

Keragaman genetik udang mantis di perairan Pelabuhan Ratu dan Cirebon berdasarkan analisis karakter morfologi dan DNA Barcoding = Genetic diversity of mantis shrimps in the Pelabuhan Ratu and Cirebon waters based on morphological characters and DNA barcoding analysis

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Abstrak

Penelitian keragaman genetik udang mantis di Perairan Pelabuhan ratu dan Cirebon telah dilakukan pada bulan Februari ndash; November 2016. Penelitian ini bertujuan untuk mengetahui keragaman genetik udang mantis di perairan Pelabuhan ratu dan Cirebon. Identifikasi udang mantis menggunakan karakter morfologi dan DNA barcoding dengan menggunakan Cytochrome oksidase sub unit I COI . Analisis karakter morfologi menggunakan software PAST v.3.14 Paleontological Statistics dengan metode cluster. Rekonstruksi pohon filogenetik menggunakan software MEGA 6 dengan metode Neighbour Joining berdasarkan model Tamura-3 paramater dengan bootstrap 1000 kali. Hasil penelitian menunjukkan bahwa stomatopoda yang ditemukan dari lokasi pengambilan sampel terdiri atas Harpiosquilla harpax, Oratosquilla oratoria, Oratosquillina gravieri dan Harpiosquilla annandalei. Rata-rata kelimpahan larva Stomatopoda di perairan Cirebon pada stasiun I, II, III dan IV masing-masing 0,047; 0,018; 0,003 dan 0,003 ind/m³ sedangkan larva di perairan Pelabuhan ratu hanya ditemukan di stasiun IV sebanyak 0,003 ind/m³. Hasil dendogram karakter morfometrik terdiri atas tiga kelompok, yaitu kelompok H. harpax Cirebon - H.harpax Pelabuhan ratu , kelompok O. oratoria-H. annandalei, dan kelompok O. gravieri. Kesamaan pada kelompok H. harpax dari Cirebon dan Pelabuhan ratu sebesar 94,5 sedangkan H. annandalei ndash; O.oratoria sebesar 92,5 . Hasil rekonstruksi filogenetik yang dibentuk berdasarkan sekuen yang sudah dicocokkan pada Gene bank yaitu terdiri atas 2 genus yaitu Harpiosquilla dan Oratosquilla.

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The study of genetic diversity mantis shrimp in the Pelabuhan Ratu and Cirebon waters was conducted in February November 2016. This study aimed to determine the genetic diversity of the mantis shrimp in the Pelabuhan Ratu and Cirebon waters. Mantis shrimp was identified using morphological characters and DNA barcoding used Cytochrome Oxidase subunit I COI . Analysis character morphological were done using PAST software v.3.14 Paleontological Statistics cluster method. Reconstruction of the phylogenetic tree used MEGA software 6 with Neighbour Joining method based on the model of Tamura 3 parameters by bootstrapping 1000 times. The results showed that stomatopods found from sampling sites consist of Harpiosquilla harpax, Oratosquilla oratoria, Oratosquillina gravieri and Harpiosquilla annandalei. The average abundance of larvae stomatopoda were found in Cirebon waters at station I, II, III and IV 0,047 0,018 0.003 and 0.003 ind m³, respectively, while in the Pelabuhan ratu water fourth station were found as much as 0,003 ind m³. Dendogram of morphometric character consists of three groups, namely H. harpax Cirebon H. harpax Pelabuhan ratu , O. Oratoria H. annandalei group, and the group O. gravieri. Similarities were found H.harpax group of Cirebon and Pelabuhan Ratu as much as 94.5 while H. annandalei O. oratoria was 92.5 . The results of phylogenetic reconstruction were formed by sequences that have been matched in the Gene bank which consists of two genera, Harpiosquilla and Oratosquilla.