Neoromicia capensis – Cape Serotine Bat


Wendy White

Regional Red List status (2016)	Least Concern*
National Red List status (2004)	Least Concern
Reasons for change	No change
Global Red List status (2016)	Least Concern
TOPS listing (NEMBA) (2007)	None
CITES listing	None
Endemic	No

*Watch-list Data

The Cape Serotine Bat may have the most widespread distribution of all southern African bats (Monadjem et al. 2010), and has been reported hunting insects in congregations, commonly over water (Rautenbach 1982).

Taxonomy

Neoromicia capensis (A. Smith 1829)

ANIMALIA - CHORDATA - MAMMALIA - CHIROPTERA - VESPERTILIONIDAE - *Neoromicia* - *capensis*

Synonyms: *Eptesicus capensis* (A. Smith 1829), *Pipistrellus capensis* (A. Smith 1829), *Vespertilio capensis* A. Smith 1829, *Vesperus damarensis* (Noack 1889), *Eptesicus garambae* J.A. Allen 1917, *Vesperus gracilior* Thomas and Schwann 1905, *Eptescius capensis nkatiensis* Roberts 1932, *Scabrifer notius* G.M. Allen 1908

Common names: Cape Serotine Bat, Cape Serotine, Cape House Bat, Cape Pipistrelle Bat, Cape Bat (English), Kaapse Dakvlermuis (Afrikaans)

Taxonomic status: Species complex

Taxonomic notes: *Neoromicia capensis* was previously classified as *Eptesicus capensis*. However, generic distinctiveness led to its reclassification as *N. capensis*, alongside *N. somalicus*, *N. tenuipinnis* and *N. zuluenesis* (Hill & Harrison 1987). This species is highly variable morphologically and ecologically and probably represents a complex of several similar species (Monadjem et al. 2010). Further taxonomic studies are necessary to confirm the status of populations currently allocated to *N. capensis*.

Assessment Rationale

Listed as Least Concern in view of its wide distribution (in the assessment region alone the estimated extent of occurrence is 1,392,522 km^2), its large population, and because there are no identified threats that could cause rangewide population decline. However, mortality from wind turbines represents a major emerging threat to this species, likely to cause local declines. Monitoring potential impacts is required. Additionally, taxonomic resolution is needed and reassessment may be necessary if cryptic species are revealed.

Regional population effects: The range of this species is continuous across southern African and, as it has intermediate wing loading (for example, Schoeman & Jacobs 2008), rescue effects are possible.

Distribution

This species is widespread and abundant over much of sub-Saharan Africa. It has been recorded from Guinea Bissau in the west, to Somalia, southern Sudan and Eritrea in the east, ranging south throughout most of southern Africa (ACR 2015). In the assessment region, the species is widespread and common, occurring in all provinces of South Africa and also in Lesotho and Swaziland. The type specimen is from Grahamstown (Monadjem et al. 2010). The estimated extent of occurrence is 1,392,522 km^2.

Population

In general, this is a locally common species (ACR 2015) and is well represented in museums with over 800 specimens examined in Monadjem et al. (2010). Its use of buildings and other anthropogenic structures as roosts has possibly led to its numbers increasing. Earlier accounts of this species indicated it roosts singly or in groups of two or three individuals, which appears to be the case when it rests in natural roosts. However, it is now often found roosting in buildings in larger groups of males and females. For example, in Zimbabwe large colonies of at least 100 individuals were observed roosting in houses (see Monadjem et al. 2010).

Current population trend: Stable

Continuing decline in mature individuals: No

Number of mature individuals in population: Unknown

Number of mature individuals in largest subpopulation: Unknown

Number of subpopulations: Unknown

Severely fragmented: No

Recommended citation: Monadjem A, Jacobs DS, MacEwan K, Cohen L, Richards LR, Schoeman C, Sethusa T, Taylor PJ. 2016. A conservation assessment of *Neoromicia capensis*. In Child MF, Roxburgh L, Do Linh San E, Raimondo D, Davies-Mostert HT, editors. The Red List of Mammals of South Africa, Swaziland and Lesotho. South African National Biodiversity Institute and Endangered Wildlife Trust, South Africa.

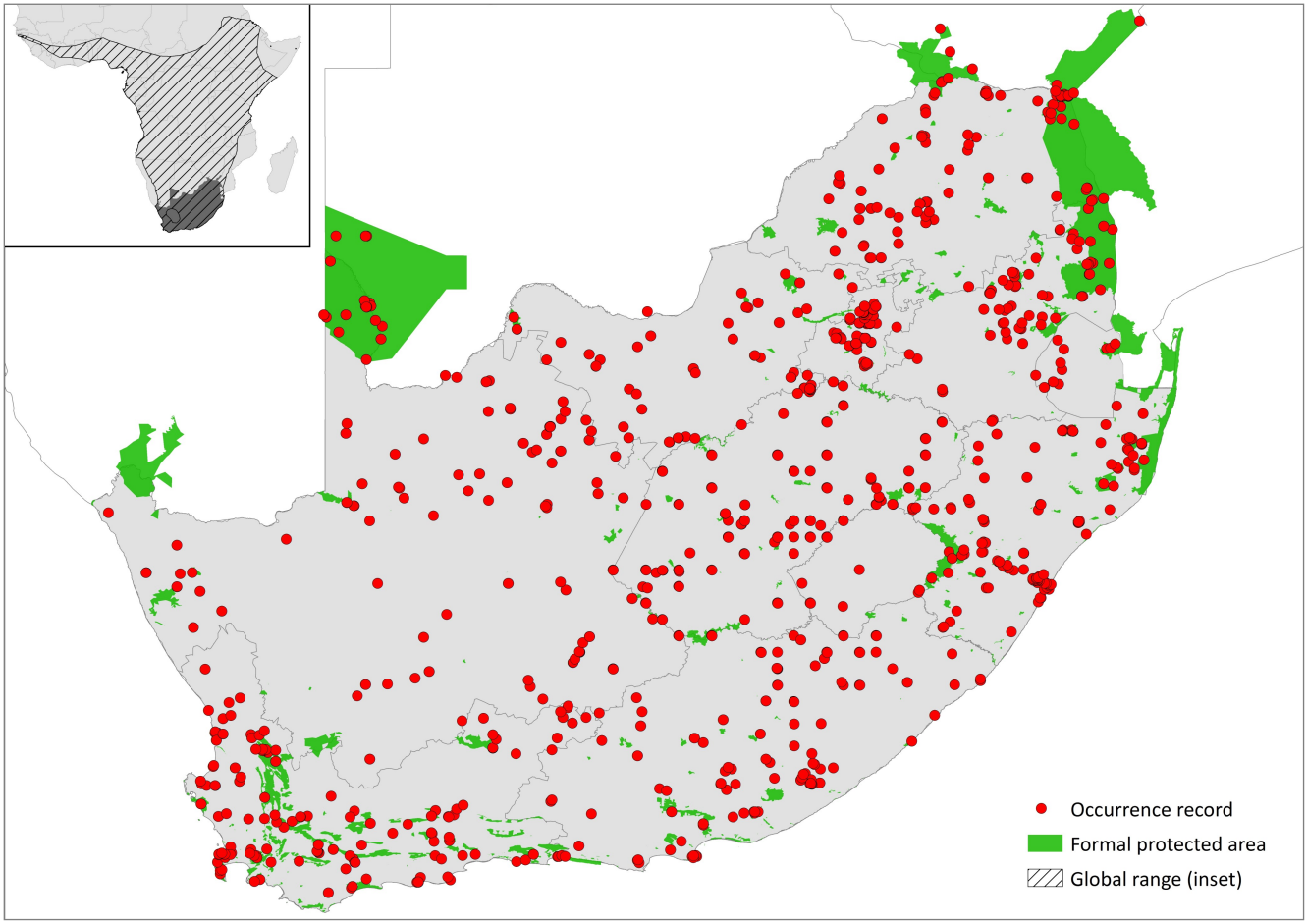

Figure 1. Distribution records for Cape Serotine Bat (*Neoromicia capensis*) within the assessment region

Table 1. Countries of occurrence within southern Africa

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

Habitats and Ecology

It appears to tolerate a wide range of environmental conditions from arid semi-desert areas to montane grasslands (at altitudes as high as 1,600 m asl in the Drakensberg, KwaZulu-Natal; Taylor 1998), forests (dry and moist), bushveld, Acacia woodland, savannahs (dry and moist), and Mediterranean shrubland (Skinner & Chimimba 2005; Monadjem et al. 2010). However, it is possibly less abundant in low-lying, hot savannahs in the far east of southern Africa (Monadjem et al. 2010). It roosts under the bark of trees and similar vegetation, at the base of aloe leaves, between cracks in walls and under the roofs of houses, both thatched and corrugated iron or tiled (Lynch 1983; Monadjem 1998; ACR 2015). The species is recorded from all bioregions in the assessment region.

It is an insectivorous, clutter-edge forager (Monadjem et al. 2010), with a diet that is known to vary seasonally and geographically. At Sengwa, Zimbabwe, a study found that Coleoptera and Trichoptera made up the majority of the diet of *N. capensis*, with Lepidoptera, Hemiptera and Diptera making up a lesser proportion (Fenton 1985). However, moth consumption by this syntonic species has been shown to increase six-fold under artificial lights (Minnaar et al. 2015), which may place unprecedented pressure on eared-moth populations and increase interspecific competition with allotonic bat species, given the global increase in light pollution.

Ecosystem and cultural services: As this species is insectivorous, it may contribute to controlling insect populations that damage crops (Boyles et al. 2011; Kunz et al. 2011). Ensuring a healthy population of insectivorous bats can thus decrease the need for pesticides. It is also an important prey species for owls due to its abundance and clutter-edge foraging style (slow flight at the edge of vegetation) (ACR 2015).

Use and Trade

There is no evidence to suggest that this species is traded or harvested within the assessment region.

Threats

Globally, there are no major threats to the species. However, several *N. capensis* mortalities have been confirmed due to wind turbines in the Eastern Cape, and wind energy is now the single most severe threat to this species (Photo 1). For example, over one year (March 2011 – March 2012), ten individuals were recorded to have been killed as a result of a wind turbine on the east side of

Table 2. Threats to the Cape Serotine Bat (*Neoromicia capensis*) 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*: mortality by barotrauma or direct collision with turbine blades at wind turbines.	Doty & Martin 2013	Empirical	Regional	Increasing with the expansion of wind energy plants.

Table 3. Conservation interventions for the Cape Serotine Bat (*Neoromicia capensis*) 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*: manage wind turbines to reduce bat mortality.	Baerwald et al. 2009 Berthinussen et al. 2010 Arnett et al. 2011	Review	International Review International	Bat mortalities lowered using ultrasonic deterrents and turbine curtailment during low wind speed.	-

the Coega River (Doty & Martin 2013). This threat should be monitored for its impacts on local populations.

Current habitat trend: Stable. This species is a habitat generalist.

Conservation

It is a widespread and adaptable species and occurs in numerous protected areas across the assessment region. There are no direct conservation interventions currently needed for this species as a whole. However, taxonomic research may reveal several cryptic species, which will require a re-examination of regional threats and possible interventions. To mitigate mortalities from turbine collisions on wind farms, interventions such as using ultrasound to deter bats and curtailing turbines at low wind speeds could be employed (Baerwald et al. 2009; Berthinussen et al. 2010; Arnett et al. 2011).

Recommendations for land managers and practitioners:

- Data sharing by wind farm managers into a national database is needed to be able to calculate cumulative impacts and thereafter implement collaborative mitigation and management efforts.

Research priorities:

- Monitoring mortalities linked with wind farm operations and assessing impact on populations.
- Taxonomic resolution is required to disentangle this possible species complex.

Encouraged citizen actions:

- Citizens can assist the conservation of the species by reporting sightings on virtual museum platforms (for example, iSpot and MammalMAP).

Photo 1. A Cape Serotine Bat (*Neoromicia capensis*) specimen collected from the base of a wind turbine. This species ranks amongst the highest in South Africa of confirmed fatalities from wind farm developments. (K. MacEwan)

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Data Sources and Quality

Table 4. Information and interpretation qualifiers for the Cape Serotine Bat (*Neoromicia capensis*) assessment

Data sources	Field study (literature), indirect information (literature)
Data quality (max)	Estimated
Data quality (min)	Inferred
Uncertainty resolution	Best estimate
Risk tolerance	Evidentiary

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