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DISTRIBUTION AND CONTROL OF THE MUD LOBSTER, THALASSINA ANOMALA (HERBST) IN CAREY ISLAND

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Thalassina anomala are widely distributed throughout the Pacific and Indian Oceans, wherever there are mangroves. The mud lobster is notorious for causing damage to earthen coastal protection or bunds by its burrowing activities. In Carey Island, coastal bunds were constructed in the early 90s to convert mangrove forest to agricultural lands. Each year millions of ringgit for bund repair and maintenance are spent for management of the plantation. The mud lobster population is being controlled by the chemical poisons, but such usage is considered as environmentally unfriendly. A study of mound distribution and abundance recorded 3,078 mud lobster mounds from 918 quadrats (100 x 25m) around the perimeter of the island. The mean density of mounds was 3.34 (± 10.38) per 100m length. 67.25% of the quadrats (602) did not contain any mud lobster mounds; 25% contained 1-10 mounds; 4.3% contained 11-20 mounds; and < 4% contained > 20 mounds. The distribution of mud lobster mounds of Carey Island do not occur randomly. Based on the number of active mounds, in the plantation, mud lobster population was estimated to be about 1,232. The number of mounds was highest on the water side zone (TW) (44%), followed by the bund bottom zone (B) (28%). It is believed that the water side (TW) zone is the first region of invasion by mud lobsters which penetrate through the bund before invading the landward side. The effectiveness of different vegetation cover in preventing the mud lobster invasion shows that a combination of Vertiver and Cyanodon dactylon grasses is the most effective method to control the invasion of mud lobsters. This control method uses both the technique of horizontal barrier and vertical obstruction.

HIGH TIDE FISH ASSEMBLAGES IN KUALA SELANGOR MUDFLAT

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Intertidal mudflats are generally revered as important component of estuaries providing feeding and nursery grounds for many fish species. However, there is very little knowledge of their role and functioning in tropical region. Here we study a dominant mudflat ecosystem at Kuala Selangor which is site to the largest cockle culture bed in Malaysia. Spatial and temporal assemblages of fish species at two sites: Bagan Sungai Buloh (SB) and Bagan Pasir (BP), covering dry and wet periods, were examined by enclosure trap samplings from September 2011 to November 2013 to evaluate their ecological role of these mudflats as feeding areas for coastal fishes. Environmental parameters were also measured to characterize the sites and periods. A total of 103 species and 45 families of fish were collected throughout the sampling periods. Based on canonical analysis of principal coordinates (CAP) ordination, site and period of study were found to influence the assemblage of fish that
ingressed the Kuala Selangor mudflats. The high-tide fish assemblage at SB mudflat which is site to extensive cockle culture had significantly higher species diversity compared to the BP mudflat where there is no cockle culture. Fish assemblages in SB were mostly fishes from many taxa, including Ariidae, Clupeidae, Engraulidae and Tetraodontidae. On the other hand, BP mudflat consisted of mainly Cynoglossidae, Plotosidae and Ambassidae, with economic species such as Plotosus canius and Cynoglossus cynoglossus. Water parameters were uniform throughout the sampling periods in both sites, except for pH and chlorophyll concentration which were significantly lower during the wet period, when sciaenids and mullets dominated.

DEVELOPMENT INITIATIVES OF SUNBARBAN OF BANGLADESH

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The Sundarbans is the largest single tract of tidal halophytic mangrove forest in the world, located in the southern part of Bangladesh, where it merges with the Bay of Bengal. With its array of trees and wildlife the forest is a showpiece of natural history. It is also a centre of economic activity, such as for extraction of timber, fuelwood, thatching materials, fishing and collection of honey. The forest consists of about 200 islands, separated by about 400 interconnected tidal rivers, creeks and canals. The Sundarbans 200 years ago had area of approximately 16,700 sq km., but it has dwindled to about one-third of its original size. Further, after the partition by India, Bangladesh received about two-thirds of the remaining forest while the rest is on the Indian side. It is now estimated to be about 4,110 sq km, of which, about 1,700 sq km is covered by water bodies. The Sundarban South, Sundarban East and Sundarban West Wildlife Sanctuaries are three protected forests in Bangladesh. This region is densely covered by mangrove forests, and is one of the largest reserves for the Bengal tiger. A number of rare or endangered species live in the Sundarbans. For its outstanding universal value, the three wildlife sanctuaries of the Sundarban were designated as World Heritage Site by UNESCO in 1997. The Sundarbans Reserve Forest was designated as a Ramsar Site (Wetlands of International Importance) in May, 1992. This unique natural zone also has a unique history. There are various derivations assigned to the name, some of which are rather fanciful, such as literally signifying “beautiful forest,” from “sundar,” which is beautiful and “ban” which denotes forest. However, it is generally recognized, and correctly so, to be derived from “sundar” a well-known timber tree referred to in the vernacular and abounds in the locality, known to botanists as Heritiera fomes, and “ban”, forest. Over the years the natural mangroves have been protected and mangrove afforestation has also been carried out. Recently, management efforts have been intensified to allow for the Sundarbans to adapt to the impacts of climate change.