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**Eksplorasi Reproduksi Alami Ikan Bilih (Mystacoleucus padangensis Bleeker, 1852) di Danau Singkarak,
Sumatera Barat**
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Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

INTI SARI

Ikan bilih *(Mystacoleucus padangensis* Bleeker, 1852*)* adalah spesies endemik Danau Singkarak yang populasinya terus menurun akibat eksploitasi dan degradasi habitat. Penelitian ini bertujuan menganalisis dinamika reproduksi alami ikan bilih meliputi perilaku kawin, biologi reproduksi, karakteristik skeletal, serta faktor lingkungan yang mempengaruhinya. Penelitian dilaksanakan Oktober 2025 di Danau Singkarak menggunakan metode observasi bawah air, histologi ovarium (pewarnaan H&E), pewarnaan rangka ARAB (*Alizarin Red Alcian Blue*), dan pengukuran kualitas air. Hasil penelitian menunjukkan perilaku kawin ikan bilih terdiri dari enam tahap: migrasi, pacaran, penempelan substrat dan pelepasan telur, fertilisasi eksternal, pasca-pemijahan, dan pemulihan. Ikan betina matang gonad berada pada TKG IV dengan dominasi oosit vitelogenik. Ditemukan dimorfisme seksual pada sisik ventral betina yang berfungsi sebagai pelindung mekanis. Pewarnaan ARAB menunjukkan monomorfisme rangka dan struktur unik *linear cartilage rod* pada sirip ekor. Pemijahan dipicu gradien suhu (Δ6-7°C), DO tinggi (8,3-8,7 mg/L), arus 0,3-0,5 m/s, serta kadar NO_2/NO_3 0 mg/L. Bencana banjir bandang menyebabkan sedimentasi yang mengancam habitat pemijahan.

Kata kunci: *Mystacoleucus padangensis*, reproduksi alami, perilaku kawin, histologi, Danau Singkarak

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ABSTRAK

The bilih fish (*Mystacoleucus padangensis* Bleeker, 1852) is an endemic species of Lake Singkarak whose population continues to decline due to overexploitation and habitat degradation. This study aims to analyze the natural reproductive dynamics of bilih fish, encompassing mating behavior, reproductive biology, skeletal characteristics, and influential environmental factors. The research was conducted in October 2025 in Lake Singkarak, utilizing underwater observation, ovarian histology via Hematoxylin and Eosin (H&E) staining, skeletal staining using Alizarin Red S-Alcian Blue (ARAB), and water quality measurements. The results showed that the mating behavior of bilih fish consists of six stages: migration, courtship, substrate attachment accompanied by egg release, external fertilization, post-spawning, and recovery. Gonadally mature females were at Gonadosomatic Maturity Stage (GMS) IV, dominated by vitellogenic oocytes. Furthermore, sexual dimorphism was observed in the ventral scales of females, which serve as a mechanical shield. ARAB staining revealed skeletal monomorphism and a unique linear cartilage rod structure on the caudal fin. Spawning activities were triggered by a temperature gradient(Δ6-7°C), high dissolved oxygen (DO) levels (8.3–8.7 mg/L), a water current velocity of 0,3-0,5 m/s concentrations of NO_2/NO_3 0 mg/L. Conversely, flash flood disasters induced high sedimentation, threatening the sustainability of this spawning habitat.

Keywords: Mystacoleucus padangensis, natural reproduction, mating behavior, histology, Lake Singkarak