TABLE 1

The birth data from three bushbuck ewes recorded at Queens Park Zoo, East London between November 1971 and December 1974. The fiducial limits of the lambing interval indicate ± 2 × S.E.

Bushbuck ewe	*Birth number*	*Date of birth*	*Lambing interval (days)*	*Sex of lamb*
Green Tag	2nd birth	20.11.71	—	Male
(Born	3rd birth	*28.7.72	251	Female
1.7.67)	4th birth	26.3.73	242	Male
	5th birth	6.12.73	256	Male
Blue Tag	1st birth	23.2.72	—	Female
(Born	2nd birth	19.10.72	239	Female
3.10.70)	3rd birth	17.6.73	242	Male
	4th birth	16.2.74	245	Male
White Tag	1st birth	9.2.74	—	Male
*(Born	2nd birth	4.11.74	269	Female
28.7.72)		Mean = 249,1 ± 8,6		

DISCUSSION

In the case of the Blue Tag and White Tag ewes, the age of the ewes at first parturition was found to be 509 days (3.10.70 to 23.2.72) and 562 days (28.7.72 to 9.2.74) respectively. If it is assumed that the gestation period of 180 days reported by Zaloumis & Cross is correct, then subtraction of the period from the above figures would indicate that bushbuck ewes may reach sexual maturity 329 to 382 days after birth. Further, by subtracting 180 days from the mean lambing interval of 249 days it may be deduced that the female bushbuck is capable of conception on an average of 69 days following the birth of each lamb and that the lambing interval is not regulated by an annual rhythm or seasonal cycle.

It was observed that new-born lambs were able to stand and run as soon as they were dry after birth.

The visible, external sign of horns developing on the heads of young bushbuck rams was noted more than seven months after birth. In one case, the presence of horns on the head of a young ram could be felt with the fingers 293 days after birth.

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SOME REPRODUCTIVE ABNORMALITIES OF THE ZEBRA STALLION (*EQUUS BURCHELLI ANTIQUORUM*)

G. L. SMUTS
National Parks Board of Trustees, Skukuza

During a study on reproduction of zebra (*Equus burchelli antiquorum*) from the Kruger National Park (Smuts 1974), three instances of gross male reproductive abnormalities were recorded in a sample of 270 male tracts examined (1,1 per cent). These included two cases of unilateral testicular hypoplasia (Figure 1) and one of bilateral cryptorchidism (Figures 2 and 3). Methods employed

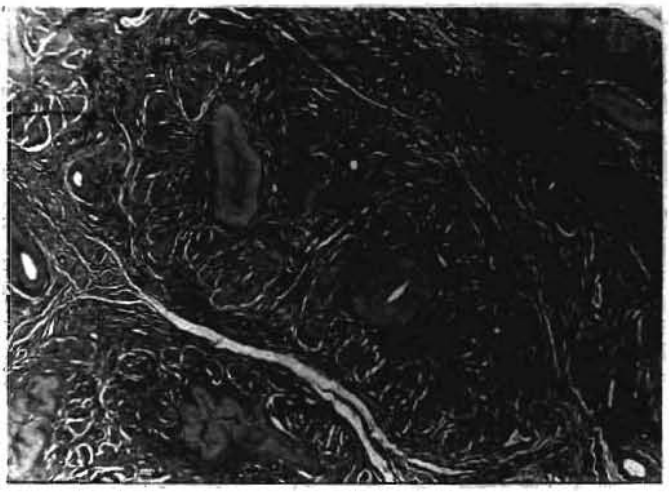

FIGURE 1

Photomicrograph showing total hyoplasia of the seminiferous tubules in a seventeen-year-old stallion. Masson's trichrome technique, × 18.

FIGURE 2

Cross-section of cryptorchid testes from a twelve-year-old stallion. No seminiferous tubules could be found in the left-hand organ while in the right-hand one the tubules were smaller than normal and in a state of complete aspermatogenesis.

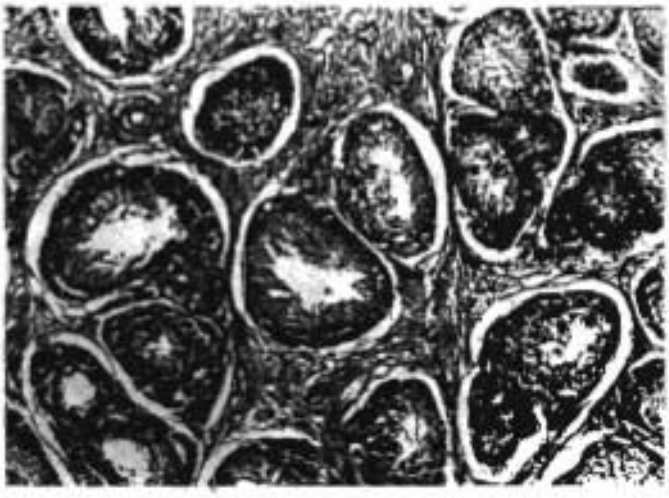

FIGURE 3

Photomicrograph showing complete aspermatogenesis in the right-hand testis shown in Figure 2. Masson's trichrome technique, × 95.

in the collection and analysis of the reproductive material are described by Smuts (1975).

The hypoplastic testicles were taken from a 12- and a 17-year-old stallion. In the first case the left testicle (23 g) was smaller than the right (207 g) while in the second the right testicle (24 g) was smaller than the left (217 g). In both cases the penis, as well as the accessory reproductive organs on the side opposite to the hypoplastic testicle, were normal. The accessory organs associated with the abnormal testicle were small and insignificant. Histologically the abnormal testicles were characterized by total hypoplasia of the seminiferous tubules with complete absence of germinal epithelium (Figure 1). In some tubules the lumen had been totally obliterated by the process of progressive peritubular sclerosis. Sclerosis was also accompanied by a marked increase in size of the 'tubules'. In the large normal testicle of both specimens spermatogenic activity was normal and spermatozoa abundant. Mean seminiferous tubule diameters were 173 μm and 219 μm respectively.

The bilaterally cryptorchid stallion was 12 years old. Cross sections of the cryptorchid testicles are shown in Figure 2. Here the larger of the testes had a mass of 60 g and the other 31 g. The accessory reproductive organs were smaller and less developed than those of a normal mature stallion. Histologically the larger testicle showed complete aspermatogenesis (Figure 3), the mean diameter of seminiferous tubules (136 μm) resembling that of a 3½-year-old (immature) stallion. In cross-section the epididymis was normal although without spermatozoa. The smaller testicle (21 g), which in external appearance resembled an ovary, was entirely without seminiferous tubules. Here the whitish portion (Figure 2) was acellular while the smaller dark and apparently glandular section appeared to be a Leydig cell tumour.

DISCUSSION

According to Roberts (1958) the two most common changes which occur in the testes of domestic livestock and cause disturbed spermatogenesis are hypoplasia, which is congenital or hereditary, and degeneration of the seminiferous tubules, which is usually acquired but may be predisposed by genetic defects, weakness or inherent constitution.

Testicular hypoplasia which has been reported in horses, cattle, sheep and goats may occur unilaterally or bilaterally, and is characterized by varying degrees of hypoplasia of the germinal epithelium of the seminiferous tubules (Mixner 1959). In the zebra it was noticed that in both cases the larger normal testicle was considerably larger than an average-sized normal testicle (151 g), while mean seminiferous tubule diameters (173 μm and 219 μm) were similar to that of normal stallions (mean = 175 μm). It would thus appear that, as is the case with domestic livestock (Roberts 1958), zebra with unilateral testicular hypoplasia are not infertile.

Nalbandov (1964) states that cryptorchidism occurs spontaneously in practically all mammalian species. It is, however, important and relatively common in the horse (Sisson & Grossman 1953; Mixner 1959; Smith & Jones 1966). In domestic animals unilateral cryptorchidism is most common, usually resulting in a reduced sperm cell count but normal fertility (Roberts 1958). Bilateral cryptorchidism results in sterility, due to failure of development of the seminiferous epithelium. The bilaterally cryptorchid zebra noted in the present study was definitely infertile.

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A NEW RECORD FOR *PTENOPUS* (REPTILIA: GEKKONIDAE) FROM CALITZDORP

B. OELOFSEN AND W. VORSTER
Department of Zoology, University of Stellenbosch

Three specimens of *Ptenopus*, tentatively identified as *P. garrulus maculatus* Gray were recently collected near the Calitzdorp airstrip when *Ptenopus* calls heard near Prince Albert were followed up. This extends the range of *Ptenopus* into the Great and Little Karroo. Previously the southernmost record as given by Haacke (1975) is from Nuwerust on the west coast.

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