Status, prospects and potentials of echinoid sea urchins in Malaysia

ABSTRACT

Among the bottom-dwelling invertebrates, sea urchins have been considered as the high-valued new marine bioresource in Asia. They inhabit the depths of coral reefs and rocky shores that are covered with coralline algae and seaweeds. They are usually spherical in shape, and their whole body is covered by numerous thorns or spines that act as defense mechanism against predators. The sea urchin gonad has been used as luxury food and folk medicine by the peoples of certain countries. For this reason, sea urchin became an important product and fetches high price in international markets. It also plays an important role towards providing employment opportunity and income source to the coastal communities in many Pacific island countries including Malaysia. Sea urchin gonad is very rich in essential proteins, lipids and bioactive compounds having profound nutraceutical and pharmaceutical importance. Nowadays, sea urchins have been harvested for trade with Asia and are perhaps one of the worthy exports from the Indo-Pacific islands. Unluckily, owing to increasing demand and prices, combined with the development of cash economies and growing coastal populations, it has led to extensive overfishing of the resource across much of this region, especially in Pulau Bum Bum near Semporna between Philippines and Eastern Malaysia. Nevertheless, some Pacific island countries have completed research trials on breeding, nursing and culture techniques, but such types of research works are yet to be completely explored and determined in Malaysia. In the recent years, undiscriminating catching and over-exploitation of sea urchin turns out to be excessive and disrupts its sustainability. Because of this prevalent situation, aquaculture of sea urchins through the appropriate breeding, seed production and culture techniques in captivity should be the best alternative to solve these problems in a worthwhile and sustainable manner.

Keyword: Sea urchin; Status; Prospects; Potential; Roe; Food; Medicine; Benefits