The aquatic invertebrates' assemblages' responses to watershed land use in Tabin Wildlife Reserve (TWR), Lahad Datu, Sabah, Malaysia Borneo Science

ABSTRACT

A study on the aquatic invertebrate communities was conducted at Tabin Wildlife Reserve (TWR), Lahad Datu, Sabah, with the objectives to study (i) the diversity of aquatic invertebrates across different land use, (ii) the composition of aquatic invertebrates in different habitats and microhabitats in the stream, and (iii) the relationship between invertebrates and the water quality of the stream. Sampling was done at Sg. Lipad which flows across the secondary forest area and plantation area. Kick net method was used to sample the aquatic invertebrates for 14 continuous days in January to February 2015. A total of 3,579 individuals were sampled consisting of 76 families from eight orders, in both of the land uses. The diversity of aquatic invertebrates in the secondary forest was found to be slightly higher than plantation area with H'= 3.213 and H'= 3.188 respectively. The aquatic invertebrates were also found to be more abundant in riffle habitat, and the least in pool habitats. The diversity for pool habitat, however, was the highest among all other habitats with H'= 3.709. Both physico-chemical parameters and biotic indices indicated that the invertebrate communities were affected by the water quality in the surroundings, and may be used for rapid assessment of water quality at TWR.