

DISTRIBUSI DAN KEMELIMPAHAN KOMUNITAS FITOPLANKTON DI PERAIRAN SELAT MALAKA, LHOKSEUMAWE, ACEH

ABSTRAK

Penelitian ini mempelajari distribusi dan kemelimpahan komunitas fitoplankton secara spasial dan temporal di daerah tangkapan ikan nelayan di Perairan Selat Malaka, Lhokseumawe, Aceh. Sampai saat ini informasi status fitoplankton di Selat Malaka hanya berupa tentang klorofil-a, sedangkan tentang kekayaan spesies dan distribusinya di daerah tangkapan nelayan dalam kolom air belum ada. Penelitian ini dilakukan pada dua musim: IM 13-17 April dan MBD 1-4 Juni. Setiap musim, ada tiga lokasi pencuplikkan sampel yaitu Stasiun 1, 2 dan 3 dengan jarak dari pantai berturut-turut 3,54; 4,27; dan 4,67 mil laut. Setiap lokasi dicuplik secara vertikal pada lima jeluk di dalam kolom air masing-masing ulangan lima kali. Sampel air dicuplik sebanyak 20l menggunakan modifikasi Van Dorn *water sampler* 5 liter. Sampel kemudian disaring dengan Wisconsin *plankton net* 125 μ m mesh hingga menghasilkan 10 cc filtran. Sampel dihitung cacah individunya dengan metode *total strip counting* menggunakan *Sedgewick Rafter Counting Chamber*. Data ditabulasi dalam fungsional grup. Kemudian dilakukan analisis similaritas Sorensen serta analisis ordinasi Bray dan Curtis untuk mempelajari distribusi komunitas fitoplankton. Parameter fisiko-kimia perairan yang diukur berupa salinitas, pH, suhu, DO, NO₃ dan PO₄. Ada lima fungsional grup komunitas fitoplankton yang terdapat dalam kolom air baik pada musim IM maupun MBD, yaitu diatom pennate, diatom sentrik, dinoflagellata, alga unisel dan alga koloni. Pada IM dan MBD dinoflagellata memiliki cacah jenis yang dominan. Akan tetapi, cacah individu pada IM didominasi oleh diatom sentrik yaitu *Thalassiosira subtilis* mencapai 4232 individu dan pada MBD didominasi oleh *Ceratium trichoceros* mencapai 752 individu. Hal ini menunjukkan bahwa perairan ini subur. Presentase cacah individu pada Stasiun 2 jeluk permukaan tertinggi pada IM yaitu alga koloni yaitu *Merismopedia punctata* yang mencapai 74%, sebanyak 32 individu pada jeluk permukaan.

Kata Kunci: *upwelling*, monsoon, intermoonson, *marine phytoplankton*, diatom, *ceratium*

**DISTRIBUTION AND ABUNDANCE OF PHYTOPLANKTON
COMMUNITY IN MALACCA STRAIT,
LHOKSEUMAWE, ACEH**

ABSTRACT

This research studied about distribution and abundance of phytoplankton community spatially and temporally in fishing area in Malacca Strait, Lhokseumawe, Aceh. Phytoplankton status information in Malacca Strait until now is only about klorofil-a, whereas the information about its species richness and distribution is not documented yet. This research was conducted in two different seasons: in April 13-17th in IM season and in June 1-4th in MBD season. There was 3 location of sampling area in each season, Station 1, 2, and 3, with each distance about 3,54; 4,27; and 4,67 mill from seashore line. Sample data of each station were taken vertically in five different depths in water column, with five repetitions in each depth. In each station, 201 water samples were taken using modification water sampler Van Dorn 5 liter in 5 depth points with 5 repetitions in each point. Sample then filtered using Wisconsin plankton net 125 μ m mesh until get 10 cc filtrate. Member of individual in each sample was counted by Total Strip Counting method using Sedgewick Rafter Counting Chamber. Data were tabulated to functional group. Analysis data used Sorensen similarity analysis and Ordination of Bray & Curtis to study distribution of phytoplankton. Physico-chemical parameters of water were measured, that include salinity, pH, temperature, DO, NO₃ and PO₄. There are 5 functional groups of phytoplankton community in water column both IM and MBD seasons, those were pennate diatoms, centric diatoms, dinoflagellates, unisel algae, and colony algae. In IM and MBD, Dinoflagellates were the dominant member of species, but the dominant member of individual in IM dominated by centric diatom, *Thalassiosira subtilis* reach 4232 individuals and dominant member of individual in MBD dominated by *Ceratium trichoceros* reach 752 individuals. This showed that Malacca Strait, Lhokseumawe, Aceh is the fertile waters. Member of individual in Station 2, in the top surface depth, was dominated by colony algae *Merismopedia punctata* 74%, reach 32 individuals in the surface depth.

Key word: upwelling, monsoon, marine plankton, diatom, vertical distribution, ceratium