

## THE VERTEBRATES OF VERNON CROOKES NATURE RESERVE : 1

O. Bourquin  
Natal Parks Board  
and  
S.G. Sowler  
University of Natal

### INTRODUCTION

There are few comprehensive faunal checklists for the Game and Nature Reserves in Natal, and all of these (Bourquin *et al.*, 1971; Dixon, 1966; Pooley, 1965, 1970) deal with areas in Zululand. We believe that even if such checklists are incomplete, they should be published as an indicator of species occurrence, as a stimulus for future workers, and as part of the realisation that conservation management deals with all forms of biota. Further, it has the added value of fixing, in a time scale, relative abundance of species which might change as future management practices (e.g. fire regimes and control of exotics) alter habitats.

### STUDY AREA

The reserve is situated 20 km inland from Park Rynie on the Natal coast, at between 30° 15' and 30° 19' south and 30° 33' and 30° 38' east.

It was first proclaimed as a nature reserve during 1972, being 755 ha in size. Additions to this reserve took place by proclamation during 1976, and the size at present is 2 189 ha. It is bounded on the northern side by released Bantu area and on all other sides by private farm land, mainly with sugarcane and timber production. The portion added to the reserve remained fenced off from the initially proclaimed area, although the fence was in poor condition, until March 1979.

The topography is steep to undulating consisting of ridges and hills dissected by deep drainage lines. Altitudes range from 200–538 m above sea level (Figure 1). Surface water is freely available over most of the area throughout the year.

Mean daily maximum temperatures are 28°C in January to 22°C in July, with extremes reaching 43°C and 34°C respectively. Mean daily minima are about 19°C in January and 9°C in July, with extremes falling to 7°C and 1°C respectively. Frost does not occur.

The predominating winds blow from the north-east and south-west in about equal proportions. Gales are infrequent.

The vegetation consists basically of coast forest patches of varying extent, interspersed with tall grassveld. A general description of the vegetation has been given by Acocks (1953) who classes the type as 1(a) – typical coast belt forest. In parts of the reserve *Eupatorium odoratum* (triffid weed) has established to pest proportions, and a number of other exotics also occur. Limited cultivation and grazing by cattle in the Nyengelezi area has altered the vegetation cover locally, and *Aristida junciformis* has invaded some of the grassland.

### METHODS

Small mammals, reptiles and amphibia were collected during day and night by trapping and shooting, or were caught by hand, and large mammals were identified by the authors and Natal Parks Board staff. Numbers of specimens were collected during the burning of firebreaks

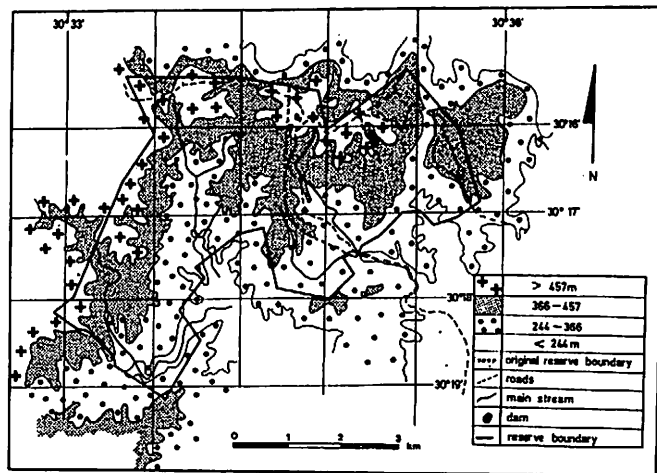


Figure 1. Vernon Crookes Nature Reserve.

and control fires. Of these some were badly scorched and, particularly small mammals, could not be used as museum specimens. Fish were collected using rotenone, hand-nets, and conventional fishing tackle. Collecting was carried out sporadically from 1977 to 1979. Collected specimens were lodged with the Transvaal and Natal Museum. Specimens numbers are indicated by TM (Transvaal Museum) and NM (Natal Museum).

Nomenclature follows Smith & Jackson (1975) for fish, Poynton (1964) for amphibia, FitzSimons (1943) for lizards, FitzSimons (1964) for snakes, and Meester & Setzer (1971) for mammals, as amended by subsequent nomenclatural changes. An account of the bird fauna is to be published at a later date.

### RESULTS

#### Fish

The streams and rivers form part of the Umzinto River catchment, and consist for the most part of steep rocky streambeds in deeply incised valleys. Waterfalls, rapids and pools are numerous, and there is a moderate to dense vegetation cover on the banks. In many places the waterways are shaded by forest and streambank trees. Three artificial dams occur in the area. Silt loads are very light, and the streams and rivers remain clear during most of the year.

#### Family Cyprinidae

##### *Barbus natalensis*

##### Scaly

Very common in some lower-lying streams in the Nyengelezi Valley. 31 specimens examined by C.W. Wright (*in litt.* 1979) were found to be typical of the species as described by Crass (1964), but had a higher upper range of lateral line scales (39) than that of 38 listed by Jubb (1967). Months recorded were January and April. Specimen number: NM 1529.

*Otomys irroratus*

Very common in the grasslands in the reserve. Months recorded were June, September and October. Specimen numbers: TM 28279, 28281, 28282.

Family Rhinocerotidae  
*Ceratotherium simum*

Square-lipped rhinoceros  
Six rhinoceros were introduced from Umfolozi Game Reserve between February and March 1968. Two of these died after falling over a cliff. This species is not considered to have occurred naturally in the area, and because no breeding took place and problems with fence breakages occurring, the species was removed from the reserve on 30 November 1978.

Family Equidae  
*Equus burchelli*

Burchell's zebra  
Eight males and eleven females were introduced during August and September 1969 from Hluhluwe Game Reserve. Present numbers (November 1978) are 10 males, 43 females and 5 foals. Births recorded are as follows: September (1), October (6), November (1), December (1), June (1), July (1).

The June/July (1975) births are considered abnormal, as this is not the time when zebra normally foal. An aborted foetus and a foal carcass were found during this period. Other species in the area also had births recorded during the 1975 winter, including blue wildebeest, blesbok and impala. The species is not considered to have occurred naturally in the area.

Family Bovidae  
*Cephalophus natalensis*

Red duiker  
Only one sight record of this forest species is available, and its presence requires confirmation.

*Cephalophus monticola*

Blue duiker  
This naturally occurring forest-dwelling species is fairly common in the reserve. Two males were introduced during January 1969. No lambing times or assessments of numbers are available. The species is preyed upon by jackal and at least three animals have died as a result of being caught in the reserve's boundary fences.

*Sylvicapra grimmia*

Grey duiker  
Common and occurring naturally in the area in the grasslands, bush-clumps and forest margins. A male was introduced during January 1969. Lambing records are not available. Numbers cannot be estimated at present. A few records indicate that jackal prey on both juveniles and adults.

*Ourebia ourebi*

Oribi  
One male and three females were introduced from Umlaas Road during September 1969.

Four adults and one lamb were seen during December 1970. The last sightings of the species were during March 1975, when an oribi was seen on two occasions on the grassy plateau along the northern boundary.

*Redunca fluvorumfala*

Mountain reedbuck  
Eight (sexes unknown) were introduced from Bedford, Cape Province, during June 1968. One lamb was found dead during March 1976 and juveniles have been seen during September and December.

During December 1970, 16 were recorded. The present population is probably less than 30 animals.

*Redunca arundinum*

Common reedbuck  
During 1969, two males and 6 females were introduced from the Richmond area, Natal. Sightings are rare and not more than 20 are believed to be present in the area.

*Aepyceros melampus*

Impala  
During July and August 1968, 17 male and 75 female impala were introduced to the reserve from Mkuzi Game Reserve, of which 32 died a short while after release. Insufficient records have been kept to establish actual numbers dying 'naturally' (disease, predation). It is probable that jackal are taking a toll of the population, as many of the carcasses found have been fed on by this species.

The condition of the population is not good during winter and spring. Of 10 females and one male cropped during August, kidney fat indices were from 3,7 to 70,3 with an overall mean of 25,0. In contrast, 10 blesbok females cropped at the same time had combined kidney fat indices of 9,5 to 103,2, with an overall mean of 39,2. All eight blesbok females over two years of age were pregnant, while three of the nine impala females over two years of age were not. The indications are that the impala are not as well adapted to the veld conditions as are the blesbok.

Lambing normally occurs during November and December, but may start in October and end in February. Out of season lambs have been recorded during April to June 1975. Available lambing figures indicate that 1% are born in October, 53% in November, 36% in December and 10% in January and February (n = 76).

Population sizes, on the basis of counts, were as follows:-

August 1968	- 92	(17 males 75 females)
September 1968	- 60	
December 1970	- 98	
December 1975	- 95	(63 adults and subadults, 32 lambs)
December 1976	- 61	(48 adults and subadults, 13 lambs)
November 1977	- 30	(adults and subadults)
December 1978	- 37	(27 adults and subadults, 10 lambs)

Known deaths and removals by cropping were as follows: 1972 - 1, 1973 - 2, 1975 - 18, 1976 - 22, 1977 - 17, 1978 - 6, of which removals by cropping accounted for 46 animals from 1975-1978.

The species is not known to have occurred naturally in the area.

*Antidorcas marsupialis*

Springbok  
Three springbok (1 male, 2 females) were introduced prior to 1971 and a female died shortly after introduction.

Births were recorded during November (1), December (2), and natural deaths during November (1 lamb) and January (1 lamb).

During December 1976, 1 male, 1 female and 1 lamb were present. The only female was destroyed on 23 October 1977, as her foetus had broken the uterine wall with its head, causing severe haemorrhaging. Two males are still present (January 1979). The species did not formerly occur in the area.

*Damaliscus dorcas*

Blesbok  
During May 1968, 15 blesbok were introduced from Phillipolis, O.F.S., and another ten were introduced during June 1969 from Vrede, O.F.S. Prior to September 1969 three of these had died. Jackal predation appears to be high, and physical condition tends to be poor during the winter months (see remarks under 'impala').

## REFERENCES

- Acocks, J.P.H. 1953. Veld types of South Africa, Bot. Survey mem. No. 28. Govt Printer.
- Bourquin, O., Vincent, J. & Hitchins, P.M. 1971. The vertebrates of the Hluhluwe Game Reserve - Corridor - Umfolozi Game Reserve Complex. Lammergeyer 14.
- Dixon, J.E.W. 1966. Notes on the Mammals of Ndumu Game Reserve. Lammergeyer 6: 24-40.
- FitzSimons, V.F.M. 1943. The Lizards of South Africa. Trustees of the Transvaal Museum, Pretoria.
- 1962. Snakes of Southern Africa. Purnell & Sons, Cape Town.
- Meester, J. & Setzer H.W. 1971. The mammals of Africa - an identification manual. Smithsonian Institute Press. City of Washington.
- Pooley, A.C. 1965. A preliminary checklist of the reptiles found within the Mkuzi and Ndumu Game Reserves in Northern Zululand. Lammergeyer 3(2): 41-55.
- 1970. Additional reptile records for the Ndumu Game Reserve in Northern Zululand. Lammergeyer 11: 65-67.
- Poynton, J.C. 1964. The Amphibia of southern Africa: a faunal study. Ann. Nat. Mus., 17.
- Smith, M.M. & Jackson, P.B.N. 1975. Common and Scientific names of the fishes of southern Africa. Special Publication No. 14. Rhodes University, Grahamstown.

## Authors' addresses:

- Mr O. Bourquin, Natal Parks Board, P.O. Box 662, Pietermaritzburg, 3200 South Africa.
- Mrs S.G. Sowler, Department Biological Sciences, University of Natal, Durban, 4001 South Africa.

## STATUS OF KLIPSPRINGER IN THE DRAKENSBERG GAME RESERVES

J.S.B. Scotcher  
Natal Parks Board

## INTRODUCTION

Klipspringer *Oreotragus oreotragus* are confined to rocky hills, koppies and mountains which explains their patchy distribution in Africa (Dorst and Dandelot, 1970). In Natal, it is nowhere common, occurring in small localised populations in the coastal and low-lying regions in the north-east, and in the mountain region along the Natal-Lesotho border (Mentis, 1974).

In 1973 staff of the Natal Parks Board expressed concern over the status of klipspringer in the Drakensberg, as it was alleged that numbers were declining. As a result a preliminary study was put into operation in January 1974, to assess the status of this species in Drakensberg game reserves before considering further research or management action.

This paper reports on the results of the work with particular emphasis on Royal Natal National Park.

## STUDY AREA

All Drakensberg reserves under the control of the Natal Parks Board were considered viz Giant's Castle Game Reserve, Royal Natal National Park, Loteni Nature Reserve, Kamberg Nature Reserve and Vergelegen Nature Reserve. The Drakensberg mountains range in altitude from 1 280 m to 3 350 m above sea level and contain some of the most rugged terrain in South Africa. The lower reaches consist largely of cave sandstone whilst above 1 800 m the geological substratum is basaltic lava. Soils are ferallitic in the well-drained uplands, and acid hydromorphic in the wet bottomlands. In both types, leaching has been extreme and fertility is therefore low. Three vegetation zones are present (Killick, 1963); Montane Belt (1 280 - 1 830 m a.s.l.); Sub-alpine Belt (1 830 - 2 865 m a.s.l.); and Alpine Belt (above 2 865 m). Most of the Drakensberg is vegetated by fire sub-climax grasslands with infrequent scrub and forest patches, and *Protea* woodland. The woody vegetation is largely confined to refuge sites where fires are absent, infrequent, or burn with low intensity.

The Drakensberg is a summer rainfall area with 80% precipitating between October and March. Summer temperatures are mild to warm whilst the winter months are cool to cold. Sub-zero temperatures are common during June and July.

## METHODS

It was first established in which reserves klipspringer were known to occur. Thereafter, monthly counts were carried out by game guards in the course of their routine patrols along established routes. Klipspringer sightings were recorded on forms detailing numbers seen, sex and age composition (where possible), altitude, activity, and the location was marked on a map. Counts were continued in this manner for five years (1974-1978).

## RESULTS

As klipspringer were not recorded in Vergelegen, Loteni or Kamberg