

STUDI HISTOLOGI DAN MORFOMETRI ESOFAGUS DAN LAMBUNG *SUGAR GLIDER (Petaurus breviceps)*

INTISARI

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Sugar glider (Petaurus breviceps) adalah marsupialia nokturnal. *Petaurus breviceps* adalah anggota dari family Petauridae. *Sugar glider* merupakan hewan asli dari Australia, New Guinea (Papua), dan Tasmania. Dalam *International Union for Conservation of Nature (IUCN)*, *sugar glider* tergolong kategori *least concern*. Saat ini, *sugar glider* banyak digemari masyarakat sebagai hewan peliharaan (*pet animal*), oleh karena itu dibutuhkan penelitian lebih lanjut yang bertujuan untuk mengumpulkan informasi deskriptif anatomi hewan tersebut. Penelitian mengenai struktur makroanatomi *sugar glider* sudah dilaksanakan, tetapi studi mengenai struktur histologi traktus digestivus belum pernah diteliti. Penelitian ini dilakukan untuk mengetahui struktur histologi dan morfometri dinding esofagus dan lambung *sugar glider*.

Penelitian ini menggunakan empat ekor *sugar glider*, sampel yang digunakan adalah esofagus awal, esofagus pertengahan, esofagus akhir, kardial, fundus dan pilorus. Jaringan diproses dengan metode parafin, kemudian dipotong dengan ketebalan 8 μm . Preparat diwarnai menggunakan pewarnaan hematoxylin-eosin. Preparat yang telah diwarnai selanjutnya diamati menggunakan mikroskop cahaya. Preparat kemudian difoto menggunakan *Optilab Image Viewer* selanjutnya diukur ketebalan lapisan dinding esofagus dan lambung berdasarkan ketebalan daerah tinggi dan daerah rendah menggunakan software *Optilab Image Raster*.

Hasil pengamatan secara mikroskopis esofagus *sugar glider* menunjukkan tunika mukosa esofagus dilapisi oleh epitelium skuamatus kompleks tanpa keratin. Lambung *sugar glider* dilapisi oleh epitelium kolumnar simplek. Lamina propria mukosae lambung *sugar glider* dipenuhi oleh kelenjar gastrika. Identifikasi area lambung berdasarkan perbedaan pada tunika mukosa, yakni pada kedalaman *gastric pits* dan bentuk kelenjar gastrika. Esofagus akhir *sugar glider* pada pengukuran daerah tinggi mempunyai dinding paling tebal, diikuti oleh esofagus pertengahan dan esofagus awal. Esofagus pertengahan *sugar glider* pada pengukuran daerah rendah mempunyai dinding paling tebal, diikuti oleh esofagus akhir dan esofagus awal. Area fundus pada pengukuran daerah tinggi mempunyai dinding paling tebal, diikuti oleh area kardial dan area pilorus. Pengukuran daerah rendah menunjukkan bahwa area fundus mempunyai dinding paling tebal, diikuti oleh area pilorus dan area kardial.

Kata kunci: histologi, morfometri, esofagus, lambung, *sugar glider*.

HISTOLOGY AND MORPHOMETRY STUDY OF ESOPHAGUS AND STOMACH OF SUGAR GLIDER (*Petaurus breviceps*)

ABSTRACT

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Sugar glider (*Petaurus breviceps*) is a nocturnal marsupial animal. *Petaurus breviceps* is a member of the Petauridae family. Sugar glider is native to Australia, New Guinea (Papua), and Tasmania. According to International Union for Conservation of Nature (IUCN), sugar glider is categorized as least concern. Nowadays, sugar glider has become popular as pet animal, further research is needed to collect descriptive information of the sugar glider anatomy. Research about the macro anatomy of sugar glider has been investigated, but the study of the histological structure of digestive tract has not been done. This research goal is to get information about the histological structure and morphometry of esophagus and stomach wall of sugar glider.

This research used upper esophagus, middle esophagus, lower esophagus, cardiac, fundus, and pylorus of four sugar gliders. The tissues were processed using paraffin method, then were cut with a thickness of 8 µm. Slides were stained using hematoxylin-eosin staining. Slides which have been dyed were observed using a light microscope. Slides were photographed using *Optilab Image Viewer* then the thickness of the esophagus and stomach walls were measured based on the thickness of the highest area and the lowest area using *Optilab Image Raster* software.

The microscopic observation result of esophagus in sugar glider shows that tunica mucosa of esophagus is lined by non-keratinized stratified squamous epithelium. Stomach of sugar glider is lined by simple columnar epithelium. The lamina propria mucosae of sugar glider stomach is filled by gastric glands. Identification of each area of sugar glider stomach based on the difference of tunica mucosa which is the depth of gastric pits and the form of gastric glands. The end of sugar glider esophagus in the measurement of the highest area has the thickest wall, followed by mid esophagus and the beginning of esophagus. Mid esophagus of sugar glider in the measurement of the lowest area has the thickest wall, followed by the end of esophagus and the beginning of esophagus. Fundus in the measurement of the highest area has the thickest wall, followed by cardia and pylorus. In the measurement of the lowest area of sugar glider stomach shows that fundus has the thickest wall, followed by pylorus and cardia.

Keywords: histology, morphometry, esophagus, stomach, sugar glider.