

ABSTRAK

ANALISIS STRUKTUR MORFOLOGI LIDAH ULAR KADUT BELANG (*Homalopsis buccata*) MENGGUNAKAN SCANNING ELECTRON MICROSCOPE (SEM) DAN PEWARNAAN HEMATOKSILIN EOSIN

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Ular kadut belang (*Homalopsis buccata*) merupakan spesies ular berbisa rendah dari famili Homalopsidae. Ular kadut belang banyak tersebar di kawasan Asia Tenggara termasuk Indonesia, hingga Bangladesh dan Timur Laut India. Ada variasi anatomis dan fungsi lidah, tetapi data anatomis ular kadut belang masih terbatas. Penelitian ini bertujuan untuk mengetahui morfologi lidah ular kadut belang menggunakan *scanning electron microscope* (SEM) dan struktur histologi dengan pewarnaan hematoksilin eosin (HE). Enam ekor ular kadut belang yang telah diidentifikasi spesiesnya di Laboratorium Sistematika Hewan Fakultas Biologi Universitas Gadjah Mada digunakan dalam penelitian ini. Sampel yang akan dianalisis dengan SEM disimpan dalam larutan fiksatif SEM (glutaraldehid 1,5%, paraformaldehid 1,5%, Hepes, dan PBS *working*), sedangkan sampel yang akan dianalisis dengan pewarnaan HE disimpan di dalam paraformaldehid 4%. Sampel lidah yang akan diamati menggunakan SEM dibagi menjadi tiga bagian (*apex*, *corpus*, dan *radix*), didehidrasi dengan ethanol bertingkat, difiksasi dengan perekat karbon, pengeringan dengan sistem vakum, pelapisan konduktif menggunakan platinum, kemudian diamati dengan SEM. Pemrosesan sampel lidah untuk pewarnaan HE terdiri dari pemrosesan sampel menjadi blok paraffin, pemotongan blok paraffin dengan ketebalan 5 μ m, pewarnaan HE, diamati dengan mikroskop cahaya dan difoto menggunakan *OptiLab Viewer*. Hasil pengamatan SEM menunjukkan tidak ditemukannya papilla maupun kuncup pengecap pada permukaan lidah, namun ditemukan dua bentuk menci berupa *microfacets* dan *micropores*. Pengamatan histologi menunjukkan lidah tersusun atas tunika mukosa dan tunika muskularis, dengan melanin pada lamina propria mukosa. Data menguatkan bukti bahwa lidah ular kadut belang berperan sebagai pendukung organ vomeronasal.

Kata kunci: Histologi, *Homalopsis buccata*, Lidah, *Scanning Electron Microscope*

ABSTRACT

MORPHOLOGICAL STRUCTURE ANALYSIS OF THE TONGUE OF PUFF-FACED WATER SNAKE (*Homalopsis buccata*) USING SCANNING ELECTRON MICROSCOPE (SEM) AND HEMATOXYLIN EOSIN STAINING

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Puff-faced water snake (*Homalopsis buccata*) is a species of mildly venomous snake from the Homalopsidae family. Puff-faced water snakes are widely distributed in Southeast Asia including Indonesia, to Bangladesh and Northeast India. There are anatomical variations and tongue function, yet the anatomical data of the puff-faced water snakes are still limited. This study aims to determine the morphology of the puff-faced water snake tongue using scanning electron microscope (SEM) and the histological structure using hematoxylin-eosin (HE). Six puff-faced water snakes whose species have been identified at the Laboratory of Animal Systematics, Faculty of Biology, Gadjah Mada University were used in this research. Samples for SEM analysis were stored in SEM fixative solution (1,5% glutaraldehyde, 1,5% paraformaldehyde, Hepes, and PBS working), while the samples for HE staining were stored in 4% paraformaldehyde. Samples for SEM analysis were cut into three parts (apex, corpus, and radix), dehydrated with graded ethanol, fixated with carbon tape, dried with a vacuum system, conductive coating with platinum, then observed with SEM. Samples for HE staining were processed into paraffin blocks, cut to 5 μ m thickness, stained with HE, then observed using a light microscope and photographed using the OptiLab Viewer. Scanning electron microscope observation showed that neither papillae nor taste buds were found on the surface of the tongue, but there were two unique structures called microfacets and micropores. Histological observations showed that the tongue was composed of tunica mucosa and tunica muscularis, with melanin in the lamina propria mucosa. The data strengthen the evidence that the puff-faced water snake tongue acts as a support for the vomeronasal organs.

Keywords: Histology, *Homalopsis buccata*, Scanning Electron Microscope, Tongue