

## ABSTRAK

### STUDI STRUKTUR HISTOLOGI LIDAH DAN SIFAT SEKRESI GLANDULA LIDAH PADA *SUGAR GLIDER* (*Petaurus breviceps*) DAN *ASIAN SMALL CLAWED OTTER* (*Aonyx cinereus*)

Oleh:

**Angelina Kusuma Anjani**  
**17/409240/KH/09241**

*Sugar glider* (*Petaurus breviceps*) dan *asian small-clawed otter* (*Aonyx cinereus*) merupakan dua spesies mamalia yang banyak didomestikasi sebagai hewan peliharaan di kalangan masyarakat. Kedua hewan tersebut memiliki tipe diet yang berbeda. *Sugar glider* termasuk omnivora dengan makanan seperti serangga, buah-buahan, dan tanaman serta eksudatnya, sedangkan *asian small-clawed otter* termasuk hewan karnivora piscivor. Perbedaan pakan antara *sugar glider* dan *asian small-clawed otter* diduga mempengaruhi morfologi dan histokimia pada organ digesti, salah satunya adalah lidah. Penelitian ini bertujuan untuk mengetahui lebih lanjut mengenai identifikasi morfologi jaringan lidah termasuk persebaran papilanya secara mikroskopis serta sekresi dari glandula lingua melalui berbagai pengecatan histokimia pada *P. breviceps* dan *A. cinereus*.

*Sugar glider* dan berang-berang diidentifikasi terlebih dahulu di Laboratorium Sistematika Hewan Fakultas Biologi Universitas Gadjah Mada. Masing-masing lima ekor dari tiap spesies dianestesi lalu diperfusi sebelum kemudian dilakukan preparasi organ lidah. Preparat lidah diproses dengan pewarnaan histologi (*Hematoxylin-Eosin* dan *Masson's Trichrome*) dan histokimia (*Alcian Blue* dan *Periodic Acid Schiff*) untuk kemudian hasilnya diamati melalui mikroskop cahaya dan dilakukan identifikasi serta analisis kuantitatif.

Papila lidah yang ditemukan pada *sugar glider* adalah papila filiformis (*brush-like* filiform dan *flower bud* filiform), papila conicalis, papila fungiformis, dan tiga buah papila circumvallate. Glandula lingua berupa glandula Von Ebner yang mensekresikan *acid mucin* dan glandula Weber yang mensekresikan *acid mucin* serta *neutral mucin*. Papila lidah yang ditemukan pada *asian small-clawed otter* adalah papila filiformis (*horny* filiform, *leaf-like* filiform, *cornflower* filiform, bifid filiform, trifid filiform, *elongated leaf-like* filiform dan *triangular* filiform), papila conicalis (*short conical* dan *long conical*), papila fungiformis, dan enam buah papila circumvallate. Glandula Weber dan Von Ebner juga ditemukan pada lidah *asian small-clawed otter*, dengan glandula Von Ebner yang juga mensekresikan sedikit *acid mucin*.

**Kata kunci:** *Petaurus breviceps*, *Aonyx cinereus*, Lidah, Papila Lidah, Glandula lingua, Alcian Blue, Periodic Acid Schiff, Masson's Trichrome

## ABSTRACT

### STRUCTURE ANALYSIS OF TONGUE HISTOLOGY AND SECRETIONS OF LINGUAL GLAND IN SUGAR GLIDER (*Petaurus breviceps*) AND ASIAN SMALL CLAWED OTTER (*Aonyx cinereus*)

Angelina Kusuma Anjani  
17/409240/KH/09241

Sugar Glider (*Petaurus breviceps*) and Asian small-clawed otter (*Aonyx cinereus*) are two mammal species that are widely domesticated as pets in the community. The two animals have different types of diets. Sugar gliders are omnivores with food such as insects, fruits, and plants and their exudates, while the Asian small-clawed otter is a carnivorous piscivore. The difference in feed between sugar gliders and asian small-clawed otter is thought to affect morphology and histochemistry in the digestive organs, one of which is the tongue. This study aims to find out more about the identification of tongue tissue morphology including the microscopic distribution of papillae and secretions from the lingua glands through various histochemical stains on *P. breviceps* and *A. cinereus*.

Sugar gliders and asian small-clawed otters were identified first at the Animal Systematics Laboratory of the Faculty of Biology, Gadjah Mada University. Each of the five individuals from each species was anesthetized and then perfused before the tongue organ was prepared. Tongue preparations were processed by histological staining (Hematoxylin-Eosin and Masson's Trichrome) and histochemistry (Alcian Blue and Periodic Acid Schiff). Then the results were observed through light microscopy and identification and quantitative analysis were carried out.

The tongue papillae found in sugar gliders are filiform papillae (brush-like filiform and filiform flower bud), conical papillae, fungiform papillae, and three circumvallate papillae. The lingual glands are in the form of Von Ebner glands which secrete acid mucin and Weber glands which secrete acid mucin and neutral mucin. The tongue papillae found on the asian small-clawed otter are filiform papillae (horny filiform, leaf-like filiform, cornflower filiform, bifid filiform, trifid filiform, elongated leaf-like filiform and triangular filiform), conical papillae (short conical and long conical), fungiform papillae, and six circumvallate papillae. The Weber and Von Ebner glands are also found on the tongue of the asian small-clawed otter, with the Von Ebner glands also secreting a small amount of acid mucin

**Key points :** *Petaurus breviceps*, *Aonyx cinereus*, Tongue, Papila, Glandula lingua, Alcian Blue, Periodic Acid Schiff, Masson's Trichrome