

**Kemelimpahan dan Keanekaragaman Jenis Capung (Insecta: Odonata)
Serta Potensinya sebagai Pengendali Nyamuk *Anopheles* Vektor Malaria di
Kawasan Waduk Sermo, Kulon Progo**

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INTISARI

Kabupaten Kulon Progo telah dinyatakan berhasil mengeliminasi malaria pada tahun 2022, namun kasus malaria masih dilaporkan pada tahun 2023 dan 2024. Hal ini diduga berkaitan dengan efektivitas larvasida yang rendah serta dampaknya terhadap lingkungan. Penggunaan agen hayati seperti capung (Insecta: Odonata) berpotensi menjadi alternatif pengendalian vektor malaria. Oleh karena itu, penelitian ini bertujuan untuk mengidentifikasi jenis capung, menganalisis kemelimpahan dan keanekaragaman, mengidentifikasi jenis mangsa, serta mengevaluasi potensi capung sebagai pengendali vektor. Penelitian dilakukan di Waduk Sermo pada Juli–Agustus 2024 menggunakan metode jelajah untuk memperoleh data kemelimpahan dan keanekaragaman, serta analisis *DNA metabarcoding* dengan penanda gen *COI* pada feses capung untuk identifikasi jenis mangsa. Hasil penelitian menunjukkan bahwa sebanyak 28 jenis capung ditemukan dengan indeks keanekaragaman (H') 1,61–2,21, kemerataan (E) 0,48–0,66, serta dominansi (D) 0,16–0,34, tanpa perbedaan signifikan antar lokasi. Analisis feses capung menunjukkan bahwa terdapat 26 jenis mangsa capung dari 7 ordo, 11 famili, dan 25 genus. Namun, analisis komposisi mangsa menunjukkan bahwa capung yang dikaji tidak berpotensi sebagai pengendali vektor malaria di kawasan Waduk Sermo.

Kata Kunci: agen biologi, capung, *COI*, malaria, *metabarcoding*

Abundance and Diversity of Dragonfly (Insecta: Odonata) and Its Potential as Biological Agents of Anopheles Mosquitoes Malaria Vectors in Waduk Sermo Area, Kulon Progo

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ABSTRACT

Kulon Progo Regency was declared to have successfully eliminated malaria in 2022. However, cases were still reported in 2023 and 2024. This persistence is suspected to be linked to the low effectiveness of larvicides and their environmental impact. The use of biological agents such as dragonflies (Insecta: Odonata) has the potential to serve as an alternative method for malaria vector control. Therefore, this study aims to identify dragonfly species, analyze their abundance and diversity, identify prey types, and evaluate the potential of dragonflies as vector control agents. The research was conducted at Waduk Sermo from July to August 2024 using an exploratory method to collect data on abundance and diversity. DNA metabarcoding analysis using the *COI* marker on dragonfly feces was employed to identify prey species. The results showed that 28 dragonfly species were found, with diversity index (H') ranging from 1.61 to 2.21, evenness (E) from 0.48 to 0.66, and dominance (D) from 0.16 to 0.34, with no significant differences between locations. Fecal analysis revealed 26 prey types from 7 orders, 11 families, and 25 genera. However, the prey composition indicated that the studied dragonflies do not yet show potential as malaria vector control agents in Waduk Sermo area.

Keywords: biological agent, *COI*, dragonfly, malaria, metabarcoding