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Biodiversity of hillstream fishes in Bangladesh

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Abstract

Bangladesh is a country of 1,47,570 km² of mostly flat topography, but about 12 percent is hilly. The hilly areas are confined to the northeast and the southeastern parts of the country bordering India and Myanmar. Hill streams are highly variable and very important for the study and understanding of the aquatic biodiversity of Bangladesh. Hillstream ecosystems include a variety of habitats including those with sand, clay, cobble, gravel, mud, and rock substrates. In a recent field survey, 82 species of fishes have been identified from those habitats. The ichthyofauna belongs to the following families (numbers of species in parentheses) Notopteridae (1), Engraulidae (1), Cyprinidae (32), Psilorhynchidae (3), Nemacheilidae (2), Cobitidae (6), Bagridae (6), Schilbeidae (5), Amblycipitidae (1), Akysidae (1), Sisoridae (4), Erethistidae (1), Clariidae (1), Olyridae (1), Aplocheilidae (1), Ambassidae (2), Badidae (1), Mugilidae (1), Gobiidae (2), Osphronemidae (2), Channidae (3), Mastacembelidae (3), Belonidae (1) and Tetraodontidae (1). This paper provides a checklist of the hillstream fish species with their habitat preferences and associated fauna.

Key words: biodiversity, hillstream fishes, Bangladesh

Introduction

Bangladesh lies in the northeastern part of South Asia between latitudes 20° 34' N and 26° 38' N and between longitudes 88° 01'E and 92° 41' E. It has a total area of about 147,570 km² and is bounded on the west, north and northeast by India, in the southeast by Myanmar, and in the south by the Bay of Bengal. The geomorphology of the country is comprised of a large portion of floodplains (79.1%), terraces (8.3%), and hilly areas (12.6%).

Because of the unique situation in this tropical region, between the mighty Himalayan Mountains and the Bay of Bengal, and within the delta of the three great rivers, the Ganges, the Brahmaputra and the Meghna, warm water temperatures, plentiful rainfall, and nutritive silty clay-loam soil, the water bodies in Bangladesh are very productive. The aquatic environment as a whole is very rich in aquatic biodiversity.

The hilly areas of Bangladesh occur in the northern and eastern areas of the country in Khagrachari, Rangamati, Bandarban, Chittagong, Cox's Bazar, Mymensingh, Netrokona, Sylhet, Moulavibazar and Habiganj districts. The hills contain a number of creeks, small rivers, waterfalls, caves, lakes and a large reservoir. The hilly rivers include the Sangu River of Bandarban, the Kangsho and Somesswari rivers of Netrokona, and the Piyang and Sari rivers of Sylhet. There is a remarkable number of waterfalls in the hilly area which has created large, medium and small streams and pools. Among these, the Madopkundo waterfalls of Sylhet, the Himchori and Barachara waterfalls of Cox's Bazar, the Shailopropat Waterfall of Bandarban, and the Chittagong University campus waterfalls of Chittagong are remarkable. There is an unusual cave pool near Teknaf. The Kaptai Lake of Rangamati and the Boga Lake of Bandarban are important reservoirs. These streams, rivers and reservoirs are assumed to contain a great diversity of fish and shellfish fauna, although they have not been properly inventoried.

The inland, surface-water fish fauna of Bangladesh is an assemblage of 266 species, the diversity of which is attributed to the habitats created by the Bengal Delta wetlands and the confluence of the Brahmaputra, Ganges and Jamuna rivers that flow from the Himalayan Mountains into the Bay of Bengal. Of a total of 266 species of freshwater fish reported in Bangladesh (IUCN, 2000), more than 70 species belong to the order Cypriniformes. Rahman (2005) reported 71 cypriniform fishes in his book on inland open water bodies. He described the morphometric and meristic characteristics, habits, habitats and distributions of freshwater fishes, but does not