Pipistrellus hesperidus – African Pipistrelle


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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

The African Pipistrelle is so named to differentiate it from the Palaearctic Kuhl's Pipistrelle, with which it was previously classified under the name *Pipistrellus kuhlii* (Skinner & Chimimba 2005).

Taxonomy

Pipistrellus hesperidus (Temminck 1840)

ANIMALIA - CHORDATA - MAMMALIA - CHIROPTERA - VESPERTILIONIDAE - *Pipistrellus* - *hesperidus*

Synonyms: *Vespertilio platycephalus* (Temminck 1832), *Pipistrellus kuhlii fuscatus* Thomas 1901, *Pipistrellus (Romicia) kuhlii broomi* Roberts 1848, *Pipistrellus hesperidus hesperidus* Temminck, 1840, *Pipistrellus hesperidus subtilis* (Sundevall 1846)

Common names: African Pipistrelle, Dusky Pipistrelle, Kuhl's Pipistrelle (English), Kuhl se Vlermuis, Kuhl-vlermuis (Afrikaans)

Taxonomic status: Species

Taxonomic notes: Previously included within *Pipistrellus kuhlii* (Kuhl 1817), this species was later reclassified as a distinct species, *P. hesperidus*, based on morphological and karyotype evidence (Kock 2001; Kearney et al. 2002). Five African subspecies were listed by Hayman and Hill (1971), including *P. h. broomi* (Roberts 1948) from KwaZulu-Natal and *subtilis* from other regions of southern Africa and Madagascar (ACR 2015). Recent research suggests that three of these subspecies may require elevation to species level (Koubínová et al. 2013), but further investigation is necessary to validate these suggestions and better determine the range of this species.

Assessment Rationale

Listed as Least Concern in view of its wide distribution (estimated extent of occurrence in the assessment region alone is 652,579 km^2), its occurrence in multiple protected areas (including Great Limpopo Transfrontier Park and Greater Mapungubwe Transfrontier Conservation Area), its tolerance of disturbed habitats, its relative abundance compared to other species, and because there are no major identified threats that could cause widespread population decline. Further taxonomic resolution is required through molecular research.

Regional population effects: Present within transfrontier conservation areas where resident populations seemingly have a continuous distribution with those of Zimbabwe and possibly Mozambique (Monadjem et al. 2010). However, it has low wing loading (Schoeman & Jacobs 2008) and thus rescue effects are uncertain.

Distribution

The African Pipistrelle's distribution extends over much of sub-Saharan Africa, ranging from the Cape Verde Islands in the extreme northwest, eastwards through Liberia, Côte d'Ivoire, Nigeria and Cameroon to Ethiopia and Somalia. Its range covers much of central and East Africa southwards to eastern South Africa, Swaziland and central western Madagascar (Bates et al. 2006; Monadjem et al. 2010; Piraccini 2016). Within the assessment region, the species occurs widely in the eastern parts of the region, having been recorded from the Eastern Cape, north through KwaZulu-Natal, Swaziland and northern South Africa (Figure 1; Skinner & Chimimba 2005; Monadjem et al. 2010), to Zimbabwe, Zambia, Malawi and northern Mozambique (Monadjem et al. 2010). In the Limpopo Province, the species occurs in the Soutpansberg and Pafuri regions southwards into Mpumalanga (Skinner & Chimimba 2005). Single records from the Okavango, northern Botswana, and from Boshof in the western Free State indicate that this species probably has a broader distribution than previously thought (Monadjem et al. 2010). However, some records require vetting as this species is extremely difficult to distinguish in the field from other *Pipistrellus*, *Hypsugo* or *Neoromicia* species (Kearney 2005). Estimated extent of occurrence in the assessment region alone is 652,579 km^2.

Population

The abundance of this species across most of its range is largely unknown. In southern Africa, however, it is

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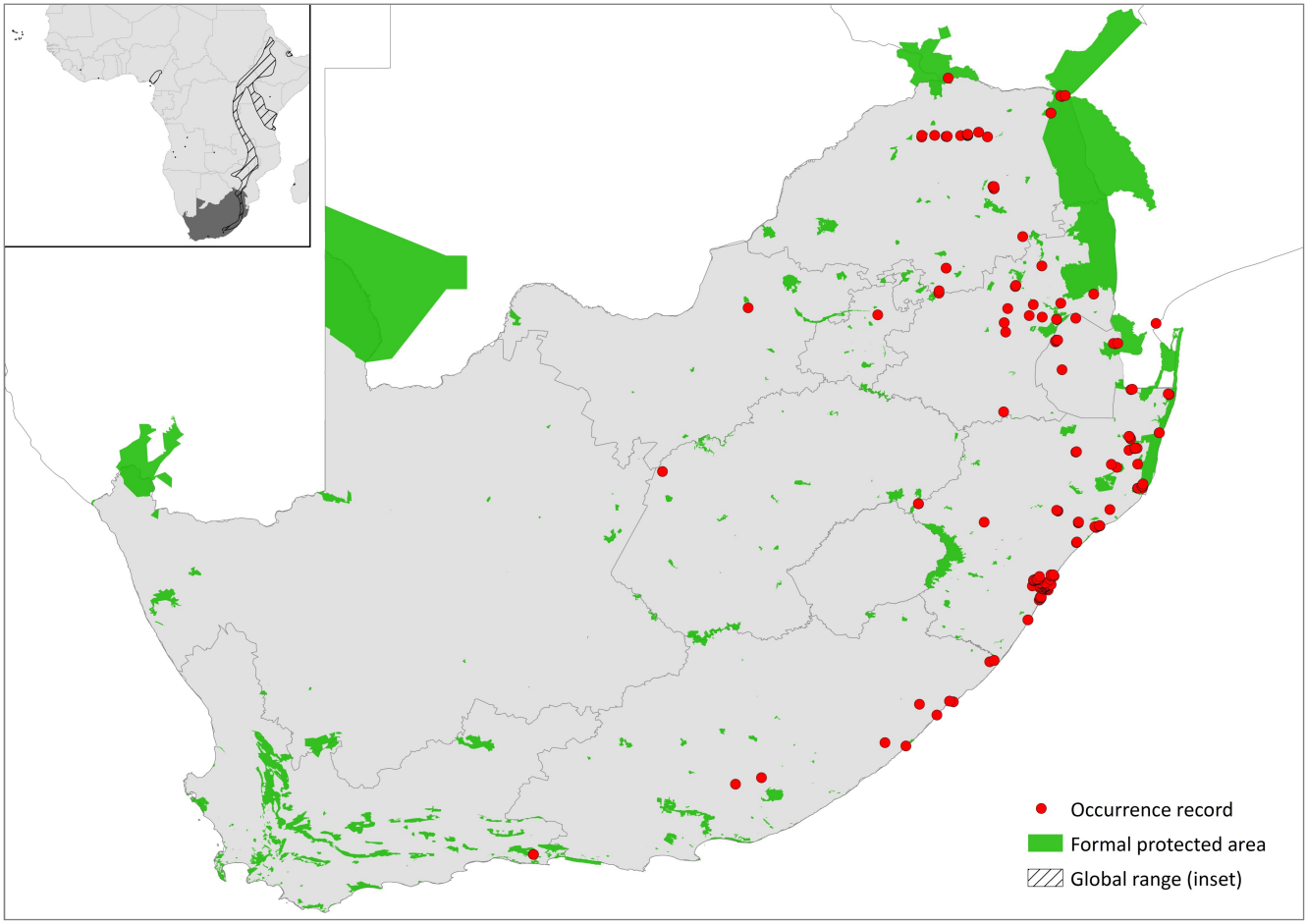

Figure 1. Distribution records for African Pipistrelle (*Pipistrellus hesperidus*) within the assessment region

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

considered uncommon (ACR 2015), where colonies occur in small groups of about 12 bats (Skinner & Chimimba 2005). However, in a recent study in the Durban region, this species was one of the most commonly recorded of 16 species along the Umbilo River (Naidoo et al. 2011). It is relatively well represented in museums, with over 100 specimens examined in Monadjem et al. (2010).

Current population trend: Stable

Continuing decline in mature individuals: Unknown

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

It is associated with woody habitats, such as riparian vegetation and forest patches (Happold et al. 1987), especially in the proximity of water (Skinner & Chimimba 2005; Monadjem & Reside 2008). Recently, this species was sampled along the polluted Umbilo River in the Durban region in 2008 (Naidoo et al. 2011). However, this may have been influenced by the presence of nearby Paradise Valley Nature Reserve, which possibly provided roosting sites such as tree cavities (Naidoo et al. 2011). There is a general lack of information on the types of diurnal roosting sites utilised by this species. However, they have been recorded in narrow cracks in rocks and under the loose bark of dead trees (Smithers 1971; Skinner & Chimimba 2005). There is sexual dimorphism in the species, with females being, on average, slightly heavier than the males (Monadjem et al. 2010). Little is known about its reproductive ecology, but in KwaZulu-Natal, a pregnant female with two foetuses was located in October (Taylor 1998), suggesting that young are born during the warm wet season, similar to other insectivores. The species is a clutter-edge forager, with a diet including Coleoptera, Hemiptera, Diptera and Lepidoptera (Schoeman 2006; Monadjem et al. 2010).

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), such as stinkbugs (Taylor et al. 2013). Ensuring a healthy population of insectivorous bats can thus decrease the need for pesticides.

Table 2. Threats to the African Pipistrelle (*Pipistrellus hesperidus*) 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	*2.1.3 Annual & Perennial Non-Timber Crops*: habitat loss from agro-industry expansion. Current stress *1.3 Indirect Ecosystem Effects*: loss of prey base.	Jewitt et al. 2015	Indirect (remote sensing)	Regional	Ongoing
2	*9.3.3 Agricultural & Forestry Effluents*: indirect poisoning. Current stress *1.3 Indirect Ecosystem Effects*: loss of prey base.	Jewitt et al. 2015	Indirect (remote sensing)	Regional	Ongoing

Table 3. Conservation interventions for the African Pipistrelle (*Pipistrellus hesperidus*) 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*: reduction of pesticide use in agricultural landscapes and conservation of buffer strips of natural vegetation.	-	Anecdotal	-	-	-

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 further research is required to delineate the distributional limits of this species, its taxonomic status, roosting behaviour, as well as potential threats. Ongoing habitat loss from agricultural transformation, especially in KwaZulu-Natal (Jewitt et al. 2015), may reduce the insect prey base for this species. The impacts of climate change should also be investigated (*sensu* Sherwin et al. 2013).

Current habitat trend: Stable. Savannah habitats are generally well protected within the assessment region (Driver et al. 2012). However, an average of 1.2% natural habitat has been transformed per annum since 1994 in KwaZulu-Natal, primarily due to agriculture, timber plantations, human settlements and industry and mines (Jewitt et al. 2015).

Conservation

This species occurs in many protected areas within the assessment region, having been recorded from Great Limpopo Transfrontier Park, Greater Mapungubwe Transfrontier Conservation Area, Loskop Dam Nature Reserve, Songimvelo Nature Reserve, Ndumo Game Reserve, iSimangaliso Wetland Park, Hluhluwe-iMfolozi Game Reserve, Sibudeni Nature Reserve, Nkandla Forest Reserve, Mome Nature Reserve, Krantzkloof Nature Reserve, Dwese-Cwebe Wildlife Reserve, Garden Route National Park, Dlinza Forest Reserve, Phinda Private Game Reserve, Mkuze Game Reserve, Hlatikulu Forest Reserve, Mlawula Nature Reserve, Lajuma Mountain Reserve and Blouberg Nature Reserve. No specific conservation interventions are necessary at present. However, outside of protected areas, it would benefit from holistic land management that reduces pesticide use and conserves buffer strips of natural vegetation to sustain insect biomass.

Recommendations for land managers and practitioners:

- Reduce pesticide use in agricultural landscapes and maintain buffer strips of natural vegetation.

Research priorities:

- Additional taxonomic studies are needed to better define its range relative to other species of *Pipistrellus* (ACR 2015), as well as to resolve the status of the putative subspecies.
- Vetting of museum specimens is needed to more accurately delimit its range.
- Studies into its roosting behaviour, habitat selection and population status are needed.

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. However, it should be noted that this species is very difficult to distinguish from other *Pipistrellus, Hypsugo* or *Neoromicia* species. It is larger than *P. rusticus* (Monadjem et al. 2010).

Data Sources and Quality

Table 4. Information and interpretation qualifiers for the African Pipistrelle (*Pipistrellus hesperidus*) 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

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