Mops condylurus – Angolan Free-tailed Bat


Ara Mondjem

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

During high diurnal temperatures, this species exhibits heat tolerance and hyperthermia in the form of passive heat storage and active physiological compensation, such as panting and interscapular sweating (Bronner et al. 1999), which enables it to utilise a wide range of habitats.

Taxonomy

Mops condylurus (A. Smith 1833)

ANIMALIA - CHORDATA - MAMMALIA - CHIROPTERA - MOLOSSIDAE - *Mops* - *condylurus*

Synonyms: *Mops angolensis* Peters 1870, *Mops fulva* Thomas 1908, *Mops occidentalis* Monard 1939, *Mops orientis* G.M. Allen & Loveridge 1942, *Mops osborni* J.A. Allen 1917, *Mops wonderi* Sanbron 1936, *Nyctinomus condylurus* A. Smith 1833, *Tadarida condylura* (A. Smith 1833)

Common names: Angolan Free-tailed Bat, Angolan Mops Bat, Knob-tailed Mops Bat, Knob-tailed Nyctinome (English), Angola-losstertylermuis, Angolese losstertvlermuis (Afrikaans)

Taxonomic status: Species

Taxonomic notes: Many subspecies have been described, but none are recognised here due to the variability in pelage colour and size known to occur within only one locality (Skinner & Chimimba 2005). The sparse-haired band across the shoulders separates *Mops* from *Tadarida* and most *Chaerephon* species (Monadjem et al. 2010). The similar-sized *Chaerephon ansorgei* shows a shoulder band, but has a black throat; and *Mops midas* is far larger (forearm length > 52 mm) (Monadjem et al. 2010).

Assessment Rationale

Listed as Least Concern in view of its wide distribution (estimated extent of occurrence in the assessment region is 192,716 km^2), presumed large population, and it being recorded from several protected areas. It is also able to utilise modified habitats and can occupy a broad range of environments. Savannah habitats in the assessment region are well protected. Although persecuted in certain regions, there is no evidence of decline to the species. The potential threat of wind farms should be monitored for its impacts on this species.

Regional population effects: Subpopulations from within the assessment region are continuous with those occurring in Mozambique and Zimbabwe. It has high wing-loading (Norberg & Rayner 1987), and thus dispersal capacity is assumed to be sufficient for rescue effects.

Distribution

The Angolan Free-tailed Bat has a broad distribution across much of sub-Saharan Africa, occurring across a range of habitat types (Skinner & Chimimba 2005). Its range extends from Senegal, The Gambia and Mali in the west, to Sudan, Ethiopia and Somalia in the east; southwards as far as eastern South Africa and Swaziland and is largely absent from the Congo basin (Monadjem et al. 2016). It has not been recorded from Namibia (ACR 2015). Within the assessment region, it has been recorded from KwaZulu-Natal, Swaziland, and through the Kruger National Park, from where its range extends to Zimbabwe, northern Botswana, Zambia, Malawi, Democratic Republic of the Congo, eastern Angola and Mozambique (Monadjem et al. 2010). Estimated extent of occurrence in the assessment region is 192,716 km^2.

Population

The species is considered globally common (ACR 2015), and is abundant within its range across eastern South Africa (Monadjem et al. 2010). This species roosts communally in groups ranging from just a few individuals to thousands (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: > 2,000

Number of subpopulations: >30

Severely fragmented: No

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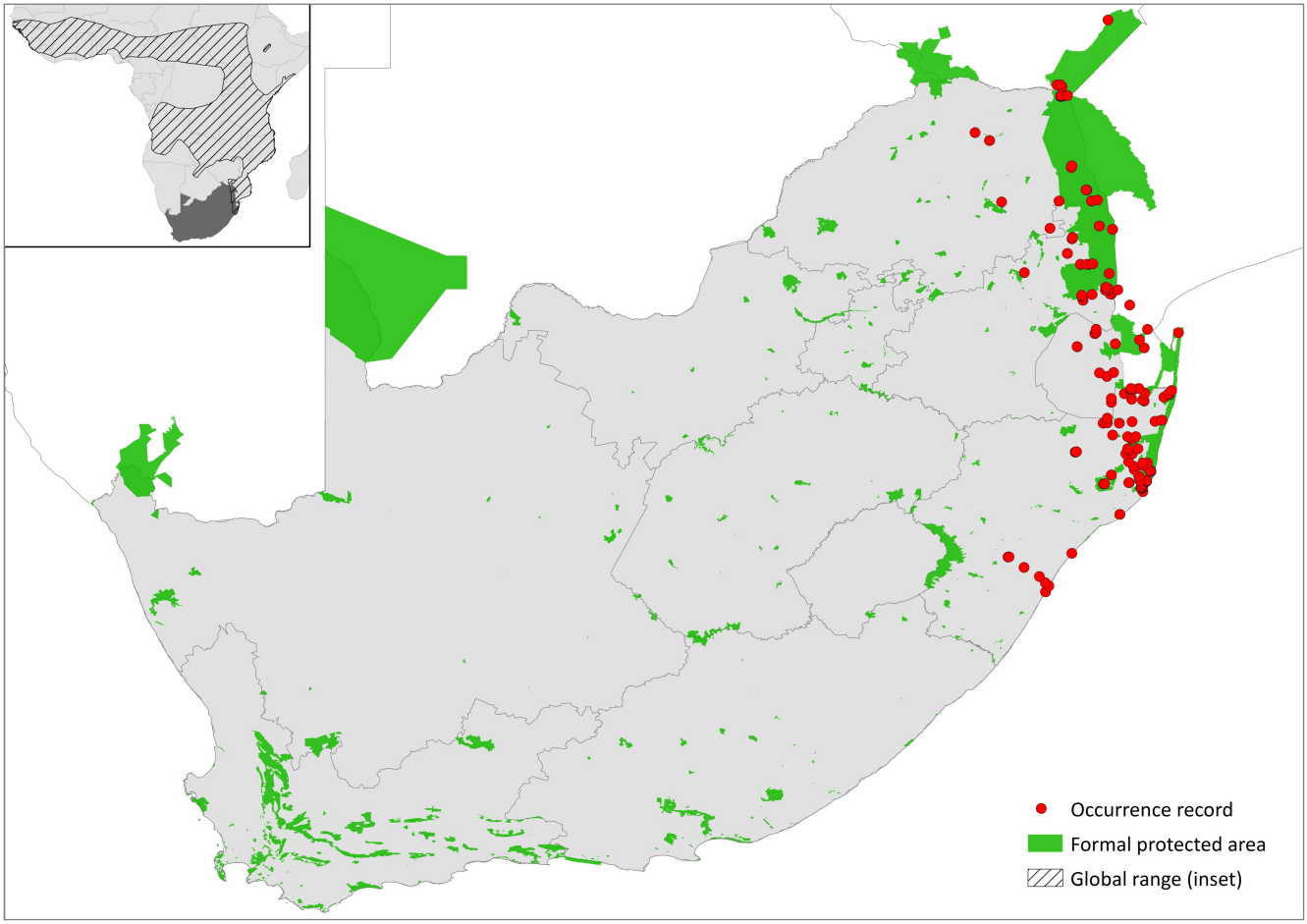

Figure 1. Distribution records for Angolan Free-tailed Bat (*Mops condylurus*) within the assessment region

Table 1. Countries of occurrence within southern Africa

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

Habitats and Ecology

The Angolan Free-tailed Bat is commonly associated with both moist and dry savannah habitats, but also occasionally occurs at the edges of woodland (Monadjem et al. 2016). Natural roost sites include narrow crevices in rock faces and caves, as well as hollows in trees (Fenton et al. 1994), and sites that allow for a free vertical drop as they take flight are preferred (Verschuren 1957). This species has also taken to roosting in anthropogenic structures, particularly roofs of houses, in the expansion joints of bridges (Monadjem et al. 2010) and within mine shafts (Skinner & Chimimba 2005). In the assessment region, the species has been recorded from Mopane Bioregion, Central Bushveld, Lowveld, Mesic Highveld Grassland, Indian Ocean Coastal Belt and Sub-Escarpment Savanna bioregions.

Within hot, dry summer conditions in South Africa, the Angolan Free-tailed Bat reveals a preference for temperature zones of 35–40°C within the roost to maintain basal metabolism and minimise energetic costs associated with thermoregulation (Monadjem et al. 2010). They are capable of utilising a broad range of climatic and environmental (semi-arid to mesic) conditions using adaptive thermoregulation and osmoregulation, and will enter a state of torpor during both summer and winter conditions (Bronner et al. 1999; Buffenstein et al. 1999; Maloney et al. 1999; Vivier & van der Merwe 2007).

The species is considered an open-air forager and feeds primarily on Coleoptera, Hemiptera and Lepidoptera (Monadjem et al. 2010). They commonly forage throughout the night, departing from the roost site at dusk and only returning at dawn (Monadjem et al. 2010).

Female Angolan Free-tailed Bats are considered seasonally polyoestrus, exhibiting a bimodal pattern of reproduction with two birth seasons from early September to early May (Skinner & Chimimba 2005; Monadjem et al. 2010). The gestation period is 85 days, and lactation occurs for about 50–60 days after birth (Vivier & van der Merwe 1997). The breeding season of males in Mpumalanga was found to occur for a duration of 9 months from June to February, peaking in August/ September, and then again in November/December (Vivier & van der Merwe 1996).

Ecosystem and cultural services: As this species is insectivorous, it may contribute to controlling insect populations (Boyles et al. 2011; Kunz et al. 2011). Bats often prey on the insect species that destroy crops (Boyles et al. 2011; Kunz et al. 2011). Ensuring a healthy

Table 2. Threats to the Angolan Free-tailed Bat (*Mops condylurus*) 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	*5.1.3 Persecution/Control*: persecution as a pest species when roosting in the crevices of buildings and roofs.	-	Anecdotal	-	Unknown
2	*3.3 Renewable Energy*: mortality by barotrauma or direct collision with turbine blades at wind turbines.	Cryan & Barclay 2009	Indirect	Global	Increasing with the expansion of wind energy plants.
		Baerwald et al. 2008	Indirect	Regional	
		Rydell et al. 2010	Indirect	Regional	
3	*6.1 Recreational Activities*: roost disturbance during traditional ceremonies and tourism.	-	Anecdotal	-	Unknown

population of insectivorous bats can thus result in a decrease in the use of pesticides.

Use and Trade

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

Threats

No major species-specific threats have been identified for this species. However, they are likely to be vulnerable to pressures identified for other bat species. With wind energy potential moving into parts of KwaZulu-Natal, this could pose a future threat to the Angolan Free-tailed Bat as it is an open-air forager (Baerwald et al. 2008; Cryan & Barclay 2009; Rydell et al. 2010; Rollins et al. 2012). Bats are attracted to wind farm sites which often tend to have higher insect densities. When bats fly near to turbine blades, they either collide directly with the blade or they experience barotrauma. Barotrauma is tissue damage caused by rapid excessive changes in air pressure near turbine blades (Baerwald et al. 2008; Rydell et al. 2010). Additionally, this species may face persecution when roosting within the roofs and crevices of buildings (Monadjem et al. 2016). As this species often roosts in caves, it may face the threat of human disturbance, as many local traditional ceremonies and tourism activities take place in caves.

Current habitat trend: Stable. Savannah habitats are not threatened in the assessment region (Driver et al. 2012).

Conservation

This species is present in a number of protected areas, such as Kruger National Park, Ndumo Game Reserve, Tembe Elephant Park, Isimangaliso Wetland Park and Hluhluwe-iMfolozi Game Reserve. No direct conservation actions are currently needed for the species but it is likely to benefit from the direct protection of roost sites.

Data Sources and Quality

Table 4. Information and interpretation qualifiers for the Angolan Free-tailed Bat (*Mops condylurus*) assessment

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

Recommendations for land managers and practitioners:

- Protection of roosting sites, and the provision of bat boxes, in order to limit the persecution of this species when roosting in roofs and buildings.

Research priorities:

- Monitoring the impact of wind farming on Angolan Free-tailed Bat populations within KwaZulu-Natal.

Encouraged citizen actions:

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

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Table 3. Conservation interventions for the Angolan Free-tailed Bat (*Mops condylurus*) 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.	-	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.*