

Survey of freshwater fish fauna in Marai Parai area, Kinabalu Park, Sabah

ABSTRACT

Continuous surveys of freshwater fish species along altitudinal gradients in Kinabalu Park are crucial for developing effective conservation strategies, but the park's challenging topography has hindered this effort. The Marai Parai-Gurkha Hut Kota Belud Scientific Expedition 2023 provides an excellent opportunity to explore this understudied plateau on the north-western side of Mount Kinabalu. The present study aims to document fish species occurrences up to the peak of Marai Parai and analyse their relationship with selected environmental variables. Concurrently, fish samples and selected environmental parameters were collected from seven sampling stations, ranging from 619 meters to 1645 meters above sea level (m asl). A total of 11 species belonging to three families and seven genera were recorded in the forest streams of Marai Parai. *Gastromyzontidae* emerges as the dominant family in this high-altitude zone. The number of fish species is significantly correlated with elevation and water temperature (p -value < 0.05), where it decreased as elevation increased and water temperature dropped. *Glanopsis hanitchi*, *Protomyzon griswoldi*, and *Barbodes sealei* were found at a higher elevation than previously recorded in Kinabalu Park. Water quality including dissolved oxygen, total dissolved solids, conductivity, and temperature were associated with fish species occurrences along the altitudinal gradient of forest streams. It is crucial to conduct regular surveys on freshwater fish in Kinabalu Park as regular and long-term baseline data could be useful for future research and conservation efforts in the area.