Hypsugo anchietae – Anchieta's Pipistrelle

Photograph wanted

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

Anchieta's Pipistrelle is a vesper bat, which are also known as evening or common bats, which is the largest and best known family of bats (Monadjem et al. 2010).

Taxonomy

Hypsugo anchietae (Seabra 1900)

ANIMALIA - CHORDATA - MAMMALIA - CHIROPTERA - VESPERTILIONIDAE - *Hypsugo - anchietae*

Synonyms: *Pipistrellus anchietae*

Common names: Anchieta's Pipistrelle, Anchieta's Bat, Miombo Pipistrelle (English), Anchieta se Vlermuis, Anchieta-vlermuis (Afrikaans)

Taxonomic status: Species

Taxonomic notes: Sometimes spelled *anchieta* or *anchietai*, but the correct spelling is *anchietae*. Monadjem et al. (2010) and Skinner and Chimimba (2005) classify the species as *Hypsugo anchietae.* Although previously included under the genus *Pipistrellus*, bacular and chromosomal evidence supports the contention that this species should be placed in its own genus, *Hypsugo* (Volleth et al. 2001; Kearney et al. 2002; Kearney 2005). It is possible that more *H. anchietae* exist in collections misidentified as *Pipistrellus kuhlii* (Kearney & Taylor 1997). Continued molecular and taxonomic research is necessary for the *Neoromica*/*Pipistrellus* group and this species (Monadjem et al. 2010).

Assessment Rationale

Listed as Least Concern as it has a wide distribution in the assessment region (estimated extent of occurrence is 515,772 km^2), it occurs in a number of protected areas, including Great Limpopo Transfrontier Park and Greater Mapungubwe Transfrontier Conservation Area and there are no known major threats that could cause widespread population decline. It also occurs in suitably wooded urban and rural areas. The population also does not appear to be declining fast enough to qualify for a more threatened category. It has been recorded to occur more widely than known in the previous assessment. Further research on its roosting behaviour and potential local threats is needed.

Regional population effects: This species is expected to be considerably more widespread in southern Africa than is currently recognised. Its presence within the transfrontier conservation areas in northern South Africa suggests that the range of resident populations may be continuous with those in Zimbabwe, but it has low wing-loading (Schoeman & Jacobs 2008) and thus rescue effects are uncertain.

Distribution

This species is largely restricted to southern Africa, ranging from Angola in the west, through the southern parts of the Democratic Republic of the Congo, southwards into Zambia and Zimbabwe. There are also isolated records from central Mozambique and northern Botswana (Monadjem et al. 2010), and there are recent records of this species from Madagascar (ACR 2015). Although few records are available for the assessment region, its distribution in southern Africa is likely more widespread than currently known (Skinner & Chimimba 2005). This is demonstrated by a wider range documented in this assessment than in the previous assessment of Friedmann and Daly (2004). It occurs in Mpumalanga, KwaZulu-Natal, Limpopo and marginally into the Eastern Cape, as well as in eastern Swaziland (Figure 1; Skinner & Chimimba 2005). It has also been recorded from the Greater Mapungubwe Transfrontier Conservation Area in the Zimbabwe section, as well as the Great Limpopo Transfrontier Park.

Population

Although predominantly collected from only a few localities (Monadjem et al. 2010), this species is considered locally common in southern Africa (ACR 2015).

Current population trend: Unknown

Continuing decline in mature individuals: Unknown

Number of mature individuals in population: Unknown

Number of mature individuals in largest subpopulation: Unknown

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

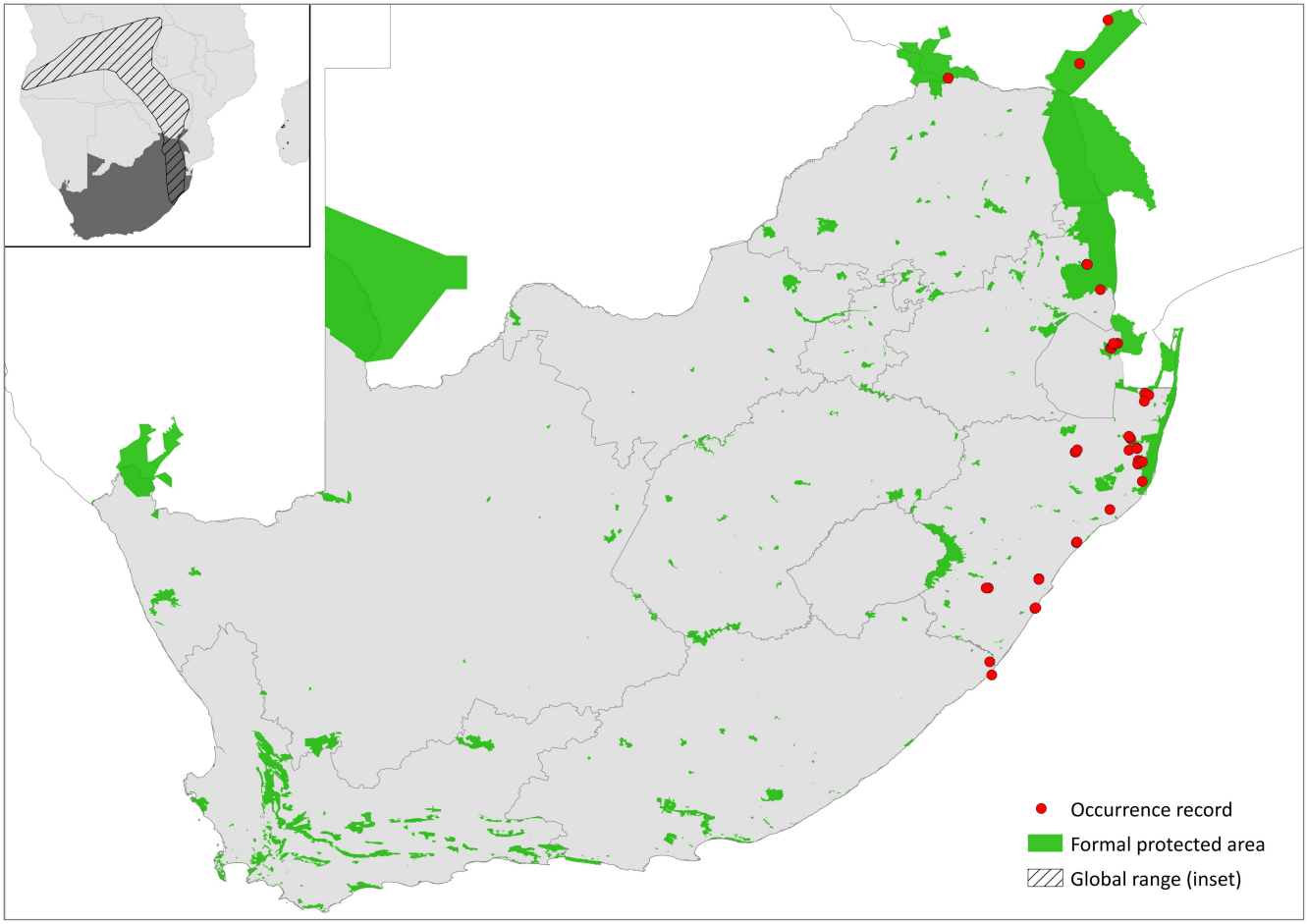

Figure 1. Distribution records for Anchieta's Pipistrelle (*Hypsugo anchietae*) within the assessment region

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

Number of subpopulations: Unknown

Severely fragmented: No

Habitats and Ecology

This species is typically associated with dry and moist savannah and woodland habitats (Monadjem et al. 2010). Specimens in KwaZulu-Natal, were collected from woody habitats, such as Afromontane forest, riparian forest coastal forest or bushveld (Taylor 1998). In Durban, the species is found along rivers in the urban landscapes (Naidoo et al. 2011). Very little research is available on the feeding ecology and roosting behaviour of this species (Skinner & Chimimba 2005), but they are often collected when nets and harp traps are placed above water (Kearney & Taylor 1997; Monadjem et al. 2010). They are considered clutter-edge and clutter foragers (Monadjem et al. 2010). At the Sudwala Caves in Mpumalanga, their diet was found to comprise of Hemiptera, Diptera and Coleoptera (Schoeman 2006). Although little is known of their reproductive biology, in KwaZulu-Natal, a female pregnant with two fetuses was recorded in October (Kearney & Taylor 1997).

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.

Use and Trade

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

Threats

No major threats have been identified for this species at present, but there is limited research available for this species, thus more comprehensive studies are required to assess possible threats. For example, there are no data available for the types of roosting sites utilised by this species, which undermines our ability to predict which sites may be vulnerable to human disturbance or habitat alteration. Similar to other insectivorous bats, the use of pesticides in agricultural landscapes may diminish its prey base.

Current habitat trend: Stable. The Savannah Biome is well protected in the assessment region (Driver et al. 2012).

Table 2. Threats to the Anchieta's Pipistrelle (*Hypsugo anchietae*) 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	*9.3.3 Agricultural & Forestry Effluents*: indirect poisoning. Current stress *1.3 Indirect Ecosystem Effects*: loss of prey base.	-	Anecdotal	-	Stable

Table 3. Conservation interventions for the Anchieta's Pipistrelle (*Hypsugo anchietae*) 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	*2.3 Habitat & Natural Process Restoration*: reduce pesticide use to restore natural prey base.	-	Anecdotal	-	-	-

Conservation

This species is present within a number of protected areas within the assessment region, including the Kruger National Park (Great Limpopo Transfrontier Park), iSimangaliso Wetland Park, Tembe Elephant Park, Kranzkloof Nature Reserve, as well as the Greater Mapungupwe Transfrontier Conservation Area and the Lubombo Transfrontier Conservation Areas. No specific conservation measures have been identified for this species. However, further investigations into the general ecology, distribution and possible threats to this species are required (ACR 2015).

Recommendations for land managers and practitioners:

- Reduce pesticide use in agricultural landscapes.

Research priorities:

- Field surveys and systematic monitoring to determine distribution, population size and trends.
- Natural history, including the roosting, feeding and reproductive ecology of this species.
- Quantifying the possible threats faced by this species.
- Continued molecular and taxonomic research is necessary for this species and the *Neoromica*/*Pipistrellus* group.

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.

References

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

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.

Friedmann Y, Daly B, editors. 2004. Red Data Book of the Mammals of South Africa: A Conservation Assessment. IUCN SSC Conservation Breeding Specialist Group and Endangered Wildlife Trust, Johannesburg, South Africa.

Kearney T, Taylor PJ. 1997. New distribution records of bats in KwaZulu-Natal. Durban Museum Novitates **22**:53–56.

Kearney TC. 2005. Systematic revision of southern African species in the genera *Eptesicus*, *Neoromicia*, *Hypsugo* and *Pipistrellus* (Chiroptera: Vespertilionidae). Ph.D. Thesis. University of KwaZulu-Natal, Durban, South Africa.

Kearney TC, Volleth M, Contrafatto G, Taylor PJ. 2002. Systematic implications of chromosome GTG-band and bacula morphology for Southern African *Eptesicus* and *Pipistrellus* and several other species of Vespertilioninae (Chiroptera: Vespertilionidae). Acta Chiropterologica **4**:55–76.

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, 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.

Naidoo S, Mackey RL, Schoeman MC. 2011. Foraging ecology of insectivorous bats (Chiroptera) at a polluted and an unpolluted river in an urban landscape. Durban Museum Novitates **34**:21–28.

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.

Data Sources and Quality

Table 4. Information and interpretation qualifiers for the Anchieta's Pipistrelle (*Hypsugo anchietae*) assessment

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

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.

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

Taylor PJ. 1998. The Smaller Mammals of KwaZulu-Natal. University of Natal Press, Pietermarizburg, South Africa.

Volleth M, Bronner G, Göpfert MC, Heller K-G, Von Helversen O, Yong H-S. 2001. Karyotype comparison and phylogenetic relationships of *Pipistrellus*-like bats (Vespertilionidae; Chiroptera; Mammalia). Chromosome Research **9**:25–46.

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