Fishes of the Pulau Cik Wan Dagang Mangrove Forest, Kemaman, Terengganu

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Introduction

The mangrove ecosystem has many important functions. Not only, the mangroves stabilizes the coast, trap pollutant and control erosion, it also acts as spawning and nursery ground for many groups of marine animals by providing food and shelter from the strong heavy current and wave actions. The prevailing view on the mangrove-offshore interactions explains that mangrove export large amount of detritus to estuarine and near shore waters (Boto et al. & Bunt, 1981; Robertson, 1986). This detritus is either refractory and sinks to the bottom, presumably never enters the food chain, or is dispersed over a large area without any local impact (e.g. magnification of benthic secondary production) as food for marine life. Thus, the mangrove waterways provide abundant supply of much needed protein and cash in the form of fish, crabs, prawns, invertebrates, shellfish (Collette et al., 1983 ; Choy et al. and Booth, 1994 ; Chou et al., 1994) and many others from various families such as Gastropod, Bivalve, and Crustacean (Kartawinata, *et al*, 1979; and Soegiarto et al., 1983). According to Ritchie (1979) and Dingwall et al. (1984) documented at least 30 species of the fish found in mangrove wetlands have been considered to be commercially valuable species, examples eels, flatfish, Grey mullet and cockle. Such species are caught almost exclusively in the mangrove areas. Studies to examine the distribution and types of fish in the mangrove swamps of Malaysia are lacking and not extensively carried but is nevertheless important in order to understand the life cycles of the various species of Malaysian fishes.

Materials and Methods

Fish samples were collected from 7 different mangrove zones for 6 times (6 days) at the very highest tide of the day. The fish were caught using trem-melnet of dimension 31.20m by 1.5m., which were set-up inside each mangrove zone. The fish caught caught were brought to the lab for identification. The numbers and abundance by species were also recorded.

Results and Discussion

Fish collected during our study were found to be from 29 different families and a total of 38 species (See table 1). Amongst them, 20 species were valued as economically important species. The most common species found in this mangrove area were 'ikan Duri' (*Arius coelatus*) and crab (*Scylla serrata*). Although, most of the fish that appeared in the mangrove were of the lesser-known types or not commercially demanded, they provided empirical data to support the proposition that mangroves are best have a major role as spawning and nursery grounds for commercial fish and shellfish. Majority of the marine ecologist generally agrees that inshore areas constitute a crucial part of the life-supporting systems for the offshore fish populations as they act as nursery and feeding areas (Jansson et al., 1988).

Conclusions

Even though the number of species caught comprised is only 38, but the number of commercially important species (20) presents a major portion of fish caught in the area. It must also be noted that this study is done in an estuary in Terengganu whose mangrove area is relatively small compared to the west coast of the Peninsular. Variability of fishes caught within the different mangrove zones maybe due to the influence of the root and the dominant environmental characteristics within the different zones. Investigation into the influence of the flora, floor sediments and micro-physical characteristics within each mangrove zone on the fish species preference and dominance should be thoroughly investigated as this will aid in culture and food production with respect to fisheries.

Benefits from the study

Information presents the first report on Malaysian fishes within a properly delineated mangrove vegetation zones. It can be used for the purpose of drawing up a management plan and can also be used as a basis for further studies concerning preferences of fishes to certain charateristics within the vegetation zones.

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