

Aquatic insects and anurans in pristine and altered streams in Bundu Tuhan, Sabah, for freshwater quality monitoring

Abstract

Biological indicators are important components for freshwater biomonitoring to assess freshwater water quality. Aquatic insects are well-established biological indicators, but there is scarce information on anurans as potential biological indicators in Sabah. This study was conducted to (i) investigate aquatic insects in Bundu Tuhan, (ii) provide assessment for stream water quality, and (iii) understand anurans as potential biological indicators. Both aquatic insects and anurans were collected from pristine and altered streams, together with water quality data. Overall, 43 families of aquatic insects and 20 species of anurans were collected. Water quality information derived from Interim National Water Quality Standard, and biotic indices revealed that overall stream water quality of the four streams sampled were in good quality. Pearson's correlation analysis showed no association between aquatic insect and anuran taxa richness. Conversely, anuran occurrence between pristine and altered streams showed that few species have potential as biological indicators for stream.