

Water quality influences on fish occurrences in Sungai Pahang, Maran district, Pahang, Malaysia

ABSTRACT

This study assesses the influence of water quality on fish occurrences in Sungai Pahang, Maran District, Pahang, Malaysia. Water quality and fish samplings were conducted at seven sampling sites in the district for 13 consecutive months. We used canonical correspondence analyses (CCA) to determine the influence of water quality on monthly fish species occurrences. The ranges of water quality parameters were quite high considering the measurements were made during rainy and dry seasons throughout the year. A total of 2,075 individual fish was captured which comprised of 22 different families and 65 species. Family Cyprinidae recorded the highest number of fish species of the area (27 species; 41.5%), followed by Bagridae (five species; 7.69%) and Pangasiidae (five species; 7.69%). Three fish species categorized as endangered, including *Balantiocheilos melanopterus*, *Probarbus jullieni* and *Pangasianodon hypophthalmus* were also collected. The collected fish species were divided into three groups (A to C), which was clearly separated in the CCA ordination diagram. The most important water quality variables for the fish occurrences in this river were pH, followed by temperature, conductivity, alkalinity and phosphate. Data analysis indicates that the occurrence of fishes were influenced by a combination of water quality parameters, but not associated with sampling month. The results present a new data from a study of fish assemblage and their habitat condition which may be important in fisheries activity and fish conservation of the river in the future.

Keyword: Fish assemblages; Fish occurrences; Malaysia; Sungai Pahang; Water quality