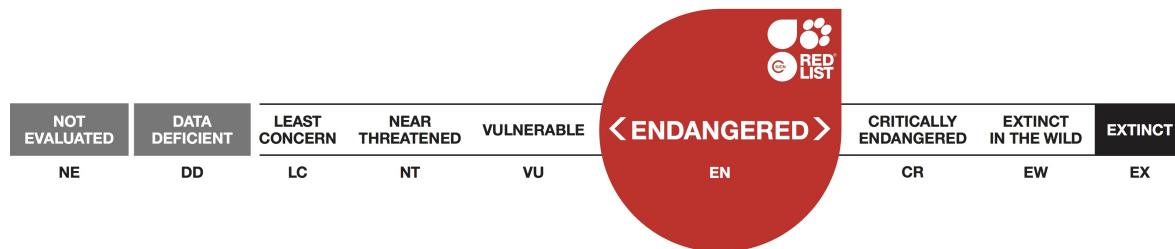




***Crocidura zimmermanni*, Zimmermann's Shrew**

Assessment by: Mitsainas, G., Vohralík, V. & Kennerley, R.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Mammalia	Eulipotyphla	Soricidae

Taxon Name: *Crocidura zimmermanni* Wettstein, 1953

Common Name(s):

- English: Zimmermann's Shrew, Cretan Shrew, Cretan White-toothed Shrew
- French: Crocidure de Zimmermann
- Spanish: Musaraña de Creta

Assessment Information

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

Year Published: 2019

Date Assessed: June 13, 2018

Justification:

Crocidura zimmermanni is endemic to Crete where it is restricted to the central areas of the island. It is assessed as Endangered, because its extent of occurrence (EOO) is approximately 3,466 km² and it has been recorded from only three mountain tops. It is estimated that there are fewer than five locations, the population is fragmented, and it is suspected that population decline and range contractions are occurring as a result of out-competition by a non-native shrew, *C. suaveolens*. This could ultimately result in the extinction of *C. zimmermanni*.

Previously Published Red List Assessments

2008 – Vulnerable (VU)
<http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T5588A11369187.en>

1996 – Vulnerable (VU)

1994 – Rare (R)

1990 – Rare (R)

Geographic Range

Range Description:

Crocidura zimmermanni is endemic to the island of Crete (Greece), where it has been trapped in the central mountains (Lefka Ori, Mt. Psiloritis and Mt. Dikti) at altitudes of 1,150 to 1,400 m. However, owl pellets collected at 140 to 830 m contained remains of this species, indicating that it may also occur at lower altitudes (Vogel 1999).

Country Occurrence:

Native: Greece (Kriti)

Distribution Map

Crocidura zimmermanni

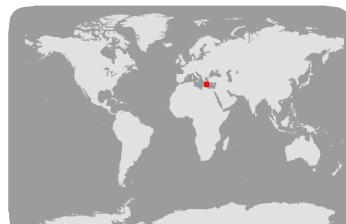


Range

 Extant (resident)

Compiled by:

IUCN SSC Small Mammal Specialist Group



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



Population

This is a rare and little-known species which is only recorded from a small number of localities. Analysis of owl pellets suggested that *Crocidura zimmermanni* is more than ten times rarer than its congener *C. suaveolens* (Vogel 1999). The population trend has not been quantified but it is suspected to be decreasing.

Current Population Trend: Decreasing

Habitat and Ecology (see Appendix for additional information)

It has been collected in open mountainous areas that are dry in summer and snow-covered in winter (Vogel 1999). It is likely also to occur at lower altitudes, but if so its habitat preferences there are unknown. The preferred habitat is high altitude plateaus of various sizes, rather than cliffs and peaks (P. Lymberakis pers. comm. 2018).

Systems: Terrestrial

Threats (see Appendix for additional information)

The introduction of *Crocidura suaveolens* in Minoan times (ca. 2,500 to 1,500 BC) may have forced *C. zimmermanni* into a restricted range at comparatively higher altitudes as it is out-competed for habitat (Pieper 1990, Nowak 1999). *C. suaveolens* is abundant in coastal areas, but has also been found in the mountains at the same sites as *C. zimmermanni* (Vogel 1999). Climate change may affect the altitudinal distribution of *C. zimmermanni*, as habitats at lower elevations become less suitable (G. Mitsainas pers. comm. 2018).

Conservation Actions

It is listed on Appendix III of the Bern Convention. It is also listed as EN ([B1ab(i)+2ab(i)] in the Red Data Book of Threatened Animals of Greece (Legakis and Maragou 2009). Research is required to determine its distribution and population trend, and to investigate potential threats (especially competition with *C. suaveolens* and potential climate change effects) and identify appropriate conservation measures. A genetic study to understand genetic flow among populations on the three mountains is needed.

Credits

Assessor(s): Mitsainas, G., Vohralík, V. & Kennerley, R.

Reviewer(s): Amori, G.

Contributor(s): Lymberakis, P.

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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)	-	Suitable	-
0. Root -> 18. Unknown	-	Suitable	-

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	Ongoing	Majority (50-90%)	Unknown	Unknown
8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.2. Named species (Crocidura suaveolens)	Ongoing	-	-	-
	Stresses:	2. Species Stresses -> 2.3. Indirect species effects -> 2.3.2. Competition		

Research Needed

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

Research Needed
1. Research -> 1.2. Population size, distribution & trends
1. Research -> 1.5. Threats
1. Research -> 1.6. Actions
3. Monitoring -> 3.1. Population trends

Additional Data Fields

Distribution
Estimated extent of occurrence (EOO) (km ²): 3466
Continuing decline in extent of occurrence (EOO): Yes
Number of Locations: 1-5
Lower elevation limit (m): 140

Distribution
Upper elevation limit (m): 1400
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

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