Building evidence for conservation globally

Journal of Threatened Taxa

10.11609/jott.2025.17.10.27551-27786
www.threatenedtaxa.org

26 October 2025 (Online & Print)
17(10): 27551-27786
ISSN 0974-7907 (Online)
ISSN 0974-7893 (Print)

Open Access

40 Years zoOreach Zoo Outreach Organisation

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: A Warty Hammer Orchid *Drakaea livida* gets pollinated by a male thynnine wasp through 'sexual deception' — a colour pencil reproduction of photos by ron_n_beths (flickr.com) and Rod Peakall; Water colour reproduction of Flame Lily *Gloriosa superba* -- photo by Passakoran_14; and a bag worm and its architectural genius (source unknown). Art work by Pannagasri G.

Journal of Threatened Taxa | www.threatenedtaxa.org | 26 October 2025 | 17(10): 27705–27719
ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)
https://doi.org/10.11609/jott.9673.17.10.27705-27719
#9673 | Received 11 February 2025 | Final received 30 September 2025 | Finally accepted 10 October 2025
OPEN ACCESS
COMMUNICATION

Assessing fish diversity in the Ujani reservoir: an updated overview after one decade

Ganesh Markad [1], Ranjit More [2], Vinod Kakade [3] & Jiwan Sarwade [4]

[1,2] Department of Zoology, Modern College of Arts, Science and Commerce College Ganeshkhind, Pune, Maharashtra 411016, India.
[2,4] Department of Zoology, Arts, Science and Commerce College Indapur, Pune, Maharashtra 413106, India.
[3] Department of Zoology, Eknath Sitaram Divekar College of Arts, Science and Commerce College Varwand, Pune, Maharashtra 412215, India.
[1] gmarkad94@gmail.com, [2] zoologistranjit@gmail.com (corresponding author), [3] vbkakade156@gmail.com, [4] j.sarwade@rediffmail.com
[1,2] Both of these authors contributed equally and are designated as first authors.

Abstract: The freshwater fish diversity of Ujani Reservoir, Pune District, Maharashtra, India, was assessed from April 2021–March 2023. A total of 56 freshwater fish species belonging to 39 genera and 18 families were documented. Comparative analysis with previous literature suggests a historical record of approximately 60 species in the reservoir. Of the 56 species recorded, 41 are endemic to the Oriental zoogeographical realm, while eight are endemic to the Krishna River system. Notably, two species, *Parambassis lala*, native to the Ganga, and Brahmaputra river basins, and *Nandus nandus* the Gangetic Leaffish, were recorded for the first time in Ujani Reservoir. The ichthyofauna of the reservoir faces significant threats from invasive alien species, industrial, and agricultural pollution, expanding human settlements, and overfishing. Given the presence of eight endemic and six threatened species, conservation measures are imperative to mitigate anthropogenic pressures, and preserve biodiversity. This study provides an updated account of fish diversity and distribution in Ujani Reservoir, serving as a crucial baseline for future conservation, and management initiatives.

Keywords: Anthropogenic impacts, conservation status, freshwater fish fauna, invasive alien species, species distribution, threats, Ujani reservoir.

Editor: Hitesh Kardani, Kamdhenu University, Gujarat, India. **Date of publication:** 26 October 2025 (online & print)

Citation: Markad, G., R. More, V. Kakade & J. Sarwade (2025). Assessing fish diversity in the Ujani reservoir: an updated overview after one decade. *Journal of Threatened Taxa* 17(10): 27705–27719. https://doi.org/10.11609/jott.9673.17.10.27705-27719

Funding: This study did not receive any specific funding from government, private, or non-profit organizations.

Competing interests: The authors declare no competing interests.

Author details: Ganesh Markad PhD, research scholar, Department of Zoology, Modern College of Arts, Science and Commerce, Pune (Affiliated to Savitribai Phule Pune University, Pune). His doctoral research focuses on the nutritional and molecular aspects of freshwater fishes, emphasizing biodiversity and conservation. Dr. Ranjit M. More assistant professor, Department of Zoology, Arts, Science and Commerce College Indapur, Pune, Maharashtra 413106, India, under Savitribai Phule Pune University, Pune, Maharashtra, India. A fisheries biologist specializing in taxonomy, ecology, and conservation of freshwater ichthyofauna.. Dr. Vinod Kakade associate professor, Department of Zoology, Eknath Sitaram Divekar College of Arts, Science and Commerce College Varwand, Pune,Maharashtra, India. He is actively engaged in biodiversity conservation, ecological studies, and academic mentoring in zoological sciences. Prof. Dr. Jiwan Sarwade principal, Arts, Science and Commerce College Indapur, Pune, Maharashtra, India. He leads institutional biodiversity initiatives and supports research and conservation activities in the biological sciences.

Author contributions: RM: conceptualization, field survey, specimen collection, photography, visualization, manuscript writing, and finalization of the manuscript; GM: field survey, specimen collection, photography, data curation, and preparation of the initial draft of the manuscript; VK: conceptualization, manuscript drafting, visualization, supervision, and guidance during the study. JS: conceptualization, manuscript drafting, visualization, and overall guidance to the research work.

Acknowledgments: The authors would like to thank the principal and head of the Department of Zoology, Modern College, Ganeshkhind, Pune and Arts, Science and Commerce College, Indapur. Ganesh Markad is thankful to Maharashtra State Biodiversity Board for permission to access the biological resources (No. MSBB/Desk-5/ Research/839/2022-23) and Mahatma Jyotiba Phule Research & Training Institute (Mahajyoti) for providing research fellowship to carry out the research work. Author also thankful to Mr. Sachin Shelake (Y.C. College, Halkarni, Kolhapur) for help in fieldwork and Photography. Ranjit More and Ganesh Markad are thankful to Dr. Shrikant Jadhav (FBRC, ZSI) for his help in the identification and authentication of fish.

INTRODUCTION

The Western Ghats of India is a global biodiversity hotspot (Myers et al. 2000), known for its high level of endemism among taxonomic groups such as amphibians and freshwater fish. Around 320 fish species belonging to 11 orders, 35 families, and 112 genera are known from this region with more than 60% being endemic (Dahanukar & Raghavan 2013), and this number is certain to increase given the high number of species being discovered each year. The threat status of fishes in the Western Ghats shows that nearly 41% are threatened, being classified either as Vulnerable, Endangered or Critically Endangered. Conservation measures for protection of the fish fauna are thus essential (Dahanukar et al. 2004). Despite numerous studies on the freshwater fish fauna of the Western Ghats, many upstream tributaries of major river systems remain underexplored. One such underexplored region is the Bhima River, a major tributary of the Krishna River, which originates from the Bhimashankar hill region of the Western Ghats. Flowing through the states of Maharashtra, Karnataka, and Telangana, the Bhima River supports diverse aquatic life, although it is increasingly subjected to anthropogenic pressures (Das & Panchal 2018). Several dams have been constructed on the Bhima River, with the Ujani being the terminal dam. The Ujani Reservoir, characterized by its extensive shallow-water habitat, is recognized as one of the most productive freshwater fisheries in the region. Shortly after its construction, Ujani became the largest freshwater fishing cooperative dam in Maharashtra (Karmakar et al. 2012).

Following its construction, the Ujani Reservoir has become a hub for freshwater fisheries, with the first comprehensive ichthyological survey conducted in the 1990s documenting 42 species of fish (Yazdani & Singh 1990). This list was later updated in 2002, with a total of 54 species (Yazdani & Singh 2002). A further study by Sarwade & Khillare in 2010 recorded 60 species across six orders, 15 families, and 36 genera. Despite these valuable contributions, research on the fish fauna of Ujani has been scarce in recent years, with no updated studies published since 2010. In addition to the lack of recent studies, the Ujani Reservoir has undergone substantial changes in the last decade, driven by growing tourism, industrialization, and recreational activities. These alterations, coupled with the increasing human footprint on the landscape, have the potential to affect the delicate balance of the aquatic ecosystems, including fish populations. Given the paucity of information on fish diversity in the Ujani Reservoir, especially in the face of increasing anthropogenic pressures, it is imperative to revisit, and reassess the ichthyofauna of this critical waterbody.

This study aims to provide a comprehensive overview of the current diversity and distribution of fish species in the Ujani Reservoir, more than a decade after the last substantial survey. Documenting the present status of fish fauna provides baseline data that will aid in identifying key threats to fish populations and informing conservation efforts in the region.

METHODS

The study was conducted to assess the fish diversity of the Ujani Reservoir over the period of two years from April 2021–March 2023. Fish specimens were collected from Bhigwan (18.295° N, 74.773° E), Kumbhargaon (18.273° N, 74.796° E), Palasdeo (18.221° N, 74.869° E), Aagoti No.2 (18.233° N, 74.973° E), Rajewadi (18.166° N, 74.980° E), Shaha (18.114° N, 75.097° E), and Taratgaon (18.094° N, 75.129° E) (Figure 1), with the help of local fishers using different mesh-sized gill nets, and cast nets. Alternatively, fish samples were also procured from local fish markets in Bhigwan and Indapur.

Collected fish were stored in ice-containing thermos boxes and transported to the laboratory. Small-sized fish were preserved in 4% aqueous formalin solution, while larger fish were preserved in 10% aqueous formalin solution. The specimens were stored in airtight plastic bottles to ensure proper preservation. In the laboratory, fish specimens were identified using standard taxonomic literature, including Jayaram (1981) and Talwar & Jhingran (1991). Recent taxonomic literature was also consulted for accurate identification. The online database 'FishBase' was utilized for verification and authentication of scientific names(Froese & Pauly 2024). Collected fish specimens were deposited at the Museum of the Zoological Survey of India, Freshwater Biology Regional Centre Hyderabad (F.No.56.pt/Tech./2022-23/41). Assuming that the fishing effort for a given type of net (gill net or drag net) was constant, the relative abundance of the fish was grossly categorized (for each type of net separately) into four categories, namely: abundant (76–100% of the total catch), common (51–75% of the total catch), moderate (26–50 % of the total catch), and rare (1–25% of the total catch). Representative photographs were provided (Images 1–7).

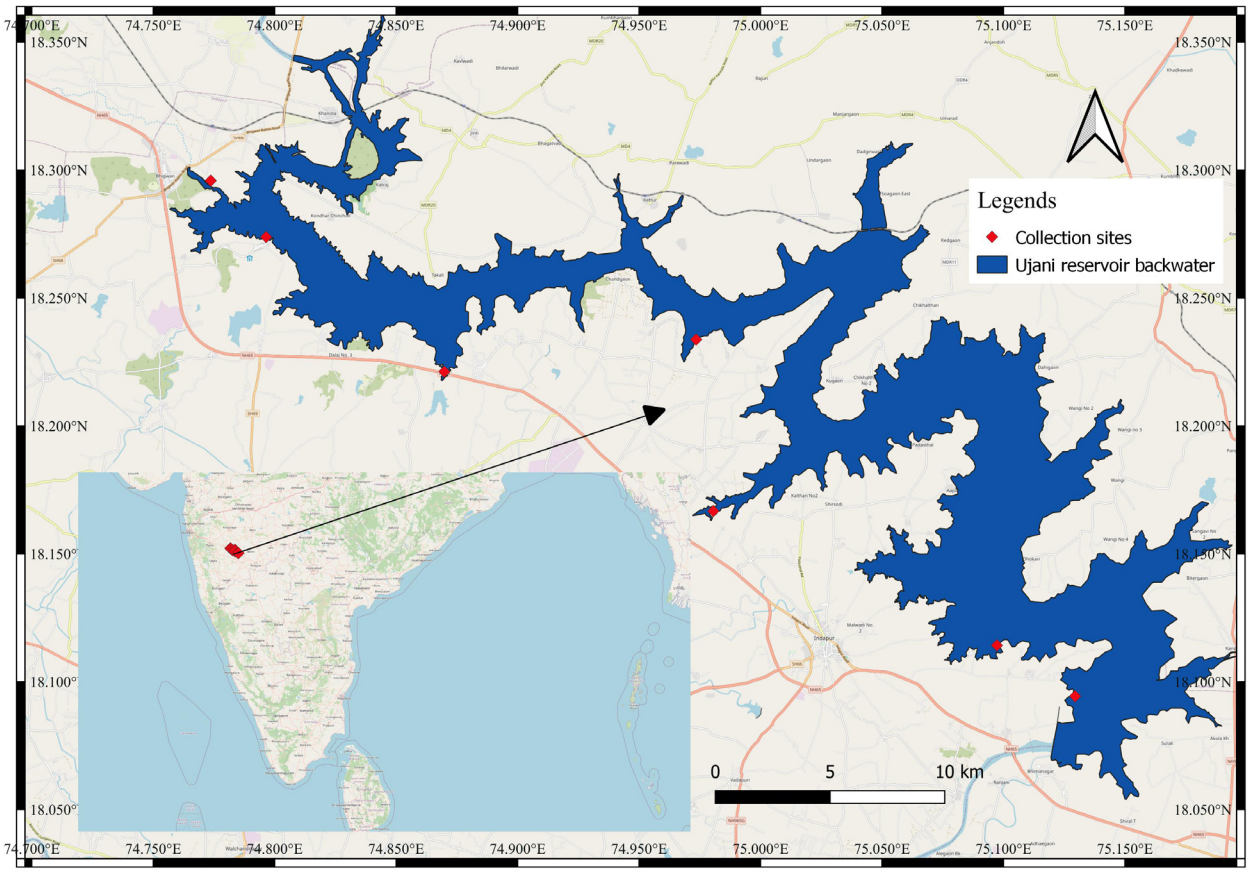

Figure 1. Map of the Ujani Reservoir, showing the study area, location of the collection sites.

RESULTS

A total of 56 fish species belonging to 39 genera, 18 families and 12 orders were reported during the study. The availability status as per catch frequency and IUCN status of species was listed in Table 1, and availability of fishes found in catch in percentage was shown in Figure 2. Of these total species, eight species endemic to the Krishna River system, seven introduced, and one exotic species were recorded during the study. Cypriniformes, with 27 species (48.21%) was found to be the most dominant order. Among 27 species, 24 were native, and three were introduced in the reservoir.

Cypriniformes was followed by Siluriformes, with 10 species (17.85%); belonging to five families. Among them, one introduced species, *Clarias gariepinus* from the family clariidae, was reported. The exotic aquarium fish *Pterygoplichthys pardalis* (family Loricariidae) was commonly encountered in the present catches. This species, first reported from the reservoir by More et al. (2020), was found in considerable abundance during the present study, indicating its successful establishment in the system. The order Anabantiformes was represented by five species, of which four belonged to the family Channidae, and one to Nandidae, within Perciformes, only the family Ambassidae was recorded, comprising three species. The orders Beloniformes, Osteoglossiformes, and Synbranchiformes each contributed two species. Meanwhile, the orders Characiformes, Cichliformes, Gobiiformes, and Mugiliformes were each represented by a single species. The family Cyprinidae was the most dominant family, with 27 species (48.21%) of all reported species, followed by Channidae and Bagridae, each with four species (7.14%). Family ambassidae had three species; notably *Parambassis lala* was first reported from the reservoir. The families Claridae, Mastacembelidae, Notopteridae, and Siluridae had two species each. Families Anguilidae, Belonidae, Cichlidae, Gobiidae, Hemiramphidae, Heteropneustidae, Loricariidae, Mugilidae, Nandidae, and Serrasalmidae each had one species to their account. This study revealed the occurrence of *Heteropneustes fossilis* and *Nandus nandus*, belonging to Heteropneustidae, and Nandidae respectively, in the reservoir.

Table 1. Inventory of fish species in the Ujani Reservoir.

Order	Family	Scientific name	Common name	Status as per catch frequency	Threat status (As per IUCN 2017)
Cypriniformes	Cyprinidae	*Amblypharyngodon mola*	Mola Carplet	A	LC
		Cirrhinus mrigala	Mrigal	C	LC
		Cirrhinus reba	Reba Carp	A	LC
		Ctenopharyngodon idella	Grass Carp	C	LC
		Cyprinus carpio	Common Carp	C	VU
		Devario aequipinnatus	Giant Danio	L	LC
		Garra mullya	Sucker Fish	C	LC
		Gymnostomus ariza	Reba Carp	C	LC
		Gymnostomus fulungee	Deccan White Carp	C	LC
		Hypophthalmichthys molitrix	Silver Carp	L	NT
		Hypselobarbus kolus	Kolus	R	VU
		Labeo boggut	Boggutlabeo	L	LC
		Labeo calbasu	Orangefinlabeo	C	LC
		Labeo catla	Catla	A	LC
		Labeo rohita	Rohu	C	LC
		Osteobrama peninsularis	Peninsular Osteobrama	R	DD
		Osteobrama vigorsii	Bheema Osteobrama	VR	LC
		Pethia ticto	Ticto Barb	A	LC
		Puntius chola	Swamp Barb	A	LC
		Puntius sophore	Pool Barb	C	LC
		Puntius vittatus	Greenstripe Barb	C	LC
		Rasbora daniconius	Slender Rasbora	L	LC
		Salmostoma bacaila	Large Razorbelly Minnow	C	LC
		Salmostoma boopis	Boopis Razorbelly Minnow	A	LC
		Salmostoma phulo	Finescalerazorbelly Minnow	C	LC
		Schismatorhynchos nukta	Nukta	VR	EN
		Systomus sarana	Olive Barb	L	LC
Siluriformes	Bagridae	*Mystus cavasius*	Gangetic Mystus	C	LC
		Mystus malabaricus	Jerdon'smystus	L	NT
		Mystus vittatus	Striped Dwarf Catfish	C	LC
		Sperata seenghala	Giant River-Catfish	L	LC
	Clariidae	*Clarias batrachus*	Philippine Catfish	C	LC
		Clarias gariepinus	North African Catfish	C	LC
	Heteropneustidae	*Heteropneustes fossilis*	Stinging Catfish	C	LC
	Loricariidae	*Pterygoplichthys pardalis*	Amazon Sailfin Catfish	C	NE
	Siluridae	*Ompok bimaculatus*	Butter Catfish	L	NT
		Wallago attu	Wallago	L	VU
Anabantiformes	Channidae	*Channa gachua*	Dwarf Snakehead	L	LC
		Channa marulius	Great Snakehead	L	LC
		Channa punctata	Spotted Snakehead	C	LC
		Channa striata	Striped Snakehead	C	LC
	Nandidae	*Nandus nandus*	Gangetic Leaffish	L	LC

Order	Family	Scientific name	Common name	Status as per catch frequency	Threat status (As per IUCN 2017)
Perciformes	Ambassidae	*Chanda nama*	Elongate Glass-perchlet	A	LC
		Parambassis lala	Highfin Glassy Perchlet	L	NT
		Parambassis ranga	Indian Glassy Fish	A	LC
Beloniformes	Hemiramphidae	*Hyporhamphus limbatus*	Congaturi Halfbeak	L	LC
	Belonidae	*Xenentodon cancila*	Freshwater Garfish	L	LC
Osteoglossiformes	Notopteridae	*Chitala chitala*	Clown Knifefish	L	NT
		Notopterus synurus	Bronze Featherback	C	LC
Synbranchiformes	Mastacembelidae	*Macrognathus pancalus*	Barred Spiny Eel	C	LC
		Mastacembelus armatus	Zig-zag Eel	C	LC
Anguilliformes	Anguillidae	*Anguilla bengalensis*	Indian Mottled Eel	VR	NT
Characiformes	Serrasalmidae	*Piaractus brachypomus*	Pirapitinga	L	NE
Cichliformes	Cichlidae	*Oreochromis mossambicus*	Mozambique Tilapia	A	VU
Gobiiformes	Gobiidae	*Glossogobius giuris*	Tank Goby	A	LC
Mugiliformes	Mugilidae	*Rhinomugil corsula*	Corsula	L	LC

A—abundant | C—common | L—low | R—rare | VR—very rare | LC—Least Concern | VU—Vulnerable | NT—Near threatened | EN—Endangered | DD—Data Deficient | NE—Not Evaluated.

DISCUSSION

The Ujani Reservoir, a significant fishery station in Maharashtra, has been the focus of multiple ichthyofaunal studies over the past few decades. The initial assessments by Yazdani & Singh in 1990 documented 42 species from 14 families, which was later expanded to 54 species from 15 families in 2002 (Yazdani & Singh 2002). Their findings highlighted the dominance of the family Cyprinidae, with 34 species, and the abundant presence of Osteobrama, Channa, Wallago, Mystus, and major carp species. Additionally, they identified four introduced species—*Gambusia affinis, Oreochromis mossambicus, Cyprinus carpio,* and *Ctenopharyngodon idella*—which were historically introduced into Indian River systems (Yazdani & Singh 2002). Subsequent investigations were further refined by Sarwade & Khillare (2010) conducted an extensive study from January 2008 to December 2009, recording 60 species across 15 families and six orders, reaffirming the dominance of *Cypriniformes* with 40 species, including 37 from Cyprinidae. Among the most abundant taxa in their study were *Labeo catla, Cirrhinus mrigala, Cyprinus carpio, Labeo rohita,* and *Oreochromis mossambicus*.

The present study recorded 56 species, of which 42 species are classified as Least Concern (LC) by the IUCN Red List of Threatened Species, while six species fall under the Near Threatened (NT) category. Notably, 41 species are endemic to the Oriental zoogeographical realm, and eight species are restricted to the Krishna River system. This finding aligns with Dahanukar et al. (2012), who reported 57 species from the Indrayani River, with 12 species endemic to the Western Ghats and five endemic to the Krishna River system. Similarly, Kumar et al. (2017) documented 57 species from the Hiranyakeshi River in the northern Western Ghats, including 22 species endemic to the Western Ghats, and nine species specific to the Krishna River system.

In terms of conservation significance, the study confirms the presence of *Hypeselobarbus kolus, Osteobrama peninsularis, Osteobrama vigorsii*, and *Schismatorhynchos nukta*, all endemic to India. Notably, *Schismatorhynchos nukta*, and *Tor khudree* are categorized as Endangered (EN), while *Mystus malabaricus* and *Ompok bimaculatus* are Near Threatened (NT) (IUCN, 2011). Furthermore, the study identifies *Piaractus brachypomus* (Serrasalmidae) as an introduced species, found in low numbers throughout the sampling period. *Oreochromis mossambicus* (Cichliformes) emerged as the most abundant species. Its widespread presence aligns with previous reports suggesting its intentional introduction to enhance aquaculture and fill ecological niches in underutilized water bodies (Singh et al. 2014). Another significant finding is the first documentation of *Pterygoplichthys pardalis*, an exotic aquarium species, from the Ujani Reservoir (More et al. 2020). Its likely introduction through the aquarium trade raises ecological concerns, as non-native species can alter

Table 2. Comparative account of fish diversity among different studies from Ujani Reservoir.

Species name	Yazdani & Singh 2002	Sarwade & Khillare 2010	Present study
Labeo catla (Hamilton, 1822)	+	+	+
Gymnostomus fulungee (Sykes, 1839)	+	+	+
Cirrhinus mrigala (Hamilton, 1822)	+	+	+
Notopterus synurus (Pallas, 1769)	+	+	+
Cirrhinus reba (Hamilton, 1822)	+	+	+
Cyprinus carpio (Linnaeus, 1758)	+	+	+
Ctenopharyngodon idella (Valenciennes, 1844)	+	+	+
Hypselobarbus curmuca (Hamilton, 1807)	+	+	-
Labeo boggut (Sykes, 1839)	+	+	+
Labeo calbasu (Hamilton, 1822)	+	+	+
Labeo fimbriatus (Bloch, 1795)	+	+	-
Labeo kawrus (Sykes, 1839)	+	+	-
Labeo potail (Sykes, 1839)	+	+	-
Labeo rohita (Hamilton, 1822)	+	+	+
Osteobrama bakeri (Day, 1873)	+	+	-
Osteobrama bhimensis (Singh & Yazdani, 1992)	+	+	-
Osteobrama cotio cunma (Day, 1888)	+	+	-
Osteobrama vigorsii (Sykes, 1839)	+	+	+
Osteobrama neilli (Day, 1873)	+	+	-
Puntius conchonius (Hamilton, 1822)	+	+	-
Systomus sarana (Hamilton, 1822)	+	+	+
Puntius sophore (Hamlton, 1822)	+	+	+
Pethia ticto (Hamilton, 1822)	+	+	+
Schismatorhynchus nukta (Sykes, 1839)	+	+	+
Tor khudree (Sykes, 1839)	+	+	-
Chela cachius (Hamilton, 1822)	+	+	-
Salmostoma bacaila (Hamilton, 1822)	+	+	+
Salmostoma boopis (Day, 1874)	+	+	+
Salmostoma untrahi (Day, 1869)	+	+	-
Osparius bakeri (Day, 1865)	+	+	-
Osparius bendelisis (Hamilton, 1807)	+	+	-
Barilius evezardi (Day, 1872)	+	+	-
Devario aequipinnatus (McClelland, 1839)	+	+	+
Rasbora daniconius (Hamilton, 1822)	+	+	+
Garra mullya (Sykes, 1839)	+	+	+
Schistura denisonii (Day, 1867)	+	+	-
Lepidocephalichthys guntea (Hamilton, 1822)	+	+	-
Acanthocobitis botia (Hamilton, 1822)	+	+	-
Sperata aor (Hamilton, 1822)	+	+	-
Sperata seenghala (Sykes, 1839)	+	+	+
Mystus bleekeri (Day, 1877)	+	+	-
Mystus malabaricus (Jerdon, 1849)	+	+	+
Ompok bimaculatus (Bloch, 1794)	+	+	+
Wallago attu (Bloch & Schneider, 1801)	+	+	+
Xenentodon cancila (Hamilton, 1822)	+	+	+
Aplocheilus lineatus (Val.)	+	+	-

Species name	Yazdani & Singh 2002	Sarwade & Khillare 2010	Present study
Gambusia affinis (Baird & Girard, 1853)	+	+	-
Chanda nama (Hamilton, 1822)	+	+	+
Oreochromis mossambicus (Peters, 1852)	+	+	+
Rhinomugil corsula (Hamilton, 1822)	+	+	+
Glossogobius giuris (Hamilton, 1822)	+	+	+
Mastacembelus armatus (Lacepede, 1800)	+	+	+
Channa marulius (Hamilton, 1822)	+	+	+
Channa orientalis (Bloch & Schneider, 1801)	+	+	-
Salmostoma novacula (Valenciennes, 1840)	-	+	-
Rhynchorhamphus georgii (Valenciennes, 1847)	-	+	-
Amblypharyngodon mola (Hamilton, 1822)	-	+	+
Hyporhamphus limbatus (Valenciennes, 1847)	-	+	+
Chitala chitala (Hamilton, 1822)	-	+	+
Parambassis ranga (Hamilton, 1822)	-	+	+
Channa punctata (Bloch, 1793)	-	-	+
Hypophthalmichthys molitrix (Valenciennes, 1844)	-	-	+
Mystus cavasius (Hamilton, 1822)	-	-	+
Ptreygoplichthys pardalis (Castelnau, 1855)	-	-	+
Nandus nandus (Hamilton, 1822)	-	-	+
Anguilla bengalensis (Gray, 1831)	-	-	+
Clarias batrachus (Linnaeus, 1758)	-	-	+
Clarias gariepinus (Burchell, 1822)	-	-	+
Heteropneustes fossilis (Bloch, 1794)	-	-	+
Puntius chola (Hamilton, 1822)	-	-	+
Parambassis lala (Hamilton, 1822)	-	-	+
Macrognathus pancalus (Hamilton, 1822)	-	-	+
Channa gachua (Hamilton, 1822)	-	-	+
Channa striata (Bloch, 1793)	-	-	+
Gymnostomus ariza (Hamilton, 1807)	-	-	+
Hypselobarbus kolus (Sykes, 1839)	-	-	+
Osteobrama peninsularis (Silas, 1952)	-	-	+
Puntius vittatus (Day, 1865)	-	-	+
Salmostoma phulo (Hamilton, 1822)	-	-	+
Mystus vittatus (Bloch, 1794)	-	-	+
Piaractus brachypomus (Cuvier, 1818)	-	-	+

aquatic ecosystems through predation, competition, and habitat modification. The establishment of *P. paradalis* necessitates further studies to develop management and eradication strategies.

Notably, several loach species (*Nemacheilus denisonii, Lepidocephalus guntea, Nemacheilus botia*) and hill stream fishes (*Barilius bakeri, Barilius bendelisis, Barilius evezardi*), previously recorded in Ujani (Sarwade & Khillare 2010), were absent in this study. Their disappearance may be attributed to anthropogenic activities, including deforestation, siltation, tourism, sand mining, and recreational disturbances, which degrade the specialized habitats required by species from Balitoridae, and Cobitidae families. This study also reports the presence of *Hypophthalmichthys molitrix, Pterygoplichthys paradalis, Nandus nandus, Parambassis lala, Heteropneustes fossilis, Clarias batrachus,* and *Clarias gariepinus* (Table 2), which were absent from the records of (Yazdani & Singh 1990, 2002; Sarwade & Khillare 2010).

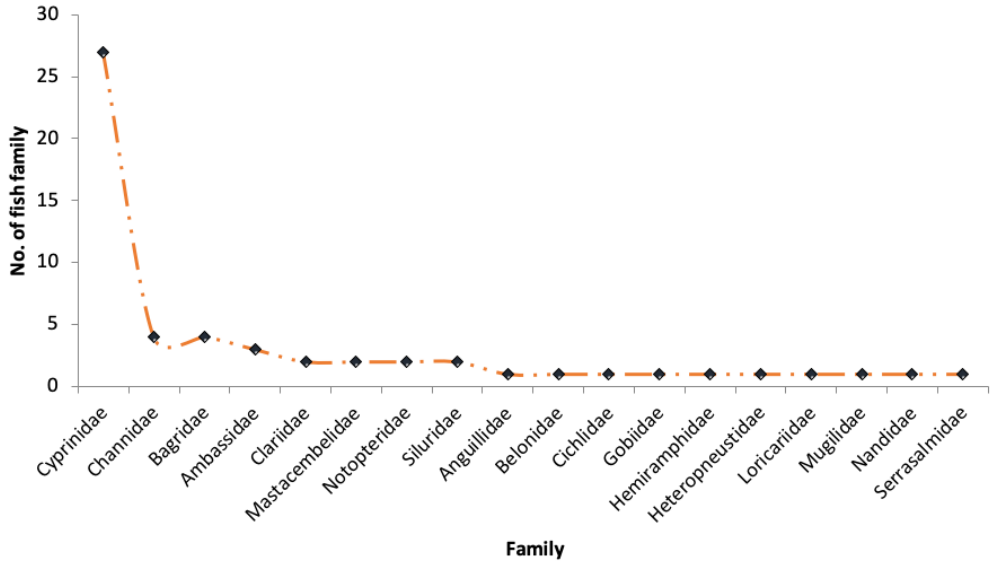

Figure 2. Number of species by family in the Ujani Reservoir, India.

CONCLUSION

The present study underscores the diverse ichthyofaunal assemblage of the Ujani Reservoir, with a total of 56 recorded species, including several endemic and threatened taxa. The dominance of Cyprinidae and the increasing presence of non-native species highlight significant ecological shifts in the reservoir's fish community. The introduction of exotic species such as *Oreochromis mossambicus, Piaractus brachypomus, Pterygoplichthys paradalis,* and *Clarias gariepinus* poses potential threats to native biodiversity through competition, predation, and habitat alteration. The absence of previously reported loach and hill stream fish species further indicates possible habitat degradation due to anthropogenic pressures, including sand mining, deforestation, and pollution. The findings emphasize the urgent need for sustainable fisheries management and conservation strategies to mitigate the impacts of invasive species, and habitat destruction. Future studies should focus on long-term monitoring of fish diversity, population dynamics of threatened species, and ecological impacts of introduced taxa. Regulatory measures should be implemented to prevent further introductions of exotic species, and community-driven conservation efforts should be promoted to safeguard the rich aquatic biodiversity of the Ujani Reservoir.

REFERENCES

Dahanukar, N. & R. Raghavan (2013). Freshwater fishes of Western Ghats: checklist v 1.0 August 2013. MIN 1: 6–16.

Dahanukar, N., M. Paingankar, R. Raut & S. Kharat (2012). CEPF Western Ghats Special Series: Fish fauna of Indrayani River, northern Western Ghats, India. *Journal of Threatened Taxa* 14(1): 2310–2317. https://doi.org/10.11609/JoTT.o2771.2310-7

Dahanukar, N., R. Raut & A. Bhat (2004). Distribution, endemism and threat status of freshwater fishes in the Western Ghats of India. *Journal of Biogeography* 31(1): 123–136. https://doi.org/10.1046/j.0305-0270.2003.01016.x

Das, A. & M. Panchal (2018). Krishna River basin. The Indian Rivers: scientific and socio-economic aspects. *Springer*, Singapore.

Froese, R. & Pauly (2024). Fish Base. World Wide Web electronic publication. www.fishbase.org. Accessed on 20.xi.2024.

Jayaram, K.C. (1981). *Freshwater fishes of India, Pakistan, Bangladesh, Burma and Sri Lanka*. Zoological Survey of India, Calcutta, 475 pp.

Karmakar, A.K., B.E. Yadav, N. Bairagi, A. Das, P.K. Banerjee & S.S. Jadhav (2012). Freshwater fishes. *Fauna of Maharashtra State Fauna Series* 20: 247–367.

Kumkar, P., S.S. Kharat, N.S. Sawant, U. Katwate & N. Dahanukar (2017). Freshwater fish fauna of Hiranyakeshi river, the northern Western Ghats, India. *Journal of Threatened Taxa* 9(5): 10178–10186. https://doi.org/10.11609/jott.3126.9.5.10178-10186

More, R.M., J.P. Sarwade & S.K. Karna (2020). *Pterygoplichthys pardalis* (castelnau, 1855) (siluriformes: loricariidae) from ujani reservoir, Maharashtra, India. *Bioinfolet* 17(4A): 587–588.

Myers, N., R.A. Mittermeier, C.G. Mittermeier, G.A. Da Fonseca & J. Kent (2000). Biodiversity hotspots for conservation priorities. *Nature* 403(6772): 853–858.

Sarwade, J.P. & Y.K. Khillare (2010). Fish diversity of Ujani wetland, Maharashtra, India. *The Bioscan* 1: 173–179.

Singh, A. K., P. Verma, S. Srivastava, & M. Tripathi (2014). Invasion, biology and impact of feral population of Nile Tilapia (*Oreochromis niloticus* Linnaeus, 1757) in the Ganga River (India). *Asia Pacific Journal of Research* I(XIV): 151–162.

Talwar, P.K. & A.G. Jhingran (1991). *Inland fishes of India and adjacent countries Vol. 2*. CRC Press, 1158 pp.

Yazdani, G.M. & D.F. Singh (1990). On the fish resources of Ujani wetland, Pune, Maharashtra. *Journal of Bombay Natural History Society* 87.

Yazdani, G.M. & D. F. Singh (2002). Wetland Ecosystem Series No. 3, Fauna of Ujani (Maharashtra). *Zoological Survey of India Kolkata*, India, 143–156 pp.

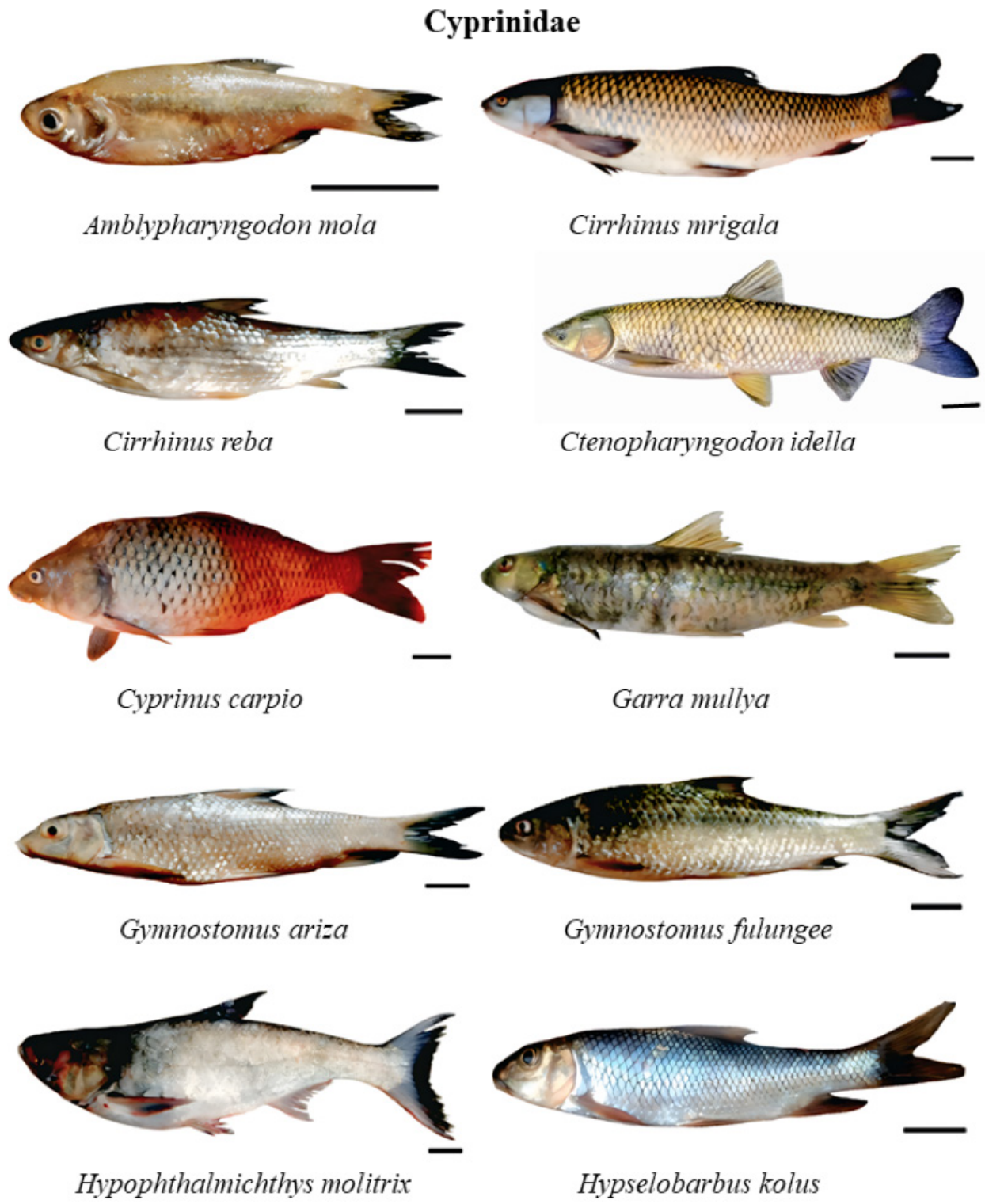

Image 1. Fish species in the Ujani Reservoir, scale bar represent 1 cm. © Ganesh Markad, Ranjit More & Sachin Shelake.

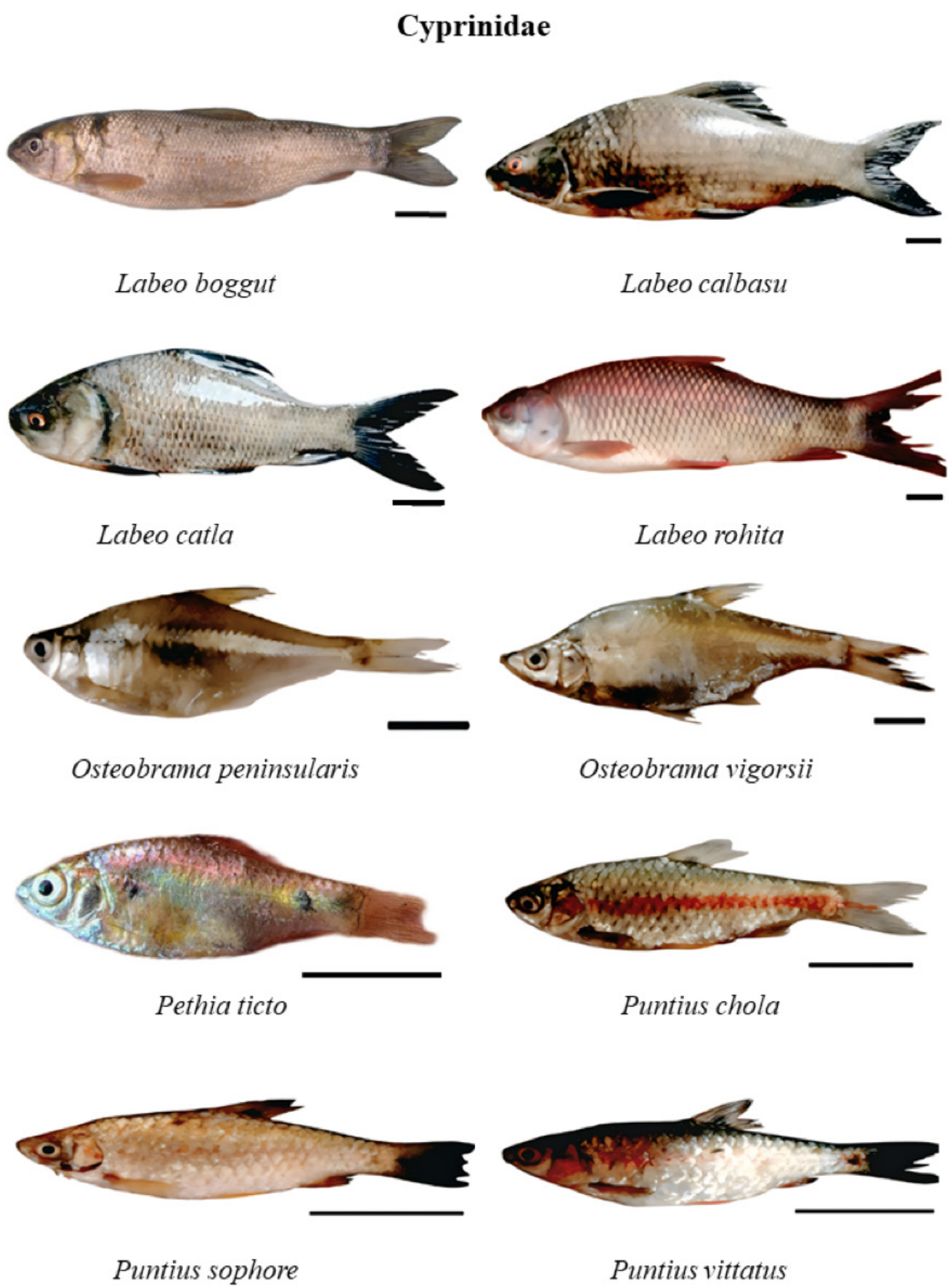

Image 2. Fish species in the Ujani Reservoir, scale bar represent 1 cm. © Ganesh Markad, Ranjit More & Sachin Shelake.

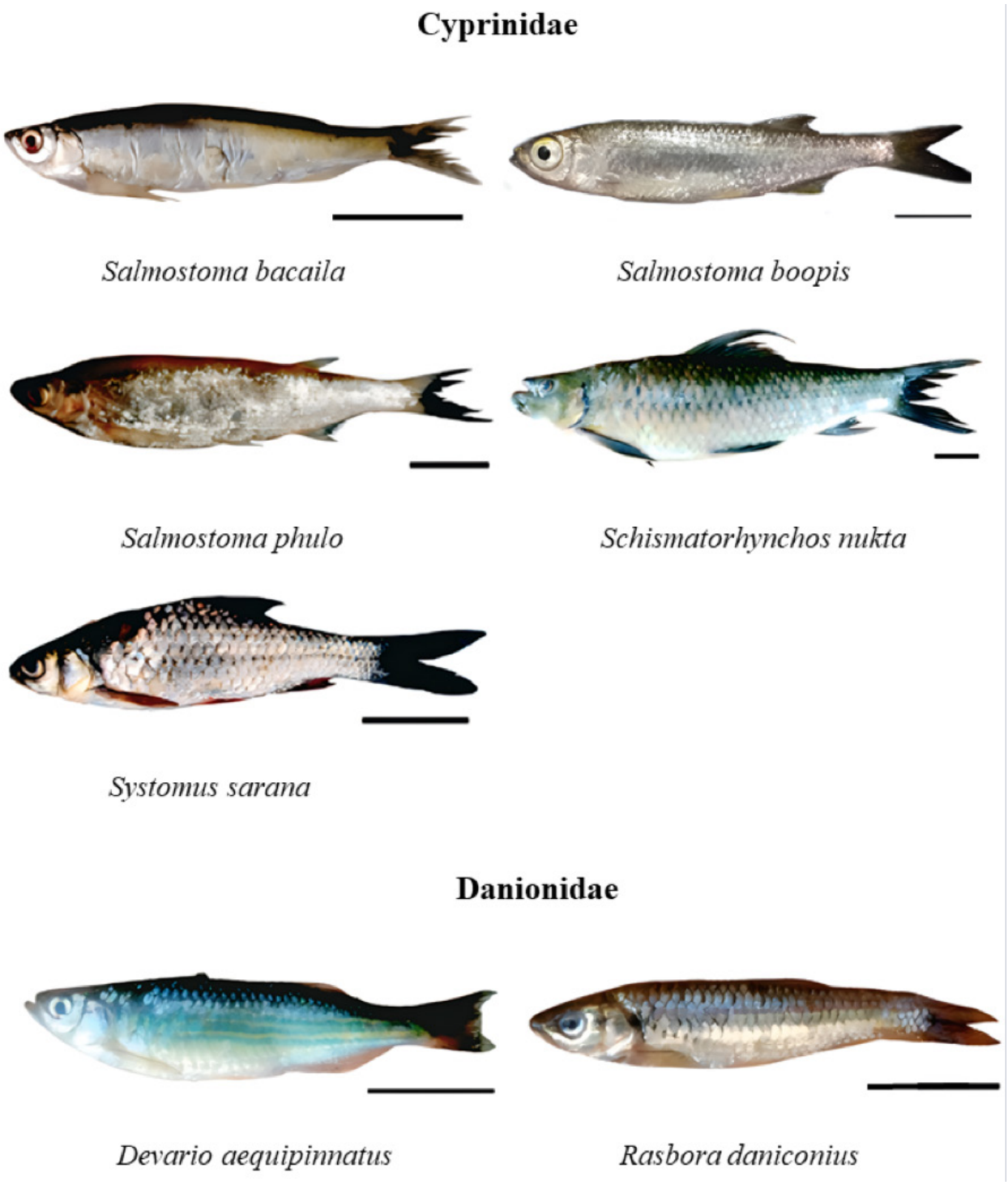

Image 3. Fish species in the Ujani Reservoir, scale bar represent 1 cm. © Ganesh Markad, Ranjit More & Sachin Shelake.

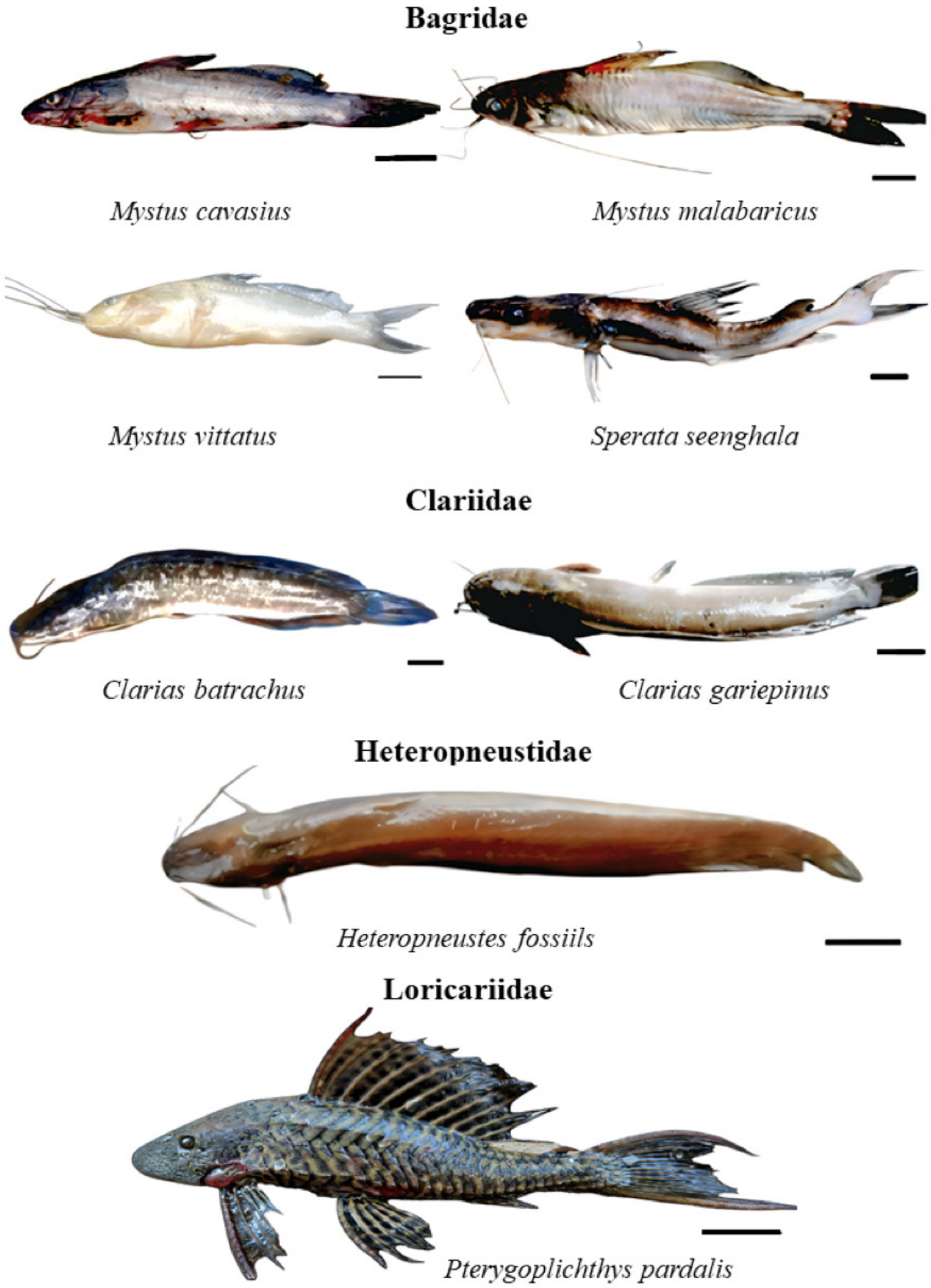

Image 4. Fish species in the Ujani Reservoir, scale bar represent 1 cm. © Ganesh Markad, Ranjit More & Sachin Shelake.

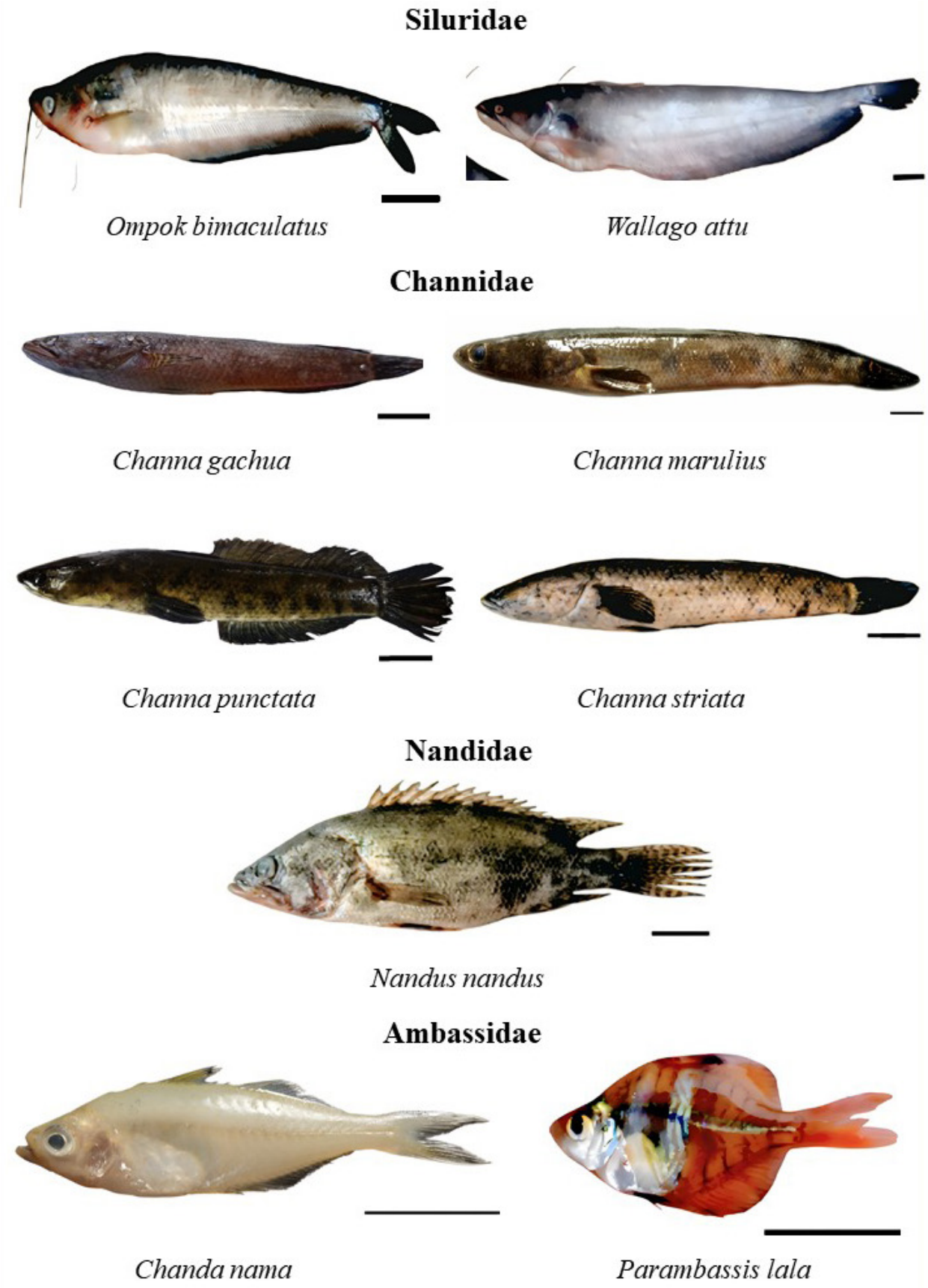

Image 5. Fish species in the Ujani Reservoir, scale bar represent 1 cm. © Ganesh Markad, Ranjit More & Sachin Shelake.

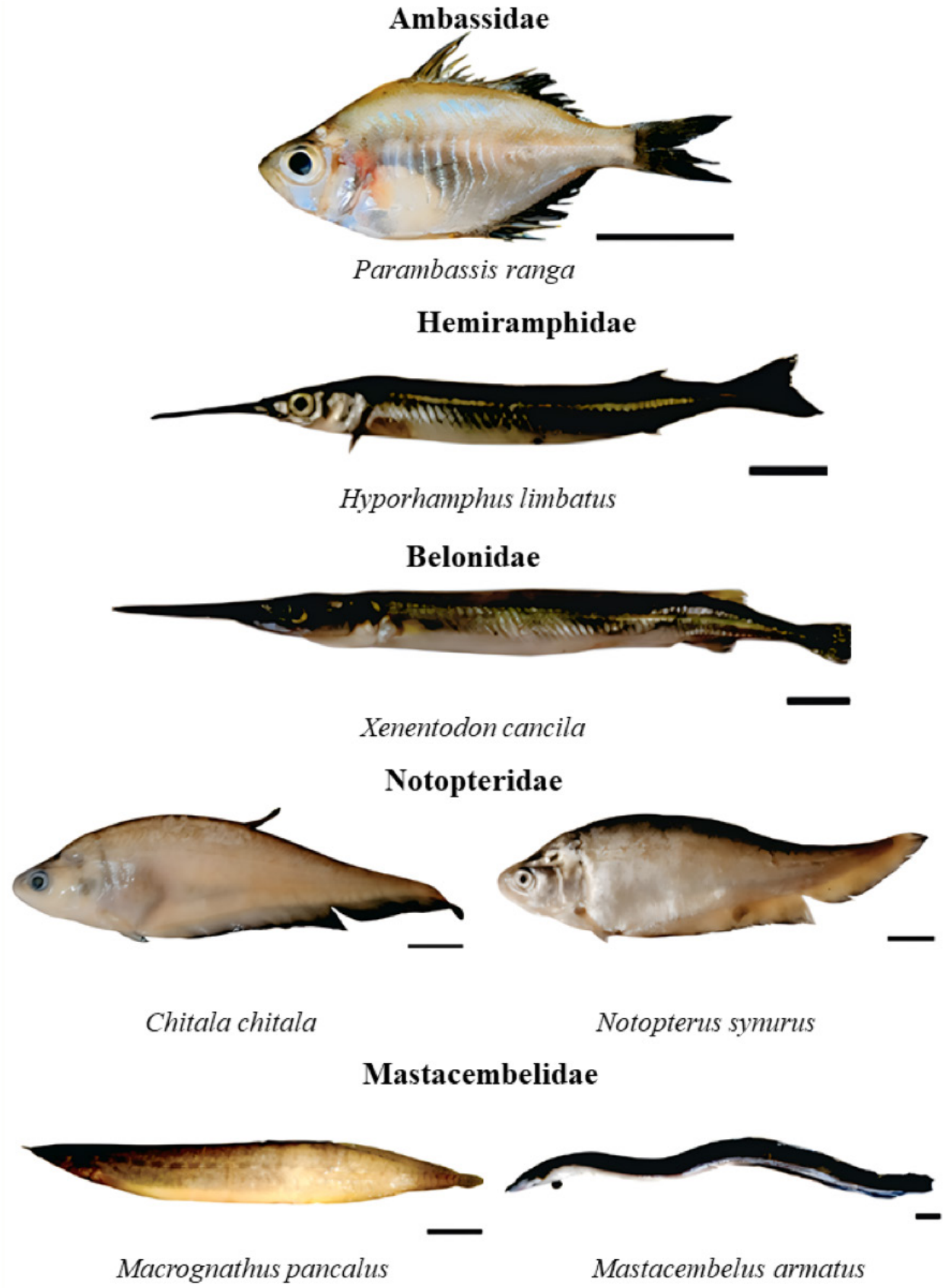

Image 6. Fish species in the Ujani Reservoir, scale bar represent 1 cm. © Ganesh Markad, Ranjit More & Sachin Shelake.

Anguillidae

Anguilla bengalensis

Serrasalmidae

Piaractus brachypomus

Cichlidae

Oreochromis mossambicus

Gobiidae

Glossogobius giuris

Mugilidae

Rhinomugil corsula

Image 7. Fish species in the Ujani Reservoir, scale bar represent 1 cm. © Ganesh Markad, Ranjit More & Sachin Shelake.

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)

October 2025 | Vol. 17 | No. 10 | Pages: 27551–27786
Date of Publication: 26 October 2025 (Online & Print)
DOI: 10.11609/jott.2025.17.10.27551-27786

Publisher & Host

WILD zoo reach
Zoo Outreach Organisation

Threatened Taxa