Cistugo seabrae – Angolan Hairy Bat

Photograph wanted

Regional Red List status (2016)	**Near Threatened D1+2*†**
National Red List status (2004)	Vulnerable
Reasons for change	Non-genuine change: Application of regional criteria
Global Red List status (2016)	Least Concern
TOPS listing (NEMBA) (2007)	None
CITES listing	None
Endemic	Edge of range

*Watch-list Data †Watch-list Threat

The Angolan Hairy Bat is only known from five locations in South Africa and the population is estimated to contain less than 1,000 individuals.

Taxonomy

Cistugo seabrae Thomas 1912

ANIMALIA - CHORDATA - MAMMALIA - CHIROPTERA - CISTUGIDAE - *Cistugo* - *seabrae*

Synonyms: *Cistugo seabrai* Thomas, 1912 [orth. error], *Myotis seabrai* (Thomas 1912)

Common names: Angolan Hairy Bat, Angolan Wing-gland Bat, Angolan Wing-gland Bat, Seabra's Wing-gland Bat (English), Angola-langhaarvlermuis (Afrikaans)

Taxonomic status: Species

Taxonomic notes: The species has historically been included in the genus *Myotis* (Family: Vespertilionidae), but molecular studies show that the genus is distinct from all other Vespertilionidae, and is distinctive enough to be placed in its own family, Cistugidae (Lack et al. 2010). Given their similarity, the taxonomic relationship between *C. lesueuri* and *C. seabrae* remains controversial (Corbet & Hill 1980; Meester et al. 1986; Simmons 2005; Monadjem et al. 2010; Kearney 2013). They are provisionally treated here as distinct species pending further investigation.

Assessment Rationale

This species is known from fewer than five locations in South Africa, in the northwestern Northern Cape Province. Its extent of occurrence is estimated at 10,138 km^2, with a population of fewer than 1,000 individuals suspected. It thus qualifies for Vulnerable D1+2 but is downlisted to Near Threatened based on the regional criterion. It is potentially threatened by mining activities and by the expansion of wind farm sites in the Northern Cape, but there is no evidence for decline as yet, and it occurs primarily in protected areas. However, these potential threats should be monitored because, if the population is shown to be declining, this species will qualify for a more threatened listing.

Regional population effects: This species is present in Namibia and the population is suspected to be continuous due to connected habitat and low human population pressure. Thus, although it has a relatively low wing loading (Schoeman & Jacobs 2008), we assume rescue effects are possible.

Distribution

This southern African species ranges from the type locality of Moçâmedes in southwestern Angola, southwards through western Namibia (known from four localities; Skinner & Chimimba 2005) and a narrow area in the southwestern area of South Africa. It is restricted to the arid, western regions of southern Africa (Monadjem et al. 2010). Within the assessment region, the species is known from five locations in the Northern Cape of South Africa.

Population

The Angolan Hairy Bat appears to avoid traps and is thus rarely recorded. Subsequently, it is poorly represented in museums, with just 26 specimens examined in Monadjem et al. (2010). There are likely to be fewer than 1,000 individuals occurring within the assessment region.

Current population trend: Unknown, but there is no evidence of a decline.

Continuing decline in mature individuals: Not expected

Number of mature individuals in population: Unknown, but likely to be less than 1,000.

Number of mature individuals in largest subpopulation: Unknown, but likely to be less than 100.

Number of subpopulations: Fewer than 10 are expected in the assessment region.

Severely fragmented: No

Habitats and Ecology

Very little is known about the natural history of this species and there are few museum specimens available. All of the localities from which they have been collected are arid with a mean annual rainfall of less than 100 mm (Skinner

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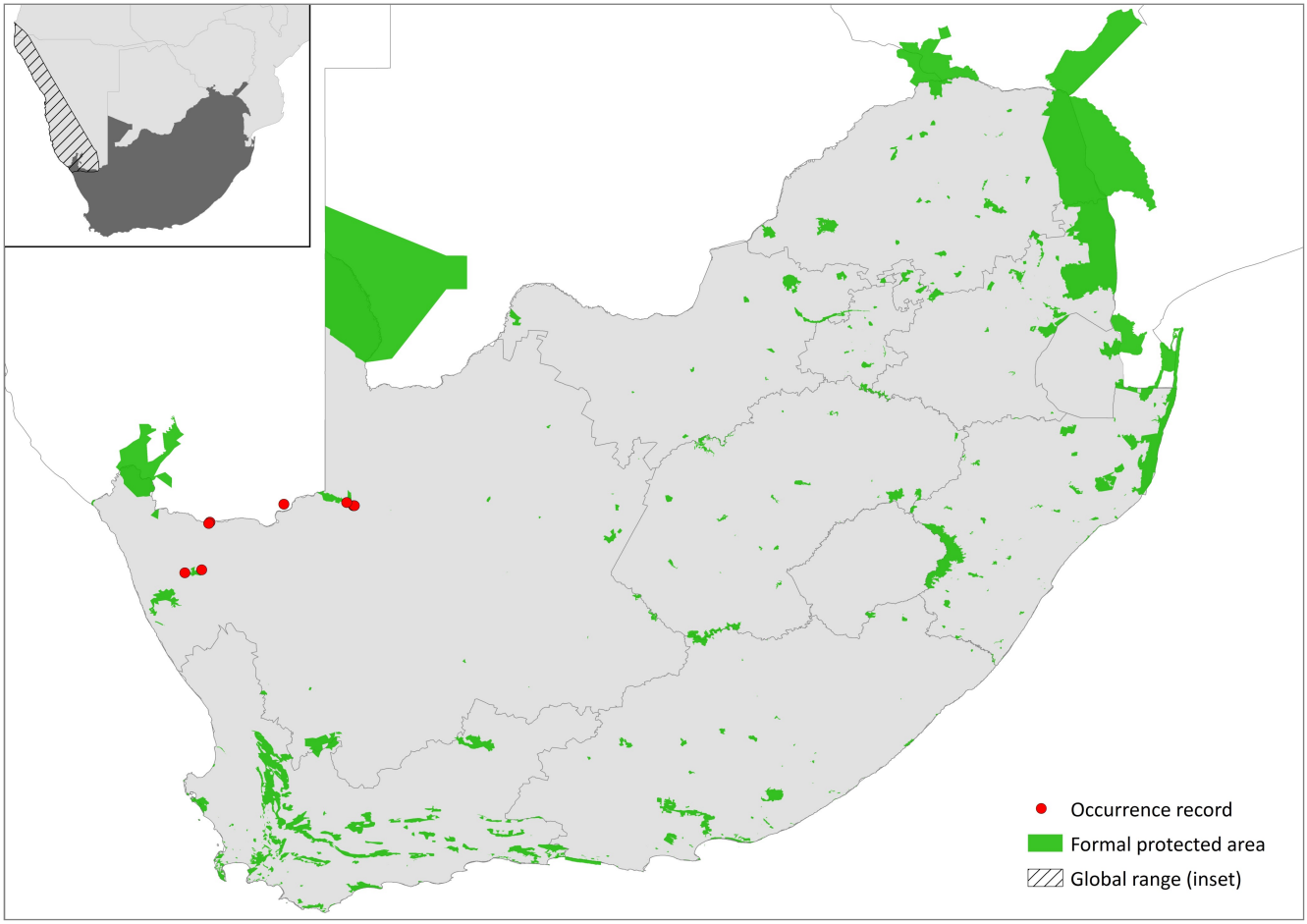

Figure 1. Distribution records for Angolan Hairy Bat (*Cistugo seabrae*) within the assessment region

Table 1. Countries of occurrence within southern Africa

Country	Presence	Origin
Botswana	Absent	-
Lesotho	Absent	-
Mozambique	Absent	-
Namibia	Extant	Native
South Africa	Extant	Native
Swaziland	Absent	-
Zimbabwe	Absent	-

& Chimimba 2005). Specimens have been netted in riverine vegetation along dry river beds (Seamark & Kearney 2006) or close to open water (ACR 2015).

The Angolan Hairy Bat has short and broad wings with low wing loading (5.7 $N.m^{-2}$) and low aspect ratio (6.9) (Schoeman & Jacobs 2008). This species is an insectivorous, clutter-edge forager. Diptera, Trichoptera, Hemiptera and Coleoptera were recorded in their diet in Goodhouse (Northern Cape Province) (Schoeman 2006). Roberts (1951) observed the species circling low around trees and bushes, snatching insects from leaves at dusk.

Ecosystem and cultural services: As this species is insectivorous, it plays an important role in controlling insect populations (Boyles et al. 2011; Kunz et al. 2011). Bats often prey on the insect species which destroy crops (Boyles et al. 2011; Kunz et al. 2011). Ensuring a healthy population of insectivorous bats can thus result in a decrease in the use of pesticides.

Use and Trade

There is no evidence that this species is traded or utilised for commercial or subsistence use.

Threats

There are no major threats to this species. However, it may be locally threatened by mining operations in some

Table 2. Threats to the Angolan Hairy Bat (*Cistugo seabrae*) ranked in order of severity with corresponding evidence (based on IUCN threat categories, with regional context)

Rank	Threat description	Evidence in the	Data quality	Scale of	Current
1	*3.2 Mining & Quarrying*: loss of roost sites and disturbance to existing sites.	-	Anecdotal	-	-
2	*3.3 Renewable Energy*: mortality from collision with wind turbine blades.	Baerwald et al. 2008	Indirect	International	Unknown

Table 3. Conservation interventions for the Angolan Hairy Bat (*Cistugo seabrae*) ranked in order of effectiveness with corresponding evidence (based on IUCN action categories, with regional context)

Rank	Intervention description	Evidence in the scientific literature	Data quality	Scale of evidence	Demonstrated impact	Current conservation projects
1	*2.1 Site/Area Management*: protection of key roost sites, especially in relation to wind farm construction and mining in the Northern Cape.	-	Anecdotal	-	-	-

parts of its range (ACR 2015). Additionally, it may be threatened by the expansion of wind farm infrastructure in the Northern Cape (Baerwald et al. 2008), specifically between Springbok and Kleinsee. It is, however, considered to have a low risk of collision risk with wind turbines (Sowler & Stoffberg 2014).

Current habitat trend: Stable, its range is continuous with Namibia and not subject to extensive land transformations.

Conservation

This species is present with the Richtersveld National Park and Augrabies Falls National Park. Although no direct conservation interventions are necessary at present, the impact of wind farming should be monitored to determine population decline (if any) for this species. Additionally, conservation planning and engagement with both the mining and wind energy sectors are needed to mitigate population and habitat loss and disturbance.

Recommendations for land managers and practitioners:

- Engagement with the mining and wind energy sectors to mitigate future impacts on this species and its roosting sites.
- Known roosts should be overlain on a map with existing and planned wind farm sites to identify key sites for protection.

Research priorities:

- Field surveys and niche modelling to more accurately delimit the distribution of this species.
- Taxonomic revision of this species is required, specifically its relationship with *C. lesueuri*.
- Further studies are needed into the reproductive and feeding ecology of this little known species.
- To determine how best to mitigate wind farm sites to decrease mortalities of insectivorous bats in turbines.

Data Sources and Quality

Table 4. Information and interpretation qualifiers for the Angolan Hairy Bat (*Cistugo seabrae*) assessment

Data sources	Field study (unpublished), indirect information (expert knowledge), museum records
Data quality (max)	Inferred
Data quality (min)	Suspected
Uncertainty resolution	Expert consensus
Risk tolerance	Evidentiary

Encouraged citizen actions:

- Report sightings on virtual museum platforms (for example, iSpot and MammalMAP), especially outside protected areas.
- Limit disturbance to roost sites.

References

ACR. 2015. African Chiroptera Report 2015. Page i-xix + 7001 pp. AfricanBats, African Chiroptera Project, Pretoria, South Africa.

Baerwald EF, D'Amours GH, Klug BJ, Barclay RM. 2008. Barotrauma is a significant cause of bat fatalities at wind turbines. Current Biology **18**:695–696.

Boyles JG, Cryan PM, McCracken GF, Kunz TH. 2011. Economic importance of bats in agriculture. Science **332**:41–42.

Corbet GB, Hill JE. 1980. A world list of mammalian species. British Museum (Natural History) and Cornell University Press, London, UK and Ithaca, USA.

Kearney TC. 2013. Genus *Cistugo* Wing-gland Bats. Pages 685–688 in Happold M, Happold DCD, editors. Mammals of Africa. Volume IV: Hedgehogs, Shrews and Bats. Bloomsbury Publishing, London, UK.

Kunz TH, Braun de Torrez E, Bauer D, Lobova T, Fleming TH. 2011. Ecosystem services provided by bats. Annals of the New York Academy of Sciences **1223**:1–38.

Lack JB, Roehrs ZP, Stanley Jr CE, Ruedi M, Van Den Bussche RA. 2010. Molecular phylogenetics of *Myotis* indicate familial-level divergence for the genus *Cistugo* (Chiroptera). Journal of Mammalogy **91**:976–992.

Meester JAJ, Rautenbach IL, Dippenaar NJ, Baker CM. 1986. Classification of southern African mammals. Transvaal Museum Monographs **5**:1–359.

Monadjem A, Taylor PJ, Cotterill FPD, Schoeman MC. 2010. Bats of Southern and Central Africa: a Biogeographic and Taxonomic Synthesis. University of the Witwatersrand Press, Johannesburg, South Africa.

Roberts A. 1951. The Mammals of South Africa. The Trustees of the Mammals of South Africa, Central News Agency, Johannesburg, South Africa.

Schoeman MC. 2006. The relative influence of competition and coevolution on the community structure of insectivorous bats in southern Africa. Ph.D. Thesis. University of Cape Town, Cape Town, South Africa.

Schoeman MC, Jacobs DS. 2008. The relative influence of competition and prey defenses on the phenotypic structure of insectivorous bat ensembles in southern Africa. PLoS One **3**:e3715.

Seamark ECJ, Kearney TC. 2006. New distribution of the Angolan wing-gland bat (*Cistugo seabrae* Thomas, 1912). African Bat Conservation News **7**:2–4.

Simmons NB. 2005. Order Chiroptera. Pages 474–475 in Wilson DE, Reeder DM, editors. Mammal Species of the World. The John Hopkins University Press, Baltimore, Maryland, USA.

Skinner JD, Chimimba CT. 2005. The Mammals of the Southern African Subregion. Third edition. Cambridge University Press, Cambridge, UK.

Sowler S, Stoffberg S. 2014. South African Good Practice Guidelines for Surveying Bats at Wind Energy Facility Developments - Pre-construction. Third edition. Endangered Wildlife Trust, Johannesburg, South Africa.

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Details of the methods used to make this assessment can be found in *Mammal Red List 2016: Introduction and Methodology.*