Cistugo lesueuri – Lesueur's Hairy Bat


Trevor Morgan

Regional Red List status (2016)	**Least Concern*†**
National Red List status (2004)	Near Threatened
Reasons for change	Non-genuine change: New information
Global Red List status (2008)	Least Concern
TOPS listing (NEMBA)	None
CITES listing	None
Endemic	Yes

*Watch-list Data †Watch-list Threat

This species is one of only four Chiropteran species endemic to the assessment region, occurring in South Africa and Lesotho (Monadjem et al. 2010).

Taxonomy

Cistugo lesueuri (Roberts 1919)

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

Common names: Lesueur's Hairy Bat, Lesueur's Wing-gland Bat, Lesueur's Myotis, Wing-gland Bat (English), Lesueur se 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 in fact is distinctive enough to be placed in its own family, Cistugidae (Rautenbach et al. 1993; Lack et al. 2010).

Assessment Rationale

This species is restricted to South Africa and Lesotho in areas with suitable rock crevices and water sources. It has a large range, with an estimated extent of occurrence of 405,009 km^2 and there are more than 20 known locations. This species is highly likely to be under collected and many more subpopulations are suspected to occur, especially within the Nama and Succulent Karoo regions of South Africa. Wind farms represent an emerging threat, as its preferred habitat coincides with suitable wind farm sites. Although declines have been recorded these are not suspected to be at levels high enough to qualify the species for listing under a threat category. However, systematic long-term monitoring should be used to estimate rates of decline across its range, as this species may require reassessing in a threatened category.

Distribution

This species is endemic to South Africa and Lesotho, occurring from the Cedarberg Mountains (Seamark & Brand 2005) south to the Cape Peninsula and east into the Free State and Lesotho, where it is widely distributed (Lynch 1994). It marginally occurs in the Drakensberg, KwaZulu-Natal Province, recorded from Kamberg (Monadjem et al. 2010). Watson (1998) first recorded it from the northern Free State Province. While it has been reported as occurring more widely in the Karoo regions of the Northern Cape Province (Herselman & Norton 1985; Skinner & Chimimba 2005; ACR 2013), this requires confirmation through further field surveys (Monadjem et al. 2010). It has recently been recorded from the Eastern Cape Province, which confirms previous suspicions that the species occurred in the regions between the Lesotho highlands and the Western Cape mountains (Skinner & Chimimba 2005). While Friedmann and Daly (2004) listed it as Near Threatened (although the specific criteria were not provided) due to it being represented by only a few localities (today, there are over 20 locations known), this species is likely to be under sampled and the extent of occurrence (EOO) is too large for a threatened listing. The EOO is 405,009 km^2.

Population

Although endemic, the species has a wide distribution within the assessment region, despite not being common and very rarely recorded. In the Free State Province of South Africa, a group of approximately 40 individuals was located in a day roost (Watson 1998). In the Western Cape, Cedarberg area, this species made up only 4.6% of the overall catch (Seamark & Brand 2005). In inland Western Cape, near the border with the Northern Cape, a group of approximately 30 individuals was located in a day roost (T. Morgan unpubl. data). Systematic long-term monitoring should be used to estimate rates of decline across its range, as this species may be increasingly threatened by wind farm expansion.

Current population trend: Suspected to be declining.

Continuing decline in mature individuals: Yes

Number of mature individuals in population: Unknown

Number of mature individuals in largest subpopulation: 100

Number of subpopulations: 20–30

Severely fragmented: No

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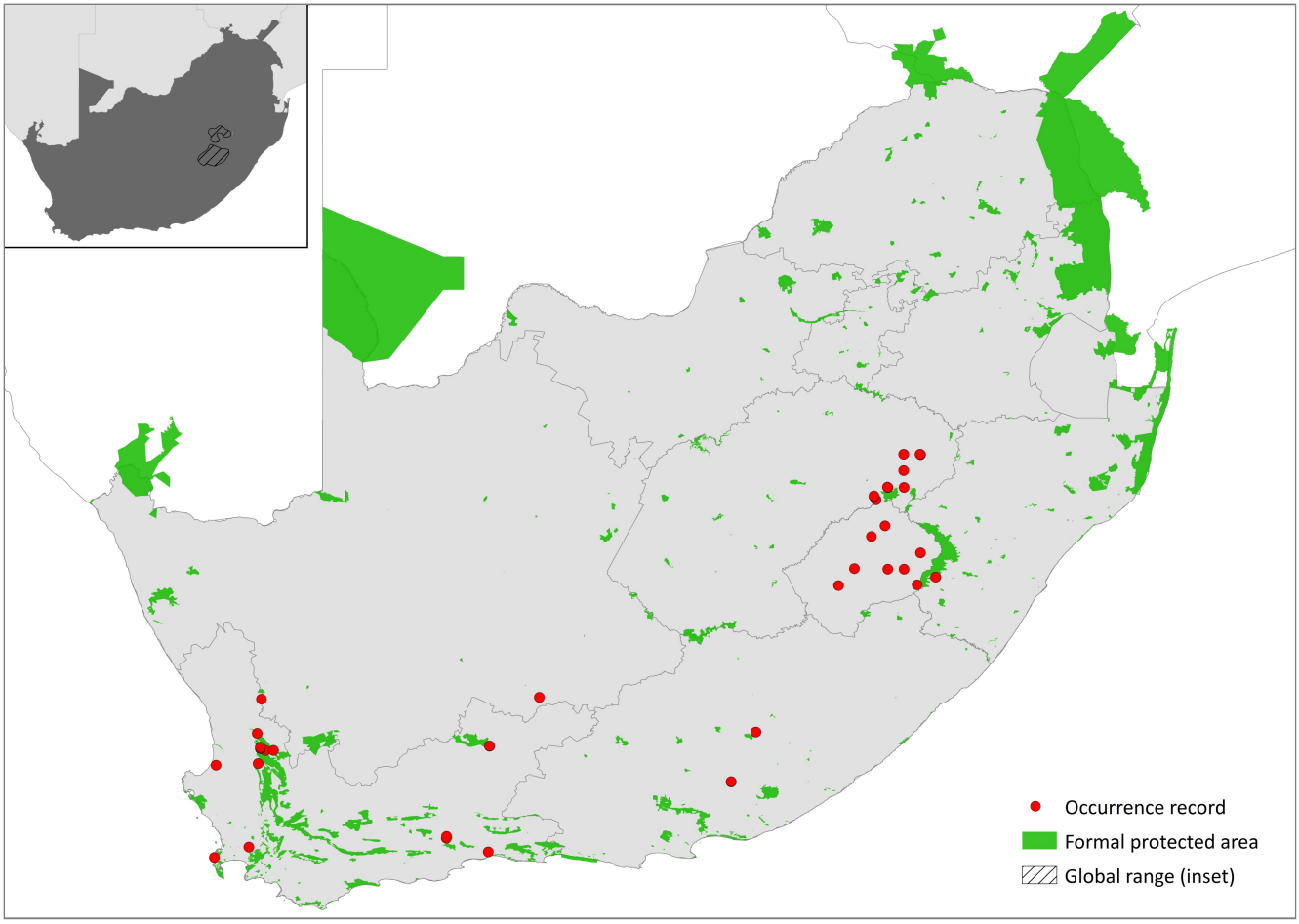

Figure 1. Distribution records for Lesueur's Hairy Bat (*Cistugo lesueuri*) within the assessment region

Table 1. Countries of occurrence within southern Africa

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

Habitats and Ecology

Cistugo lesueuri roosts in rock crevices, usually near water (Lynch 1994; Watson 1998). In the Free State, specimens were collected in a rock crevice behind a waterfall. It appears to be associated with broken terrain (koppies and cliffs) in high-altitude montane vegetation (> 1,500 m asl) with suitable rock crevices and water in the form of dams, rivers or marshes (Monadjem et al. 2010). It occurs away from human habitations and constructions (ACR 2013). This species is similar to *Neoromicia capensis* in size, colour and flight patterns (Herselman & Norton 1985; Seamark & Brand 2005) but, while *C. lesueuri* is quiet and docile when netted, *N. capensis* is noisy and active (Watson 1998), and both species appear to use different roosting sites (Skinner & Chimimba 2005). It also pulls its head within its shoulders when handled (Seamark & Brand 2005), which has not been observed in *N. capensis*. It is a clutter-edge forager and feeds predominantly on Diptera and Hemiptera (Schoeman & Jacobs 2003).

This species is named after J.S. le Sueur of L'Ormarins in Paarl, Western Cape Province, who recovered the original specimen from his cat (Skinner & Chimimba 2005).

Ecosystem and cultural services: None recorded.

Use and Trade

This species is not known to be traded.

Threats

The species is locally threatened, in parts of its range, by conversion of land to agricultural use (*sensu* Driver et al. 2012). However, as this species occurs mostly in high-

Table 2. Threats to Lesueur's Hairy Bat (*Cistugo lesueuri*) ranked in order of severity with corresponding evidence (based on IUCN threat categories, with regional context)

Rank	Threat description	Evidence in the scientific literature	Data quality	Scale of study	Current trend
1	*3.3 Renewable Energy*: wind farm construction encroaching in available habitat.	-	Anecdotal (extrapolated from observations of other bat species mortalities; N. Avenant unpubl. data).	National	Unknown in severity
2	*2.1.2. Small-holder Farming*: small-scale crop agriculture causing habitat loss.	Driver et al. 2012 Pence 2014	Indirect (land cover change from remote sensing).	National Regional	Increasing slightly
3	*2.1.3. Agro-industry Farming*: industrial-scale agricultural expansion causing habitat loss.	Driver et al. 2012 Pence 2014	Indirect (land cover change from remote sensing).	National Regional	Increasing slightly

altitude areas, this is not a severe threat. The growing trend of developing wind farms in the eastern parts of South Africa and in Lesotho is starting to pose a threat to this species. The degree of impact and levels of decline to the population are currently unknown and should be monitored.

Current habitat trend: Declining at a slow rate only in the Free State section its range, where the loss of natural vegetation during 2000–2009 was 2.4% (N. Collins, unpubl. data). Similarly, in the Western Cape Province, Pence (2014) calculated that between 2006 and 2011, 536 km^2 of land was converted to agriculture (107 km^2 per year, which equates to 0.08% of the surface area of the province per year).


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Conservation

In the Western Cape, the species is recorded from the three protected areas, Cedarberg Wilderness Area, Gamkaberg Nature Reserve and Karoo National Park; in the Free State the species was recorded in the Golden Gate National Park; in Lesotho it is found in Sehlabathebe National Park, as well as in the Maloti-Drakensberg Transfrontier Conservation Area. No specific interventions are currently necessary, but conservation planning and engagement with the wind energy industry will be needed in future to mitigate subpopulation loss with wind farm construction.

Recommendations for land managers and practitioners: Begin engagement with the wind energy industry to mitigate possible future impacts on this species. Known roost sites should be overlaid with existing and planned wind farm sites to begin identifying key sites for protection.

Research priorities: Further studies are needed into the distribution and natural history of this bat. Monitoring of bat mortalities associated with new wind farms is required to determine if this species is impacted.

Data Sources and Quality

Table 4. Information and interpretation qualifiers for the Lesueur's Hairy Bat (*Cistugo lesueuri*) assessment

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

Table 3. Conservation interventions for Lesueur's Hairy Bat (*Cistugo lesueuri*) 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 required, especially in relation to wind farm construction.	-	Anecdotal	-	-	-

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