

RINGKASAN

Teritip spons ditemukan hampir di seluruh perairan di dunia termasuk Indonesia, salah satunya adalah perairan kepulauan karimunjawa. Sistem klasifikasi atau taksonomi dari teritip spons telah beberapa kali mengalami perubahan atau revisi sehingga perlu dilakukan penelitian untuk identifikasi lebih lanjut baik untuk memvalidasi status taksonomi organisme tersebut. Penelitian dimulai dengan proses koleksi spesimen teritip spons dan spons inangnya pada enam titik lokasi mengelilingi area kepulauan Karimunjawa selama 4 hari. Spesimen-spesimen teritip yang telah ditemukan kemudian dilakukan proses identifikasi morfologi dan divalidasi kembali melalui proses identifikasi molekuler. Identifikasi dilakukan berdasarkan perbedaan struktur cangkang dan operculum plate dari setiap spesies. Hasil identifikasi morfologi mendapatkan ada tiga jenis atau spesies berbeda yaitu *Membranobalanus longirostrum*, *Acasta coriolis*, dan *Acasta fenestrata*. Identifikasi dilanjutkan dengan melakukan ekstraksi DNA dari jaringan setiap spesimen untuk kemudian dilakukan amplifikasi DNA dengan proses Polymerase Chain Reaction (PCR) menggunakan marka genetik cytochrome oxidase subunit I (CO1). Data sekuen DNA dari proses identifikasi molekuler kemudian akan digunakan untuk merekonstruksi pohon filogenetik dari setiap spesimen tersebut. Hasil identifikasi molekuler mendapatkan bahwa ketiga spesimen tersebut merupakan tiga spesies berbeda. Adanya permasalahan kolektifitas referensi sekuen spesie-spesies teritip spons dalam data GenBank dan masalah kontaminasi pada proses identifikasi genetik menyebabkan hanya satu jenis teritip spons yang berhasil teridentifikasi identitas spesiesnya yaitu spesies *Acasta fenestrata*. Spesimen yang diduga *Membranobalanus longirostrum* tervalidasi merupakan spesimen dari Genus *Membranobalanus* dan spesimen yang diduga *Acasta coriolis* masih belum tervalidasi karena adanya kemungkinan kontaminasi saat proses identifikasi dan sekuen DNA dari spesies tersebut juga belum terdaftar dalam data GenBank.

Kata kunci: Taksonomi, Teritip spons, Identifikasi morfologi, Identifikasi molekuler

SUMMARY

Sponge barnacles are found in almost all waters in the world, including Indonesia, one of which is the waters of the Karimunjawa Islands. The classification or taxonomy system of sponge barnacles has undergone several changes or revisions, so that research needs to be carried out for further identification to validate the taxonomic status of these organisms. The research began with the process of collecting specimens of sponge barnacles and their host sponges at six locations around the Karimunjawa Islands area for 4 days. The barnacle specimens that were found will be subjected to a morphological identification process and revalidated through a molecular identification process. Identification is carried out based on differences in the shell structure and operculum plate of each species. The results of morphological identification showed that there were three different types or species, namely *Membranobalanus longirostrum*, *Acasta coriolis*, and *Acasta fenestrata*. Identification is continued by extracting DNA from the tissue of each specimen and then amplifying the DNA using the Polymerase Chain Reaction (PCR) process using the genetic marker cytochrome oxidase subunit I (CO1). DNA sequence data from the molecular identification process will then be used to reconstruct a phylogenetic tree for each specimen. The results of molecular identification showed that the three specimens belonged to three different species. The problem of collective reference sequences for sponge barnacle species in GenBank data and contamination problems in the genetic identification process resulted in only one type of sponge barnacle whose species identity was successfully identified, namely *Acasta fenestrata*. The specimen suspected to be *Membranobalanus longirostrum* has been validated as a specimen from the Genus *Membranobalanus* and the specimen suspected to be *Acasta coriolis* has not yet been validated due to the possibility of contamination during the identification process and the DNA sequence of this species has not been registered in GenBank data.

Keyword: Taxonomy, Spons barnacle, Morphologycal identification, Molecular identification.