



International Journal of Research in Agronomy

E-ISSN: 2618-0618

P-ISSN: 2618-060X

© Agronomy

www.agronomyjournals.com

2024; SP-7(6): 250-253

Received: 13-04-2024

Accepted: 16-05-2024

Nyamkham P Phom

College of Fisheries, Central
Agricultural University,
Lembucherra, Agartala, Tripura,
India

Pampa Bhattacharjee

College of Fisheries, Central
Agricultural University,
Lembucherra, Agartala, Tripura,
India

Diamond Rajakumar Tenali

College of Fisheries, Central
Agricultural University,
Lembucherra, Agartala, Tripura,
India

Ichthyofaunal diversity of Milak, a small river of Nagaland

**Nyamkham P Phom, Pampa Bhattacharjee and Diamond Rajakumar
Tenali**

DOI: <https://doi.org/10.33545/2618060X.2024.v7.i6Sd.891>

Abstract

The present study is targeted to investigate the fish diversity, their present IUCN conservation status, and economic value of Milak, a small river of Nagaland. Milak River originated in Langpangkong of Mokokchung and is effectively marked by the moderate and progressing flow towards the plains. Tuli is one of the most populous towns that are located near this river district in Nagaland. Tsurong is a major tributary of the Milak River.

Keywords: Fish species, exploratory studies, checklist, IUCN status

Introduction

Nagaland, a small hilly state (area of 16,579 sq. km) in northeastern India, is a part of the Indo-Burma Biodiversity Hotspot. The state is bordered by Arunachal Pradesh to the North, Manipur to the South, and Myanmar and Assam to the east and west, respectively. The diversity of topographic and climatic conditions has made the state rich with various flora and fauna. Fish is one of the important bioresources which can be used as food, in Aquarium fish, and sports industry (1). In the present study, we provide a preliminary checklist of the fish fauna of Milak River. A rigorous collection of fish from the river obtained a good number of species diversity as the area lies in a hotspot.

Materials and Methods

Study site: The survey was carried out at of Milak River of Mokokchung district of Nagaland (Fig: 1). The study period was during the pre-monsoon and winter seasons. Specimens were collected with the help of a cast net along with local artisanal fishers. All the essential data such as place of collection, number of fish, body color, and body marking were recorded. The collected specimens were preserved in 10% formalin for further analysis. The descriptions are based on formalin-preserved specimens. Measurements were taken point to point with digital calipers to 0.1 mm. For identification and classification, (2) and (3) were followed.

The conservation status of the fish species the conservation status of the fish species is based on the IUCN (www.iucnredlist.org.in). Table 1 shows the list of fish recorded from Milak River along with their economic value and the IUCN 2024 status.

Corresponding Author:

Nyamkham P Phom

College of Fisheries, Central
Agricultural University,
Lembucherra, Agartala, Tripura,
India



Table 1: Showing the IUCN data

Sl. No.	Order	Family	Species	Economic value	IUCN-2024 Status
1	Cypriniformes	Cyprinidae	<i>Barilius barna</i>	F; O	LC
2	Cypriniformes	Cyprinidae	<i>Opsarius bendelesis</i>	F; O	LC
3	Cypriniformes	Cyprinidae	<i>Danio aequipinnatus</i>	F, O	NE
4	Cypriniformes	Cyprinidae	<i>Danio dangila</i>	F	LC
5	Cypriniformes	Cyprinidae	<i>Devario devario</i>	F	LC
6	Cypriniformes	Cyprinidae	<i>Pethia ticto</i>	F; O	LC
7	Cypriniformes	Cyprinidae	<i>Tor tor</i>	S	LC
8	Cypriniformes	Cyprinidae	<i>Schizothorax richardsonii</i>	F	LC
9	Cypriniformes	Cyprinidae	<i>Garra kempfi</i>	F; S	LC
10	Anabantiformes	Badidae	<i>Badis badis</i>	F, O	LC
11	Siluriformes	Bagridae	<i>Olyra longicaudatus</i>	F; O	LC
12	Siluriformes	Bagridae	<i>Olyra kempfi</i>	F	DD
13	Siluriformes	Bagridae	<i>Sperata seenghala</i>	F	VU
14	Siluriformes	Sisoridae	<i>Pseudecheneis sirenica</i>	O	VU
15	Siluriformes	Sisoridae	<i>Glyptothorax cavia</i>	O	LC
16	Siluriformes	Sisoridae	<i>Glyptothorax indicus</i>	O	LC
17	Siluriformes	Sisoridae	<i>Exostoma labiatum</i>	O	LC
18	Siluriformes	Sisoridae	<i>Exostoma berdmorei</i>	O	LC
19	Synbranchiformes	Mastacembelidae	<i>Macrognathus pancalus</i>	F; O	LC
20	Anabantiformes	Channidae	<i>Channa punctata</i>	F; O	LC

DD- Data Deficient, LC-Least concern, NE- Not evaluated, VU- Vulnerable, F-Food, O-Ornamental, S-Sport

Results and Discussion

Freshwater ecosystems contain only around 0.01% of the world’s surface water cover; meanwhile, freshwater ecosystems have become the most endangered ecosystems in the world, and the biodiversity that they support is vulnerable due to human activities and environmental changes. However, the Eastern Himalaya region has been identified as a freshwater biodiversity hotspot (4) and (5). The current study is the result of an exploration of fish diversity of Milak, a small river in Nagaland. A total of 20 species from the families Cyprinidae, Sisoridae, Channidae, Mastacembelidae, and Badidae were collected. A greater number of species of the genera *Danio*, *Opsarius*, *Devario*, *Badis*, *Schizothorax*, *Exostoma*, and *Glyptothorax* were collected in present fish explorations. Due to the importance of

taxonomical confirmation of species, the present study was conducted in a small river named Milak of the Brahmaputra basin revealing the existence of some ambiguous fish species that seem to be new to science.

The study reveals the presence of twenty species belonging to 4 orders, 7 families and 16 genera. Cypriniformes dominated by 9 species followed by 8 siluriformes and each one of anabantiformes and synbranchiformes. A greater number of species of the genera *Garra*, *Opsarius*, *Psilorhynchus*, *Devario*, *Badis*, *Schizothorax*, *Exostoma*, *Garra* and *Glyptothorax* (Fig-2) were recorded abundantly from the river. Suggesting more frequent fish exploratory surveys to know the valuable fish diversity before extinction and the need of immediate fish conservation implementations.



Fig 1: One of the sampling locations of Milak River

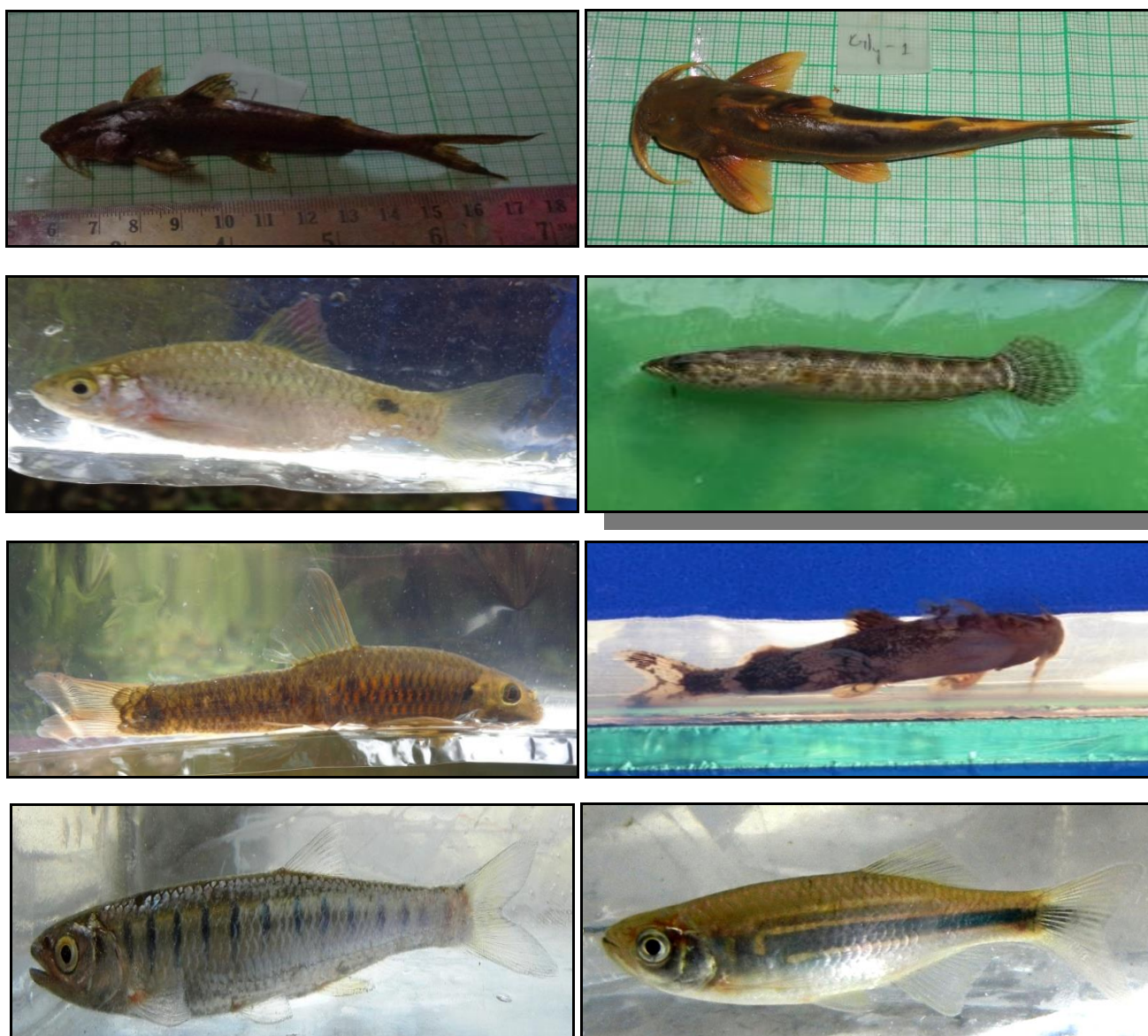


Fig 2: Some collected species from Milak river

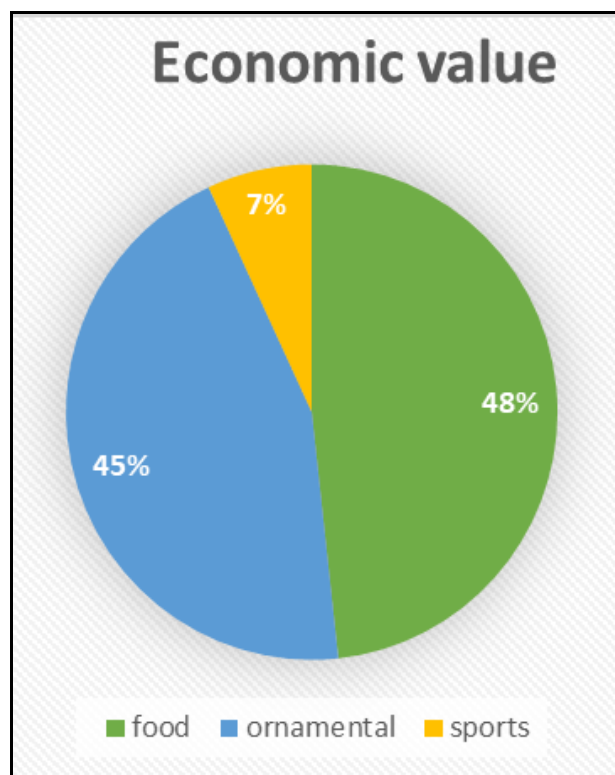


Fig 3: Percentage of fishes according to their importance in Fisheries

Conclusions

Total 20 Fish species Identified and recorded from Milak river of Nagaland. Among the Genus *Garr sp.* and *Badis sp.* Two seems to be new species, further research work required for confirmation.

Suggesting more frequent fish exploratory surveys to know the valuable fish diversity before extinction and the need of immediate fish conservation implementations.

Acknowledgments

The authors extend their thankfulness to the Vice Chancellor, Central Agricultural University, Imphal, India and the Dean, College of Fisheries, Central Agricultural University, Tripura for providing the necessary facilities for carrying out the study.

References

1. Gurumayum SD, Kosygin L, Tamang L. Ichthyofaunal diversity of Arunachal Pradesh, India: A part of Himalaya biodiversity hotspot. *Int J Fish Aquat Stud.* 2016;4(2):337-346.
2. Nath P, Dey SC. Fish and Fisheries of Northeastern India. Vol. I: Arunachal Pradesh. 1st ed.; c2000. p. 217.
3. Vishwanath W. Freshwater fishes of the Eastern Himalayas. Elsevier Academic Press; c2021. p. 431.
4. Das BK, Boruah P, Kar D. Fish diversity and drainage analysis of River Siang, East Siang district of Arunachal Pradesh. *Biosci Discov.* 2014;6(1-I):16-20.
5. IUCN. IUCN Red List of Threatened Species. Version 2023-2024. [Internet]. Available from: <www.iucn.redlist.org>. Accessed 2024.