta. Maria). It is also present in at least three lava tubes: Furna Ruim (Faial), Furna d Frei Matias (Pico) and Gruta das Agulhas (Terceira). The Extent of Occurrence (EOO) is ca. 38,180 km<sup>2</sup> and the minimum Area of Occupancy (AOO) is ca. 176 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, but it is very common in the humid soil and litter of the Azores, being an important element of the soil fauna and present on almost all Azorean islands, in diverse habitats.

**Current Population Trend:** Decreasing

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

There is a lack of information regarding this species' ecology and life history, but *Cryptorchestia chevreuxi* is a truly terrestrial amphipod, being found far from the littoral and supra-littoral habitats. This species is very common in the humid soil and litter of the Azores, being an important element of the soil fauna. It was also reported from under stones and mosses, from sandy grassy ground and rocky springs and crags.

**Systems:** Terrestrial

## Threats (see Appendix for additional information)

This species is present in diverse habitats. Nevertheless, degradation of habitat quality due to land use changes, the impact of agricultural activities, cattle raising, pesticides, nutrient loads and urban run-off and pollution can have deleterious effects on this species. Additionally, some areas are also being affected by invasive plants like *Pittosporum undulatum*, *Hedychium gardnerianum* and *Clethra arborea*, which are changing the habitat and soil structure, and can potentially affect this 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 and alteration).

## Conservation Actions (see Appendix for additional information)

The species is not protected by regional law, but part of its habitat is in regionally protected areas (Natural Parks of Corvo, Faial, Flores, Graciosa, Pico, Terceira, S. Miguel and Sta. Maria). Degraded habitats outside of protected areas should be restored and a strategy needs to be developed to address the future threat from climate change. Invasive plant species control would also benefit this species. Further research is needed into its ecology and life history and to obtain information on population size, distribution and trends. It is also necessary to develop a monitoring plan for the invertebrate community in order to aid in the production of a potential species 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):** Nunes, R. & Borges, P.A.V.

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

## Bibliography

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## Citation

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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
3. Shrubland -> 3.4. Shrubland - Temperate	Resident	Suitable	Yes
4. Grassland -> 4.4. Grassland - Temperate	Resident	Suitable	Yes
5. Wetlands (inland) -> 5.1. Wetlands (inland) - Permanent Rivers/Streams/Creeks (includes waterfalls)	Resident	Suitable	Yes
7. Caves and Subterranean Habitats (non-aquatic) -> 7.1. Caves and Subterranean Habitats (non-aquatic) - Caves	Resident	Suitable	No

## Threats

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

Threat	Timing	Scope	Severity	Impact Score
2. Agriculture & aquaculture -> 2.1. Annual & perennial non-timber crops -> 2.1.2. Small-holder farming	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
2. Agriculture & aquaculture -> 2.3. Livestock farming & ranching -> 2.3.2. Small-holder grazing, ranching or farming	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 (Pittosporum undulatum)	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		
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
9. Pollution -> 9.1. Domestic & urban waste water -> 9.1.2. Run-off	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		
9. Pollution -> 9.3. Agricultural & forestry effluents -> 9.3.1. Nutrient loads	Ongoing	Minority (50%)	Rapid declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		
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	Whole (>90%)	Slow, significant declines	Low impact: 5
	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	Whole (>90%)	Rapid declines	Medium impact: 6
	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
Conservation sites identified: No
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
5. Law & policy -> 5.1. Legislation -> 5.1.3. 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
2. Conservation Planning -> 2.1. Species Action/Recovery Plan
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> ): 176
Continuing decline in area of occupancy (AOO): No
Extreme fluctuations in area of occupancy (AOO): No
Estimated extent of occurrence (EOO) (km <sup>2</sup> ): 38180
Continuing decline in extent of occurrence (EOO): No
Extreme fluctuations in extent of occurrence (EOO): No
Number of Locations: 8
Continuing decline in number of locations: Yes
Lower elevation limit (m): 5
Upper elevation limit (m): 950
<b>Population</b>
Continuing decline of mature individuals: Yes
Extreme fluctuations: Unknown
Population severely fragmented: No
<b>Habitats and Ecology</b>
Continuing decline in area, extent and/or quality of habitat: Yes

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