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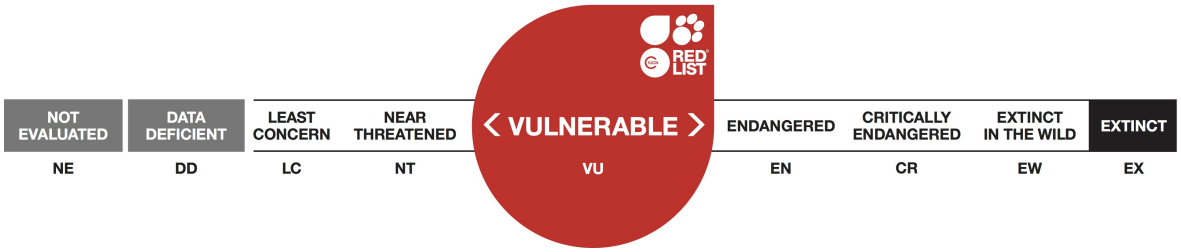
Bitis armata, Southern Adder

Assessment by: Maritz, B. & Turner, A.A.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Reptilia	Squamata	Viperidae

Taxon Name: *Bitis armata* (A. Smith, 1826)

Synonym(s):

- *Bitis atropoides* Branch, 1997
- *Bitis cornuta* ssp. *inornata* Underwood, 1968
- *Vipera armata* A. Smith, 1826

Common Name(s):

- English: Southern Adder

Taxonomic Notes:

Until recently, several taxa were included under the name *Bitis cornuta*. These included *B. armata*, *B. albanica*, *B. inornata*, and *B. rubida*, which are all now recognized as full species (Branch 1997, 1998, 1999, Marais 2004, Alexander and Marais 2007, Phelps 2009). The taxonomic status of the isolated population near Langebaan is worth investigating. However, judging by the intermediate location of the extirpated population around Cape Town and a single recent record nearby, the Langebaan subpopulation was probably isolated only recently.

Assessment Information

Red List Category & Criteria: Vulnerable B1ab(i,iii,iv,v) ver 3.1

Year Published: 2018

Date Assessed: June 13, 2017

Justification:

Has a small range (extent of occurrence = 17, 421 km^2) below the Vulnerable threshold and is severely fragmented. The Southern Adder is confined to a particular habitat type, which, outside of protected areas, is threatened by urbanization and agriculture. It has suffered extirpation in several areas near Cape Town presumably due to urbanization. Because the range is severely fragmented, continues to decrease in size and quality, and because the number of subpopulations is also decreasing (local extinction of Cape Town population), this species is considered Vulnerable.

Previously Published Red List Assessments

2017 – Vulnerable (VU)
http://dx.doi.org/10.2305/IUCN.UK.2017-1.RLTS.T22473777A110343644.en

Geographic Range

Range Description:

Endemic to the Western Cape, South Africa (Bates *et al*. 2014). Found in two disjunct coastal regions: around Langebaan Peninsula on the West Coast, and from the Bot River area to the Breede River mouth on the south Cape coast (Bates *et al*. 2014). The latter region appears to contain several isolated subpopulations. Branch's (1999) Potberg record for *Bitis cornuta* is considered to be referable to *B. armata* as there are recent records of this species from that locality (Bates *et al*. 2014). Populations around Cape Town have not been seen in approximately 40 years and are considered extirpated as a result of the intense transformation of this region for urban development. This loss is apparent from the South African National Landcover datasets from 1990 and 2013 (Geo Terra 2015, 2016). Comparison of these landcover data show there is more than 5% natural landcover loss within the distribution of this species in this 23 year time period. This is much greater than the 2.3% natural landcover decrease on a national scale.

Country Occurrence:

Native: South Africa (Western Cape)

Population

No quantitive information on population size is currently available. Population trends all inferred from losses in habitat and apparent reductions in number of populations.

Current Population Trend: Decreasing

Habitat and Ecology (see Appendix for additional information)

Occurs mainly in coastal fynbos associated with limestone geology. Shelters under limestone rock slabs between dense shrubs on coastal plains (Branch 1998). Has pronounced arboreal habits and has been found in bushes 1.5–2 m above the ground (Phelps 2006). Although typically a snake of low-lying fynbos, one individual near Gansbaai was found at an altitude of 300 m (Phelps 2009).

Systems: Terrestrial

Use and Trade

This species is known to be in the pet trade with some evidence of illegal collection (A. Turner pers. comm., 2018). It is not known how many individuals are sourced from the wild or from captive stock.

Threats (see Appendix for additional information)

Threatened primarily by urbanization and agriculture. It is vulnerable to further loss of habitat and population declines because of its restricted distribution and confinement to a particular habitat type in coastal areas that might undergo further development . In many areas the habitat is also affected by invasive alien trees that change the habitat structure and diversity of indigenous vegetation, impact negatively on water regimes, and increase the severity of fires. This species is also collected for the pet trade.

Conservation Actions (see Appendix for additional information)

Protection of additional habitat through private conservation initiatives could assist to protect populations that currently fall outside protected areas, especially if this assisted in setting up corridors between suitable habitat. Population size estimates for populations in protected areas would assist to monitor declines. Because there have been documented extirpations, this species might be a candidate for a Biodiversity Management Plan (see South African National Environmental Management Biodiversity Act, Act No. 10 of 2004).

Credits

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Disclaimer

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?
3. Shrubland -> 3.8. Shrubland - Mediterranean-type Shrubby Vegetation	-	Suitable	-
13. Marine Coastal/Supratidal -> 13.3. Marine Coastal/Supratidal - Coastal Sand Dunes	-	Suitable	-

Threats

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

Threat	Timing	Scope	Severity	Impact Score
1. Residential & commercial development -> 1.1. Housing & urban areas	Ongoing	Minority (50%)	Rapid declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
2. Agriculture & aquaculture -> 2.1. Annual & perennial non-timber crops -> 2.1.3. Agro-industry farming	Ongoing	Majority (50-90%)	Slow, significant declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
5. Biological resource use -> 5.1. Hunting & trapping terrestrial animals -> 5.1.1. Intentional use (species is the target)	Ongoing	Minority (50%)	Negligible declines	Low impact: 4
	Stresses:	2. Species Stresses -> 2.1. Species mortality		
8. Invasive and other problematic species, genes & diseases -> 8.1. Invasive non-native/alien species/diseases -> 8.1.1. Unspecified species	Ongoing	Minority (50%)	Negligible declines	Low impact: 4
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		

Conservation Actions in Place

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

Conservation Actions in Place
In-Place Land/Water Protection and Management
Occur in at least one PA: Yes
In-Place Education
Included in international legislation: No

Conservation Actions Needed

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

Conservation Actions Needed
1. Land/water protection -> 1.1. Site/area protection
1. Land/water protection -> 1.2. Resource & habitat protection
2. Land/water management -> 2.1. Site/area management

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
2. Conservation Planning -> 2.1. Species Action/Recovery Plan

Additional Data Fields

Distribution
Estimated extent of occurrence (EOO) (km²): 17421
Continuing decline in extent of occurrence (EOO): Yes
Continuing decline in number of locations: Unknown
Lower elevation limit (m): 0
Upper elevation limit (m): 300
Population
Continuing decline of mature individuals: Yes
Population severely fragmented: Yes
Continuing decline in subpopulations: Yes
Extreme fluctuations in subpopulations: Unknown
All individuals in one subpopulation: No
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes

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The IUCN Red List Partnership

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The IUCN Red List Partners are: Arizona State University; BirdLife International; Botanic Gardens Conservation International; Conservation International; NatureServe; Royal Botanic Gardens, Kew; Sapienza University of Rome; Texas A&M University; and Zoological Society of London.