Rhinolophus blasii – Peak-saddle Horseshoe Bat

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Regional Red List status (2016)	**Near Threatened D1**
National Red List status (2004)	Vulnerable D2
Reasons for change	Non-genuine change: New information
Global Red List status (2016)	Least Concern
TOPS listing (NEMBA) (2007)	None
CITES listing	None
Endemic	No

The complicated noseleaf with the vertical connecting process distinguishes the genus *Rhinolophus* from all other southern African bats (Monadjem et al. 2010).

Taxonomy

Rhinolophus blasii Peters 1867

ANIMALIA - CHORDATA - MAMMALIA - CHIROPTERA - RHINOLOPHIDAE - *Rhinolophus* - *blasii*

Common names: Peak-saddle Horseshoe Bat, Peters's Horseshoe Bat, Blasius's Horseshoe Bat (English), Spitssaalneusvlermuis (Afrikaans)

Taxonomic status: Species

Taxonomic notes: Needs revision. The taxonomic status of the putative subspecies, *Rhinolophus blasii empusa* (K. Anderson 1904), must be resolved. The type specimen for the species is from Italy (ZMB 557, Syntype), while the type locality of the southern African *R. b. empusa* is Zomba, Malawi (BM 93.7.9.33, Holotype) (Monadjem et al. 2010).

Assessment Rationale

This species has a very wide distribution globally occurring in the Palaearctic and the Afrotropics. Within the assessment region it has an extent of occurrence (EOO) of 139,615 km^2. It is a rarely recorded, difficult to sample species with small subpopulations. Moreover, the species is severely fragmented with an overall suspected regional population of fewer than 2,000 individuals. There is no evidence of decline, therefore the species is listed as Near Threatened under the D1 criterion.

Regional population effects: As it is a short-winged species that is unable to disperse large distance it is unlikely to be experiencing immigration from neighbouring countries.

Distribution

The Peak-saddle Horseshoe Bat has a large range in the Palaearctic and the Afrotropics, throughout which it is widely but patchily distributed. In southern Africa, it occurs form northeastern South Africa and Swaziland, through Zimbabwe, Botswana and Mozambique. Its range extends through southern Malawi to East Africa, the Democratic Republic of the Congo, Somalia, Ethiopia and into North Africa. Altitude range is from sea level to 1,200 m.

The subspecies *R. b. empusa* is mostly restricted to southern Africa, including Malawi and Zambia, occurring marginally beyond in the eastern DRC (Csorba et al. 2003) and Tanzania (Kock & Howell 1988). Regionally, it occurs in Swaziland (Monadjem 2005), Zimbabwe (Cotterill 1996), and there are isolated records from central and northern Mozambique (Monadjem et al. 2010) (Table 1). Within the assessment region, specifically, it occurs in Limpopo, Mpumalanga, and KwaZulu-Natal provinces of South Africa (Figure 1). Within Kruger National Park, it occurs in the Pafuri region. Historical records also exist from Gauteng Province, but it has not been collected there since 1956. It is widely but sparsely distributed in the eastern parts of the region. The southern African subspecies is not well represented in museums, with just over 60 specimens examined in Monadjem et al. (2010).

The EOO within the assessment region, based on known recorded colonies, is 139,615 km^2.

Population

In Africa, the species is not very common. Within the assessment region, it is rarely captured. However, this may be due to it having many small subpopulations. The overall population in the region is suspected to be low. It does not typically roost in large caves but prefers small caves, and mine adits where it is difficult to sample. There are only a small number of roost sites within the assessment region. Friedmann and Daly (2004) counted only four or five roosts. However, based on current distribution records (Figure 1), there are only between 20 and 30 major cave roosting sites within the assessment region, which we construe as separate subpopulations.

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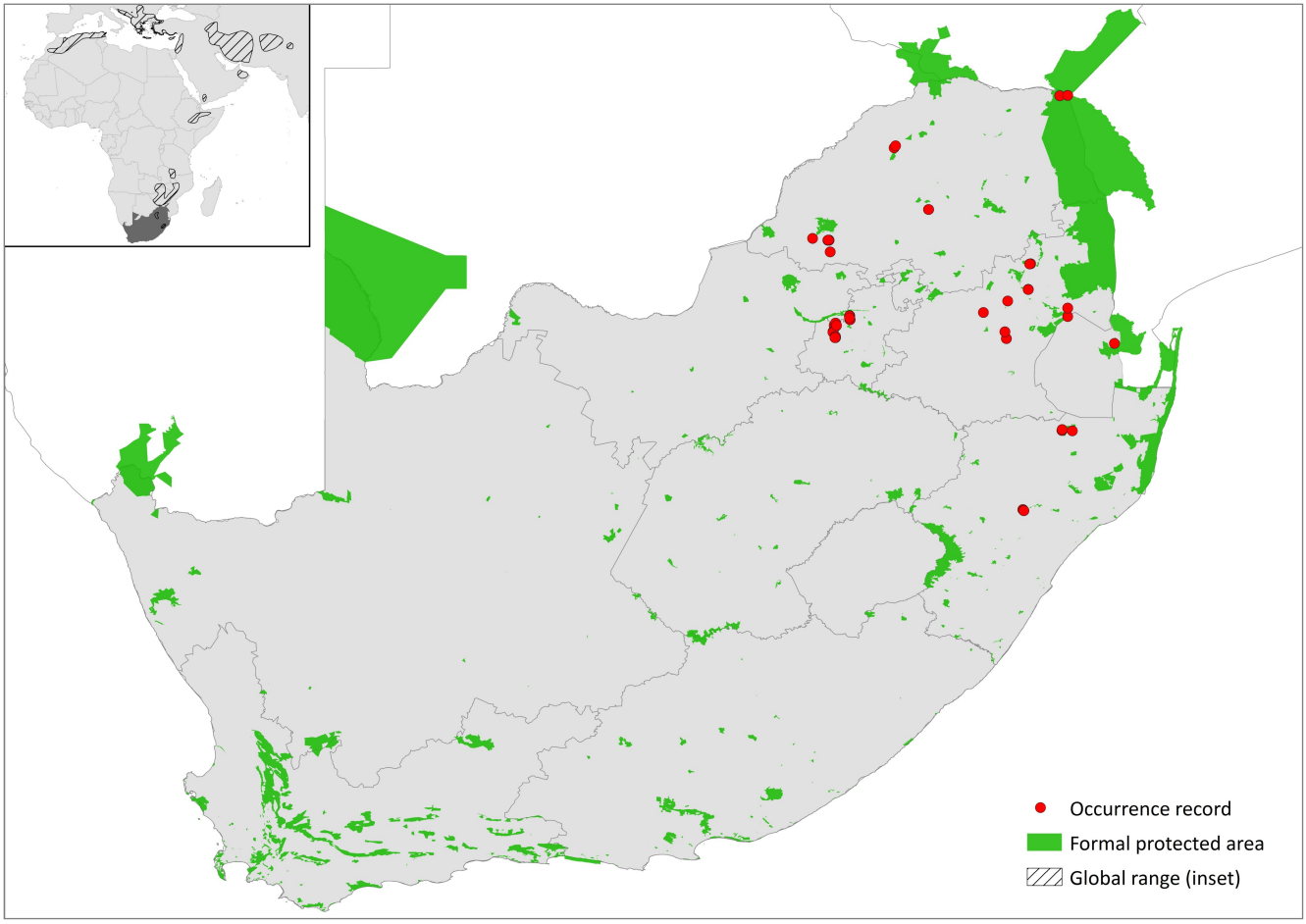

Figure 1. Distribution records for Peak-saddle Horseshoe Bat (*Rhinolophus blasii*) within the assessment region

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

There are thus suspected to be between 200 and 3,000 individuals in total.

Current population trend: Suspected to be stable.

Continuing decline in mature individuals: No

Number of mature individuals in population: < 2,000

Number of mature individuals in largest subpopulation: 100

Number of subpopulations: 20–30

Severely fragmented: No

Habitats and Ecology

In southern Africa, Peak-saddle Horseshoe Bats occur in savannah woodlands and are dependent on the availability of daylight roosting sites such as caves, mine adits or boulder piles (Skinner & Chimimba 2005). They are not always present in cave sites, which suggests that are partially migratory (Rautenbach 1982), but see Hutterer et al. (2005). Within the assessment region, the species is recorded from dolimitic geology and occurs in the Mopane Bioregion, Central Bushveld, Mesic Highveld Grassland.

They occur in groups of no more than three or four (Rautenbach 1982; Monadjem 2005; Skinner & Chimimba 2005). In Swaziland, they shared a roost (an abandoned gold mine) with several other bat species, including the numerically dominant *R. clivosus* (Monadjem 2005). It is a clutter forager and aerially hawks and gleans insect prey (Siemers & Ivanova 2004). Its diet consists mainly of Lepidoptera (Schoeman 2006).

This species is similar in size and appearance to several other species (*R. simulator, R. landeri* and *R. darlingi*) but can be separated from these by the high-rising, sharply pointed connecting process and the absence of axillary tufts of hair in the armpit (Monadjem et al. 2010).

Use and Trade

Not known to be traded.

Threats

The major threat to this species within the assessment region is disturbance by tourist visits to caves, the use of the caves as shelters for livestock (ACR 2013), and the use of caves for traditional ceremonies by local communities. Re-commissioning of old mines is also a threat (Monadjem et al. 2010). Logging for firewood from

Table 2. Threats to the Peak-saddle Horseshoe Bat (*Rhinolophus blasii*) 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	*6.1 Human Intrusions & Disturbance*: recreational activities, traditional ceremonies and livestock.	-	Anecdotal	-	Unknown
2	*1.1 Housing & Urban Areas*: habitat loss through expanding human settlements.	Munyati & Kabanda 2009	Indirect	Local	20% forest cover lost between 1990 and 2006.
3	*11.5 Climate Change & Severe Weather*: climate change may reduce tree-cover.	Sherwin et al. 2013	Simulation	Regional	Unknown

local communities and deforestation is thus also suspected to be a threat. Afforestation is not suspected to be a major threat as they can utilise plantations. Climate change is a potential minor threat for bats (Sherwin et al. 2013), as it may reduce tree-cover and thus roosting and foraging sites, as well as fragmenting subpopulations.

It is unknown whether these threats are currently causing the population to decline within the assessment region.

Current habitat trend: Although EOO is not expected to decrease, habitat quality may be impacted by expanding human settlements. For example, in the eastern part of the Soutpansberg Mountain range, wood collection, plantation forestry and settlement expansion between 1990 and 2006 caused an observed reduction of 20% in indigenous forest and woodland cover (Munyati & Kabanda 2009).

Conservation

Protection of caves and monitoring of subpopulations is required. In the assessment region, the species is recorded from the protected areas: Kruger National Park; Wonderkop Nature Reserve; Cradle of Humankind Heritage Site and Ithala Game Reserve. No specific interventions are necessary at present.

Recommendations for land managers and practitioners: Field surveys to discover new roost sites and confirm occupancy of existing roost sites.

Research priorities: Taxonomic research is needed to clarify the status of the African populations.

Encouraged citizen actions: Minimise disturbance to caves when visiting.

References

ACR. 2013. African Chiroptera Report 2013. Page i-xix + 6330 pp. AfricanBats, African Chiroptera Project, Pretoria, South Africa.

Cotterill FPD. 1996. New distribution records of insectivorous bats of the families Nycteridae, Rhinolophidae and Vespertilionidae (Microchiroptera: Mammalia) in Zimbabwe. Arnoldia Zimbabwe **10**:71–89.

Data Sources and Quality

Table 4. Information and interpretation qualifiers for the Peak-saddle Horseshoe Bat (*Rhinolophus blasii*) assessment

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

Csorba G, Ujhelyi P, Thomas N. 2003. Horseshoe bats of the world: (Chiroptera: Rhinolophidae). Alana Books, Shropshire, England.

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

Hutterer R, Ivanova T, Meyer-Cords C, Rodrigues L. 2005. Bat migrations in Europe: a review of banding data and literature. 28, Naturschutz und Biologische Vielfalt. Federal Agency for Nature Conservation, Bonn, Germany.

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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.

Munyati C, Kabanda TA. 2009. Using multitemporal Landsat TM imagery to establish land use pressure induced trends in forest and woodland cover in sections of the Soutpansberg Mountains of Venda region, Limpopo Province, South Africa. Regional Environmental Change **9**:41–56.

Rautenbach IL. 1982. Mammals of the Transvaal. No. 1, Ecoplan Monograph. Pretoria, South Africa.

Table 3. Conservation interventions for the Peak-saddle Horseshoe Bat (*Rhinolophus blasii*) 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 required.	-	Anecdotal	-	-	-

Schoeman MC. 2006. The relative influence of competition and coevolution on the community structure of insectivorous bats in southern Africa. PhD thesis. University of Cape Town, Cape Town, South Africa.

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

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