

RINGKASAN

Ikan nilem (*Osteochillus vittatus* Valenciennes, 1842) adalah anggota familia Cyprinidae yang tersebar di daerah Asia termasuk Asia Tenggara. Di Pulau Jawa ikan nilem dapat ditemukan di beberapa sungai seperti Sungai Banjaran, Sungai Cimanuk dan Sungai Brantas. Pengetahuan mengenai aspek ekologi *O. vittatus* sangat diperlukan untuk upaya pelestariannya. Tujuan penelitian ini adalah untuk menganalisis struktur populasi (kelimpahan, sebaran panjang dan bobot) serta menentukan laju eksploitasi *O. vittatus* di Sungai Logending. Penelitian ini dilakukan di Sungai Logending Kebumen menggunakan metode survei dan teknik *purposive random sampling*. Sungai Logending dibagi ke dalam 10 stasiun dengan alasan kemudahan akses masuk kedalam sungai dan pengalaman nelayan mendapat ikan. Pengambilan dilakukan 2 kali dengan interval waktu satu bulan.

Hasil penelitian ini menunjukkan hasil kelimpahan *O. vittatus* di kesepuluh stasiun berfluktuasi dan cenderung meningkat ke arah muara sungai, akan jumlah individu ikan antarstasiun tidak berbeda secara signifikan ($H = 2,33$; $p > 0,05$). Analisis sebaran panjang dan bobot didapat panjang maksimal 164 mm dan panjang minimum 37 mm secara berturut di Stasiun 2 dan Stasiun 10, Ikan dengan bobot maksimal 53,15 g diperoleh di Stasiun 2, ikan dengan bobot minimal 0,22 g diperoleh di Stasiun 10. Sebaran panjang dan bobot *O. vittatus* menunjukkan bahwa struktur populasi ikan di Sungai Logending masih tergolong sehat, ditandai oleh proporsi ikan benih, ikan matang gonad, dan ikan tua masing-masing sebesar 54,8%, 32,5%, dan 12,7%, tetapi hasil analisis ELEFAN 1 menunjukkan bahwa panjang tangkap pertama (L_c) ikan nilem adalah 49 cm, yang lebih pendek dibandingkan panjang pertama ikan matang gonad (L_m), sehingga mencerminkan bahwa praktik pengusahaan sumber daya ikan belum optimal. Analisis nilai mortalitas penangkapan (F), mortalitas alami, mortalitas total dan laju eksploitasi berdasarkan analisis program FISAT II adalah 1,22; 1,55; 2,77; dan 0,44 per tahun menunjukkan ikan nilem belum mengalami *overfishing*.

Kata kunci: *ikan nilem, laju eksploitasi , sebaran panjang dan bobot, struktur populasi, Sungai Logending,*

SUMMARY

Osteochilus vittatus (bonylip barb) is a member of the Cyprinidae family widely distributed across Asia, including Southeast Asia. In Java Island, this species is found in several rivers such as the Banjarn, Cimanuk, and Brantas Rivers. The information of *Osteochilus vittatus* population is essential for its sustainable yield. This study aimed to analyze the population structure (abundance, length and weight distribution) and determine the exploitation rate of *O. vittatus* in the Logending River. The research was conducted in the Logending River, Kebumen, using a survey method with purposive random sampling technique. The river was divided into 10 stations based on accessibility and local fishers' experience in catching this species. Sampling was conducted twice with a one-month interval.

The results had shown that the abundance of *O. vittatus* fluctuated among stations and tended to increase toward the river mouth. However, the fish abundance among stations was not statistically significant ($H = 2.33$; $p > 0.05$). The maximum length of the *O. vittatus* was 164 mm and the minimum was 37 mm, recorded at Stations 2 and 10, respectively. The highest weight was 53.15 g found at Station 2, and the lowest was 0.22 g at Station 10. The length and weight distribution of *O. vittatus* indicated that this population is healthy reflected by presents of , juveniles 54.8%, mature fish 32.5%, and older individuals 12.7% comprising of the population,. However ELEFAN I analysis revealed that the length at first capture ($L_c = 49$ mm) was shorter than the length at first maturity ($L_m = 80$ mm), suggesting suboptimal fishing practices. FISAT II analysis showed captured mortality (F) was 1.22/year, natural mortality (M) was 1.55/year, total mortality (Z) was 2.77/year, and an exploitation rate (E) was 0.44/year. These results indicate that *O. vittatus* in the Logending River has not yet been subjected to overfishing.

Keywords: *bonylip barb*, *exploitation rate*, *length and weight distribution*, *population structure*, *Logending River*,