RAUTENBACH

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THE PAST AND PRESENT STATUS OF THE MAMMALS OF MAPUTALAND

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INTRODUCTION

One of the primary functions of Natural History museums, around which their research, educational and exhibition programmes revolve, is to maintain and expand large collections which serve as zoological archives. Such collections can serve to initiate research projects on zoogeographical faunal diversity. As far as is known, the first mammal collecting expeditions in Maputaland were undertaken by the Transvaal Museum as early as 1914. Austin Roberts surveyed the area rather extensively during 1928, 1929, and again in 1933, when he collected birds and mammals for his taxonomic studies, publishing these results in 1936, in which he also describes five new mammal taxa. Unfortunately, Roberts' (1936) taxonomic treatment is now outdated and many biologists would probably not recognize the taxonomic names he uses. In addition, the majority of his newly-described taxa from Maputaland have since been synonymized by modern systematists.

Some three decades elapsed before scientific attention was again focused on the mammal faunal diversity of northern Zululand, with the publication of mammal checklists for the Mkuzi and Ndumu Game Reserves (Dixon, 1964, 1966). Tinley surveyed the area surrounding Lake Sibaya and Kosi during 1958 (Tinley, 1976), while Pringle has also collected mammals in Maputaland from time to time (Pringle, 1974, 1977), and Bruton (1978) reported on mammals collected or seen between 1970 and 1976 in the Lake Sibaya district. The latter report was preceded by the publication of faunal and floral checklists of the Lake Sibaya area (Allanson, Bruton & Hart, 1974). Mentis (1974) and Rowe-Rowe (1978) deal with the distribution of selected taxa in Natal. Moreover Gottschang has done some collecting in the same area, his findings being incorporated in Bruton's (1978) report. In addition, several specimens incidentally collected from Maputaland by various individuals over the years, have been donated to the Transvaal Museum.

During the months of February, April, June and October 1976, the Transvaal Museum and the Mammal Research Institute of the University of Pretoria, undertook four joint research and collecting expeditions to several localities in Maputaland. The net result is that since 1914 more than 700 specimens representing 70 species from the area under discussion have now accrued to the Transvaal Museum mammal collection. An un-

known number of specimens were also housed in the Natal Museum. This makes Maputaland one of the more intensively surveyed regions in southern Africa.

In the present report we have attempted to describe the mammalian faunal diversity of the entire area of Maputaland as comprehensively as possible. All the specimens housed in the Transvaal Museum's mammal collection from the area in question are cited as primary records of occurrence under the subheading Material Examined; records obtained from published sources based on material housed in other collections not seen by us, as well as personal sight records, are listed under the subheading Additional Records. Some larger mammal species have become extinct during the last five decades. Those whose earlier occurrence could be ascertained, are listed and discussed in the main text. Others which may have occurred and have disappeared unreported, are treated in the Discussion section.

Material and methods

During recent collecting expeditions, specimens were acquired by means of standard collecting techniques which are discussed in detail elsewhere, e.g. Smithers (1971).

All 700+ specimens from Maputaland housed in the Transvaal Museum's mammal collection have been examined and their identification verified. No material from other institutions could be examined, and therefore the Transvaal Museum material alone forms the basis of this report. The number of existing specimens from each locality for each species is listed. This is in line with current practice, and allows systematists and other scientists access to material for their own purposes, and to re-examine Transvaal Museum specimens in order to re-assess the museum's identifications in the light of changing nomenclature. The literature has also been scanned, and any reference to the past or present occurrence of mammals in Maputaland has been incorporated in this report with proper acknowledgement to the relevant author.

A gazetteer of localities has been compiled and is given elsewhere in this volume. The Government Printer's 1:250 000 topocadastral maps of 1970 for Kosi Bay (2632) and St Lucia (27½32) have been used.

SYSTEMATIC SECTION

ORDER INSECTIVORA

Family Macroscelididae

Petrodromus tetradactylus Peters, 1846. Four-toed elephant-shrew. Bos-klaasneus.

A highly saltatorial, insectivorous species restricted to dense bush and forests where it feeds by night on insects living in the detritus of forest floors. Apparently it uses the same routes regularly, since 'pathways' are established which consist of isolated bare patches formed by the repeated landings and take-offs of a saltatorial mode of locomotion. These bare patches are about 50 cm apart.

P. tetradactylus occurs throughout Maputaland in suitable habitat.

Records of occurrence: Specimens examined, 5: Mkuze Swamp, 1; Mkuze River at Ubombo, 3; Nkandisa bush, 1. Additional records: Manguzi forest at Maputa *(Roberts, 1936). Bruton (1978) gives three Sibaya records.

*While this paper was in press the name of the town Maputa was officially changed to Manguzi.

Family Soricidae

Crocidura flavescens (I. Geoffroy, 1827). Red musk shrew. Rooi-skeerbek.

Restricted to permanently moist microhabitats with good cover of some sort. The specimens from Ndumu were all collected from marshy grass-covered clearings within forested areas. Bruton (1978) claims it to be common in open woodland. Specimens were acquired and examined by J. Gottschang. The present location of these specimens is unknown to us.

Records of occurrence: Specimens examined, 3: Ndumu Game Reserve, 3.

Crocidura cyanea (Duvernoy, 1838). Reddish-grey musk shrew. Rooigrys-skeerbek.

C. cyanea has a wide habitat tolerance as deduced from its wide geographical distribution. Good cover in the form of dense grass or shrub is, however, preferred. Population densities are higher near permanent water.

Records of occurrence: Specimens examined, 1: Ingwavuma, 1.

Crocidura silacea Thomas, 1895. Grey musk shrew. Grys-skeerbek.

All the Maputaland specimens were trapped at the edges of forests amongst dense grass. Elsewhere it is found to inhabit rocky environments, while it is also known to benefit from human habitation, namely compost heaps, rock debris, etc.

Records of occurrence: Specimens examined, 8: Lake Sibaya, 4; Maputa, 4.

Crocidura hirta Peters, 1852. Lesser red musk shrew. Klein-rooi-skeerbek (Figure 1).

The commonest of all southern African *Crocidura* species, found in a great variety of habitats ranging from mountain tops to semi-desert.

Records of occurrence: Specimens examined, 17: Lake Sibaya, 5; Maputa, 2; Ingwavuma, 7; Ndumu Game Reserve, 2; Lake St Lucia (eastern shore), 1.

Figure 1. Lesser red musk shrew, *Crocidura hirta*

Crocidura mariquensis (A. Smith, 1844). Black musk shrew. Swart-skeerbek.

Found exclusively in permanently marshy conditions, where population densities may be quite high. Good cover in the form of dense semi-aquatic vegetation is another habitat prerequisite.

Records of occurrence: Specimens examined, 6: Lake Sibaya, 4; Kosi Bay, 2.

Family Chrysochloridae

Calcochloris obtusirostris (Peters, 1851). Yellow golden mole. Geel-kruipmol.

A poorly-known representative of this insectivorous and fossorial family unique to southern and eastern Africa. As far as can be established, this species occurs only in sandveld. Many of the characteristic burrows of golden moles were seen in the vicinities of Lake Sibaya and Sihangwane but it was impossible to tell whether these were constructed by this or the next species.

Records of occurrence: Specimens examined, 5: Maputa, 3; Manaba, 2.

Amblysomus hottentotus (A. Smith, 1829). Hottentot golden mole. Hotnot-kruipmol.

A more common representative of the Chrysochloridae. The hottentot golden mole constructs two types of tunnels. The first type is a deep and permanent system complete with grass-lined nests, from which mounds of excavated earth are pushed in a similar manner to *Cryptomys hottentotus*. The second type is a meandering impermanent system just under the surface, in which case the animal simply forces its way through the sand and allows the passage to collapse behind it. The second system radiates from the first.

Records of occurrence: Specimens examined, 21: Lake St Lucia (eastern shore), 2; Maputa, 1; Ingwavuma, 11; Ubombo, 7. Additional records: Manzengwenya Forest Station (Bruton, 1978).

ORDER CHIROPTERA

SUB-ORDER MEGACHIROPTERA

Family Pteropodidae

Epomophorus wahlbergi (Sundevall, 1846). Wahlberg's epauletted fruit bat. Wahlbergse witkol-vrugtevlermuis (Figure 2).

A widespread species with an easterly distribution in southern Africa. It roosts in small colonies in large trees. By night individuals search for fruiting trees, particularly in riparian forests. Can cause serious damage to sub-tropical fruit crops.

Records of occurrence: Specimens examined, 2: Lake Sibaya, 2.

Eidolon helvum (Kerr, 1792). Straw-coloured fruit bat. Geel vrugtevlermuis.

This is essentially a tropical central-African bat, and only rare migrants are encountered in southern Africa.

Records of occurrence: Additional records: Ndumu Game Reserve (Dixon, 1966).

SUB-ORDER MICROCHIROPTERA

Family Nycteridae

Nycteris hispida (Schreber, 1775). Hairy slit-faced bat. Harige langoorvlermuis.

N. hispida occurs only marginally in the Republic of South Africa, where it is locally scarce. Bruton (1978) lists it as being present at Manzengwenya Forest Station. He sent

Figure 2. Wahlberg's epauletted fruit bat, *Epomophorus wahlbergi*

an unknown number of specimens to L. Wingate for verification of identifications. At present these specimens are not incorporated in any collection. We were unable to examine this material.

Records of occurrence. Additional records: Manzengwenya Forest Station (Bruton, 1978).

Nycteris thebaica E. Geoffroy, 1818. Egyptian slit-faced bat. Egiptiese langoorvlermuis.

Restricted to open woodlands, where this semi-gregarious species roosts by day in caves, hollow trees, mines, attics, culverts, etc. A relatively slow but agile flier.

Records of occurrence: Specimens examined, 2: Ndumu Game Reserve (rest camp), 2.

Family Hipposideridae

Hipposideros caffer (Sundevall, 1846). Common African leaf-nosed bat. Kaapse blaarneus vlermuis.

Restricted to the higher rainfall areas of the Southern Savanna Woodland area. Essentially a cave dweller, where colonies of up to several hundreds roost by day. Smaller colonies also utilize mines, attics and culverts as daytime refuges.

Records of occurrence: Specimens examined, 1: Ingwavuma, 1.

Family Vespertilionidae

Pipistrellus nanus (Peters, 1852). Banana bat. Piesangvlermuis.

Small groups of up to ten individuals are characteristically found roosting by day in the rolled-up terminal leaves of *Strelitzia* plants, and of wild or cultivated banana plants. A slow and erratic flier.

Records of occurrence: Specimens examined, 3: Lake Sibaya, 2; Ingwavuma, 1.

Eptesicus capensis (A. Smith, 1829). Cape serotine. Kaapse dakvlermuis.

A common and widespread species, having a wide habitat tolerance. Prefers to spend the day in small colonies packed together in confined spaces such as rock crevices, amongst the dry leaves of aloes, or between roofing materials.

Records of occurrence: Specimens examined, 2: Manaba, 1; Ingwavuma, 1.

Glauconycteris variegata (Tomes, 1861). Butterfly bat. Vlindervlermuis.

Widespread in central Africa, but uncommon in South Africa. Very little is known about its general biology.

Records of occurrence: Specimens examined, 1: Manaba, 1.

Scotophilus nigrita (Schreber, 1774). Yellow house-bat. Geel-dakvlermuis.

Widespread and common in woodland areas, where it prefers to roost in crevices. Quite commonly found in human dwellings. Roberts (1936) collected some specimens from a disused bird's nest.

Records of occurrence: Specimens examined, 4: Mkuze River, 4 km south of Ubombo, 4.

Kerivoula argentata Tomes, 1861. Damara woolly bat. Damaralandse wolhaarvlermuis.

A poorly-known species. The two specimens from Mzinyeni pan were collected by Roberts in the nest of a spectacled weaver. Bruton (1978) states that this species is common at Manzengwenya Forest Station on the basis of specimens forwarded to L. Wingate for identification. At present the specimens have not been incorporated in any collection, and we could not gain access to them in time. We nevertheless accept this record.

Records of occurrence: Specimens examined, 2: Mzinyeni pan, 2. Additional records: Manzengwenya Forest Station (Bruton, 1978).

Kerivoula lanosa (A. Smith, 1847). Harrison's woolly bat. Harrisonse wolhaarvlermuis.

Roberts (1936) places the specimens from Ingwavuma under *K. lanosa*. We are following the taxonomic treatment of Hill (1977) who considers *K. harrisoni* (Thomas, 1901), a subspecies of *K. lanosa, pace* Hayman & Hill (1971) who regard *harrisoni* as a valid species.

Records of occurrence: Specimens examined, 3: Ingwavuma, 3.

Miniopterus schreibersi (Kuhl, 1819). Schreiber's long-fingered bat. Schreiberse dakvlermuis.

Primarily a cave-dwelling bat, where colonies of as many as several thousand may roost in tight clusters. This species quite often colonizes attics, as was almost certainly the case with the Sihangwane specimen.

Records of occurrence: Specimens examined, 11: Ingwavuma, 10; Sihangwane, 1.

Family Molossidae

Tadarida condylura (A. Smith, 1833). Angola free-tailed bat. Angolese losstertvlermuis.

A widespread and common bat in Africa. Like the majority of molossid species, it is adapted to spend the day as small groups in any kind of confined space. It very often utilizes the wide assortment of crevices, gaps and cracks offered by human dwellings. The series from Lake Sibaya was netted as it emerged from the eaves of a roof, where they roosted by day between the roofing material and the rafters.

Records of occurrence: Specimens examined, 30: Lake Sibaya, 22; Ndumu Store, 8. Additional records: Manzengwenya Forest Station (Bruton, 1978).

Tadarida pumila (Cretzschmar, 1830 or 1831). Little free-tailed bat. Klein losstertvlermuis.

Also a very widespread species in Africa south of the Sahara. Similar to the previous species, it is to be found by day in a wide assortment of cracks, crevices, or any type of inaccessible confined space.

Records of occurrence: Specimens examined, 20: Charter's Creek, 1; Kosi Bay, 11; Lake St Lucia (eastern shore), 1; Ndumu Game Reserve (rest camp), 3; Ndumu Store, 4.

ORDER PRIMATES

Family Cercopithecidae

Papio ursinus Kerr, 1792. Chacma baboon. Kaapse bobbejaan.

So far recorded only in the western districts in the vicinity of the Lebombo mountains.

Records of occurrence: Specimens examined, 3: Mkuze River, 4 km south of Ubombo, 3. Additional records: Ingwavuma Gorge, Gwaliweni, Ubombo, Mkuzi Game Reserve (Pringle, 1974).

Cercopithecus (aethiops) pygerythrus (F. Cuvier, 1821). Vervet monkey. Blou-aap.

Occurs throughout the coastal belt in the ecotone between dune forests and suitable bushveld or forest habitat (Pringle, 1974; Tinley, 1976; Bruton, 1978; Van der Zee & Skinner, 1978; present survey). Two stomachs examined contained 85% fruit and 15% leaves.

Records of occurrence: Specimens examined, 11: Kosi Bay, 1; Lake Sibaya, 2; Mkuze River, 4 km south of Ubombo, 3; Ingwavuma, 1; Pongolo River near Ubombo, 4.

Cercopithecus (mitis) albogularis (Sykes, 1831). Samango monkey. Samango-aap.

Occurs throughout the coastal regions in mature dune and swamp forests, where it frequents the tree tops most of the time (Pringle, 1974; Tinley, 1976; Bruton, 1978; Van der Zee & Skinner, 1978; present study). One of the specimens collected by us was caught in a carnivore cage-trap baited with meat. Four stomachs examined for contents contained on average 90 per cent fruit and 10 per cent leaves and seeds.

Records of occurrence: Specimens examined, 4: Lake Sibaya, 4.

Family Galagidae

Galago crassicaudatus E. Geoffroy, 1812. Grand galago. Bosnagaap.

Inhabits endemic forests throughout the region (Pringle, 1974; Tinley, 1976; Bruton, 1978; present study). Stomachs from two specimens taken at Sihangwane contained on average 80 per cent *Strychnos* fruit, 5 per cent Coleoptera and 15 per cent molluscs; one stomach from Ingwavuma contained 99 per cent *Ficus* fruit; while the stomachs of four specimens taken at Lake Sibaya all contained molluscs (70%, 25%, 60% and 5% respectively), in addition to fruit (two stomachs with 20% and 65%) and gum (two stomachs with 20% and 95% respectively).

Records of occurrence: Specimens examined, 24: Kosi Bay, 2; Lake Sibaya, 4; Manaba, 5; Ingwavuma, 8; Sihangwane, 3; Sodwana Bay, 1; Ubombo, 1.

ORDER PHOLIDOTA

Family Manidae

Manis temminckii Smuts, 1832. Pangolin. Ietermagog.

A rare animal with retiring habits. Very little is thus known about the general biology of the pangolin.

Records of occurrence: Additional records: Ndumu Game Reserve (Pringle, 1974).

ORDER LAGOMORPHA

Family Leporidae

Pronolagus crassicaudatus (I. Geoffroy, 1832). Natal red hare. Natalse rooihaas.

A rupiculous animal, as such restricted to the Lebombo mountains. Because of its nocturnal habits and of the relative inaccessibility of its preferred habitat, very little is known about this animal.

Records of occurrence: Specimens examined, 3: Ubombo, 3

Lepus saxatilis F. Cuvier, 1823. Scrub hare. Kolhaas.

Widespread and common throughout Maputaland. Prefers denuded areas within grasslands.

Records of occurrence: Specimens examined, 13: Lake Sibaya, 4; Mkuze River, 4 km south of Ubombo, 3; Ndumu, 1; Ingwavuma, 3; Ubombo, 2. Additional records: Kosi Bay, Manzengwenya Forest Station, Mbazwane, Sodwana Bay (Bruton, 1978).

ORDER RODENTIA

Family Bathyergidae

Cryptomys hottentotus (Lesson, 1826). Common mole-rat. Hotnot grysmol.

Widespread and common throughout Maputaland. In sandy areas it co-occurs with two species of golden moles. The mole-rat, however, has a wider habitat tolerance, and is also to be found in gravel soil of mountainous areas. This species is responsible for widespread destruction of coconut palm trees planted at Kosi.

Records of occurrence: Specimens examined, 7: Maputa, 2; Mkuze River, 4 km south of Ubombo, 1; Ingwavuma, 4.

Family Hystricidae

Hystrix africae-australis Peters, 1852. Cape porcupine. Ystervark.

Africa's largest rodent has a wide habitat tolerance and is therefore widely distributed. It is, however, not often observed in the wild. Its occurrence is easily detected in an area by the quills lost during nocturnal wanderings.

Records of occurrence: Additional records: Manzengwenya Forest Station, Mbazwane Forest Station (Bruton, 1978).

Family Thryonomyidae

Thryonomys swinderianus (Temminck, 1827). Cane rat. Rietrot.

To be found amongst dense grass and reeds along streams, rivers and swamps of the Southern Savanna Woodland biotic zone. Presumably cane rats are more widespread in Maputaland than just the four localities cited below.

Records of occurrence: Additional records: Mkuzi Game Reserve (Dixon, 1964); Ndumu Game Reserve (Dixon, 1966); Sihangwane (personal observations); eastern shores, Lake Sibaya (Bruton, pers. comm.).

Family Sciuridae

Paraxerus palliatus (Peters, 1852). Red bush squirrel. Rooi-eekhorinkie.

Occurs only in coastal dune forests and dry forests.

Records of occurrence: Specimens examined, 8: Kosi Bay, 1; Manguzi forest at Maputa, 4; Maputa, 3. Additional records: Dumile, Lake Sibaya, Mbibi, Nyanene forest (Bruton, 1978).

Family Muscardinidae

Graphiurus murinus (Desmarest, 1822). Forest dormouse. Boswaaierstertmuis. (Figure 3).

The taxonomy of dormice in general, and of the *G. murinus* taxon in particular, is at present unsatisfactorily resolved. Until the systematics of the genus can be clarified, we are following Misonne (1974) in recognizing all the smaller, predominantly forest-dwelling forms from southern Africa under *G. murinus*.

Records of occurrence: Specimens examined, 8: Kosi Bay, 1; Manaba, 2; Ndumu Game Reserve (rest camp), 3; Ingwavuma, 1; Ubombo, 1.

Figure 3. Forest dormouse, *Graphiurus murinus*

Family Muridae

Aethomys namaquensis (Smith, 1834). Namaqualand rock rat. Namakwalandse klipmuis.

A very common and widespread rodent, adapted to life on mountainsides amongst rocks and grass. For that reason it is restricted to the western mountainous regions of Maputaland.

Records of occurrence: Specimens examined, 13: Abercorn Drift, 6; Ubombo, 7.

Aethomys chrysophilus (de Winton, 1897). Bush rat. Afrikaanse rot.

Equally as common as, and very similar in appearance to, the previous species. *A. chrysophilus*, however, is ecologically separated from *A. namaquensis* by being adapted to an existence in woodland savanna.

Records of occurrence: Specimens examined, 59: Abercorn Drift, 2; Lake Sibaya, 10; Lake St Lucia (eastern shore), 1; Manaba, 5; Manguzi forest at Maputa, 1; Mkuze River, 4 km south of Ubombo, 13; Ndumu Game Reserve (rest camp), 4; Ndumu store, 3; Ingwavuma, 6; Sihangwane, 9; Ubombo, 5.

Dasymys incomtus (Sundevall, 1847). Swamp rat. Waterrot.

Found only in marshland areas or along permanent streams, among dense sub-aquatic vegetation.

Records of occurrence: Additional records: Ndumu Game Reserve (Dixon, 1966).

Lemniscomys griselda (Thomas, 1904). Single striped mouse. Eenstreepmuis.

A diurnal rodent typical of woodland areas, where it constructs runways amongst grass. The species is nowhere abundant, and our observations agree with that of Roberts (1936), namely that it is particularly scarce in Maputaland.

Records of occurrence: Specimens examined, 17: Abercorn Drift, 1; Manaba, 1; Mkuze River, 4 km south of Ubombo, 1; Ndumu Game Reserve (rest camp), 5; Sihangwane, 5; Ubombo, 4.

Leggada minutoides (A. Smith, 1834). Dwarf mouse. Dwergmuis.

Not uncommon in Maputaland, especially in grass and sandy areas. In our experience this species is subject to marked population fluctuations. Predominantly nocturnal. Often takes refuge by day under domestic debris around homesteads.

Records of occurrence: Specimens examined, 16: Kosi Bay, 1; Lake Sibaya, 5; Lake St Lucia (eastern shores), 1; Maputa, 1; Ndumu Game Reserve (rest camp), 4; Ingwavuma, 2; Ubombo, 2.

Praomys natalensis (Smith, 1834). Multimammate mouse. Vaalveldmuis.

A common and widespread rodent, occurring throughout the Ethiopian region. Recent work has shown that within the current concept of the species, two phenetically similar but genetically different forms exist. Both the 32- and 36-chromosome forms may be found in Maputaland, but this can only be established karyologically and electrophoretically.

Records of occurrence: Specimens examined, 54: Lake Sibaya, 5; Lake St Lucia (eastern shores), 2; Manaba, 2; Maputa, 4; Mkuze River, 4 km south of Ubombo, 4; Mkuze River bridge near Mkuzi, 3; Ndumu Game Reserve (rest camp), 9; Ingwavuma 7; Otobotini, 5; Pongolo River, 17 km north of Ubombo, 4; Sihangwane, 4; Ubombo, 5.

Thallomys paedulcus (Sundevall, 1846). Tree rat. Boomrot.

A nocturnal arboreal rodent, restricted to *Acacia* woodlands. It constructs grass nests in suitably protected locations within large trees. Roberts (1936) observed that they also utilize larger aloe plants.

Records of occurrence: Specimens examined, 15: Manaba, 4; Mkuze River, 4 km south of Ubombo, 3; Ingwavuma, 1; Otobotini, 2; Sihangwane, 1; Ubombo, 4.

Thamnomys cometes Thomas & Wroughton, 1908. Coastal forest rat. Kusrot.

Very rare in the Republic of South Africa, and the Manguzi record is one of only two known localities in the Republic. As far as can be established, it has the same behaviour and habitat requirements as the next species, with which it can co-occur.

Records of occurrence: Specimens examined, 2: Manguzi forest at Maputa, 2.

Thamnomys dolichurus (Smuts, 1832). Thicket rat. Bosmuis.

An arboreal rodent found almost exclusively in climax forests. It either constructs its own nests of shredded plant material, or occupies old nests of woodpeckers or barbets constructed in holes of trees. This species is poorly represented in museum collections, which suggests that it is rare. However, a recent collecting endeavour at Woodbush in the Transvaal yielded very good results when live-traps were placed high up within trees in likely locations. A pregnant female carrying five foetuses was collected at Kosi Bay during April.

Records of occurrence: Specimens examined, 15: Kosi Bay, 2; Lake Sibaya, 1; Lake St Lucia (eastern shores), 1; Manaba, 7; Ingwavuma, 2; Ubombo, 2.

Family Cricetidae

Saccostomus campestris Peters, 1846. Pouched mouse. Wangsakmuis.

Widespread within *Acacia* woodland areas. This animal collects seeds during its nocturnal wanderings, and transports them back in the cheek pouches to the burrow where they are hoarded. It is of interest that the stomachs of four animals collected at Sihangwane contained between 5 per cent and 80 per cent termites.

Records of occurrence: Specimens examined, 29: Kosi Bay, 5; Lake Sibaya, 1; Lake St Lucia (eastern shores), 1; Manaba, 6; Maputa, 2; Mkuzi railway station, 1; Sihangwane, 13.

Dendromus melanotis Smith, 1934. Grass climbing mouse. Gras klimmuis.

The taxonomy of the genus is not well understood since all four southern African species are poorly represented in museum collections. The latter does, however, probably not reflect on its rarity in nature. Because of its grass climbing habits, it may well be that standard trapping techniques fail to take this into account.

Records of occurrence: Specimens examined, 8: Lake Sibaya, 7; Maputa, 1.

Dendromus mystacalis Hueglin, 1863. Lesser climbing mouse. Kleiner klimmuis. (Figure 4).

Roberts (1936) recorded that this species lives in reeds as well as trees where it sometimes occupies weaver-bird's nests. Otherwise climbing mice construct their own grass nests within grass tufts.

Records of occurrence: Specimens examined, 3: Manaba, 1; Nyamithi Pan, 1; Pongolo River, 17 km north of Ubombo, 1.

Steatomys krebsi Peters, 1852. Krebs' fat mouse. Krebse vetmuis.

Roberts (1936) regards the two specimens from Manaba as *S. chiversi*. The latter species is considered a synonym of *S. krebsi* by Coetzee (1977). We are of the opinion that both specimens are likely to be *S. pratensis* Peters, 1846. However, in view of the confused taxonomic state of this genus, all three specimens from Maputaland are provisionally retained under *S. krebsi* pending a revision of the genus.

Records of occurrence: Specimens examined, 3: Lake Sibaya, 1; Manaba, 2.

Tatera leucogaster (Peters, 1852). Bushveld gerbille. Bosveldse nagmuis.

A social species living in self-constructed burrows, and with a saltatorial and nocturnal life style. Individual burrows are arranged in warrens. Of the nine specimens examined from Sihangwane and the seven from Ingwavuma, all nine males were in active breeding condition, and all but one of the females were lactating during February.

Records of occurrence: Specimens examined, 77: Abercorn Drift, 3; Kosi Bay, 8; Manaba, 3; Manguzi forest, 2; Maputa, 5; Ndumu Game Reserve (rest camp), 23; Ndumu store, 1; Ingwavuma, 3; Otobotini, 6; Sihangwane, 15; Tete pan, 2; Ubombo, 6.

Tatera brantsii (A. Smith, 1834). Highveld gerbille. Hoëveldse nagmuis.

Whereas the distribution of the previous species is broadly correlated with woodland savanna, *T. brantsii* occurs mainly in grassland areas. There are areas of sympatry, such as in Maputaland, where *T. brantsii* selects the more open aspects of the environment. Its habits are basically similar to *T. leucogaster*.

Figure 4. Lesser climbing mouse, *Dendromus mystacalis*

Records of occurrence: Specimens examined, 30: Lake Sibaya, 4; Manaba, 3; Maputa, 18; Ngutshana dip, 5.

Otomys angoniensis Wroughton, 1906. Angoni vlei rat. Angoni vleirot.

Mostly found amongst dense stands of semi-aquatic vegetation on the edge of permanent water sources. *O. angoniensis* is, however, not restricted to this habitat and

can also be found in dense stands of grass far removed from water. Well-used pathways, littered with faeces and grass cuttings, are typical of this predominantly nocturnal creature.

Records of occurrence: Specimens examined, 21: Kosi Bay, 1; Mkuze River, 4 km south of Ubombo, 2; Ingwavuma, 5; Ubombo, 13.

ORDER CARNIVORA

Family Canidae

Lycaon pictus (Temminck, 1820). Hunting dog. Wildehond.

This animal was fairly common in Maputaland in earlier times, but is now extinct there (Dixon, 1964).

Canis adustus Sundevall, 1846. Side-striped jackal. Witkwasjakkals.

Occurs in Mkuzi Game Reserve and the Mbazwane area according to Pringle (1977), whereas Tinley (1976) and Bruton (1978) report its occurrence throughout the open grass country around Lake Sibaya up to Lake Nhlange. This was confirmed during the present survey although it was nowhere common. Three specimens were collected near Lake Sibaya during the present survey. The stomach of the first contained 88 per cent *Strychnos* fruit, 10 per cent insects and 2 per cent frogs; the second contained 10 per cent Arthropoda, 10 per cent Coleoptera, 5 per cent Formicidae, 25 per cent *Strychnos* fruit and 50 per cent unidentified hair; the stomach of the third contained no identifiable solid matter.

Records of occurrence: Specimens examined, 3: Lake Sibaya, 3. Additional records: Manzengwenya Forest Station (Bruton, 1978).

Canis mesomelas Schreber, 1775. Black-backed jackal. Rooijakkals.

Whereas this species is far more widespread than the side-striped jackal, the latter seems to be the more common of the two in areas of sympatry. This is also the case in Maputaland, where the black-backed jackal is scarce locally.

Records of occurrence: Additional records: Ndumu Game Reserve (Pringle, 1977).

Family Mustelidae

Mellivora capensis (Schreber, 1776). Honey-badger. Ratel.

A rarely seen nocturnal animal. It has a very wide habitat tolerance. Feeds predominantly on small vertebrates and on invertebrates, while honey is only a secondary food item.

Records of occurrence: Additional records: Lake Sibaya (Bruton, 1978); Ndumu Game Reserve (Pringle, 1977); in forested areas south-west of Lake Sibaya (Tinley, 1976).

Ictonyx striatus (Perry, 1810). Striped polecat. Stinkmuishond.

A nocturnal and terrestrial carnivore occurring widely in a diversity of habitat types, ranging from deserts to rain-forests. Relatively common, although not often encountered. Feeds on small vertebrates and on invertebrates.

Records of occurrence: Specimens examined, 8: Manaba, 2; Ingwavuma, 4; Otobotini, 2. Additional records: Ndumu and Mkuzi Game Reserves (Pringle, 1977); open grassland in the Mseleni area (Tinley, 1976; Bruton, 1978).

Poecilogale albinucha (Gray, 1864). Snake mongoose. Slangmuishond.

A poorly known species. Superficially it appears to have the same behaviour and habitat as the polecat. It is not as widely distributed, however, and is also much rarer.

Records of occurrence: Specimens examined, 3: Ubombo, 3. Additional records: Mbazwane (Bruton, 1978); Mbibi (Tinley, 1976); Ubombo (Pringle, 1977).

Family Viverridae

Viverra civetta (Schreber, 1778). African civet. Siwetkat.

A nocturnal and terrestrial carnivore with an omnivorous diet. It is mostly encountered in riverine and subriverine forests of the Southern Savanna Woodland biotic zone.

Records of occurrence: Additional records: Mbibi and the southern forested shores of the western arm of Lake Sibaya (Tinley, 1976); Ndumu Game Reserve (Pringle, 1977).

Genetta (tigrina) rubiginosa Pucheran, 1855. Rusty-spotted genet. Rooikol muskejaatkat.

Probably the commonest of all nocturnal carnivores of the subcontinent. It has a marked preference for well-wooded areas, especially forest and riverine bush. It is therefore geographically limited to the Forest and Southern Savanna Woodland biotic zone. Partly arboreal. The stomach of one specimen taken near Lake Sibaya atypically contained 85 per cent fruit and 5 per cent leaves.

Records of occurrence: Specimens examined, 7: Lake Sibaya, 1; Mkuze River, 4 km south of Ubombo, 5; Ingwavuma, 1. Additional records: Kosi Lake (Tinley, 1976; Bruton, 1978); Mkuze floodplain (Pringle, 1977).

Paracynictis selousi (De Winton, 1896). Selous' mongoose. Klein-witstertmuishond.

This species is scarce within its range in the Republic of South Africa. A nocturnal and partly diurnal viverrid. It is terrestrial, and excavates its own burrows under cover of bushes. Utilizes a wide range of food items.

Records of occurrence: Specimens examined, 2: Maputa, 2. Additional records: Ingwavuma (Pringle, 1977); common throughout open grassland and wooded areas of Maputaland (Tinley, 1976); Sihangwane (present survey).

Herpestes sanguineus (Rüppell, 1835). Slender mongoose. Transvaalse rooimuishond.

A common and widely distributed diurnal carnivore, typical of woodland savanna areas. Terrestrial. Normally solitary individuals are seen.

Records of occurrence: Specimens examined, 8: Manaba, 2; Mkuze River, 4 km south of Ubombo, 2; Otobotini, 1; Ubombo, 3. Additional records: Ndumu (Pringle, 1977); northern tip of Lake Sibaya (Bruton, 1978); Sihangwane (present survey).

Ichneumia albicauda (G. Cuvier, 1829). White-tailed mongoose. Witstertmuishond.

This species is dependent on the presence of permanent water, which is probably related to its reliance on cover in the form of heavy woodland or brush. Terrestrial and nocturnal. The stomach of the Lake Sibaya specimen contained 2% Orthoptera, 4% scorpions, 10% Coleoptera, 34% rodent remains, 30% chamaeleons and 10% plant tissue; the stomach of the Sihangwane specimen contained 15% adult Coleoptera, 20% larval Coleoptera, 13% Orthoptera, 3% Dictyoptera, 2% Araneae, 20% Diplopoda and 15% unidentified insects.

Records of occurrence: Specimens examined, 3: Kosi Bay, 1; Lake Sibaya, 1; Sihangwane, 1. Additional records: Ndumu and Mkuzi Game Reserves (Pringle, 1977); Mkuze floodplain (Tinley, 1976); Lake Sibaya (Bruton, 1978).

Atilax paludinosus (G. Cuvier, 1777). Water mongoose. Kommetjiesgatmuishond.

The water mongoose is semi-aquatic and is therefore only to be found in the near vicinity of permanent fresh water sources with reasonable plant cover along the edges. Feeds mainly on aquatic creatures, especially the shore crab *Potamon sidneyi*.

Records of occurrence: Specimens examined, 3: Manguzi forest at Maputa, 1; Ingwavuma, 2. Additional records: Lake Sibaya (Bruton, 1978); Kosi Lake and Mkuze floodplain (Tinley, 1976); Ndumu Game Reserve (Pringle, 1977).

Mungos mungo (Gmelin, 1788). Banded mongoose. Gebande muishond.

A social and diurnal inhabitant of woodland plains. Feeds mainly on insects and other invertebrates. Notes on group size, diet etc., are given by Bruton (1978).

Records of occurrence: Specimens examined, 5: Lake Sibaya, 1; Mkuze River at Ubombo, 4. Additional records: Lake Sibaya (Bruton, 1978).

Helogale parvula Sundevall, 1846. Dwarf mongoose. Dwergmuishond.

Distributed throughout the woodland savanna areas of the Republic of South Africa. In common with the banded mongoose, this is also a diurnal and social insectivorous carnivore.

Records of occurrence: Specimens examined, 2: Mkuze River, 4 km south of Ubombo, 2. Additional records: Ingwavuma (Pringle, 1977).

Family Protelidae

Proteles cristatus (Sparrman, 1783). Aardwolf. Maanhaarjakkals. (Figure 5).

A rare animal, with a wide geographical distribution. Nocturnal. Feeds almost exclusively on termites.

Records of occurrence: Additional records: Ndumu Game Reserve (Pringle, 1977); adjacent to Mkuzi Game Reserve (Bruton, 1978); Sodwana Bay National Park (Bruton, 1976).

Family Hyaenidae

Hyaena brunnea Thunberg, 1820. Brown hyaena. Strandjut.

Most probably now extinct in Maputaland. The last known record of occurrence is an animal shot during 1948 (Dixon, 1964).

Crocuta crocuta (Erxleben, 1777). Spotted hyaena. Gevlekte hiëna.

Rare or extinct throughout Maputaland bar conservation areas. The specimens from Mkuzi were collected during the pre-Second World War years.

Records of occurrence: Specimens examined, 3: Mkuze River, 4 km south of Ubombo, 3. Additional records: Ndumu Game Reserve (Pringle, 1977); Mkuzi Game Reserve (Dixon, 1964).

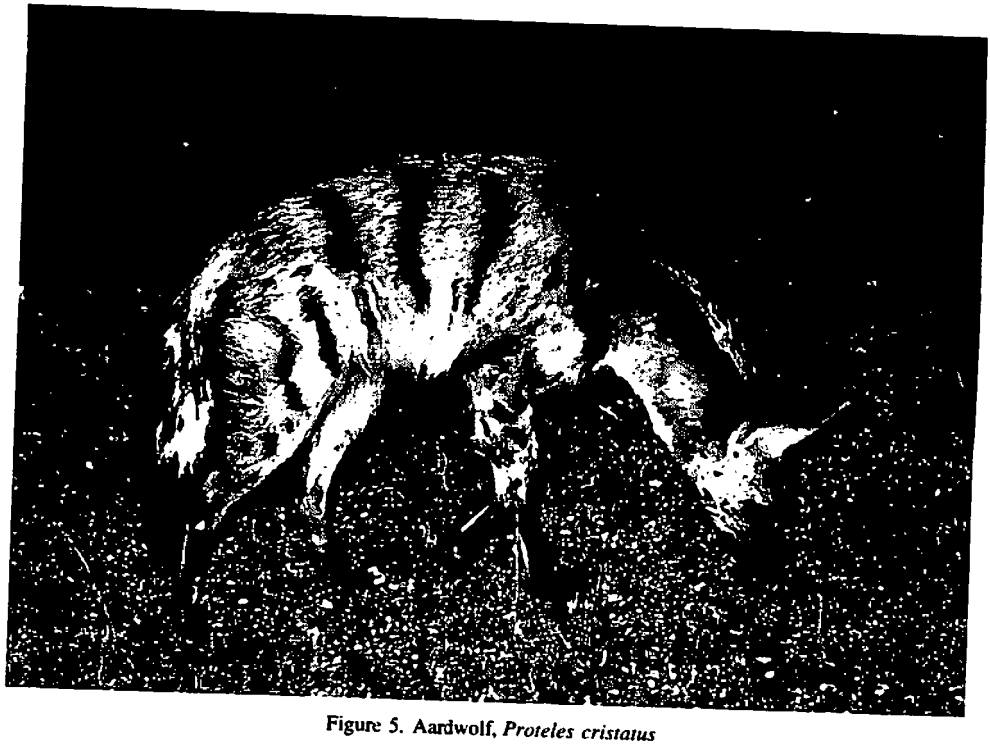

Figure 5. Aardwolf, *Proteles cristatus*

Family Felidae

Acinonyx jubatus (Schreber, 1776). Cheetah. Jagluiperd.

Whereas this species was not uncommon in earlier times, it became extinct with the last definite record of natural occurrence recorded for Mkuzi Game Reserve during 1941 (Dixon, 1964). Recently, however, cheetah have been reintroduced into the Ndumu and Mkuzi Game Reserves (Natal Parks Board, 1980), as well as on the eastern shores of Lake St Lucia (pers. comm., S. Kröger, Department of Forestry).

Panthera pardus (Linnaeus, 1758). Leopard. Luiperd.

Very seldom seen as a result of its shy and retiring nature. It may therefore still occur in many areas, particularly in the mountainous western regions. The town of Ingwavuma is named after the leopard ('ingwe').

Records of occurrence: Additional records: Ndumu Game Reserve (Dixon, 1966; Pringle, 1977); Mkuzi Game Reserve (Dixon, 1964).

Panthera leo (Linnaeus, 1758). Lion. Leeu.

As far as is known, no resident population remains in Maputaland. Within the last two decades wandering rogues have been reported on rare occasions. The specimen listed below was collected during 1928.

Records of occurrence: Specimens examined, 1: Mkuze River, 4 km south of Ubombo, 1.

Felis serval Schreber, 1776. Serval cat. Tierboskat.

A widespread but not too common felid of savanna woodland areas. Always found in close vicinity of water. Feeds on vertebrates up to the size of lagomorphs.

Records of occurrence: Additional records: Mkuzi Game Reserve (Dixon, 1964); Ndumu Game Reserve (Dixon, 1966; Pringle 1977).

Felis lybica Forster, 1780. Cape wild cat. Vaalboskat.

The Cape wild cat has a very wide distribution in southern Africa, and yet the specimen from Lake Sibaya represents the first record of occurrence for this species in Maputaland. Its stomach contained 5 per cent Araneae, 5 per cent Orthoptera, 30 per cent *Aethomys chrysophilus* and 60 per cent unidentified vertebrate remains.

Records of occurrence: Specimens examined, 1: Lake Sibaya, 1.

ORDER PINNIPEDIA

Family Phocidae

Mirounga leonina (Linnaeus, 1758). Southern elephant seal. See-olifant/olifantrob.

The Maputaland coast is the most northerly recorded locality of this species along the east coast (Bruton, 1978). A young bull visited the coast between Banga Nek and Sodwana Bay for six weeks during November-December 1976.

ORDER TUBULIDENTATA

Family Orycteropodidae

Orycteropus afer (Pallas, 1766). African antbear. Aardvark.

A nocturnal animal with a wide distribution, but rarely seen because of its nocturnal way of life. Its presence in an area is normally detected by its characteristic burrows.

Records of occurrence: Additional records: Maputa (Roberts, 1936); Mkuzi Game Reserve (Dixon, 1964); Ndumu Game Reserve (Dixon, 1966; Pringle, 1974).

ORDER PROBOSCIDEA

Family Elephantidae

Loxodonta africana (Blumenbach, 1797). African elephant. Afrikaanse olifant.

No more than 30 individuals roam the Sihangwane area (based on ground and aerial census), where no confirmed sightings of breeding activity are known since 1946 (A. J. Hall-Martin, pers. comm., 1976). However, in 1974 in a Departmental report, ex-Natal Parks Board ranger G. Thomson claims breeding activity based on sightings of immature individuals.

Note added in proof: During an aerial reconnaissance in June 1980, no less than fifty elephants were sighted, including calves which had immigrated from Mocambique (A. J. Hall-Martin, pers. comm.).

ORDER PERISSODACTYLA

Family Rhinocerotidae

Ceratotherium simum (Burchell, 1817). Square-lipped rhinoceros. Witrenoster.

Free-ranging populations have long since disappeared from the South African scene. The white rhino exists in game reserves throughout Zululand, and has now been removed from rare and endangered species lists thanks to the excellent conservation work of the Natal Parks Board.

Records of occurrence: Additional records: Mkuzi Game Reserve (Dixon, 1964); Ndumu Game Reserve (Dixon, 1966).

Diceros bicornis (Linnaeus, 1758). Black rhinoceros. Swartrenoster.

Exist in Maputaland only in the two game reserves mentioned below, where it has been reintroduced.

Records of occurrence: Additional records: Mkuzi Game Reserve (Dixon, 1964); Ndumu Game Reserve (Dixon, 1966).

Family Equidae

Equus burchelli Gray, 1824. Burchell's zebra. Bontkwagga.

As far as is known, the zebra is now extinct outside the conservation areas of Maputaland.

Records of occurrence: Additional records: Mkuzi Game Reserve (Dixon, 1964).

ORDER ARTIODACTYLA

Family Suidae

Potamochoerus porcus (Linnaeus, 1758). Bushpig. Bosvark.

A nocturnal animal, narrowly confined to well-watered areas with associated dense vegetation, such as riverine forests with dense underbush, tall grass or reedbeds.

Records of occurrence: Specimens examined, 5: Pongolo River, 17 km north of Ubombo, 5. Additional records: eastern shore of Lake St Lucia (Breytenbach, 1977); forested areas surrounding the eastern lakes (Tinley, 1976); Malangane swamp forest (personal observations); Manzengwenya Forest Station (Bruton, 1978); Mkuzi Game Reserve (Dixon, 1964); Ndumu Game Reserve (Dixon, 1966); Sihangwane (personal observations).

Phacochoerus aethiopicus (Pallas, 1766). Warthog. Vlakvark.

Found in open aspects of woodlands and shrub, with a preference for vleis and open floodplains. Avoids dense bush. Diurnal and social. This species is locally common, and is often seen on the Mbazwane to Lower Mkuzi road in the early morning.

Records of occurrence: Specimens examined, 2: Mkuze River, 4 km south of Ubombo, 2. Additional records: Mkuzi Game Reserve (Dixon, 1964).

Family Hippopotamidae

Hippopotamus amphibius Linnaeus, 1758. Hippopotamus. Seekoei.

Herds spend the day in lakes and rivers, from where they venture at night to graze. High population numbers can have very deleterious effects on the plant community surrounding their daytime aquatic haunts. Hippo are, on the other hand, believed to form a very important element in the ecology of rivers and especially swamps and lakes. This species is discussed in the chapter on Lake Sibaya in this volume.

Records of occurrence: Additional records: Amanzimnyama Lake, Lake Sibaya, Mgobezeleni Lake, Nhlange Lake, Sihadhla channel at Kosi, Vasa pan, Zilonde Lake, (Bruton, 1978); Ndumu Game Reserve (Dixon, 1966); Lake St Lucia, Pongolo pans (personal observations).

Family Giraffidae

Giraffa camelopardalis (Linnaeus, 1758). Giraffe. Kameelperd.

Giraffe became extinct in Maputaland during historical times according to the unpublished files on zoohistorical distribution by C. J. Skead. J. Vincent (pers. comm.) reports that the Natal Parks Board reintroduced seven individuals into the Mkuzi Game Reserve during 1965. These have bred remarkably well into a well-established population currently numbering about 70 individuals.

Family Bovidae

Tragelaphus angasi Gray, 1849. Nyala. Inyalabosbok.

In certain less disturbed areas and particularly in reserves it is not uncommon in the denser bush aspects of woodland savanna. Often observed in the vicinity of water where it is believed to be attracted by the cover afforded by riparian forest conditions.

Records of occurrence: Specimens examined, 20: Maputa, 3; Mkuzi Game Reserve, 5; Mkuze River, 4 km south of Ubombo, 2; Ndumu Game Reserve, 10.

Tragelaphus scriptus Pallas, 1766. Bushbuck. Bosbok.

Restricted to dense riparian forests within the Southern Savanna Woodland biotic zone. The bushbuck's abundance and even its local occurrence are normally underestimated as a result of its retiring habits. It is therefore believed to be far more widespread in Maputaland than is indicated below.

Records of occurrence: Specimens examined, 4: Maputa, 2; Mkuze River, 4 km south of Ubombo, 2. Additional records: Mkuzi Game Reserve (Dixon, 1964); Ndumu Game Reserve (Dixon, 1966).

Tragelaphus strepsiceros (Pallas, 1766). Kudu. Koedoe.

Normally kudu persist in an area long after other game species have disappeared. It has disappeared, however, from what is now the Ndumu Game Reserve and its surrounding areas in recent times (Dixon, 1966), but is still to be found in the Mkuzi Game Reserve (Natal Parks Board, 1980). The specimens listed below were collected during the 1930s. Occasionally observed by Bruton (in litt.) on the Mbazwane to Lower Mkuzi road from 1970–1977, and again in March and April 1979.

Records of occurrence: Specimens examined, 3: Maputa, 2; Mkuze River, 4 km south of Ubombo, 1. Additional records: Mkuzi Game Reserve (Dixon, 1964).

Cephalophus monticola (Thunberg, 1789). Blue duiker. Blouduiker.

A very shy and retiring inhabitant of dense bush, and therefore very easily overlooked. Believed to be more widely distributed in coastal forests than is indicated below.

Records of occurrence: Specimens examined, 1: Ubombo, 1. Additional records: Mbibi (Bruton, 1978).

Cephalophus natalensis A. Smith, 1834. Red duiker. Rooiduiker.

Occupies the same habitat as the blue duiker, but has a wider geographical range. A poorly known species.

Records of occurrence: Specimens examined, 7: Maputa, 4; Mkuze River, 4 km south of Ubombo, 3. Additional records: eastern shores of Lake Sibaya, Mbibi, Sodwana (Bruton, 1978); Mkuzi Game Reserve (Dixon, 1964); Ndumu Game Reserve (Dixon, 1966).

Sylvicapra grimmia (Linnaeus, 1758). Grey duiker. Gewone duiker.

Common throughout. Found mostly in open woodland and grassland areas.

Records of occurrence: Specimens examined, 5: Maputa, 1; Mkuze River, 4 km south of Ubombo, 3; Nkandisa bush, 1. Additional records: Manzengwenya and Mbazwane (Bruton, 1978); Mkuzi Game Reserve (Dixon, 1964); Ndumu Game Reserve (Dixon, 1966); Lake Sibaya and Sihangwane (personal observations).

Redunca arundinum (Boddaert, 1785). Reedbuck. Rietbok.

A grazer occurring on grassy areas near permanent water with nearby dense reeds or similar vegetation affording protection. Very common on the eastern shores of Lake St Lucia.

Records of occurrence: Specimens examined, 7: Maputa, 1; Mkuze River, 4 km south of Ubombo, 4; Ndumu Game Reserve, 1; Pongolo River near Ubombo, 1. Additional records: southern shores of the western arm of Lake Sibaya (Bruton, 1978); Sihangwane (Hall-Martin, pers. comm.); Mkuzi Game Reserve (Dixon, 1964); Ndumu Game Reserve (Dixon, 1966).

Redunca fulvorufula (Afzelius, 1815). Mountain reedbuck. Rooiribbok.

Found only in broken hilly country and the lower slopes of higher mountains. Therefore this animal is restricted to the western mountainous regions of Maputaland.

Records of occurrence: Specimens examined, 1: Ingwavuma, 1. Additional records: Mkuzi Game Reserve (Dixon, 1964).

Kobus ellipsiprymnus (Ogilby, 1833). Water buck. Waterbok.

Occurred in the Mkuzi Game Reserve until recently (Dixon, 1964). The waterbuck is probably extinct throughout Maputaland.

Connochaetes taurinus (Burchell, 1823). Blue wildebeest. Blouwildebees.

Whereas this species must have been abundant throughout the open woodlands of Maputaland in former times, it is now either rare or extinct outside conservation areas. Still relatively abundant in the Mkuzi Game Reserve (Dixon, 1964).

Records of occurrence: Specimens examined, 3: Mkuzi Game Reserve, 2; Ubombo, 1. Additional records: Mkuzi Game Reserve (Dixon, 1964).

Aepyceros melampus (Lichtenstein, 1812). Impala. Rooibok.

By far the commonest antelope of the woodland savanna. The impala is still abundant along the Mbazwane to Lower Mkuzi road (Bruton, pers. comm.). Under protection it flourishes.

Records of occurrence: Specimens examined, 3: Mkuze River, 4 km south of Ubombo, 1; 24 km south of Ndumu store, 2. Additional records: Mkuzi Game Reserve (Dixon, 1964); Ndumu Game Reserve (Dixon, 1966).

Oreotragus oreotragus (Zimmermann, 1783). Klipspringer. Klipbokkie.

An inhabitant of rocky mountainous areas. It may still occur in the more remote parts of the Lebombo mountains, but there are no records to substantiate this. Occurred in the Mkuzi Game Reserve in earlier times, but it is now believed to be extinct there (Dixon, 1964).

Ourebia ourebia (Zimmermann, 1783). Oribi. Oorbietjie.

Occurred on grassland plains and floodplains in earlier years (Roberts, 1936), but is now almost certainly extinct.

Records of occurrence: Additional records: Maputa (Roberts, 1936).

Raphicerus campestris (Thunberg, 1811). Steenbok.

Widespread and common in open grassland areas, particularly between Mseleni and Manzengwenya and north to Maputa.

Records of occurrence: Specimens examined, 2: Maputa, 1; Mkuze River, 4 km south of Ubombo, 1. Additional records: Mkuzi Game Reserve (Dixon, 1964); Ingwavuma (Dixon, 1966).

Neotragus moschatus (Von Deuben, 1846). Suni. Soenie.

Although Tinley (1976) describes it as common in coastal dune forests, it is rarely seen as a result of its retiring nature. Bruton (1978) examined a snared specimen from the coastal dune forest at Mbibi. Typical habitat for this species is dry forest dominated by *Newtonia hildebrandtii* (Bruton, in litt.).

Records of occurrence: Specimens examined, 4: Mkuze River, 4 km south of Ubombo, 4. Additional records: Mkuzi Game Reserve (Dixon, 1964); Mbibi (Bruton, 1978); Ndumu Game Reserve (Dixon, 1966).

DISCUSSION

C. J. Skead has compiled extensive files of zoohistorical extracts from the travel accounts and correspondence of the early explorers and hunters who roamed the interior of the subcontinent during historical times. From these files it is evident that early explorers encountered the following game animals in what is now Maputaland, all of which are now locally extinct: buffalo *(Syncerus caffer)*, eland *(Taurotragus oryx)*, roan *(Hippotragus equinus)*, tsessebe *(Damaliscus lunatus)*. Add to this list those species mentioned in the main text as having possibly become extinct during recent times such as brown hyaena, klipspringer, etc., and an all too familiar sad picture emerges. The local disappearance of any species can only be regarded with regret and guilt. In Maputaland the list of extinct species would have been appreciably longer, were it not for the Mkuzi and Ndumu Game Reserves. Here species such as spotted hyaena, white rhino, black rhino, giraffe, cheetah, zebra, warthog and blue wildebeest have found a last refuge. Some of these were reintroduced, such as the black and white rhino, giraffe and cheetah. The Natal Parks Board deserves credit for its endeavours in nature conservation in Maputaland and elsewhere in Natal.

Including the four locally extinct forms mentioned above, 102 species of mammals are known to occur, or have occurred in Maputaland. This is a particularly high areal species diversity. It compares well with the species richness of the much larger Kruger National Park. The latter is one of the best studied areas of Africa, and its recorded species richness (Pienaar, 1963, 1964, 1970, 1972, and unpublished data; Rautenbach, 1975) of 125 species must be close to absolute.

The faunas of the two areas under discussion are very similar in composition. Only 12 terrestrial mammals occur in Maputaland and not in the Kruger National Park, whereas 35 of the species occurring in the Kruger National Park are absent from Maputaland. The two areas have 89 species in common. It is of interest that of the 37 larger mammal

species recorded in the Kruger National Park by Pienaar (1963 and 1970), only three (*O. megalotis*, *R. sharpei* and *H. niger*) have not been recorded in Maputaland. Conversely, only one larger-sized terrestrial mammal (*C. monticola*) occurs in Maputaland and not in the Kruger National Park. This very close similarity between the respective larger-sized mammal faunas very strongly suggests that the respective small mammal faunas are incompletely recorded, particularly for Maputaland.

Faunal similarity between these areas is not surprising. Not only are these areas geographically close to each other, but both fall in the Southern Savanna Woodland biotic zone, and each contain forest elements to a greater or lesser extent.

Three suggestions could be offered for the faunal diversity of Maputaland being slightly smaller when compared to the Kruger National Park. The first suggestion, namely that Maputaland probably is incompletely surveyed with regards to smaller mammals, has already been mentioned. The second possibility is that Maputaland is smaller and ecologically not as diverse as the Kruger National Park. Maputaland, for instance, does not possess any broken hilly country other than the Lebombo mountains, nor baobab trees, both of which normally harbour a great variety of small mammals. Maputaland, however, has important Forest Biotic Zone elements, including dune and swamp forests and theoretically a stronger forest contingent is to be expected here. However, apart from the blue duiker, all the forest species occurring in Maputaland have also been recorded in riparian forests of the Kruger National Park, albeit at lower population densities.

Species diversity generally decreases away from the Equator, and is related to ecological complexity. Since Maputaland is situated farther south than the Kruger National Park, it is lastly postulated that the ranges of some species (such as sable) do not extend as far south as Maputaland.

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