Amblysomus septentrionalis – Highveld Golden Mole


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Regional Red List status (2016)	Near Threatened B2ab(ii,iii)*
National Red List status (2004)	Near Threatened B2ab(ii,iii)
Reasons for change	No change
Global Red List status (2015)	Near Threatened B2ab(ii,iii)
TOPS listing (NEMBA)	None
CITES listing	None
Endemic	Yes

*Watch-list Data

The Highveld Golden Mole is the second largest *Amblysomus* species, weighing between 56 g and 86 g (Skinner & Chimimba 2005).

Taxonomy

Amblysomus septentrionalis (Roberts 1913)

ANIMALIA - CHORDATA - MAMMALIA - AFROSORICIDA - CHRYSOCHLORIDAE - *Amblysomus* - *septentrionalis*

Common names: Highveld Golden Mole (English), Hoëveld Gouemol (Afrikaans)

Taxonomic status: Species

Taxonomic notes: Traditionally recognized as a subspecies of the Zulu Golden Mole (*A. iris* - a species now incorporated into *A. hottentotus* and *A. corriae*). Bronner (1996) raised *septentrionalis* to a full species based on unique chromosomal and craniometric properties. No subspecies are currently recognized (Skinner & Chimimba 2005), but *A. orangensis* from the Parys/Heilbron district, Free State Province, may qualify for subspecies status pending the availability of chromosomal and genetic data.

Assessment Rationale

The species is listed as Near Threatened as it is currently known from 12 localities, with an area of occupancy estimated at 2,500 km^2 (extent of occurrence too large for a Vulnerable listing under Criterion B1), and based on multivariate morphometrics predictions, it is probably more widespread than current records indicate. Observed habitat degradation associated with mining for shallow coal deposits to fuel numerous power stations that occur in the preferred high-altitude grassland habitats of this species, is an inferred major threat. Rehabilitation attempts at these sites appear to have been largely ineffective. These power stations form the backbone of South Africa's electricity network, and disturbance is likely to increase as human populations grow and the demand for power increases. Farming and agro-forestry (exotic pine and eucalyptus plantations) have also transformed habitat, but less dramatically and therefore do not appear to pose a major threat. Research is currently underway to acquire data on distribution limits. Data is required to shed light on ecology, behaviour, densities and reproduction. This species almost qualifies as threatened under criterion B2ab(ii,iii).

Distribution

The species occurs in South Africa, ranging across the Mpumalanga Highveld from Wakkerstroom northwards to Ermelo and Barberton, and westwards through Standerton district to northeastern Free State (Heilbron/Parys) and possibly eastwards into north-eastern Swaziland (Piggs Peak/Mbabane) (Figure 1), based on equivocal morphometric identifications that await confirmation by genetic data (Swaziland records could be this species or *Amblysomus hottentotus*). A population from the Harrismith area is also provisionally attributed to this form (Figure 1). Distribution models currently being refined predict that geographic range also extends westwards and southwards into other parts of the north-eastern Free State. Additional records that are currently assigned to *A. hottentotus* in the north-eastern Free State may actually pertain to this species. Based on multivariate morphometric predictions, it is probably more widespread than current records indicate (Bronner 2000).

Population

The species is locally common; trapping data suggest densities of 3 individuals / ha at one locality in the Wakkerstroom district. Based on current estimates of area of occupancy (AOO), the population is well over 10,000 individuals.

Current population trend: Unknown

Continuing decline in mature individuals: Unknown

Number of mature individuals in population: > 10,000

Number of mature individuals in largest subpopulation: Unknown

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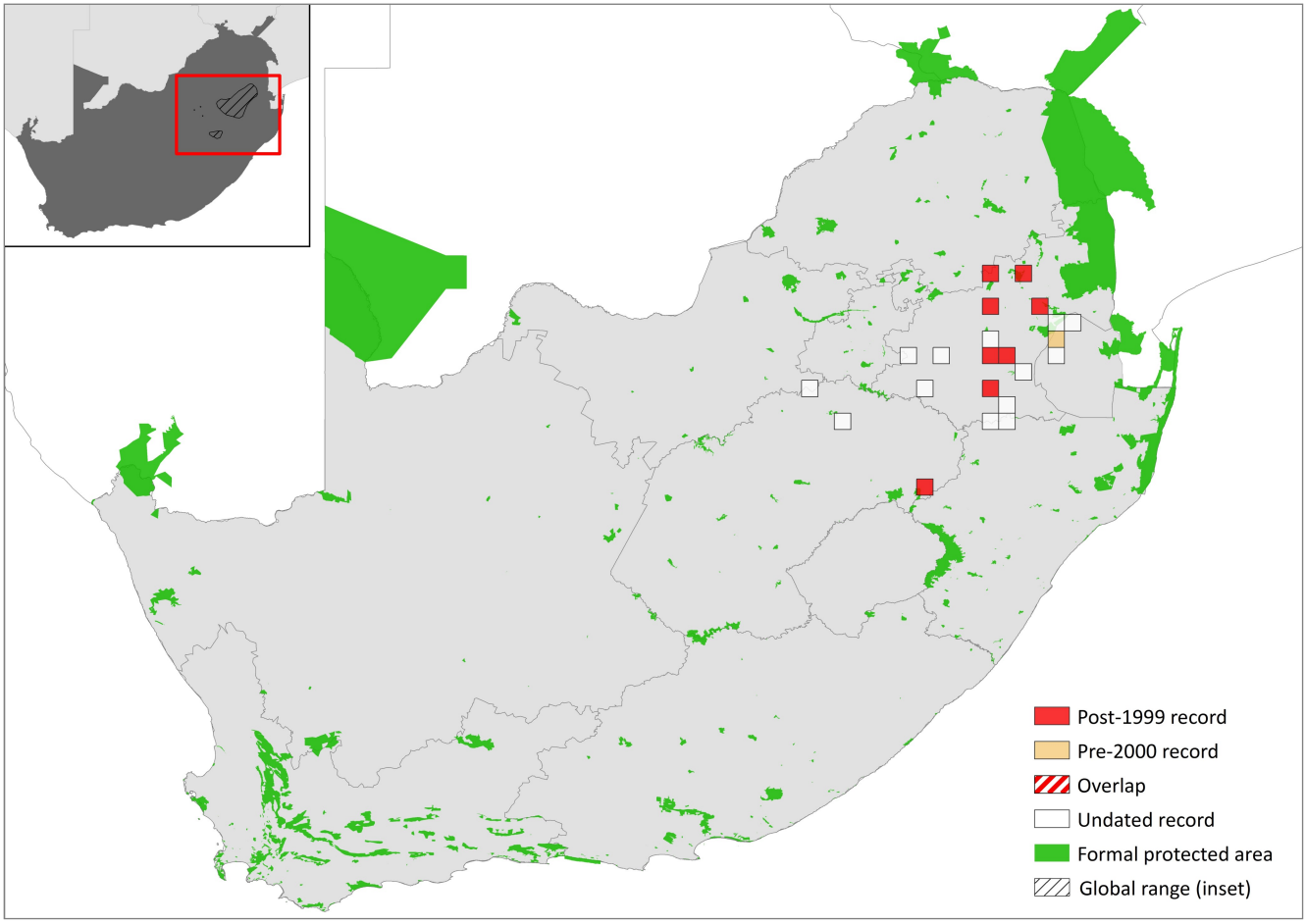

Figure 1. Distribution records for Highveld Golden Mole (*Amblysomus septentrionalis*) within the assessment region

Table 1. Countries of occurrence within southern Africa

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

Number of subpopulations: Unknown

Severely fragmented: No

Habitats and Ecology

This species typically occurs within meadows and edges of marshes in high-altitude grasslands of Mpumalanga, possibly extending toward the Free State and Gauteng borders. They are restricted to friable soils in valleys and on mountainsides, where individuals may co-exist with the Rough-haired Golden Mole, *Chrysospalax villosus*. They are common in well-irrigated farmyards, gardens and golf courses, and are also present in exotic plantations, though seemingly at lower densities. In the Wakkerstroom district, it is found in thickets of Oldwood trees (*Leucosidea sericea*) on the banks of streams in valleys, but avoid scrubby vegetation in kloofs and along rocky ridges, where it is replaced by Sclater's Golden Mole *Chlorotalpa sclateri* (Bronner 2013).

Use and Trade

This species is not known to be utilised or traded in any form.

Threats

The major threat to this species is likely to be habitat alteration or degradation associated with mining of shallow coal deposits to fuel numerous power stations in the region that occur in its preferred high-altitude grassland habitats. Rehabilitation attempts at these sites appear to have been largely ineffective. These power stations form the backbone of South Africa's electricity network, and disturbance is likely to increase as human populations grow and the demand for power increases. Habitat alteration from agriculture could be a more minor threat, but this species thrives in such landscapes and thus is probably not severely impacted. Predation by domestic pets, and persecution by gardeners and greenkeepers, could represent more localised threats, and are inferred to be increasing along with settlement expansion.

Current habitat trend: Declining in area and quality. Although it can survive in gardens and modified landscapes, its core grassland habitats are being lost to mining activities in the region. In Mpumalanga, 40% of the grassland vegetation types are listed as threatened and only 51% of the grasslands are still natural and previously not ploughed (Lötter et al. 2014). The Mpumalanga

Table 2. Threats to the Highveld Golden Mole (*Amblysomus septentrionalis*) 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	*1.1 Housing & Urban Areas*: habitat loss degradation from residential and urban development. Current stresses *1.1 Ecosystem Degradation* and *2.1 Species Mortality*: direct conversion of the ecosystem and direct killing of the species by domestic pets.	GeoTerraImage (2015)	Indirect (land cover change from remote sensing)	Regional	Increasing
2	*1.2 Commercial & Industrial Areas*: habitat loss and degradation from power stations. Current stresses *1.1 Ecosystem Degradation* and *2.1 Species Mortality*: direct conversion of the ecosystem and direct killing of the species by domestic pets.	GeoTerraImage (2015)	Indirect (land cover change from remote sensing)	Regional	Increasing
3	*3.2 Mining & Quarrying*: habitat loss from mining activities.	Lötter et al. 2014	Indirect (prospecting applications)	Regional	Increasing
4	*2.3.2 Small-holder Grazing, Ranching or Farming*: habitat degradation through overgrazing.	-	Anecdotal	-	-
5	*2.1.3 Agro-industry Farming*: habitat loss and degradation from croplands.	-	Anecdotal	-	-
6	2.1.2 Small-holder Farming: habitat loss and degradation from croplands.	-	Anecdotal	-	-
7	*2.2.2 Agro-industry Plantations*: habitat loss and degradation from forestry plantations.	Lötter et al. 2014	Indirect (prospecting applications)	Regional	Increasing
8	*5.1.3 Persecution/Control*: persecution by gardeners and greenkeepers.	-	Anecdotal	-	Increasing with increased housing and urban areas.
9	*8.1 Invasive Non-Native/Alien Species/Diseases*: increased predation by domestic pets.	-	Anecdotal	-	Increasing with increased housing and urban areas.

Tourism and Parks Agency (MTPA) mapped all development applications received at a cadastral scale over a 14-year period (2000–2014) and showed that greatest pressure for land-use change has come from prospecting applications (54.2% of the land surface area of Mpumalanga) and mining (24.5% of the land surface area). The province can anticipate much greater expansion in the mining sector than ever before (Lötter et al. 2014). Furthermore, rural and urban settlements have expanded by 7% and 11% respectively between 2000 and 2013 (GeoTerraImage 2015).

Conservation

The Highveld Golden Mole has not been recorded from any provincial or national nature reserves. Gelderblom et al. (1995) identified the south-eastern Mpumalanga highveld as a hotspot of chrysochlorid endemicity, and recommended that urgent action be taken to augment the national protected areas network in this region.

Recommendations for land managers and practitioners:

- Field surveys to discover other subpopulations.

Table 3. Conservation interventions for the Highveld Golden Mole (*Amblysomus septentrionalis*) 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 in the south-eastern Mpumalanga Highveld.	-	Anecdotal	-	-	-
2	*1.2 Resource & Habitat Protection*: biodiversity stewardship schemes in the south-eastern Mpumalanga Highveld.	-	Anecdotal	-	-	-
3	*2.1 Site/area Management*: less intrusive management of landscapes, including reducing stocking rate.	-	Anecdotal	-	-	-

- Land managers should be incentivised to de-stock ranchlands to conserve grassland habitats, especially vlei areas, and to follow ecologically sensitive veld burning practices (using a mosaic spatial scheme so that refugia remain, from which re-colonisation of burned areas can take place).

Research priorities:

- Research needed to confirm distinctness from *A. h. meesteri, A. robustus* and *A. h. longiceps,* , and to determine distributional limits of these taxa.
- Surveys needed to determine distributional limits of these taxa, and discover areas of occurrence.
- Field studies to determine life history traits and ecological tolerances.
- Studies assessing the severity of threats, specifically the quantified impact from mining activities.

Encouraged citizen actions:

- Report sightings on virtual museum platforms (for example, iSpot and MammalMAP), especially outside protected areas.
- Deposit any dead specimens found in a state or provincial museum, together with information on the date and site where found.
- Create native vegetation gardens.

References

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Data Sources and Quality

Table 4. Information and interpretation qualifiers for the Highveld Golden Mole (*Amblysomus septentrionalis*) assessment

Data sources	Museum records, field study (unpublished), indirect information (unpublished)
Data quality (max)	Inferred
Data quality (min)	Suspected
Uncertainty resolution	Best estimate
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.*