# Struktur komunitas fitoplankton di perairan Teluk Ambon

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Abstrak

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Untuk mengetahui pengaruh kondisi lingkungan terhadap struktur komunitas fitoplankton pada musim kemarau di perairan Teluk Ambon telah dilakukan sampling harian selama 30 had dan bulan Januari-Februari 1996 dengan waktu yang tetap, yaitu antara 08.00-10.00 WIT di tiga titik stasiun pengamatan. Parameter lingkungan yang diamati adalah kandungan klorofil-a, suhu perairan, salinitas, fosfat, nitrat, nitrit, oksigen, pH dan turbiditas. Sampling pertama ini diambil pada kedalaman 5 m. Sampling kedua di lima titik pengamatan di perairan Teluk Ambon Dalam, sebanyak empat kali pengamatan dari permukaan sampai kedalaman 20 m.

Analisis data menggunakan statistik multivariabel, yaitu berdasarkan analisis komponen utama (Principal Component Analysis) dan analisis faktorial koresponden (Correspondent Analysis). Data sekunder diperoleh dari Badan Meteorologi dan Geofisika, a.l. curah hujan dan prosentase intensitas penyinaran matahari.

Pada saat pengamatan, faktor lingkungan yang sangat mempengaruhi struktur komunitas fitoplankton di perairan Teluk Ambon adalah curah hujan. Fitoplankton yang mendominasi adalah dari kelompok diatom marga Chaetoceros. Struktur komunitas fitoplankton baik sebaran secara mendatar (horizontal distribution) dan sebaran tegak (vertical distribution) mempunyai keanekaragaman yang tinggi akibat dinamisnya pergerakan massa air karena pengaruh pasang-surut harian dari Laut Banda. Perairan Teluk Ambon Dalam sangat peka terhadap pengaruh sedimentasi dan pencemaran, untuk itu diperlukan suatu pencegahan pembuangan limbah dan pembukaan lahan secara rasional.
<hr><i>ABSTRACT
Ambon Bay is located in the Island of Ambon in the Molluccas. The Bay has a unique oceanographic environment. It has a shallow nentic inner bay (IAB) and a deep oceanic outer bay (0AB), which is strongly influenced by the Banda Sea. The OAB and The lAB are separated by a narrow sill of 15 m depth.

Multivariate Analysis of Community Structure of Phytoplankton And Related Environmental Factors in Ambon Bay. Daily sampling of phytoplankton and enviromental data were carried out at three stations from January to February 1996, between 08.00 to 10.00 p.m., at 5 m depth. The environmental parameters were observed, such as temperature, salinity, phosphate, nitrate, nitrite, dissolved oxygen, pH and turbidity. In dry season, the community structure of phytoplankton in the Ambon Bay water was dominated by diatoms, such as the genera of Chaetoceros, Nifszchia, Rhisozolenia and Bacteriastrum. The abundance of phytoplankton ranged from 1.0 x 102 to 61.350 x 103 cell L-'. Daily fluctuations of phytoplankton diversities were high and diversities among stations were significantly different ($p<0.05$).

Hydrological conditions in The Ambon Bay were varied. Water temperature ranged from 27.60 to 30.50 °C,

salinity ranged from 30 to 32 %, dissolved oxygen ranged from 4.28 to 4.37 ml concentration of phosphate ranged from 0.5 to 1.0 µg at. P04 ?P concentration of nitrate ranged from 0.1 to 1.5 µg at. N03-N L', concentration of nitrite ranged from 0.1 to 0.7 µg at. N02 -N L'', and pH ranged from 6.2 to 7.2. The highest rain fall was recorded at first observation (43.1 mm). The percentage of sun shine ranged from 8 to 100 %. The turbidities ranged from 0.12 to 1.98 NTU. Multivariate analysis shows that rain, turbidity and temperature influenced the community structure of phytoplankton.

Spatial Distribution of Chlorophyll-a And Community Structure of Phytoplankton in Inner Ambon Bay. Weekly sampling of phytoplankton and chlorophyll-a were carried out from January to February 1996, from the surface, 5, 10, 15 and 20 m depth at five stations. The abundance of phytoplankton from the surface to 20 m depth, ranged from 4.5 x 102 to 40.140 x 103 cell Six species of phytoplankton were identified, namely Chaetoceros diversum, Dytilum sot, Liptocylidricus danicus, Nitszchia pacifrca, Plantoniella so! and Noctiluca scinti/ans. Vertical distribution of phytoplankton diversities were heterogeneous. Concentration of chlorophyll-a from the surface to subsurface ranged from 0.196 to 5.044 mg m'. It seems that vertical distribution of chlorophyll-a did not correspond with the abundance of phytoplankton. The abundance of phytoplankton in the Inner Ambon Bay was strongly influenced by the daily tide.</i>