

ABSTRACT

Fish and macroinvertebrate distribution and abundance in the Klang Strait (Malaysia) were investigated in relation to water and bottom sediment characteristics. Thirteen water and bottom sediment parameters were measured and analysed using principal component analysis (PCA). PCA of these parameters distinguished three major habitat groupings in the Klang Strait: (1) nearshore estuaries and mudflats, characterized by very turbid, lower salinity waters and muddy substrates, (2) offshore sandy habitat centred around the northern half of Angsa Bank, and characterized by less turbid, oxygen-riched and higher salinity water, and (3) offshore very fine sand habitat located largely on the southern half of Angsa Bank, and characterized by turbid, higher salinity water.

A total of 162 species belonging to 73 families were recorded based on 22,376 specimens examined. These species comprised 119 fish and 43 macroinvertebrate species belonging to 55 and 18 families, respectively. The most common fish families in order of importance were Sciaenidae, Leiognathidae, Ariidae, Platycephalidae, Cynoglossidae, Gerridae, Mullidae, Dasyatidae, Pomadasyidae, Siganidae, Carangidae, Engraulididae, Clupeidae, Stromatidae and Polynemidae. Seventeen prawn species were recorded and the most common family was Penaeidae. Fifteen species of brachyuran crabs and two species of xiphosuran horse-shoe crabs were recorded. The most common crab families were the Portunidae and Majidae. Only three stomatopodan species belonging to the family Squillidae were recorded. Three Cephalopoda were recorded belonging to the families Octopodidae, Sepiidae and Loliginidae. Five Echinodermata species were recorded and the most common species were the sea urchin, *Salmacis*

dussumieri, an unidentified sea cucumber species and the starfish, *Luidia penangensis*. Most of the fish and macroinvertebrate species comprised of young juveniles.

Canonical Correspondence Analysis (CCA) indicates that the most important abiotic factors controlling the distribution and abundance of demersal fish were salinity, turbidity, sediment clay and organic matter, whereas for pelagic fish these factors were water depth, salinity, turbidity and sediment pH. The distribution and abundance of prawn species were however influenced by water depth, salinity, dissolved oxygen, sediment clay, fine sand and organic matter contents. Crab abundance were more strongly influenced by salinity, dissolved oxygen, sediment clay, silt and organic matter contents, and sediment pH. The abundance of the other macroinvertebrates such as cephalopods, stomatopods and echinoderms were more influenced by water depth, salinity, sediment clay and organic matter contents. Salinity was the only common factor that appeared to influence the distribution and abundance of all species in Klang Strait.

ABSTRAK

Taburan serta kelimpahan ikan dan makroinvertebrata di Selat Klang (Malaysia) dikaji beserta ciri parameter air sedimen dasar. Tiga belas parameter air serta sedimen diukur dan dianalisa menggunakan analisis komponen utama [Principal Component Analysis (PCA)]. PCA parameter tersebut membezakan 3 kumpulan habitat utama di Selat Klang: (1) kuala dan dataran lumpur persisiran, (2) habitat berpasir luar pantai yang berpusat sekeliling bahagian utara Beting Angsa dan dicirikan oleh persiaran yang kurang keruh, tinggi kandungan oksigen serta bersaliniti tinggi, dan (3) habitat berpasir sangat halus luar pantai merangkumi bahagian selatan Beting Angsa yang lebih keruh serta bersaliniti tinggi.

Sejumlah 162 spesies daripada 73 famili telah direkod berdasarkan 22,376 spesimen yang diteliti. Spesies ini terdiri dari 119 spesies ikan dan 43 spesies makroinvertebrata daripada 55 dan 18 famili setiap satunya. Famili ikan yang paling sering ditemui menurut aturan kepentingan adalah Scianidae, Leiognathidae, Ariidae, Platycephalidae, Cynoglossidae, Gerridae, Mullidae, Dasyatidae, Pomadasyidae, Siganidae, Carangidae, Lutjanidae, Clupeidae, Stromatidae dan Polynemidae. Tujuh belas spesies udang direkodkan dan famili yang paling kerap ditemui adalah Penaeidae. Lima belas spesies brachyura dan dua spesies belangkas (xiphosura) telah direkodkan. Keluarga ketam yang paling utama adalah Portunidae dan Majidae. Cuma 3 spesies Stomatopoda dari famili Squillidae dicatat. Tiga Cephalopoda direkod dari famili Octopodidae, Sepiidae dan Loliginidae. Lima spesies Echinodermata direkod dan spesies yang paling sering ditemui adalah landak laut, *Salmacis dussumieri*,