

Flora of Seaweeds and the Preliminary Screening of the Fungal Endophytes

Authors : Nur Farah Ain Zainee, Ahmad Ismail, Nazlina Ibrahim, Asmida Ismail

Abstract : Seaweeds are economically important as they have the potential of being utilized, the capabilities and opportunities for further expansion as well as the availability of other species for future development. Hence, research on the diversity and distribution of seaweeds have to be expanded whilst the seaweeds are one of the Malaysian marine valuable heritage. The study on the distribution of seaweeds at Pengerang, Johor was carried out between February and November 2015 at Kampung Jawa Darat and Kampung Sungai Buntu. The study sites are located at the south-southeast of Peninsular Malaysia where the Petronas Refinery and Petrochemicals Integrated Project Development (RAPID) are in progress. In future, the richness of seaweeds in Pengerang will vanish soon due to the loss of habitat prior to RAPID project. The research was completed to study the diversity of seaweed and to determine the present of fungal endophyte isolated from the seaweed. The sample was calculated by using quadrat with 25-meter line transect by 3 replication for each site. The specimen were preserved, identified, processed in the laboratory and kept as herbarium specimen in Algae Herbarium, Universiti Kebangsaan Malaysia. The complete thallus specimens for fungal endophyte screening were chosen meticulously, transferred into sterile zip-lock plastic bag and kept in the freezer for further process. A total of 29 species has been identified including 12 species of Chlorophyta, 2 species of Phaeophyta and 14 species of Rhodophyta. From February to November 2015, the number of species highly varied and there was a significant change in community structure of seaweeds. Kampung Sungai Buntu shows the highest diversity throughout the study compared to Kampung Jawa Darat. This evidence can be related to the high habitat preference such as types of shores which is rocky, sandy and having lagoon and bay. These can enhance the existence of the seaweeds community due to variations of the habitat. Eighteen seaweed species were selected and screened for the capability presence of fungal endophyte; *Sargassum polycystum* marked having the highest number of fungal endophyte compared to the other species. These evidence has proved the seaweed have capable of accommodating a lot of species of fungal endophytes. Thus, these evidence leads to positive consequences where further research should be employed.

Keywords : diversity, fungal endophyte, macroalgae, screening, seaweed

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