

Struktur Komunitas Capung (Odonata) dan Kualitas Habitat di Telaga Saat, Taman Wisata Telaga Warna dan Telaga Biru Taman Nasional Gunung Gede Pangrango, Jawa Barat = Community Structure of Dragonfly (Odonata) and The Habitat Quality in Saat Lake, Nature Park Warna Lake, and Blue Lake Mount Gede Pangrango National Park, West Java.

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Abstrak

Capung (Odonata) adalah organisme yang sangat efektif digunakan sebagai spesies indikator untuk penilaian habitat akuatik. Karena Odonata sangat spesifik terhadap pemilihan habitat dan menjadi spesies kharismatik di habitat akuatik. Penelitian ini bertujuan untuk membandingkan, menganalisis struktur komunitas Odonata, menginterpretasikan kualitas habitat dan melihat hubungan antara kualitas habitat terhadap distribusi spesies Odonata di Telaga Saat, Telaga Warna dan Telaga Biru dataran tinggi Bogor, Jawa Barat. Penelitian dilakukan pada bulan Mei-Agustus 2019. Pengambilan data spesies, jumlah individu Odonata dan variabel habitat menggunakan metode *fixed point counts* dengan 59 titik pengamatan. Analisis komunitas Odonata dilakukan dengan model kelimpahan spesies, indeks keanekaragaman spesies (Shannon-Wiener, Margalef, Simpson), indeks pemerataan dan indeks similaritas Jaccard. Kualitas habitat di tiga telaga dianalisis menggunakan *Principal Component Analysis*. Hasil penelitian menunjukkan bahwa kurva *rarefaction* di tiga telaga terlihat sudah mendatar atau mencapai titik asymptote. Kurva akumulasi spesies di Telaga Warna dan Telaga Biru tampak sudah mendatar atau mencapai titik asymptote, sedangkan Telaga Saat masih menaik tajam. Total 157 individu terdapat 11 spesies, 5 famili dan 2 subordo yang ditemukan di tiga telaga. 9 spesies di Telaga Saat, 6 spesies di Telaga Warna, dan 4 spesies di Telaga Biru. Tampak semakin tinggi suatu telaga cenderung semakin sedikit keanekaragaman spesies Odonata yang diperoleh. Telaga Saat memiliki nilai indeks keanekaragaman spesies paling tinggi, sedangkan Telaga Warna terendah. Telaga Biru memiliki nilai indeks pemerataan paling tinggi, sedangkan Telaga Warna terendah. Indeks similaritas Jaccard menunjukkan komunitas Odonata di Telaga Warna dan Telaga Saat paling mirip ($C_j = 0.25$). Variabel yang sangat mempengaruhi kualitas habitat di tiga telaga pada komponen 1 dan komponen 2 adalah intensitas cahaya dan oksigen terlarut. Kualitas habitat di Telaga Saat dan Telaga Warna terdapat kemiripan, sedangkan di Telaga Biru terpisah. Kemiripan kualitas habitat di kedua telaga ditunjukkan oleh variabel oksigen terlarut (DO), suhu air, dan keberadaan plastik. Terdapat 5 spesies Odonata memiliki korelasi signifikan dengan variabel habitat. A. *pygmaea* berkorelasi dengan kelimpahan (0.53), A. *rubescens* dengan kelembapan udara (0.52), tumbuhan akuatik A. *philoxeroides* (0.50), dan tumbuhan perdu (0.52), A. *guttatus* dengan tumbuhan akuatik *Polygonum* sp. (0.57), C. *membranipes* dengan ketinggian (0.66), suhu air (-0.56), tumbuhan akuatik *Nasturtium* sp. (0.74), *Polygonum* sp. (0.72), dan tumbuhan riparian (0.66), serta O. *pruinatum* dengan kekayaan spesies (0.55) dan kelimpahan Odonata (0.58). Untuk keberhasilan konservasi spesies Odonata di tiga telaga harus dilakukan dengan cara melindungi habitatnya dari kerusakan dan modifikasi lahan.

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The dragonfly (Odonata) was organism very successful which used as indicator species for assessment of the aquatic habitat. Because their very specific toward preference the habitat and became flagship species in aquatic habitat. This research aims to compare, analyse the community structure of Odonata, interpret the habitat quality and seen the correlation between habitat quality to species distribution Odonata in the highland freshwater Lake Saat, Lake Warna and Lake Biru, Bogor, West Java. The research was conducted in May - August 2019. Data species, individual Odonata and variable habitat were collected using fixed point counts method at 59 observation point. Community of Odonata were analysed with species abundance model and diversity indices using Shannon-Wiener, Margalef and Simpson indices, as well as evenness index and similarities index using Jaccard method. The habitat quality in those lake were analyzed by Principal Component Analysis (PCA). The result showed that rarefaction curve in three lake have seem flattened or reached an asymptote. Species accumulation curve in Telaga Warna and Telaga Biru also flattened or reached asymptote point, while in Telaga Saat still showing increasing curve. A total of 157 individual of Odonata were recorded which belong to 11 species, 5 families and 2 suborder. At least 9 species were recorded in Telaga Saat, 6 species in Telaga Warna, and 4 species in Telaga Biru. It appears there will be more less species were recorded at high altitude. The index of species diversity of Odonata in Telaga Saat was the highest, while Telaga Warna was the lowest. The highest of evenness index was in Telaga Biru and the lowest was in Telaga Warna. The Jaccard index of similarity, it showed that Telaga Warna and Telaga Saat had the most similar communities ($C_j = 0,25$). The habitat quality in three lake were affected by variable light intensity on PC1 and dissolved oxygen on PC2. The habitat quality in Telaga Saat and Telaga Warna more similar quality at some points, while in Telaga Biru was separate. The similarity of habitat quality in two locations were showed from variables dissolved oxygen (DO), water temperature and emergence of plastic. The correlation showed significant between five Odonata species and habitat variable. *A. pygmaea* was correlation with abundance (0.53), *A. rubescens* with humidity (0.52), *A. philoxeroides* (0.50), and shrub (0.52), *A. guttatus* with of *Polygonum* sp. (0.57), *C. membranipes* with altitude (0.66), water temperature (-0.56), *Nasturtium* sp. (0.74), *Polygonum* sp. (0.72), and riparian vegetation (0.66), as well as *O. pruinatum* with species richness (0.55) and abundance (0.58). The successful for conservation of Odonata species in those lake must be protected the habitat from destruction and land modification.