Building evidence for conservation globally

Journal of Threatened Taxa

10.11609/jott.2026.18.5.28739-29002
www.threatenedtaxa.org

26 May 2026 (Online & Print)
18(5): 28739-29002
ISSN 0974-7907 (Online)
ISSN 0974-7893 (Print)

Open Access

40 zooreach Zoo Outreach Organisation Years

ISSN 0974-7907 (Online); ISSN 0974-7893 (Print)

Publisher
Wildlife Information Liaison Development Society
www.wild.zooreach.org

Host
Zoo Outreach Organization
www.zooreach.org

Srivari Illam, No. 61, Karthik Nagar, 10th Street, Saravanampatti, Coimbatore, Tamil Nadu 641035, India
Registered Office: 3A2 Varadarajulu Nagar, FCI Road, Ganapathy, Coimbatore, Tamil Nadu 641006, India
Ph: +91 9385339863 | www.threatenedtaxa.org
Email: sanjay@threatenedtaxa.org

For Focus, Scope, Aims, and Policies, visit https://threatenedtaxa.org/index.php/JoTT/aims_scope
For Article Submission Guidelines, visit https://threatenedtaxa.org/index.php/JoTT/about/submissions
For Policies against Scientific Misconduct, visit https://threatenedtaxa.org/index.php/JoTT/policies_various

continued on the back inside cover

Cover: Oil painting of Humpback Whale *Megaptera novaeangliae*. © R. Mahesh.

Journal of Threatened Taxa | www.threatenedtaxa.org | 26 May 2026 | 18(5): 28957–28970

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

https://doi.org/10.11609/jott.9531.18.5.28957-28970

#9531 | Received 03 December 2024 | Final received 09 February 2026 | Finally accepted 28 March 2026

OPEN ACCESS

REVIEW

Ichthyofaunal diversity and conservation status of Nagaland, India: a comprehensive review

Rejuba Pongen [1] & **Pranay Punj Pankaj** [2]

[1] Department of Zoology, Fazl Ali College, Mokokchung, Nagaland 798601, India.
[2] Department of Zoology, Nagaland University, Lumami, Nagaland 798627, India.
[1] r.pongen@gmail.com, [2] pranaypunj@gmail.com (corresponding author)

Abstract: Nagaland, located within the Indo-Burma biodiversity hotspot, is home to a rich diversity of freshwater fish species. However, the region's ichthyofaunal diversity and conservation status are inadequately documented, hindering effective conservation planning. This study aims to provide a comprehensive assessment of the ichthyofaunal diversity in Nagaland and evaluate the conservation status of these species. Systematic review of secondary sources, including research articles, technical reports, and taxonomic records, was conducted. Data were gathered through an extensive literature search across databases like Scopus, Web of Knowledge, and Google Scholar to capture studies on ichthyofaunal diversity and conservation in Nagaland. Keywords like "freshwater fish" and "conservation status" were used, ensuring thorough coverage. Fish species were classified by taxonomic standards, with conservation status based on the IUCN Red List. This study documented 202 fish species across 12 orders, 29 families and 91 genera. The Cyprinidae family was the most dominant, representing 79 species. Conservation status revealed that seven species are classified as 'Endangered' (EN), 15 as 'Near Threatened' (NT), and 17 as 'Vulnerable' (VU), while 6.93% of species remain 'Data Deficient' (DD). The primary threats to ichthyofaunal diversity in Nagaland include habitat degradation, over-exploitation, invasive species, and climate change. These findings underscore the urgent need for continuous biodiversity assessments and implementing sustainable management practices to preserve Nagaland's aquatic biodiversity.

Keywords: Assessment, biodiversity hotspot, climate change, Cyprinidae, endemism, freshwater fish, habitat degradation, IUCN Red List, ichthyofauna, Indo-Burma biodiversity hotspot, invasive species, overexploitation, species richness, taxonomic diversity, threat assessment.

Editor: J.A. Johnson, Wildlife Institute of India, Dehradun, India.

Date of publication: 26 May 2026 (online & print)

Citation: Pongen, R. & P.P. Pankaj (2026). Ichthyofaunal diversity and conservation status of Nagaland, India: a comprehensive review. *Journal of Threatened Taxa* 18(5): 28957–28970. https://doi.org/10.11609/jott.9531.18.5.28957-28970

Funding: This research was supported by the ICAR–National Bureau of Fish Genetic Resources, Lucknow.

Competing interests: The authors declare no competing interests.

Author details: Dr. Pranay Punj Pankaj, associate professor of Zoology at Nagaland University, India. His research focuses on ichthyofaunal diversity, indigenous fisheries knowledge, and aquatic conservation. He has led multiple funded projects and published extensively, and actively mentors research scholars. Mr. Rejuba Pongen, assistant professor of Zoology at Fazl Ali College, Nagaland, India, with over 13 years of teaching experience. He holds an MSc from NEHU and is currently pursuing a PhD at Nagaland University, focusing on ichthyofaunal diversity and conservation in northeastern India.

Author contribution: RP conceptualized the study, conducted ichthyofaunal data collection, performed data analysis, and drafted the manuscript. PPP supervised the research, critically reviewed and edited the manuscript, and served as the corresponding author, ensuring scholarly rigor and coherence.

Acknowledgments: The authors acknowledge all researchers whose work is cited. PPP gratefully acknowledges financial support from ICAR–National Bureau of Fish Genetic Resources, Lucknow. The authors also thank policymakers and local communities for their contributions to ichthyofaunal research and conservation in Nagaland.

INTRODUCTION

Freshwater ecosystems do not only support fish species but also many other aquatic species. Despite covering less than 1% of the Earth's surface, these habitats including rivers, lakes, and wetlands are home to over 40% of all fish species and approximately 10% of the world's documented species, including a quarter of all vertebrates (Strayer & Dudgeon 2010). The global fish fauna comprises around 17,948 marine species and 18,397 freshwater species (Fricke et al. 2022), with fish accounting for nearly half of all vertebrate species. However, human activities such as population growth and economic development have placed immense pressure on freshwater ecosystems. Habitat degradation, over-exploitation, the introduction of alien species, river flow alterations, and pollution pose significant risks to aquatic biodiversity, contributing to the high extinction rates observed in freshwater species (Dudgeon et al. 2006). This underscores the importance of monitoring and conserving ichthyofaunal diversity to ensure ecosystem stability and sustainability.

Nagaland, a small hilly state in northeastern India, is geographically positioned between 25.100°–27.067° N and 93.033°–95.017° E, encompassing an area of 16,579 km². Assam borders the state to the west, Myanmar to the east, Arunachal Pradesh and Assam to the north, and Manipur to the south. The eastern Himalayan region is recognized as one of the world's most biodiversity-rich regions (Biswas & Boruah 2000). With altitudes ranging 194–3,048 m and an average annual rainfall of 2,000–2,700 mm, Nagaland possesses rich inland water resources, including rheophilic rivers and streams. Three major drainage systems, the Barak, Brahmaputra, and Chindwin, divide the state's river systems, traversing 16 districts through 11 major and 10 minor rivers (Ao et al. 2008).

Ichthyofaunal diversity and river Systems

The major rivers of Nagaland include the Dhansiri, Dikhu, Doyang, Intangki, Meguiki, Milak, Tizit, Tizu, Tsurang, Shili and Zungki, while the minor rivers consist of Arachu, Chathe, Chokla, Dzulakie, Dzuna, Lanyi, Likhimro, Seidzu, Tepuiki, and Tesuru (Tables 1 & 2). Figure 1 illustrates the river network of Nagaland, providing a detailed representation of the state's hydrological features. These rivers form the backbone of the state's aquatic ecosystem, supporting a diverse range of fish species. However, comprehensive documentation of ichthyofaunal diversity across these different drainage systems remains incomplete.

Several scholars have documented the ichthyofaunal diversity of Nagaland. Ao et al. (2008) catalogued the fish species present in the state, identifying 149 distinct species. Goswami et al. (2012) enumerated 187 fish species from the state. Bendangkokba & Ahmed (2007) reported 66 fish species across 16 families and five orders from the Milak, Dikhu, and Tsurang rivers in Mokokchung district. Ezung et al. (2020) recently compiled a list of fish species from the state, identifying 197 species over 10 orders, 26 families, and 87 genera. Kechu & Pankaj (2025) documented high ichthyofaunal richness in the Dikhu River, Nagaland, characterized by the dominance of Cypriniformes and the presence of threatened and data-deficient species under increasing anthropogenic pressure. Similarly, Khesoh et al. (2025) demonstrated that the Tsurang and Milak rivers of Mokokchung District, Nagaland, despite being smaller tributaries, support substantial fish diversity, including species of conservation concern. Recent discoveries have significantly advanced our comprehension of the ichthyofaunal variety in Nagaland (Figure 2). Although there have been recent contributions to the state fish fauna, the species compositions in numerous water bodies remain undocumented and require further investigation. The inaccessibility of most rivers, situated in steep, mountainous regions characterized by dense forest cover, prevents the examination of many lotic systems in the state.

According to current study, Nagaland is home to 202 fish species. Despite significant increases in the documented number of fish species in the state, there is still a significant amount of work to fully explore and document the ichthyofaunal diversity in many of Nagaland's rivers, particularly in remote and challenging landscapes with dense forest vegetation. The exploration of these lotic systems is far from complete, and further research is necessary to discover and protect the species that inhabit these underexplored areas. The ichthyofaunal diversity in Nagaland is significant yet remains inadequately documented. Continued efforts in research and conservation are crucial for comprehensively understanding and safeguarding the diverse aquatic biodiversity of this region.

MATERIALS AND METHODS

Study Design and Objectives

The study aimed to review the ichthyofaunal diversity and assess the conservation status of freshwater fish species in Nagaland, India. By analyzing

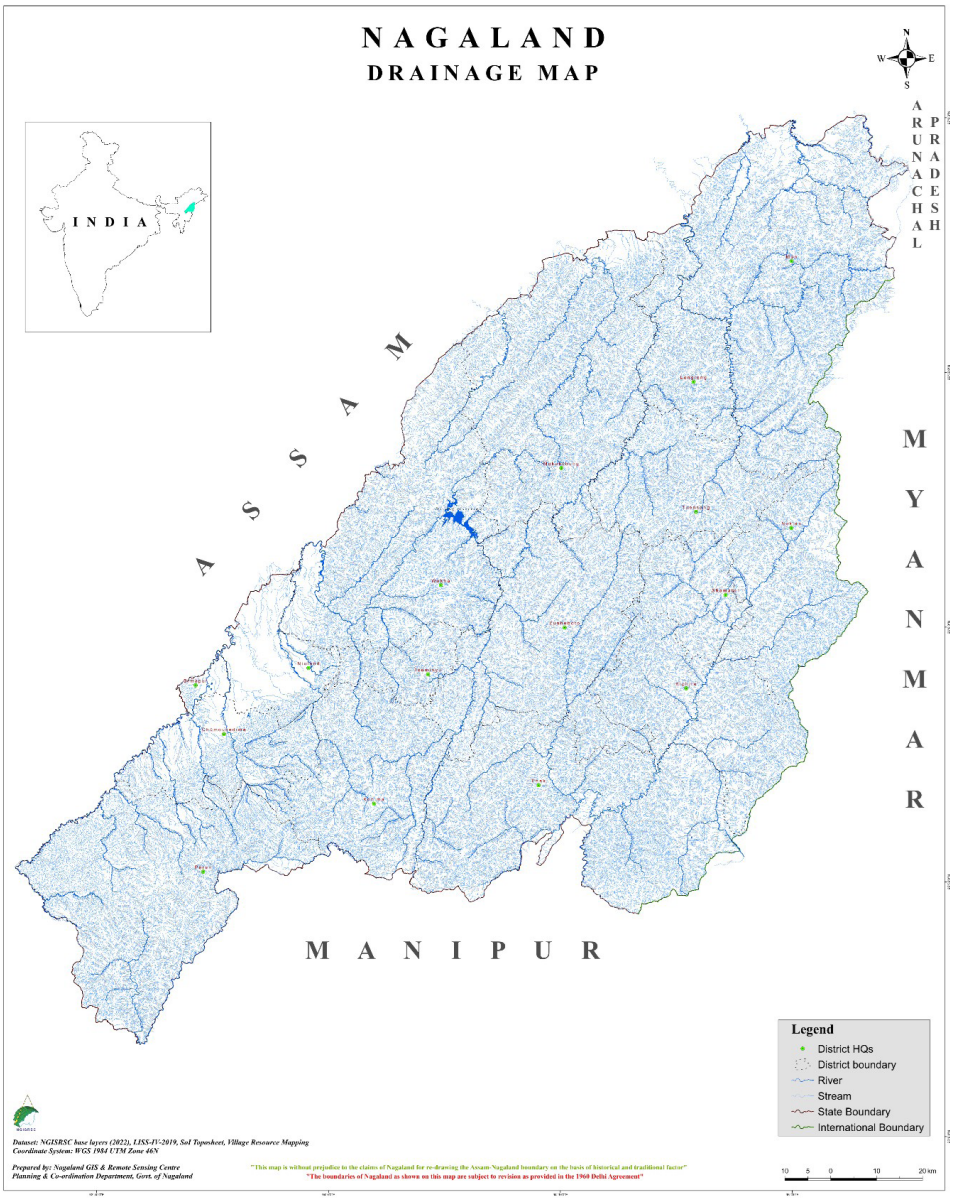

Figure 1. Nagaland State drainage map. (Source: Nagaland GIS & Remote Sensing Centre, accessed on 17.xi.2024)

secondary data on taxonomy, distribution, economic importance, habitat preferences, and conservation status, the goal was to provide a detailed understanding of the region's fish diversity and highlight the need for conservation efforts.

Data Sources and Literature Search

An extensive literature search was conducted using databases like Scopus, Web of Knowledge, Google Scholar, and other repositories to identify peer-reviewed articles, reports, and books on Nagaland's ichthyofaunal diversity and conservation status. Search terms included "ichthyofaunal diversity," "freshwater fish," "conservation status," and "Nagaland". Publications from all the available years were included. Manual searches of key references were also performed to ensure comprehensive coverage, providing a robust dataset for analysis and capturing studies that may have been overlooked.

Inclusion and Exclusion Criteria

The initial screening process involved reviewing the titles and abstracts of all retrieved articles to assess their relevance to the study objectives. Studies were included if they provided detailed information on the freshwater fish species of Nagaland, including aspects

Table 1. Major Rivers of Nagaland, India.

	Major rivers	District	River system
1	Dhansiri	Dimapur	Brahmaputra
2	Dikhu	Mokokchung	Brahmaputra
3	Doyang	Wokha	Brahmaputra
4	Intangki	Wokha	Brahmaputra
5	Milak	Mokokchung	Brahmaputra
6	Shili	Longleng	Brahmaputra
7	Tizit	Mon	Brahmaputra
8	Tsurang	Mokokchung	Brahmaputra
9	Meguiki	Peren	Barak
10	Tizu	Phek	Chindwin
11	Zungki	Kiphire	Chindwin

Table 2. Minor rivers of Nagaland, India.

	Minor rivers	District	River system
1	Chathe	Kohima	Brahmaputra
2	Dzuna	Kohima	Brahmaputra
3	Tepuiki	Kohima	Barak
4	Dzulakie	Kohima	Barak
5	Tesuru	Phek	Irrawaddy
6	Arachu	Phek	Irrawaddy
7	Lanyi	Phek	Irrawaddy
8	Likhimro	Kiphire	Irrawaddy
9	Seidzu	Phek	Irrawaddy
10	Chokla	Tuensang	Irrawaddy

such as taxonomy, distribution, economic importance, habitat, and conservation status. Articles that did not meet these criteria, such as those focused on marine species or unrelated geographical areas, were excluded from the analysis. Full-text reviews were conducted for studies that passed the initial screening to confirm their relevance and inclusion in the final dataset.

Data Extraction and Compilation

Data were meticulously extracted from the selected studies, focusing on several key parameters:

- **Taxonomy and Nomenclature:** The classification of fish species followed the taxonomy outlined by Nelson (2016). Each species' scientific name was cross-checked with Eschmeyer's Catalogue of fish, a globally recognized database for fish species, to ensure the accuracy and validity of the taxonomic information.

- **Economic Importance:** Information on the economic significance of each species, such as, their use in local fisheries, aquaculture, or as ornamental fish, was collected.

- **Fin Formula and Morphological Traits:** Details regarding the fin formula, a key aspect of fish morphology, were documented. This included the number and arrangement of fins, which is crucial for species identification and classification.

- **Habitat and Distribution:** Data on the natural habitats of the fish species, including the types of water bodies they inhabit (e.g., rivers, streams, lakes) and their geographical distribution within Nagaland, were compiled.

- **Food Habits:** The dietary preferences of the fish species were documented, providing insights into their ecological roles within freshwater ecosystems.

- **Conservation Status:** The conservation status of each species was assessed using the IUCN Red List categories and criteria (Allen et al. 2010). Species were categorized as 'Not Evaluated' (NE), 'Data Deficient' (DD), 'Least Concern' (LC), 'Near Threatened' (NT), 'Vulnerable' (VU), or 'Endangered' (EN) based on their risk of extinction.

Data Analysis

The extracted data were systematically organized and analyzed using descriptive methods. This involved calculating the frequency and distribution of species across different taxonomic groups, habitat types, and conservation statuses. The results were presented in tables and charts to provide a clear and comprehensive overview of the ichthyofaunal diversity in Nagaland.

RESULT AND DISCUSSION

The study identified 202 fish species across 12 orders, 29 families, and 87 genera in Nagaland, India. The family Cyprinidae exhibited the highest diversity with 79 species, followed by Sisoridae with 26 species, and Nemacheilidae with 16 species (Figure 4). Other families, including Bagridae and Channidae, also showed notable diversity with 12 and six species, respectively. This diversity underscores the ecological richness of Nagaland's freshwater systems.

A systematic list of fish species and their IUCN conservation status (Table 3) reveals that most are classified as 'Least Concern', with some listed as 'Vulnerable' or 'Endangered'. About 6.93% are 'Data Deficient', highlighting the need for further research (Figure 3). Threats to these species include habitat

Figure 2. Timeline of newly discovered fish species in Nagaland, India.

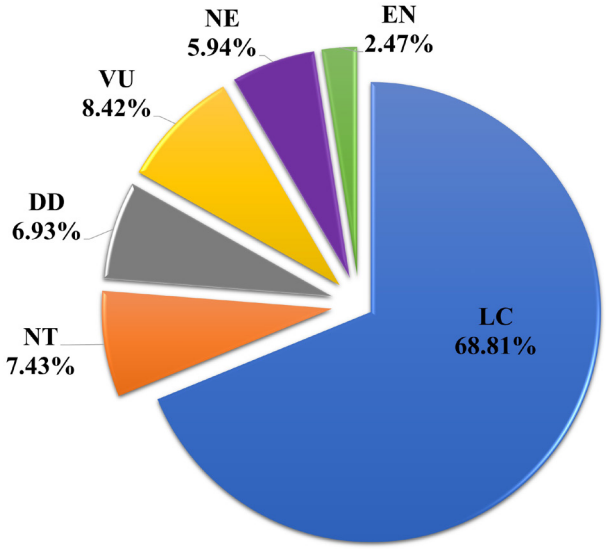

Figure 3. Pie charts showing the percentages of fish under different IUCN threat categories in Nagaland.

degradation, over-exploitation, and pollution. While many species are currently stable, the presence of 'Vulnerable' and 'Endangered' species indicates risks to their populations (Table 4).

Recent years have brought the discovery of new species such as *Garra chathensis* in the Chathe River, *Badis limaakumi* in the Milak River, and *Psilorhynchus kosygini* in the Tepuiki River. These findings reflect Nagaland's role in contributing to global ichthyofaunal knowledge and emphasize the need for continued research and conservation. The discovery of these new species also suggests the potential for additional undiscovered species in Nagaland's rivers, which are valuable for understanding evolutionary and biogeographic patterns.

Biogeographically, Nagaland's ichthyofauna shares patterns with neighbouring Himalayan and Brahmaputra regions, particularly the dominance of Cyprinidae. Species unique to Nagaland suggest localized speciation, likely driven by its complex topography and microhabitats. Species distributions across the Brahmaputra, Barak, and Irrawaddy drainage systems reflect Nagaland's role as a biogeographic crossroads, shaped by historical river capture and geological events.

CONCLUSION

In conclusion, Nagaland's freshwater ecosystems, rich in biodiversity, play a critical role in global ichthyofaunal diversity. Despite covering a limited geographic area, the state supports 202 fish species across various families, with notable diversity within the Cyprinidae family. The state's unique river systems and mountainous topography, which create diverse aquatic habitats, facilitate this high species richness. However, increasing human activities, including habitat destruction, overexploitation, and pollution, pose serious threats to these ecosystems. As a result, many species face extinction risks, with several categorized as 'Vulnerable' or 'Endangered', while others remain 'Data Deficient', indicating a pressing need for further research.

However, the ichthyofauna in this region faces pressing threats from habitat degradation, pollution, over-exploitation, and flow alterations due to human activity, leading to high extinction risks for vulnerable species. Although recent discoveries, such as *Garra chathensis*, *Badis limaakumi*, and *Psilorhynchus*

Table 3. Systematic list of fish species in Nagaland and their IUCN Red List conservation status.

	Scientific Name	Family	Fin formula	IUCN Red List status (2024)
1	*Ailia coila* (Hamilton, 1822)	Ailiidae	A58-75;PI14-16;Vi5	NT
2	*Clupisoma garua* (Hamilton, 1822)	Ailiidae	DI7;Aiii26-33;PI11;Vi5	LC
3	*Parambassis nama* Hamilton, 1822	Ambassidae	DVII+I15-17;AIII15-17;Pii11-12;VI5	LC
4	*Parambassis baculis* (Hamilton, 1822)	Ambassidae	DVI+I12-13;AIII12-13;Pi11-12;VI5	LC
5	*Parambassis ranga* Hamilton, 1822	Ambassidae	DVII+I11-14;AIII13-15;Pi11-12;VI5	LC
6	*Amblyceps apangi* Nath & Dey, 1989	Amblycipitidae	Dii5-6; Aii-iii7; PI16;VI5; C7+7	LC
7	*Amblyceps arunachalense* Nath & Dey, 1989	Amblycipitidae	DI7;AV8;PI7;VI5;C6+9	EN
8	*Amblyceps mangois* (Hamilton, 1822)	Amblycipitidae	DI5-6;Aii-iii6-8;PI7;Vi5-6	LC
9	*Anabas cobojius* (Hamilton, 1822)	Anabantidae	DXVI-XVIII9-10; AIX-XI9-11;Pi13-15;VI5	DD
10	*Anabas testudineus* (Bloch, 1792)	Anabantidae	DXVI-XVIII8-10;AVIII-XI9-11;Pi13-14;VI5	LC
11	*Anguilla bengalensis* Gray, 1831	Anguillidae	D250-305;A220-250;P18	NT
12	*Badis badis* (Hamilton, 1822)	Badidae	DXVI-XVIII 7-10;AIII 6-8;P12;VI5	LC
13	*Badis limaakumi* Praveenraj, 2023	Badidae	D17(8)9(10);A3(10)7(4);P13(5),14(1)V1,5(10)	NE
14	*Batasio batasio* (Hamilton, 1822)	Bagridae	DI7;Aiii-iv9-10;PI5-8;Vi5	LC
15	*Mystus armatus* Day, 1865	Bagridae	DI7;Aiii8;PI9;Vi5	LC
16	*Mystus bleekeri* Day, 1877	Bagridae	DI7-8;Aiii6-7;PI9-10;Vi5	LC
17	*Mystus cavasius* (Hamilton, 1822)	Bagridae	DI7;Aiv7-9;PI8;Vi5	LC
18	*Mystus tengara* (Hamilton, 1822)	Bagridae	DI7;Aii-iii9-10;PI8;Vi5	LC
19	*Mystus vittatus* (Bloch, 1794)	Bagridae	DI7;Aii-iii7-9;PI9;Vi5	LC
20	*Olyra burmanica* Day, 1872	Bagridae	Di7;Aiii13;PI4;Vi5	DD
21	*Olyra horae* Prashad & Mukerji, 1929	Bagridae	Di7;Aiii18;PI7;Vi5	DD
22	*Olyra kempi* Chaudhuri, 1912	Bagridae	Di6-7;A iii15-20;PI4-6;Vi5	LC
23	*Olyra longicaudata* McClelland, 1842	Bagridae	Di6-7;Aiii15-20;PI4-6;Vi5	LC
24	*Sperata aor* (Hamilton, 1822)	Bagridae	DI7;A iii-iv 8-10;PI9-10;Vi5;C17	LC
25	*Sperata seenghala* (Sykes, 1839)	Bagridae	DI7; Aiii8-9;PI9;Vi5;C19-21	LC
26	*Balitora brucei* Gray, 1830	Balitoridae	Diii8;Aiii5;Pix-x10-12;Vii9-10	NT
27	*Balitora burmanica* Hora, 1932	Balitoridae	Diii8;Aiii5;Pviii-x10-12;Vii9	LC
28	*Homalopteroides rupicola* (Prashad & Mukerji, 1929)	Balitoridae	Dii7;Aii5;Pv11;Vii6	LC
29	*Strongylura strongylura* (van Hasselt, 1823)	Belonidae	D12-15;A15-18;P10-12;V6	LC
30	*Xenentodon cancila* (Hamilton, 1822)	Belonidae	D15-18;A16-18;P11;V6	LC
31	*Botia almorhae* Gray, 1831	Botiidae	Diii9-10;Aii5-6;P14;Vi7	LC
32	*Botia dario* (Hamilton, 1822)	Botiidae	Dii8;Aii5;P15;Vi7	LC
33	*Botia histrionica* (Blyth, 1860)	Botiidae	Diii9;Aii6;Pii12;Vi7	LC
34	*Botia rostrata* (Günther, 1868)	Botiidae	Diii8;Aii5;Pi10;Vi6	VU
35	*Channa barca* (Hamilton, 1822)	Channidae	D47-52;A34-36;P16;V6	DD
36	*Channa gachua* (Hamilton, 1822)	Channidae	D32-37;A20-23;P14-15;V6	LC
37	*Channa marulius* (Hamilton, 1822)	Channidae	D45-55;A28-36;P16-18;V6	LC
38	*Channa punctata* (Bloch, 1793)	Channidae	D28-33;A20-23;P15-18;V6	LC
39	*Channa stewartii* (Playfair, 1867)	Channidae	D39-40;A27;P17;V6	LC
40	*Channa striata* (Bloch, 1793)	Channidae	D37-46;A23-29;P15-17;V6	LC
41	*Oreochromis mossambicus* (Peters, 1852)	Cichlidae	DXV-XVI10-12;AIII10-11;P14-15;VI5	VU
42	*Oreochromis niloticus* (Linnaeus, 1758)	Cichlidae	D 15-19/11-15; A 3/8-11;P14;V 1/5; C16-22.	LC
43	*Clarias gariepinus* Burchell, 1822	Clariidae	D70-76; A45-58;PI8-11;Vi5	LC

	Scientific Name	Family	Fin formula	IUCN Red List status (2024)
44	*Clarias magur* (Hamilton, 1822)	Clariidae	----------	EN
45	*Canthophrys gongota* (Hamilton, 1822)	Cobitidae	Dii9-10;Aii5-6;P14:Vi7	LC
46	*Lepidocephalichthys annandalei* Chaudhuri, 1912	Cobitidae	Di-ii6-7;Aii5;Pi6-7;Vi6	LC
47	*Lepidocephalichthys berdmorei* (Blyth, 1860)	Cobitidae	Dii-iii6;Aii5-6;Pi7-9;Vi6-7	LC
48	*Lepidocephalichthys guntea* (Hamilton, 1822)	Cobitidae	Dii-iii6-7;Aii-iii5;Pi6-7;Vi6-7	LC
49	*Lepidocephalichthys irrorata* Hora, 1921	Cobitidae	Dii-iii6-7;Aii-iii5;Pi6-7;Vi6	LC
50	*Pangio pangia* (Hamilton, 1822)	Cobitidae	Dii6;Aii5-6;Pi9-10;Vi5-6	LC
51	*Amblypharyngodon mola* (Hamilton, 1822)	Cyprinidae	D8;P15; V8;A6-7;C19	LC
52	*Bangana dero* (Hamilton, 1822)	Cyprinidae	Dii-iii9-12; Pi16-17; V i7; Aii-iii5	LC
53	*Opsarius barila* (Hamilton, 1822)	Cyprinidae	Dii7; Pi 12;Vi 8; A iii10-11	LC
54	*Opsarius vagra* (Hamilton, 1822)	Cyprinidae	Dii-iii7;P i14-15;Vi7;Aii12;C19	LC
55	*Opsarius morar* (Hamilton, 1822)	Cyprinidae	Dii-iii7-9; P 14-15; V 8; A ii 8-10	LC
56	*Chagunius chagunio* (Hamilton, 1822)	Cyprinidae	Dv8;Pi15;Vi 8; Aiii5;C19	LC
57	*Chagunius nicholsi* Myers, 1924	Cyprinidae	Dv8;Pi14;Vii8;Aiii5	LC
58	*Chela cachius* (Hamilton, 1822)	Cyprinidae	Dii7;Pi8;Vi5-6;Aii-iii19-23	LC
59	*Cirrhinus mrigala* (Hamilton, 1822)	Cyprinidae	Diii-iv12-13;Pi17;Vi8;Aiii5	LC
60	*Cirrhinus reba* (Hamilton, 1822)	Cyprinidae	Dii-iii8;Pi15;Vi8:Aiii5	LC
61	*Tariqilabeo burmanicus* (Hora, 1936)	Cyprinidae	Div10-11;Pi14;Vi7;Aiii5	LC
62	*Tariqilabeo latius* (Hamilton, 1822)	Cyprinidae	Div8;Pi13;Vi8;Aii5	LC
63	*Ctenopharyngodon idella* Valenciennes, 1844	Cyprinidae	Diii7;Pi17;Vi8;Aiii7-8	LC
64	*Semiplotus semiplotus* (McClelland, 1839)	Cyprinidae	Diii24-25;Pi15;Vi9;Aii7	VU
65	*Cyprinus carpio* Linnaeus, 1758	Cyprinidae	Diii-iv18-20;Pi-15;Vi8;Aiii5	VU
66	*Danio dangila* (Hamilton, 1822)	Cyprinidae	Dii9-11;Pi11-12;Vi7:Aii-iii12-15	LC
67	*Danio rerio* (Hamilton, 1822)	Cyprinidae	Dii7;Pi12;Vii 9;Aii 5;C19	LC
68	*Devario acuticephala* Hora, 1921	Cyprinidae	Dii6-7;Pi10-11;Vi6;Aii9-10	LC
69	*Devario aequipinnatus* (McClelland, 1839)	Cyprinidae	Dii-iii9-12;Pi11-12;Vi6:Aii-iii14-16	LC
70	*Devario devario* (Hamilton, 1822)	Cyprinidae	Dii7-8;Pii12; Vi9;Aii-iii 13-14;C21	LC
71	*Devario naganensis* (Chaudhuri, 1912)	Cyprinidae	Dii-iii8-9;Pi11-12;Vi6;Aii12-13	VU
72	*Esomus danrica* (Hamilton, 1822)	Cyprinidae	Dii6;Pi14-15;Vi6-7;Aiii5	LC
73	*Garra annandalei* Hora, 1921	Cyprinidae	Diii7-8;Pi12-14;Vi7;Aii5	LC
74	*Garra birostris* Nebeshwar & Vishwanath, 2013	Cyprinidae	Dii8½;Pi12-14;Vi8;Aii5½	NE
75	*Garra chathensis* Ezung, Shangningam & Pankaj, 2020	Cyprinidae	Diii8½;Pi13-14;Vi7½;Aiii5½	LC
76	*Garra gotyla* (Gray, 1830)	Cyprinidae	Diii7-8;Pi14;Vi8;Aii5	LC
77	*Garra gravelyi* Annandale, 1919	Cyprinidae	Dii7;Pi13;Vi8;Aii5	NT
78	*Garra kempi* Hora, 1921	Cyprinidae	Dii8;Pi12;Vi7:Aii5	LC
79	*Garra lamta* (Hamilton, 1822)	Cyprinidae	Diii7-8;Pi12;Vi7-8;Aii5	LC
80	*Garra langlungensis* Ezung, Shangningam & Pankaj, 2021	Cyprinidae	Dii8½;Pi11-12;Vi7½;Aii5½	NE
81	*Garra lissorhynchus* (McClelland, 1842)	Cyprinidae	Dii6-7;Pi14-15;Vi7-8,Ai5	LC
82	*Garra naganensis* Hora, 1921	Cyprinidae	Diii6; Pi12;Vii8;A ii6;C19	LC
83	*Garra nasuta* (McClelland, 1838)	Cyprinidae	Dii8-9;Pi14;Vi7;Ai-ii5	LC
84	*Garra notata* (Blyth, 1860)	Cyprinidae	Dii7;Pi13-14;Vi8;Aii5	LC
85	*Garra rupecula* (McClelland, 1839)	Cyprinidae	Dii6-7; Aii5; Pi14-15;Vi8;	NT
86	*Garra lungongza* Ngangbam & Lithoingambi, 2023	Cyprinidae	Dii7½; Pi13; Pi13;Aii5½	NE
87	*Garra zubzaensis* Tenali, Shangningam, Bhattacharjee, Patel & Kosygin, 2024	Cyprinidae	Dii,8.5; Pi,14;Vi,8; Aii 5.5;C9+8	NE

	Scientific Name	Family	Fin formula	IUCN Red List status (2024)
88	*Gymnostomus ariza* (Hamilton, 1807)	Cyprinidae	Dii9;Pi17;Vi8;Aii-iii5	LC
89	*Hypophthalmichthys molitrix* (Valenciennes, 1844)	Cyprinidae	Diii7;Pi17;Vi7;Aii-iii12-14	NT
90	*Hypophthalmichthys nobilis* Richardson, 1845	Cyprinidae	Diii7;Pi19;Vi7;Aiii11	DD
91	*Labeo angra* (Hamilton, 1822)	Cyprinidae	Dii-iii10;Pi15;Vi8;Aii5	LC
92	*Labeo bata* (Hamilton, 1822)	Cyprinidae	Dii-iv9-10;Pi15-17;Vi8;Aii-iii5	LC
93	*Labeo boga* (Hamilton, 1822)	Cyprinidae	Dii-iii9-10;Pi15;Vi8;ii5	LC
94	*Labeo calbasu* (Hamilton, 1822)	Cyprinidae	Diii-iv13-16;Pi16-18;Vi8;Aii-iii5	LC
95	*Labeo catla* (Hamilton, 1822)	Cyprinidae	Diii15; Pi16;V i8;A ii5;C19	LC
96	*Labeo dyocheilus* (McClelland, 1839)	Cyprinidae	Dii-iii10-11;Pi16;Vi8;Aii5	LC
97	*Labeo fimbriatus* (Bloch, 1795)	Cyprinidae	Diii-iv15-18;Pi15;Vi8;Aii-iii5	LC
98	*Labeo gonius* (Hamilton, 1822)	Cyprinidae	Dii-iii13-16;Pi16;Vi8;Aii5-6	LC
99	*Labeo pangusia* (Hamilton, 1822)	Cyprinidae	Dii-iii10-11;Pi14-15;Vi8;Aii5	NT
100	*Labeo rohita* (Hamilton, 1822)	Cyprinidae	Diii-iv12-14;Pi16-18;Vi8;Aii-iii5	LC
101	*Laubuka laubuca* (Hamilton, 1822)	Cyprinidae	Dii8-10;Pi8-11;Vi6;Aii17-22	LC
102	*Neolissochilus hexagonolepis* (McClelland, 1839)	Cyprinidae	Div9;Pi16;Vi8;Aiii5	NT
103	*Neolissochilus hexastichus* (McClelland, 1839)	Cyprinidae	Div9;Pi16;Vi8;A iii5;C19	NT
104	*Opsarius barna* (Hamilton, 1822)	Cyprinidae	Diii6; Pii12;VI9;Aiii11-12;C18	LC
105	*Opsarius barnoides* (Vinciguerra, 1890)	Cyprinidae	Dii-iii7-8;Pi13;Vi8;Aii-iii10-11	LC
106	*Opsarius bendelisis* (Hamilton, 1807)	Cyprinidae	Diii8;Pi14;Vii9;Aii 8;C19	LC
107	*Opsarius dogarsinghi* (Hora, 1921)	Cyprinidae	Dii7; Pi12;Vi8; Aiii9	VU
108	*Opsarius shacra* (Hamilton, 1822)	Cyprinidae	Dii7;Pi14;Vi8;Aii-iii8	LC
109	*Opsarius tileo* (Hamilton, 1822)	Cyprinidae	Dii7;Pi13;Vi8;Aiii10	LC
110	*Oreichthys elianae* Praveenraj & Vijayakrishnan, 2026	Cyprinidae	Dii,8½;Pi,13;Vi,9;Aii,5½; C19(1+9+8+1)	NE
111	*Osteobrama cotio* (Hamilton, 1822)	Cyprinidae	Diii-iv8;Pi12-14;Vi8;Aiii33-38	LC
112	*Pethia conchonius* (Hamilton, 1822)	Cyprinidae	Diii7-8; Aii-iii5;Pi18;Vi8	LC
113	*Pethia dikhuensis* Praveenraj, Limaakum, Knight, Moulitharan & Imchen, 2022	Cyprinidae	Div8;Aiii5(13);Pi12;Vi7-8	NE
114	*Pethia shalynius* (Yazdani & Talukdar, 1975)	Cyprinidae	Diii7;Aii5;Pi12-13;Vi7	VU
115	*Pethia ticto* (Hamilton, 1822)	Cyprinidae	Diii-iv8;Aii-iii5;Pi12-14;Vi8	LC
116	*Puntius chola* (Hamilton, 1822)	Cyprinidae	Diii8;Pi14;Vi8;Aii5	LC
117	*Puntius sophore* (Hamilton, 1822)	Cyprinidae	Diii-iv8-9;Aiii5;Pi14-16;Vi8	LC
118	*Puntius terio* (Hamilton, 1822)	Cyprinidae	Diii8;Aii5;Pi14;Vi8	LC
119	*Raiamas bola* (Hamilton, 1822)	Cyprinidae	Diii7-8;Aiii10; Pi12; Vi8	LC
120	*Raiamas guttatus* Day, 1870	Cyprinidae	Dii7;Aiii9-10;Pi14;Vi8	LC
121	*Rasbora daniconius* (Hamilton, 1822)	Cyprinidae	Dii7;Aii5;Pi14;Vi8	LC
122	*Rasbora rasbora* (Hamilton, 1822)	Cyprinidae	Dii7;Aii-iii5;Pi14;Vi8	LC
123	*Salmostoma acinaces* (Valenciennes, 1844)	Cyprinidae	Diii7;Aii-iii14-17;Pi14;Vi8	LC
124	*Salmostoma bacaila* (Hamilton, 1822)	Cyprinidae	Dii-iii7;Aiii10-13;Pi11-12;Vi8	LC
125	*Schizothorax richardsonii* (Gray, 1832)	Cyprinidae	Diii8;Aiii5;Pi15-16;Vi9	VU
126	*Poropuntius clavatus* (McClelland, 1845)	Cyprinidae	Div8;Aiii5;Pi14;Vi8	NT
127	*Systomus sarana* (Hamilton, 1822)	Cyprinidae	Diii-iv8;Aiii5;Pi14-16;Vi8	LC
128	*Tor putitora* (Hamilton, 1822)	Cyprinidae	D iii8-9;Pi18;Vi8;Aii5;C19	EN
129	*Tor tor* (Hamilton, 1822)	Cyprinidae	Div8;Aiii5;Pi14-17;Vi8	DD
130	*Gudusia chapra* (Hamilton, 1822)	Dorosomatidae	Div11-13;A(ii)iii19-22;Pi12-13;Vi7	LC
131	*Glossogobius giuris* (Hamilton, 1822)	Gobiidae	DVI+I8-9;AI7-8;Pi16-21	LC

	Scientific Name	Family	Fin formula	IUCN Red List status (2024)
132	*Heteropneustes fossilis* (Bloch, 1794)	Heteropneustidae	D6-7;A60-70;PI7;Vi5	LC
133	*Macrognathus aral* (Bloch & Schneider, 1801)	Mastacembelidae	DXVI-XXIII 44-45;AIII44-52;P19-24;C15	LC
134	*Macrognathus pancalus* (Hamilton, 1822)	Mastacembelidae	DXXIV-XXVI30-42;AIII31-46;P17-19;C12	LC
135	*Mastacembelus armatus* (Lacepède, 1800)	Mastacembelidae	DXXXII-XL;64-92;AIII64-90;P21-27;C14-17	DD
136	*Rhinomugil corsula* (Hamilton, 1822)	Mugilidae	D_1IV,D_2I8;AIII9;P16;VI5	LC
137	*Nandus nandus* (Hamilton, 1822)	Nandidae	DXII-XIV11-13;AIII7-9;P15;VI5	LC
138	*Paracanthocobitis botia* (Hamilton, 1822)	Nemacheilidae	Diii9-11;Aiii5;Pi11;Vi7	LC
139	*Neonoemacheilus assamensis* (Menon, 1987)	Nemacheilidae	Diii8;Aii5;Pi10;Vi7	NT
140	*Paracanthocobitis zonalternans* (Blyth, 1860)	Nemacheilidae	Diii10;Aiii5-6;Pi11;Vi7	LC
141	*Schistura beavani* (Günther, 1868)	Nemacheilidae	Diii9-11;Aiii5;Pi11;Vi7	LC
142	*Schistura kangjupkhulensis* (Hora, 1921)	Nemacheilidae	Dii7;Aii5;Pi8;Vi6	EN
143	*Rhyacoschistura manipurensis* (Chaudhuri, 1912)	Nemacheilidae	Di7;Aii5;Pi11;Vi7	NT
144	*Schistura multifasciata* (Day, 1878)	Nemacheilidae	Dii8;Aii5;Pi10-11;Vi7-8	LC
145	*Schistura nagaensis* (Menon, 1987)	Nemacheilidae	Dii8;Aii5;Pi8;Vi6	VU
146	*Mustura prashadi* (Hora, 1921)	Nemacheilidae	Dii8;Aii5;Pi10;Vi7	VU
147	*Schistura reticulofasciata* (Singh & Bănărescu, 1982)	Nemacheilidae	Diii8;Aii-iii5;Pi9;Vi6-7	VU
148	*Acantopsis savona* (Hamilton, 1822)	Nemacheilidae	Diii9;Aii5;Pi9:Vi6	LC
149	*Schistura scaturigina* McClelland, 1839	Nemacheilidae	Diii8;Ai5;Pi9;Vi7	LC
150	*Mustura sijuensis* (Menon, 1987)	Nemacheilidae	Dii8;Aii5;Pi10;Vi7	EN
151	*Schistura sikmaiensis* (Hora, 1921)	Nemacheilidae	Dii8;Aii5;Pi10-11;Vi7	LC
152	*Schistura singhi* (Menon, 1987)	Nemacheilidae	Diii7;Aii5;Pi8;Vi6	VU
153	*Schistura tirapensis* Kottelat, 1990	Nemacheilidae	Dii8;Aii5;Pi10;Vi7	LC
154	*Schistura vinciguerrae* (Hora, 1935)	Nemacheilidae	Diii8;Aii5;Pi11;Vi6	LC
155	*Chitala chitala* (Hamilton, 1822)	Notopteridae	D9-10;A+C110-135;V6	NT
156	*Notopterus notopterus* (Pallas, 1769)	Notopteridae	D7-9;A+C100-110;V5-6	LC
157	*Trichogaster chuna* (Hamilton, 1822)	Osphronemidae	DXVII-XVIII6-9;AXVIII-XXII11-13;P9	LC
158	*Trichogaster fasciata* (Bloch & Schneider, 1801)	Osphronemidae	DXV-XVII9-14;AXV-XVIII14-19;P9-10	LC
159	*Trichogaster lalius* (Hamilton, 1822)	Osphronemidae	DXV-XVII7-10;AXVII-XVIII13-17;P10	LC
160	*Osphronemus goramy* Lacepède, 1801	Osphronemidae	DXI-XIII11-12;AIX-XII19-21;Pi11;VI5	LC
161	*Psilorhynchus balitora* (Hamilton, 1822)	Psilorhynchidae	Diii8;Aii5;Pv-viii7-9;Vii7	LC
162	*Psilorhynchus homaloptera* Hora & Mukerji, 1935	Psilorhynchidae	Dii7;Aii5;Pvii-viii9;Vii7	LC
163	*Psilorhynchus sucatio* (Hamilton, 1822)	Psilorhynchidae	Dii7;Aii5;Piv8-9;Vii7-8	LC
164	*Psilorhynchus kosygini* Shangningam, 2024	Psilorhynchidae	Dii.8,Aii.6,Pviii(7)7(i)8(3),Vii.7	NE
165	*Eutropiichthys murius* (Hamilton, 1822)	Schilbeidae	DI7;Aiii35-40;PI10-11;Vi5	LC
166	*Eutropiichthys vacha* (Hamilton, 1822)	Schilbeidae	DI7;Aiii-iv41-52;PI13-16;Vi5	LC
167	*Johnius coitor* (Hamilton, 1822)	Scianenidae	DX+I26-29;AII7;Pi15-16;VI5	LC
168	*Ompok bimaculatus* (Bloch, 1794)	Siluridae	D4;Aii-iii57-58;PI12-14;Vi7-8	NT
169	*Ompok pabda* (Hamilton, 1822)	Siluridae	D4-5;Aii48-54;PI11-13;Vi6-7	NT
170	*Pterocryptis berdmorei* (Blyth, 1860)	Siluridae	D4;Aii60-62;PI11;Vi9	LC
171	*Pterocryptis gangelica* Peters, 1861	Siluridae	D2;Aii72;PI11;Vi8	DD
172	*Pterocryptis indicus* Datta, Barman & Jayaram, 1987	Siluridae	Di;Aiii85;Pi11;Vi7	DD
173	*Wallago attu* (Bloch & Schneider, 1801)	Siluridae	D5;Aiii74-93;PI13-15;Vi7-9	VU
174	*Conta conta* (Hamilton, 1822)	Sisoridae	DI5-6;Aii-iii7;PI6;Vi5	DD
175	*Erethistes hara* (Hamilton, 1822)	Sisoridae	DI6-7;Aiv7-8;PI7;Vi5	LC
176	*Erethistes horai* (Misra, 1976)	Sisoridae	DI6;Aiii7;PI6;Vi5	LC

	Scientific Name	Family	Fin formula	IUCN Red List status (2024)
177	*Erethistes jerdoni* (Day, 1870)	Sisoridae	DI5;Aiv-v5-7;PI4-5;Vi5	LC
178	*Erethistes pusillus* Müller & Troschel, 1849	Sisoridae	DI6;Aiii8;PI5-6;Vi5	LC
179	*Pseudolaguvia vespa* Praveenraj, Vijayakrishna, Lima & Gurumayum, 2021	Sisoridae	D 5, i (1), 6, i*(2) or 6 (7);P 7*(2) or 8 (8);Vi,4,i(2) or i,5, i* (8);A iv, 5, i* (5), iv, 6, i (4) or iv,or iv,7, i(1);C i,14,i(10)	NE
180	*Bagarius bagarius* (Sykes, 1839)	Sisoridae	Di7;Aiii9-12;Pi11-14;Vi5	VU
181	*Exostoma berdmorei* (Blyth, 1860)	Sisoridae	Di6;Ai5;Pi10;Vi5	DD
182	*Exostoma labiatum* (McClelland, 1842)	Sisoridae	Di6;Ai5;Pi11-12;Vi5	LC
183	*Exostoma stuarti* (Hora, 1923)	Sisoridae	Di6;Ai5;Pi10;Vi5	DD
184	*Exostoma vinciguerrae* Regan, 1905	Sisoridae	Di6;Ai5;Pi10;Vi5	DD
185	*Exostoma sentiyonoae* Shangningam & Limatemjen, 2024	Sisoridae	Di6(7); Ai5(7);Pi10(7);Vi5(7);Ci,6,7,i (3) or i,7,8,i(4)	NE
186	*Gagata cenia* (Hamilton, 1822)	Sisoridae	Di6:Aii-iii10-14;Pi7-9;Vi5	LC
187	*Glyptosternon maculatum* Regan, 1905	Sisoridae	Di6;Ai5;Pi12;Vi5	LC
188	*Glyptothorax cavia* (Hamilton, 1822)	Sisoridae	Di6;Aii9-10;PI9;Vi5	LC
189	*Glyptothorax saisii* Jenkins, 1910	Sisoridae	Di6;Aiv8;Pi10;Vi5	VU
190	*Glyptothorax sentimereni* Praveenraj & Vijayakrishnan 2026	Sisoridae	DI,6*(3);Aiv,8*(2) or iv,9(1);Pi,10*i(3);Vi,5(3); Ci,7,8,i*	NE
191	*Glyptothorax indicus* Talwar, 1991	Sisoridae	DI5-6;Aii8-9;PI8-9;Vi5	LC
192	*Glyptothorax manipurensis* (Menon, 1955)	Sisoridae	DI6;Aii9;PI9;Vi5	VU
193	*Glyptothorax platypogonides* (Bleeker, 1855)	Sisoridae	Di6-7;Aiii-iv9;Pi8-9;Vi5	LC
194	*Glyptothorax sinensis* Regan, 1908	Sisoridae	Di6;Aii9;Pi9;Vi5	DD
195	*Glyptothorax telchitta* (Hamilton, 1822)	Sisoridae	DI6-7;Aii9-10;PI7-9;Vi5	LC
196	*Glyptothorax trilineatus* (Blyth, 1860)	Sisoridae	DI6-7;Ai9-10;PI10-11;Vi5	LC
197	*Myersglanis jayarami* Vishwanath & Kosygin, 1999	Sisoridae	D;A5;P10;C15-16	VU
198	*Nangra nangra* (Hamilton, 1822)	Sisoridae	DI9-10;Aiii10;PI9;Vi5	LC
199	*Pseudecheneis nagalandensis* Shangningam & Kosygin, 2020	Sisoridae	Di,6(8);Aiii,8(8);Pi,14(8);Vi,5(8);Ci,7,8i(8)	NE
200	*Sisor rabdophorus* (Hamilton, 1822)	Sisoridae	DI6;Aii4;PI8;Vi7	LC
201	*Monopterus albus* Zuiew, 1793	Synbranchidae	--------	LC
202	*Monopterus cuchia* (Hamilton, 1822)	Synbranchidae	-------	LC

D—Dorsal fin | D1—First dorsal fin | D2—Second dorsal fin | A—Anal fin | P—Pectoral fin | V—Pelvic fin | LC—Least Concern | DD—Data Deficient | NT—Near Threatened | VU—Vulnerable | EN—Endangered | NE—Not Evaluated.

kosygini, have enhanced the documentation of local biodiversity, further research is necessary, especially in remote areas. Continued efforts to study, monitor, and conserve Nagaland's fish diversity are essential for maintaining ecosystem stability, protecting species from extinction, and contributing valuable knowledge to global freshwater biodiversity conservation initiatives.

REFERENCES

Allen, D.J., S. Molur & B.A. Daniel (Compilers) (2010). *The Status and Distribution of Freshwater Biodiversity in the Eastern Himalaya*. International Union for Conservation of Nature, Cambridge, UK & Gland, Switzerland, and Zoo Outreach Organisation, Coimbatore, India, 88 pp.

Ao, S., S.C. Dey & S.K. Sarmah (2008). *Fish and Fisheries of Nagaland*. Department of Fisheries, Nagaland, Bhabani Press, Guwahati, India, 244 pp.

Bendangkokba & S.U. Ahmed (2007). Ichthyofauna and ecology of the rivers of Nagaland. *Indian Journal of Traditional Knowledge* 6(4): 516–522.

Biswas, S.P. & S. Boruah (2000). Fisheries ecology of the northeastern Himalayas with special reference to the Brahmaputra River. *Ecological Engineering* 16(1): 39–50. https://doi.org/10.1016/S0925-8574(00)00075-6

Dudgeon, D., A.H. Arthington, M.O. Gessner, Z. Kawabata, D.J. Knowler, C. Lévêque, R.J. Naiman, A.H. Prieur-Richard, D. Soto, M.L.J. Stiassny & C.A. Sullivan (2006). Freshwater biodiversity: importance, threats, status and conservation challenges. *Biological Reviews* 81(2): 163–182. https://doi.org/10.1017/

Table 4. Threatened fish species under the IUCN Red List in Nagaland.

Scientific name	IUCN Red List category	Threats	Criteria IUCN (ver 3.1)	Conservation actions needed
Amblyceps arunachalense Nath & Dey, 1989	EN	1. Mining & quarrying 2. Fishing & harvesting aquatic resources	B1ab(iii)	1. Land/water protection 2. Land/water management
Schistura kangjupkhulensis (Hora, 1921)	EN	1. Destructive fishing methods 2. Human intrusions & disturbance	A3c+4ac; B2ab(iii,iv,v)	1. Land/water protection 2. Land/water management 3. Education & awareness 4. Law & policy
Mustura sijuensis (Menon, 1987)	EN	1. Mining & quarrying 2. Logging & wood harvesting	B1ab(iii)	1. Land/water protection 2. Land/water management 3. Species management 4. Education & awareness 5. Law & policy
Clarias magur (Hamilton, 1822)	EN	1. Domestic & urban waste water 2. Agricultural & forestry effluents 3. Fishing & harvesting aquatic resources 4. Invasive non-native	A3cde+4acde	1. Land/water protection 2. Land/water management 3. Species management 4. Education & awareness 5. Law & policy 6. Livelihood, economic & other incentives
Tor putitora (Hamilton, 1822)	EN	1. Housing & urban areas 2. Mining & quarrying 3. Fishing & harvesting aquatic resources 4. Recreational activities 5. Dams & water management/use 6. Domestic & urban waste water 7. Agricultural & forestry effluents 8. Habitat shifting & alteration 9. Droughts 10. Storms & flooding	A2abcd	1. Species management 2. Education & awareness 3. Law & policy
Schistura nagaensis (Menon, 1987)	VU	1. Annual & perennial non-timber crops. 2. Agricultural & forestry effluents	B1ab(iii).	1. Site/area protection 2. Site/area management 3. Habitat & natural process restoration
Mustura prashadi (Hora, 1921)	VU	1. Housing & urban areas 2. Domestic & urban waste water 3. Agricultural & forestry effluents	B1ab(iii)	1. Site/area protection 2. Resource & habitat protection 3. Site/area management 4. Habitat & natural process restoration 5. Awareness & communications
Schistura reticulofasciata (Singh & Bănărescu, 1982)	VU	1. Logging & wood harvesting 2. Other ecosystem modifications	B1ab(iii); D2.	1. Site/area protection 2. Resource & habitat protection 3. Site/area management 4. Habitat & natural process restoration 5. Species management 6. Species recovery 7. Ex-situ conservation 8. Awareness & communications 9. Legislation 10. Policies and regulations
Schistura singhi (Menon, 1987)	VU	1. Annual & perennial non-timber crops 2. Dams & water management/use	B1ab(iii); D2	More research is needed on distribution, life history, population, trends, habitat, and impacts of threat.
Oreochromis mossambicus (Peters, 1852)	VU	1. Invasive non-native/alien species/ diseases	A4ae	1. Site/area protection 2. Invasive/problematic species control 3. Awareness & communications Policies and regulations
Botia rostrata (Günther, 1868)	VU	1. Housing & urban areas 2. Mining & quarrying 3. Fishing & harvesting aquatic resources	A2cd	Impact of threats on the species distribution and population requires detailed studies.
Cyprinion semiplotum (McClelland, 1839)	VU	1. Fishing & harvesting aquatic resources 2. Other ecosystem modifications	A2acde+3cde	1. Resource & habitat protection 2. Harvest management 3. Legislation at International level 4. Livelihood, economic & other incentives (Substitution)
Cyprinus carpio Linnaeus, 1758	VU	1. Transportation & service corridors (Shipping lanes) 2. Dams & water management/use 3. Introduced genetic material	A2ce	1. Site/area management 2. Invasive/problematic species control 3. Habitat & natural process restoration
Devario naganensis (Chaudhuri, 1912)	VU	1. Dams & water management/use	B1ab(iii)	More research is needed on distribution, life history, population, trends, habitat, and impacts of threat.

Scientific name	IUCN Red List category	Threats	Criteria IUCN (ver 3.1)	Conservation actions needed
Opsarius dogarsinghi (Hora, 1921)	VU	1. Human intrusions & disturbance	B1ab(iii)	Resource & habitat protection
Pethia shalynius (Yazdani & Talukdar, 1975)	VU	1. Mining & quarrying	B1ab(iii)	More research is required on distribution, biology, population, habitat, trends and threats to the species
Schizothorax richardsonii (Gray, 1832)	VU	1. Tourism & recreation areas 2. Fishing & harvesting aquatic resources 3. Dams & water management/use 4. Invasive non-native/alien species/ diseases 5. Other threat	A2acd+3cde+ 4acde	1. Site/area protection 2. Resource & habitat protection 3. Site/area management 4. Invasive/problematics species control 5. Species recovery 6. Species re-introduction 7. Ex-situ conservation 8. Formal education 9. Awareness & communications 10. Policies and regulations
Wallago attu (Bloch & Schneider, 1801)	VU	1. Fishing & harvesting aquatic resources 2. Recreational activities 3. Domestic & urban waste water 4. Agricultural & forestry effluents 5. Droughts 6. Storms & flooding	A2d	1. Resource & habitat protection 2. Harvest management
Bagarius bagarius (Hamilton, 1822)	VU	1. Fishing & harvesting aquatic resources 2. Dams & water management/use	A2d	More information about the population size and trend, as well as the effect of fishing and other anthropogenic activities on the global population, is needed.
Glyptothorax saisii (Jenkins, 1910)	VU	1. Mining & quarrying 2. Logging & wood harvesting	B1ab(iii)+ 2ab(iii); D2	Data on the species' population status, distribution, and associated threats is needed
Glyptothorax manipurensis Menon, 1955	VU	1. Dams & water management/use	B2ac(ii)	1. The potential threats to this species require more thorough and immediate study.
Myersglanis jayarami Vishwanath & Kosygin, 1999	VU	1. Annual & perennial non-timber crops 2. Fishing & harvesting aquatic resources	B1ab(iii)	1. Further investigation into the distribution and biology of this species is necessary due to the lack of adequate information currently available.
Anguilla bengalensis (Gray, 1831)	NT	1. Housing & urban areas 2. Commercial & industrial areas 3. Oil & gas drilling 4. Mining & quarrying 5. Renewable energy 6. Fishing & harvesting aquatic resources 7. Dams & water management/use 8. Invasive non-native 9. Domestic & urban waste water 10. Industrial & military effluents 11. Agricultural & forestry effluents	A2cd	1. Species management 2. Education & awareness
Balitora brucei Gray, 1830	NT	1. Mining & quarrying 2. Agricultural & forestry effluents	------	1. Site/area protection 2. Resource & habitat protection 3. Site/area management 4. Ex-situ conservation
Neonoemacheilus assamensis (Menon, 1987)	NT	1. Fishing & harvesting aquatic resources	------	1. Site/area protection
Garra gravelyi (Annandale, 1919)	NT	1. Human intrusions & disturbance 2. Domestic & urban waste water	------	1. Resource & habitat protection
Garra rupecula (McClelland, 1839)	NT	1. Mining & quarrying 2. Logging & wood harvesting 3. Dams & water management/use	------	1. Resource & habitat protection 2. Awareness & communications
Hypophthalmichthys molitrix (Valenciennes, 1844)	NT	1. Fishing & harvesting aquatic resources 2. Dams & water management/use 3. Domestic & urban waste water 4. Industrial & military effluents 5. Agricultural & forestry effluents	------	1. Wild population should be monitored.
Labeo pangusia (Hamilton, 1822)	NT	1. Fishing & harvesting aquatic resources	------	1. Awareness & communications

Scientific name	IUCN Red List category	Threats	Criteria IUCN (ver 3.1)	Conservation actions needed
Neolissochilus hexagonolepis (McClelland, 1839)	NT	1. Commercial & industrial areas 2. Tourism & recreation areas 3. Annual & perennial non-timber crops 4. Wood & pulp plantations 5. Mining & quarrying 6. Roads & railroads 7. Logging & wood harvesting 8. Dams & water management/use 9. Domestic & urban waste water 10. Industrial & military effluents	------	1. Site/area protection 2. Resource & habitat protection 3. Site/area management 4. Habitat & natural process restoration 5. Harvest management 6. Awareness & communications 7. Legislation at National Level 8. Compliance and enforcement
Neolissochilus hexastichus (McClelland, 1839)	NT	1. Mining & quarrying 2. Logging & wood harvesting 3. Fishing & harvesting aquatic resources 4. Dams & water management/use	------	1. Research 2. Biology of the fish
Systomus clavatus (McClelland, 1845)	NT	1. Mining & quarrying 2. Fishing & harvesting aquatic resources 3. Dams & water management/use	------	1. Site/area protection
Chitala chitala (Hamilton, 1822)	NT	1. Fishing & harvesting aquatic resources 2. Other ecosystem modifications	------	1. Site/area protection 2. Resource & habitat protection
Ailia coila (Hamilton, 1822)	NT	1. Fishing & harvesting aquatic resources	------	1. Pollution and habitat destruction's impact on population declines needs more research.
Ompok bimaculatus (Bloch, 1794)	NT	1. Fishing & harvesting aquatic resources	------	1. Harvest management 2. Awareness & communications
Ompok pabda (Hamilton, 1822)	NT	1. Fishing & harvesting aquatic resources	------	1. Pollution and habitat destruction's impact on population declines needs more research.
Rhyacoschistura manipurensis (Chaudhuri, 1912)	NT	1. Dynamite and other destructive fishing 2. Human interference and poisoning	------	1. Site/area protection

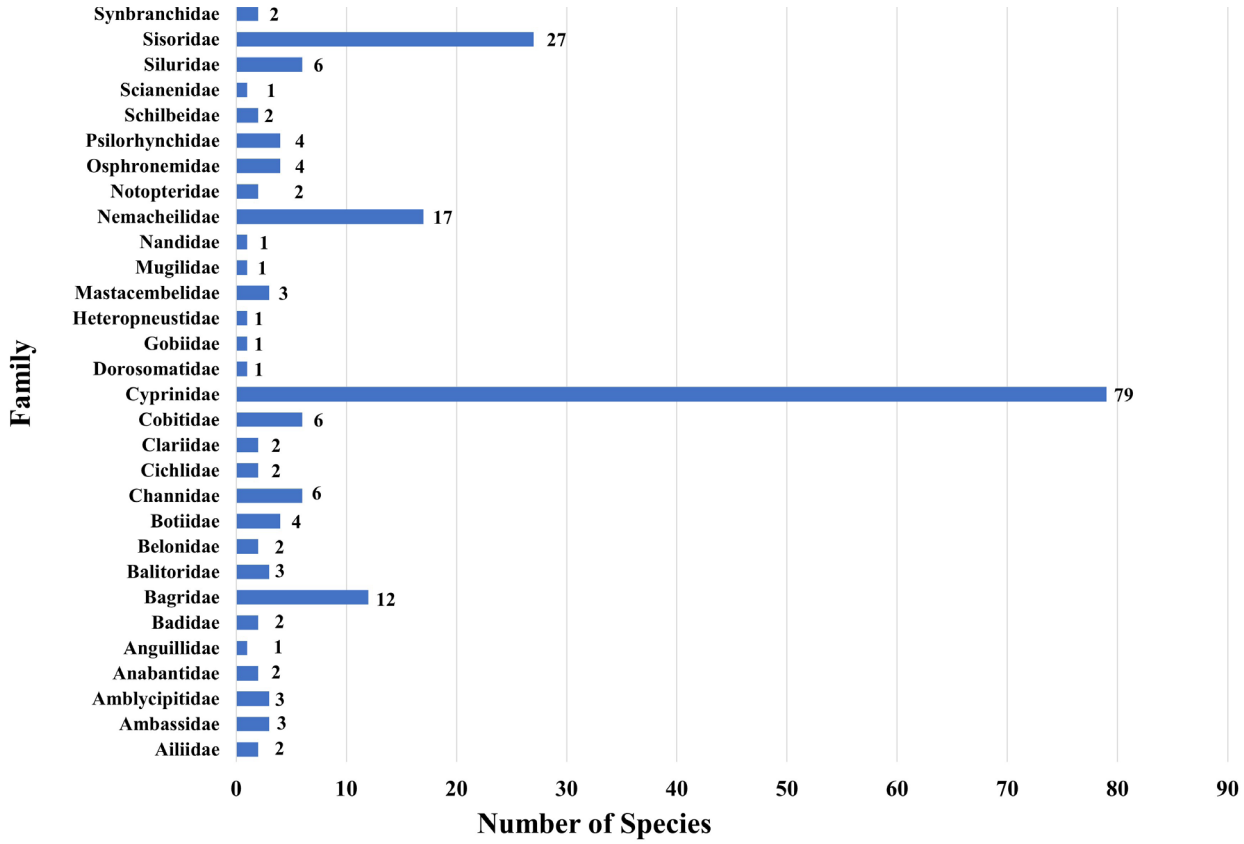

Figure 4. Species count across different fish families in Nagaland.

S1464793105006950

Ezung, S., M. Kechu & P.P. Pankaj (2022). First record of *Garra birostris* Nebeshwar & Vishwanath, 2013 (Cypriniformes: Cyprinidae) from the Doyang and Dikhu rivers of the Brahmaputra drainage, Nagaland, India. *Journal of Threatened Taxa* 14(7): 21453–21457. https://doi.org/10.11609/jott.7075.14.7.21453-21457

Ezung, S., M. Kechu, S. Longkumer, A. Jamir & P.P. Pankaj (2020). A review on the ichthyofauna of Nagaland, North-East India. *World News of Natural Sciences* 30: 1–12. https://doi.org/10.5281/zenodo.18655783

Ezung, S., B. Shangningam & P.P. Pankaj (2021). A new fish species of the genus *Garra* (Teleostei: Cyprinidae) from Nagaland, India. *Journal of Threatened Taxa* 13(6): 18618–18623. https://doi.org/10.11609/jott.6029.13.6.18618-18623

Fricke, R., W.N. Eschmeyer & R. Van der Laan (2021). *Eschmeyer's Catalog of Fishes: Genera, Species, References*. California Academy of Sciences. https://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp. Accessed on 22.viii.2024.

Goswami, U., S.K. Basistha, D. Bora, K. Shyamkumar, B. Saikia & K. Changsan (2012). Fish diversity of North East India, inclusive of the Himalayan and Indo-Burma biodiversity hotspot zones. *International Journal of Biodiversity and Conservation* 4(15): 592–613. https://doi.org/10.5897/IJBC11.228

Humtsoe, L.N. & S. Bordoloi (2009). Study on the torrential catfish *Amblyceps apangi* Nath & Dey, 1989 (Teleostei: Amblycipitidae) from Wokha District, Nagaland. *Journal of Threatened Taxa* 1(2): 109–113. https://doi.org/10.11609/JoTT.o1815.109-13

International Union for Conservation of Nature (2024). The IUCN Red List of Threatened Species. Version 2023-1. https://www.iucnredlist.org

Kechu, M. & P.P. Pankaj (2025). Checklist on the ichthyofaunal resources and conservation status of Dikhu River, Nagaland, India. *Journal of Threatened Taxa* 17(2): 26504–26514. https://doi.org/10.11609/jott.9181.17.2.26504-26514

Khesoh, V., Z. Pulo & P.P. Pankaj (2025). Ichthyofaunal diversity and conservation status of the Tsurang and Milak rivers of Mokokchung District, Nagaland. *Journal of Applied and Natural Science* 17(4): 1745–1752. https://doi.org/10.31018/jans.v17i4.7005

Nelson, J.S., T.C. Grande & M.V.H. Wilson (2016). *Fishes of the World*. *Fifth Edition*. John Wiley & Sons, Hoboken, USA. 707 pp. https://doi.org/10.1002/9781119174844

Ng, C.K., P.A. Ooi, W. Wong & G. Khoo (2017). A review of fish taxonomy conventions and species identification techniques. *Journal of Survey in Fisheries Sciences* 4(1): 54–93. https://doi.org/10.18331/sfs2017.4.1.6

Odyuo, N.S. & N.T. Srinivasan (2012). Fisheries and management status of Doyang Reservoir, Nagaland, north-east India. *Indian Journal of Fisheries* 59(2): 1–6.

Praveenraj, J. (2023). *Badis limaakumi*, a new species of badid fish from Nagaland, Northeast India (Teleostei: Percomorpha: Badidae). *Zootaxa* 5351(3): 371–379. https://doi.org/10.11646/zootaxa.5351.3.5

Praveenraj, J., Limaakum, J.D.M. Knight, M. Nallathambi & N. Imchen (2022). *Pethia dikhuensis*, a new species from Nagaland, Northeast India (Teleostei: Cyprinidae). *Zootaxa* 5194(2): 283–295. https://doi.org/10.11646/zootaxa.5194.2.9

Praveenraj, J., B. Vijayakrishnan, A.A.C. Lima & S.D. Gurumayum (2021). A new sisorid catfish of the genus *Pseudolaguvia* (Teleostei: Sisoridae) from Nagaland, north-eastern India. *Zootaxa* 5082(1): 77–86. https://doi.org/10.11646/zootaxa.5082.1.7

Praveenraj, J. & B. Vijayakrishnan (2026). New species of the genera *Glyptothorax* (Teleostei: Sisoridae) and Oreichthys (Teleostei: Cyprinidae) from Nagaland, Northeast, India. Zootaxa 5763(2): 255–267. https://doi.org/10.11646/zootaxa.5763.2.5

Shangningam, B. & L. Kosygin (2020). A novel species of sisorid catfish, *Pseudecheneis nagalandensis* sp. nov. (Teleostei: Sisoridae) from the Chindwin Basin of Nagaland, India. *Records of the Zoological Survey of India* 120(2): 105–111. https://doi.org/10.26515/rzsi/v120/i2/2020/147555

Strayer, D.L. & D. Dudgeon (2010). Freshwater biodiversity conservation: recent progress and future challenges. *Journal of the North American Benthological Society* 29(1): 344–358.

Talwar, P.K. & A.G. Jhingran (1991). *Inland Fishes of India and Adjacent Countries*. *Volumes 1 & 2*. Oxford and IBH Publishing Company, New Delhi–Calcutta, India, 1158 pp.

Journal of Threatened Taxa is indexed/abstracted in Bibliography of Systematic Mycology, Biological Abstracts, BIOSIS Previews, CAB Abstracts, EBSCO, Google Scholar, Index Copernicus, Index Fungorum, JournalSeek, National Academy of Agricultural Sciences, NewJour, OCLC WorldCat, SCOPUS, Stanford University Libraries, Virtual Library of Biology, Zoological Records.

NAAS rating (India) 5.64

Print copies of the Journal are available at cost. Write to:
The Managing Editor, JoTT,
c/o Wildlife Information Liaison Development Society,
3A2 Varadarajulu Nagar, FCI Road, Ganapathy, Coimbatore,
Tamil Nadu 641006, India
ravi@threatenedtaxa.org & ravi@zooreach.org

Journal of Threatened Taxa

www.threatenedtaxa.org

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

May 2026 | Vol. 18 | No. 5 | Pages: 28739–29002
Date of Publication: 26 May 2026 (Online & Print)
DOI: 10.11609/jott.2026.18.5.28739-29002

Publisher & Host

WILD zoo reach
Zoo Outreach Organisation

Threatened Taxa