

RINGKASAN

Sungai Serayu sebagai salah satu sungai utama di Jawa Tengah, merupakan habitat bagi sebagian besar Moluska termasuk kerang air tawar (Unionidae). Keragaman dan distribusi kerang air tawar dipengaruhi oleh faktor keberadaan ikan sebagai inang pada fase larva (*glochidia*), lingkungan setempat, ketersediaan makanan, serta rusak atau tidaknya habitat. Kondisi ekosistem Sungai Serayu yang semakin menurun, diperkirakan berdampak terhadap keberadaan Moluska terutama kerang air tawar yang hidup di dalamnya. Penelitian ini bertujuan untuk mendeskripsikan morfologi spesies kerang air tawar yang ditemukan, membandingkan keragaman spesies kerang air tawar yang meliputi kekayaan dan kelimpahan serta mendeskripsikan distribusinya dan mengevaluasi hubungan antara kekayaan spesies dan kelimpahan kerang air tawar dengan faktor lingkungan di inlet dan outlet Waduk PB Soedirman Sungai Serayu Banjarnegara.

Penelitian dilakukan di Sekitar Waduk PB Soedirman Sungai Serayu Banjarnegara dengan metode survei. Pengambilan sampel dilakukan pada bulan Februari dan Maret 2025 menggunakan teknik *Purposive Sampling*. Keragaman kerang air tawar dianalisis menggunakan Uji *One Way* ANOVA dan Uji Kruskal Wallis sebagai alternatif dengan bantuan *software* SPSS. Distribusi kerang air tawar dianalisis dengan menggunakan tabel keberadaan spesies. Sedangkan hubungan antara distribusi kerang air tawar dengan parameter lingkungan dianalisis menggunakan Uji PCA dengan bantuan *software* PAST 4.

Hasil penelitian menunjukkan bahwa spesies kerang air tawar yang ditemukan pada bagian inlet dan outlet Waduk PB Soedirman yaitu *Pilsbryoconcha exilis* dengan ciri bentuk cangkang lebih panjang dan pipih serta cangkang berwarna kuning dan spesies *Sinanodonta pasifica* dengan cangkang lebih membulat oval dan warna hijau kehitaman. Keragaman kerang air tawar meliputi kekayaan spesies dan kelimpahan lebih banyak ditemukan pada sungai bagian outlet, serta distribusi *S. pasifica* ditemukan di semua stasiun dan *P. exilis* lebih terbatas. Kekayaan spesies dan total kelimpahan kerang air tawar serta kelimpahan *P. exilis* dan *S. pasifica* lebih berhubungan dengan parameter pH dan DO.

Kata kunci: *Distribusi, keragaman, kerang, sungai, survei, waduk.*

SUMMARY

The Serayu River as one of the main rivers in Central Java is a habitat for most Molluscs, including freshwater mussels (Unionidae). The diversity and distribution of freshwater mussels are influenced by the presence of fish as hosts during the larval stage (glochidia), the local environment, food availability, and the condition of the habitat, whether damaged or not. The declining condition of the Serayu River ecosystem is expected to affect the existence of Molluscs, especially freshwater mussels living in it. This study aims to describe the morphology of freshwater mussel species found, compare the diversity of freshwater mussel species including richness and abundance, describe their distribution, and evaluate the relationship between species richness and abundance of freshwater mussels with environmental factors at the inlet and outlet of PB Soedirman Reservoir, Serayu River, Banjarnegara.

The research was conducted around PB Soedirman Reservoir, Serayu River, Banjarnegara, using a survey method. Sampling was carried out in February and March 2025 using the Purposive Sampling technique. The diversity of freshwater mussels was analyzed using the One-Way ANOVA Test and the Kruskal Wallis Test as an alternative with the help of SPSS software. The distribution of freshwater mussels was analyzed using a species occurrence table. Meanwhile, the relationship between the distribution of freshwater mussels and environmental parameters was analyzed using PCA Test with the help of PAST 4 software.

The results showed that the freshwater mussel species found at the inlet and outlet of PB Soedirman Reservoir were *Pilsbryoconcha exilis*, characterized by a longer and flatter shell with a yellow color, and *Sinanodonta pasifica*, characterized by a more rounded oval shell with a dark greenish color. The diversity of freshwater mussels, including species richness and abundance, was higher in the outlet part of the river, with the distribution of *S. pasifica* found in all stations and *P. exilis* being more limited. Species richness and total abundance of freshwater mussels, as well as the abundance of *P. exilis* and *S. pasifica*, were more related to pH and DO parameters.

Keywords: Distribution, diversity, mussels, river, survey, reservoir.