

ABSTRAK

IDENTIFIKASI MORFOLOGI DAN STRUKTUR HISTOLOGI LIDAH ULAR BAJING (*Gonyosoma oxycephalum*) MENGGUNAKAN SCANNING ELECTRON MICROSCOPE (SEM) DAN PEWARNAAN HEMATOKSILIN EOSIN

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Ular bajing atau *red tailed ratsnake* (*Gonyosoma oxycephalum*) merupakan ular tidak berbisa, memiliki tubuh hijau, dan lidah biru. Spesies ini termasuk ke dalam ordo Squamata, famili Colubridae, dan genus *Gonyosoma*, serta berperan sebagai predator bagi mamalia kecil, kadal, katak, ikan, dan serangga. Lidahnya bercabang berfungsi sebagai organ kemosensorik melalui perilaku *tongue flicking*. Penelitian ini bertujuan untuk mengetahui morfologi lidah ular bajing menggunakan *scanning electron microscope* (SEM) dan struktur histologinya dengan pewarnaan hematoksilin eosin (HE). Empat ekor ular bajing dewasa diidentifikasi spesiesnya di Laboratorium Sistematika Hewan Fakultas Biologi Universitas Gadjah Mada dan dikorbankan sesuai prosedur yang telah disetujui Komisi Etik Penelitian Fakultas Kedokteran Hewan (No. 137/EC-FKH/int./2024). Tiga sampel difiksasi dalam larutan fiksatif SEM, sedangkan sampel lainnya disimpan dalam paraformaldehid 4%. Tiga sampel dianalisis menggunakan SEM dan sampel lainnya diproses menjadi blok parafin, dipotong dengan ketebalan 8 μm dan diwarnai dengan HE. Hasil pewarnaan diamati di bawah mikroskop cahaya dan difoto menggunakan *OptiLab Viewer*. Hasil pengamatan SEM tidak ditemukan papila dan *taste bud*, namun ditemukan *microfacet*, *micropore*, dan *microridge* pada permukaan dorsal. Pengamatan histologi menunjukkan lidah tersusun atas tunika mukosa dan tunika muskularis. Tunika mukosa tersusun atas lamina epitelialis mukosa dan lamina propria mukosa. Melanin banyak ditemukan pada lamina propria mukosa. Berdasarkan morfologi dan histologinya, lidah ular bajing tidak berperan dalam sistem gustatori maupun deglutisi makanan, melainkan berperan sebagai organ sensori melalui organ vomeronasal.

Kata kunci: *Gonyosoma oxycephalum*, hematoksilin eosin, histologi, lidah, *Scanning Electron Microscope*

ABSTRACT

MORPHOLOGICAL AND HISTOLOGICAL STRUCTURE OF RED-TAILED RATSNAKE (*Gonyosoma oxycephalum*) TONGUE USING SCANNING ELECTRON MICROSCOPE (SEM) AND HEMATOXYLIN EOSIN STAINING

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The red-tailed ratsnake (*Gonyosoma oxycephalum*), a non-venomous, blue-tongued, green snake, classified under the order Squamata, family Colubridae. It plays an important role as a predator of small mammals, lizards, frogs, fish, and insects. The bifurcated tongue functions in chemosensory process through tongue-flicking behavior. This study aims to examine the tongue morphology of *G. oxycephalum* using *Scanning Electron Microscope* (SEM) and its histological structure through hematoxylin-eosin (HE) staining. Four adult specimens were identified at the Laboratorium Sistemika Hewan Fakultas Biologi UGM and were euthanized according to ethical procedures approved by the Komisi Etik Penelitian, Faculty of Veterinary Medicine, UGM (No. 137/EC-FKH/int./2024). Three samples were fixed in SEM fixative solution (1.5% glutaraldehyde, 1.5% *paraformaldehyde*, HEPES, and PBS working solution) for SEM analysis, and one sample was preserved in 4% *paraformaldehyde*. Three SEM samples were observed under SEM, while the remaining was embedded in paraffin, sectioned at 8 μm thickness, stained with HE, and observed under a light microscope using an OptiLab Viewer. SEM analysis showed no lingual papillae or taste buds, but the presence of microfacets, microridges and micropores were identified on the dorsal surface. Histological observations indicated the tongue consisted of tunica mucosa and tunica muscularis. The tunica mucosa consists of lamina epithelialis mucosa and lamina propria mucosa, with melanin found in the lamina propria mucosa. Based on morphological and histological characteristics, the tongue of *G. oxycephalum* does not function in gustation or food manipulation but serves a sensory role through the vomeronasal organ.

Keywords: *Gonyosoma oxycephalum*, hematoxylin-eosin, histology, Scanning Electron Microscope, tongue