

RINGKASAN

Ular dapat digolongkan ke dalam beberapa kelompok berdasarkan habitatnya, antara lain ular *terrestrial* yang hidup di tanah atau daratan, ular akuatik yang hidup di daerah perairan, ular *fossorial* yang hidup di dalam tanah, dan ular arboreal yang hidup di pohon. Setiap habitat memiliki karakteristik lingkungan yang berbeda, sehingga ular perlu beradaptasi terhadap habitat tersebut, baik secara anatomi, fisiologi, maupun perilaku. Perbedaan habitat pada ular menimbulkan perbedaan pada sistem urinaria. Perbedaan habitat juga menyebabkan perbedaan pemrosesan material yang akan dieskresikan. Organisme *terrestrial* perlu mempertahankan air dalam tubuh secara efisien sedangkan organisme akuatik perlu mengatur masuknya air. Pada penelitian ini dikaji struktur makroskopis dan mikroskopis ular Welang (*Bungarus fasciatus*), yang mewakili ular terrestrial, dan ular Pelangi (*Xenopeltis unicolor*), yang mewakili ular semiakuatik.

Penelitian ini menggunakan metode survei dengan teknik pengambilan sampel secara *purposive random sampling*. Sampel diambil di area persawahan di sebelah timur Kampus Fakultas Biologi Universitas Jenderal Soedirman. Organ urinaria *B. fasciatus* dan *X. unicolor* dievaluasi dengan pembuatan preparat mikroskopis menggunakan metode parafin dan pewarnaan *Haematoxylin-Eosin*. Data penelitian berupa gambaran makroskopis dan mikroskopis sistem urinaria, meliputi ginjal dan ureter, dianalisis secara deskriptif.

Hasil penelitian ini menunjukkan bahwa ginjal *B. fasciatus* dan *X. unicolor* terletak di rongga coelom bagian posterior. Struktur makroskopis ginjal pada kedua ular tersebut serupa yakni berbentuk memanjang, berlobus, berwarna merah kecoklatan, dan memiliki permukaan halus. Struktur mikroskopis ginjal terdiri atas Kapsula Bowman, glomerulus, *Bowman's Space*, tubulus proksimal, tubulus distalis dan *Sex Segment Kidney* (SSK). Ureter *B. fasciatus* dan *X. unicolor* menyatu dengan ginjal bagian posterior dan memanjang ke arah kaudal. Ureter *B. fasciatus* dan *X. unicolor* berbentuk memanjang dan berwarna putih kemerahan. Struktur mikroskopis ureter terdiri atas komponen lapisan epitel yang membatasi lumen, lamina propria, lamina muskularis dan lumen.

Kata Kunci: *Bungarus fasciatus*, *Xenopeltis unicolor*, Sistem Urinaria, Struktur Makroskopis, Struktur Mikroskopis.

SUMMARY

Snakes can be classified into several groups based on their habitats. There are terrestrial snakes that live on the soil or land, aquatic snakes that live in waters, fossorial snakes that live underground, and arboreal snakes that live in trees. Each habitat has different environment characteristics, so that snakes need to adapt to these habitats anatomically, physiologically and behaviorally. The difference of snake habitats may lead to the difference of the material excretion process and the urinary system, which includes ren, ureter, and cloaca. Terrestrial organisms need to retain water inside the body efficiently, while aquatic organism need to regulate the entry of water. This study evaluated the macroscopic and microscopic structure of Banded Kraits snake (*Bungarus fasciatus*) that represents terrestrial snake, and Sunbeam Snake (*Xenopeltis unicolor*), that represents semiaquatic snake.

This study used survey method with purposive random sampling technique. The snakes were widely captured from the rice fields on the eastern part of the Biology Faculty campus, Jenderal Soedirman University. Urinary organs of *B. fasciatus* and *X. unicolor* were prepared histologically with paraffin method and stained with Hematoxylin-Eosin (HE). Data of the macroscopic and microscopic structures of urinary system were analyzed descriptively, included the photo micrograph.

The results of this study indicated that the rens of *B. fasciatus* and *X. unicolor* were located in the caudal coelomic cavity, with the right ren situated more cranial than the left ren. Ren morphology of these snakes were similar, which were elongated, lobulated, with red-brown color and smooth texture. The microscopic structure of ren was consisted of Bowman's Capsule, glomerulus, Bowman's Space, proximal tubules, distal tubules and Sex Segment Kidney. The ureters of these snakes fused with the posterior part of the rens and caudally elongated. The ureters of *B. fasciatus* and *X. unicolor* were elongated with reddish-white color. The microscopic structure of ureters were consisted of epithelia that lined on the edge of lumen, lamina propria, lamina muscularis and lumen.

Keywords: *Bungarus fasciatus*, *Xenopeltis unicolor*, Urinary System, Macroscopic Structure, Microscopic Structure.