

**KEANEKARAGAMAN SPESIES DAN HUBUNGAN KEKERABATAN
FENETIK MAKROALGA LAUT ANGGOTA GRACILARIACEAE
BERDASARKAN ANALISIS TAKSONOMI NUMERIK
MENGGUNAKAN KARAKTER MORFOLOGIS, ANATOMIS, DAN
FITOKIMIA**

Adinda Nur Anisa

17/408619/BI/09750

INTISARI

Gracilariaceae merupakan salah satu famili makroalga divisi Rhodophyta yang banyak ditemukan di perairan tropis termasuk di Pantai Selatan Gunungkidul D.I.Yogyakarta. Pantai Selatan Gunungkidul dengan substrat yang didominasi oleh karang dan pasir menjadi tempat hidup ideal bagi makroalga Gracilariaceae. Penelitian dilakukan bertujuan untuk mengetahui keanekaragaman spesies dan hubungan kekerabatan fenetik makroalga anggota Gracilariaceae dari Pantai Selatan Gunungkidul, serta karakter penentu pola klastering. Pengambilan sampel makroalga dengan metode survei jelajah, selanjutnya dilakukan identifikasi, karakterisasi morfologis, anatomis, dan fitokimia di laboratorium. Analisis klastering dan analisis ordinasasi PCA (*Principal Component Analysis*) menggunakan *software* MVSP 3.1. Hasil penelitian ditemukan 5 spesies makroalga anggota Gracilariaceae yaitu *Gracilaria fergusonii*, *Gracilaria edulis*, *Gracilaria salicornia*, *Gracilaria canaliculata*, and *Gracilaria verrucosa*. Analisis hubungan kekerabatan fenetik berdasarkan karakter morfologis, anatomis, dan kandungan fitokimia dihasilkan 2 klaster utama, dan 2 sub-klaster. Karakter penentu pola klastering yaitu bentuk *holdfast*, ujung talus, tekstur permukaan talus, keberadaan segmentasi dan buku-buku pada talus, keberadaan sel korteks, kandungan fukosantin, keberadaan dan karakter sistokarp, serta karakter substrat.

Kata kunci : Gracilariaceae, Gunungkidul, Keanekaragaman, Fenetik, Klastering, PCA

**SPECIES DIVERSITY AND PHENETIC RELATIONSHIPS OF MARINE
MACROALGAE GRACILARIACEAE BASED ON NUMERICAL
TAXONOMY ANALYSIS USING MORPHOLOGICAL, ANATOMICAL,
AND PHYTOCHEMICAL CHARACTERS**

Adinda Nur Anisa

17/408619/BI/09750

ABSTRACT

Gracilariaceae is a macroalgal family of Rhodophyta which can be found abundantly in tropical waters, including in Southern Coasts of Gunungkidul D.I.Yogyakarta. Southern Coasts Gunungkidul beach that is dominated by coral and sand is an ideal habitat for Gracilariaceae. The aim of this study was to determine species diversity and phenetic relationships of macroalgae Gracilariaceae in Southern Coasts of Gunungkidul, including to define principal characters that influence clustering patterns. Field sampling of macroalgae was done by survey method, followed by identification, characterization of morphological, anatomical, and phytochemical characters in laboratory. Clustering analysis and ordination by Principal Component Analysis were computed using MVSP 3.1 software. This study found five species of macroalgae Gracilariaceae, i.e *Gracilaria fergusonii*, *Gracilaria edulis*, *Gracilaria salicornia*, *Gracilaria canaliculata*, and *Gracilaria verrucosa*. Analysis of phenetic relationships based on morphological, anatomical, and phytochemical characters resulted two main clusters and two sub-clusters. Characteristics that determine clustering pattern are shape of holdfast, tip of thallus, surface texture of thallus, the presence of segmentation and nodes in thallus, the presence of cortical cells, the content of fucoxanthin, the presence and character of cystocarp, and character of substrate.

Keywords: Gracilariaceae, Gunungkidul, Diversity, Phenetic, Clustering, PCA