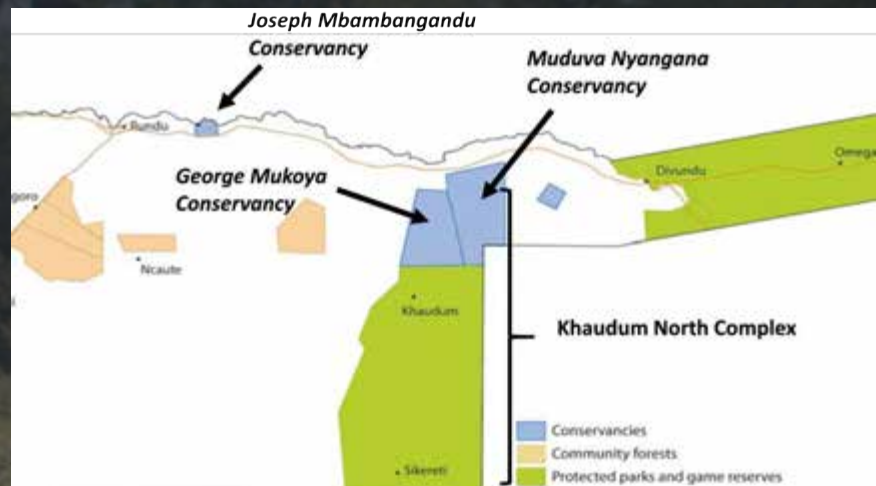


The secretive creatures of Namibia's forgotten corner

An intensive small and meso-mammal study of Kavango East conservancies

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In the north-eastern corner of Namibia, where the Kavango East region envelops north-west Botswana, lies a relatively undisturbed broad-leaf woodland on deep sandy soils with healthy populations of wildlife. Two conservancies, George Mukoya and Muduva Nyangana, cover an area of over 1 000 km² directly north of Khaudum National Park, separated from it by only a narrow jeep track. Villages and family settlements dot the landscape, as do mahangu and maize fields. These crops, along with goats, are the primary form of subsistence here. The third conservancy in the region, Joseph Mbambangandu,



borders the Kavango River approximately 30km east of Rundu. These three conservancies were the study locations for an ambitious

mammal survey expedition by the Namibia Nature Foundation (NNF) and Namibia University of Science and Technology (NUST).







Conservancy members working on the surveys

Conservancies in Namibia rely on tourism and the sustainable use of wildlife. Populations of larger species, such as elephant, rhino, giraffe and various antelope, are therefore closely monitored. However, these make up only a small percentage of the 114 species of mammal in Namibia. Very little is known about the distribution and habits of most of the small and meso-mammal (medium-sized) species. In fact, in the conservancies where this study was carried out, nothing was known at all. There is an obvious gap in the biodiversity records for this area as a result of its remoteness and sparse network of deep sandy 4x4 tracks.

So why the fuss about small mammals?

Often forgotten, small mammals make up an important link in Namibian ecosystems as prey, seed dispersers and bioturbators (soil tillers). They can also be good indicators of ecosystem condition and health, and can act as a proxy for biodiversity conservation in general.

The NNF has supported the Kavango East conservancies since their establishment in 2005. Its primary focus has been to assist the conservancies in establishing sustainable wildlife and forest resource use mechanisms, as well as providing management support for conservancy operations.

What the study did:

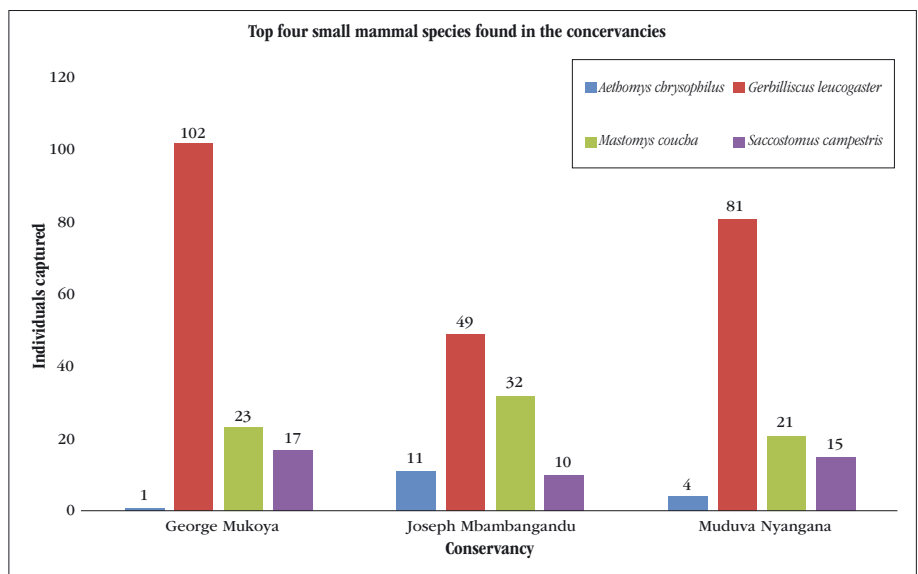
With financial assistance from UNESCO and the Estate of Rosanna Cappellato, a team of two mammal ecologists, a NUST ecology student and thirty local

community members, carrying 320 small mammal traps, 75 meso-mammal traps and 120 pitfall traps, used scientifically-guided methodologies to understand which mammals occur, in what numbers and in which habitats.

What the study found:

Over the course of twelve nights, 412 mammals were trapped, marked, weighed, and released. Mark-recapture ratios provided a basis for estimating the population size of each species. The high trapping effort provided valuable biological data for the species captured. Sixteen small mammal and six meso-mammal species were recorded across the three conservancies. Small mammals are often mistakenly called rodents, however the order Rodentia is merely one of three orders representing this group, and all three were trapped on the expedition. One gerbil species (*Desmodillus auricularis*) was found over 200 km outside its previously known range.

Scientists have found that pioneer small mammal species will dominate in a disturbed area, while a greater variety of species will occur in a healthy system. Densities of small mammals provide us with important information regarding food availability. The graph below



shows the total number of the four most common small mammals trapped.

The graph shows that the Bushveld gerbil (*Gerbilliscus leucogaster*) is most common in the conservancies. This large gerbil is a nocturnal granivore (seed eater) and digs extensive burrows. The deep sandy soils of George Mukoya and Muduva Nyangana are ideal for this species, while the mahangu fields and healthy pasture grasses provide ample forage. It was also the largest of the rodents captured, with some individuals weighing in excess of 120g.

The Multimammate mouse (*Mastomys coucha*) was the second most common species captured. It is a pioneer species, indicating some disturbance in all three conservancies. As hinted at in its common name, females have six rows of teats, which allows them to successfully raise up to 12 young in a litter. Population explosions of this species can lead to extensive crop damage.

The smallest species trapped was this Pygmy mouse (*Mus indutus*). This adult male weighed a mere 4 g.

The Red musk shrew (*Crocidura hirta*) is a small insectivore often found in sandy areas. This species was mostly caught in pitfall traps as it is too light to trigger box traps. Two species of this genus were trapped, with the other species yet to be identified at the National Museum in Windhoek.

The Pouched mouse (*Saccostomys campestris*) was common in the omurambas (ancient river beds) of all three conservancies. The only local species with cheek pouches and a tiny pink tail, it is sometimes called the African hamster.

What now?

The expedition provided important mammal distribution data for the Namibia Mammal Atlas project, and

biological information for the under-studied species. It further provided a solid baseline for a repeat of this survey in a few years. Such a time series could show to what extent community conservation has improved biodiversity and ecosystem health. The survey sites were each marked and pitfall traps remain in place (covered with lids and sand) and can easily be reopened for repeat surveys. Community members were excited to be part of some hands-on conservation research, and now understand that conservation is about far more than just lions and elephants. They are skilled to assist future researchers in scientific field techniques. Fernandu Khaebeb, an honours student from NUST, used the results for his mini-thesis in nature conservation and added the records to the Namibia Mammal Atlas, another NNF-supported initiative.



“Founded in 1987, the Namibia Nature Foundation (NNF) is one of the largest non-governmental organisations (NGO) targeting conservation and sustainable development in Namibia. The primary aims of the NNF are to promote sustainable development, the conservation of biological diversity and natural ecosystems, and the wise and ethical use of natural resources for the benefit of all Namibians, both present and future. www.nnf.org.na”



*The Bushveld gerbil
(Gerbilliscus leucogaster)*



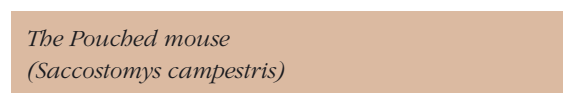
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