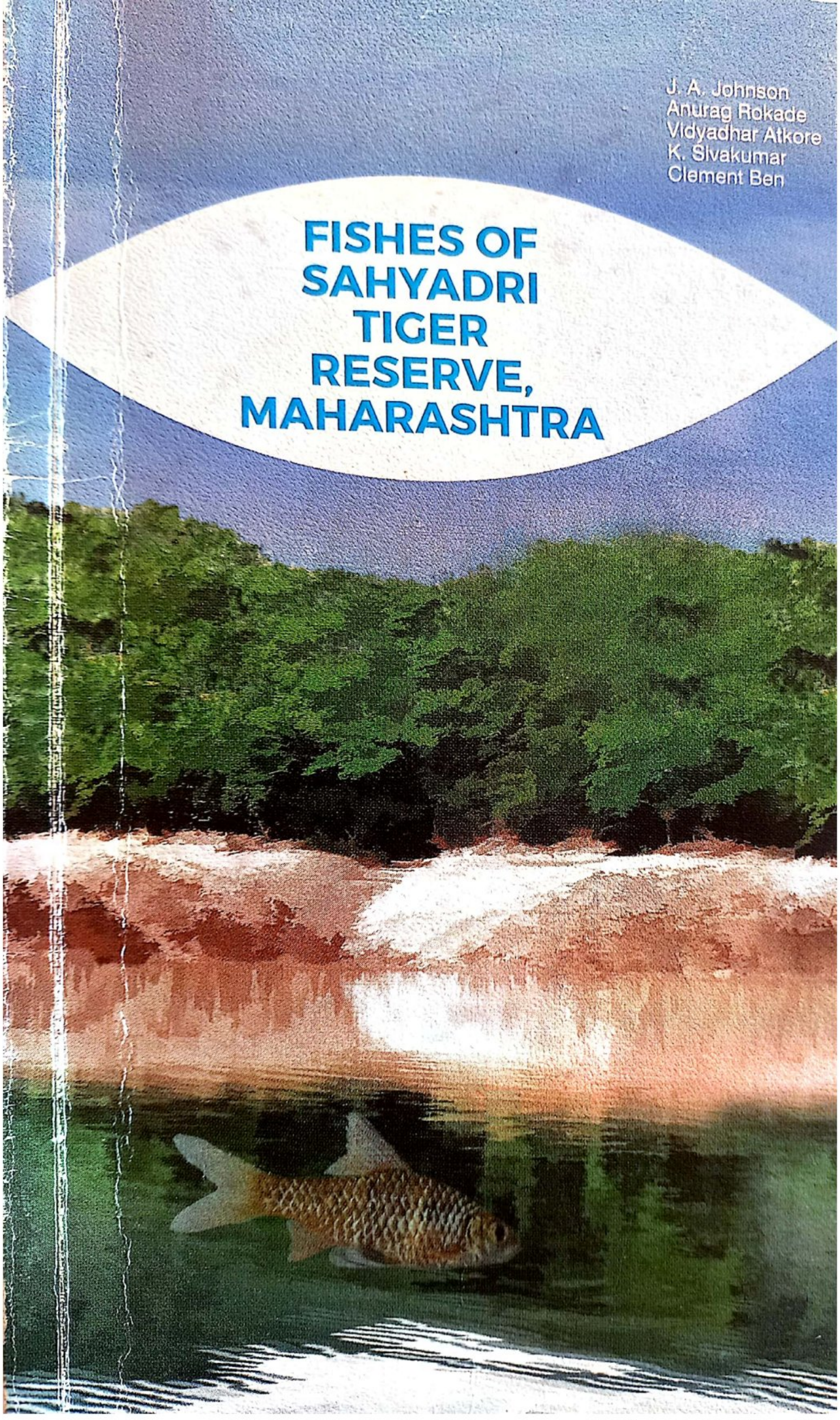
J. A. Johnson
Anurag Rokade
Vidyadhar Atkore
K. Sivakumar
Clement Ben

FISHES OF SAHYADRI TIGER RESERVE, MAHARASHTRA



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FISHES OF SAHYADRI TIGER RESERVE, MAHARASHTRA

FIELD GUIDE

J. A. Johnson
Anurag Rokade
Vidyadhar Atkore
K. Sivakumar
Clement Ben



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– Project Team

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FOREWORD

The Sahyadri Tiger Reserve area is one of the biodiversity rich areas of the Western Ghats and it is a home for many endemic flora and fauna. The forests cover along the Sahyadri hills form the catchment area of Krishna river, and major tributaries such as Koyna, Venna and Warna are originate and drain through this landscape.

Millions of people living downstream are depending on this resource for their day-to-day activities. It is therefore, vital to preserve this pristine area for the long-term sustenance of water and the diversity of life within it. Effective management of any Protected Area requires robust information on its biodiversity values. I am very glad to know that the Sahyadri Tiger Reserve Foundation has taken a great effort to document species inventory of some of the major taxa. As part of this programme, the study on fish diversity of the water resources within the Tiger Reserve is a new initiative to understand the kind of aquatic life thrives in waters of the Sahyadri Tiger Reserve.

The compact field guide on the Fishes of Sahyadri Tiger Reserve is an outcome of the research work carried out by Wildlife Institute of India, Dehradun. This field guide contains easy to understand fish identification features, Taxonomic position, IUCN Redlist categories, habitat preference and distribution status of 50 freshwater fishes inhabiting in Sahyadri Tiger Reserve. I would like to express my appreciation for Dr. J.A. Johnson and his team for bringing out this pictorial field guide on fishes of Sahyadri Tiger Reserve, Maharashtra. I honestly hope that this book will generate interest in the aquatic fauna amongst the nature enthusiasts and also serve as handy field guide to them.

(Nitin H. Kakodkar)
Principal Chief Conservator for Forests & Chief Wildlife Warden
Government of Maharashtra

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FOREWORD

One of the major challenge in conservation of biodiversity in India is the availability of updated information on species distribution in different landscapes. In this context, the Wildlife Institute of India has been involved in generating primary data on various taxa across various landscape through specially designed research and collaborative programmes. Such documentation is not only providing baseline information for monitoring the landscape, but is also assisting in regulating developments in these areas.

In this context, a study has been carry out to document fish species diversity in the Sahyadri Tiger Reserve, Maharashtra with financial support from Sahyadri Tiger Reserve Foundation. As an outcome of this research, I am delighted to see the pictorial field guide on fishes of Sahyadri Tiger Reserve. This handy field guide prepared by Dr. J.A. Johnson, Mr. Anurag Rokade, Dr. Vidyadhar Atkore, Dr. K. Sivakumar and Dr. Clement Ben is an interesting compilation of freshwater fish species inhabiting the streams/ rivers and reservoirs of Sahyadri Tiger Reserve. This field guide covers 50 species of fishes with simple identification features, attractive photographs and ecological information. I am confident that this field guide provides significant information on fish resources of the reserve and offers its readers with significant insight into underwater aquatic life.

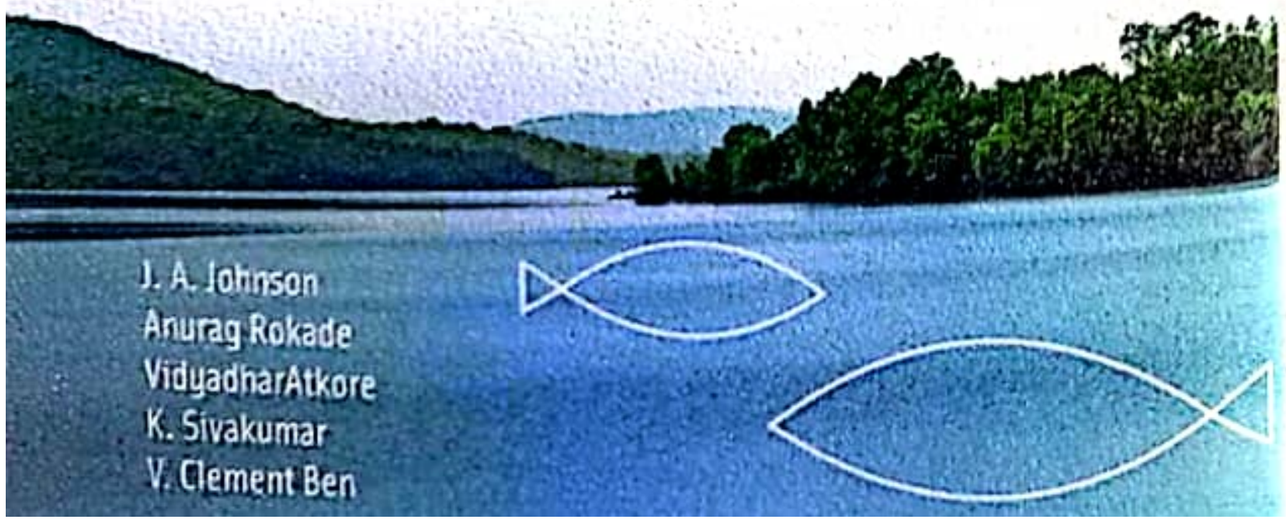
Dr. V.B. Mathur
Director
Wildlife Institute of India
Dehradun

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PREFACE

Fishes are the best-known group of aquatic vertebrate, they live at or near the top of the aquatic food chain. They occupy almost all types of aquatic habitats of the world. Among these, fishes living in freshwater habitats have remarkable diversification in their morphology and dispersal of these species are limited within the river basin networks. Therefore, unlike terrestrial and marine habitats, it has limited opportunity to distribute uniformly in a given landscape. As a result, each river basin/ landscape inhabits significant unit of species assemblages. The diversity and rich endemic form in a river basin indicate that the wealth and evolutionary significance of a given area. Hence, it is vital to document species assemblages in a given landscape for generating information for monitoring the aquatic habitat. In this background, a Memorandum of Understanding (MoU) was established between the Sahyadri Tiger Reserve Foundation and the Wildlife Institute of India in 2017 to undertake study on "Status of fish diversity in Sahyadri Tiger Reserve". As part of this MoU, we have recorded 50 species of freshwater fishes inhabiting in streams, rivers and reservoirs of the Sahyadri Tiger Reserve and developed a pictorial filed guide on fishes of this Reserve. This field guide contains simple fish identification features, Taxonomic position, IUCN Redlist categories, habitat preference and distribution status of fishes inhabiting in Sahyadri Tiger Reserve, Maharashtra. We hope this field guide and fish identification tool will enhance its readers knowledge on freshwater fish.



J. A. Johnson
Anurag Rokade
VidyadharAtkore
K. Sivakumar
V. Clement Ben

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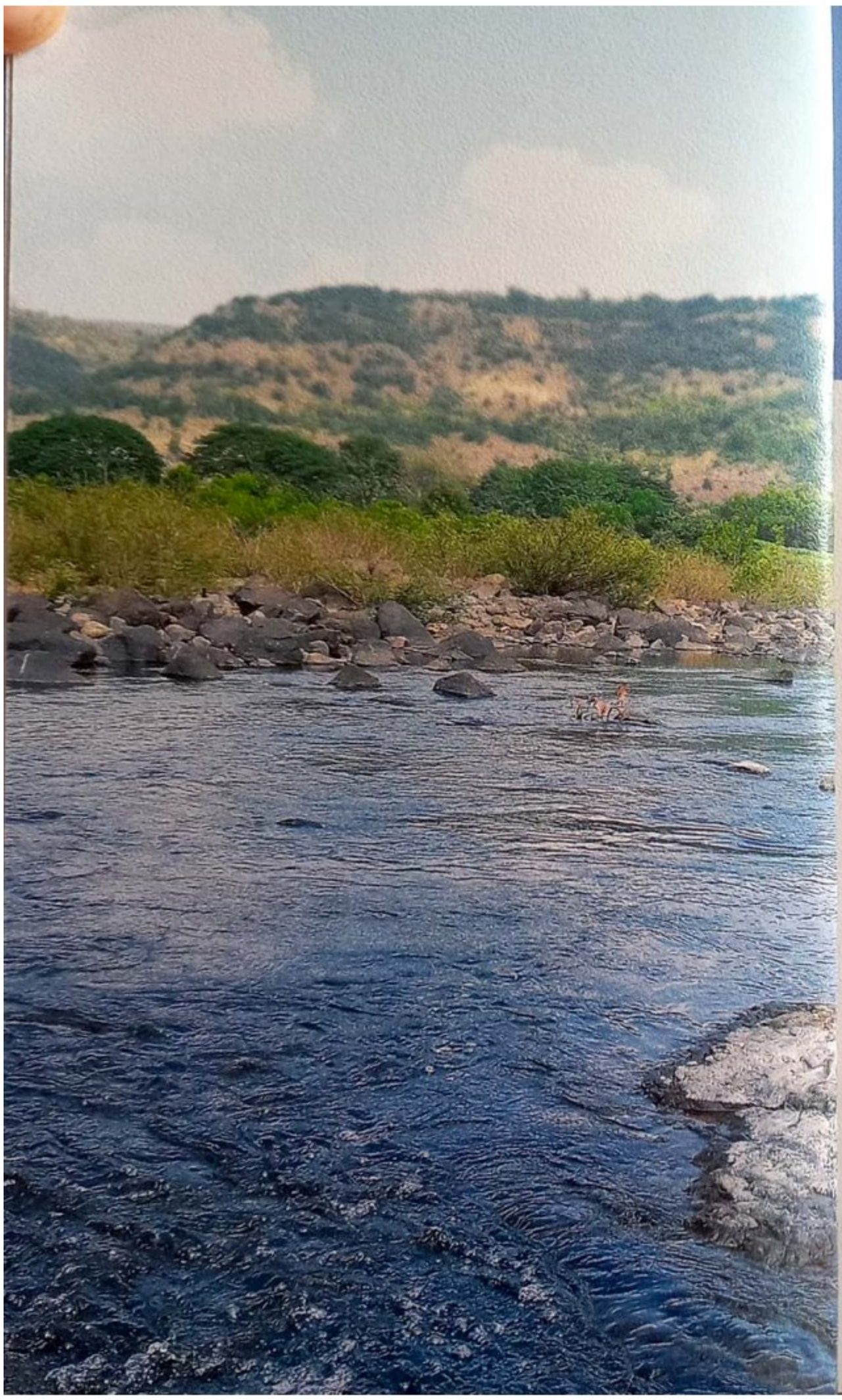
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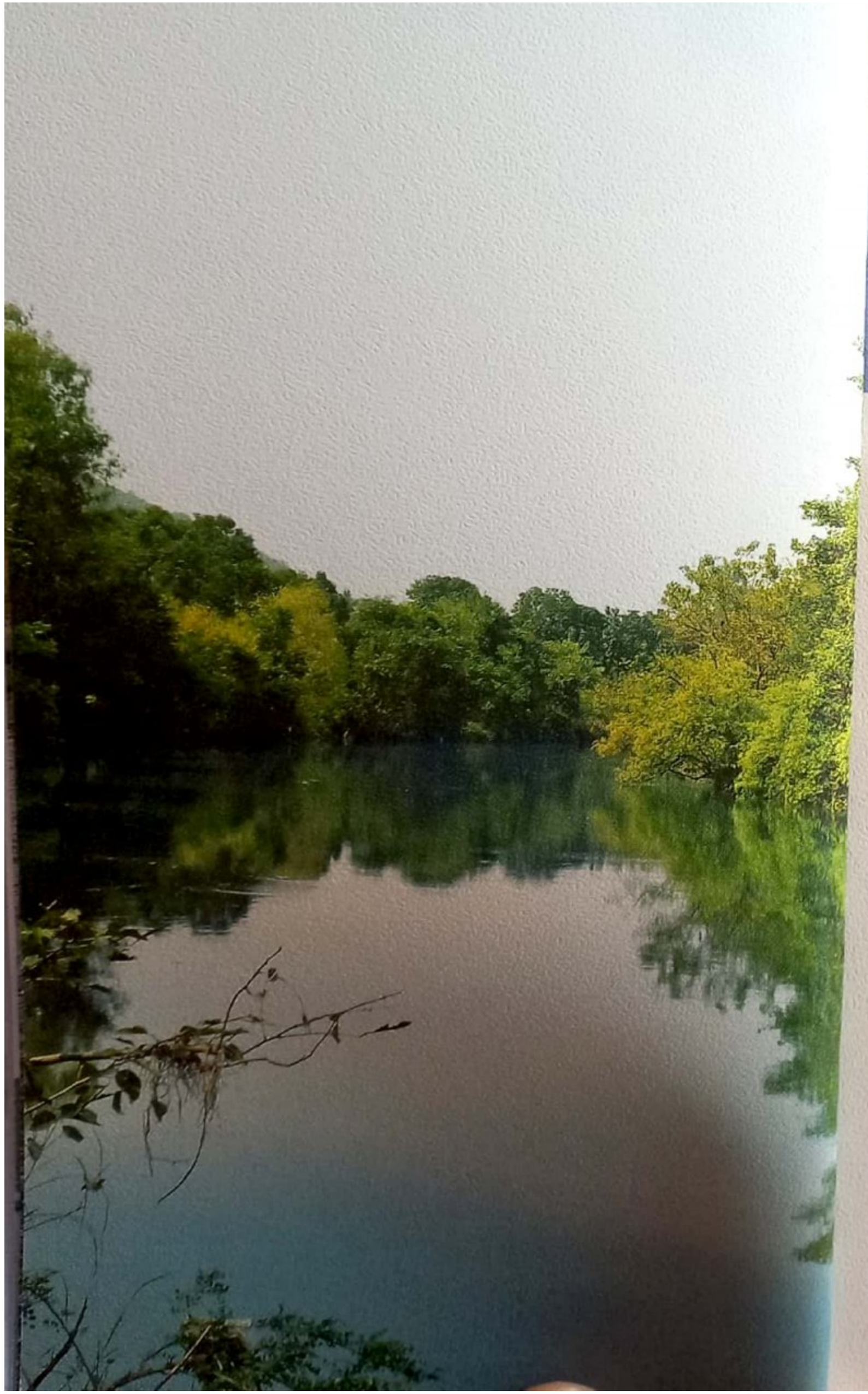
1

Freshwater fish

Fishes are the most fascinating, colourful and lovable aquatic creature, live in nearly every aquatic habitats, from near-freezing waters to hot springs; from torrential hill-stream to the deepest ocean. They are cold-blooded animals (animals cannot regulate their body temperature), use fins for locomotion and respire through gills. Compared with life in air, conditions under water are severe restraints and it is tempting to regard aquatic life as a serious of struggles to overcome adverse condition. The major challenges faced by aquatic fauna are, density of water; low level of oxygen; balance of salt and body fluids and poor light for vision. Fishes are evolved different mechanism to live in these adverse conditions. Freshwater fishes are adopted to live in water with very low salinity (hypotonic medium). They have powerful kidneys and chloride secreting cells to maintain body fluid concentration. They are the first successful vertebrate originate from water and slowly invaded in to inland aquatic habitats. It may have been in existence in earth more than 400 million years.

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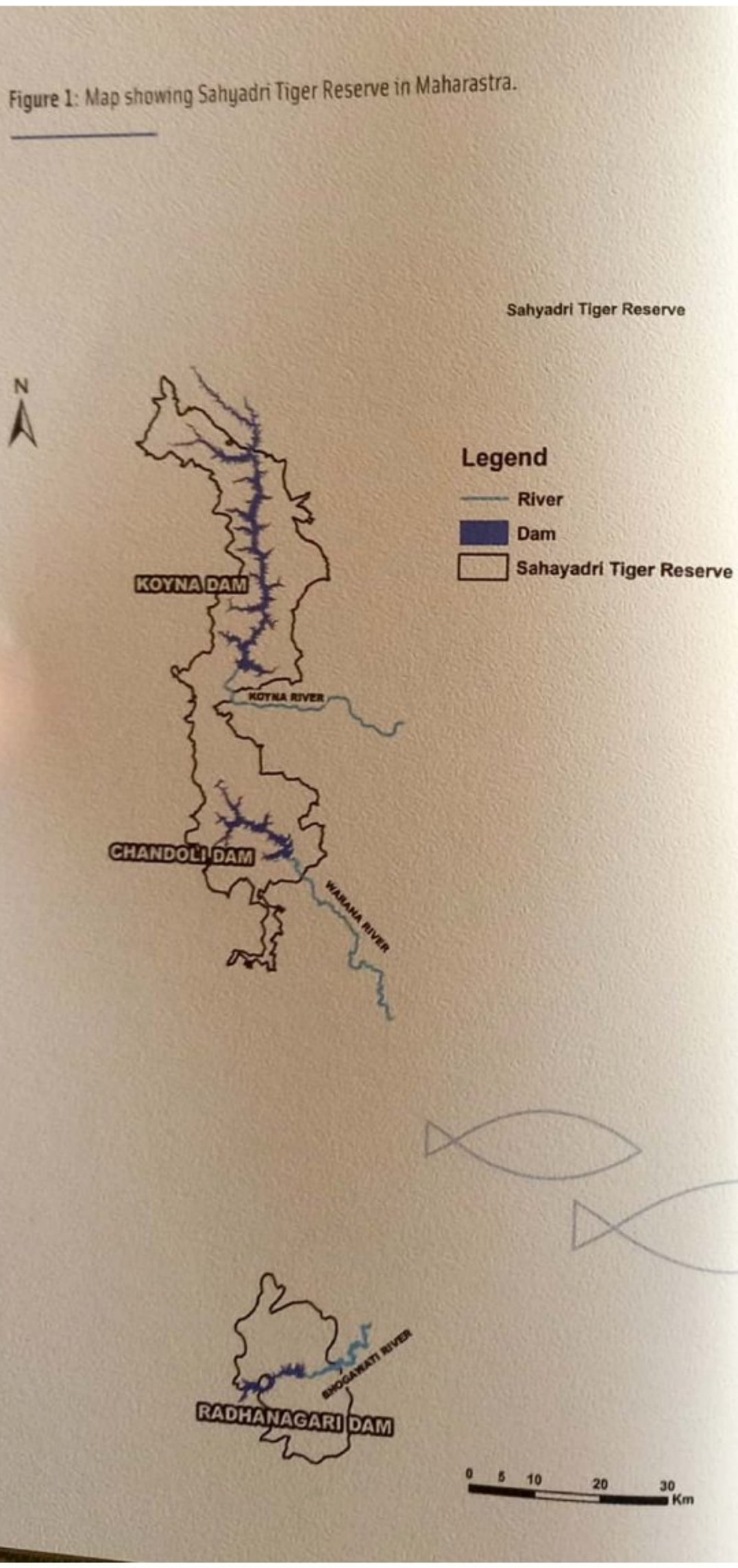
2

Fishes of Sahyadri Tiger Reserve

Inland aquatic habitats of India are home for many freshwater fishes. Rivers/ streams originate from Western Ghats hills inhabitat one of the world rich fish fauna and more than 40% of fishes are endemic to this region. Within the Western Ghats Mountain, the Sahyadri hill is one of such biodiversity rich area, which forms catchment for origin of important peninsular river, Krishna. Most of the Sahyadri hill ranges are thickly covered by tropical deciduous forests, and many tributaries of Krishna river such as Koyna, Venna and Warna are drain through this landscape. Historically, this hill ranges inhabit one of the richest fish fauna in the country and larger size game fishes (including mahseer) were reported from this landscape. Review of literature on fish species recorded in this region revealed that more than 70 species of fishes were documented from the upper Krishna river basin, which is part of Sahyadri Tiger Reserve. This river basin has 188 dams, 4 barrages and 57 weirs, which have been built across different tributaries of Krishna river to control monsoon flood, supply water for hydropower, irrigation, drinking etc. However, in recent decades the quality of forests in the Sahyadri hill have been degraded due to various developmental programmes, river valley modification and expansion of human settlements. In order to safeguard the remaining wilderness in the catchment, 741 sq.km area of forest have been brought under the Sahyadri Tiger Reserve. This protected area comprising of three major reservoirs and associate streams (Figure 1). There are 28 species of mammals, 275 species of birds, 58 species of herpetofauna and 58 species of butterflies were reported from this area. However, the information on fish species inhabiting in the Sahyadri Tiger Reserve is not available.

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Figure 1: Map showing Sahyadri Tiger Reserve in Maharastra.



Sahyadri Tiger Reserve has three major reservoirs, namely Koyna, Chandoli and Radhanagari, which are built across the rivers Koyna, Warna and Bhogawati respectively. In addition to that, few perennial and many seasonal streams are associated with all three reservoirs. In order to fill the gap on fish species account, a detailed survey on fishes inhabiting in Sahyadri Tiger Reserve were undertaken between March 2017 and September 2018. Fifty species of freshwater fishes belonging to 35 genera and 14 families were recorded from different aquatic habitats of Sahyadri Tiger Reserve (Checklist Page no-76, 77, 78). Among the fishes, the members of family Cyprinidae are most commonly (30 species) occur in streams, rivers and reservoirs of Sahyadri Tiger Reserve. The big-sized barbs, *Tor khudree, Hypselobarbus kolus, Hypselobarbus jerdoni, Labeo calbasu,* and *Systomus sarana* are occupied and thrive well in the reservoirs of Sahyadri Tiger Reserve. Juveniles of big-sized barbs and small barbs and minnows like *Deverio aquipinnatus, Garra mullya, Puntius sahyadriensis, Rasbora daniconius, Salmophasia* sps., etc. are most commonly found in stream/ river habitat. There are few predatory carnivore fishes, *Channa morulius, Channa punctatus, Mastacembalus armatus* and *Sperata seenghala* were recorded from Sahyadri Tiger Reserve. Out of 50 species, seven species (*Botia stiata, Clarias magur, Hypselobarbus kolus, Indoreonectus evezardi, Parapsilorhynchus discophorus, Shismatorhynchus nukta* and *Tor khudree*) are listed as threatened fishes in the IUCN-Redlist categories. Based on the recorded species, we have developed a pictorial filed guide on fishes of Sahyadri Tiger Reserve. This field guide contains information on simple fish identification features, taxonomic position, status of IUCN Redlist categories, habitat preference and distribution status of 50 freshwater fishes inhabiting in Sahyadri Tiger Reserve, Maharashtra.

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3

Fish identifications skills

Fish identification is somewhat different from identifying other vertebrates, which usually have distinct morphological characters and colour patterns. So do some fish, but with many of the characteristic points are much more restrained, for example: number of rays in fins, lateral line scales, lateral transverse scales, body shape etc. For making easy identification, one can start familiar with some of the morphometry features of fishes such as body parts, characters, shape and colour pattern. Species distribution range also gives a basic idea about particular species identify. Before moving into the identification, user should familiar with the general morphology and body parts of a fish. Important fish body parts and landmarks for taking different morphometric measurments are illustrated in Figure 2 & 3. Traditionally, fish identification and classification carry out based on some morphometric and meristic traits. The detailed description of morphological characters are explained in Table 1.

Further, it is also necessary to familiarize with characteristic features of some important group of fishes that occur in the reason. The groups of fishes reported from Sahyadri Tiger Reserve area are belonging to the family Cyprinidae, Nemacheilidae, Botiidae, Parapsilorynchidae, Cobititae, Bagridae, Clariidae, Channidae, Mastacembalidae, Ambassidae, Belonidae, Gobiidae, Aplocheilidae and Cichlidae. In order to identify the freshwater fishes inhabiting in Sahyadri Tiger Reserve, this field guide describes the salient features and major identification characters of fishes belonging to 14 families.

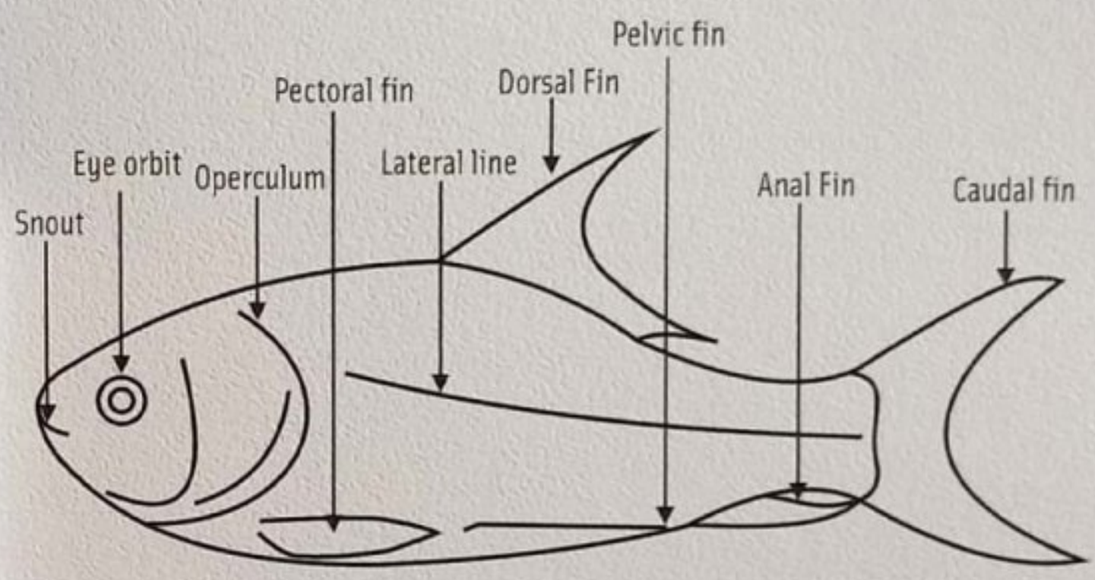


Figure 2. General morphology and different body parts of a bony fish.

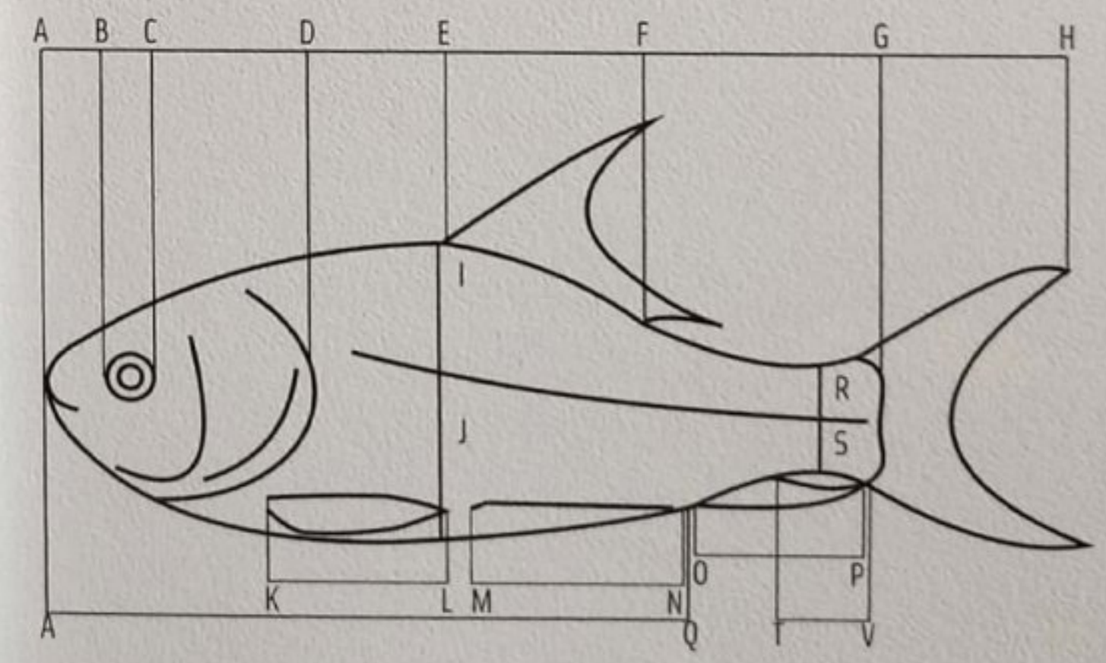


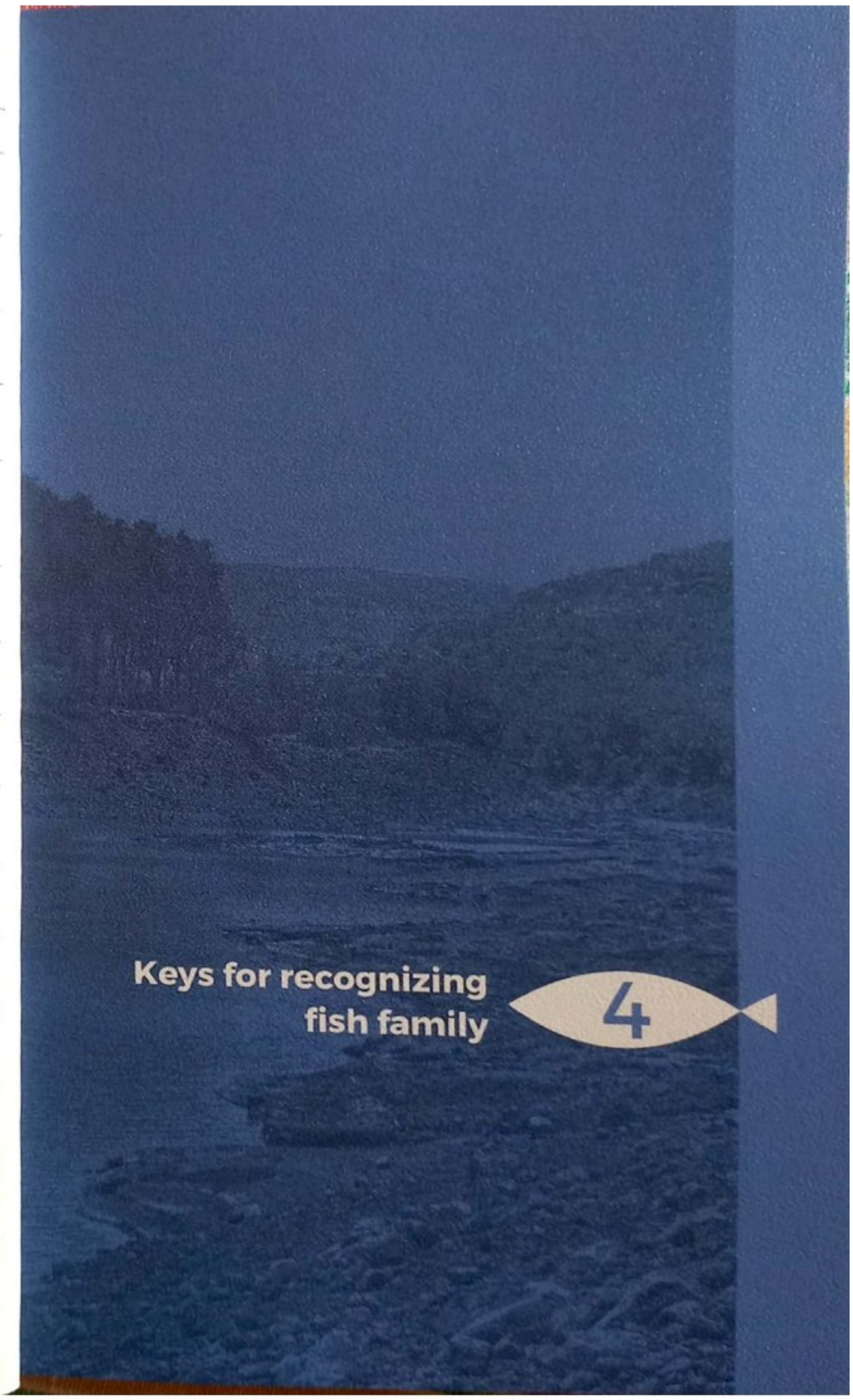
Figure 3. Picture illustrating landmarks of different morphometric measurements of a bony fish [morphometric description refer Table 1].

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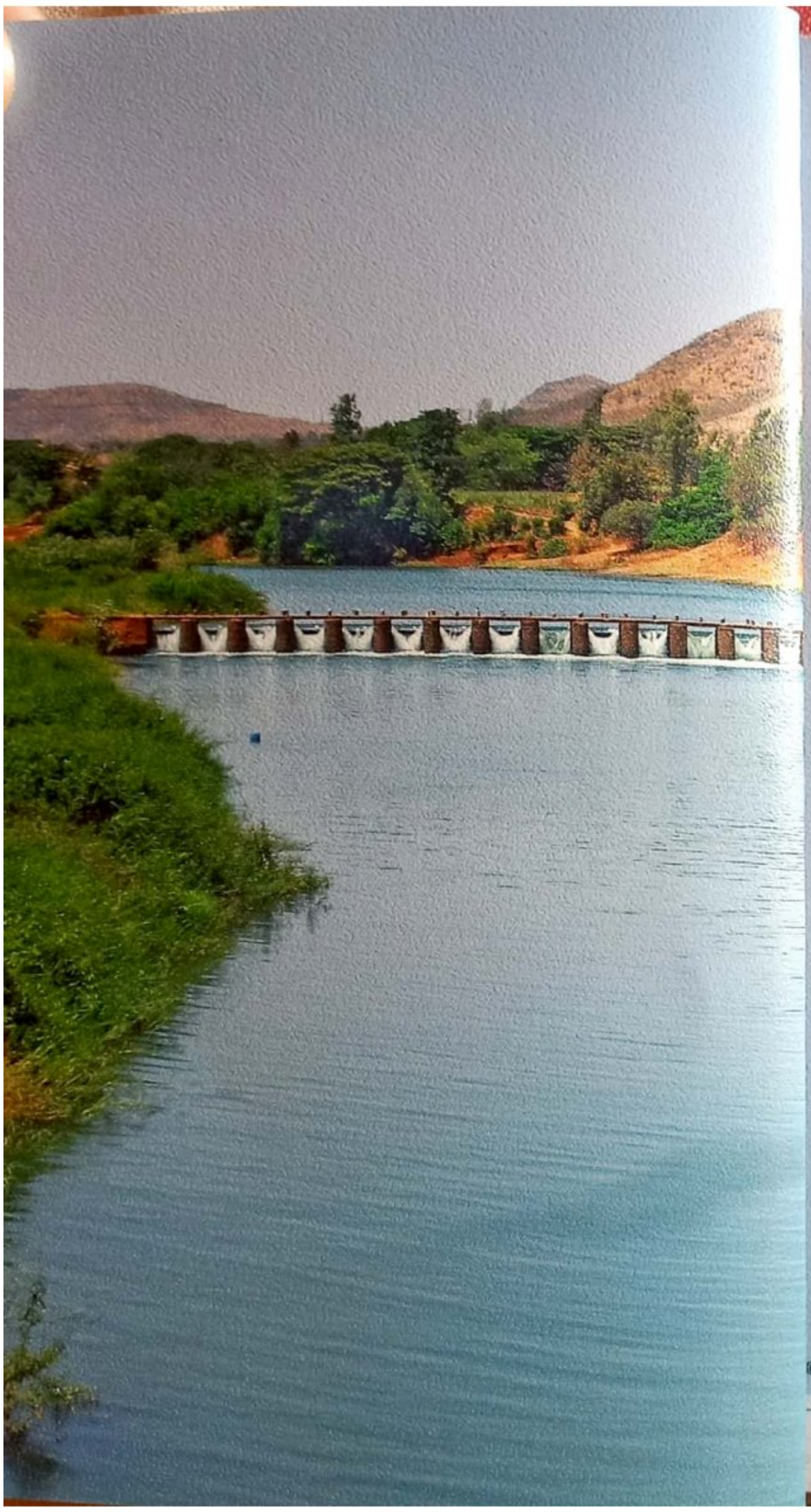
Table 1. Description of different morphometric characters.

Morphometric Characters	Description
A-B: Snout length	Length from tip of the head to in front of eye
B-C: Eye diameter	From one end of eye orbit to other end of orbit
A-D: Head length	Length from tip of the head to opercular opening
A-E: Predorsal length	Length from tip of the head to origin of dorsal fin
E-F: Dorsal fin base	Distance from anterior point of dorsal fin insertion to posterior point of insertion
E-G: Postdorsal length	Length from origin of dorsal fin to origin of caudal fin
A-G: Standard length	Length from tip of the head to origin of caudal fin
A-H: Total length	Length from tip of the head to end of caudal fin tip
I-J: Body depth (at middle)	Straight length from dorsal fin origin to ventral region of body
K-L: Pectoral fin length	Length from pectoral fin origin to the distal end of the fin
M-N: Pelvic fin length	Length from pelvic fin origin to the distal end of the fin
O-P: Anal fin length	Length from anal fin origin to the distal end of the fin
A-Q: Pre-anus distance	Length from tip of the head to anus opening
R-S: Caudal peduncle height	Vertical length between dorsal to ventral at caudal peduncle region
T-V: Caudal peduncle length	Length from end of anal fin insertion to caudal fin origin



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FAMILY CYPRINIDAE

4.1

Cyprinidae family is generally called as carp family, it includes mahseers, barbs, barils, danios and minnows. They are highly diverse group that occupy in all possible aquatic habitats such as streams, rivers, lakes, ponds, canals etc. The important salient features of this family are:

- Body covered with scales and no scales on head.
- Body scales are dome shaped with smooth margin.
- Dorsal fin composed of soft branched rays, anterior ray unbranched.
- Usually moveable upper jaw.
- Short barbels some time present along the corner of mouth.
- No teeth on jaws, but pharyngeal teeth present along gill arch.

Cyprinid Fish



Dr. J. A. Johnson

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4.2 FAMILY NEMACHEILIDAE

This family consists of group of species, which are remarkably similar in body morphology. They bear small worm-like body morphology, widely distributed in high altitude mountain streams to food-hills. Body cylindrical, abdomen is round and covered with minute scales. Paired fins are inserted laterally. The outer most ray of pectoral fin is simple. Body generally bears number of bands or markings. Spines are absent under or below eye. Some of the key characters to identify Nemacheilidae family are:

- Lips thick, fleshy, papillated and continuous at the angle of mouth.
- 3 pairs of barbels present around the mouth.
- Dorsal fin inserted more or less opposite to pelvic fin, no spin on the dorsal fin.
- Anal fin short with 6-8 rays.

Nemacheilid Fish



Dr. J. A. Johnson

4.3 FAMILY BOTIIDAE

Members of Botiidae fishes are medium-sized freshwater loaches, it has restricted distribution in streams of Western Ghats, Himalaya and Eastern Himalaya. They are adapted to live in fast flowing waters. Body broad, dorso-laterally compressed and head conical in shape. Scales are minute and embedded on the skin. Major identification characters are:

- Strong erectile spine present near eyes.
- Rostral barbels two pairs.
- Caudal fin deeply forked.

Botiid Fish



Dr. Vidhyadhar Atkore

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4.4 FAMILY PARAPSILORHYNCHIDAE

Family Parapsilorhynchidae is endemic to India, comprise o 3 known species from headwaters of Krishna river an streams of Satpura mountains in Madhya Pradesh. It differ from closely related family Cyprinidae by presence o horizondally placed paired fins (pectoral and pelvic fins) and presence of two undivided rays in pectoral fin. Further, i differs from other closely related family Psilorhynchidae by presence of a pair of short rostral barbel. The important identification features of Parapsilorhynchidae family are:

- Single pair of rostral barbel present.
- Paired fins horizontally placed.
- Callous thickening present below the lower lip.
- Pectoral fin bears to undivided rays.

Parapsilorhynchid Fish



4.5 FAMILY COBITITAE

Body is short, cylindrical and posteriorly compressed. Small minute cycloid scales present. Mouth is sub-terminal to inferior in position. Lips are thick and fleshy. Jaws are palate and elongated. Gill membrane are free from each other. Lateral line is present. The followings are the unique characters of family Cobititae.

- Body worm-like and smooth.
- A projected spine present before or below eye.
- Pelvic fins may be absent or rudimentary.

Cobitid Fish



Dr. J. A. Johnson

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4.6

FAMILY BAGRIDAE

Members of this family are commonly called as catfishes because of presence of long barbell around the mouth. They are more ancient group and widely occurs in south and South East Asia and Europe. Fishes belong to this family are predatory carnivores, feed on aquatic insects, worms and fishes. The important salient features of this family are:

- Scales absent.
- Long barbels present around the mouth.
- Dorsal and pectoral fins bear well developed spine.
- Anal fin base short with few rays.
- A short membranous out growth occur after the dorsal fin, called adipose fin.
- Teeth present on jaws.

Bagrid Fish



FAMILY CLARIIDAE

4.7

Clariidae fishes are another group of catfishes, generally inhabit in slow moving forested streams and rivers. They are air-breathing fishes, accessory air breathing organs present inside the gill chamber. Body is round and elongate. Head is broad and dorsally compressed. Mouth is wide and terminally placed. Four pairs of barbels present around the mouth. The identification features of this family are:

- No scales on the body.
- No adipose dorsal fin.
- Pectoral fins are supported with strong serrated spins.
- Dorsal and ventral fins are broad base, very long and continuous up to caudal fin origin.
- Caudal fin is round.

Clariid Fish



Dr. J. A. Johnson

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4.8

FAMILY CHANNIDAE

This group of fishes is called snake-headed and they c
able to take atmospheric oxygen for respiration, hence th
also called as air-breathing fishes. Family Channidae h
only one genus *Channa* represented in India and there are
valid species were reported from Indian waters. They a
generally inhabit in low land streams, rivers, reservo
lakes and ponds. The salient features of this family are:

- Large scales are present on the top of the head.
- Dorsal and anal fins are long.
- Caudal fin round.
- Mouth large and teeth present on jaws.

Channid Fish



FAMILY MASTACEMBELIDAE 4.9

Members of this family are commonly known as 'spike eel', because of presence of many spike like spine on the dorsal side. Body is eel like, compressed and elongated, covered with minute scales. Mouth is non-protractile. Preoperculam with or without spines. Caudal fin is short and round. The main identification characters of this family are:

- Many strong spines present on the pre-dorsal surface to origin of dorsal fin.
- Dorsal and anal fins are long, end before caudal fin origin or confluent with caudal fin.
- Body covered with thick mucus coat.

Mastacenbelid Fish



Dr. J. A. Johnson

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4.10

FAMILY AMBASSIDAE

This group of fishes are small translucent and silvery fishes. Mouth is moderate to wide and little exten Body is deep and laterally compressed. Body and he covered with minute to moderate cycloid scales operculum is broad with membranous flap. Teeth are p in jaws. Lateral line complete. Caudal fin deeply forke unique characters of this family are:

- Dorsal fin Two, first one has 7 to 9 strong spine second one with soft spines.
- Body transparent, glass-like.
- Anal fin with three strong spine and 8 to 17 soft rays.

Ambassid Fish



20

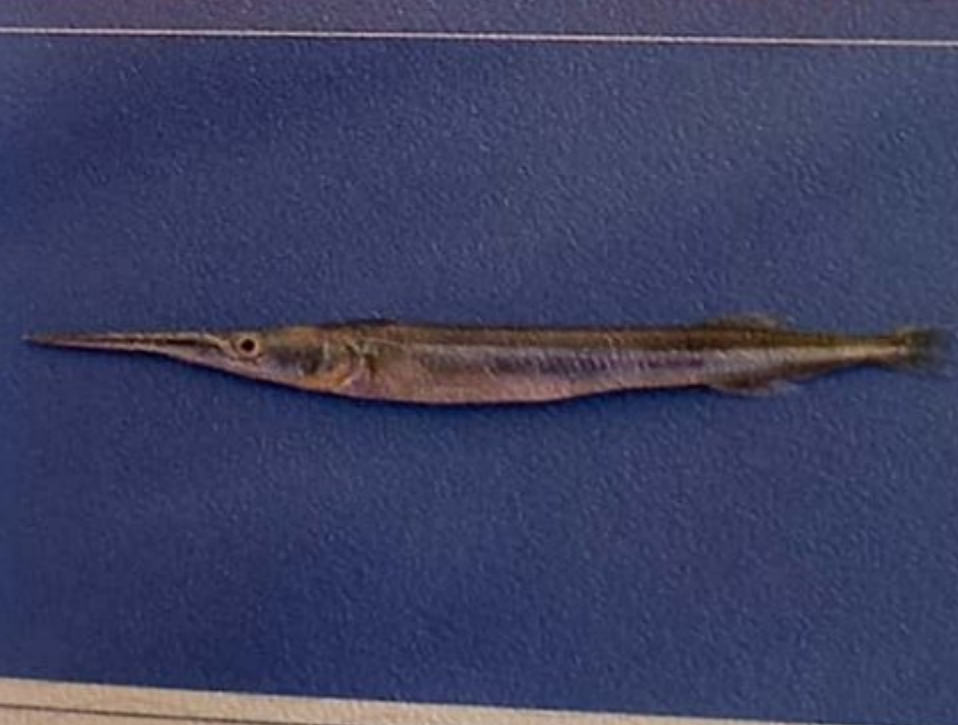
4.11

FAMILY BELONIDAE

Body round, narrow and needle-like and body is covered with small scales. Scales also present on head. Teeth are present in jaws. About 12 to 15 branchiostegal rays are present in the ventral side of the head. Gill opening is wide. Dorsal fin inserted at posterior part of body. The unique features of this family are:

- Jaws are elongated beak like structure.
- Body round and needle-like.
- Pectoral fin with 10 to 12 branched rays.
- Pelvic fin with 6 branched rays.

Belolid Fish



Dr. J. A. Johnson

21

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4.12

FAMILY GOBIIDAE

The members of Gobiidae family are predatory carnivor
Body is round, elongated and covered with minute cycl
scales. There are many ridges of papillae present on he
Barbels are present on ventral side of head. Dorsal fin is lo
and continuous up to caudal fin origin. Lateral line is abse
The main identification characters for family Gobiidae are:

- Eyes bulb-like, located in dorsal region of the head.
- Dorsal fin two, first one is short and second one is lon
continuous up to caudal fin origin.
- Pelvic fins modified in to disc like adhesive disc.
- Caudal fin round.

Gobiid Fish



FAMILY APLOCHEILIDAE

4.13

These group of fishes are surface-dowellers, inhabit in stagnant river channels and wetlands. Body small, laterally compressed and dorsal side of the head is flat. No spines are present on body. Dorsal fin is inserted in posterior part of body. Lateral line present on head and not on body. Upper jaw is moveable. Cycloid scales are present on body. The main identification characters of family Aplocheilidae are:

- Dorsal fin is short and inserted on posteror-third portion of the body.
- Pelvic fin bases inserted close together.
- Caudal is fin round or urn shaped.

Aplocheilid Fish



Dr. J. A. Johnson

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4.14

FAMILY CICHLIDAE

Parental care behaviour is well developed in this group, they incubate and care their young ones inside the mouth. Therefore, it is commonly called as mouth brooders. Body is broad, moderately elongated and laterally compressed. Dorsal and lateral parts of head are covered with ossified plates. Rayed dorsal fin, entirely spineless. Anal fin is long extended to caudal fin. In India, only one genus and three species are represent from this family, however, in Sahyadri Tiger Reserve only one exotic chichlid fish was recorded.

- Body scales are rough, formed of ctenoid scales.
- Dorsal and Anal fin have series of strong spines
- End of the dorsal fin spine, few soft rays are attached
- Caudal fin typically truncate

Cichlid Fish



Species accounts 5

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1

Baril

Family: **Cyprinidae**
Scientific name: ***Barilius bendelisis*** (Hamilton 1822)
Marathi name: **Jhoria or Jhor**
IUCN status: **Least concern**
Recorded length: **18 cm**

Barilius bendelisis is very common and wildly distributed in streams and rivers of Himalaya. Body laterally compressed and long. Dorsal and ventral profiles are equally arched. Mouth is wide and placed in terminal position. This species can be easily distinguished from other known *Barilius* species by number of lateral line scales (38 to 46 scales); mouth opening (opening extends below anterior third of eye orbit) and short anal fin with 7 or 8 branched fin rays. Entire body is silver in colour, fine black dots present all through the body. Body marked with 12 dark bands (bands are clearly visible in young, and not clear in adults). It inhabits in fast flowing streams/ rivers and also in low land streams. It feeds on fallen terrestrial insects and other drifted animal matters. In STR, it occurs in streams/ rivers of Chandoli National Park and Koyna Wildlife Sanctuary.



Anurag Rokade

Giant Danio

2

Family: **Cyprinidae**
Scientific name: ***Devario aequipinniatus*** (McClelland 1839)
Marathi name: **Balook**
IUCN status: **Least concern**
Recorded length: **15 cm**

Devario aequipinniatus is one of the popular aquarium fish and very common in streams and rivers of Peninsular India. Body has a well-defined dark blue lateral band. There are few irregular yellow lines above and below the lateral line. Few blue bands run along the entire length from caudal fin to head and breaks into three golden bands. Fins are orange in colour with grey shade. This is a surface feeder and feeds on drifted and fallen terrestrial insects. In STR, this species occurs in the Chandoli National Park (Arala, Mandur) and Koyna Wildlife Sanctuary (Karate).

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Anurag Rokade

3

Black-line Rasbora

Family: **Cyprinidae**

Scientific name: ***Rasbora daniconius*** (Hamilton 1822)

Marathi Name: **Dandai**

IUCN status: **Least Concern**

Recorded length: **15 cm**

Rasbora daniconius is a common native freshwater fish found in streams, rivers, canals and reservoirs of India. Body is silver with a blue-black stripe running just behind eye to the base of caudal fin. A thin metallic golden line also runs parallel to the lateral line. All fins are pale yellow in colour. This fish is a coloum dweller and it forages on drifted insects and worms. In STR, this species commonly occurs in streams, rivers and reservoirs of Koyna Wildlife Sanctuary (Nawaja, Karate, Anainagar), Chandoli National Park (Mandur, Arala, Chandoli) and Radhanagri Wildlife Sanctuary (Radhanagri).

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Tunga Garra

4

Family: **Cyprinidae**
Scientific name: ***Garra bicornuta*** (Narayan Rao 1920)
Marathi name: **Shingacha Mally**
IUCN status: **Near threatened**
Recorded length: **10 cm**

This species is endemic to Krishna and Thunga river basins. Unique character of this *Garra* species is present of two small horn like structure on the head region, hence it is known as 'bicornuta'. Dark olive green on the dorsal side of the body, fading to pale yellow on its flanks and belly. Fins are orange in colour with red shade. Body is round and ventrally flattened. There is a band on the sides of its body and there is a black spot at the upper angle of the gill opening. Mouth is modified into sucker like structure, which is used for scrapping the bottom substrate. This fish mainly feeds on algae and diatoms. In STR, this species is present in Koyna Wildlife Sanctuary and Chondoli National Park.

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5



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Stone Sucker

Family: **Cyprinidae**
Scientific name: ***Garra mullya*** (Sykes 1839)
Marathi name: **Mally**
IUCN status: **Least Concern**
Recorded length: **17 cm**

Garra mullya is one of the common stream fish, widely occurs in streams/rivers of Peninsular India. Body is round and ventrally flat up to pelvic fin base. Mouth is sucker-like and situated at the ventral region of the head. Dorsal surface of the body and flanks are dark black to olive-green in colour. Belly is dull white. Often a dark yellow band present on the body along the lateral line. Body has two distinct black spots, one occur just behind the angle of the operculum and another one present at caudal fin base. It is a bottom feeder, feeds on periphytons, algae and diatoms. This fish occurs in the most the aquatic habitat of Koyna Wildlife Sanctuary (Helwak, Anainagar, Karate, Nawaja), Chandoli National Park (Mandur, Arala, Chandoli) and Radhanagri Wildlife Sanctuary (Radhanagri).

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Nilgiri Stone Sucker

6

Family: **Cyprinidae**

Scientific name: ***Garra stenorhynchus*** (Gray 1830)

Marathi Names: **Mallya**

IUCN Status: **Least concern**

Recorded Length: **18 cm**

Garra stenorhynchus is endemic to Western Ghats, occurs in Krishna and Cauvery river basins. Dorsal profile of the body is round and ventral region is flat up to pelvic fin base. Dorsal and lateral side of the body are black in colour with olive green shade. Fins are yellow in colour with orange shade. *Garra stenorhynchus* can be distinguished from other known *Garra* species of Western Ghats by presence of characteristic median horn-like projection (proboscis well developed) on the head and well developed tubercular area around the snout. This species is a bottom feeder, feeds on periphytons, algae and diatoms. In STR this species presents in streams associated with the Koyna dam.

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7

Rosy Barb

Family: **Cyprinidae**

Scientific name: ***Pethia conchonius*** (Hamilton 1822)

Marathi name: **Pothi**

IUCN status: **Least Concern**

Recorded length: **10 cm**

Pethia conchonius has wide distribution range in India and other South East Asian countries. Body is deep and short, laterally compressed dorsal and ventral profiles are equally arched. Mouth is moderate and barbels are absent. Body colour is olive-green on dorsal region flanks and belly is silver in colour. *Pethia conchonius* exhibits sexual dimorphism during breeding season. Male develops rosy pink colour on the body and dorsal and pelvic fins are tuned into black colour. Female does not exhibit any breeding colour. Lateral line is incomplete and present till 10th to 13th scale. About 24 to 26 scales present along the longitudinal line. It feeds on insects, worms, crustaceans and some time plant matter. In STR, this fish occurs in Chandoli National Park and Koyna Wildlife Sanctuary.

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Sanjaymoluri Barb

8

Family: **Cyprinidae**

Scientific name: ***Pethia sanjaymoluri*** (Katwate et al. 2016)

Marathi name: **Pothi**

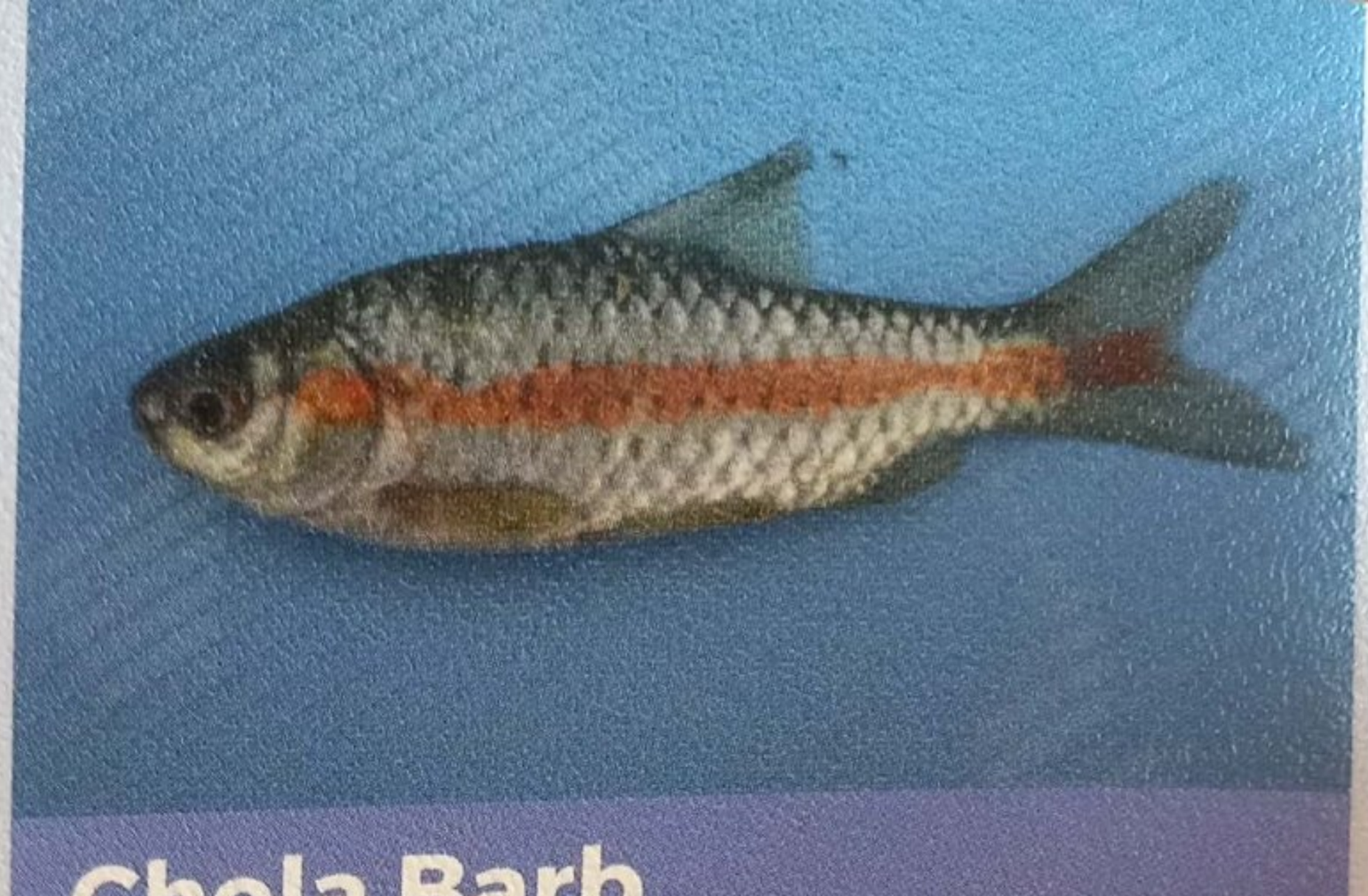
IUCN status: **Data deficient**

Recorded length: **3.3 cm**

Sanjaymoluri Barb was recently described from northern Western Ghats region. It has two blotches on its body, one is after the operculum on the 4th lateral line scale and the other one is at caudal peduncle region, just above the anal fin base end. Belly is silver in colour. Fins are light orange colour with reddish shade. This fish occurs in shallow pool and run habitats of lowland streams. Other than type locality, it is also occur in streams of Koyna and Radhanagri region of Sahyadri Tiger Reserve.

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9

Chola Barb

Family: **Cyprinidae**

Scientific name: ***Puntius chola*** (Hamilton 1822)

Marathi name: **Khavli**

IUCN status: **Least concern**

Recorded length: **10 cm**

Puntius chola is a small barb and it is widely occur in Inland waters of India. Dorsal side of the body is dark green and lateral sides are greyish-white in colour. A dark round black blotch occurs at the base of dorsal fin and another one present at the base of caudal fin. The blotches are indistinct in larger specimens. It exhibits sexual dimorphism, during breeding season, male develops red colour band on the lateral side of the body, which runs from the base of caudal fin to head region. The morphology of this species often confuses with the closely related species *Puntius sophore*. However, *Puntius chola* can be easily distinguish from *Puntius sophore* by nature of body profile (both dorsal and ventral profile are equally arched in *Puntius chola* vs. presence characteristic hump in dorsal profile of *P. sophore*). This species feeds on algae and diatoms. In STR, this fish occurs in the Chandoli National Park (Mandur, Arala), Koyna Wildlife Sanctuary (Karate, Nawaja) and Radhanagri Wildlife Sanctuary (Radhanagri).

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Scarlet-spotted Barb

10

Family: **Cyprinidae**

Scientific name: ***Puntius amphibious*** (Valenciennes 1842)

Marathi name: **Bhondgi**

IUCN status: **Least Concern**

Recorded length: **10 cm**

This species has wildly distributed in inland waters of Deccan Peninsular region including Madhya Pradesh and Orissa region. Body spindle shaped, both dorsal and ventral profiles are equally arched. Head conical in shape and mouth small, placed in subterminal and a pair of barbel present around the mouth. Dorsal fin placed nearer to tip of the snout than to base of the caudal fin. The important identification features of this species are: presence of single well defined black spot on end of the caudal peduncle and complete lateral line with 23 to 24 scales. Dorsal side of the body is light olive green and lateral side of the body are silver-white with yellow shade. Fins are pale yellow in colour. This fish feeds on detritus and algae. In STR, this species occurs in streams, rivers and reservoirs of Koyna Wildlife Sanctuary and Chandoli National Park.

35 FAMILY CYPRINIDAE

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11

Maharaja Barb

Family: **Cyprinidae**

Scientific name: ***Puntius sahyadriensis*** (Silas 1953)

Marathi Names: **Khavli**

IUCN Status: **Least concern**

Recorded Length: **8 cm**

This is a small barb, only occurs in Krishna river basin and endemic to Northern Western Ghats. Body is silver colour with golden shade throughout the body. Seven black blotches occur on the body: five on the flank and two on the dorsal surface of the body. Mouth is small with fleshy lips and barbels are absent. Because of its beautiful body colour and markings, it is very popular among aquarist. It prefers pools and slow moving habitat of streams and rivers. It is an omnivorous fish, feeds on insects, algae and detritus matter. This species occurs in streams and rivers of Koyna Wildlife Sanctuary (Nawaja, Karanjawde, Dicholi, Anainagar), Chandoli national park (Mandur, Arala, Shittur) and Radhanagari Wildlife Santuary.

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Spot-fin Swamp Barb

12

Family: **Cyprinidae**

Scientific name: ***Puntius sophore*** (Hamilton 1822)

Marathi name: **Pothi**

IUCN status: **Least Concern**

Recorded length: **13 cm**

Puntius sophore is a small barb, quite common in aquatic habitats of India. Dorsal side of the body is olive-green and later sides are greyish-white in colour. A dark round black blotch occurs at the base of dorsal fin and another one occurs at the base of caudal fin. Anal and pelvic fins are greyish-green. The morphology of this species often confuses with the closely related species *Puntius chola*. *Puntius sophore* can be easily distinguished from *Puntius chola* by presence of characteristic hump on the pre-dorsal region. This is an herbivorous fish, feeds on algae and diatoms. In Sahyadri Tiger Reserve, this fish occurs in the Koyna Wildlife Sanctuary (Dicholi, Karate, Mulgaon, Zakate) and Chandoli National Park (Arala, Chandoli, Mandur).

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13

Peninsular Osteobrama

Family: **Cyprinidae**

Scientific name: ***Osteobrama peninsularis*** (Silas 1952)

Marathi name: **Bhongi**

IUCN status: **Least Concern**

Recorded length: **12 cm**

Osteobrama peninsularis medium-size minnow, endemic to Western Ghats and it occurs in Godavari, Krishna and Cauvery river basins. Body has characteristic trapezoid dorsal profile and ventral profile is gently arched. Body is thin and laterally compressed, covered with minute scales. Head small and mouth placed at sub-terminal in position. Last unbranched ray of dorsal fin is very strong, anal fin is long and extended to the base of caudal fin. This fish thrive well in rivers, lakes, ponds and reservoirs. It feeds on insects and worms. Due to its body shape and glittering body colour, this fish is popular in aquarium trade. In STR, this fish occurs in Koyna Wildlife Sanctuary (Nawaja) and Radhanagari Wildlife Sanctuary.

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Vatani Rohtee

14

Family: **Cyprinidae**

Scientific name: ***Rohtee ogilbii*** (Skyes 1839)

Marathi name: **Vatani**

IUCN status: **Least Concern**

Recorded length: **15cm**

Rohtee ogilbii is one of the popular aquarium fish, occurs in Godavari and Krishna river basins. Dorsal profile of body has characteristic hump on the predorsal region and last simple ray on dorsal fin is strong and serrated. Five to six blackish-blue thin vertical bands occurs along the lateral sides of the body. Lateral side of the body is silver colour with purple shade and belly is white in colour. Young ones possess a blackspot at the base of caudal fin. It is a mid-column dweller, feeds on algae and periphytons. *R. ogilbii* is endemic to Western Ghats, it occurs in streams, rivers, and reservoirs. This species is quite common in Koyna Wildlife Sanctuary (Karate, Nawaja, Anainagar, Karanjawade, Kisrule).

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15

Large Razorbelly Minnow

Family: **Cyprinidae**

Scientific name: ***Salmophasia bacaila*** (Hamiliton 1822)

Marathi name: **Dental**

IUCN status: **Least concern**

Recorded length: **18 cm**

This is one of the largest minnow under the *Salmophasia* genus. Body is elongated and laterally compressed. Body colour is silvery white and upper part of body is grey-green in colour, lateral side is silvery-white in colour. Fins are yellowish. Body scales are very small. This species can be easily distinguished from other *Salmophasia* species by presence of more than 100 scales along the lateral line and 10 to 12 soft branched rays in the anal fin. Dorsal fin inserted well in advance of anal fin origin. It is an insectivorous fish and occupies surface guild. In STR, this species presents in Koyna Wildlife Sanctuary (Mulgaon and Anainagar).

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Razorbelly Minnow

16

Family: **Cyprinidae**
Scientific name: ***Salmophasia boopis*** (Day, 1874)
Marathi name: **Alle**
IUCN status: **Least concern**
Recorded length: **12 cm**

Salmophasia boopis is a small size minnow and commonly occurs in streams, rivers and reservoirs of peninsular India. Body is thin, laterally compressed and abdomen is sharp edged. Dorsal side of the body is grey in colour, flanks are glittering silver colour. Fins are yellow in colour with grey shade. This species can be easily distinguished from other *Salmophasia* species by presence of large scales: 46 to 48 scales present along the lateral line, dorsal fin inserted well in advance of anal fin and presence of 12 to 14 soft rays in the anal fin. It occupies in the upper surface of water column and feeds mostly on drifted terrestrial insects. *Salmophasia boopis* is one of the most common fish in Chandoli National Park, Koyna Wildlife Sanctuary and Radhanagri Wildlife Sanctuary.

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17

Bloch Razorbelly Minnow

Family: **Cyprinidae**

Scientific name: ***Salmophasia novacula*** (Val. 1842)

Marathi name: **Alle**

IUCN status: **Least concern**

Recorded length: **15cm**

Salmophasia novacula is a small size minnow and commonly occurs in streams, rivers and reservoirs of peninsular India. Body is thin, compressed laterally and abdomen with sharp edged. Dorsal side of the body is olive-green in colour, flanks are glittering silver colour and a yellow glittering band running along the lateral side of the body. Fins are grey colour with yellow shade. This species can be easily distinguished from other *Salmophasia* species by presence of minute scales; 75 to 95 scales present along the lateral line and 14 to 18 soft branched rays in the anal fin. It occupies in upper surface of water column and feeds mostly drifted insects. In STR, it is one of the most common fish in Chandoli National Park and Koyna Wildlife Sanctuary.

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19

Mola Carplet

Family: **Cyprinidae**

Scientific name: ***Amplyphayngodon mola*** (Hamilton 1822)

Marathi name: **Mola**

IUCN status: **Least Concern**

Recorded length: **12 cm**

Amplyphayngodon mola is a small minnow thrive well in reservoirs, ponds and tanks. Body is little elongated and laterally compressed. Head broad, mouth moderate and placed at supra-terminal in position. Body covered with minute scales, lateral line incomplete and ceases after 16 to 18 scales. Lower jaw has a prominent symphysial knob, which fits in notch of upper jaw. Barbels are absent. Body is golden yellow in colour and a broard silvery lateral band runs along the body. It mostly feeds on zooplanktons and sometimes it eats small drifted insects. In STR, it occurs in backwaters of Chandoli Reservoir in Chandoli National Park.

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Gangetic Latia

20

Family: **Cyprinidae**

Scientific name: ***Tariqilabeo latius*** (Hamilton 1822)

Marathi name: **Mullya**

IUCN status: **Least Concern**

Recorded length: **12cm**

Tariqilabeo latius is a bottom dwelling fish and it has wide distribution ranges in foot hills of Himalaya, Central India and head waters of Krishna river in the Western Ghats. Body is round and ventral region is flat. Head conical in shape and eyes are placed at dorso-lateral passion in the head. Mouth located at ventral side of the head, lower lip fleshy and fitted in to a shallow depression. Entire body is brownish grey colour. Ventral side of the body is dusky-white in colour. It inhabits in slow flowing streams and rivers with gravel or cobble substratum. In STR, this species occurs in Chandoli National Park.

45 FAMILY CYPRINIDAE

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21

Kalabans

Family: **Cyprinidae**

Scientific name: ***Bangana dero*** (Hamilton 1822)

Marathi name: **Kalaban**

IUCN status : **Least Concern**

Recorded length : **35 cm**

Bangana dero is one of the Indian minor carps and form major fish catch in Inland water bodies such as low land streams, flowing rivers and canals. This species has wide distribution in India and other neighbouring countries. *Bangana dero* bears round and narrow body very solid in anterior and middle region of the body. Head is medium in size and its length smaller than body depth. Colour: olive green on back and sides are shining silvery colour. Well grown individuals develop pink colour tinch on scales. All fins are grey in colour. This species can be easily distinguished from other group of minor carps by having narrow body and head with characteristic deep groove on the snout. It is a bottom feeder, feeds on diatoms, algae and detritus material. In STR, this species occurs in Koyna Wildlife Sanctuary and Chandoli National Park.

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Reba Carp

22

Family: **Cyprinidae**

Scientific name: ***Cirrhinus reba*** (Hamilton 1822)

Marathi name: **Lolle**

IUCN status : **Least Concern**

Recorded length : **30 cm**

Cirrhinus reba is one of the minor carps and widely occurs in most of the Indian rivers. Body is elongated and depth of body is more than head length. It differs from the rest of the *Cirrhinus* species by bearing hexagonal shape scales, short dorsal fin (dorsal fin height is less than body depth) and presence of 34 to 38 lateral line scales. Body colour: dark grey in dorsal side, scales are silvery shining edges. Pectoral and pelvic fins are yellow colour with orange shade. *Cirrhinus reba* occupy bottom layer of the water column and feeds largely dead and decayed materials at the bottom. In STR, this fish occurs in Koyna Wildlife Sanctuary (Helwak, Anainagar) and Radhanagari Wildlife Sanctuary.

47 FAMILY CYPRINIDAE

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Shooting Barb

24

Family: **Cyprinidae**
Scientific name: ***Hypselobarbus kolus*** (Sykes 1839)
Marathi name: **Tahrak**
IUCN status: **Vulnerable**
Recorded length: **30 cm**

Hypselobarbus kolus is one of the large-sized barbs, endemic to Western Ghats rivers. This species can be easily distinguished from all known *Hypselobarbus* fishes by presence of single pair of barbal around the mouth. Dorsal side of the body is light-grey in colour, flanks are silver colour with yellow tinge. Fins are orange to red colour with varying level of grey shade. It lives in fast flowing streams especially in the middle and upper stretches of river and also thrive well in shallow region of reservoirs. In STR, it occurs in the Koyna Wildlife Sanctuary (Karate, Nawaja, Dicholi), Radhanagari Wildlife Sanctuary and Chandoli National park (Arala, Chandoli).

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25

Calbasu

Family: **Cyprinidae**

Scientific name: ***Labeo calbasu*** (Hamilton 1822)

Marathi name: **Kalosha**

IUCN status: **Least Concern**

Recorded length: **40 cm**

Labeo calbasu is one of the Indian major carps and widely in use for inland aquaculture. This species thrive well in reservoirs and rivers of India. Body is boat shaped, both dorsal and ventral profile are equally arched. Mouth is sup-terminal in position and lips are fleshy and two pair of are barbels present at the rostral gap of the mouth. *Labeo calbasu* can be distinguished from other *Labeo* species by bearing complete black coloured body, presence of long dorsal fin with 14 to 16 branched rays and presence of two pairs of long visible barbels around mouth. As it grows in big size, it is considered as one of the important food fish. This fish prefers mostly tanks and rocky habitats of rivers. It is a bottom feeder, feeds on diatoms and algae. In STR, this fish occurs in Koyna Wildlife Sanctuary (Nawaja).

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Nash's Barb

26

Family: **Cyprinidae**

Scientific name: ***Osteochilus nashii*** (Day 1869)

Marathi name: **Nashi Kendai**

IUCN status: **Least concern**

Recorded length: **18 cm**

Osteochilus nashii is one of the minor carps and endemic to Western Ghats, occurs in Krishna and Cauvery river systems. It thrives well in stream habitats. Body spindle shaped, both dorsal and ventral profile are equally arched. Dorsal side of the body up to lateral line is brown in colour and below lateral line is white in colour. A black band is running along the lateral line, starting from behind its operculum to the base of the caudal fin. This species can be distinguished from *Osteochilus thomassi* by the following characters: body depth is more than 3 times in standard length and more than 40 scales present along the lateral line. Though, it is small in size. This species is one of the highly preferred fish by local people. It mostly feeds on algae, periphytons and diatoms. In STR, this species occurs in the Chandoli National Park.

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27

Thomassi Barb

Family: **Cyprinidae**

Scientific name: ***Osteochilus thomassi*** (Day 1869)

Marathi name: **Kendai**

IUCN status: **Least concern**

Recorded length: **22 cm**

Osteochilus thomassi is endemic to Western Ghats, occurs in Krishna and Cauvery river systems. Body boat shaped, both dorsal and ventral profile are equally arched. Dorsal side of the body up to lateral line is glittering grey in colour and below lateral line is dusky-white in colour. A light black band is running along the lateral line, starting from behind its operculum to the base of the caudal fin. This species can be distinguished from *Osteochilus nashii* by the following characters: body depth is less than 3 times in standard length and presence of less than 40 scales along the lateral line. It is one of the highly preferred fish by local people. It mostly feeds on algae, periphytons and diatoms. In STR, this species occurs in the Chandoli National Park.

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Nukta

28

Family: **Cyprinidae**

Scientific name: ***Schismatorhynchos nukta*** (Sykes 1839)

Marathi name: **Nakta**

IUCN status: **Endangered**

Recorded length: **30 cm**

Schismatorhynchos nukta is one of the rare species, which has very restricted distribution in Krishna river and Cauvery rivers of Western Ghats. Body robust and spindle shaped. Body colour: yellow brown on back flanks is silvery with some reddish marks on scales. Fins are reddish in colour with grey colour at edge. It has unique identification structure at the snout region of the head: a deep groove, which divide upper and lower portion of snout. Tubercles around the snout are well developed. Scales moderate in size, 37-38 scales present along the lateral line. This species inhabits in fast flowing rivers with rocky substrate. In STR, this fish occurs in Koyna Wildlife Sanctuary (Anainagar) and Chandoli National Park (Arala, Mandur).

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29

Olive Barb

Family: **Cyprinidae**

Scientific name: ***Systomus sarana*** (Hamilton 1822)

Marathi name: **Kendai**

IUCN status: **Least Concern**

Recorded length: **32 cm**

Systomus sarana is native to Indian subcontinent. It commonly occurs in rivers, reservoirs, wetlands and irrigation tanks of India. Body boat shaped, dorsal and ventral profiles of the body are equally arched. Dorsal side of the body is olive green in colour and flanks are silvery with golden tinge. A dull black blotch occurs on the lateral line just before the caudal fin (more prominent in young specimen). Fins are dusky brown to orange. Lateral line scales (30-33) runs along mid-dorsal line of the body. This fish feeds on planktons and algae, sometime it also eats drifted materials. This species is adapted to live in stagnant pools and backwaters of dams and riverine habitats. In STR, it occurs in Koyna Wildlife Sanctuary (Mirgaon, Anainagar), Chandoli National Park and Radhanagari Wildlife Sanctuary (Radhanagari).

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Deccan Mahseer

30

Family: **Cyprinidae**

Scientific name: ***Tor khudree*** (Sykes 1839)

Marathi name: **Khadashi**

IUCN status: **Endangered**

Recorded length: **60 cm**

The Deccan mahseer, *Tor khudree* is one of the popular game fishes of India and it used to grow over 22 Kg. Body is dark grey in colour with blue shade all over the body and fins are blue in colour, hence it is also popularly known as blue-fined mahseer. Mouth is wide, covered with fleshy lips and mentum lop is present below the lower jaw. Two pairs of well developed barbels present, one pair at the rostal gap and another pair around the corner of the mouth. This fish prefers fast flowing, rocky part of habitat in rivers, but also thrive well in reservoirs and lakes. This fish moves to upper reaches of streams and rivers for spawning. This is an omnivorous fish but prefers small fishes and other invertebrates. In STR, there is a good population of this species occur in the Chandoli National Park (Chandoli), Koyna Wildlife Sanctuary (Karate, Nawaja, Anainagar) and Radhanagari Wildlife Sanctuary.

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31

Denisoni Loach

Family: **Nemacheilidae**
Scientific name: ***Schistura denisoni*** (Day 1867)
Marathi name: **Chikhali**
IUCN Status: **Least concern**
Recorded Length: **5 cm**

Schistura denisoni is a small loach, quite common in streams of Western Ghats and endemic to peninsular India. Body is tubular and worm like in structure, covered with minute scales. Dorsal fin has 8 branched rays. Body has series of well marked brown bands from dorsal to ventral side of body, bands are more distinct behind dorsal fin. Dorsal and caudal fins are having varying rows of well-marked black spots. Eyes are small, not visible from underside of head. Mouth is semicircular with fleshy lips. Barbels are well developed and are thread like structure. It prefers flowing water with rocky substratum. This fish is bottom feeder, feeds on algae and detritus matters. In STR, this fish is present in the Chandoli National Park (Mandur, Arala) and from Koyna Wildlife Sanctuary (Anainagar).

56 FAMILY: NEMACHEILIDAE

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Evezardi Loach

32

Family: **Nemacheilidae**

Scientific name: ***Indoreonectes evezardi*** (Day 1872)

Marathi name: **Chikhali**

IUCN Status: **Vulnerable**

Recorded Length: **5 cm**

Indoreonectes evezardi is a small stream loach and it has very restricted distribution in Northern part of Western Ghats. Body is sub-cylindrical and middle portion of the body is round in shape. It has series of irregular greenish blotch all over the body. The main distinghushing character is presence of pair of well-developed nasal barbels and it extended upto to eye. Dorsal fin has 3 simple and 7 branched rays and it is marked with 2 or 3 rows of black spots. Caudal fin emarginated and a thick black spot present on the upper region of origin of caudal fin. It is bottom feeder, feeds largely on detritus. In STR, it is present in the Koyna Wildlife Sanctuary (Helwak, Nawaja region).

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33

Zebra Loach

Family: **Botiidae**

Scientific name: ***Botia striata*** (Narayan Rao 1920)

Marathi: **Waghamasa**

IUCN status: **Endangered**

Recorded length: **12 cm**

Botia striata is one of the popular aquarium fish and it has very restricted distribution in Krishna and Thunga river system. Body laterally compressed, short and deeper in middle of the region. Head triangular, eyes are placed almost in the posterior half of the head. Mouth is placed at the ventral side of the head and four pairs of barbels present around the mouth. This loach can be easily recognised by characteristic banding patterns on the body: presence of several narrow oblique vertical yellow and black colour bands (alternatively) on body and head; bands also present on all fins. It occurs in clear mountain streams and forages on benthic invertebrates. In STR, it present in streams of Chandoli National Park.

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Ratnagiri Minnow

34

Family: **Parapsilorhynchidae**

Scientific name: ***Parapsilorhynchus discophorus*** (Hora 1921)

Marathi name:

IUCN status: **Vulnerable**

Recorded length: **10 cm**

Parapsilorhynchus discophorus is one of the rare fish, only three species are known under the family Parapsilorhynchidae and all three species are reported from Northern part of Western Ghats and Central India. *Parapsilorhynchus discophorus* is a small size cylindrical-bodied fish. Ventral surface of the body is flat up to pelvic fin. Mouth is small, furrow-like, located in the ventral surface of the head. A single pair of barbel present in the rostral gap. There are 33-35 scales present along the lateral line. Body colour is dark brown at dorsal and lateral side, and ventral region is dusky-white in colour. This fish occurs in fast flowing rocky habitat, especially in the cascades. It feeds on algae and diatoms. In STR, it occurs in Warna River at Chandoli National Park.

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Malabar Loach

Family: **Cobititae**

Scientific name: ***Lepidocephalichthys thermalis*** (Val. 1846)

Marathi: **Chikhali**

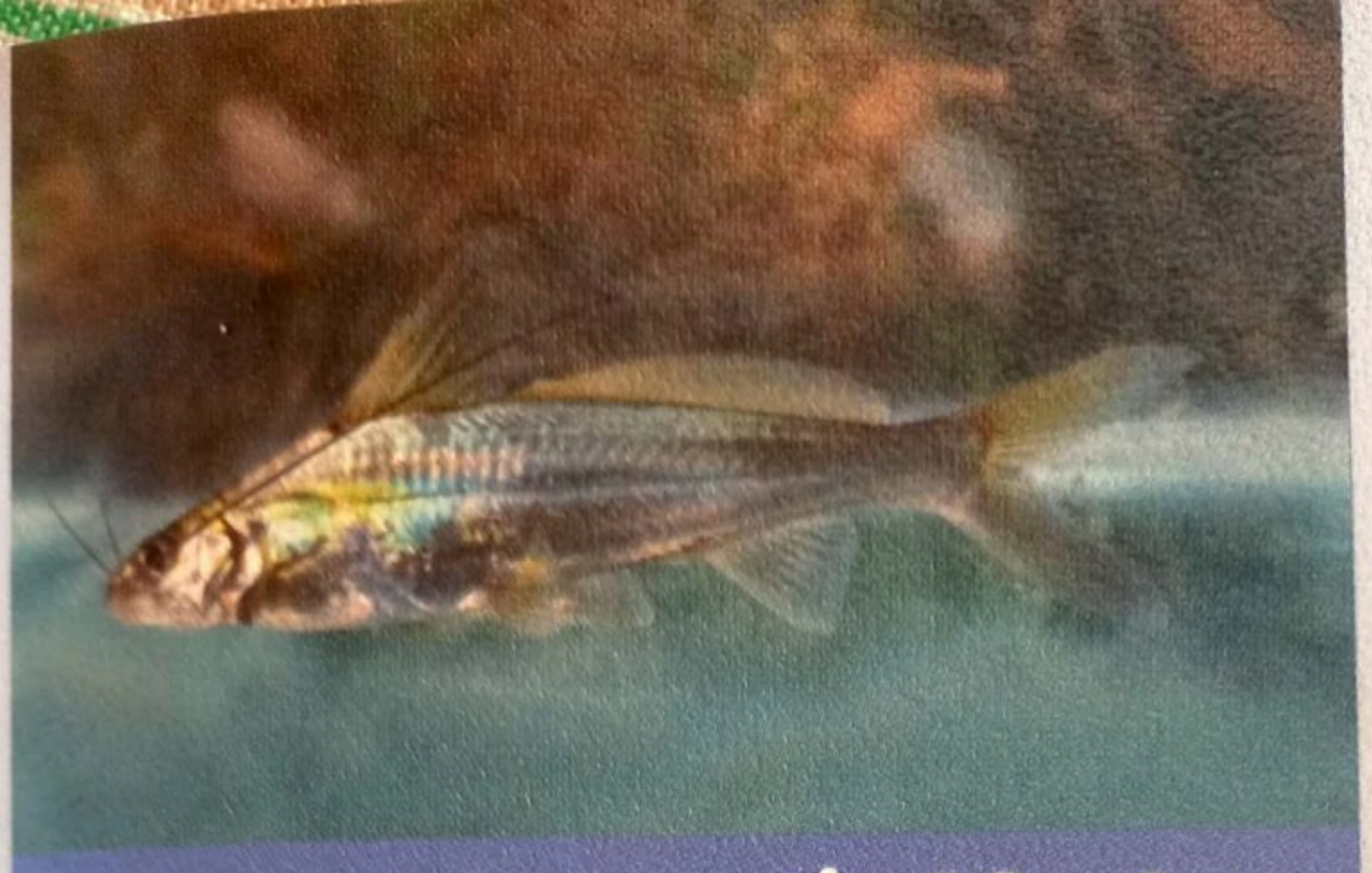
IUCN status: **Least concern**

Recorded length: **8 cm**

This is a small worm-like fish, quite common in lowland streams, rivers, canals and irrigation tanks and endemic to Western Ghats drainages. Body is round, elongated and laterally compressed. Mouth situated at ventral side and surrounded by three pairs of barbels. Body is pale yellow in colour with grey shade and 8 to 10 black spots present on the flanks. A small black spot also present at the base of caudal fin. This species can be distinguished from *Lepedocephalus guntea* by the position of dorsal fin insertion: dorsal fin insertion is little ahead of pelvic fin origin in *L. thermalis* vs. inserted slightly behind the pelvic fin origin in *L. guntea*. It is a bottom feeder, feeds mostly detritus matters. In STR, it occurs in the Koyna Wildlife Sanctuary (Nerale and Goshatwadi area) and Chandoli National Park.

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Gangetic Mystus

36

Family: **Bagridae**

Scientific name: ***Mystus cavasius*** (Hamilton 1822)

Marathi Names: **Khirkirya**

IUCN Status: **Least concern**

Recorded length: **30 cm**

This is a medium size catfish and it has wide distribution range in India and south-east Asia. Pectoral and dorsal spines are strong and well developed. Dorsal side of the body is blueish grey in colour and flanks are glittering-silver colour with golden shade. *Mystus cavasius* can be easily distinguished from other known *Mystus* by presence of long adipose dorsal fin (begins soon after the dorsal fin and ends at caudal peduncle region); Series of 'V' shaped muscular bands along the body and presence of pair of long maxillary barbel (extend well beyond the beginning of the tail fin). It inhabits in large rivers, reservoirs and lakes. It is a carnivorous fish, mostly feeds on small fishes and insects. In STR, this fish occurs in Koyna Wildlife Sanctuary (Karate, Nawaja, Dicholi) and Chandoli National Park (Madur).

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Jerdon's Mystus

Family: **Bagridae**

Scientific name: ***Mystus montanus*** (Jerdon 1849)

Marathi name: **Shingat**

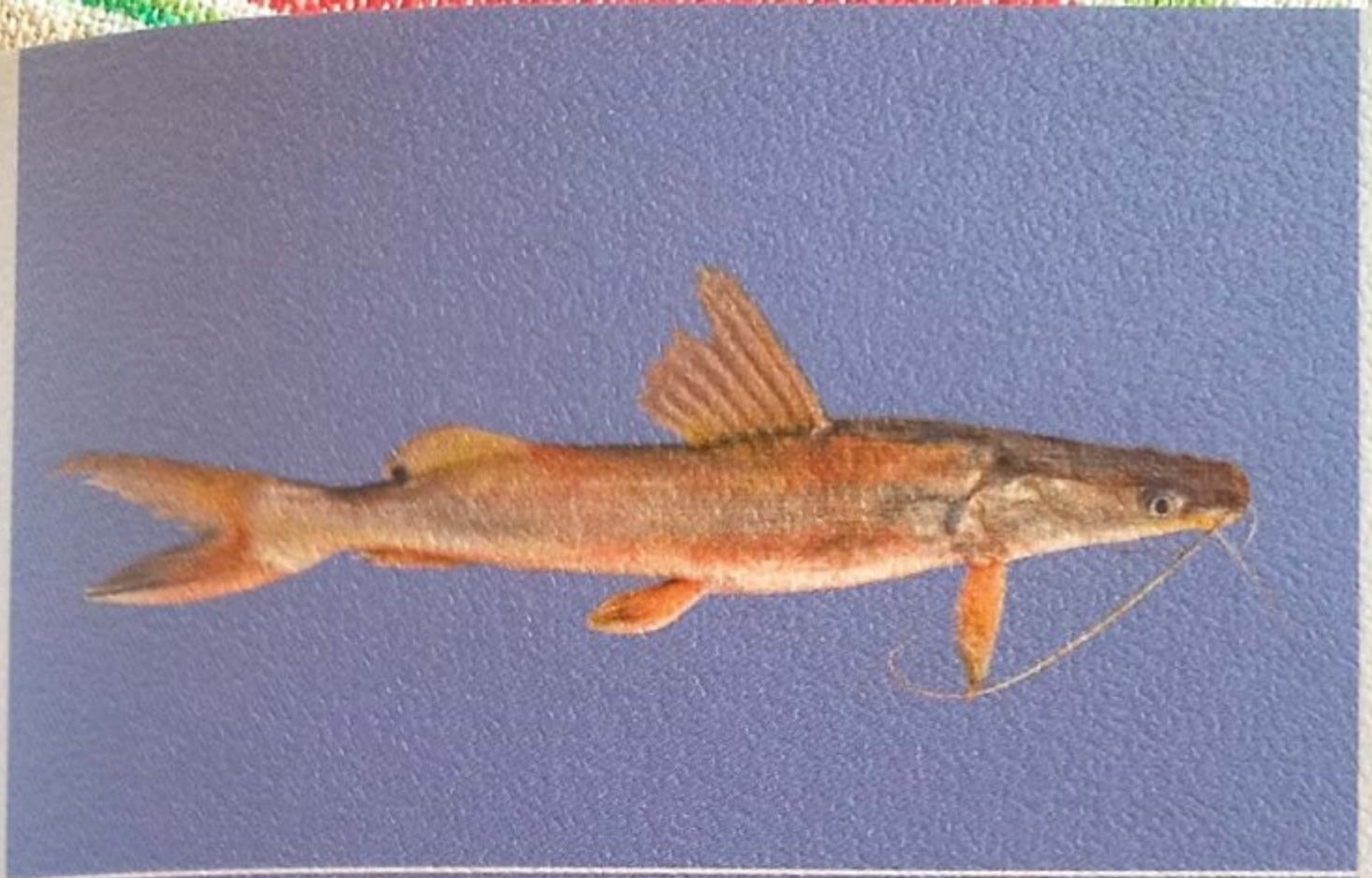
IUCN status: **Least Concern**

Recorded length: **14 cm**

Mystus montanus is a small-size catfish, inhabits in rivers, canals and reservoirs. Body elongated, anterior portion of the body is round and posterior region is laterally compressed. Mouth terminal in position, four pairs of barbels present around the mouth and maxillary barbel extend up to base of anal fin. Caudal fin is deeply forked. Entire body is olive green in colour with yellow shade. *Mystus montanus* can be distinguished from the other *Mystus* species by nature of medium longitudinal groove on head (the groove does not reach to the base of occipital bone); presence of less number of rays in pelvic fin (6 branched rays). This species is a carnivorous fish, mostly feeds on benthic invertebrates, crustaceans and small fishes. In STR, it occurs in Chandoli National Park.

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Giant River Catfish

38

Family: **Bagridae**

Scientific name: ***Sperata seenghala*** (Hamilton 1822)

Marathi names: **Shingala, Shingta**

IUCN Status: **Least concern**

Recorded length: **45 cm**

This is one of the giant catfish, has wide distribution in Indian rivers from Ganga in North to Cauvery river in South. Pectoral and dorsal fins are supported by strong serrated spines. Dorsal side of the body is dark grey in colour and flanks are brownish-grey and belly is silver in colour. A dark round well defined spot present on the adipose dorsal fin. It is distinct with its broad snout and long barbels that extend beyond the anal fin. Head is dorso-ventrally compressed and flat. Mouth is wide with presence of three pairs of barbels. The adipose fin starts at the base of dorsal fin. This is a predatory cat fish, feeds on other fishes and crustaceans. In STR, it occurs in the Koyna Wildlife Sanctuary (Karate, Nawaja, Anainagar) and Chandoli National Park (Chandoli).

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39

Walking Catfish

Family: **Clariidae**

Scientific name: ***Clarius magur*** (Linnaeus 1758)

Marathi name: **Magur**

IUCN status: **Endangered**

Recorded length: **32 cm**

Clarius magur is one of the air-breathing catfish, occurs in rivers, reservoirs and wetlands of India. Body is round and elongated. Head broad, conical in shape and dorso-ventrally compressed. Pectoral fins are armoured with well-defined strong serrated fins. Dorsal and anal fins are long, extended to the base of caudal fin, devoid of spin. Body is entirely blackish-brown in colour and sometime there are white spots present on flanks. Mouth is terminal with four pair of barbels. *Clarius magur* is a carnivorous fish, feeds on small fishes, shrimps and other invertebrates. In STR, this species occurs in Nerele region of Koyna Wildlife Sanctuary.

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Giant Snake-head

40

Family: **Channidae**

Scientifc name: ***Channa marulius*** (Hamilton 1822)

Marathi name: **Maral**

IUCN Status: **Least concern**

Recorded length: **62 cm**

Channa marulius is the largest species in the Channidae family and it has wide distribution in India and Indian sub-continents. Body is round and nearly perfect circular in cross-section. The upper surface of the head appears like snake, hence it is called as snake-headed fish. Dorsal region of the body is olive-green in colour with yellow shade; lateral side of the body has 6 to 8 broad black bands; a round black blotch occur in upper region of caudal fin. It is a predatory-carnivorous fish, feeds on other fishes, insects and shrimps. This species is a very hardy fish, adopted to take atmosphere oxygen for survival and it thrives well in large lakes, reservoirs, wetlands and rivers with more aquatic weed. In STR, it occurs in Koyna Wildlife Sanctuary (Karate, Nawaja, Anainagar) and Chandoli National Park (Mandur).

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Dwarf Snake-head

Family: **Channidae**

Scientific name: ***Channa gachua*** (Hamilton 1822)

Marathi Names: **Maral**

IUCN Status: **Least concern**

Recorded length: **15 cm**

Channa gauhua is a small size fish bear elongated body and round in cross-section. Like *Channa marulius*, it also has wide distribution in India and south-east Asia. This species can be distinguished other species of *Channa* by bearing dark to light brown colour body and presence of serious of thin black strips along the lateral side of body. Body and fins covered with many black spots. This fish thrives well in ponds, lakes, wetlands and reservoirs. It is a carnivorous fish, feeds on small fish and invertebrates. In STR, it occurs in aquatic habitats of Koyna Wildlife Sanctuary (Nawaja, Karanjawade).

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Spotted Snake-head

42

Family: **Channidae**

Scientific name: ***Channa punctatus*** (Bloch 1793)

Marathi Name: **Maral**

IUCN Status: **Least concern**

Recorded length: **30 cm**

Channa punctatus is one of the dwarf snake-headed fish and occurs in rivers, reservoirs, lake and ponds. Body is elongated and round in cross-section. Dorsal side of the body is brown and lateral side light brown with yellow shade. Entire body is moulted with tiny black spots. Black spots also occur in dorsal, anal and caudal fins. Mouth is large and wide. It is a carnivorous fish, feeds on other fishes and invertebrates. In STR, it occurs in aquatic habitats of Koyna Wildlife Sanctuary (Nawaja, Karanjawade).

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Spiny Eel

Family: **Mastacembelidae**

Scientific name: ***Mastacembelus armatus*** (Lacepede 1800)

Marathi Name: **Vam**

IUCN Status: **Least concern**

Recorded Length: **55 cm**

Mastacembelus armatus is a snake like long fish and dorsal side of body is armoured with many strong spines fitted in backward direction, hence it is called as spiny eel. Body is round, long and head is triangular in shape. Entire body is dark brown in colour with zig-zag irregular lines present all along the body. Few irregular black bands are running through eye and continue in most part of the body. One of the distinct character of this species is, both dorsal and ventral fin join at the posterior end of the body and for caudal fin. There are 32 to 40 spines present in front of dorsal fin. Mouth is small and beak like structure. This species lives in streams, rivers and shallow regions of reservoirs with rocky substratum. It feeds on small fishes, worms and crustacean. In STR, it occurs in Anainagar, Nerele beats of Koyna Wildlife Sanctuary, Chandoli National Park and Radhanagari Wildlife Sanctuary.

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Spotted Spiny Eel

44

Family: **Mastacembelidae**

Scientific name: ***Macrognathus pancalus*** (Hamiliton 1822)

Marathi name: **Vam**

IUCN status: **Least concern**

Recorded length: **18 cm**

This species inhabits in slow moving streams and shallow wetlands. Body is long tubular structure and lateral side of the body is slightly compressed. Body colour: greenish-olive on dorsal and flanks, yellowish on belly and many yellowish-white spots present on flank. Dorsal, anal, pectoral and caudal fins are yellowish with black spots. Strong spines present around the eyes. There are 14 to 16 strong piercing spines are present in front of soft rays of dorsal fin. Dorsal fin spine inserted above middle of pectoral fin. Mouth is small and beak like in structure. Dorsal and ventral fins are extended to caudal fin, but they are separated from caudal fin. It feeds on crustacean, small fishes and worms. In STR, this species occurs in Koyna Wildlife Sanctuary.

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45

Glassy Perchlet

Family: **Ambassidae**
Scientific name: ***Parambasiss thomassi*** (Day 1870)
Marathi name: **Dollar**
IUCN Status: **Least Concern**
Recorded length: **5cm**

Parambasiss thomassi is a tiny transparent glass fish, quite common in streams, rivers and reservoirs of Western Ghats. Body has minute scales, about 90 scales present along the longituditial series. Dorsal and anal fins are armed with strong spines. The unique characters of this species are: presence of 9 strong spines and 15 to 16 soft branched rays in dorsal fin and presence of 12 spines in the anal fin. Often black colour shade present on the first dorsal fin edge. This fish prefers pool, ditches, ponds and even brackish water. It is an insectivorous fish, feeds mainly on worms, fallen insects etc. In STR, this fish occurs in Koyna Wildlife Sanctuary.

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Indian Glassy Fish

46

Family: **Ambassidae**

Scientific name: ***Parambasiss ranga*** (Hamilton 1822)

Marathi name: **Chedari/ Chembardi**

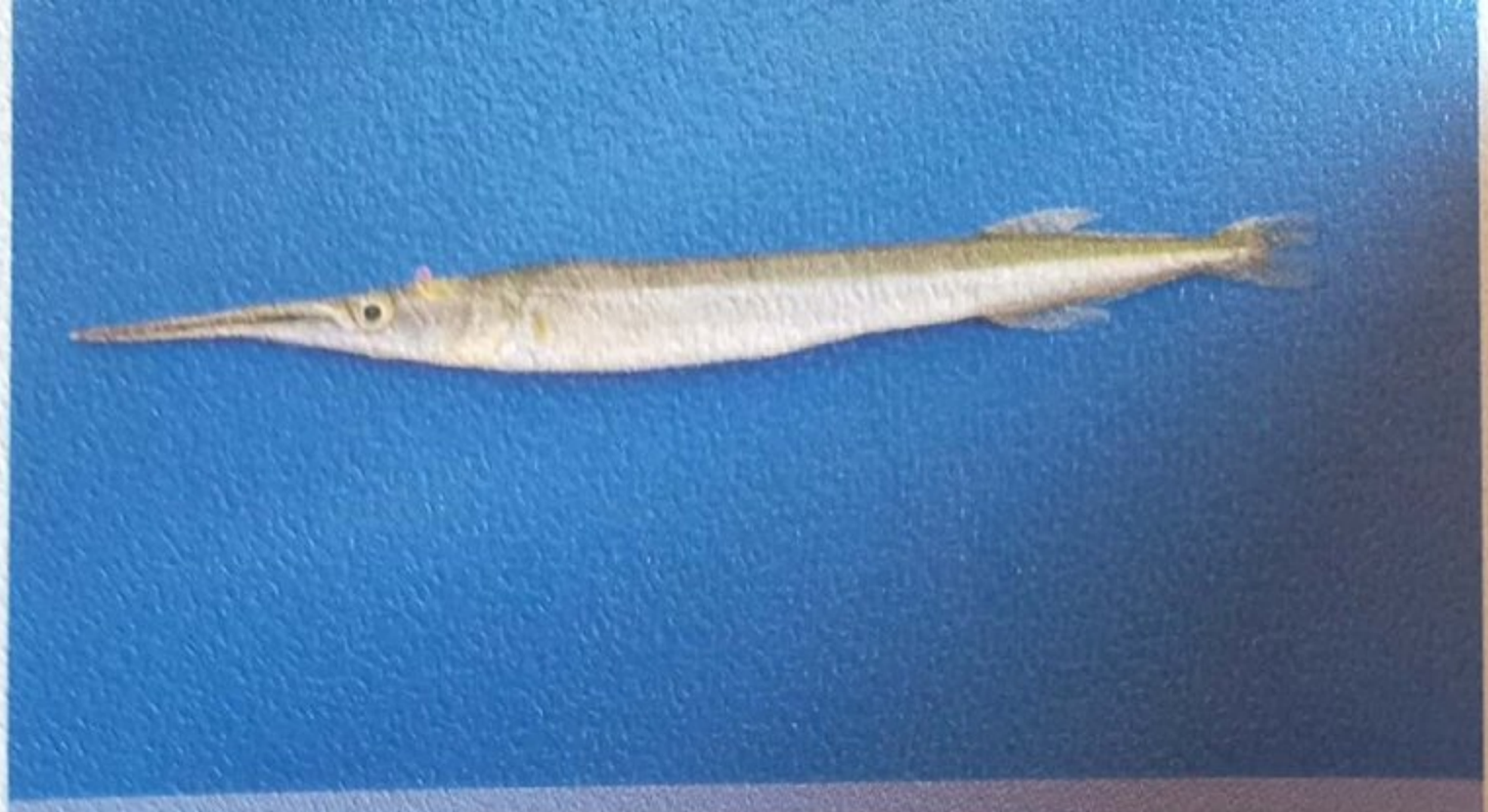
IUCN Status: **Least Concern**

Recorded length: **4 cm**

Parambasiss ranga is a small glass fish and popular among the aquarist. Body is transparent, covered with minute scales, nearly 50 to 60 scales present along the longitudinal series. Dorsal, pectoral, and anal fins are armed with strong spines. Lateral side of the body has minute black dots arranged from dorsal to ventral region. The unique characters of this species are: dorsal fin with 8 strong spines and 13 to 14 soft branched rays and preopercular hind edge is smooth. This fish prefers pools, ditches, ponds and even brackish water. It is an insectivorous fish, feeds mainly on worms, fallen insects etc. In STR, this fish occurs in Koyna Wildlife Sanctuary and Chandoli National Park.

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47

Freshwater Garfish

Family: **Belonidae**

Scientific name: ***Xenetodon cancila*** (Hamilton 1822)

Marathi name: **Tokil**

IUCN status: **Least Concern**

Recorded length: **30 cm**

Xenetodon cancila is narrow needle like fish, lives at the surface layer of the water. This species is widely occur in India and other neighbouring countries. Body is tube like structure, elongated and round in cross-section. Mouth is extended beak-like structure and upper and lower jaws are studded with sharp teeth. Dorsal fin is inserted anterior to origin of anal fin. Caudal fin is truncate. Body colour: greenish in above the lateral line and silvery to dull white below the lateral line. Four to five blotches are present between pectoral and anal fin. A hump-like structure is present in male, which is inserted in mid-dorsal region just behind the head groove. This fish prefers small fish, crustacean and insects. In STR, this fish occurs in Koyna Wildlife Sanctuary.

72 FAMILY: BELONIDAE

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Tank Goby

48

Family: **Gobiidae**

Scientific name: ***Glossogobius giuris*** (Hamilton 1822)

Marathi Name: **Kharpa/Kharpya/Kharbi**

IUCN Status: **Least Concern**

Recorded Length: **25 cm**

Glossogobius giuris is one of the common freshwater fish and it has wide distribution in streams, rivers and reservoirs of India. Body is round, mouth is very wide and eyes are placed on the dorsal side of the head. Pelvic fins are united and form a round sucker like structure at the abdomen region. Body is entirely brown in colour with five black blotches occur along the flanks. It is a predatory-carnivorous fish, feeds on small fishes and crustacean. In STR, it occurs in reservoirs of Koyna, Chandoli and Radhanagari.

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49

Striped Panchax

Family: **Aplocheilidae**
Scientific name: ***Aplocheilus lineatus*** (Valenciennes 1846)
Marathi Names: **Poochaatie**
IUCN Status: **Least concern**
Recorded Length: **10 cm**

Aplocheilus lineatus is a small and pretty colourful fish, occurs in lakes, reservoirs, canals and paddy fields. Body short, round and laterally compressed at posterior region. Head flat at dorsal region and eyes are prominent and dorso-laterally placed. Body colour: olive yellow on dorsal and flanks with orange shade. Adult fish has multiple rows of red and florescent green spots on the body. A black blotch present at the base of dorsal fin. Pelvic, anal and caudal fin margins are red in colour. Juvenile fish has 6 to 10 vertical black transvers bars on the body. *Aplocheilus lineatus* can be distinguished from other *Aplocheilus* species by presence of prolonged ray in pelvic fin and presence of 16 rays in anal fins. This is a larvivorous fish feeds on insect larvae, small aquatic insects, and worms. In STR, this species occurs in Koyna Wildlife Sanctuary, Chandoli National Park and Radhanagari Wildlife Sanctuary.

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Mozambique Tilapia

50

Family: **Cichlidae**

Scientific name: ***Oreochromis mossambicus*** (Peters 1852)

Marathi name: **Chilap**

Status: **Exotic species**

Recorded length: **20 cm**

Oreochromis mossambicus is an exotic fish and native to African countries. This species was brought to India in 1950s to enhance inland fishery production it was introduced in many Peninsular reservoirs. Body laterally compressed and covered with ctenoid scales. Dorsal and ventral fins bear very strong spines and end of the spins a punch of branched rays formed as secondary dorsal and ventral fins. The dorsal and anal fins are extended till the base of caudal fin. Body colour varies depending on the habitat and life stages. Adult male: body completely dark colour black and fins outer margins are shaded with red colour. Females and young-ones are watery grey to yellowish with three or four black blotches on body flanks. Parental care behaviour is well marked, males guard their young-ones inside the mouth, hence it is called as mouth brooder. This is a very hardy fish, thrive well in all types of aquatic habitats and even at polluted water and brackish waters. This is an omnivores fish, feeds on algae, detritus, zooplanktons, worms, crustacean and insects. In STR, this fish occurs in river and reservoir of the Koyna Wildlife Sanctuary.

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1 SPECIES CHECKLIST

Checklist of fishes recorded from Sahyadri Tiger Reserve, Maharashtra [KWS - Koyna Wildlife Sanctuary; CNP - Chandoli National Park; RWS - Radhanagri Wildlife Sanctuary]

Families	Species	IUCN Status	KWS	CNP	RWS
Cyprinidae	*Amplyphayngodon mola*	Least Concern		√	
	Bangana dero	Least Concern	√	√	
	Barilius bendelisis	Least Concern	√	√	√
	Cirrhinus reba	Least Concern	√		√
	Devario aequipinnatus	Least Concern	√	√	
	Garra bicornuta	Near Threatened	√	√	
	Garra mullya	Least Concern	√	√	√
	Garra stenorhynchus	Least Concern	√		
	Hypselobarbus jerdoni	Least Concern	√		
	Hypselobarbus kolus	Vulnerable	√	√	√
	Labeo calbasu	Least Concern	√		
	Osteobrama peninsularis	Least Concern	√		√
	Osteochilus nashii	Least Concern		√	
	Osteochilius thomassi	Least Concern		√	
	Pethia conchonius	Least Concern	√		
	Pethia sanjaymoluries	Data Deficient	√	√	√
	Puntius amphibius	Data Deficient	√	√	√
	Puntius chola	Least Concern	√	√	

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Families	Species	IUCN Status	KWS	CNP	RWS
	Puntius sahyadriensis	Least Concern	√	√	√
	Puntius sophore	Least Concern	√	√	√
	Rasbora daniconius	Least Concern	√	√	√
	Rohtee ogilbii	Least Concern	√		
	Salmophasia bacaila	Least Concern	√		
	Salmophasia novacola	Least Concern	√	√	
	Salmophasia boopis	Least Concern	√	√	√
	Salmophasia sardinalla	Least Concern	√		√
	Schismatorhynchus nukta	Endangered	√	√	
	Systomus sarana	Least Concern	√	√	√
	Tariqilabeo latius	Least Concern	√		
	Tor khudree	Endangered	√		√
Nemacheilidae	*Indoreonectes evezardi*	Least Concern	√		
	Schistura denisonii	Least Concern	√	√	
Botiidae	*Botia striata*	Endangered		√	
Parapsilor-hynchidae	*Parapsilorhynchus discophorus*	Vulnerable		√	
Cobititae	*Lepidocephalus thermalis*	Least Concern	√	√	
Bagridae	*Sperata seenghala*	Least Concern	√	√	√
	Mystus cavasius	Least Concern	√		
	Mystus montanus	Least Concern	√	√	
Clariidae	*Clarias magur*	Endangered	√		

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Families	Species	IUCN Status	KWS	CNP	RWS
Channidae	*Channa marulius*	Least Concern	√	√	
	Channa punctatus	Least Concern	√	√	√
	Channa gachua	Least Concern	√		
Mastacembelidae	*Mastacembelus armatus*	Least Concern	√	√	
	Macrognathus pancalus	Least Concern	√		
Ambassidae	*Parambassis ranga*	Least Concern	√		√
	Parambassis thomassi	Least Concern	√	√	√
Belonidae	*Xenentodon canciila*	Least Concern	√		
Gobiidae	*Glossogobius giuris*	Least Concern	√	√	√
Aplocheilidae	*Aplocheilus lineatus*	Least Concern		√	√
Cichlidae	*Oreochromis mossambicus*	Near Threatened	√	√	√

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AUTHORS DETAILS



Dr. J.A. Johnson is a Faculty at Wildlife Institute of India and has vast knowledge on Taxonomy, Ecology and Biology of freshwater fishes of India. He has described three new species and recorded several new records from Indian waters. His primary interests are understanding species diversity and distribution pattern, species-habitat relationship, microhabitat requirement of threatened fishes, understanding resource partitioning, Ecological flow estimation for aquatic species and aquatic habitat monitoring.
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Anurag Rokade is a researcher at Wildlife Institute of India, Dehradun and he obtained PG degree in Zoology with specialization in Fisheries from Shivaji University, Kolhapur. He was actively involved in fish sampling in water resources of Sahyadri Tiger Reserve. After the field learning, he is very excited to explore diversity and distribution patterns fishes in the Western Ghats. His prime interests are to study fish taxonomy, ecology and conservation of freshwater habitats.
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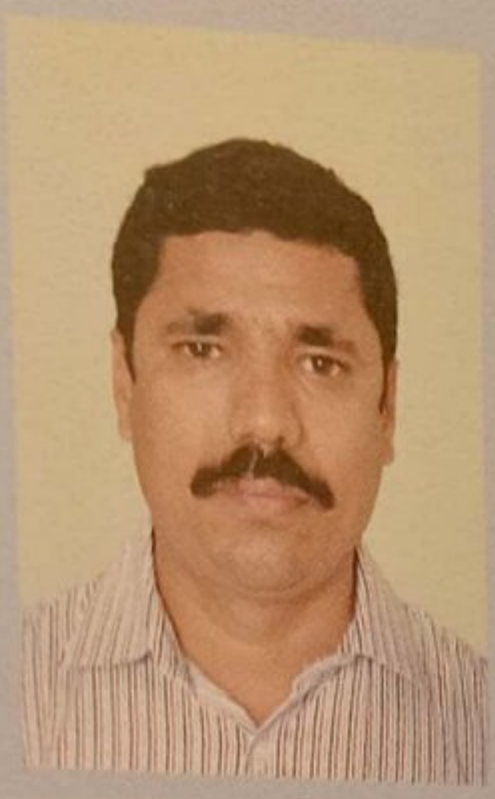
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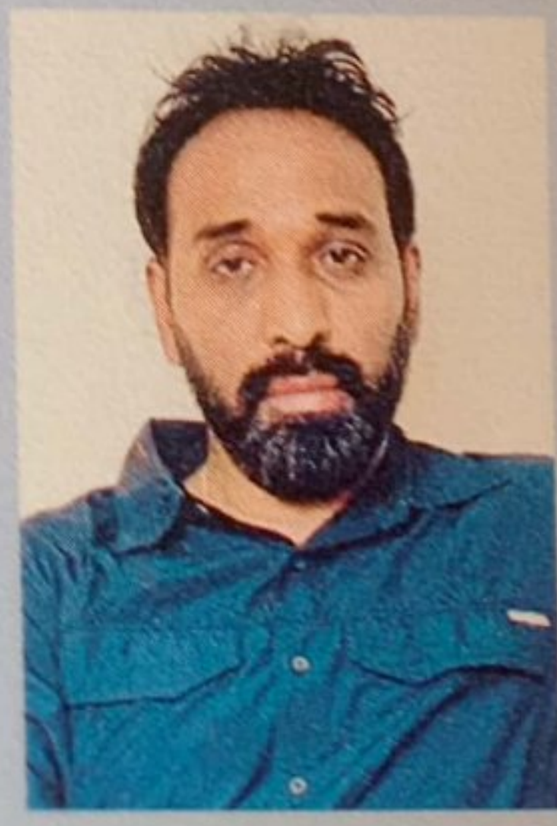
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Dr. Vidyadhar Atkore is Freshwater Fish Ecologist and Post-Doctoral Fellow at Ashoka Trust for Research in Ecology and the Environment (ATREE), Bangalore. He studies the effects of hydro-power dam on fish community structure in Arunachal Pradesh, India. Earlier he established the fish species recovery downstream of a dam due to the contribution of undammed tributaries in the Malaprabha river sub-basin.He also described a new species of fish from Western Ghats.
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Dr. V. Clement Ben belongs to the 1997 RR of the Indian Forest Service and currently serving as the Chief Conservator of Forests at Kolhapur, Maharashtra, India. He is one of the fine naturalist with an interest in understand dynamics of Nature. He carries with him more than two decades of experience in Wildlife Management, Forest Protection, Forest Working Plans, Social Forestry and Forest Education.
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