

RINGKASAN

Kajian mengenai dinoflagellata di Indonesia masih belum banyak dilakukan, meskipun kelompok mikroalga ini memiliki fungsi ekologis yang penting dan beberapa spesiesnya berpotensi berbahaya. Beberapa spesies dari dinoflagellata bentik, dikenal sebagai penyebab blooming dan penghasil racun yang dapat berdampak buruk bagi kesehatan, baik kehidupan organisme laut lainnya dan juga manusia. antara lain *Neurotoxic Shellfish Poisoning* (NSP), *Azaspiracid Poisoning* (AZP), *Diarrhetic Shellfish Poisoning* (DSP), *Paralytic Shellfish Poisoning* (PSP), dan *Ciguatera Fish Poisoning* (CSP). Mengingat ancaman yang dapat ditimbulkan, maka dilakukan penelitian dengan tujuan untuk mengetahui spesies dinoflagellata bentik yang berpotensi berbahaya di Karimunjawa berdasarkan identifikasi karakter morfologi.

Penelitian ini menggunakan metode eksplorasi dengan teknik pengambilan sampel *purposive sampling*. Sampel diambil dari empat pantai di Pulau Karimunjawa, yaitu Pantai Alang-Alang, Pantai Legon Lele, Pantai Nirwana, dan Pantai Tanjung Gelam. Pengamatan mikroskopis dan identifikasi dilaksanakan di Laboratorium Teknologi Pasca Panen Peternakan, Gedung *Integrated Academic Building* (IAB), sedangkan validasi spesies dinoflagellata dilaksanakan di Laboratorium Fikologi, Pusat Riset Biosistemika dan Evolusi, Badan Riset dan Inovasi Nasional. Komposisi spesies dinoflagellata bentik yang berpotensi berbahaya sebagai variabel. Parameter yang diamati yaitu spesies dinoflagellata bentik dan karakter morfologi tiap spesies, yaitu bentuk, warna, ukuran sel, dan asesori. Kemudian, karakter morfologi dan spesies yang berpotensi berbahaya dicocokkan dengan beberapa literatur dan dianalisis secara deskriptif naratif.

Hasil identifikasi morfologi didapatkan 10 spesies dinoflagellata bentik di Karimunjawa yaitu *Blixaea quinquecornis*, *Heterocapsa psammophilla*, *Bysmatrum caponii*, *Prorocentrum arenarium*, *P. hoffmannianum*, *P. lima*, *P. rhathymum*, *Sinophysis canaliculata*, *S. microcephalus*, dan *Vulcanodinium rugosum*. Komposisi paling banyak genus *Prorocentrum* (40%), diikuti genus *Sinophysis* (20%), dan genus *Blixaea*, *Bysmatrum*, *Heterocapsa*, *Vulcanodinium* masing-masing 10%. Dinoflagellata bentik yang berpotensi berbahaya sebanyak 7 spesies yaitu *Blixaea quinquecornis* dan *Bysmatrum caponii* sebagai spesies penyebab *blooming* pada perairan, sedangkan *Prorocentrum arenarium*, *P. hoffmannianum*, *P. lima*, *P. rhathymum*, dan *Vulcanodinium rugosum* sebagai spesies penghasil racun. Karakter morfologi diamati berdasarkan bentuk sel, warna, ukuran, dan kehadiran asesori di tiap spesies.

Kata Kunci: Alga berbahaya, dinoflagellata bentik, Karimunjawa, morfologis

SUMMARY

There are few studies on dinoflagellates in Indonesia, even though this group has important ecological functions and some of its species are potentially harmful. Several species of benthic dinoflagellates, known as blooms and toxin producers, can hurt the health of other marine organisms and humans, including Neurotoxic Shellfish Poisoning (NSP), Azaspiracid Poisoning (AZP), Diarrhetic Shellfish Poisoning (DSP), Paralytic Shellfish Poisoning (PSP), and Ciguatera Fish Poisoning (CSP). Considering the threats that could be posed, research was carried out to identify potentially harmful benthic dinoflagellate species in Karimunjawa based on identifying morphological characters.

This research uses an explorative method with a purposive sampling technique. Samples were taken from four Karimunjawa Island beaches: Alang-Alang Beach, Legon Lele Beach, Nirwana Beach, and Tanjung Gelam Beach. Microscopic observations and identification were conducted at the Livestock Post-Harvest Technology Laboratory, Integrated Academic Building (IAB). In contrast, dinoflagellate species were validated at the Phycology Laboratory, Biosystematics and Evolution Research Center, National Research and Innovation Agency. The variable in this study are composition of harmful benthic dinoflagellates. The parameters will be observed are benthic dinoflagellate species and the morphological characters of each species, including cell shape, color, cell size, and accessories. Then, morphological characteristics and potentially harmful species were compared with several kinds of literature and analyzed with narrative descriptions.

Based on morphological identification, 10 species of benthic dinoflagellates were obtained, namely *Blixaea quinquecornis*, *Heterocapsa psammophilla*, *Bysmatrum caponii*, *Prorocentrum arenarium*, *P. hoffmannianum*, *P. lima*, *P. rhathymum*, *Sinophysis canaliculata*, *S. microcephalus*, and *Vulcanodinium rugosum*. The genus composition with the highest percentage of species is *Prorocentrum* (40%), followed by the genus *Sinophysis* (20%), and the genera *Blixaea*, *Bysmatrum*, *Heterocapsa*, and *Vulcanodinium* each with 10%. There are 7 potentially harmful benthic dinoflagellates species, namely *Blixaea quinquecornis* and *Bysmatrum caponii* as species that cause blooms in waters. At the same time, *Prorocentrum arenarium*, *P. hoffmannianum*, *P. Lima*, *P. rhathymum*, and *Vulcanodinium rugosum* are toxin producers. Morphological characters were observed based on cell shape, colour, size, and the presence of accessories in each species.

Keywords: *Benthic dinoflagellates, harmful algae, Karimunjawa, morphological characteristics*