

KEMELIMPAHAN KOMUNITAS FITOPLANKTON TAMBAK TRADISIONAL DI EKOSISTEM HUTAN BAKAU RUSAK SEGARA ANAKAN CILACAP

oleh:
Siti Rokhanah
15/381905/BI/09544

INTISARI

Penelitian ini mempelajari kemelimpahan komunitas fitoplankton di tambak tradisional satu pintu air di hutan bakau rusak Alas Joyo Segara Anakan. Tambak berbentuk bujursangkar berukuran 200mx200m, lebar caren (*canal*) 3m dan terdapat plataran. Tambak terletak di lahan *land-clearing* tahun 1997 yang ditinggal sebagai hutan bakau rusak, yang dikoloni oleh semak dan liana bakau, *Achantus illicifolius* dan *Derrys heterophylla*. Penelitian dilakukan pada musim hujan. Plataran tambak ditanam *seedling* padi, dan di caren dipelihara tilapia (*Oriochromis niloticus*). Lokasi kajian adalah perairan caren selatan, caren utara, kali *inflow* selatan dan kali *inflow* utara. Pada setiap lokasi sampling, sampel air komposit dicuplik menggunakan modifikasi Van Dorn 5 liter sebanyak 20 liter dengan ulangan 5 kali. Sample plankton disaring menggunakan Wisconsin Plankton-Net berukuran 120 mesh. Parameter fisik-kimia yang diukur: salinitas, turbiditas, suhu air, *Secchi* depth, DO, pH air, dan nutrien, NH₄, NO₃-N, PO₄, dan SO₄. Hasil menunjukkan ada 6 fungsional grup komunitas fitoplankton: diatom centric, diatom pennate, algae unisel, algae koloni, algae filamen, dan dinoflagellata. Cacah spesies hadir sebanyak 35, cacah individunya bervariasi 1-1609 per 100 liter. Kehadiran *Aphanocapsa pulchra* di perairan caren dan di kali *inflow* bervariasi di antara 1073-1609 cacah individu per 100 liter. Densitas spesies sangat rendah, kecuali *A. pulchra* merespon kandungan hara hara rendah. Perairan tambak dan kali *inflow* komunitas fitoplankton sangat miskin. Kandungan salinitas perairan bervariasi 2-5‰. Komunitasnya didominasi spesies fitoplankton perairan tawar. Spesies alga yang termasuk dalam cyanobacteria berpotensi menjadi HABs, yaitu alga yang berfilamen dan berkoloni serta melimpah pada musim kemarau.

Kata kunci: alga koloni, alga filamen, cyanobacteria, *Aphanocapsa pulchra*,

THE ABUNDANCE OF PHYTOPLANKTON COMMUNITY IN THE DISTURBED MANGROVE FOREST ECOSYSTEM OF SEGARA ANAKAN CILACAP

by:
Siti Rokhanah
15/38905/BI/09544

ABSTRACT

This research studied the abundance of phytoplankton community in a traditional one-sluice pond in the disturbed mangrove forest of Alas Joyo Segara Anakan. The pond size was 200mx200m, 3m wide caren (canal) and a plataran. The ponds were located on land clearing land in 1997 that was left behind as disturbed mangrove forests, colonized by mangrove shrubs and lianas, *Achantus illicifolius* and *Derrys heterophylla*. The research was conducted during the rainy season. Plataran ponds were planted with rice seedlings, and tilapia (*Oriochromis niloticus*) were grown in caren. The study locations were the waters of southern-canal, northern-canal, southern inflow, and northern inflow. The composite water sample was sampled at each sampling location using a 5 liter Van Dorn modification of 20 liters with five replicated. Plankton samples were filtered using the Wisconsin Plankton-Net 120 mesh. Physico-chemical parameters measured: salinity, turbidity, water temperature, Secchi depth, DO, water pH, and nutrients, NH₄, NO₃-N, PO₄, and SO₄. The results show six functional groups of phytoplankton community: diatom centric, pennate diatom, unicellal algae, colony algae, filamentous algae, and dinoflagellates. The number of spesies was present as many as 35, the number of individual varied from 1-1609 per 100 liters. The presence of *Aphanocapsa pulchra* in caren waters and the inflow river varied between 1073-1609 individual per 100 liters. The density of the species was inferior, except for *A. pulchra* that responds to low nutrients. Pond waters and phytoplankton community inflow river are abysmal. The salinity varied from 2-5 ‰. Freshwater phytoplankton species dominated the phytoplankton community. Algae species included in cyanobacteria can become HABs, which are algae that are filamentous and colonized, and abundant in the dry season.

Key words: colonial algae, filamentous algae, cyanobacteria, *Aphanocapsa pulchra*,