

Abstract

Sengis are testicondid endemic african mammals that constitute the order Macroscelidae. The epididymides of five male rufous sengis (*Elephantulus rufescens*) were studied both macroscopically and microscopically to describe the structure and possible features or adaptations making it a suitable site for sperm maturation and storage in testicondas. The epididymis had three distinct topographic regions; the caput, corpus and cauda epididymis. The caput and cauda epididymis were placed further apart; the former occurring as a longitudinal mass on dorsolateral border of the testis while the latter occurred as a pear-shaped mass placed laterally between the rectum and the pelvic urethra, the two being connected by a slender corpus epididymis. The epithelium comprised of principal and basal cells with the former exhibiting numerous secretory granules and apical blebbing in the caput. In the cauda, principal cells had numerous vacuoles and its lumen was densely packed with spermatozoa and occasional masses that appeared to engulf spermatozoa. This study demonstrates that the principal cells of the caput of sengi produces materials either through merocrine or apocrine secretion, the latter being shown by apical blebs that are shed off as epididymosomes, which in turn transfers epididymis-secreted proteins to the plasma membrane of spermatozoa. Additionally, the study has shown that the cauda epididymis remarkably descends to a site probably cooler than the core body temperature for optimal sperm storage, and the numerous vacuoles indicating its involvement in fluid reabsorption and phagocytosis of residual bodies and damaged spermatozoa.