Mus neavei – Thomas's Pygmy Mouse

Photograph

wanted

Regional Red List status (2016)	Data Deficient*
National Red List status (2004)	Data Deficient
Reasons for change	No change
Global Red List status (2008)	Data Deficient
TOPS listing (NEMBA) (2007)	None
CITES listing	None
Endemic	No

*Watch-list Data

Although its distribution may be more widespread, Thomas's Pygmy Mouse is only known from two disjunct localities in South Africa: Wolkberg Wilderness Area (Limpopo Province) and Mkhuze Game Reserve (KwaZulu-Natal).

Taxonomy

Mus neavei (Thomas 1910)

ANIMALIA - CHORDATA - MAMMALIA - RODENTIA - MURIDAE - *Mus* - *neavei*

Common names: Thomas's Pygmy Mouse, Neaves's Pygmy Mouse (English), Thomas se Dwergmuis (Afrikaans)

Taxonomic status: Species

Taxonomic notes: Although originally described as a species; *Mus neavei* was later regarded as a subspecies of *M. sorella* (Ansell 1978; Meester et al. 1986; Skinner & Smithers 1990). More recently, however, Petter (1981) suggested that *M. neavei* should be reclassified to species status, as it differs from *M. sorella* in its fur colour, body size, and its cranial and molar structure. This recommendation was corroborated and accepted by Musser and Carleton (1993) and Bronner et al. (2003). Although, commonly confused with *M. indutus* (the Desert Pygmy Mouse) and *M. minutoides* (the Pygmy Mouse), this species can be distinguished by its lower three-rooted second molar and pro-odont incisors (Meester et al. 1986).

Assessment Rationale

This species is listed as Data Deficient in view of continuing uncertainty as to its extent of occurrence, natural history, threats and population size. Within the assessment region there are only a handful of records from Mkhuze Game Reserve and Wolkberg Nature Reserve. The species appears to be naturally uncommon, and its conservation status and taxonomy are unclear. Further vetting of museum records and field surveys are required to resolve the uncertainty around this species. It should be reassessed when additional data become available.

Regional population effects: Isolated and disjunct subpopulations of this species have been recorded in South Africa and Zimbabwe/Zambia, thus no rescue effect is possible.

Distribution

Thomas's Pygmy Mouse has a largely unresolved distribution, as it is commonly misidentified as *M. minutoides*, but is thought to range patchily from northern South Africa northwards to Tanzania (Monadjem et al. 2015). Although, further investigation and confirmation is necessary, this species has been reported from north-eastern South Africa, southern Zimbabwe, western and southern Mozambique, Zambia, southern Tanzania and the Democratic Republic of Congo (Skinner & Chimimba 2005).

Within the assessment region, it is only known from two localities at present: Wolkberg Wilderness Area in Limpopo Province, where Newbery and Bronner (2002) first confirmed the presence of the species within the assessment region, and Mkhuze Game Reserve in KwaZulu-Natal (Figure 1), which was identified both morphologically and genetically (Lamb et al. 2014). Newbery and Bronner (2002) suggest that the species may be more widespread in Limpopo, but additional surveying is needed to determine the extent of its distribution in the assessment region.

Population

The current population abundance of *M. neavei* is unknown, partly because it is frequently mistaken for *M. minutoides* and *M. indutus*. These species are extremely difficult to distinguish from one another without thorough analysis of their teeth. Thomas's Pygmy Mouse has three-roots on its second lower molars, whereas the Desert Pygmy Mouse and the Pygmy Mouse have only two roots on these teeth. Additionally, Thomas's Pygmy Mouse has pro-odont incisors, rather than opisthodont incisors, as seen in the other two species (Meester et al. 1986; Lamb et al. 2014).

Only a handful of records exist for this species within the assessment region and the Mkhuze record was collected over intensive pitfall trapping. This specimen was identified as *M. neavei* based on its distinct tawny fur

Recommended citation: Relton C, Taylor PJ, Monadjem A. 2016. A conservation assessment of *Mus neavei*. 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.

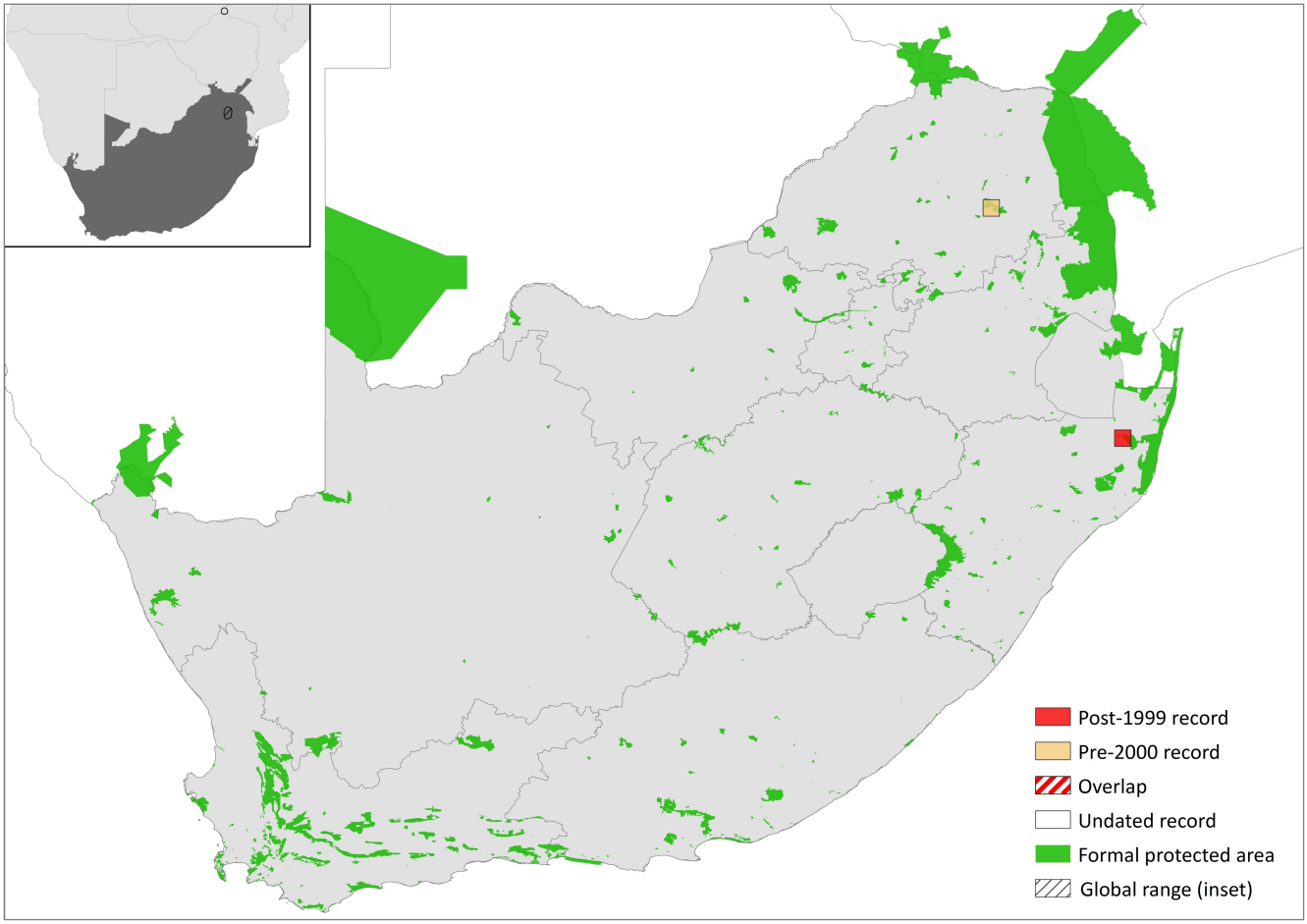

Figure 1. Distribution records for Thomas's Pygmy Mouse (*Mus neavei*) within the assessment region

Table 1. Countries of occurrence within southern Africa

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

colour and pro-odont incisors, but was extremely alike in cytochrome b sequence divergence to *M. minutoides* (Lamb et al. 2014).

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

Number of subpopulations: Unknown

Severely fragmented: Unknown

Habitats and Ecology

The specimens collected from Wolkberg Wilderness Area in the Limpopo Province were found on sandy loam soil in a rocky (quartzite) montane grassland habitat (Newbery & Bronner 2002). The surrounding habitat consisted of Bracken Fern (*Pteridium aquilinum*) along the drainage line, and a *Protea* woodland (Newbery & Bronner 2002). It is unknown whether this species is a habitat specialist, and very little information is available regarding its life history.

Ecosystem and cultural services: Aside from the prospect of small-scale seed dispersal, no specific ecosystem services have been identified for this species, however this may simply reflect the paucity of information available for this poorly-known species.

Use and Trade

This species does not appear to be utilised or traded in any form.

Threats

As this species has only been confirmed from two localities in South Africa, the extent of its distribution is unknown, and thus the major threats to this species cannot be distinguished.

Current habitat trend: Unknown

Conservation

It is possible that this species is located within more protected areas within Limpopo and KwaZulu-Natal provinces, but this cannot be established until the range of this species has been more thoroughly investigated.

Additional research into the population abundance, distribution, general ecology and threats faced by this species is necessary for a more accurate investigation of its conservation status.

Recommendations for land managers and practitioners:

- Fieldwork to survey for subpopulations and assess its distributional limits and the extent of anthropogenic threats is urgently needed.

Research priorities:

- Research is needed to establish the geographic range limits and to gather basic data on natural history of this species, including taxonomy, ecology, and population size, distribution and trends.
- Vetting of museum records to identify previously unidentified localities.
- Studies into specific threats to this species, and corresponding conservation actions are needed.

Encouraged citizen actions: None

References

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Data Sources and Quality

Table 2. Information and interpretation qualifiers for the Thomas's Pygmy Mouse (*Mus neavei*) assessment

Data sources	Museum records, field study (literature)
Data quality (max)	Suspected
Data quality (min)	Suspected
Uncertainty resolution	Expert consensus
Risk tolerance	Evidentiary

Assessors and Reviewers

Claire Relton[1], Peter Taylor[2], Ara Monadjem[3]

[1]Endangered Wildlife Trust, [2]University of Venda, [3]University of Swaziland

Contributors

Matthew Child[1], Nico Avenant[2], Margaret Avery[3], Rod Baxter[4], Duncan MacFadyen[5], Guy Palmer[6], Beryl Wilson[7]

[1]Endangered Wildlife Trust, [2]National Museum, Bloemfontein, [3]Iziko South African Museums, [4]University of Venda, [5]E Oppenheimer & Son, [6]Western Cape Nature Conservation Board, [7]MacGregor Museum

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