

The reproductive behaviour of the suni *Neotragus moschatus zuluensis* in captivity

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Pretorius, Quarta, B.P. Pretorius and C.S. Dannhauser. 1996. The reproductive behaviour of the suni *Neotragus moschatus zuluensis* in captivity. *Koedoe* 39(1): 123-126. Pretoria. ISSN 0075-6458.

The suni breeding project at Punda Maria was initiated in 1989. The program provided useful data on the reproduction of the species in captivity.

Key words: *Neotragus moschatus*, suni, Kruger National Park, captivity.

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Introduction

Smithers (1983) and Lawson (1986) describe the suni *Neotragus moschatus zuluensis* (Thomas, 1898) as one of the rare and timid antelope types in southern Africa. Their distribution is given as northern KwaZulu/Natal and the northern parts of Transvaal (Smithers 1983), and north-eastern Natal, north-eastern Transvaal, southern Mozambique, and south-eastern Zimbabwe (Meester *et al.* 1986). Little is known about the reproductive behaviour of the animal (Smithers 1983), although Lawson (1986) did some studies on suni in captivity.

The suni breeding project at Punda Maria was initiated in 1989. The program provided data on the reproduction of the species while in captivity. A schematic diagram of the program is given in Fig. 1.

Materials and methods

Enclosure 1

In September 1985, a suni male of the late Mr H. Mockford was left in the care of Quarta Pretorius by

Dr U. de V. Pienaar. The male was kept in an enclosure of 10 m x 50 m (Enclosure 1) for four years. In August 1989, a female was obtained from Miss A van Dyk of De Wildt, and placed with the Pafuri male. This resulted in the birth of two males (Enclosure 1, Fig. 1). On 17 November 1990 the Pafuri male was caught by a Martial Eagle (*Polemaetus bellicosus*). The De Wildt female and her eldest offspring Male 1, born 17 May 1990, produced four males and two females (Enclosure 1, Fig. 1). On 11 June, a second, pregnant female, was obtained from outside (the Natal female), and she gave birth on 20 July 1992 (Female 1).

Enclosure 2

Male 2 (born on 11 December 1990) and the Natal female were placed in Enclosure 2 (10 m x 50 m) on 28 August 1992. Their offspring consisted of three females and one male (Enclosure 2, Fig. 1). In the same camp, Male 2 and Female 1 produced one male (Male 6) and two females (Females 6 & 9). Male 2 and Female 4 produced one male (Male 12).

Enclosure 3

In February 1993, Male 3 and Females 2 & 3 were moved to Enclosure 3 (10 m x 50 m). The progeny of Male 3 and Female 2 consisted of two males (Rams 7 & 10) while Male 3 and Female 3 had two offspring, one female (Female 5) and one male

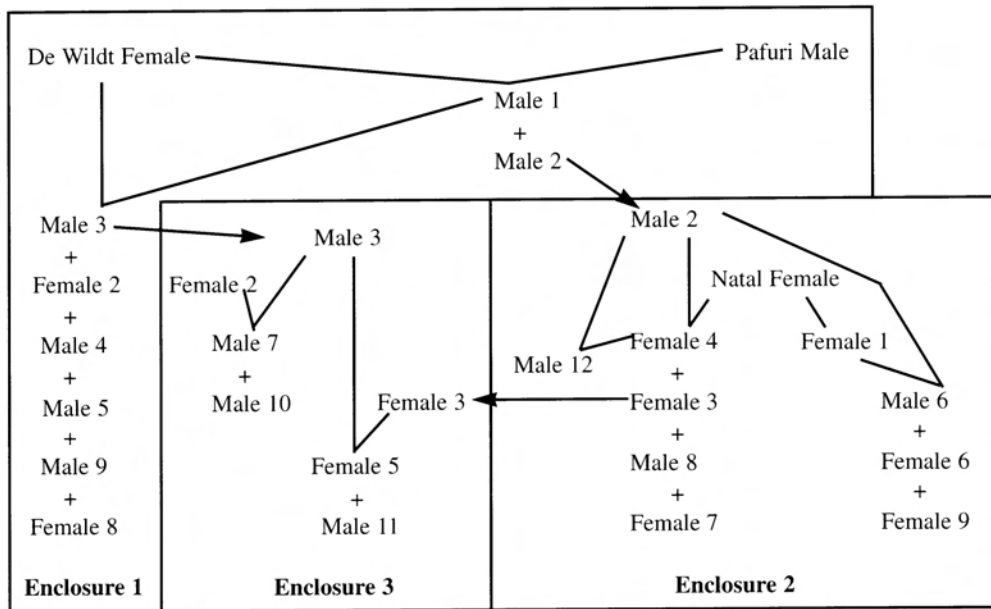


Fig 1. Schematic diagram of the breeding program at Punda Maria.

(Male 11). The dates of birth of all the offspring are given in Table 1. The only other mortality in ten years was that of Male 5 which died at the age of 20 days due to an infestation of mango fly larvae.

Enclosures 4 and 5

As a result of fights between rams, Male 4 was moved to Enclosure 4 in August 1994, while Rams 6 & 8 went into Enclosure 5 on 1 November 1994. Early in 1995 all the suni antelope in captivity were released in the Nyando area, north-eastern Kruger National Park. Observations on these animals and their progeny are continuing.

Reproductive data

Table 1 shows that, over a period of six years, 12 males and 9 females were born in captivity at Punda Maria. According to Smithers (1983), births occur between August and February. At Punda Maria, births were recorded every month of the year except in August. This could be attributed to

the better, artificial feeding. The mean number of births recorded for each month is as follows: January, April, May, June, one offspring per month; February, March, July, September, November and December, two offspring per month; and three in October. Lawson (1986) noted that mating took place

Table 1
Birth dates of all sunis in captivity at Punda Maria

Animal number	Date of birth	Animal number	Date of birth
Male 1	1990/05/17	Male 12	1994/11/10
Male 2	1990/12/11	Female 1	1992/07/20
Male 3	1991/12/31	Female 2	1992/07/27
Male 4	1993/03/16	Female 3	1993/02/11
Male 5	1993/10/13	Female 4	1993/09/06
Male 6	1993/11/21	Female 5	1994/03/25
Male 7	1994/02/08	Female 6	1994/06/18
Male 8	1994/04/02	Female 7	1994/10/26
Male 9	1994/05/07	Female 8	1994/12/03
Male 10	1994/09/05	Female 9	1995/01/08
Male 11	1994/10/19		

Table 2
Reproductive maturity (in days) and parturition intervals (days)

Age of female at the time of the first lambing		Lambing intervals (days)				
Female number	Age (days)	De Wildt Female	Natal Female	Female 1	Female 2	Female 3
Female 1	489	208	207	209	209	208
Female 2	562	212	208	204		
Female 3	407	233	207			
Female 4	430	211				
		206				
		211				
Average	472	216	207	206	209	208

mainly at night, but at Punda Maria it was observed during daytime. We are certain of the dates of conception in two instances, and the gestation periods were 172 and 192 days respectively.

During the six years, four of the females born at Punda Maria had their own offspring. Thus we could get an indication of parturition intervals and the age of sexual maturity (Table 2).

The mean age of females at the time of birth of the first lamb was 472 days, cf. 589 days reported by Lawson (1986). The mean parturition interval was 209 days, while Lawson (1986) reported 221 days. In spite of the fact

that 57.1 % of all progeny were male (Table 3), one cannot state that this is the pattern. It is noteworthy that the De Wildt female and her first offspring (Male 1) produced significantly more males than females. The reproduction records of the other animals were of too short a period to register any tendencies. The horns of three males were noted on days 154, 157 and 178, respectively. The males rub their horns regularly against tree trunks and launch mock attacks at thin branches.

Smithers (1983) and Lawson (1986) mention that the suni mainly eats leaves and that 36.1% of their feeding time is spent brows-

Table 3
Pedigree of individuals

Offspring from males				Offspring from females			
	Males	Females	Total		Males	Females	Total
Pafuri	2	0	2	De Wildt	6	2	8
Male 1	4	2	6	Natal	1	4	5
Male 2	3	5	8	Female 1	1	2	3
Male 3	3	1	4	Female 2	2	0	2
				Female 3	1	1	2
				Female 4	1	0	1
Total	12	8	20	Total	12	9	21*

* Total offspring of the females were more, as the Natal Female had been pregnant on arrival at Punda Maria.

ing, and 63.9% on picking up leaves (Lawson 1986). At Punda Maria we mainly fed them the young shoots of the creeper *Cordylobia anthropophaga*. Their diet was further supplemented by the natural vegetation in their enclosures, and in lean times we supplied pellets (Lurex, horse ration 12, Reg. No. V.984). They showed a preference for the fruits of the wild fig *Ficus sycomorus* and the flowers of the sausage tree *Kigelia africana*. The senior author soon realised that the animals receiving pellets drank water, while those in their natural habitat obtained enough water from the plants in their vicinity (cf. Smithers 1983). Further observations showed that three-day-old lambs already nibble on leaves, and on the seventh day they eat the leaves. Rumination was first observed when the lambs were 30 days old. It was normal for lambs of 90 days old to suckle, but it was also observed that a 7-month-old lamb started to suckle again when a second lamb was born.

The behaviour of the suni can be described as very social if the following observations are taken into consideration:

It was regularly observed that any two members of a group would lick each other, especially between the ears, in the area close to the ears, and on the neck. It is possible that they behave in this way so that they can smell the pre-orbital glands' odour and in this way achieve family bonding. The pre-orbital gland, situated just under the eye, is used to mark smaller territories in the camp. The male rubs his preorbital gland against a number of specific branches or grass tufts

each time he passes them. The sticky fluid emitted is odourless for humans.

Places where the animals could lie down were chosen and different members of the group would use the same place at different times. Often a number of such places were grouped together. The animals enjoyed playing together, especially the males and the young. The younger animals would play more roughly than the males. However, two adult males will fight to the death and need to be kept separately.

Sunis rarely make any sound. When they are alarmed they produce a sharp whistling sound through the nose, after which they 'freeze' into a position for a long time. Females are more alert to danger than males.

A group of sunis usually share one or two middens where members of the group defecate and urinate alternately. Sometimes a queue would form. Such a midden is first opened up with a front hoof after which the animal smells the place for a long while before defecating and urinating.

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