

Intisari

Karakteristik Morfometrik, Meristik, dan Identifikasi Molekuler Layang Biru (*Decapterus macarellus* Cuvier, 1833) di Perairan Selatan Daerah Istimewa Yogyakarta

Identifikasi spesies ikan merupakan salah satu aspek penting dalam pengelolaan sumberdaya perikanan. Penelitian ini bertujuan untuk menentukan jenis ikan layang di perairan selatan Daerah Istimewa Yogyakarta secara morfologi dan molekuler. Ikan layang diperoleh dari hasil tangkapan nelayan di Pelabuhan Perikanan Pantai Sadeng pada bulan November hingga Desember 2024 sebanyak 213 ekor. Identifikasi morfologi dilakukan dengan pengukuran 23 *truss morphometric* dan 6 karakteristik meristik. Analisis karakteristik morfometrik dilakukan menggunakan metode *Principal Component Analysis* (PCA) dan analisis karakteristik meristik dilakukan dengan membandingkan hasil penghitungan dengan pustaka. Identifikasi molekuler ikan layang dilakukan dengan metode DNA *barcoding* dengan target primer gen *Cytochrome Oxidase Sub Unit 1* (COX1). Hasil penelitian secara morfologi dan molekuler menunjukkan bahwa jenis ikan layang di perairan selatan Daerah Istimewa Yogyakarta adalah ikan layang biru (*Decapterus macarellus*). Analisis PCA terhadap 23 karakteristik *truss* morfometrik menunjukkan bahwa karakteristik utama yang berpengaruh terhadap keragaman *D. macarellus* yaitu jarak sirip dorsal kedua bagian depan dengan sirip anal bagian belakang, jarak sirip dorsal kedua bagian belakang dengan sirip anal bagian belakang, jarak akhir tulang kepala dengan sirip dorsal pertama, jarak sirip dorsal kedua bagian belakang dengan anal *finlet* bagian atas, jarak antara ujung mulut dengan akhir tulang kepala, serta jarak anal *finlet* bagian atas dengan anal *finlet* bagian bawah. Karakteristik meristik layang biru di perairan selatan Daerah Istimewa Yogyakarta memiliki rumus sirip D1.VIII; D2.I-II.22-31; A.III.21-27, dan rumus sisik SCL.21-74; SSL.15-44; dan SCP.20-35. Identifikasi molekuler menunjukkan bahwa sampel memiliki kekerabatan dekat dengan populasi *D. macarellus* di perairan Laut Cina Selatan.

Kata kunci: COX1, *D. macarellus*, identifikasi, morfologi, *truss morphometric*

Abstract

Morphometric, Meristic Characters, and Molecular Identification of Blue Mackerel Scad (*Decapterus macarellus* Cuvier 1833) in the Southern Waters of Special Region of Yogyakarta

Identifying fish species is an important aspect in managing fisheries resource. This study aims to determine the species of mackerel in the Southern waters of Special Region of Yogyakarta morphologically and molecularly. Mackerel was obtained from fishermen's catches at Sadeng Beach Fishing Port from November to December 2024—as many as 213 mackerel. Morphological identification was carried out by measuring 23 morphometric trusses and 6 meristic characters. Morphometric character analysis was carried out by using the Principal Component Analysis (PCA) method, and meristic character analysis was carried out by comparing the measurement results with the literatures. Molecular identification of mackerel was carried out by using the DNA barcoding method with the primary target Cytochrome Oxidase Subunit 1 (COX1) gene. The results of the morphological and molecular research indicated that the type of mackerel in the Southern waters of Special Region of Yogyakarta is blue mackerel (*Decapterus macarellus*). PCA analysis of 23 truss morphometric characters showed that the main characters that influenced the diversity of *D. macarellus* were the distance between the second front dorsal fin and the rear anal fin, the distance between the second rear dorsal fin and the rear anal fin, the distance between the end of the head bone and the first dorsal fin, the distance between the second rear dorsal fin and the upper anal finlet, the distance between the tip of the mouth and the end of the head bone, and the distance between the upper anal finlet and the lower anal finlet. The meristic characters of the blue scad in the Southern waters of Daerah Istimewa Yogyakarta have the fin formula D1.VIII; D2.I-II.22-31; A.III.21-27; SCL. 21-74; SSL. 15-44; and SCP. 20-35. Molecular identification shows that the samples are closely related to the *D. macarellus* population in the South China Sea waters.

Keywords: COX1, *D. macarellus*, identification, morphology, truss morphometric