ABSTRAK

MORFOLOGI LIDAH *TUPAIA JAVANICA*: MIKROSKOP CAHAYA DAN *SCANNING ELECTRON MICROSCOPE*

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Indonesia merupakan negara kepulauan dengan letak geografis strategis untuk menunjang kehidupan berbagai satwa. Salah satu satwa yang hidup di Indonesia terutama di pulau Jawa adalah jenis tupai yaitu tupai jawa (*Tupaia javanica*). Di ekosistem, tupai jawa sangat bermanfaat untuk membantu proses penyerbukan alami. Tujuan penelitian ini untuk mengidentifikasi morfologi dan persebaran papila lidah pada *Tupaia. javanica* sebagai salah satu upaya konservasi biodiversitas satwa endemik Indonesia. Pemilihan organ lidah dikarenakan lidah merupakan organ utama dari sistem pencernaan yang akan mempengaruhi *feeding habit* dari hewan yang berimbas pada pola habitat dan kelangsungan hidup hewan tersebut.

Enam ekor tupai jawa berat antara 40 g sampai 84 g yang diperoleh dari pertanian dan perkebunan sekitar Yogyakarta, tanpa memperhatikan umur dan jenis kelamin digunakan dalam penelitian ini. Identifikasi spesies dilakukan di Laboratorium Sistematika Hewan Fakultas Biologi, UGM. Tupai jawa dianesthesi (Ketamin 10 mg/kg BB dan Xylazin 2 mg/kg BB, IM), diperfusi dengan NaCl 0,9% dilanjutkan dengan parformaldehide 4% dalam phosphate buffer pH 7,4 0,1M secara intracardial. Tiga lidah dipersiapan untuk proses menggunakan *Scanning electron microscopy* (SEM) dan tiga lidah untuk pewarnaan histokimia dengan hematoksilin eosin (HE) dan periodic acid shift (PAS). Hasil pewarnaan histokimia diamati dengan mikroskop cahaya dan difoto menggunakan Optilab. Hasil SEM, morfologi, dan persebaran papila lidah dianalisis secara deskriptif dan kuantitatif. Hasil pewarnaan PAS dianalisis secara semi kuantitatif.

Hasil analisis deskriptif menggunakan SEM dan konfirmasi dengan menggunakan HE, menunjukkan pada bagian *apex* lidah terdapat papila *small* filiform, *scale-like* filiform dan fungiform. Bagian corpus terdapat papila *cornflower* filiform, *rosette* filiform, conical dan fungiform. Bagian corpus terdapat papila *small* filiform, *scale-like* filiform, conical, fungiform, dan vallate. Pewarnaan PAS menunjukkan kelenjar Weber pada bagian *radix* bereaksi positif dan menghasilkan warna magenta yang bearti kelenjar ludah pada bagian *radix* mengandung karbohidrat netral.

Kata Kunci: *Tupaia javanica*, lidah, papila, *Scanning electron microscope, Hematoksilin Eosin, Periodic Acid Schiff*

ABSTRACT

THE MORPHOLOGY OF THE TONGUE OF TUPAIA JAVANICA: LIGHT AND SCANNING ELECTRON MICROSCOPE

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Indonesia is an archipelago country with a strategic geographical location to support the life of various animals. One of the animals that live in Indonesia especially in Java is called javan treeshrew (*Tupaia javanica*). In the ecosystem, the javan treeshrew is very beneficial to help the natural pollination process. The purpose of this research is to identify the morphology and distribution of tongue papillae on *Tupaia javanica* as one of the conservation efforts of Indonesian endemic animal biodiversity. The tongue is choosen because the tongue is the main organ of the digestive system that will affect the feeding habit of animals that are affecting the pattern of habitat and survival of the animal.

Six javan treeshrews with a weight between 40 g to 84 g samples were obtained from plantations and farms around Yogyakarta regardless of age and sex. The samples. Species identification is conducted in Animal Systematics Laboratory Faculty of Biology, UGM. *Tupaia javanica* anesthetized, fusion and resumed for the preparation of analysis using the Scanning electron microscopy (SEM) and the histochemistry staining (HE and PAS). The results of the histochemistry staining were observed with a light microscope and photographed using Optilab. The results of SEM, morphology and distribution of tongue papillae are analyzed descriptively and quantitatively. The result of PAS staining is analyzed semi-quantitatively.

The results of a descriptive analysis using SEM and confirmed using HE, showing on the apex is consist of small filiform, scale-like filiform and fungiform. The corpus includes the filiform cornflower papillae, filiform, conical, and fungiform rosette. The radix parts were filled with scale-like filiform papillae, small filiform papillae, conical papillae, fungiform papillae, and vallatae papillae. PAS staining shows the salivary glands in the radix part react positively and produce a magenta color that means salivary glands in the radix contain neutral carbohydrates. The results of a descriptive analysis using SEM and confirmed by using HE, showed on the apex of the tongue there are papillae small filiform, scale-like filiform and fungiform. The corpus includes the filiform cornflower papillae, filiform rosette, conical and fungiform. The corpus has a small filiform, scale-like filiform, conical, fungiform, and vallatae. PAS staining shows the Weber glands in the radix part react positively and produce a magenta color that means salivary glands in the radix contain neutral carbohydrates.

Keywords: *Tupaia javanica*, tongue, papillae, Scanning electron microscope, Hematoksilin Eosin, Periodic Acid Schiff