

## PERBANDINGAN KOMUNITAS FITOPLANKTON DI TELAGA WARNA DAN TELAGA PENGILON, DATARAN TINGGI DIENG

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### INTISARI

Fitoplankton merupakan organisme bioindikator di perairan, karena sangat sensitif dengan karakteristik limnologis, berupa fisik, kimia, dan biologis. Lokasi Telaga Warna dan Telaga Pengilon bersebelahan, tetapi memiliki karakter yang sangat berbeda. Penelitian ini bertujuan untuk mempelajari perbandingan komunitas fitoplankton dan perbedaan karakter limnologis di Telaga Warna dan Telaga Pengilon. Pencuplikan fitoplankton dilakukan masing-masing telaga 5 titik sampling. Penelitian dilakukan dalam 3 tahap, yaitu survey lokasi, pengambilan sampel, dan proses identifikasi menggunakan buku identifikasi. Pencuplikan sampel menggunakan alat pencuplik air *van Dorn* 5L. Sampel disaring menggunakan *plankton net* hingga 20L air. Setiap sampel di botol flakon ditambah 4-5 tetes formalin 4%. Parameter fisiko kimia yang diukur berupa DO, Alkalinitas, kedalaman air, pH, suhu udara dan suhu air. Hasil identifikasi menunjukkan terdapat lima kelompok *functional-group*. Diatom beranekaragam (12 spesies) di Telaga Warna karena struktur dinding sel yang kuat sehingga dapat bertahan di pH yang rendah. Di Telaga Warna, nilai penting tertinggi dari kelompok algae berflagella, yaitu spesies *Euglena deses* sebesar 63,56% dengan kemelimpahan dan persebaran yang tinggi diantara fitoplankton di Telaga Warna lainnya. Di Telaga Pengilon, nilai penting tertinggi dari kelompok algae unisel, yaitu spesies *Cosmarium contractum* sebesar 79,44% dengan kemelimpahan dan persebaran yang tinggi. Spesies ini sangat umum di perairan tropis dan memiliki toleransi yang luas. Konsentrasi sulfat di Telaga Warna 230,53 mg/L dan Telaga Pengilon 425,238 mg/L.

Kata kunci : fitoplankton, komunitas, perbandingan, Telaga Pengilon, Telaga Warna

## COMPARISON OF PHYTOPLANKTON COMMUNITY IN WARNA LAKE AND PENGILON LAKE, DIENG PLATEAU

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### ABSTRACT

Phytoplankton are organisms that can be used as bioindicators in the waters, because they are very sensitive to limnological characters, as physical, chemical, and biological. The locations of Telaga Warna and Telaga Pengilon are adjacent, but have very different characters. This research aims to determine the comparison of phytoplankton community and differences of limnological characters in Warna Lake and Pengilon Lake. Plankton sampling was carried out for each lake with 5 sampling points. The research was conducted in 3 stages, location survey, sampling, and identification process using identification books. Sampling using sample water tool named van Dorn 5L. Samples were filtered using plankton net to 20L of water. Each sample in a flask bottle added 4-5 drops of 4% formalin. The physico-chemical parameters measured were DO, Alkalinity, air depth, pH, air temperature and air temperature. The results showed that there were five groups of eating groups. Diatoms are diverse (12 species) in Telga Warna due to the strong wall structure so they can survive at low pH. In Telaga Warna, the highest importance value of the flagella algae group, namely the *Euglena deses* species amounted to 63.56% with high abundance and distribution among the phytoplankton in other Telaga Warna. In Pengilon Lake, the highest importance of the unicellular algae group, *Cosmarium contractum* species amounted to 79.44% with high abundance and distribution. This species is very common in tropical waters and has a wide tolerance. Sulfate concentration in Warna Lake is 230,53 mg/L and Pengion Lake is 425,238 mg/L

Key words: phytoplankton, comparison, community, Warna Lake, Pengilon Lak

