Pipistrellus hesperidus – African Pipistrelle

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 species; Neoromicia species (Kearny 2005). Estimated extent of occurrence in the assessment region alone is 652,579 km².

Assessment Rationale

Listed as Least Concern in view of its wide distribution (estimated extent of occurrence in the assessment region alone is 652,579 km²), 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 abundance of this species across most of its range is largely unknown. In southern Africa, however, it is largely unknown. In southern Africa, however, it is

Population

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

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**Pipistrellus hesperidus**

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

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**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.

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### Table 1. Countries of occurrence within southern Africa

<table>
<thead>
<tr>
<th>Country</th>
<th>Presence</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botswana</td>
<td>Extant</td>
<td>Native</td>
</tr>
<tr>
<td>Lesotho</td>
<td>Absent</td>
<td>-</td>
</tr>
<tr>
<td>Mozambique</td>
<td>Extant</td>
<td>Native</td>
</tr>
<tr>
<td>Namibia</td>
<td>Absent</td>
<td>-</td>
</tr>
<tr>
<td>South Africa</td>
<td>Extant</td>
<td>Native</td>
</tr>
<tr>
<td>Swaziland</td>
<td>Extant</td>
<td>Native</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>Extant</td>
<td>Native</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Rank</th>
<th>Threat description</th>
<th>Evidence in the scientific literature</th>
<th>Data quality</th>
<th>Scale of evidence</th>
<th>Current trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.1.3 Annual &amp; Perennial Non-Timber Crops: habitat loss from agro-industry expansion; Current stress 1.3 Indirect Ecosystem Effects: loss of prey base.</td>
<td>Jewitt et al. 2015</td>
<td>Indirect (remote sensing)</td>
<td>Regional</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Intervention description</th>
<th>Evidence in the scientific literature</th>
<th>Data quality</th>
<th>Scale of evidence</th>
<th>Demonstrated impact</th>
<th>Current conservation projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.3 Habitat &amp; Natural Process Restoration: reduction of pesticide use in agricultural landscapes and conservation of buffer strips of natural vegetation.</td>
<td>-</td>
<td>Anecdotal</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**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, Dinza Forest Reserve, Phinda Private Game Reserve, Mkuzi 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>
<thead>
<tr>
<th>Data sources</th>
<th>Field study (unpublished), indirect information (literature, expert knowledge), museum records</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data quality (max)</td>
<td>Inferred</td>
</tr>
<tr>
<td>Data quality (min)</td>
<td>Suspected</td>
</tr>
<tr>
<td>Uncertainty resolution</td>
<td>Expert consensus</td>
</tr>
<tr>
<td>Risk tolerance</td>
<td>Evidentiary</td>
</tr>
</tbody>
</table>
References


Assessors and Reviewers

Ara Monadjem1, David S. Jacobs2, Lientjie Cohen3, Kate MacEwan2, Leigh R. Richards5, Corrie Schoeman4, Theresa Sethusa5, Peter J. Taylor4

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

Contributors

Claire Relton1, Domitilla Raimondo2, Samantha Page-Nicholson1

1Endangered Wildlife Trust, 2South African National Biodiversity Institute

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