Rhynchogale melleri – Meller's Mongoose


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Regional Red List status (2016)	Least Concern*
National Red List status (2004)	Data Deficient
Reasons for change	Non-genuine
Global Red List status (2015)	Least Concern
TOPS listing (NEMBA) (2007)	None
CITES listing	None
Endemic	Edge of range

*Watch-list Data

Meller's Mongoose may have predominantly brown, black or white tail hairs within any one population. Its densely furred and swollen upper lip and set-back nostrils are possible adaptations to feeding on termites.

Taxonomy

Rhynchogale melleri (Gray 1865)

ANIMALIA - CHORDATA - MAMMALIA - CARNIVORA - HERPESTIDAE - *Rhynchogale* - *melleri*

Common names: Meller's Mongoose (English), Meller se Muishond (Afrikaans)

Taxonomic status: Species

Taxonomic notes: Meester et al. (1986) listed two subspecies from the southern African subregion: 1) *R. m. melleri* and 2) *R. m. langi*. The latter is the only subspecies present in the assessment region, more specifically, from eastern Limpopo and Mpumalanga provinces, and Swaziland (Skinner & Chimimba 2005).

Assessment Rationale

Meller's Mongoose is listed as Least Concern since, although it is uncommon and lives at low density across its distribution, the majority of its range encompasses well-protected savannah habitats, such as Kruger National Park. The expansion of wildlife ranching may have created additional suitable habitat, especially bordering Kruger. Although this species may be experiencing local declines from dog hunting and maybe road collisions or untargeted snaring and poisoning, there is no evidence to suggest that this is causing range-wide decline. However, camera-trap monitoring should be used to assess occupancy more comprehensively and to estimate densities. This species' conservation status should be reassessed when better data become available.

Regional population effects: Although this species is on the edge of its range in the assessment region, dispersal is likely across the northern borders and therefore rescue effects are presumably possible.

Distribution

Meller's Mongoose is confined to the eastern sections of the African continent and throughout its range it is not considered common (Skinner & Chimimba 2005). It ranges from central Tanzania south through Malawi, Zambia, Zimbabwe and Mozambique, to Swaziland and northeastern South Africa (Stuart & Stuart 2013). A possible record from Chobe National Park in Botswana (Purchase et al. 2007), if substantiated, would be the first record for this country. The presence of Meller's Mongoose has recently been confirmed in the Lower Zambezi Protected Area Complex (Bird & Mateke 2013) as well as in the North Luangwa Valley where it was one of the two small carnivore species camera-trapped most often (White 2013). This small carnivore has also been recorded in Niassa Game Reserve, Mozambique (C.M. Begg and K.S. Begg pers. comm. 2012) and camera-trapped frequently in recent years in Debshan Ranch, north of Bulawayo, Zimbabwe (C.R. Edwards pers. comm. 2015–2016).

Within the assessment region, Meller's Mongoose is rare but it has been recorded in eastern Mpumalanga, southeastern parts of Limpopo, and in the north of Swaziland (Skinner & Chimimba 2005). However, its presence in Swaziland has not been confirmed since 1937, when a type specimen was recorded (Skinner & Chimimba 2005). Camera-trapping studies in the Ka-Ndengeza and Vyeboom villages (Vhembe district, Limpopo Province) and the Greater Lydenburg Area (Mpumalanga Province) in South Africa confirmed this species' presence (L.H. Swanepoel and G. Camacho pers. obs. 2014). Recent camera-trap studies have also confirmed its presence in the Maputaland Conservation Unit of KwaZulu-Natal Province (Ramesh et al. 2016) and it has been identified from Ithala Game Reserve (C. Stuart & M. Stuart unpubl. data; these data are not reflected in Figure 1 as they were unavailable at the time of the assessment), which extends its known distribution range to the south of Swaziland. In Mpumalanga they have been recorded from 250 m asl to 1,500 m asl; in Tanzania they have been recorded up to 1,850 m asl (De Luca & Mpunga 2005).

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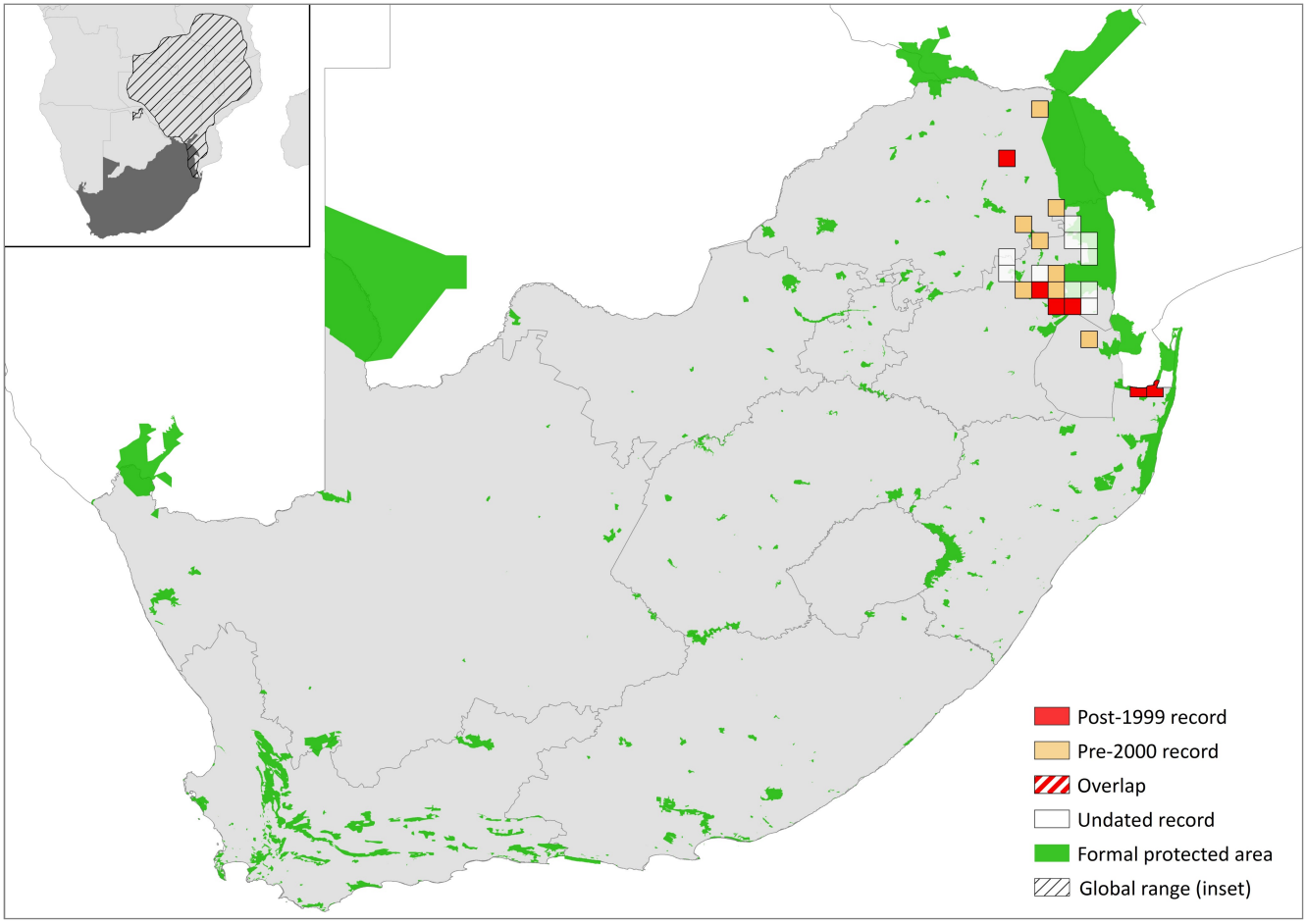

Figure 1. Distribution records for Meller's Mongoose (*Rhynchogale melleri*) within the assessment region

Table 1. Countries of occurrence within southern Africa

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

Population

Meller's Mongoose is considered uncommon to rare, but it may be easily overlooked or confused with other mongoose species such as Water Mongoose (*Atilax paludinosus*), White-tailed Mongoose (*Ichneumia albicauda*) or Selous' Mongoose (*Paracynictis selousi*). Population size is unknown. However, it is an edge of range species and its range is continuous with other regions. As there are no major threats to this species and its stronghold within the assessment region is likely Kruger National Park (KNP), we infer that overall the population is stable.

Current population trend: Unknown, but probably stable.

Continuing decline in mature individuals: Unknown, but probably not.

Number of mature individuals in population: Unknown

Number of mature individuals in largest subpopulation: Unknown, but probably in Kruger National Park.

Number of subpopulations: It is not currently possible to determine the extent or number of subpopulations.

Severely fragmented: No. Favourable habitat is relatively well connected across this species' range.

Habitats and Ecology

Meller's Mongoose is a savannah species, mainly associated with open woodland and grassland with termitaria (Skinner & Chimimba 2005; Stuart & Stuart 2013). It is found in miombo woodlands in Zambia (White 2013) and montane bamboo forests in Tanzania (De Luca & Mpunga 2005). Within Mpumalanga, more specifically the Manyeleti Game Reserve and Sabi Sands Game Reserve, the species has been found in savannah woodlands, whereas in KNP (Limpopo and Mpumalanga) it has been recorded from the low-lying granitic soils to the mountainous areas (Skinner & Chimimba 2005).

Meller's Mongoose is solitary and nocturnal (Skinner & Chimimba 2005). Termites – particularly *Macrotermes* spp. and *Hodotermes* spp. – seem to make up the majority of its diet, but it will also feed on small vertebrates, invertebrates and occasionally, wild fruit (Skinner & Chimimba 2005). No information is available on the spatial behaviour and detailed activity patterns of this species. Little is known of the reproductive biology, except that females give birth to two to three young during the summer wet season (Stuart & Stuart 2013).

Table 2. Possible net effects of wildlife ranching on the Meller's Mongoose (*Rhynchogale melleri*) and subsequent management recommendations

Net effect	Positive
Data quality	Suspected
Rationale	Moderately overstocked wildlife ranches may increase termite abundance, which could be favourable to Meller's Mongoose.
Management recommendation	Conserve termite mounds where possible. Use holistic (selective or non-lethal) control methods for damage-causing animals.

Ecosystem and cultural services: None specifically reported. Although this species may be a valuable predator of agricultural pest species such as termites and other arthropods, its apparently naturally low densities suggest that it would likely not have a substantial control effect in this context.

Use and Trade

It is unknown whether Meller's Mongoose is used as bushmeat. It is assumed that, like several other Carnivora, this species may be utilized in muthi (traditional medicine). However, as the chances of capturing this mongoose are low (owing to its skittish nocturnal and solitary behaviour), it is highly unlikely that it is highly sought after and actively hunted. Instead it might rather be killed accidentally by dogs when hunting for ungulates or lagomorphs.

The expansion of wildlife ranching may have created additional suitable and preserved habitat, especially bordering KNP. It is possible that Meller's Mongoose does well in partially degraded grassland – being in some wildlife ranches or well-managed cattle ranches – since some harvester termites (e.g. *Hodotermes* spp.) are more effective and abundant when grasslands are overgrazed or disturbed (Picker et al. 2004). Highly overgrazed areas, however, are unlikely to be favourable to Meller's Mongoose. Because this small carnivore seems to naturally live at low density, most landowners would likely not know about its presence on their land.

Threats

There are no major threats to the species. Its favoured habitat is extensive, and in some parts overlaps with very low human population densities. However, in some parts of the range (e.g. KwaZulu-Natal) there has been considerable expansion of the human population and their dogs (sensu Grey-Ross et al. 2010), which could represent a significant localised threat (Stuart & Stuart 2013). While the species has been recorded in areas dominated by domestic/feral dogs (Ka-Ndengeza and Vyeboom villages, Vhembe district, Limpopo Province), detection rates were low (L.H. Swanepoel pers. obs. 2014). Meller's Mongooses are sometime killed by vehicles, but the impact of this threat is probably low. Finally, it is likely that a small number of individuals are killed or poisoned as bycatch in some control operations of damage-causing animals, but we do not have data to confirm this assumption.

Current habitat trend: Stable or slightly expanding.

Conservation

Meller's Mongoose have been recorded from several protected areas across its range. It is protected in KNP, the private protected areas on the western boundary of KNP and several protected areas in KwaZulu-Natal.

Currently, there are no conservation actions that target this species. More information on the biology and ecology of Meller's Mongoose, and a better evaluation of the impact of identified and suspected threats, are needed in order to adequately evaluate whether conservation interventions need to be devised and implemented. Meanwhile, some general conservation interventions will certainly benefit the species.

Table 3. Threats to the Meller's Mongoose (*Rhynchogale melleri*) 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	*8.1.2 Invasive Non-Native/Alien Species/Diseases*: increasing population of domestic/feral dogs from expanding human settlements adjacent to KNP and Ithala Game Reserve. Current stress *2.1 Species Mortality*: species killed by domestic/feral dogs.	-	Anecdotal	Local	Increasing
2	*5.1.2 Hunting & Collecting Terrestrial Animals*: species killed accidentally when hunting ungulates and lagomorphs with dogs.	-	Anecdotal	Local	Increasing
3	*4.1 Roads & Railroads*: road collisions.	-	Anecdotal	-	Probably minimal and stable.
4	*5.1.2 Hunting & Collecting Terrestrial Animals*: species killed unintentionally through poisoning and snaring to control damage-causing animals.	-	-	-	Probably minimal and stable.

Table 4. Conservation interventions for the Meller's Mongoose (*Rhynchogale melleri*) 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*: avoid use of poison and promote use of the "holistic" approach to the management of damage-causing animals instead.	-	Anecdotal	-	-	-
2	*4.3 Awareness & Communications*: establish a national campaign to educate the public (especially in rural areas) about responsible domestic dog ownership.	-	Anecdotal	-	-	-

Recommendations for land managers and practitioners:

- Conserve termite mounds where possible.
- Use holistic (selective or non-lethal) control methods for damage-causing animals.

Research priorities:

- Assess occupancy and estimate densities in selected areas of this species' distribution, possibly by means of camera-trapping.
- Conduct in-depth studies to acquire a better understanding of the biology and ecology of the species, notably regarding population demographics at the local scale.

Encouraged citizen actions:

- Report sightings on virtual museum platforms (for example, iSpot and MammalMAP), especially outside protected areas. As confusion with other mongoose species is possible, a photograph is required for confirmation of identification.

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Data Sources and Quality

Table 5. Information and interpretation qualifiers for the Meller's Mongoose (*Rhynchogale melleri*) assessment

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