INTISARI

KARAKTER MORFOLOGI DAN VARIASI GENETIK CUMI-CUMI LOLIGINIDAE (*Uroteuthis chinensis* Gray, 1849) DI PERAIRAN PANTAI UTARA JAWA TENGAH

Penelitian ini bertujuan untuk mengidentifikasi karakter morfologi dan variasi genetik cumi-cumi *Uroteuthis chinensis* di perairan Pantai Utara Jawa Tengah, khususnya di Kabupaten Rembang dan Tegal. Sebanyak 224 sampel dianalisis berdasarkan 19 karakter morfometrik, dua karakter meristik, dan penanda genetik COI (*Cytochrome c Oxidase subunit I*). *Principal Component Analysis* (PCA) menunjukkan bahwa karakter panjang sirip kiri, panjang mantel, dan lebar kepala berkontribusi signifikan dalam membedakan morfologi antar lokasi. *Scattergram* PCA *U. chinensis* dari Rembang dan Tegal cenderung saling tumpang tindih menunjukkan kemiripan karakter morfometrik. Karakter meristik menunjukkan jumlah gigi pada cincin penghisap di lengan ketiga dan tentakel cenderung sama di kedua lokasi dengan sedikit variasi. Analisis hubungan karakter morfometrik menunjukkan bahwa panjang mantel berkorelasi kuat terhadap pertumbuhan panjang sirip. Identifikasi molekuler berdasarkan sekuens gen COI menunjukkan bahwa semua sampel memiliki kemiripan tinggi (≥98%) dengan sekuens *U. chinensis* referensi dari Vietnam dan Malaysia. Sampel *U. chinensis* dari Rembang dan Tegal memiliki nilai jarak genetik yang rendah dan tergabung dalam klad yang sama pada pohon filogenetik bersama sekuens referensi dari perairan Indo-Pasifik Barat. Hasil ini menunjukkan bahwa *U. chinensis* di kedua lokasi kemungkinan berasal dari stok populasi yang sama. Studi ini memberikan dasar penting bagi pengelolaan sumber daya cumi-cumi secara berkelanjutan di perairan Pantai Utara Jawa Tengah.

Kata kunci: Cephalopoda, DNA *barcoding*, filogenetik, identifikasi stok, morfometrik

ABSTRACT

MORPHOLOGICAL CHARACTERS AND GENETIC VARIATION OF LOLIGINID SQUID (*Uroteuthis chinensis* Gray, 1849) IN THE NORTHERN COASTAL WATERS OF CENTRAL JAVA

This study aims to identify the morphological characteristics and genetic variation of the squid *Uroteuthis chinensis* in the northern coastal waters of Central Java, particularly in Rembang and Tegal Regencies. A total of 224 samples were analyzed based on 19 morphometric characters, two meristic characters, and the COI (Cytochrome c Oxidase subunit I) genetic marker. Principal Component Analysis (PCA) revealed that left fin length, mantle length, and head width contributed significantly to differentiating the morphology between locations. The PCA scattergram of *U. chinensis* from Rembang and Tegal showed considerable overlap, indicating similarity in morphometric characteristics. The meristic characters showed that the number of teeth on the sucker rings of the arm III and tentacle was generally consistent between the two locations, with slight variation. The analysis of morphometric character relationships demonstrated that mantle length was strongly correlated with fin length growth. Molecular identification based on COI gene sequences indicated that all samples shared a high similarity (≥98%) with reference *U. chinensis* sequences from Vietnam and Malaysia. The *U. chinensis* samples from Rembang and Tegal exhibited low genetic distance values and clustered within the same clade as reference sequences from the western Indo-Pacific waters on the phylogenetic tree. These results suggest that *U. chinensis* in both regions likely originate from the same stock population. This study provides an important basis for the sustainable management of squid resources in the northern coastal waters of Central Java.

Keywords: Cephalopoda, DNA barcoding, morphometric, phylogenetic, stock identification