

UNIVERSITI TEKNOLOGI MARA

**GENETIC IDENTIFICATION OF
Amphibalanus amphitrite (Darwin, 1854)
FROM BAGAN PASIR AND PASIR
PENAMBANG, KUALA SELANGOR**

NURUL NASUHA BINTI ROSEMAN

MSc

March 2019

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ABSTRACT

Barnacle is a marine sessile crustacean that inhabits the intertidal areas of tropical and temperate waters worldwide. Barnacles in family Balanidae belongs to superorder Thoracica and they consist of acorn barnacles and stalkless barnacles. In Malaysia, only a few studies have been done on barnacles in family Balanidae. In this present study, the molecular identification (16S rDNA) of barnacles in family Balanidae from Bagan Pasir and Pasir Penambang were investigated. Molecular identification is more accurate and faster compared to morphological classification as the morphology of the barnacles might differ due to geographical isolation. The objectives of this study were to assess the genetic information of barnacles in family Balanidae and to identify the specific species of barnacles in family Balanidae based on 16S rDNA identification. Four samples from Bagan Pasir and three samples from Pasir Penambang were studied to identify the specific species of the barnacles. The mitochondrial 16S molecular marker was used to identify the species and 500 bp band was observed on 1.5% agarose gel electrophoresis gel. The results showed that only *Amphibalanus amphitrite* (Darwin, 1854) was identified from both sampling sites. The phylogenetic tree constructed also stated that all the samples were identified as *A.amphitrite* (Darwin, 1854) and they were clustered in one clade. However, one sample from Bagan Pasir showed some difference in their DNA sequence as it was located at a different node from the other samples under the same cluster. In future, the molecular identification of the barnacles could have been done by using other molecular marker such as 12S rDNA, COI and the nuclear molecular marker 18S rDNA. The sampling site should also include other places in Selangor coast as to obtain different species of barnacles.

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