

ABSTRACT

Tegar Adji Pradipta. 24020122130085. Morphological Characterization of *Nerita* Linnaeus, 1758 and Molecular Phylogenetic Analysis of *Nerita undulata* from the Karimunjawa Region. Laboratory of Ecology and Biosystematics, Biology Program, Department of Biology, Faculty of Science and Mathematics, Diponegoro University. Under the guidance of Mr. Sapto Purnomo Putro and Ms. Anggiresti Kinasih

The genus *Nerita* comprises a group of intertidal gastropods that play an important ecological role as herbivores in coastal ecosystems. However, morphological-based species identification often faces challenges due to shell shape similarity and the presence of cryptic species. This study aims to identify *Nerita* species from the Karimunjawa region based on morphological and molecular characteristics and to analyze their phylogenetic relationships using the COI (cytochrome c oxidase subunit 1) gene marker. Gastropod samples were collected from two stations in Karimunjawa, identified morphologically using a stereo microscope, and analyzed molecularly through the construction of a phylogenetic tree. The results of the study show that a total of 8 species belonging to the genus *Nerita* were found. Sample TAP08 was identified as *Nerita undulata* with a sequence similarity of 99.68% and a genetic distance of 0.002–0.005 compared to reference sequences from the USA and Malaysia. The Maximum Likelihood phylogenetic tree with 1,000 bootstrap replicates grouped TAP08 into a single clade with *Nerita undulata*. Haplotype network analysis showed that TAP08 belongs to Hap 21. The conclusion of this study is that eight *Nerita* species were found at stations 1 and 2, and TAP08 was identified as *Nerita undulata* based on morphological and molecular analyses.

Keyword : *gastropod, nerita, morphological, molecular, COI*