Mops midas – Midas Mops Bat


Ara Monadjem

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

Colonies of Midas Mops Bats are particularly noisy, especially when disturbed, and individuals are extremely aggressive when handled, biting furiously if given the opportunity (Skinner & Chimimba 2005).

Taxonomy

Mops midas (Sundevall 1843)

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

Synonyms: *Dysopes midas* Sundevall 1843, *Mops midas* ssp. *miarensi* (A. Grandidier 1869), *Mops unicolor* (A. Grandidier 1870), *Tadarida midas* (Sundevall 1843)

Common names: Midas Mops Bat, Midas Free-tailed Bat, Sundevall's Free-tailed Bat, Midas Groove-cheeked Bat (English), Midas se Losstertvlermuis (Afrikaans)

Taxonomic status: Species

Taxonomic notes: The entire African continental population of *Mops midas* is considered to constitute the same subspecies, *M. midas midas*, while the population of Madagascar forms the other distinct subspecies, *M. midas miarensis* (Hayman & Hill 1971; Dunlop 1999). However, Ratrimomanarivo et al. (2007) found that the South African and Madagascan populations do not exhibit genetic differences, and this may be evidence of movement between southern Africa and Madagascar (Samonds et al. 2012). Additionally, the southern African population may be geographically isolated from the northern African population by about 1,000 km, which indicates that these two populations may be phylogenetically distinct (Monadjem et al. 2010). Further research is required to substantiate the taxonomic relationship between populations and subspecies.

Assessment Rationale

This species is listed as Least Concern in view of its wide distribution (estimated extent of occurrence in the assessment region is 75,424 km^2), and its occurrence in several large protected areas. It is locally very common in Limpopo and is able to use human structures as roost sites. Savannah habitats in the assessment region are well protected. Though locally hunted and persecuted, the species is not likely to be declining. However, as it is patchily distributed across its range and considered to be generally rare, data on subpopulation sizes and trends are needed and this species should be reassessed once such data are available.

Regional population effects: Although patchily distributed through southern Africa, the distribution of this species probably extends into southern Mozambique and Zimbabwe through transfrontier parks. Given its high wing -loading (Monadjem et al. 2010), dispersal capacity is assumed to be sufficient for rescue effects.

Distribution

The Midas Mops Bat is widespread but patchily distributed across the lowland and savannah regions of West and East Africa (including Senegal, Nigeria, Chad, the Democratic Republic of the Congo, Sudan, Ethiopia, Kenya, Uganda, Rwanda), Madagascar, and into southern Africa (Monadjem et al. 2016). In Madagascar, this species is generally restricted to the drier western and southern habitats at altitudes below 150 m asl (Ratrimomanarivo et al. 2007). The species has been recorded from northeastern South Africa, through the Kruger National Park in South Africa to Zimbabwe, northern Botswana, northern Namibia, southwestern Zambia and southern Malawi (Monadjem et al. 2010). Habitat models suggest that suitable conditions occur in the western parts of southern Mozambique, but it is yet to be collected there (Monadjem et al. 2010). In the assessment region, it only occurs in the Limpopo and Mpumalanga provinces of South Africa. The estimated extent of occurrence in the assessment region is 75,424 km^2.

Population

It is generally considered to be rare across its range (Monadjem et al. 2016). In the eastern regions of the species' distribution, it is considered to be locally abundant, where it roosts communally in small to large groups that may number in the hundreds (Monadjem et al. 2010), but globally the population is thought to be declining (ACR 2015; Monadjem et al. 2016). No

Recommended citation: Taylor PJ, Cohen L, Jacobs D, MacEwan K, Richards LR, Schoeman C, Sethusa T, Monadjem A. 2016. A conservation assessment of *Mops midas*. 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.

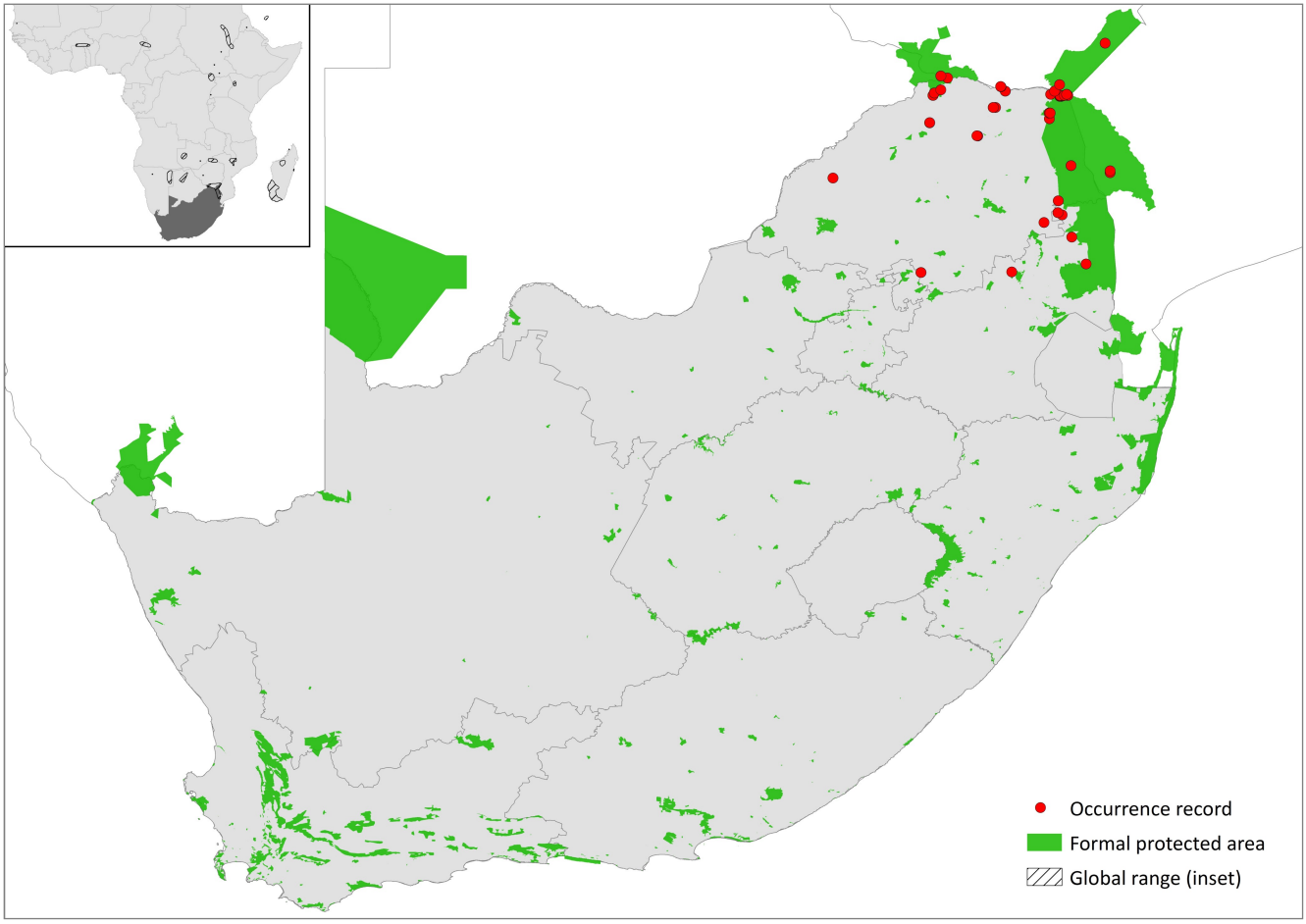

Figure 1. Distribution records for Midas Mops Bat (*Mops midas*) within the assessment region

Table 1. Countries of occurrence within southern Africa

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

population trends are available for the assessment region.

Current population trend: Unknown

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

Habitats and Ecology

This species is generally restricted to the Savannah Biome, specifically within lowland and woodland regions (Monadjem et al. 2010), and is frequently associated with large rivers and swamps (Smithers 1983; Dunlop 1999). It has been recorded from hot, low-lying river valleys and permanent water bodies in northeastern South Africa (Monadjem et al. 2010). In Maun, Botswana, this species was noted to prefer roosting in areas of complete darkness (Skinner & Chimimba 2005). Individuals make use of corrugated roofs, wooden roof rafters and other small spaces within the roofs of buildings for communal rooting sites (Monadjem et al. 2010), where they pack themselves extremely tightly (Skinner & Chimimba 2005).

In the assessment region, the species is recorded from the Mopane Bioregion, Lowveld and Central Bushveld. This is an open aerial species and is not considered an agile flier, thus it flies in uncluttered airspaces, usually at heights of above 40 m from the ground (Aldridge & Rautenbach 1987). It is a fast flier, and is known to range considerable distances during excursions (Skinner & Chimimba 2005). It is insectivorous, feeding primarily on Coleoptera species (Archer 1977; Monadjem et al. 2010). In southern Africa, limited data on the reproductive seasonality suggest a parturition period between December and March (Monadjem et al. 2010). Females give birth to a single young, weighing between 9.6 and 10.0 g (Skinner & Chimimba 2005).

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 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. However, it is hunted for bushmeat in other parts of its range (ACR 2015).

Threats

Globally, the Midas Mops Bat is believed to be locally vulnerable to general persecution (pest control), collection for food and habitat loss (ACR 2015; Monadjem et al. 2016). The impact of these threats should be investigated within the assessment region.

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

Conservation

Within the assessment region, this species occurs within protected areas, such as the Great Limpopo Transfrontier Park and Greater Mapungubwe Transfrontier Conservation Area. No specific conservation efforts have been identified for this species at present. However, more research on population size and trend is needed. It is likely to benefit from enhanced protection of key roost sites, especially large trees (Monadjem et al. 2016).

Recommendations for land managers and practitioners:

- Reduce pesticide use in agricultural landscapes.
- Protect large trees in conservancies and ranch lands.

Research priorities:

- Studies detailing subpopulation distribution, sizes and trends are urgently needed (Monadjem et al. 2016).
- Taxonomic resolution of *M. midas*, and the genetic relationship between southern and northern African populations, as well as the Malagasy population.

Photo 1. Midas Mops Bat (*Mops midas*) (Erna Balona)

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.

Table 2. Threats to the Midas Mops Bat (*Mops midas*) 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	*5.1.1 Hunting & Collecting Terrestrial Animals*: bushmeat hunting.	-	Anecdotal	-	Unknown
2	*5.1.3 Persecution/Control*: persecution as a pest species when roosting in the crevices of buildings and roofs.	-	Anecdotal	-	Unknown
3	*6.1 Recreational Activities*: roost disturbance during traditional ceremonies and tourism.	-	Anecdotal	-	Unknown

Table 3. Conservation interventions for the Midas Mops Bat (*Mops midas*) 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 large trees.	-	Anecdotal	-	-	-

References

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

Aldridge HDJN, Rautenbach IL. 1987. Morphology, echolocation and resource partitioning in insectivorous bats. The Journal of Animal Ecology **56**:763–778.

Archer AL. 1977. Results of the Winifred T. Carter Expedition 1975 to Botswana, Mammals – Chiroptera. Botswana Notes and Records **9**:145–154.

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

Driver A, Sink KJ, Nel JN, Holness S, van Niekerk L, Daniels F, Jonas Z, Majiedt PA, Harris L, Maze K. 2012. National Biodiversity Assessment 2011: An Assessment of South Africa's Biodiversity and Ecosystems. Synthesis Report. South African National Biodiversity Institute and Department of Environmental Affairs, Pretoria, South Africa.

Dunlop J. 1999. *Mops midas*. Mammalian Species **615**:1–4.

Hayman RW, Hill JE. 1971. Order Chiroptera. Pages 1–73 in Meester J, Setzer HW, editors. The Mammals of Africa: An Identification Manual. Part 2. Smithsonian Institution Press, Washington, DC, USA.

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.

Monadjem A, Cotterill F, Ratrimomanarivo FH, Jenkins RKB, Mickleburgh S, Fahr J, Bergmans W, Ranivo J, Racey PA, Hutson AM. 2016. *Mops midas*. The IUCN Red List of Threatened Species 2017: e.T13841A22079278.

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.

Ratrimomanarivo FH, Vivian J, Goodman SM, Lamb J. 2007. Morphological and molecular assessment of the specific status of *Mops midas* (Chiroptera: Molossidae) from Madagascar and Africa. African Zoology **42**:237–253.

Samonds KE, Godfrey LR, Ali JR, Goodman SM, Vences M, Sutherland MR, Irwin MT, Krause DW. 2012. Spatial and temporal arrival patterns of Madagascar's vertebrate fauna explained by distance, ocean currents, and ancestor type. Proceedings of the National Academy of Sciences **109**:5352–5357.

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

Smithers RHN. 1983. The Mammals of the Southern African Subregion. University of Pretoria, Pretoria, South Africa.

Data Sources and Quality

Table 4. Information and interpretation qualifiers for the Midas Mops Bat (*Mops midas*) assessment

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

Assessors and Reviewers

Peter Taylor[1], Lientjie Cohen[2], David Jacobs[3], Kate MacEwan[4], Leigh Richards[5], Corrie Schoeman[6], Theresa Sethusa[7], Ara Monadjem[8]

[1]University of Venda, [2]Mpumalanga Tourism and Parks Agency, [3]University of Cape Town, [4]Inkululeko Wildlife Services, [5]Durban Natural Science Museum, [6]University of KwaZulu-Natal, [7]South African National Biodiversity Institute, [8]University of Swaziland

Contributors

Samantha Page-Nicholson[1], Claire Relton[1], Domitilla Raimondo[2]

[1]Endangered Wildlife Trust, [2]South African National Biodiversity Institute

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