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CHAPTER 1

Sea Cucumbers – A Malaysian Heritage

The coasts of Malaysia (the Peninsula and East Malaysia), within the vicinity to coral triangle, Indonesia and part of the Sunda reef platform, is home to diverse marine life forms. In fact, Malaysia (Figure 1.1) is among the 12 tropical countries of the world with such myriad forms of fauna and flora (Mittermeier, 1988). According to Leveque and Mounolou (2003), mutation, natural selection and random genetic drift are the three main processes which result in species diversification. Notwithstanding that, we have until now except for fin fish, identified only a small portion of the various life forms found in the seas for use as food source, as décor or ornaments, tools for worship and rarely as a source of medicine and cure as this will usually be procured from terrestrial herbs and plants. Hence, marine exploitation is only expected to pick up when a decline in land resources due to overzealous development is sensed or when an alternative source of income is sought. Among the various aquatic life forms, the sea cucumber or holothuroid has currently emerged as an important international economic commodity due to its significance in food, medicinal or as nutritional supplement products (Bruckner, 2004). A significant portion is also used as medication by traditional medicine practitioners or as samples for biomedical research. In the latter area, the Malaysian government, under the auspices of The Ministry of Science, Technology and Innovation, has set up a biomedical research centre at Nilai, Negeri Sembilan in early 2006.

The sea cucumber is a marine invertebrate found in bentic areas (Henry, 1982) and deep seas (Reseck, 1979; Conand & Byrne, 1993). The sea cucumber forms 90% of the seabed biomass and thus is an important component in the marine ecosystem (Higgins, 2000). There is now more