Fish Fauna and Water Quality under Different Land Uses at Sungai Asap, Belaga Sarawak

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Abstract

This study was carried out at Sungai Asap in Belaga, Sarawak with the objectives of documenting fish fauna composition and diversity and water quality under three different land uses, namely, the 23-year logged over forest, 10-year old oil palm plantation and subsistence farming area. Fish fauna were sampled from eight selected stations using electroshocking devices. A total of six families represented by 17 genera and 27 species were recorded from the study area. The two dominant families are Cyprinidae and Balitoridae representing 55% and 39% of the total number of individuals caught respectively. The total number of species caught ranged from 11 species at Station 6 to 17 species at Station 2. Dissolved oxygen ranged from 6.47 mg/l to 7.09 mg/l, pH ranged from 6.59 to 7.51 and temperature ranged from 23.2 °C to 26.6 °C. The composition of fish caught was typical of those found in other similar order streams in Sarawak. However, the number of species present was lower than those reported in other studies mainly because the streams at this study area are narrower and shallower and therefore less habitat heterogeneity to support more species. Different land uses were found to affect the composition and diversity of fish fauna as shown by the lower values of diversity, richness and evenness indices at the 10-year old oil palm plantation.

Keywords: fish fauna, water quality, oil palm plantation

Introduction

A number of studies on the freshwater fish fauna have been carried out in Sarawak. Among others, these studies include those reported by SAMA Consortium (1982) in mid Batang Rajang, Watson and Balon (1984) in Baram River, Rachmatika *et al.* (1998) in Katibas River, Leh (2000) in Lanjak-Entimau Wildlife Santuary, Nyanti *et al.* (2006) in Loagan Bunut National Park and Nyanti and Jongkar (2007) in Pulong Tau National Park.

Water quality has been always been determined by the state of the surrounding catchment. For instance, water quality of Sg. Serin was reported to be affected by different activities in the watershed such as