Macroscelides proboscideus – Karoo Round-eared Sengi

Klaus Rudloff

Regional Red List status (2016)	**Least Concern***
National Red List status (2004)	Least Concern
Reasons for change	No change
Global Red List status (2015)	Least Concern
TOPS listing (NEMBA)	None
CITES listing	None
Endemic	No

*Watch-list Threat

Previously incorrectly named the "Short-eared Elephant Shrew". Measurements reveal that the species' ears are not shorter when compared with similar-sized elephant-shrews (Skinner & Chimimba 2005).

Taxonomy

Macroscelides proboscideus (Shaw 1800)

ANIMALIA - CHORDATA - MAMMALIA - MACROSCELIDEA - MACROSCELIDIDAE - *Macroscelides* - *proboscideus*

Synonyms: *Macroscelides proboscideus* ssp. *proboscideus* (Allen 1939)

Common names: Karoo Round-eared Sengi, Karoo Round-eared Elephant-shrew, Short-eared Elephant-shrew (English), Ronde-oorklaasneus (Afrikaans)

Taxonomic status: Species

Taxonomic notes: In the past the single family was included in the order Insectivora, but now the family is in the monophyletic order Macroscelidea and the newly created super-cohort Afrotheria. Currently, there are 19 living species recognized in four genera. The soft-furred sengis or elephant-shrews include three genera: *Petrodromus* is monospecific, *Macroscelides* contains three species. while *Elephantulus* contains 11 species. The four species of giant sengis belong to the genus *Rhynchocyon* (Rathbun 2009). The common name "sengi" is being used in place of elephant-shrew (with a hyphen) by many biologists to try and disassociate the Macroscelidea from the true shrews (family Soricidae) in the order Soricomorpha (Rathbun & Kingdon 2006).

In their revision of the genus *Macroscelides*, Dumbacher et al. (2012) elevated the two generally accepted subspecies in the genus (Corbet & Hanks 1968) to full species: *M. proboscideus* and *M. flavicaudatus*. A brand new species, which will result in three for the genus, is about to be described from northwestern Namibia (Dumbacher et al. 2014). Data found in Perrin and Rathbun (2013) is out-of-date because of the recent changes in taxonomy of this genus. See www.sengis.org and also www.afrotheria.net for additional information and literature citations.

Assessment Rationale

Although this species is not locally abundant, it is widespread in suitable habitats over a wide extent of occurrence in South Africa. Because it occupies habitats that are very arid that will not support most development without the availability of water, there are no known threats to the vast majority of the habitats occupied by the Karoo Round-eared Sengi. Areas close to rivers or reliable sources of water may have been developed, or may be developed in the future, as agricultural and urban areas. For example, a narrow area adjacent to and along the Orange River between Namibia and South Africa has been developed, but this is a relatively small area compared to the overall distribution of the Karoo Round-eared Sengi. Relatively small areas also may be impacted by mineral extraction activities, such as around the town of Springbok in South Africa and north along the coast towards the border. Again, this disturbance is confined to a relatively small area compared to the overall distribution of the species. Past, current, and future development in this region of Africa is not expected to have a significant impact on this sengi or its habitats. However, a number of wind and solar farms are proposed throughout the distribution of the species in South Africa and the potential displacement impacts of these renewable energy facilities should be monitored as emerging threats. On the other hand, bush encroachment and desertification, especially related to localised intensive goat and sheep grazing, might adversely alter habitats that these sengis occupy, and these processes should be monitored for possible negative impacts on sengi populations. The species remains listed as Least Concern.

Regional population effects: More or less continuous distribution with rest of African range (Namibia and Botswana).

Distribution

This sengi species is fairly widespread (Rathbun 2009; Dumbacher et al. 2012). Its distribution includes the southern and eastern regions of Namibia, extreme southwestern Botswana and South Africa (Rathbun 2009; Dumbacher et al. 2012). Within South Africa the species occurs in the Northern, Western and Eastern Cape

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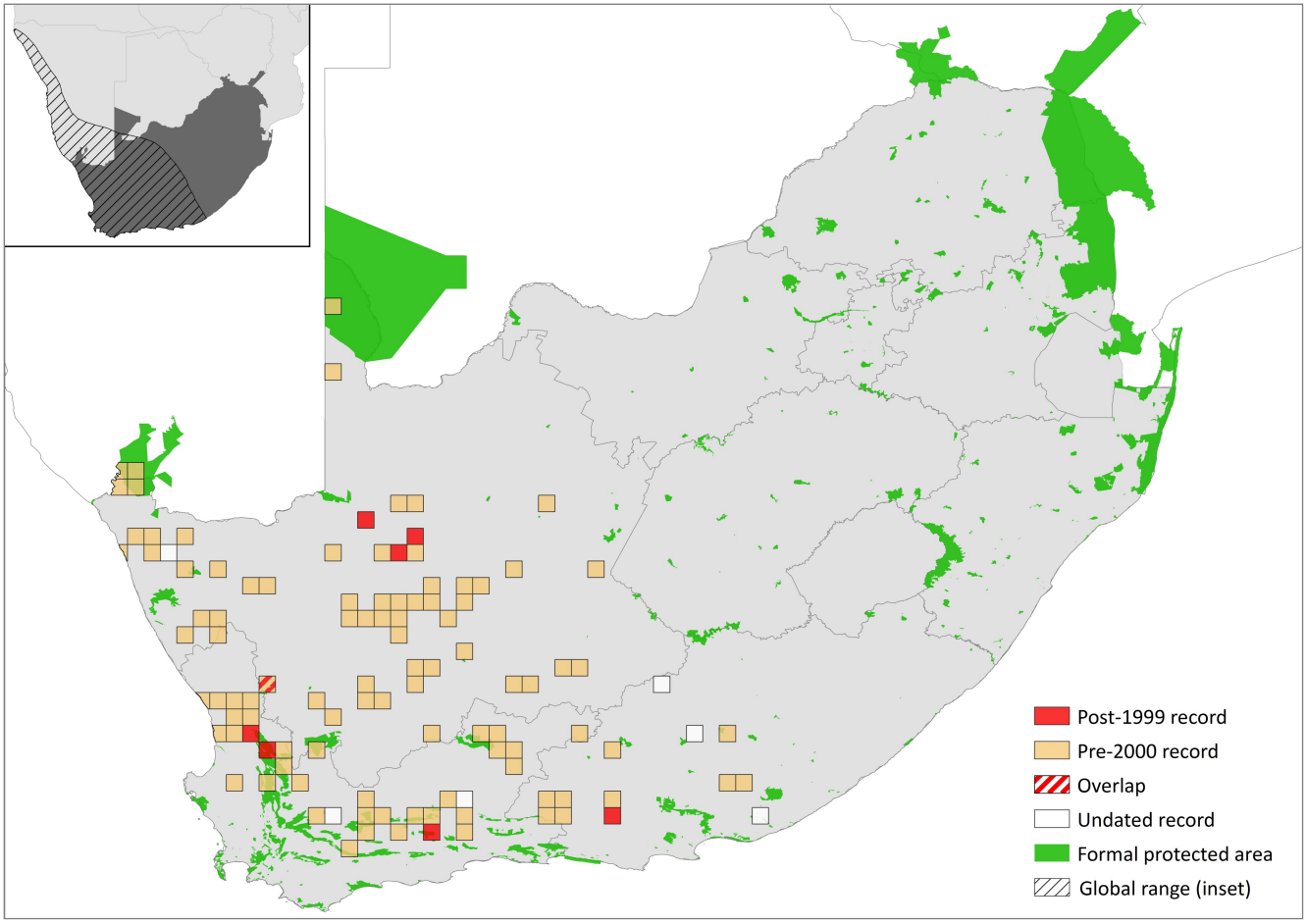

Figure 1. Distribution records for Karoo Round-eared Sengi (*Macroscelides proboscideus*) within the assessment region

Table 1. Countries of occurrence within southern Africa

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

provinces (Rathbun 2009; Dumbacher et al. 2012). This species is confined to a comparatively narrow part of the south-western subregion in the Nama-Karoo and Succulent Karoo biomes (Skinner & Chimimba 2005).

Population

Population numbers across much of the species range are assumed to be relatively low (Corbet & Hanks 1968; Rathbun 2005; Smit et al. 2009; Schubert 2011; Dumbacher et al. 2012; Perrin & Rathbun 2013). Almost no data on population dynamics of this species is available (Rathbun & Smit-Robinson 2015), but it is expected that subpopulation sizes will vary greatly in the arid habitats where it occurs (Rathbun & Smit-Robinson 2015). This is possibly correlated to climate regimes and climatic variability (Rathbun & Smit-Robinson 2015).

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

The species occurs within open country with a preference for shrub bush and areas with sparse grass cover (Skinner & Chimimba 2005). The Karoo Round-eared Sengi is a habitat specialist, which occupies gravel plains associated with alluvial plains and relatively flat areas between higher elevation areas such as outcrops, scarps, hills, and mountains (Corbet & Hanks 1968; Rathbun 2005, 2009; Rathbun & Smit-Robinson 2015). Such areas are sparsely vegetated with bunch grasses and widely spaced small bushes (Kerley 1992; Dumbacher et al. 2012; Perrin & Rathbun 2013). In addition, these areas can vary from hard gravel to looser sandy soils (Rathbun & Smit-Robinson 2015). Key vegetation types for the species includes the Succulent Karoo and the Nama Karoo Vegetation biomes.

Densities range between 0.4 and 1.6 individual / ha, and home range areas tend to be overlapping by a male and female, with male home ranges tending to be larger than those of females (Schubert 2011). Smit et al. (2009) indicate that the genetic structure within the species is

Table 2. Threats to the Karoo Round-eared Sengi (*Macroscelides proboscideus*) 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	*3.2 Mining & Quarrying*: habitat loss from mineral extraction.	-	Anecdotal	-	Ongoing
2	*2.3.2 Small-holder Grazing, Ranching or Farming*. Current stress *1.2 Ecosystem degradation*: overgrazing leading to loss of ground cover.	-	Anecdotal	-	Stable
3	3.*3 Renewable Energy*: habitat loss from solar and wind energy.	-	Anecdotal	-	Increasing
4	*3.1 Oil & Gas Drilling*: habitat loss from hydraulic fracturing.	-	Anecdotal	-	Future

mostly a pattern of isolation-by-distance, typical of a species with a continuous rather than clustered distribution.

Ecosystem and cultural services: Sengi species are thought to be included in San art and are therefore subject to local folklore.

Use and Trade

There is no indication that this species has ever been used by people for any purposes. It has been infrequently exported to various zoological gardens over the last few decades, where husbandry techniques have been developed, breeding has been achieved, and research results have been published (Olbricht 2009).

Threats

There are no known major threats to the species. However, local declines due to habitat modification to relatively small areas may occur near rivers and human population centres due to small-holder and industrial agriculture, mineral extraction, and urban development (Rathbun & Smit-Robinson 2015). Changes in habitats due to desertification and bush encroachment and proposed wind and solar energy (especially in the Northern Cape) facilities may adversely alter habitats for sengis and displace them from such areas, but at present these changes appear neither widespread nor serious, especially since the species is associated with arid habitats.

Current habitat trend: This species occurs in rocky habitats unlikely to be transformed extensively. However, livestock and wildlife ranching may have detrimental effects on habitat quality through overgrazing.

Conservation

As this species is widespread, it is not in conflict with most human activities; and it likely occurs in many protected areas (for example, Goegap Nature Reserve, Gamkaberg Nature Reserve, Skilpad Nature Reserve, Tankwa Karoo National Park, Mokala National Park, Richtersveld National Park, Augrabies Falls National Park, Namaqua National Park, and Karoo National Park), thus there are no conservation actions recommended at present or in the foreseeable future. Protected area expansion would, however, benefit this species by connecting subpopulations and mitigating fragmentation from solar power developments.

Recommendations for land managers and practitioners:

- Continue to accumulate information on occurrence points (see www.sengis.org).
- Land managers should stock cattle or game at ecological levels.

Research priorities:

- Determining the impacts of habitat shifts, including livestock grazing, on local populations.
- Determining the proportion of the total distribution range that occurs in protected areas.

Encouraged citizen actions:

- Citizens are encouraged to report sightings on virtual museum platforms (for example, iSpot and MammalMAP) with photographic confirmation.

Table 3. Conservation interventions for the Karoo Round-eared Sengi (*Macroscelides proboscideus*) 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	*1.1 Site/Area Protection:* protected area expansion.	-	Anecdotal	-	-	-
2	*1.1 Site/Area Management*: maintain stocking rates at ecological levels.	-	Anecdotal	-	-	-

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Data Sources and Quality

Table 4. Information and interpretation qualifiers for the Karoo Round-eared Sengi (*Macroscelides proboscideus*) assessment

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

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Species Champion

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