ABSTRAK

STUDI HISTOLOGIS DAN MORFOMETRI TRAKEA, BRONKUS DAN PULMO *SUGAR GLIDER* (*Petaurus breviceps*) DENGAN PEWARNAAN HEMATOKSILIN-EOSIN

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Sugar glider merupakan mamalia nokturnal dengan nama spesies *Petaurus breviceps*. Menurut *International Union for Conservation of Nature and Natural Resources* (IUCN), status konservasi *sugar glider* adalah *least concern*. S*ugar glider* merupakan salah satu hewan yang diminati masyarakat sebagai hewan pelihara. Penelitian ini bertujuan untuk mengetahui struktur histologis dan morfometri trakea, bronkus dan pulmo *sugar glider*.

Empat ekor *sugar glider* dieutanasia dengan metode anestesi kloroform dilanjutkan perfusi. Organ yang diambil adalah trakea, bronkus dan pulmo. Jaringan diproses dengan metode parafin dan dipotong dengan ketebalan 8 µm. Preparat diwarnai dengan pewarnaan hematoksilin-eosin. Preparat diamati dengan mikroskop dan difoto dengan *Optilab Image Viewer*. Perhitungan ketebalan dinding trakea, bronkus dan pulmo dengan menggunakan *Optilab Image Raster* disertai analisis deskriptif.

Trakea *sugar glider* memiliki muskulus trakealis yang terletak pada ujung cincin kartilago. Pada bronkus terdapat masa otot polos yang terletak di antara potongan kartilago. Trakea-atas memiliki dinding paling tebal dibanding trakea-tengah dan trakea-bawah. Tebal dinding trakea-atas regio kartilago 161,63±26,99 µm dan regio muskulus trakealis 96,15±10,44 µm. Bronkus ekstrapulmonaris memiliki tebal dinding regio kartilago 131,14±35,90 µm dan regio muskulus 70,58±22,82 µm. Bronkus intrapulmonaris dekster lebih tebal dibanding bronkus intrapulmonaris sinister. Tebal dinding bronkus intrapulmonaris dekster regio kartilago 94,63±22,31 µm dan regio muskulus 63,10±19,53 µm. Dinding bronkiolus paling tebal terdapat pada lobus kaudal dekster dengan ketebalan 48,51±12,68 µm.

Kata kunci : *sugar glider,* histologis, morfometri, hematoksilin-eosin, trakea, bronkus, pulmo.

ABSTRACT

HISTOLOGY AND MORPHOMETRY OF SUGAR GLIDER'S (*Petaurus breviceps*) TRACHEA, BRONCHUS AND LUNG WITH HEMATOXYLIN-EOSIN STAIN

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Sugar glider was a nocturnal mammals with species name of *Petaurus breviceps*. According to the International Union for Conservation of Nature and Natural Resources (IUCN), sugar glider conservation status was least concern. It was one of the animals that people were interested in as a pet. This study was aimed to determine the histological structure and morphometry of sugar glider's trachea, bronchus, and pulmo.

Four sugar glider were euthanized with chloroform anesthesia method followed by perfusion. The trachea, bronchus, and pulmo organs were taken. The tissue then processed by paraffin method and be cut off by 8 μm thickness. It was stained with hematoxylin-eosin staining. It was observed with a microscope and photographed with Optilab Image Viewer. The calculation of trachea, bronchus, and pulmo wall thickness were performed by using Optilab Image Raster with descriptive analysis.

The sugar glider trachea had a dorsal tracheal muscle that was parallel to the cartilage ring. In the bronchus, there was smooth muscle that lied between pieces of cartilage. The upper trachea was the thickest wall than the middle and bottom trachea. The thickness of the upper trachea was 161,63±26,99 μm in cartilage region and 96,15±10,44 μm in the tracheal muscular region. The extrapulmonary bronchus wall thickness was 131,14±35,90 μm in the cartilage region and 70,58±22,82 μm in the muscular region. The dexter intrapulmonary bronchus is thicker than the sinister intrapulmonary bronchus. The intrapulmonary bronchioles wall thickness was 94,63±22,31 μm in the cartilage region and 63,10±19,53 μm in the mucular region. The thickest bronchioles wall was in the dexter caudal lobe with 48,51±12,68μm thickness.

Keywords : *sugar glider*, histology, morphometry, hematoxylin-eosin , sugar glider, trachea, bronchus, lung.