

A03. Observation on the biodiversity of sand-associated marine fungi from East and West Coast of Peninsular Malaysia

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The littoral region of coastal area contains high quantities of organic matters generated from trapped substrates. These environments create an ideal milieu for the development of fungal communities in the sand. Marine fungi spores being trapped in the sea foam settled on the sand grain and in turn the spores exploit the nutrient-rich sand grains. Driftwood settled on the beach floor is another source of nutrient exploitation important for marine fungal community development. Knowledge on distribution and biodiversity of arenicolous marine fungi are very limited. The current study extends our knowledge on the biodiversity and distribution of sand-associated marine fungi collected from sand-associated woody litters on beach floor and sand-embedded woody materials. The distribution and diversity of arenicolous marine fungi was evaluated from six littoral regions located on the east and west coast of Peninsular Malaysia. Samples of sand-embedded wood (buried less than 1 meter depth) and wood litter in contact with sand (on the beach surface) were collected on each of the study sites and deposited in polyethylene zip lock bag. After transported back to the laboratory, samples were incubated in sterilized damp chamber before being examined for the presence of fungal fruiting body. Early identification of marine fungi encountered was done by using macroscopic and microscopic observation of the ascomata, asci and spores presences. Isolation of arenicolous marine fungi was done and cultures were kept for further molecular investigation. Data recorded included species occurrence, relative abundance and frequency of occurrence. Statistical analysis was employed to evaluate and compare the diversity for each site (Shannon-Diversity Index, Evenness and Sorenson Similarity Index). Composition of marine fungi on woody materials collected on sandy beach surface was different with the community of marine fungi recorded from sand-embedded wood. Forty-three species of fungi (36 Ascomycota and 7 anamorphic fungi) were recorded from 308 wood collected on beach surfaces with the maximum species richness of 21 (Pantai Sepat and Bagan Lalang) and the lowest of 16 (Pantai Kelulut). Twelve species of marine fungi (11 Ascomycota and 1 anamorphic fungi) was recorded from 223 samples of sand-embedded wood in which one of them, *Corollospora fusca*, is a new record to Malaysia. Kijal Beach has the highest number of arenicolous fungi with eight species recorded and the lowest number of species recorded from a study site was six (Bagan Lalang). The investigation further revealed that the

similarity of species occurrence of marine fungi on wood collected at the surface and wood embedded in the sand was low, and only certain species (*Corollospora maritima*, *Corollospora pulchella*, *Trichocladium achrasporum*) occurred in both conditions. The study enhanced our knowledge of the understudied sand-associated marine fungi groups in Malaysia shorelines.