

FISH DIVERSITY OF KOLLI HILLS, WESTERN GHATS, SALEM DISTRICT, TAMIL NADU

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Abstract

The fish diversity of Periyaru originating as a natural spring in Kolli Hills is reported. A total number of 19 species of fish belonging to 15 genera and nine families were collected. The percentage occurrence is 36.88 for Cyprinidae, Bagridae and Cichlidae constituted each by 15.8. Of the 19 species, *Ompok bimaculatus* and *Pseudeutropius atherinoides* are endangered and *Barilius bendelisis*, *Puntius sophore*, *Labeo calbasu* and *Mystus cavasius* come under Low Risk nearly threatened (LRnt) category and *Cirrhinus reba*, *Puntius conchoniis*, *Mystus vittatus*, *Mystus bleekeri*, *Awaous gutum*, *Clarias batrachus* and *Mastacembelus armatus* are vulnerable species.

Keywords

Fish, Kolli Hills, Western Ghats, species composition, status, Tamil Nadu, diversity

Introduction

The aquatic resources of the seven southern Indian states -- Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Pondicherry, Goa and parts of Maharashtra -- cover about 20 per cent of river and canals, 38.6 per cent of reservoirs, 50 per cent of tanks and ponds and 63 per cent of swamp and derelict water sources of India (Basheer *et al.*, 1998). The Western Ghats harbour a rich biodiversity and is aptly classified as one of the 25 richest mega biodiversity hotspots of the world (Mittermeier *et al.*, 2000). So far approximately 750 species of freshwater fish taxa have been recorded in India, out of which about 350 taxa have been estimated as endemic to Western Ghats (Jayaram *et al.*, 1982; Sarkar & Kapoor, 1998), which comprises of 85 endemic taxa and about 15 taxa in adjacent areas. A comprehensive list of 65 ornamental fishes endemic to Indian peninsula with special reference to Western Ghats has been prepared (Gopalakrishnan

et al., 1998).

Freshwater fishes constitute a vital part of natural heritage of India. Of the 2000 fin fish species of the world, India harbours a rich diversity of 218 (11%) fin fish species. The Conservation Assessment and Management Plan (CAMP) workshop conducted in 1997 assessed the status of 329 endemic freshwater fish taxa in India as following: One Extinct (EX), One Extinct in the Wild (EW), 47 Critically Endangered (CR), 98 Endangered (EN), 82 Vulnerable (VU), 67 Lower Risk near threatened (LRnt), 13 Lower Risk least concern, 18 Data Deficient (DD) (Molur & Walker, 1998). The remaining freshwater fishes (ca. 400) were Not Evaluated (NE).

Generation of proper database on germplasm resources is vital to safeguard our biodiversity and evolve a plan for their proper utilization. The fast flowing streams and rivers have been an excellent habitat and environment enabling evolution of rich fish diversity. The southern and central division of Western Ghats constitute one of the few sites in the world showing a high degree of endemism with respect to freshwater fishes. The fish diversity of Cauvery River system has been reported (Jayaram *et al.*, 1982). Balasundaram *et al.* (1999) have worked on the fish diversity of Grand Anicut, Tiruchirapalli. However, there is a paucity of information on fish diversity of hill streams. Hence this microlevel study on the fish diversity in the stream of Kolli Hills was undertaken.

Study area

Kolli Hills is situated in the interboundaries of two taluks namely Rasipuram and Namakkal in Salem District of Tamil Nadu. Originating from the east of the hills, a perennial river locally called as Periyaru flows down a distance of 20 kilometers in southwest direction up to Karavalli Village, where it forms a large pool and trickles down as rivulets further down (Figure 1). Though the river is a natural spring it also benefits from both the monsoons. Hence during the monsoon there is a substantial water flow. There are 10 villages located along the course of the river (Figure 1). Fishing activity prevails throughout the year in

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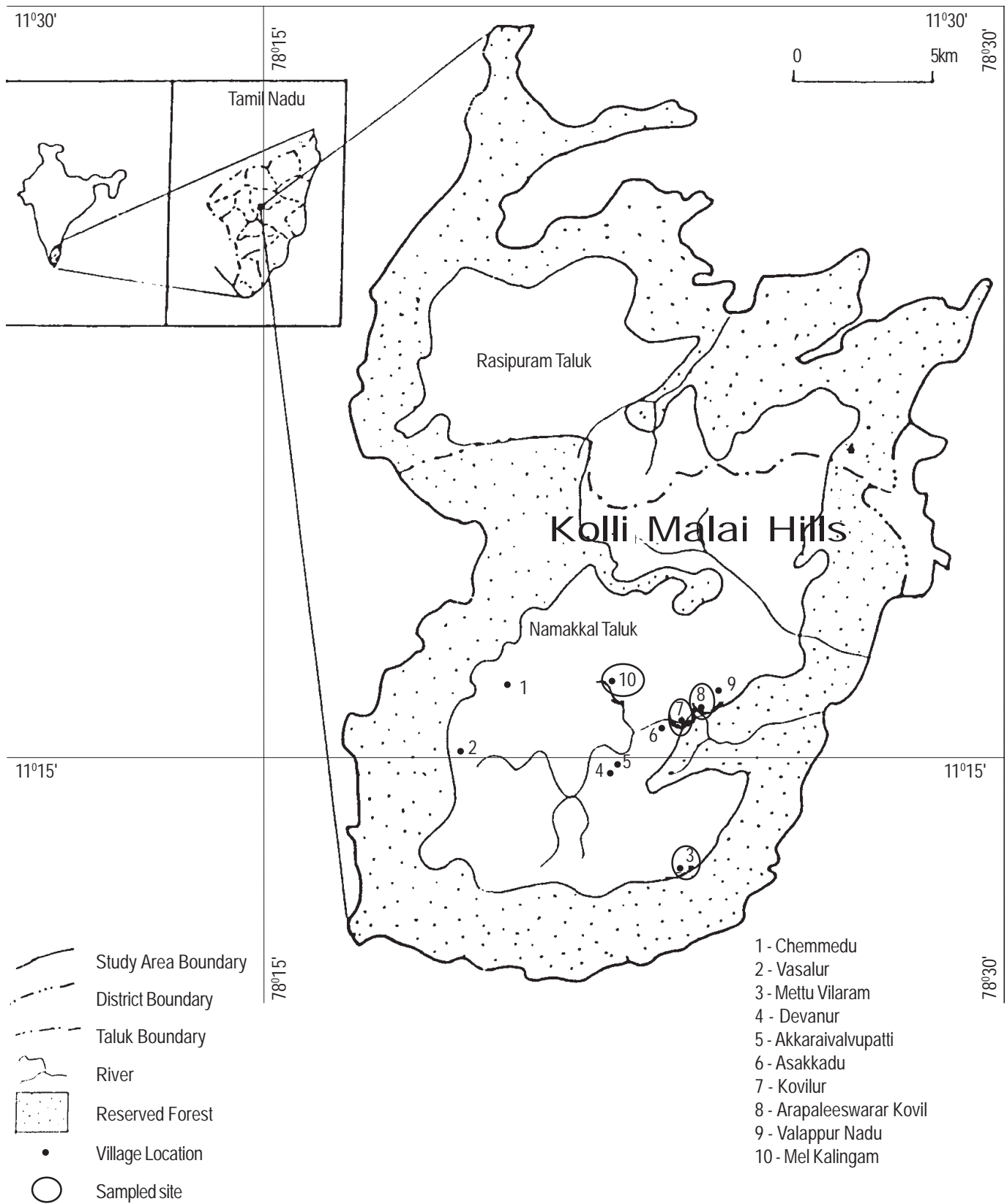


Figure 1. Study areas in the Kolli Hills

four villages -- Kovilur, Melkalingam, Arapaleeswarar Kovil and Mettu Vilaram -- where the river forms pools (depth 10+/-5m; Diameter 10+/-2m) and canals (Hawkings *et al.*, 1993).

Methodology

For the present study weekly samples were collected with the help of the fisherman from December 1999 to March 2000 in the pools and the adjacent canals. The collected fishes were labeled along with the vernacular names, preserved and brought to the laboratory to measure the meristic and morphometric characters; identification was done (Ramaiyan, 1997) with help of the standard reference materials (Jayaram *et al.*, 1982; Talwar & Jhingran 1991; Jayaram, 1999).

Results and Discussion

Species Composition

A total number of 19 species belonging to 15 genera and nine families were collected (Table 1). As much as 36.88 per cent (7 species) belong to Cyprinidae family. Families Cobitidae, Siluridae, Schibellidae, Gobiidae, Clariidae and Mastacembelidae were represented by one species each (5.26%). Bagridae and Cichlidae families were represented each by 15.78 per cent (3 species).

Status

Out of 19 species recorded two threatened species categorised as Endangered globally were recorded during this study, namely, *Ompok bimaculatus* and *Pseudeutropius atherinoides* (Molur & Walker, 1998; Sridhar *et al.*, 1998). The *Ompok bimaculatus* by virtue of its size (about 250g) and flavour, is locally preferred and is widely consumed. During the last 10 years the wild population of *Ompok bimaculatus* has suffered a steady decline of over 50 per cent mainly due to over exploitation, loss of habitat, pollution, siltation and destructive methods like dynamite fishing (Molur & Walker, 1998). *Pseudeutropius atherinoides* is not commonly available and is not preferred like *Ompok bimaculatus* due to its small size (10+/-5g). The fishes are exclusively consumed locally. The pools contain greenish water enriched by algal growth stimulated by natural nutrients. Arapaleeswarar Kovil one of the sampling sites is visited by devotees. It is also a tourist spot. Hence the pool here is littered with discarded polythene bags and cans.

Table 1 lists the species assessed at the CAMP workshop as threatened or otherwise found in the present study -- seven Vulnerable and four Lower Risk near threatened. The status of the other four species was not be assessed (NE) at the CAMP workshop.

It is recommended that further intensive studies are needed to make the inventory of Kolli fishes complete.

Table 1. Fish diversity of Kolli Hills.

Scientific Name	Vernacular Name	* Status
Cyprinidae		
<i>Barilius bendelisis</i>	Vannathikendai, Akkili varatankendai	LRnt/N
<i>Puntius sophore</i>	Kulla kendai, Kurunchelli, Mochakendai	LRnt/N
<i>Labeo calbasu</i>	Karupan sel, Kakka meen	LRnt/N
<i>Cirrhinus reba</i>	Aranjan podi, reba	VU
<i>Puntius conchonius</i>	Valli kendai	VU
<i>Rasbora daniconius</i>	Patta kunju, Bhavani kendai	NE
<i>Puntius sarana subnasutus</i>		NE
Cobitidae		
<i>Lepidocephalus thermalis</i>	Asarat, Ayirai	NE
Bagridae		
<i>Mystus cavasius</i>	Nai keluthi, Vellakellete	LRnt/N
<i>Mystus vittatus</i>	Cutta, Vazhappu	VU
<i>Mystus bleekeri</i>	Keluthi	VU
Siluridae		
<i>Ompok bimaculatus</i>	Savallai, Chotah Wahlah Silaivalai	EN
Schilbeidae		
<i>Pseudeutropius atherinoides</i>	Mandai keluthi	EN
Cichlidae		
<i>Eetroplus suratensis</i>	Sella kasu, Puradi, Salladai meen	NE
<i>Eetroplus maculatus</i>	Setha kendai, Bommi	NE
<i>Oreochromis mossambicus</i>		NE
Gobiidae		
<i>Awaous gutum</i>	Ulluvai, Kalulluvai	VU
Clariidae		
<i>Clarias batrachus</i>	Thalmeen, Thal kendai	VU
Mastacembelidae		
<i>Mastacembelus armatus</i>	Aarah	VU

EN - Endangered, VU - Vulnerable, LRnt - Lower Risk near threatened, NE - Not Evaluated

* Status globally as per CAMP assessment (Molur & Walker, 1998).

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