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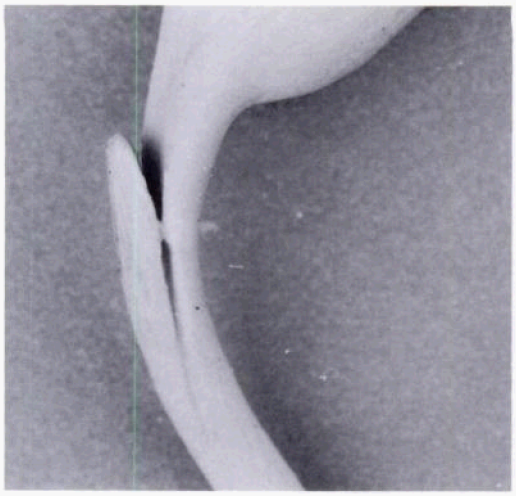

FIGURE 2. Latex cast of urethral diverticulum in a male white-tailed deer showing its morphology and anatomical position relative to the urethral lumen.

catheterization cannot be accomplished in the male. Our findings differ from those of Warren and Whelan (1981, op. cit.) who proposed that it was a sigmoid flexure in the male deer's urethra that prevented catheterization. The location of the diverticulum in relation to the urethra causes a catheter to be directed into the diverticulum as it passes proximally around the ischiatic arch. An attempt to force the catheter could result in trauma, scarring, and possible ablation of the urethral lumen. Alternate methods of urine collection have been described (Warren and Whelan, 1981, op. cit.).

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This note describes the reproductive organs of a male pseudohermaphroditic white-tailed deer (*Odocoileus virginianus*) killed on 21 November 1981 near Togo, Minnesota. The deer, shot during the firearms deer season, had polished, symmetrical antlers (four points each; total main beam length = 45 cm) and was 7.5 yr old (Gilbert, 1966, J. Wildl. Manage. 30: 200–202). A vulva and clitoris of normal size for an adult female deer were present and there were no male external genitalia. The udder had four teats of normal size (6–7 mm) for a non-lactating deer.

Examination of the reproductive tract (Fig. 1) revealed rudimentary testicles 12 mm in diameter located intra-abdominally and enveloped in fat. Rudimentary in-

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FIGURE 1. Reproductive tract of a male pseudohermaphroditic white-tailed deer indicating: a) vestigial epididymis, b) rudimentary testis, c) ductus deferens, d) prostate, and e) cervix. Scale is in inches.

terstitial cells were present in each testis, but no functional spermatogenic tissue was found (Fig. 2). Each gonad had a vestigial epididymis (Fig. 3) consisting of a tubular head and tail leading into the ductus deferens as in normal males. The ductus deferens was underdeveloped with a muscular wall surrounding an occluded and non-epithelialized lumen (Fig. 4). The ductus deferens led into glandular elements of poorly developed ampullae and prostate that surrounded a urethra. The urethral wall was muscular and the epithelial lining appeared normal. Although there was no uterine tissue, a cervix and vagina were present. Bulbo-urethral (Cowper's) or vesicular glands were absent.

Despite the rudimentary nature of this deer's testes, its antlers appeared normal. Several other white-tailed deer that appeared to be females with polished antlers were also cryptorchid males with female external genitalia, i.e., male pseudohermaphrodites (Wislocki, 1956, J. Mammal. 37: 231–235; Donaldson and Doutt, 1965, J. Wildl. Manage. 29: 699–705; Marburger et al., 1966, J. Mammal. 47: 711–712), and one was a female with a possible masculinizing tumor (Doutt and Donaldson, 1959, J. Mammal. 40: 230–236). Wislocki (1956, op. cit.) provided the only histological description of a testis from such an animal. Scanlon et al. (1975, J. Wildl. Dis. 11: 237–240) reported a male pseudohermaphrodite with well-developed antlers still in velvet on 4 November. Cytogenetic

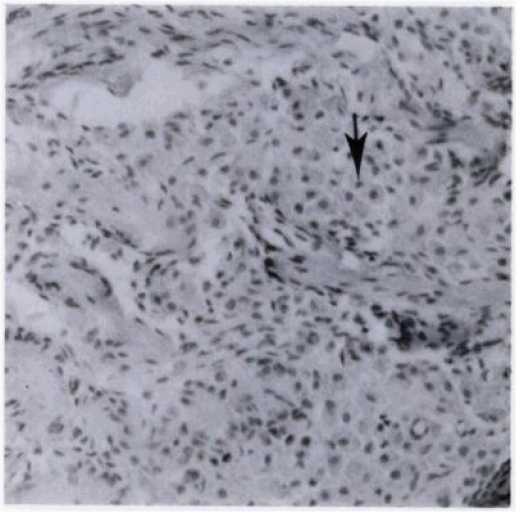

FIGURE 2. Cross-section of the testis of a male pseudohermaphroditic white-tailed deer showing rudimentary interstitial cells (arrow). H&E, ×300.

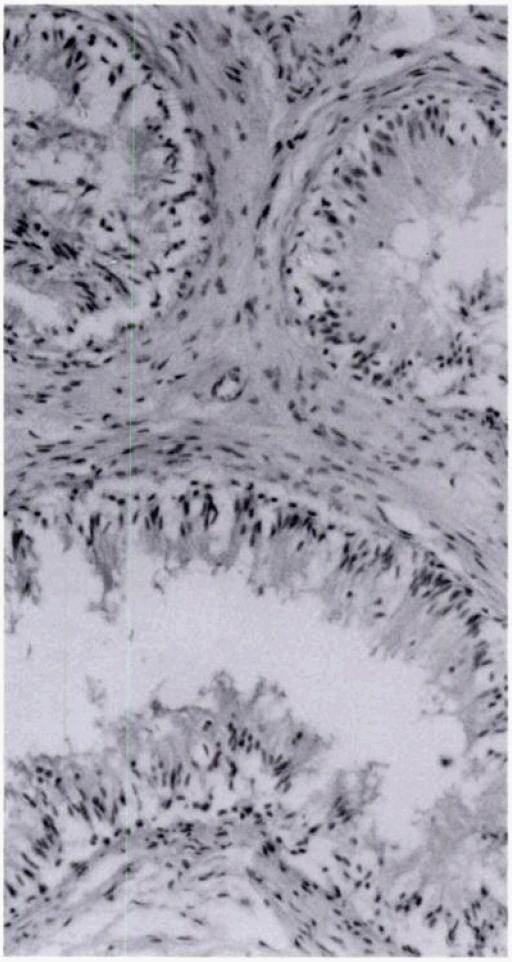

FIGURE 3. Cross-section of the epididymis of a male pseudohermaphroditic white-tailed deer. H&E, ×300.

FIGURE 4. Cross-section of the ductus deferens of a male pseudohermaphroditic white-tailed deer. H&E, ×20.5

evaluation, though not conducted for the deer described here, is highly desirable for future specimens. Pseudohermaphroditism in domestic species generally is due to chromosomal defects (Biggers and McFeeley, 1966, *In* Advances in Reproductive Physiology, Vol. 1, A. McLaren (ed.), Academic Press, New York, pp. 29–59), and the same situation may hold true for deer.

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