A desktop study on fish assemblages in Malaysian lotic habitats

ABSTRACT

A desktop study on freshwater fish in Malaysian lotic habitats was conducted to provide an overview of the freshwater fish assemblages in Malaysia. Secondary data was extracted from literature that retrieved from major scientific databases including Google Scholar, ScienceDirect, and SpringerLink. A total of 385 fish species from 49 families were documented in Malaysian lotic habitats based on secondary data analysis. The Cyprinidae family is the most abundant fish family in Malaysia with 88 species recorded, followed by Danionidae (44), Bagridae (27), and Osphronemidae (21). The Cyprinidae family has the top five fish species recorded most frequently in Malaysian lotic habitats, which are present in the majority of Malaysia's states. Approximately 47% of fish species are restricted to just one state of Malaysia, demonstrating endemism of freshwater fish is high in Malaysian lotic habitats. Fish assemblages were found to be similar in Kedah, Kelantan, Pahang, Perak, Terengganu, and Johor, but very different in Sabah, Sarawak, Penang, Negeri Sembilan, and Selangor. Connectivity between lotic habitats in each state, land use, endemism, and invasive species may all influence the fish assemblages in each Malaysian state. This study revealed that ichthyofaunal research is lacking in several Malaysian states. More research should be done in those states to fill in the research gaps and present the most up-todate information on Malaysia's ichthyofaunal study