Cricetomys ansorgei – Southern Giant Pouched Rat

Regional Red List status (2016)	**Least Concern**
National Red List status (2004)	Vulnerable C1
Reasons for change	Non-genuine: New information
Global Red List status (2008)	Least Concern
TOPS listing (NEMBA)	None
CITES listing	None
Endemic	No

This species is the largest species of rat in the sub-region, characterized by the white tip to the tail, and lives commensally with humans (Skinner & Chimimba 2005).

Taxonomy

Cricetomys ansorgei Thomas, 1904

ANIMALIA - CHORDATA - MAMMALIA - RODENTIA - NESOMYIDAE - *Cricetomys* - *ansorgei*

Synonyms: *C. adventor* Thomas & Wroughton 1907; *C. cunctator* Thomans & Wroughton 1908; *elongis* Thomas 1910; *C. enguvi* Heller 1912; *C. osgoodi* Heller 1912; *C. g. consensi* Hinton 1919; *C. haagneri* Roberts 1926; *C. vaughan-jonesi* St Leger 1937; *C. selindensis* Roberts 1946 (all former subspecies under *C. gambianus*)

Common names: Southern Giant Pouched Rat, African Giant Rat, Gambian Rat, Giant Pouched Rat, Giant Rat, (English), Reuse Rot (Afrikaans), Ndovhi (Venda)

Taxonomic status: Species

Taxonomic notes: While previously included under *C. gambianus*, it has been elevated to species status (Musser & Carleton 2005; Olayemi et al. 2012). Olayemi et al. (2012) used mitochondrial cytochrome *b* phylogeny in combination with cranial measurement data to separate this African genus into six species (*C. gambianus*, *C. ansorgei*, *C. emini*, *C. kivuensis* and two undescribed species). Currently the precise distributional limits of the species are undefined. However, they can be broadly differentiated based on their geographic ranges (Monadjem et al. 2015). *Cricetomys ansorgei* is distributed in the savannahs of East Africa and the northern regions of southern Africa. This species cannot be distinguished from other *Cricetomys* species based on morphological characteristics, but is dissimilar on a molecular level (Olayemi et al. 2012), and is the only species of this genus occurring within the assessment region.

Assessment Rationale

Although the species is on the edge of its southerly range within South Africa, it occurs in a number of protected areas, tolerates habitat modification (commensal with humans), and is expanding its range in parallel with human settlements. The added availability of food associated with these settlements has resulted in increased numbers in these areas. There are currently no major threats that could result in population decline. Although heavily hunted for bushmeat in some areas, their numbers seem to be increasing as they are regularly detected on camera traps in local communities and are often considered a crop pest. While Friedmann and Daly (2004) listed this species as Vulnerable C1 based on suspected small population size and the assumption that the population was isolated, combined with the assumption that it was threatened by agricultural expansion, we now know that the species is resilient to anthropogenic disturbance and is likely to be expanding with human settlements. Furthermore, contrary to what was reported in 2004, this species is connected with the rest of its range through rural settlements and the rescue effect is possible.

Regional population effects: Rescue effect is possible through dispersal across Botswana, Zimbabwe and Mozambique. The population is not isolated, and its range appears to be continuous throughout the savannah regions of southern Africa. It is a large species, capable of dispersal, and is not hampered by urban and peri-urban environments.

Distribution

The range of *C. ansorgei* is widespread in the savannahs of southern and East Africa (Olayemi et al. 2012), extending into the Congo Basin where the forest has been cleared (Monadjem et al. 2015). The northern limits of this species are unknown, particularly in East Africa, where its relationship to *C. gambianus* is not currently known (Monadjem et al. 2015).

Within the assessment region, they occur in Limpopo Province, including Punda Maria in the northern Kruger National Park and within the Thohoyandou district. De Graaf (1981) suggested that they occur in St Lucia, KwaZulu-Natal. However, subsequent surveys discount its presence in this area (Taylor 1998). Although Friedmann and Daly (2004) suggested the South African population was isolated in the Limpopo Province and northern

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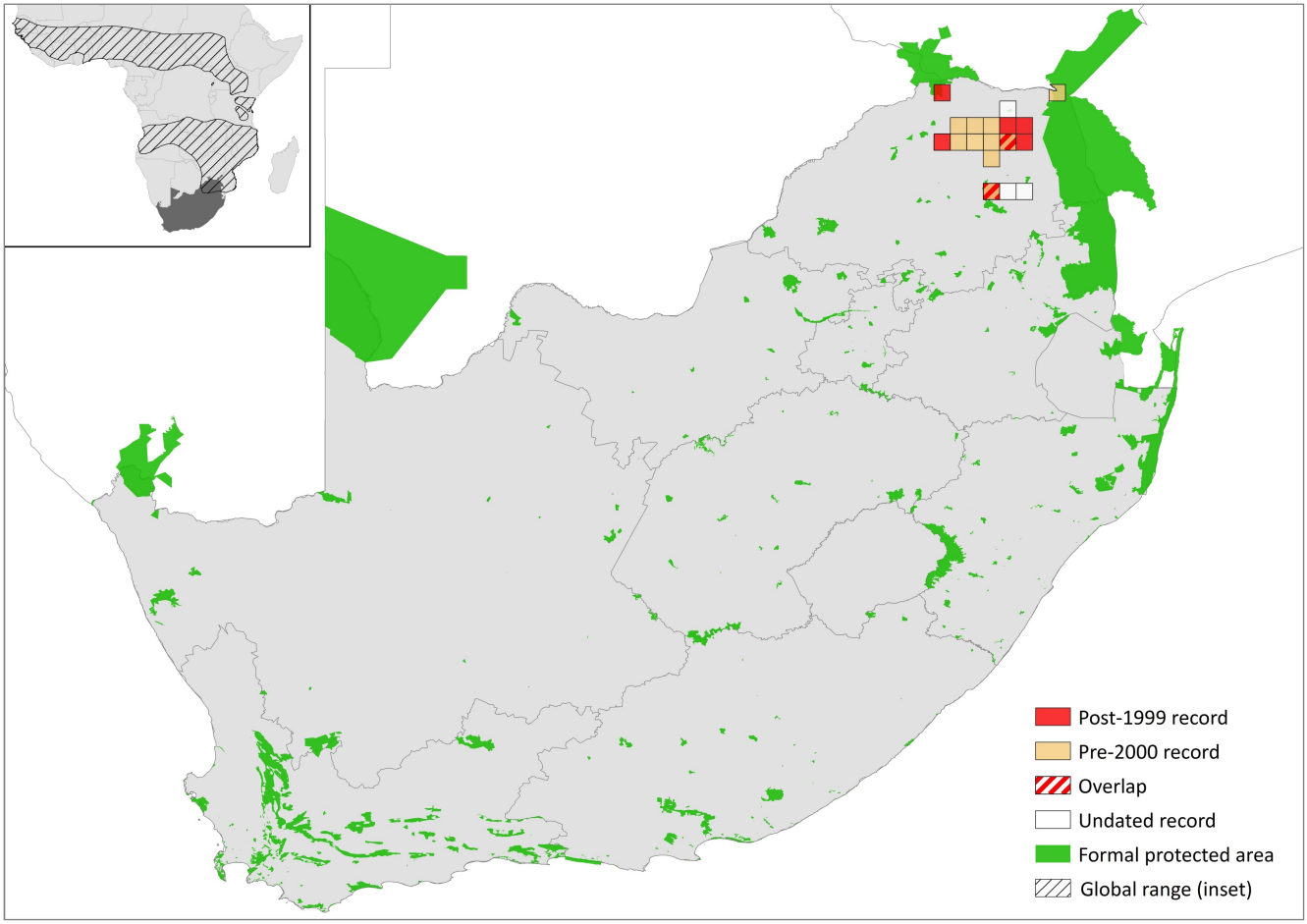

Figure 1. Distribution records for Southern Giant Pouched Rat (*Cricetomys ansorgei*) within the assessment region

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	Absent	-
Zimbabwe	Extant	Native

KwaZulu-Natal, limited almost entirely to the Soutpansberg Mountains, new information suggests a more extensive distribution and a range expansion along with human settlements, which are expanding on the boundaries of protected areas (*sensu* Wittemyer et al. 2008). This species is relatively common in Punda Maria rest camp and encountered at Pafuri in northern Kruger National Park (D. MacFadyen unpubl. data).

Population

This species is relatively common within its range. While no density estimates are available from South Africa, 42 individuals were taken from a 0.5 ha garden in Zimbabwe (Smithers 1983). Its ability to utilise urban and peri-urban environments has allowed population increases in certain areas. Further research is needed to confirm increased population size within the assessment region.

Current population trend: Stable, with some increases with urban and peri-urban areas across the range.

Continuing decline in mature individuals: No

Number of mature individuals in population: Unknown

Number of mature individuals in largest subpopulation: Unknown

Number of subpopulations: Unknown

Severely fragmented: No, this species is known to disperse alongside expanding human settlements.

Habitats and Ecology

The species occurs in various habitats including savannah, forest and woodland (Mugo et al. 1995), as well as farmland, cropland, plantations and rural areas. It is considered to be an adaptable species that is even known to invade sewers. According to Skinner and Chimimba (2005), it has been observed to be expanding its range alongside rural settlements and is not believed to be affected by decline in habitat quality. This would be expected in South Africa, particularly in Thohoyandou. Modified habitats are suitable for this species, including cane fields, subsistence farms and human settlements.

The species is primarily nocturnal, but is occasionally active during the late afternoons or early mornings, usually limited to areas of suitable vegetation cover (Skinner & Chimimba 2005). They hoard food within burrows, generally located at the base of large trees or under boulders, where the environment is moist and well-shaded (Knight 1986). Smithers (1983) noted that these rats are

prone to gathering small, often brightly coloured miscellaneous objects, such as bottle caps, string, nails, bones and wire, and storing them within their burrows. Although uncommon, arboreal behaviour is not entirely absent, particularly within agricultural areas with fruit trees.

As a generalist, and due to slow digestive rates and a complex digestive system, this species is able to forage successfully on poor quality food. They are omnivores and will consume a variety of food types (such as fruit, bulbs, grains and insects, particularly termites), but primarily vegetable matter. The large cheek pouches are used to transport food and nesting materials. Cultivated foods, such as mangoes, avocados, pecans, macadamias, maize, sorghum, pumpkins and beans, are particular favourites (Skinner & Chimimba 2005). They appear to be directly dependent on the availability of fresh water, or at least its presence in fleshy fruits (Skinner & Chimimba 2005).

They are generally solitary; however, pairs may remain together in a single burrow while breeding (Skinner & Chimimba 2005). Litter size ranges from 2–4 (Knight 1986), and this species is known to reproduce well in captivity (Skinner & Chimimba 2005).

Ecosystem and cultural services:

- This species has an excellent sense of smell and is used as a mine-detection animal in Mozambique and Tanzania. In 2009, the rats searched 93,400 m^2 of Mozambique, finding 41 mines and 54 other explosive devices, while humans with metal detectors found no additional mines (Poling et al. 2010, 2011; https://www.apopo.org/en/).
- It is an important source of protein for some rural communities and the bushmeat trade may be sustainable if regulated, similar to Cane Rat (*Thryonomys swinderianus*) farming in West and central Africa (Adu et al. 1999).

Use and Trade

Anecdotal evidence suggests that this species is utilised for bushmeat by local communities in Limpopo and in the pet trade by farmers. In Mozambique and Tanzania, this species is used to detect mines, due to its excellent sense of smell (Poling et al. 2010). They are now also being used to detect tuberculosis (Poling et al. 2011). This species is frequently traded and bred as pets (Cooper 2008). They are easily tamed as pets and, until recently, were commonly imported as pets to the United Kingdom and United States. However, in 2003 they were associated with an outbreak of monkeypox in the USA (Witmer et al. 2010), and have since been banned from importation to the USA.

Threats

There are no major threats to this adaptable species. However, there are a few minor threats to the species within the assessment region:

1. It is hunted for bushmeat by local communities in the Limpopo Province but this is not as prevalent as in other African countries.
2. It has potential to be used in the pet trade but this is considered a minor threat as the species is not regularly recorded in pet-trade syndicates within the assessment region.
3. It is considered a pest in certain areas, and the use of poison by farmers is a possible threat.
4. Although this species is able to adapt well to modified habitats, the expansion of alien invasive vegetation (especially *Eucalyptus* spp. and *Pinus* spp.) may have an effect on habitat suitability for this species.
5. Domestic animals, such as dogs, may be a minor threat to this species in urban and peri-urban environments.

However, no population declines have been reported for the above threats and the species appears resilient to anthropogenic disturbances.

Current habitat trend: Stable

Conservation

The species occurs in several protected areas within the assessment region such as the Kruger National Park, the Greater Mapungubwe Transfrontier Conservation Area, Lajuma Private Nature Reserve and Happy Rest Nature Reserve. Wildlife ranches are expected to make a limited contribution to the conservation status of the species as modified habitats are often utilised (Skinner & Chimimba 2005). No specific interventions are necessary at present, as their numbers are suggested to be increasing, particularly in vegetable gardens and agricultural areas alongside their forest habitats (Mugo et al. 1995).

Recommendations for land managers and practitioners:

- This species could potentially form part of the rural, wildlife-based economy by becoming low-carbon, cheap protein. They have a faster reproductive rate than Cane Rats and could potentially be farmed for

Table 2. Use and trade summary for the Southern Giant Pouched Rat (*Cricetomys ansorgei*)

Category	Applicable?	Rationale	Proportion of total harvest	Trend
Subsistence use	Yes	Bushmeat use	Unknown	Stable
Commercial use	Yes	International commercial as exotic pets; however, trade of this species to the US is now banned.	Unknown	Stable
Harvest from wild population	Yes	Bushmeat	Unknown	Stable
Harvest from ranched population	No	-	-	-
Harvest from captive population	Yes	Pet trade	Unknown	Stable

sustainable utilisation. In West Africa, Gambian Rat meat is considered a marketable proposition (Mainka & Trivedi 2002).

- Investigate breeding programmes to replace harvesting animals from the wild.

Research priorities:

- Geographic distribution within the assessment region and patterns of dispersal with rural settlements.
- Efficacy of farming this species as a low-carbon protein source, assessment of demand and supply.
- Research into the biology of the species in the wild, with special reference to reproduction and dispersal.
- Population size, trend estimates, as well as reproduction and dispersal rates.

Encouraged citizen actions:

- Report sightings on virtual museum platforms (for example, iSpot and MammalMAP), especially outside protected areas.
- Support the HeroRATS Project where this species is used to detect land-mines and tuberculosis.
- Promote organic methods of problem animal control, without resorting to poisons.

References

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Data Sources and Quality

Table 3. Information and interpretation qualifiers for the Southern Giant Pouched Rat (*Cricetomys ansorgei*) assessment

Data sources	Field surveys (unpublished), indirect information (literature, expert knowledge)
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.*