



Freshwater fish fauna of rivers of the southern Western Ghats, India

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Abstract. The Western Ghats of India is a UNESCO World Heritage Site and is one of the eight “hotspots” of biological diversity in the world. It is also referred to as the “Great Escarpment of India”. This paper provides information on the diversity of freshwater fish fauna of six river systems of the southern Western Ghats. The study area has been identified geographically using a GPS, and the respective topographic map has been digitized using ArcGIS software. The fish fauna were collected from various streams and rivers using cast nets, dip nets, gill nets and drag nets. Among the 31 georeferenced sites sampled from the rivers of the southern Western Ghats, a total of 64 species, belonging to 6 orders, 14 families and 31 genera, were recorded. Among them, the order Cypriniformes was dominant, with 3 families, 18 genera and 49 species (76.6 %). Principal component analysis and cluster analysis were performed to express the contribution of the variables and their influence on the species diversity. Interestingly, of the 31 sites, Thunakadavu stream, Gulithuraipatti, Athirapally, Naduthotam, Nadathittu, Mullaithodu, Thonanthikla, Noolpuzha and Sinnaru exhibited high variation in species diversity. Nearly 15 species were found to be threatened in the Western Ghats. *Garra periyarensis* and *Cirrhinus cirrhosus* are known to be vulnerable and *Hemibagrus punctatus* is critically endangered because of various anthropogenic activities. The study clearly indicates that certain timely measures have to be taken immediately to protect the fish fauna in the southern Western Ghats (<https://doi.org/10.1594/PANGAEA.882214>).

1 Introduction

The Western Ghats of India is a UNESCO World Heritage Site and is one of the eight “hotspots” of biological diversity in the world. It is also known as the “Great Escarpment of India” (Myers et al., 2000). The range of the Western Ghats runs from north to south along the western edge of the Deccan Plateau, and separates the plateau from a narrow coastal plain, called Konkan, along the Arabian Sea (Fig. 1, Bhavani river system). Of a total of 39 World Heritage Sites in India, which include national parks, wildlife sanctuaries and reserve forests, 20 are in Kerala, 10 in Karnataka, 5 in Tamil Nadu and 4 in Maharashtra; these have to be protected and conserved. The Western Ghats of India has rich freshwater fish fauna with a high level of endemism (Dahanukar

et al., 2004). At present, a major part of the faunal diversity of the Western Ghats is threatened by human activities and invasive species (Dahanukar et al., 2004). Hence, knowledge of the diversity and distribution of the fish fauna is essential for designing and implementing conservation strategies. However, data on the fish fauna of the Western Ghats have limitations as most of the rivers have not been surveyed extensively with georeferenced data, and checklists for individual rivers are not available.

The history of Indian freshwater fish fauna goes back to Hamilton (1822), who studied fish fauna found in the river Ganges and its tributaries. Documentation and listing of fish fauna from different parts of India was mainly carried out by Jerdon (1848). A comprehensive and authori-