

PRELIMINARY NOTES ON THE SUNI, *NESOTRAGUS MOSCHATUS* AND
RED DUIKER, *CEPHALOPHUS NATALENSIS*.

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ABSTRACT

Very few studies have been done on the Suni. These tiny antelopes are threatened by extinction and for this reason an investigation seemed extremely necessary. It was convenient to study the Red Duiker at the same time, since both species inhabit the same bush country.

The Suni live in pairs occupying a very small territory. They are very shy animals and only come out of the bush into the open when weather conditions are very favourable. Investigations in the dense bush, where they occur, were therefore extremely difficult. The Suni feed mainly on small shrubs, leaves and fruits.

It was observed that the Red Duiker, living in the same habitat, reacts much more quickly, occupies a larger territory, but was seen more often, because of its bright reddish-brown colour and since it also occurs in greater numbers.

In the book "Records of Big Game" (Best *et al.*, 1969), a full description of "Livingstone's Suni" is given. The species is also briefly mentioned by Pocock (1910), Allen (1939), Moreau and Pakenham (1940), Swynnerton and Hayman (1951) and Child and Savory (1964), several different names being used. Chorley (1956), in describing the distribution of the species, follows Ellerman, Morrison-Scott and Hayman (1953) in listing three subspecies: *Nesotragus moschatus moschatus* Von Dueben, 1846; *Nesotragus moschatus livingstonianus* Kirk, 1865 and *Neosotragus moschatus zuluensis* Thomas, 1898. The distribution is given as Portuguese East Africa, Nyasaland, Northern Rhodesia, Zanzibar, Tanganyika and Kenya. According to the most recent taxonomic account (Ansell, in press) five subspecies are recognised: *Nesotragus moschatus moschatus* (von Dueben, 1846); *Nesotragus moschatus akeleyi* (Heller, 1913); *Nesotragus moschatus kirchenpaueri* (Pagenstecher, 1885); *Nesotragus moschatus livingstonianus* (Kirk, 1865) and *Nesotragus moschatus zuluensis* (Thomas, 1898). The animal occurs in the dry thicket country of eastern Africa (parts of South Africa, Rhodesia, Mozambique, Malawi, Tanzania, Zanzibar and Kenya).

In South Africa, *Nesotragus moschatus zuluensis*, with which this paper is concerned, is only found in the coastal area of Natal, from St. Lucia Bay northwards and in the northeastern corner of the Transvaal. Its range extends into southern Mozambique and part of Rhodesia. The status of the Suni in South Africa does not appear to be particularly satisfactory. Roberts (1936) recorded it as being "not uncommon at Mkuzi river, but very shy, taking refuge in the tangled scrub of the flats and only coming into the open amongst trees in the evening or early morning". Dixon (1964) mentioned that the animal was becoming very scarce in the Mkuzi Game Reserve area. In the adjoining state lands they were heavily snared by African poachers. During the last few years none has been observed by game rangers in the Mkuzi Game Reserve (personal communication), although two were seen at night by Mr. C. Tinley of the Ubizane Game Ranch whilst driving across the bridge over the Mkuzi river, at the road between Hluhluwe and Mkuzi village.

At the present time, the largest known population of Suni in South Africa appears to occur in the False Bay Game Reserve, an area of approximately 50km². It stretches in a narrow belt with

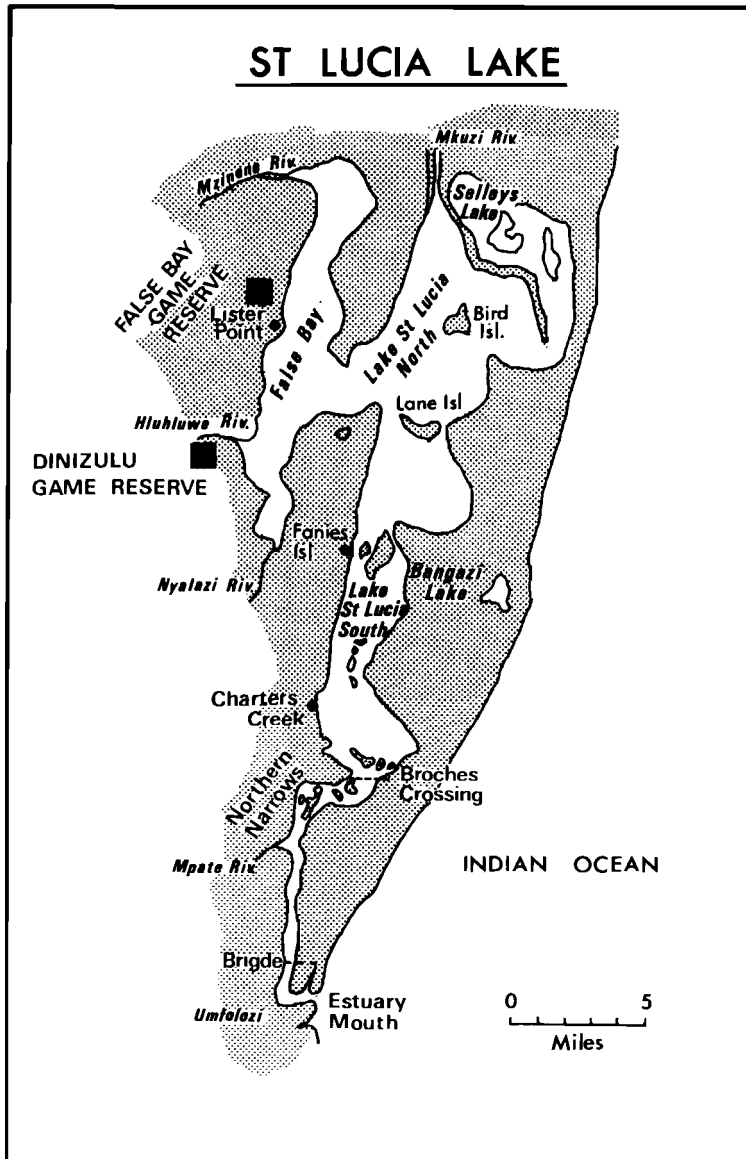


FIGURE 1

Map of Lake St. Lucia showing the False Bay and Dinizulu Game Reserves. The two areas where observations were done are indicated by black squares.

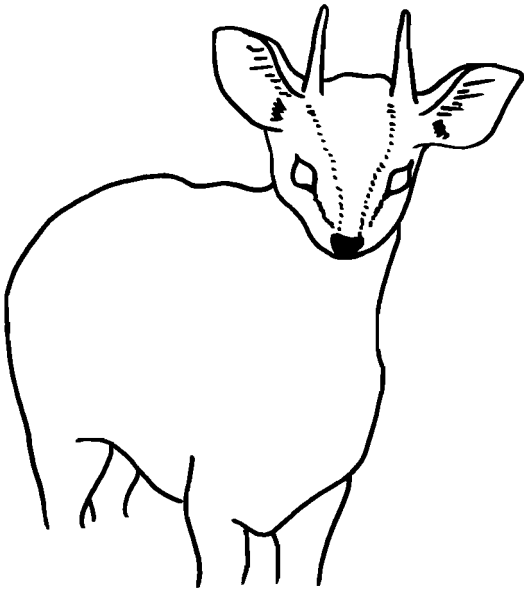


FIGURE 2

Pendrawing of *Nesotragus moschatus zuluensis* male.

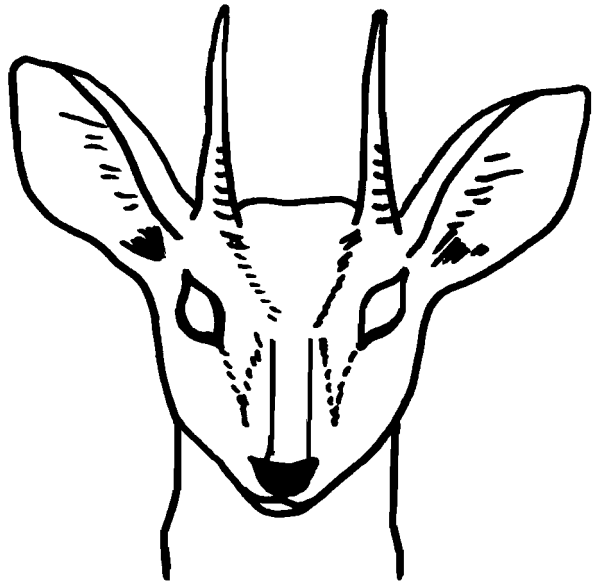


FIGURE 3

Head of a male Suni, *Nesotragus moschatus zuluensis*.

an average width of 3km along St. Lucia Lake from the Mzinene river in the north to the Hluhluwe river in the south.

During November, 1969, a study of this shy, small antelope was commenced in the False Bay Game Reserve, and on an adjoining private Game Reserve, Dinizulu. The latter Game Reserve is 1 600 ha in extent and is situated east of the Hluhluwe railway station, bordering the Hluhluwe river and adjoining the False Bay Game Reserve. Suni are found in an area of 800 ha of this Reserve (Fig. 1). From 27 January, 1970, the study was continued in the False Bay Game Reserve only. At the same time, observations were made on the Red Duiker *Cephalophus natalensis*, A. Smith, 1834, which occurs in similar habitat.

Owing to the density of the undergrowth where the Suni live, it was impossible to obtain black and white photographs, which could be reproduced. The pen drawings in Figs. 2 and 3 give the outline of Suni photographed in the area.

MEASUREMENTS

Measurements of a male Suni and a male Red Duiker were taken at Dinizulu Game Reserve on 21 November, 1969 and are shown in Table I. Best *et al.* (1969) gives the average shoulder height for this Suni subspecies as 360–380 mm, whilst Dorst and Dandelot (1970) quote a range of 310–410 mm. The horns of one Suni were measured by Roberts (1951) as 96,5 mm. Dorst and Dandelot (1970) state that the average length of the Suni horns are 64 mm with the maximum length

TABLE I
MEASUREMENTS OF A MALE SUNI AND A MALE RED DUIKER

<i>Measurements</i>	<i>Suni</i> ♂	<i>Red Duiker</i> ♂
	(<i>mm</i>)	(<i>mm</i>)
Length of horn	86	70
Diameter of horn	16	20
Distance between horns	41	38
Length of ear	70	73
Length of head (from tip of nose to atlas joint)	152	204
Length of body (from atlas to base of tail)	508	635
Total body length	660	724
Length of tail	92	89
Shoulder height (from above scapula to tip of hoof)	372	446
Heart girth (circumference of chest behind front legs)	356	484
Hock to tip of hoof	184	223
Length of hoof (from proximal edge of dewclaw to tip of hoof)	51	70
Base of hoof	26	30

known being 130 mm.

The shoulder height of a Red Duiker of the coastal bush of Natal was given by Roberts (1951) as 430 mm, whilst Dorst and Dandelot (1970) give the average as 509 mm. The latter authors also give the length of the horns as 76 mm and the maximum length as 130 mm.

FEEDING

The feeding habits of both the Suni and the Red Duiker were observed in the field. The plants on which they were seen to feed are listed in Table 2. The stomach contents of one Suni and one Red Duiker were also analyzed superficially and the identifiable plant specimens found are listed in Table 3.

The Suni feed mainly on small shrubs, dry leaves and fruits just fallen from the trees. They were never observed to eat grass. They are also fond of the mushrooms ("ikhowe") that come up after rains on the anthills. They require no water and appear to obtain sufficient moisture from the vegetation on which they feed. The Red Duiker also feed mainly on shrubs, dry leaves and fruits, but since they are larger animals they can often swallow whole fruits. In the stomach contents of the Suni, the leaves and fruits were found to have been chewed into very small pieces so that it was rather difficult to identify them.

TABLE 2

LIST OF PLANTS THE SUNI AND RED DUIKER WERE SEEN TO FEED ON

SUNI	RED DUIKER
<i>Acacia burkei</i>	<i>Dichrostachys cinerea</i>
<i>Grewia</i> sp.	<i>Strychnos innocua</i> Del. ssp. <i>dysophylla</i>
<i>Cissus rotundifolius</i>	<i>Asparagus falcatus</i>
<i>Pavonia</i> sp.	<i>Justicia protacta</i>
<i>Xeromphis obovata</i>	<i>Gardenia cornuta</i>
<i>Wrightia natalensis</i>	<i>Azima tetracantha</i>
<i>Davyalis caffra</i>	
<i>Strychnos</i> sp.	
<i>Gardenia cornuta</i>	

TABLE 3

A FEW PLANTS THAT COULD BE IDENTIFIED IN A SUPERFICIAL EXAMINATION OF THE STOMACH CONTENT OF A SUNI AND RED DUIKER

SUNI ♂	RED DUIKER ♂
<i>Commelina africana</i>	<i>Strychnos spinosa</i>
<i>Sapium integerrinum</i>	<i>Sapium integerrinum</i>
	<i>Justicia</i> sp.
	<i>Commelina africana</i>
	<i>Grewia</i> sp.

BEHAVIOUR

The Suni are such shy and small animals that they are extremely difficult to observe in bush country. If one has the patience to sit for 2 – 3 hours at one spot, a Suni may walk up quite close. Once a female was feeding and walked up to about 5 m from me before she noticed me. She then jumped a little distance away looking again in my direction and only then disappeared into the thick bush. One male on its own was often seen at the same spot. It eventually became accustomed to my presence and one morning actually lay down under a bush looking at me undisturbed. The females seem to be much more alert than the males.

When a Suni is frightened it may first freeze for a very long time, sometimes over 10 minutes, and only when another movement from the observer is made, will it jump away with a "chie-chie" sound of fright. The Red Duiker reacts much more quickly than the Suni when being approached. It would only stand motionless for a few seconds before swiftly darting away. Often a Red Duiker male and female were seen playing. The one chased the other, while making a "tchie-tchie" sound, but louder and more penetrating than that of the Suni. Suni were also more often seen scratching and licking themselves, than Red Duiker.

Suni seem to live together in pairs throughout the year. Occasionally, after the breeding season, a male, a female and a youngster were seen together. On 18 September, 1970 I had the opportunity of seeing a tiny Red Duiker rolled up underneath a bush. This Red Duiker must have been only a few days old. Its colour was almost black. The mother was watching me from a distance and was giving warning sounds when I was taking photographs of her kid.

Table 4 (a) and (b) show the number and sex of the Suni and Red Duiker seen on the various days out in the field. A Suni was often spotted by its tail wagging quickly to and fro in the thick bush or by its big, pinkish ears, through which the sunlight shines. The Suni has a pale, light brown colour with white underparts. The Red Duiker was observed much more easily, as it is larger in size and its bright rufous chestnut colour, as well as its quick movements, catch the eye immediately. Therefore usually more Red Duiker than Suni were seen on a morning or afternoon in the field, although the main object of observation had been the Suni. It is also true that there are many more Red Duiker in the area than Suni and that they can cover a greater area in a shorter time.

The Suni male has horns and the female is hornless, whilst amongst the Red Duiker both male and female bear horns, although those of the female are usually shorter. At a distance it was therefore always more difficult to tell the sex of a Red Duiker than that of a Suni (Table 4).

During the fieldwork it was noticed that the Suni quite often came out into the open spaces in the dense bush in the summer months, especially when it was overcast. The greatest number of Suni were seen on the morning of 9 November, 1969 and the afternoon of 6 February, 1970, there being 8 and 6 respectively. Similarly, 15 Red Duiker were seen on the morning of 30 January, 1970 and 13 on the afternoon of 26 November, 1969 and again 13 on the morning of 29 January, 1970 (Table 4). During the period of April to August very few Suni were observed (Table 4). Similar observations were recorded for the Red Duiker.

TERRITORIALITY

Suni were repeatedly observed in the same area where they would feed in the same spot for relatively long periods. They apparently use communal dung heaps and tend always to sleep under the same dense bush so that it seems that they inhabit a very small territory in comparison to the Red Duiker. The Suni has a large gland below the eyes but no rubbing against stems of bushes to mark its territory was observed, although this is a familiar way of marking territory among certain other antelopes. When rubbing was noticed once, careful investigation of the spot revealed no trace of any secretion.

The Red Duiker probably occupies a larger territory. It moves about more quickly compared with the Suni even when feeding. Red Duiker also seem to use communal dung heaps but it could not be ascertained whether they repeatedly use the same dense bush for cover.

These few observations may suggest the possibility of territorial behaviour, but further investigation would be required in order to prove this and to provide further details. This report describes a preliminary investigation only.

TABLE 4 (a)

NUMBER AND SEX (WHENEVER OBSERVABLE) OF SUNI AND RED DUIKER SEEN ON THE VARIOUS MORNINGS IN THE FIELD

Place	SUNI				RED DUIKER				Date	Time of morning
	♂	♀	doubtful	Total	♂	♀	doubtful	Total		
Dinizulu Game Reserve	1	1	6	8	-	-	8	8	9.11.69	0700-1000
	-	-	-	-	-	1	1	2	10.11.69	0630-0900
	-	-	1	1	1	-	1	2	11.11.69	0830-1100
	-	-	1	1	2	1	2	5	19.11.69	0600-0800
	-	-	-	-	-	1	1	2	20.11.69	0530-0730
	1	-	-	1	2	-	1	3	21.11.69	0600-0730
	-	-	1	1	-	-	3	3	22.11.69	0600-0830
	-	-	-	-	-	-	2	2	27.11.69	0530-0800
	-	-	-	-	1	1	1	3	28.11.69	0630-0830
False Bay Game Reserve	1	1	-	2	2	2	1	5	28.1.70	0600-0900
	-	-	1	1	1	1	11	13	29.1.70	0600-0900
	1	-	-	1	-	-	15	15	30.1.70	0600-0945
	1	-	-	1	-	-	4	4	31.1.70	0700-0930
	1	1	-	2	-	-	4	4	3.2.70	0600-0800
	-	-	-	-	-	1	2	3	4.2.70	0600-0900
	-	-	-	-	-	1	7	8	5.2.70	0630-0930
	1	-	1	2	-	-	1	1	7.2.70	0600-0930
	1	1	-	2	-	-	1	1	8.2.70	0800-1000
	1	-	1	2	-	-	6	6	9.2.70	0600-0900
	1	-	-	1	-	-	2	2	10.2.70	0600-0945
	1	2	-	3	-	-	3	3	11.2.70	0700-1000
	-	-	-	-	1	-	1	2	14.3.70	0630-0900
	1	-	-	1	-	-	-	-	15.3.70	0645-1000
	-	-	2	2	-	-	7	7	24.4.70	0700-1100
	1	1	-	2	-	-	6	6	25.4.70	0700-1030
	-	-	2	2	-	-	2	2	26.4.70	0730-1100
	-	-	3	3	-	-	1	1	15.5.70	0730-1100
	-	1	1	2	-	-	9	9	16.5.70	0730-1100
	-	-	2	2	-	-	5	5	17.5.70	0730-1100
-	-	-	-	-	-	9	9	19.5.70	0730-1030	
-	-	-	-	-	-	2	2	20.6.70	0900-1200	
-	-	1	1	-	-	1	1	21.6.70	0730-1200	
1	-	1	2	-	1	-	1	15.8.70	0800-1100	
-	-	-	-	-	-	1	1	16.8.70	0830-1030	

TABLE 4 (b)
 NUMBER AND SEX (WHENEVER OBSERVABLE) OF SUNI AND RED DUIKER SEEN ON THE VARIOUS
 AFTERNOONS IN THE FIELD

Place	SUNI				RED DUIKER				Date	Time of afternoon
	♂	♀	Sex doubtful	Total	♂	♀	Sex doubtful	Total		
Dinizulu Game Reserve	2	2	-	4	-	-	7	7	8.11.69	1600-1800
	-	1	3	4	-	1	2	3	9.11.69	1630-1800
	-	1	4	5	1	1	5	7	10.11.69	1500-1800
	-	1	2	3	-	-	-	-	18.11.69	1730-1830
	1	1	1	3	-	2	10	12	19.11.69	1600-1800
	1	-	1	2	-	2	11	13	26.11.69	1600-1830
	1	-	-	1	1	-	2	3	27.11.69	1630-1830
	-	-	-	-	1	-	5	6	28.11.69	1530-1800
False Bay Game Reserve	1	-	1	2	-	-	5	5	27.1.70	1500-1700
	2	1	1	4	-	-	10	10	28.1.70	1530-1800
	-	-	-	-	-	-	3	3	30.1.70	1545-1800
	1	-	1	2	-	-	1	1	31.1.70	1530-1730
	2	-	-	2	3	2	4	9	2.2.70	1530-1730
Dinizulu Game Reserve	-	-	1	1	1	1	4	6	4.2.70	1600-1800
False Bay Game Reserve	1	-	-	1	1	-	8	9	5.2.70	1530-1800
	-	-	6	6	-	-	4	4	6.2.70	1630-1830
	-	1	1	2	-	-	1	1	7.2.70	1600-1730
Dinizulu Game Reserve	-	-	-	-	-	-	6	6	8.2.70	1730-1830
False Bay Game Reserve	1	1	-	2	1	-	5	6	9.2.70	1630-1830
	-	-	1	1	-	1	1	2	13.3.70	1430-1700
	-	2	3	5	-	1	-	1	14.3.70	1600-1800
	-	-	1	1	-	-	4	4	24.4.70	1400-1700
	-	-	1	1	-	-	2	2	25.4.70	1400-1700
	-	-	1	1	1	-	3	4	15.5.70	1430-1700
	-	-	1	1	-	-	5	5	16.5.70	1430-1700
	-	-	-	-	-	-	2	2	20.6.70	1400-1600
	-	-	-	-	-	1	6	7	14.8.70	1530-1730
	-	1	1	2	3	-	5	8	15.8.70	1530-1730

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