

ABSTRAK

STRUKTUR HISTOLOGIS ORGAN REPRODUKSI JANTAN *SUGAR GLIDER* (*Petaurus breviceps*) DENGAN PEWARNAAN HEMATOKSILIN-EOSIN

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Sugar glider (*Petaurus breviceps*) merupakan salah satu mamalia dalam ordo Diprodontia. Berdasarkan status konservasi yang ditetapkan oleh IUCN, *sugar glider* adalah hewan beresiko rendah. Informasi mengenai histologis organ reproduksi jantan *sugar glider* masih belum diketahui. Penelitian ini bertujuan untuk mengetahui struktur histologis sistem genital jantan *sugar glider*.

Penelitian ini menggunakan dua ekor *sugar glider* jantan dewasa. Hewan di euthanasi dan diperfusi. Koleksi sampel yang diambil testis, epididimis, vas deferens, urethra, dan penis. Jaringan diproses dengan metode parafin dan dipotong dengan ketebalan 8 µm. Preparat diwarnai dengan pewarnaan hematoksin-eosin. Hasil diamati dan dianalisis secara deskriptif menggunakan mikroskop cahaya lalu difoto dengan *OptiLab Viewer*.

Hasil pengamatan sistem genital jantan *sugar glider* terdiri dari sepasang testis, epididimis, vas deferens, urethra, kelenjar-kelenjar aksesoris dan penis. Testis *sugar glider* terdiri dari lobulus-lobulus testis yang terdiri banyak tubulus seminiferus, jaringan interstitial, tubuli rekti, dan rete testis. Tubulus seminiferus dilapisi epitelium kompleks tersusun dari spermatogonia, spermatosit primer, spermatid awal dan akhir, spermatozoa serta sel sertoli. Tubuli rekti dilapisi epitelium skuamus simpleks sedangkan rete testis dilapisi epitelium kuboid simpleks. Duktus eferens dilapisi epitelium kuboid simpleks bersilia berselang-seling. Kaput, korpus, dan kauda duktus epididimis dilapisi epitelium pseudokompleks kolumnar bersilia dengan dikelilingi lapisan otot polos. Lapisan otot polos tertebal dimiliki oleh kauda epididimis, lalu diikuti dengan korpus dan kaput epididimis. Vas deferens dilapisi epitelium pseudokompleks kolumnar silia berselang-seling. *Pelvic urethra* dilapisi epitelium transisional. Lamina propria-submukosa *pelvic urethra* terdiri dari stratum kavernosum dan kelenjar-kelenjar tubular simpleks. Penis terdiri dari tunika albuginea, dua korpora kavernosa penis, dan korpus spongiosum. *Penile urethra* dilapisi epitelium transisional. Bagian luar tunika albuginea penis ditemukan adanya berkas otot skelet dan lapisan kulit.

Kata kunci : epididimis, hematoksin-eosin, penis, *sugar glider*, testis, urethra, vas deferens

ABSTRACT

HISTOLOGICAL STRUCTURE OF MALE REPRODUCTION ORGANS OF SUGAR GLIDER (*Petaurus breviceps*) WITH HEMATOXYLIN-EOSIN STAIN

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Sugar glider (*Petaurus breviceps*) are one of the mammals from the Diprodontia ordo. Based on the conservation status declared by IUCN, sugar gliders are at low risk. Information about the male reproduction organs histology of sugar gliders are still unknown. This research is done to know the histological structure of the male reproduction organs of sugar gliders.

This research used two adult male sugar gliders. The animal was euthanized and perfused. The collection of sample included testis, epididymis, vas deferens, urethra, and penis. The tissues were processed using paraffin method and cut into diameters of 8 µm. The preparations were stained using hematoxylin-eosin stain. The result was observed and analyzed descriptively using light microscope and the image was captured using OptiLab Viewer.

The result observed from the male genital system of sugar gliders are from a pair of testis, epididymis, vas deferens, urethra, and accessories glands and penis. The testis of sugar gliders composed of testis lobules that consists many seminiferous tubules, interstitial tissues, recti tubule, and rete testis. Seminiferous tubules consist of spermatogonia, primary spermatocyte, early and end spermatid, spermatozoa and sertoli cells. The recti tubule is layered by simplex squamous epithelium whereas the rete testis is layered by simplex cuboid epithelium. The efferent ductus is layered by simplex ciliated cuboid epithelium. Caput, corpus, and caudal epididymis ducts are layered by pseudocomplex ciliated columnar epithelium surrounded by smooth muscles. The thickest smooth muscle layer is at the caudal epididymis duct, followed by the corpus and the caput epididymis. The vas deferens is layered by pseudocomplex ciliated columnar epithelium. The pelvic urethra is layered by transitional epithelium. The propria-submucosa lamina of pelvic urethra is composed of cavernous stratum and simple tubular glands. Penis consists of tunica albuginea, two corpora cavernous penis and spongy corpus. Penile urethra is layered by transitional epithelium. The outer layer of tunica albuginea is found to have skeletal muscle bundles and skin layers.

Key words: epididymis, hematoxylin-eosin, penis, sugar glider, testis, urethra, vas deferens