

**KANDUNGAN BAHAN ORGANIK DAN KOMUNITAS PLANKTON DI PERAIRAN
MANGROVE BAROS KABUPATEN BANTUL**

Anjar Rinja Kusuma

Fakultas Pertanian, Universitas Gadjah Mada, kusumaanjarinja@gmail.com

INTISARI

Penelitian ini dilakukan untuk mengetahui kandungan bahan organik, komunitas fitoplankton dan zooplankton, serta hubungan antar parameter tersebut di kawasan perairan mangrove Baros. Penelitian dilakukan di perairan mangrove Dusun Baros, Desa Tirtohargo, Kecamatan Kretek, Kabupaten Bantul dari bulan April sampai Mei 2015 selama lima minggu berturut-turut pada enam stasiun. Pengambilan sampel dilakukan satu minggu sekali pada pukul 10.00 WIB. Parameter yang diukur adalah kandungan bahan organik, fitoplankton, zooplankton, suhu air, salinitas dan pH. Sampel air untuk pengukuran bahan organik diambil secara langsung sebanyak 600 mL kemudian disimpan pada suhu rendah hingga analisis dengan metode titrasi permanganometri. Sampel air untuk pengamatan plankton diambil dengan menyaring air sebanyak 20 L menggunakan jaring plankton nomor 25, kemudian difiksasi dalam formalin 4% dan disimpan pada suhu rendah hingga pengamatan. Identifikasi dan penghitungan sampel plankton dilakukan pada *Sedgewick Rafter Counting Chamber* di laboratorium menggunakan buku panduan identifikasi. Hasil penelitian menunjukkan bahwa kandungan bahan organik berkisar antara 19,484 – 36,311 ppm. Fitoplankton ditemukan sebanyak 85 genera dengan kelimpahan antara 372.240 – 3.035.520 sel/m³ dan didominasi oleh Genus *Amphiprora*. Zooplankton ditemukan sebanyak 34 genera dengan kelimpahan antara 12.960 – 144.360 individu/m³ didominasi oleh Genus *Phyllopus*. Analisis regresi linier diperoleh persamaan sebesar $Y = -471.142,363 - 0,102X_1 + 25.562,607X_2$ dengan koefisien korelasi (R) sebesar 0,888. Terdapat hubungan yang sangat kuat dan pengaruh yang nyata antara kandungan bahan organik, kelimpahan fitoplankton dan zooplankton.

Kata kunci: bahan organik, fitoplankton, zooplankton, ekosistem mangrove

**TOTAL ORGANIC MATTERS AND COMMUNITIES OF PLANKTON IN
MANGROVE FOREST WATER OF BAROS OF BANTUL REGENCY**

Anjar Rinja Kusuma

Faculty of Agriculture, Universitas Gadjah Mada, kusumaanjarrinja@gmail.com

ABSTRACT

The purpose of this study was to determine the total organic matters in water, the communities of phytoplankton and zooplankton, and also the relationship between them which occurred in mangrove water of Baros. This research was conducted at Baros Subvillage, Tirtohargo Village, Kretek District, Bantul Regency from April to May 2015 for five weeks at six sampling locations. The single sampling was done for every station weekly at 10.00 AM. The measured parameters were total organic matter, phytoplankton, zooplankton, water temperature, salinity and pH. Samples for organic matter measuring were obtained directly collected in amount of 600 mL then stored in low temperature until analyzed using permanganometry titration method. Samples for plankton were obtained by filtrating 20 L water using plankton net number 25, then fixated using 4% formalin and stored in low temperature until analyze. Plankton samples identifying and counting were conducted on Sedgewick Rafter Counting Chamber at laboratory using guidance by plankton identification books. The results showed that the amount of total organic matter was between 19,484 and 36,311 ppm. Phytoplankton that found were 85 genera with abundance between 372.240 and 3.035.520 cell/m³ which dominated by Genus *Amphiprora*. Zooplankton that found were 34 genera with abundance between 12.960 and 144.360 ind/m³ which dominated by Genus *Phyllopus*. Linear regression analyze showed the formula was $Y = -471.142,363 - 0,102X_1 + 25.562,607X_2$ with correlation coefficient (R) was 0,888. There was a very strong relationship between the total organic matter, abundance of phytoplankton and zooplankton.

Keywords: total organic matter, phytoplankton, zooplankton, mangrove ecosystem