



Freshwater Fishes of Royal Manas National Park



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Acronyms

Asm	Assamese
Ban	Bangladeshi
CNR	Collage of Natural Resources
DOFPS	Department of Forests and Park Services
GIS	Geographic Information System
GPS	Geographic Positioning System
Eng	English
FAO	Food and Agricultural Organization
Hind	Hindi
IUCN	International Union for Conservation of Nature
JSWNP	Jigme Singye Wangchuck National Park
Kheng	Khengkha
MOAF	Ministry of Agriculture and Forests
Nep	Nepali
RCSC	Royal Civil Service Commission
RGOB	Royal Government of Bhutan
RMNP	Royal Manas National Park
SL	Standard length
WCD	Wildlife Conservation Division
WWF	World Wildlife Fund

Foreword

CHENCHO NORBU

Director General

Department of Forest and Park Services

Ministry of Agriculture and Forests



Located in the Eastern Himalayas, Bhutan has been identified as a global biodiversity hotspot. So far the country has been seen as a model for proactive conservation initiatives receiving international acclaim for its commitment to the maintenance of its biodiversity. With 52.2% of country under protected areas though larger network of protected areas and biological corridors conservation has been placed at the core of the nation's development strategy. Thus, it is one of a very few countries that have an opportunity to maintain natural biodiversity in intact.

Over the years, there has been substantial scientific knowledge generated on terrestrial ecosystems, and appropriate legislation and policy have already been put in place to help ensure conservation. However, there have been very little efforts made in terms of aquatic ecosystem study although Bhutan forms one of the main watersheds in the Indo-Gangetic region with numerous rivers, streams, lakes and reservoirs. These water mass provide a wide variety of ecological niches for important fresh water animals. However, effects of land use on fresh water ecosystem systems are increasing. The development of many hydro powers and the lack of any existing data on freshwater resources have increased concerns about the aquatic ecosystems. There is now a growing interest in understanding the impacts of development on the river ecosystems, but this has been difficult due to lack of scientific data available on the aquatic biodiversity.



Fresh water fishes being one of the important components of the aquatic ecosystem offer a multitude of opportunities for studying basic ecological and evolutionary questions, along with their important socially relevant ecosystem services. Valuing these benefits, the Royal Manas National Park has embarked on documenting freshwater fishes of the park which perhaps is first of its kind among the protected areas. It is very encouraging to see that this first study has documented 60 species of freshwater fishes in RMNP. This report tries to uncover the rich aquatic biodiversity of the park and will spark off enthusiasm in others to conduct similar studies thereby furthering contribution to our biodiversity conservation. More importantly, it will help draw appropriate management interventions to protect our freshwater biodiversity for future to adapt to emerging threats of climate change and water pollution. These data will also foster basis for listing of endangered species of reptiles from Bhutan on IUCN red list and CITES appendix.

Tashi Delek!

Message from the Country Representative

DECHEN DORJI
Country Representative



Bhutan's biodiversity never ceases to amaze the world. This time, the field staff, particularly Mr Sangay Dorji of Royal Manas National Park of the Department of Forests and Park Services, took to the waters of the Park and brought to light, the incredible diversity of our freshwater fish species for the first time from the area. With increasing pressures on the river ecosystems, the study and baseline documentation of all the aquatic resources of Bhutan are highly timely and warrants increasing attention, particularly with respect to its conservation significance, both at the local and global level.

The Trans-boundary Manas Conservation area (TRaMCA) is a region of high biological diversity, with intact habitats for globally important mega fauna species like Tiger and Asian elephants. Major river systems run through parks and join the mighty Brahmaputra in the Indian plains, providing ecosystem services to millions of communities both in Bhutan and India. Under aegis of the TRaMCA project, the park management will aim to study and generate vital scientific data for major taxonomic groups and further strengthen the conservation management plan of the Park. It is both heartening and inspiring to see the park staff engaged with Ichthyology with a great sense of purpose and interest.



We at WWF Bhutan, would like to commend the author, Park Management and the leadership at the Department of Forests and Park Services in publishing this first guide to the fishes in the Royal Manas National Park.

We would like to further re-assure the DoFPS of our support and commitment in strengthening our collaboration in the larger interest of realizing the conservation vision of our Monarch and the Bhutanese people.

Tashi Delek

Preface

The park habitat includes tropical monsoon forest with natural grasslands and wide river-beds along the southern border. Over the years, Royal Manas National Park (RMNP) has added three new records to the list of mammals and five new records to their list of birds. However, RMNP remained one of the unexplored fresh water ecology and requires copious researches to create an aquatic biodiversity baseline data before the developmental activities over shadow the conservation needs.

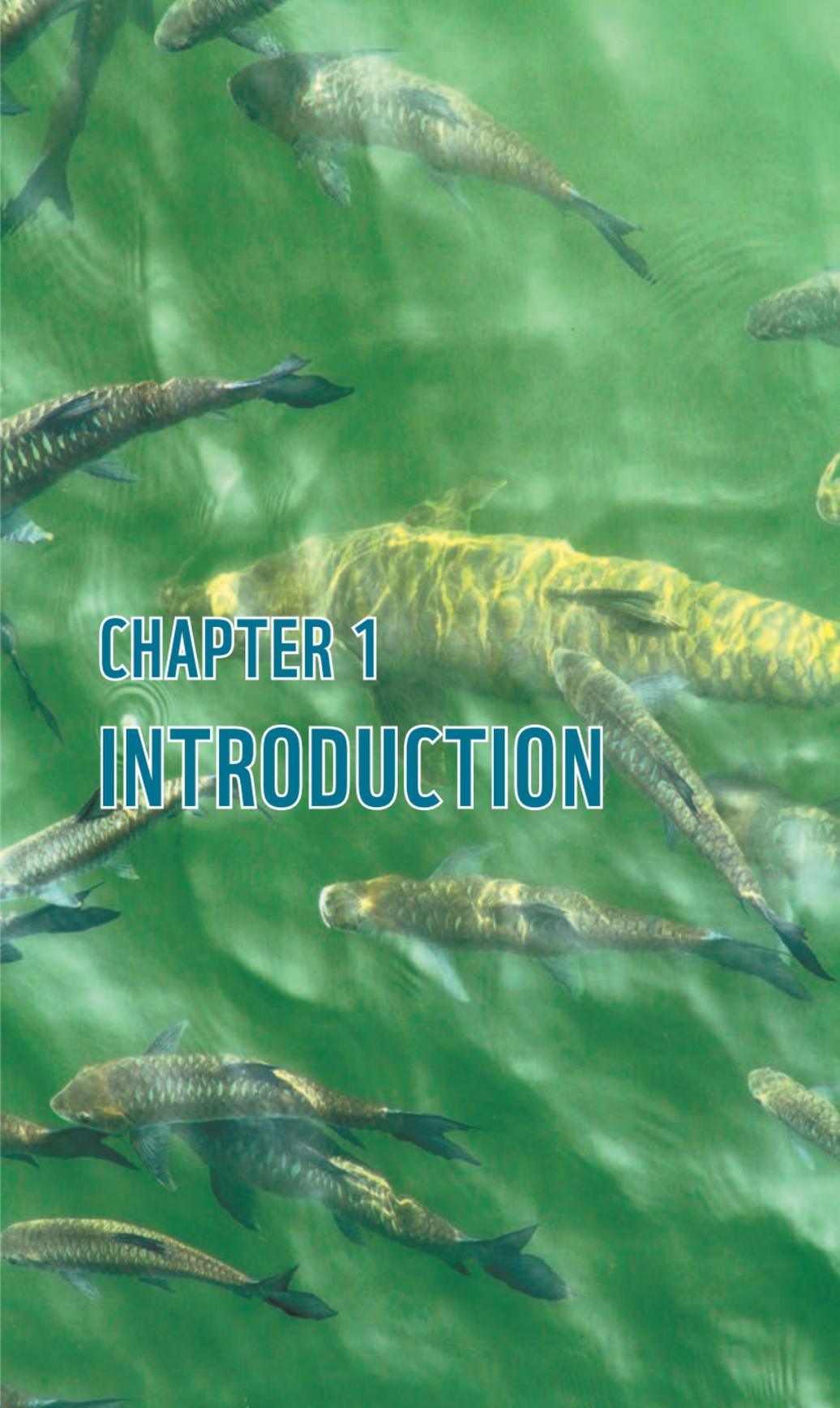
This book is the collective component of report submitted to WWF-Bhutan under TraMCA project (Trans-boundary Manas Conservation Area) funded by WWF-Japan and B.Sc. Thesis submitted to CNR (2012). It contains pictorials, description and distribution of species alphabetically arranged in order, family, genus and species of 60 confirmed species and 9 uncertain, which needs further exploration. However, it is the preliminary study of fresh water ecology in RMNP to document list of fish species present. The identifications are based on the minimum resources available and modest knowledge of undersigned. It is certain that there could be some imprecision and I urge all the reader to kindly contribute your valuable contribution to improve further.

This study is an endeavor to provide a baseline inventory of fish species to monitor and evaluate the effect of socio-economic development activities in future. Further, I expect this book to be stepping stone to extend more interest for young researcher to come forward and work on the particular field to enhance conservation and management of fresh water ecology particularly in RMNP and Bhutan at large.

Sangay Dorji, RMNP, 2014.

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A vibrant green pond with many colorful koi fish swimming. The water is a rich, clear green, and the fish are in various colors including gold, brown, and black. The fish are scattered throughout the frame, some swimming towards the viewer and others away. The overall scene is peaceful and serene.

CHAPTER 1 INTRODUCTION

Bhutan, situated in the southern slope of Eastern Himalayan Mountains, ranks among the top ten countries with the highest species density in the world, and it has one of the highest percent of land under protected areas. The economic development and material progress has started to overshadow conservation needs and with the current rate of population growth and urbanization, rural urban migration may increase water demand and land use change, which will pose serious threats to aquatic biodiversity. Further, the high gradient of mountain river systems has enormous potential for hydropower development, which is one of the main income generation resource bases of the country. The construction of these mega projects may pretend colossal threat to the aquatic biodiversity, mainly due to alteration of water flow regime and blocking of spawning route for migratory fish species. The Royal Manas National Park (RMNP), an oldest Park in Bhutan, was declared as the protected area in 1966 during the reign of 3rd King Jigme Dorji Wangchuck. Since then, the area was protected as the Wildlife Sanctuary and up-graded to National Park in 1993 including northern extension to link Jigme Singye Wangchuck National Park (JSWNP). The total area of RMNP consisting of 1,057 km² lies in three Dzongkhags i.e. Zhemgang, Sarpang and Pemagatshel. RMNP shares the international boundary with the Indian state of Assam and is also contiguous with the Manas National Park of India, which is a World Heritage Site. It is connected with JSWNP to the north-west and its biological corridors link the Phibsoo Wildlife Sanctuary (PWS) in the south-west, Thrumshingla National Park (TNP) in the North-central and Khaling Wildlife Sanctuary (KWS) in the South-east. RMNP is funded by the Royal Government of Bhutan (RGOB) and World Wildlife Fund (WWF) Bhutan.

The park habitat includes extensive areas of tropical monsoon forest scattered with natural grasslands and wide river-beds along the southern border and temperate broad leaf forests in the higher elevations. According to the biodiversity and socio-economic survey report, there are 60 mammals, more than 900 species of vascular

plants and over 430 birds in the park. However, Bhutan and RMNP in particular has no definite record of fresh water fishes present and is one of the under explored fish destinations in the world. We require studies to create an aquatic biodiversity baseline data before the hydropower projects and other developmental activities transform the habitats such as loss of spawning grounds.

The primary objective of this study is to assess and document the diversity of fresh water fish species present in RMNP. The book on the 'Ichthyology of Nepal' has estimates presence of 125 fish species

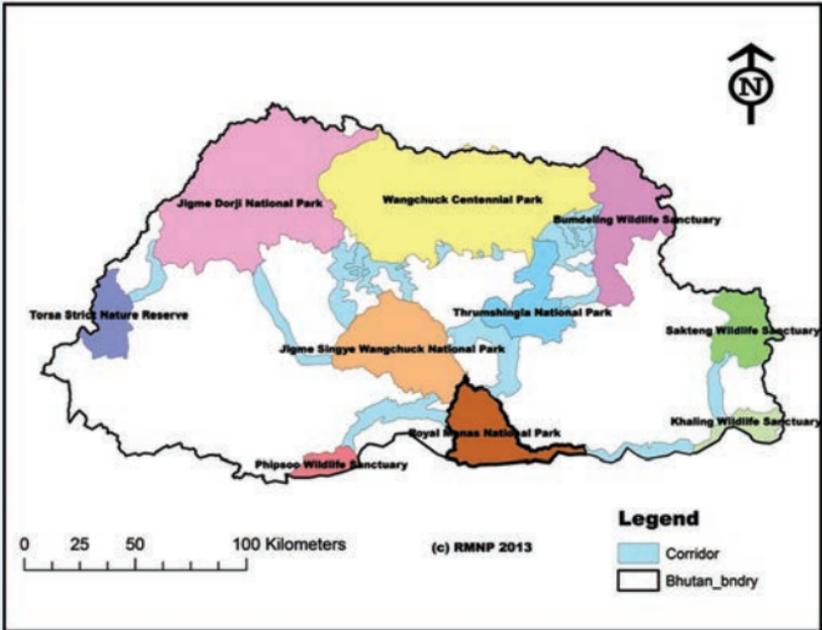


Figure 1: Map of Bhutan and Protected Areas

in fresh water river systems of Bhutan. However, these river systems are unexplored and require conducting rigorous study on aquatic ecosystems. RMNP has 47 watersheds reflected in the Conservation Management Plan out of which we have covered only 11 streams/rivers from different watersheds.

In this study, we have examined and identified 60 fish species belonging to 42 Genera in 19 families and 7 Orders in preparing a checklist of fishes found in RMNP. Further, we have 9 fish species belonging to 5 Genera in 5 families and 3 Orders in which require further study to confirm the species. In total, RMNP have 69 species of fish.

From these, 2 are Endangered (EN), 8 are Near Threatened (NT), 3 are Vulnerable (VU), 2 are Data Deficient (DD), 4 are Not Evaluated (NE) and the rest 41 are Least Concern (LC) as per the IUCN Red list status found in www.fishbase.org.

This study is an endeavor to provide a baseline inventory of fish species to help monitor and evaluate the effect of socio-economic development activities in future and we expect it to be a stepping stone to develop interest among the field people/researcher to come forward and work on ichthyology of Bhutan which will enhance conservation and management of fresh water ecology, particularly in RMNP and Bhutan at large.

In ichthyology, there is not much expertise in RMNP/Bhutan. We need capacity building through training. Bhutan shares the same geographical range with Nepal i.e. southern slope of eastern Himalaya. Nepal has recorded a total of 232 fish species and Bhutan has no definite number so far. Therefore, there is an urgent need to document before the developmental activities overshadow the conservation activities. For instance, Ganges River Dolphin is recorded in the Mammals of Bhutan Book from Manas River. However, now it has become a history and according to reliable source, inhabitants have seen it 13-14 years back only.

Here, the study does not cover the entire season of the year. It mostly includes studies from the pre-monsoon and peak monsoon seasons. Therefore, it is apparent that we can record more number of fishes found during the receding monsoon and winter season.



1.1 Importance of fish

Worldwide, fish is consumed as diet and is important source of protein. Bhutan has numerous potential rivers/streams to meet such local demands and to allow regulatory angling sport for eco-tourism to earn revenue. Most of the fishes are harmless and provide great recreational value for nature enthusiasts and aquarists. Further, fresh water fishes are important biological indicators of the health of river ecosystems.

1.2 Threat to fishes

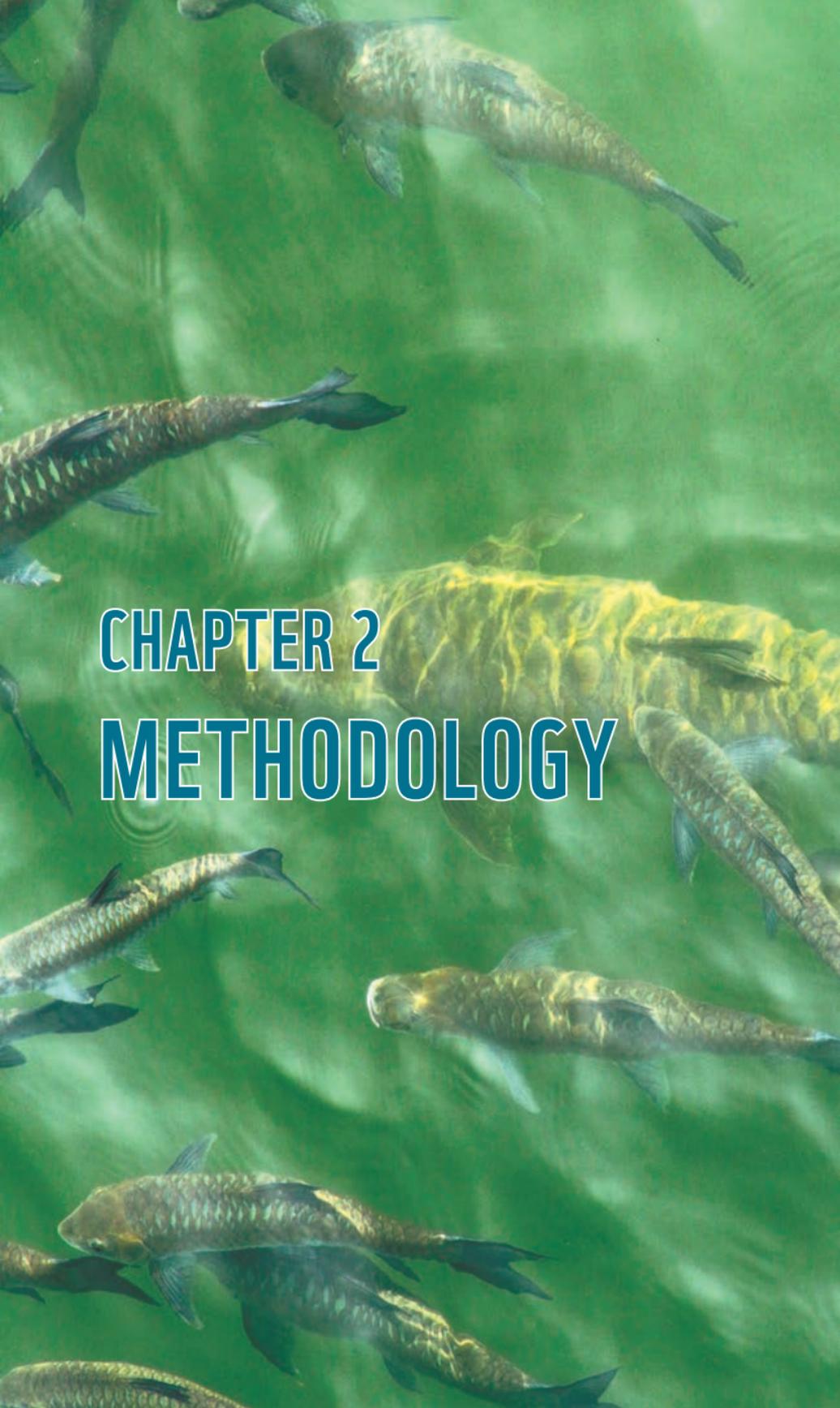
The foremost threat to fishes in Bhutan is construction of mega Hydropower Plants which alter water flow regime and blockup stream migration pattern which are critical for spawning. This is an important issue to consider while implementing any project concerning to rivers and streams. Pollution from different point source and non point source such as the use of fertilizer, debris from construction of Hydropower and the affluent from industries will have serious effect on downstream in future, though not very serious currently. Despite Bhutan being a Buddhist state, having sturdy religious belief of anti-killing and stringent rules for conservation, illegal fishing persists in some parts of the country, mainly for domestic consumption. In RMNP, cross-border illegal fishing is a problem. Use of pesticide and insecticide by the fishing poacher is a threat to environment as well. Also, few cases of using crude electric shocker made of car batteries were noted recently.

Over the years, we have noticed increasing river floods during summer season, in which lots of fishes get trapped. It may be due to impact of climate change. Introduction of exotic fish such as the brown trout (*Salmo trutta*) and other species as the Tsethar (religious life saving) may damage the native fish diversity. Therefore, it is important to recognize the consequence of introducing alien species as well.

Community managed fishery project like that of Harachu in Wangdue, which also promotes traditional knowledge (Figure 2) might prove a useful conservation tool.



Figure 2: Traditional Smoked Fish

A school of koi fish swimming in clear green water. The fish are of various colors, including gold, silver, and black. The water is bright green and clear, with some ripples visible. The fish are swimming in various directions, creating a sense of movement. The text "CHAPTER 2 METHODOLOGY" is overlaid in the center of the image.

CHAPTER 2
METHODOLOGY

2.1 Sampling areas and locations

Study sites were randomly selected according to accessibility, focusing to represent even distribution of sample sites under RMNP (Figure 3). As far as possible, streams/rivers selected were visited twice. Samplings were done in between 92 m (Manas River) to 570 m (Tokabi, under Gomphu Range). GPS coordinates with altitude were recorded in all sampling areas to provide distribution of species present in the 14 locations (Table 1).

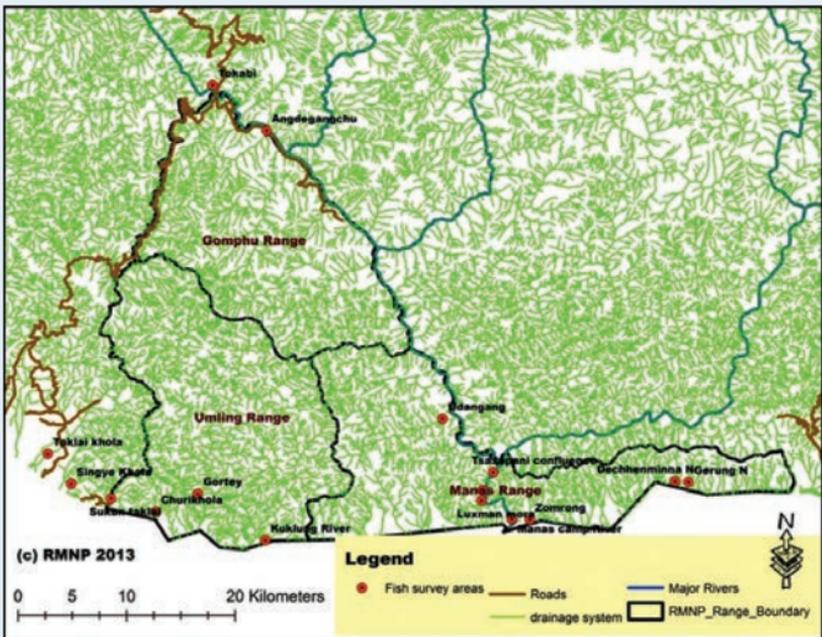


Figure 3: Map of Manas Park and Sampling Areas

Table 1: -Sampling locations representing distributions of fish species.

Sl. No.	Location	Northing	Easting	Altitude
1	Gerung N	26°49'17.72"	90°07'42.98"	263 m
2	Dechhenminna N	26°49'21.07"	90°06'58.18"	273 m
3	Tokabi	27°09'17.72"	90°41'22.66"	570 m
4	Udangang	26°52'34.00"	90°54'04.00"	144 m
5	Gortey	26°48'53.3"	90°40'25.9"	381 m
6	Zomrong	26°47'29.7"	90°58'51.9"	151 m
7	Taklai khola	26°50'54.9"	90°32'05.5"	206 m
8	Sukun taklai	26°48'41.05"	90°35'35.9"	233 m
9	Manas camp/River	26°47'31.52"	90°57'52.65"	130 m
10	Kuklung River	26°46'32.94"	90°44'09.99"	268 m
11	Angdegangchu	27°07'00.8"	90°44'22.2"	303 m
12	Churikhola	26°48'00.25"	90°38'05.06"	144 m
13	Tsasapani confluence	26°49'52.5"	90°56'51.00"	138 m
14	Singye Khola	26°49'24.85"	90°33'23.58"	208 m
15	Luxman mora	26°48'27.30"	90°56'12.3"	169 m
16	Arandaran	26°48'59.0"	90°56'15.3"	092 m

2.2 Fishing and Fishing Gears

Fishing was done by engaging professional fisherman using different locally available fishing gears such as cast net, seine net, gill net, spinner hook, single hook and temporary river diversion. Catch and release method was applied and only those fishes required for voucher specimens were collected.

2.3 Voucher specimen collection and preparation of live specimen

For each sampled species, a voucher specimen was collected and fixed using standard stock solution of 10% formalin. After one week specimens were transferred to 70% ethyl alcohol for permanent preservation in appropriate container after proper labels. The voucher specimens can be important assets for future reference and educational/research purposes. The specimens are preserved at the RMNP, Park Head Quarter.

An underwater scene featuring several fish swimming in clear, greenish water. The fish are of various sizes and orientations, some appearing to be common carp or similar species. The lighting is bright, creating a vibrant green hue throughout the scene. The fish are scattered across the frame, with some in the foreground and others in the background, creating a sense of depth and movement.

CHAPTER 3

FISH SPECIES OF RMNP

3.1 Identified fish species of RMNP

In this study, we have examined and identified 60 fish species belonging to 42 Genera in 19 families and 7 Orders in preparing a checklist of fishes found in RMNP (Table II).

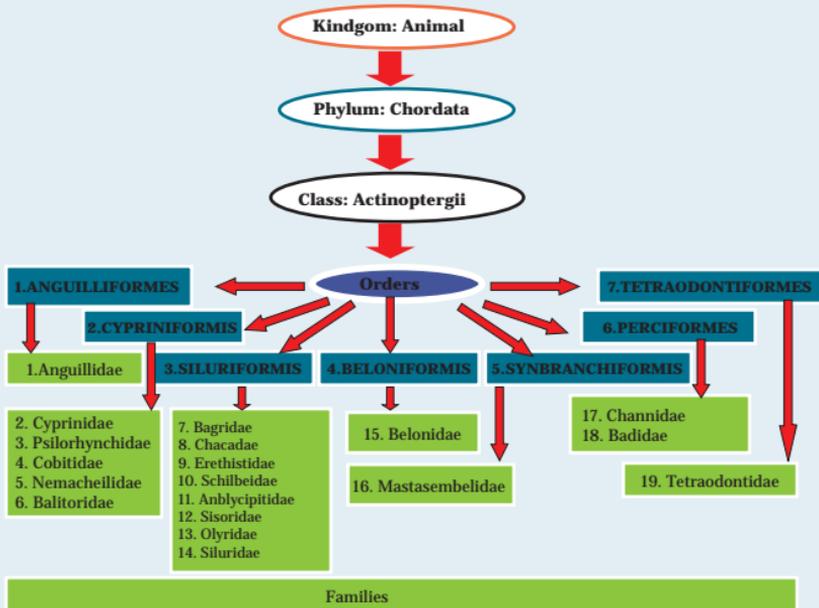


Figure 4: Classification of fish

Table 2. List of fish species

ORDER	
Family	Distributions
Species	
Order ANGUILLIFORMES	
Family Anguillidae	
1. <i>Anguilla bengalensis bengalensis</i>	Manas River & Mau khola
Order CYPRINIFORMIS	
Family Cyprinidae	
2. <i>Bangana dero</i>	Manas River, Mangdechu
3. <i>Labeo boga</i>	Zomrong, Udangang
4. <i>Labeo dyocheilus</i>	Arandaran, luxman morra
5. <i>Tor putitora</i>	Manas River, Karnamakura
6. <i>Tor tor</i>	Manas River
7. <i>Devario aequipinnatus</i>	Zomrong, SukunTaklai
8. <i>Danio dangila</i>	Zomrong, Sukuntaklai, Moromanas
9. <i>Danio rerio</i>	Mormanas, Maokhola
10. <i>Esomus dandricus</i>	Maokhola
11. <i>Barilius barna</i>	Manas River, Sukuntaklai, Taklai
12. <i>Barilius bendelisis</i>	Sukuntaklai, Taklai River
13. <i>Barilius vagra</i>	Taklai River, Sukuntaklai, Manas
14. <i>Cyprinion semiplotus</i>	Karnamakura, Udangang
15. <i>Chagunius chagunio</i>	Moremanas
16. <i>Neolissochilus hexagonolepis</i>	Manas, Udangang, Zomrong, Taklai
17. <i>Garra annandalei</i>	Ugangang, Karnamakura River
18. <i>Garra gotyla gotyla</i>	Karnamakura River
19. <i>Garra lamta</i>	Gortey, Udangang, Zomrong
20. <i>Garra lyssorhynchus</i>	Tingtibi
21. <i>Rajamas bola</i>	Gortey, Mau khola, Rabang
22. <i>Crossocheilus latius</i>	Udangang, Manas River
23. <i>Pethiaticto</i>	Moromanas, Taklai

24. <i>Pethia chonchonius</i>	Moromanas
25. <i>Aspidoparia morar</i>	Manas River
26. <i>Schizothorax cf. plagiostomus</i>	Angdigang, Tokabi
27. <i>Schizothorax progastus</i>	Manas River
28. <i>Schizothorax richardsonii</i>	Tokabi
Family Psilorhynchidae	
29. <i>Psilorhynchus balitora</i>	Udangang
30. <i>Psilorhynchus homaloptera</i>	Udangang stream
Family Cobitidae	
31. <i>Lepidocephalichthys guntea</i>	Moromanas, Manas
32. <i>Botia almorhae</i>	Taklaikhola
33. <i>Botia lohachata</i>	Makhola
34. <i>Pangio pangia</i>	Udangang, Marangdud
Family Nemacheilidae	
35. <i>Acanthocobitis botia</i>	Moromanas, Taklaikhola
Family Balitoridae	
36. <i>Aborichthys elongatus</i>	Singye khola, Udangang
37. <i>Aborichthys kempfi</i>	Churikhola, Sukuntaklai
Order SILURIFORMES	
Family Bagridae	
38. <i>Mystus vittatus</i>	Zomrong, Moromanas
39. <i>Batasio merianiensis</i>	Moromanas, Taklaikhola
Family Chacadae	
40. <i>Chaca chaca</i>	Moromanas
Family Erethistidae	
41. <i>Pseudolaguvia ribeiroi</i>	Moromanas, Taklaikhola
Family Schilbeidae	
42. <i>Allia coila</i>	Manas River
Family Amblycipitidae	
43. <i>Amblyceps apangi</i>	Zomrong, Udangang
44. <i>Amblyceps laticeps</i>	Zomrong, Udangang



45. <i>Amblyceps mangois</i>	Moromanas
Family Sisoridae	
46. <i>Bagarius bagarius</i>	Manas River
47. <i>Glyptothorax cavia</i>	Luxmimorra
48. <i>Glyptothorax striatus</i>	Dechenminna Nalha, Udangang
49. <i>Pseudecheneis sulcatus</i>	Udangang, Angdegangchu
50. <i>Gogangra viridescens</i>	Manas River
51. <i>Parachilognanlis hodgarti</i>	Moromanas, Taklai khola
52. <i>Exostoma labiatum</i>	Gortey, Udangang
Family Olyridae	
53. <i>Olyra longicaudata</i>	Zomrong, Moromanas
Family Siluridae	
54. <i>Pterocryptis cf. barakensis</i>	Dechenminna, Gerung Nalha
Order BELONIFORMES	
Family Belonidae	
55. <i>Xenentodon cancila</i>	Taklaikhola, Mormanas
Order SYNBRANCHIFORMES	
Family Mastacembelidae	
56. <i>Mastacembelus armatus</i>	Zomrong, Rabang, Mormanas
Order PERCIFORMES	
Family Channidae	
57. <i>Channa stewartii</i>	Singyekhola
Family Badidae	
58. <i>Badis badis</i>	Taklai khola, Sukuntaklai,
59. <i>Badis cf. senegensis</i>	Zomrong
Order TETRAODONTIFORMIS	
Family Tetraodontidae	
60. <i>Tetraodon cutcutia</i>	Tsatsapani (Panbang, Zhemgang)

3.2 Uncertain fish species

We have 9 fish species belonging to 5 Genera in 5 families and 3 Orders in this category (Table 3) which require further study to confirm. Especially, Genus *Garra*, *Schistura* and *Badis* are very difficult to identify to the species epithet level.

Table 3: List of uncertain fish species

Order		
Family		Distributions
Species		
Order CYPRINIFORMIS		
Family Cyprinidae		
1. <i>Garra</i> sp. (01)		Udangang
2. <i>Garra</i> sp. (02)		Tokabi, Angdgangchu
Family Balitoradae		
3. <i>Aborichthys</i> sp.		Singye khola,
Family Nemacheilidae		
4. <i>Schistura</i> sp. (01)		Moromanas
5. <i>Schistura</i> sp. (02)		Udangang
6. <i>Schistura</i> sp. (03)		Sukuntaklai
Order SILURIFORMES		
Family Sisoridae		
7. <i>Exostoma</i> sp.		Udangang
Order PERCIFORMES		
Family Badidae		
8. <i>Badis</i> sp.(01)		Sukun Taklai
9. <i>Badis</i> sp.(02)		Taklai khola

The fish species described here are identified and confirmed. The abbreviation described in the text D means dorsal fin counts, P means pectoral fin counts, V means ventral/pelvic fin counts, A means anal fin counts, C means caudal fin counts, L.l. means scale count along the lateral line and L.tr. means scale counts transverse to lateral lines. See Figure 4.

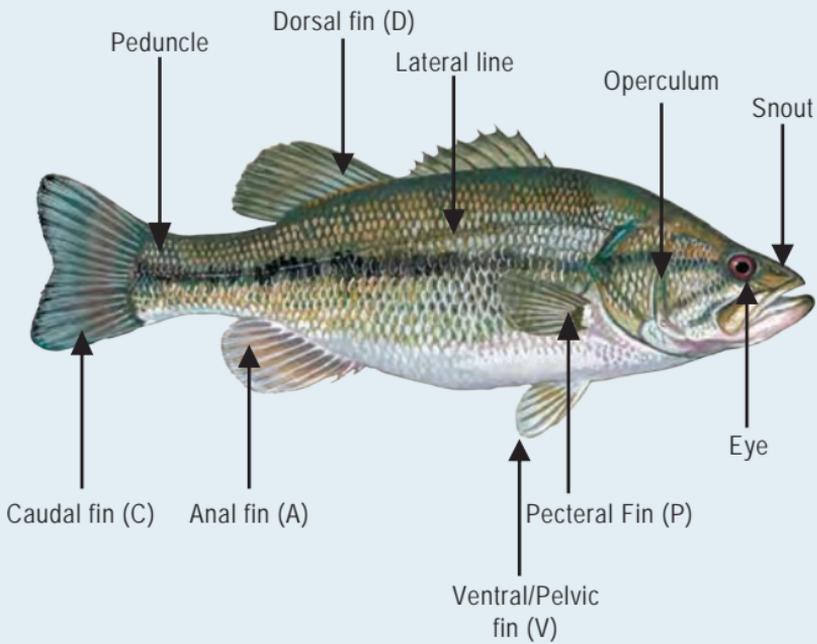


Figure 4: The Fish Body

A school of fish, likely koi or goldfish, swimming in clear, greenish water. The fish are seen from various angles, some swimming towards the viewer and others away. The water has a slight ripple, and the overall scene is bright and clear.

CHAPTER 4

DESCRIPTIVE OF IDENTIFIED FISHES

4.1 Order Anguilliformes

4.1.1 Family Anguillidae



1. *Anguilla bengalensis bengalensis* (Gray, 1831)

Common name: Indian mottled eel (Eng), Rajahbam (Nep), Poi-nga (Kheng)

Synonyms: *Anguilla nebulosa nebulosa* (McClelland, 1884); *A. elphinstonei* (Sykes, 1839).

Diagnostic Character: D.250-305, P.18, A.220-250, C.10-12. Body is elongated, mottled and scale less with flat head. Colour is dorsally green with numerous black spots and ventrally white.

Distribution: Manas River, Maokhola.

IUCN Red List Status: Least Concern (LC).

4.2 Order Cypriniformis

4.2.1 Family Cyprinidae



2. *Bangana dero* (Hamilton, 1822)

Common Name: Mong-nga (Kheng), Gardi (Nep), Rohu (Hind).

Synonyms: *Cyprinus dero*, *Labeo dero* (Hamilton 1822), *L. rilli* (Chaudhuri, 1912).

Diagnostic Character: D.12, P.17, V.9, A.8, C.19, L.I 42-43, L.tr.16. It has got a pair of short maxillary barbels. Snout is conical with many tubercles. It is a dark grey fish with silvery fish.

Distribution: Manas River.

IUCN Red List Status: Least Concern (LC).



3. *Labeo boga* (Hamilton, 1822)

Common Name: Boga labeo (Nep), Bogabata (Asm).

Synonyms: *Cyprinus boga* (Hamilton 1822), *Cyprinus falcata* (Bloch, 1795).

Diagnostic Character: D.12, P.12, V.7, A.5, C.39-40, L.I 39-40, L.tr.13. It has got one pair of minute barbels. There is dark spot above the pectoral fin.

Distribution: Zomrong, Udangang.

IUCN Red List Status: Least Concern (LC).



4. *Labeo dyocheilus* (Hamilton, 1822)

Common Name: Mung-nga (Kheng), Gardhi (Asm).

Synonyms: *Cyprinus dyocheilus* (Hamilton 1822), *Labeo kunke* (Chaudhuri, 1912).

Diagnostic Character: D.2/11, P.15-16, A.7, C.22, L.l.43, L.tr.10. It has got 2 barbels concealed in the labial fold, and a pair of short maxillary. Dorsal profile is more convex than ventral.

Distribution: Manas River.

IUCN Red List Status: Near Threatened (NT).



5. *Tor putitora* (Hamilton, 1822)

Common name: Golden Masheer (Eng), Zer-Nga (Kheng).

Synonyms: *Barbus macrocephalus* (McClelland, 1839), *Tor hamiltonii* (Gray 1834), *Barbus mosal* (Hamilton, 1822), *B. putitora* (Hamilton, 1822), *Cyprinus putitora* (Hamilton 1822), *Tor mosal* (Hamilton, 1822).

Diagnostic Character: D.10, P.17, C.19, V.9, A.7, L.l.28, L.tr.8 (4/4). Length of head is longer than body depth and with 4 barbels. Color of body is silver with greenish-yellow above lateral line. Scales are with dark dots. Lower fins are reddish-yellow.

Distribution: Manas River, Karnamakura River.

IUCN Red List Status: Endangered (EN).



6. *Tor tor* (Hamilton, 1822)

Common name: Tor Barb (Eng), Mahasheer (Hind), Sahar (Nep), Zer-Nga (Kheng).

Synonyms: *Barbus megalepis* (McClelland, 1839), *Tor hamiltonii* (Gray 1834), *Cyprinus tor*, *Puntius tor* (Hamilton, 1822).

Diagnostic Character: D.12, P.17, V.9, A.7, L.l.28, L.tr.8 (4/4). Length of head is shorter than the golden masher (*Tor putitora*) and colour of the body is dark gray with slightly golden on the dorsal side. Its abdomen is silvery white and golden colour.

Distribution: Manas River.

IUCN Red List Status: Near Threatened (NT).



7. *Devario aequipinnatus* (Barman, 1984)

Common name: Bhitte (Nep), Giant danio (Eng), Pencila nga (Kheng).

Synonyms: *Danio assamensis* (Barman, 1984).

Diagnostic Character: D.18-19, A.18-19, C.19, L.l.41-48, L.tr. 11/5. Yellow or orange stripes along the body length interrupted at the approach of head.

Distribution: Zomrong, Sukuntaklai.

IUCN Red List Status: Vulnerable (VU).



8. *Danio dangila* (Hamilton, 1822)

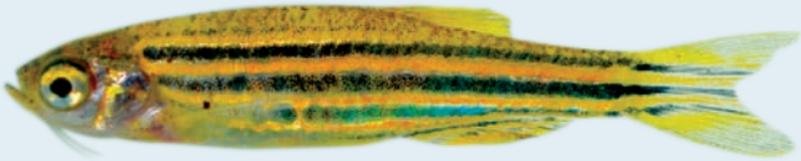
Common name: Nipati (Ban), Dangila danio (Hind), Bhitte (Nep).

Synonyms: *Cyprinus dangila* (Hamilton, 1822), *Danio deyi* (Sen,1985), *Perilampus reticulatus* (McClelland, 1839).

Diagnostic Character: D.11-13, A.17-18, C.20, L.l.38, L.tr.7/4. It has 2 long barbels. Colour is olive at the back, abdomen silvery, and sides with several blue lines.

Distribution: Sukuntaklai, Taklai, Moromanas.

IUCN Red List Status: Least Concern (LC).



9. *Danio rerio* (Hamilton, 1822)

Common name: Abju (Ban, Hind), Zebra danio (Eng), Zebra Macha (Nep).

Synonyms: *Cyprinus rerio*, *Brachydanio rerio* (Hamilton, 1822), *Perilampus striatus* (McClelland, 1839).

Diagnostic Character: D.9, P.13, V.8, A.16, C.19, L.l.27, L.tr.6. It has 2 pairs of barbels. Colour is shining Prussian blue pre-dorsally and four longitudinal blue colour band separated by silvery bands. It is a beautiful ornamental fish.

Distribution: Moromanas.

IUCN Red List Status: Least Concern (LC).



10. *Esomus danricus* (Hamilton, 1822)

Common name: Flying Barb (Eng), Dedhawa (Nep), Danrica (Hind).

Synonyms: *Cyprinus sutiha* (Hamilton, 1822), *Perilampus recurvirostris* (McClelland, 1839).

Diagnostic Character: D.7, P.12, V.8, A.7, C.19. Colour is olive green and darker dorsal part. It has dark band running along the lateral. Fins are brownish yellow. It has got 2 long barbells.

Distribution: Maokhola.

IUCN Red List Status: Least Concern (LC).



11. *Barilius barna* (Hamilton, 1822)

Common name: Barna baril (Eng), Titer kane faketa (Nep), Dudhnea (Hind).

Synonyms: *Barilius jayarami* (Barman, 1985), *Cyprinus barna* (Hamilton, 1822), *Leuciscus acanthopterus* (McClelland, 1839).

Diagnostic Character: D.9(2/7), P.15, V.9, A.13-14, C.19, L.l.9-42, L.tr.8-9. No barbels. Colour is dull green, 9-11 vertical dark bands on the body.

Distribution: Manas River, Taklaikhola.

Conservation Status: Least Concern (LC).



12. *Barilius bendelisis* (Hamilton, 1807).

Common name: Korang (Asm), Baril (Ban), Khoksa (Hind), Fageta (Nep).

Synonyms: *Cyprinus bendelisis* (Hamilton, 1807), *Barilius howesi* (Barman, 1816).

Diagnostic Character: D.2/7, P.15, V.9, A.9-10, L.l.40-43, L.tr.7-8/5. Barbels is 4, generally short. Body colour is silvery with purple. Shoulder edge is black. Each scale with a black spot.

Distribution: Manas River, Taklaikhola, Sukuntaklai

IUCN Red List Status: Least Concern (LC).



13. *Barilius vagra* (Hamilton 1822)

Common name: Lam faketa (Nep), Dhudhnea (Hind), Shengngepla (Kheng).

Synonyms: *Barilius alburnus* (Günther, 1868), *B. bleekeri* (Day, 1872).

Diagnostic Character: D.9, P.16, V.9, A.13-15, L.l.42-44, L.tr.7-8/4. Barbels 2 pairs. Colour silvery, 10 to 14 dark bands from dorsal to lateral line, fin yellowish.

Distribution: Taklai khola, Manas River.

IUCN Red List Status: Least Concern (LC)



14. *Cyprinion semiplotus* (McClelland, 1839)

Common name: Chepti (Nep), Assamese kingfish (Eng), Perballey (Kheng).

Synonyms: *Cyprinus semiplotus*, *Semiplotus semiplotus* (McClelland, 1839).

Diagnostic Character: D.27-28, P.16, V.10, A.2/7, C.19, L.l.27-33, L.tr.12. No Barbels. Spine present in the dorsal fin ray. Body is silvery colour.

Distribution: Karnamakura and Udangang.

IUCN Red List Status: Vulnerable (VU).



15. *Chagunius chagunio* (Hamilton, 1822)

Common name: Chaguni (Ind), Patharchatti (Hind), Kubre (Nep).

Synonyms: *Barbus beavan* (Gunther, 1869), *B. spilopholus* (McClelland, 1839).

Diagnostic Character: D.13, P.15, V.9, A.8, L.l.40-44, L.tr.11/9. It has a strong and serrated spine in the dorsal fin rays. Colour is uniformly silvery. Barbels 4.

Distribution: Manas River, Moromanas.

IUCN Red List Status: Least Concern (LC).



16. *Neolissochilus hexagonolepis* (McClelland, 1839)

Common name: Copper masher (Eng), Katle (Nep), Shong-nga (Kheng).

Synonyms: *Acrossocheilus hexagonolepis* (McClelland 1839).

Diagnostic Characters: D.3/9, P.17, V.9, A.2/7, C.19, L.l.28-3, L.tr.9 (4^{1/2}/4^{1/2}). Barbels 4. Colour of scales above lateral line is yellowish-copper tinge with yellowish-white below.

Distribution: Karnamakura, Manas River, Taklai River.

IUCN Red list Status: Near Threatened (NT).



17. *Garra annandalei* (Hora, 1921)

Common name: Stone roller, (Eng), Chucho Buduna (Nep), Ngaripa (Kheng).

Synonyms: *Garra Chaudhuri*(Hora, 1921), *G. satyendranathis* (Ganguly & Datta, 1973).

Diagnostic Character: D.11, P.15, V.8, C.17, L.l.33-34, L.tr.7. Dark grey in in colour with pale belly. It has smooth body with pointed snout.

Distribution: Zomrong, Karnamakura River.

IUCN Red List Status: Least Concern (LC).



18. *Garra gotylagotyla* (Gray, 1830)

Common name: Stone roller (Eng), Buduna (Nep).

Family: Cyprinidae

Synonyms: *Cyprinus gotyla* (Gray, 1930), *Discognathus jerdoni kangrae* (Prasad, 1919), *D. kangrae* (Prasad, 1919), *Garra montisalsi* (Hora, 1921).

Description: D.11, P.15, V.9, C.17, L.l.32-36, L.tr.8-9. Colour greenish black, with a bluish-green band along the centre of the body. Fin yellowish, stained darker at the margins.

Distribution: Karnamakura River.

IUCN Red List Status: Least Concern (LC).



19. *Garra lamta* (Hamilton, 1822)

Common name: Stone Sucker, (Eng), Mate Buduna (Nep), Ngaripa (Kheng).

Synonyms: *Cyprinus lamta* (Hamilton, 1822), *Garra prashadi* (Hora, 1921).

Diagnostic Character: D.11, P.15, V.9, C.17, L.l.32-36, L.tr.9-10. Colour is dusky brown fish. The fin yellowish and has stained darker at the margins. There is a short dark band at the base of the caudal fin. Barbels present is 2 pairs.

Distribution: Zomrong, Udangang, Gortey.

IUCN Red List Status: Least Concern (LC).



20. *Garra lissorhynchus*(McClelland, 1842)

Common name: Khasi garra, (Hind), Buduna (Nep), Ngaripa (Kheng).

Synonyms: *Platycara lissorhynchus* (McClelland, 1842), *Discognathus macrochir* (Gunther, 1868).

Diagnostic Character: D.7, P.12, V.7, A.5, C.22, L.l.34-35, L.tr.9-10. Colour is brown. It has distinct W-Shaped colour band on the caudal fin. It has rostral lobe in the snout.

Distribution: Tokabi and Angdegang.

IUCN Red List Status: Least Concern (LC).



21. *Rajamas bola*(Hamilton, 1822)

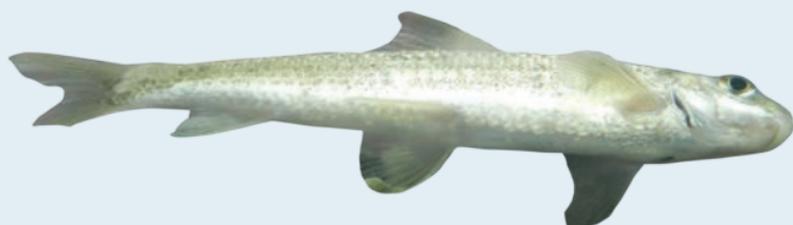
Synonyms: *Barilius bola* (Hamilton, 1822), *Opsarius gracilius* (McClelland 1839).

Common name: Indian trout (Eng), Trout barb (FAO), Bholā bola (Nep), Korang (Asm).

Diagnostic Character: D.10-11, P.13, V.9, A.13, C.19, L.l.88-94, L.tr.12-15. Colour silvery, with two or more rows of blotches along the sides. Caudal, pectoral, and anal fins are orange.

Distribution: Karnamakura River.

IUCN Red List Status: Least Concern (LC).



22. *Crossocheilus latius* (Hamilton, 1822)

Common name: Kala bata (Ban), Gangetic latia (Hind, Eng), Minor carp (Ban, Eng).

Synonym: *Chondrostoma wattanah* (Sykes, 1839), *Cirrhinia latia* (Hamilton, 1822), **Diagnostic Character:** D.10-11, P.15, V.9, A.7, C.19, T.1.36-40, L.tr.12. Barbels 2 nos. Upper lip fringed. Colour brownish olive, irregularly spotted with black marks. Dorsal and caudal fins yellowish, stained with grey and other fins are in orange.

Distribution: Udangang, Manas River.

Conservation status: Least Concern (LC).



23. *Pethia ticto* (Hamilton, 1822)

Common name: Pothia (Hind), Two-spot barb (Eng), Sidre (Nep), Ngatu (Kheng).

Synonyms: *Puntius ticto* (Hamilton 1822), *Systemus tripunccatus* (Jerdon, 1849).

Diagnostic Character: D.11, P.13, V.9, A.8, C.19, L.1.25, L.tr. 5-6. Two black blotches present in peduncle and anterior side of body. It is a deep bodied silvery fish.

Distribution: Taklai River.

IUCN Red List Status: Least Concern (LC).



24. *Pethia conchonioides* (Hamilton, 1822)

Common name: Pothia (Hind), Rosy barb (Eng), Sidre (Nep), Ngatu (Kheng).

Synonyms: *Puntius conchonioides*, *Barbas conchonioides*, *Cyprinus conchonioides* (Hamilton 1822), *Systemus pyropterus* (McClelland, 1839).

Diagnostic Character: D.11, P.13, V.9, A.8, C.19, L.l.25, L.tr. 5-6. A black blotches present in peduncle and deep bodied silvery fish.

Distribution: Moromanas.

IUCN Red List Status: Least Concern (LC).



25. *Aspidoparia morar* (Hamilton, 1822)

Common name: Morari (Ban), Aspidoparia (Eng).

Synonyms: *Aspidoparia sardine* (Heckel, 1846-49), *Cyprinus morar* (Hamilton, 1822). **Diagnostic Character:** D.9-11, P.15, V.8, A.10-12.

L.l.38-42, L.tr.10-11. No barbels. Upper jaw overlaps the lower jaw. Colour is dorsally light brown and sides are silvery.

Distributions: Manas River.

IUCN Red List Status: Least Concern (LC).



26. *Schizothorax cf. plagiostomus* (Heckel, 1838)

Common name: Hill trout (Eng), Asala (Nep).

Synonyms: *Schizothorax sinuatus* (Heckel, 1838), *Oreinus griffithi* (McClelland, 1842).

Diagnostic Character: D.10, P.16, V.10, A.7, C.19. Colour is spotted silvery golden with blunt snout.

Distribution: Tokabi and Angdegangchu.

IUCN Red list Status: Not Evaluated (NT).



27. *Schizothorax progastus* (McClelland, 1839)

Common name: Dinnawah Snowtrout (Eng), Chuche Asala (Nep), Thing-nga (Kheng).

Synonyms: *Schizothorachthys progastus*, *Oreinus progastus* (McClelland, 1839).

Diagnostic Character: D.11-12, P.19, V.11, A.7, C.19. Barbels 4 nos. Colour is silvery with pointed snout.

Distributions: Manas River.

IUCN Red List Status: Least Concern (LC).



28. *Schizothorax richardsonii*(Gray,1832)

Common name: Snow trout (Eng), Asala (Nep), Mang-nga (Kheng).

Synonyms: *Cyprinus richardsonii* (Gray, 1832), *Barbus maculatus* (McClelland, 1839), *Diptychus annandalei* (Regan, 1907).

Diagnostic Character: D.11-12, P.17, V.10, A.7, C.19. Colour is silvery with black spots. It has fine minute scales and 4 barbels.

Distributions: Tokabi.

IUCN Red List Status:Vulnerable (VU).

4.2.2 Family Psilorhynchidae



29. *Psilorhynchus balitora* (Hamilton, 1822)

Common name: Balitora Minnow (Eng), Balitora (Ban).

Synonyms: *Cyprinus Balitora* (Hamilton, 1822), *Psilorhynchus variegatus* (McClelland, 1839).

Diagnostic Character: D.9-10, P.17, V.9,A.7, C.18, L.l.35. Brownish with irregular blotches forming bands. There are three distinct bars in caudal fin.

Distribution: Khadkalaygang, Manas.

IUCN Red List Status: Data Deficient (DD).



30. *Psilorhynchus homaloptera* (Hora & Mukerji, 1935)

Common name: Tite buduna (Nep).

Synonyms: *Psilorhynchus homaloptera Rowleyi* (Hora & Mishra, 1941).

Diagnostic Character: D.9, A.7, P.17, V.9, L.l.42, L.tr.7. Pale-Green olivaceous back and lighter body. The head and body is depressed and flattened. Fan shaped pelvic fin.

Distribution: Udangang.

IUCN Red list Status: Least Concern (LC).

4.2.3 Family Cobitidae



31. *Lepidocephalichthys guntea* (Hamilton, 1822)

Common names: Botia (Asm), Gutum (Ban), Guntea Loach (Eng).

Synonyms: *Canthophrys olivaceus* (Swainson, 1839),
Lepidocephalichthys balgara (Hamilton, 1822).

Diagnostic Character: D.8, P.9-8, A.7, V. 7, C.16. Caudal fin is truncate. Body is black pattern with dark band and body colour is yellowish. It has black dots on the fins.

Distributions: Moromanas.

IUCN Red List Status: Least Concern (LC).



32. *Botia Almorhae* (Gray, 1831)

Common names: Almorha loach (Eng).

Synonyms: *Botia grandis* (Gray, 1832).

Diagnostic Character: D.11-12, A.7, P.14, V. 8, Barbels 8 nos. A small multicolored loach.

Distributions: Taklai khola.

IUCN Red List Status: Least Concern (LC).



33. *Botia lohachata* (Chaudhuri, 1912)

Common names: Tiger loach (Eng).

Synonyms: None.

Diagnostic Character: D.11, A.7, P.13-15, V. 8, C. 19. . Barbels 8 (4 pairs). It is yellowish brown in colour.

Distributions: Maukhola

IUCN Red List Status:Not Evaluated (NE).



34. *Pangio pangia* (Hamilton, 1822)

Common names: Pangio Coolie-loach (Nep).

Synonyms: *Cobitis pangia* (Hamilton, 1822), *Cobitis linnanomea* (McClelland. 1839).

Diagnostic Character: D.10, A.7, P.10, V.7, C. 17. Barbels 6. Colour is Reddish brown.

Distributions: Udangang stream

IUCN Red List Status:Not Evaluated (NE).

4.2.4 Family Nemacheilidae



35. *Acanthocobitis botia* (Hamilton, 1822)

Common name: Mottled Loach, Striped Loach (Eng), Sand loach (Nep), Gadera (Hind).

Synonyms: *Botia nebulosa* (Blyth, 1860), *Cobitis botia* (Hamilton, 1822).

Diagnostic Character: D.14-17, A.8. Body is mottled.

Distribution: Singyekhola, Moromanas.

IUCN Red List Status: Least Concern (LC).

4.2.5 Family Balitoradae



36. *Aborichthys elongatus* (Hora, 1921)

Commonname: Aborie protáhlá (Czech Republic), Chulungmed (Kheng).

Synonym: *Noemacheilus elongatus* (Hora, 1921).

Diagnostic Character: Striped body, round tailed - red.

Distribution: Singye khola.

IUCN Red List Status: Least Concern (LC).



37. *Aborichthys kempfi* (Chaudhari, 1913)

Commonname: Aborie kempfi (Czech Republic), Chulungmed (Kheng).

Synonym: *Noemacheilus kempfi* (Chaudhari, 1913).

Diagnostic Character: D.9, A.7, Striped body, round tailed - red. It has black bars narrower the interspaces. Colour is yellow with black bars.

Distribution: Churikhola, Udangang.

IUCN Red List Status: Near Threatened (NT).

4.3 Order SILURIFORMES

4.3.1 Family Bagridae



38. *Mystus vittatus* (Bloch, 1794)

Common Names: Tengara (Hind), Tengra (Nep), Striped dwarf catfish (Eng).

Synonyms: *Mystus vittatus vittatus* (Bloch, 1794), *Silurus vittatus* (Bloch, 1794).

Diagnostic Characters: D.8, P.9, V.6, A.11, C.17. Barbels 4 pairs. Small adipose fin present. Colour shining yellowish with distinct bluish spot on the shoulder and dark brown along longitudinal sides.

Distributions: Manas River and Moromanas.

IUCN Red List Status: Least Concern (LC).



39. *Batasio merianiensis* (Chaudhuri, 1913)

Common name: Chilne macha (Nep).

Synonyms: *Macrones merianiensis* (Chaudhuri, 1913).

Diagnostic Character: D.8, A.11, P.8, V.6, C.18. Barbels 4. It has large sensory pores in the head. Body colour is yellowish mixed with black. It has sharp spine in the pectoral fin.

Distribution: Taklai, Manas River.

IUCN Red List Status: Data Deficient (DD).

4.3.2 Family Chacadae



40. *Chaca Chaca* (Hamilton, 1822)

Common Name: Kirkere (Nep), Chega (Asm), Toad fish (Eng).

Synonyms: *Platysacus chaca* (Hamilton, 1822), *Chaca buchanani* (Gunther, 1864).

Diagnostic Character: D.24-25, P.6, A.17, C.11, Dark brown toad fish and wart like skin. Flattened head with 2 pairs of barbels.

Distribution: Moromanas.

IUCN Red List Status: Least Concern (LC).

4.3.3 Family Erethistidae



41. *Pseudolaguvia ribeiroi* (Hora, 1921)

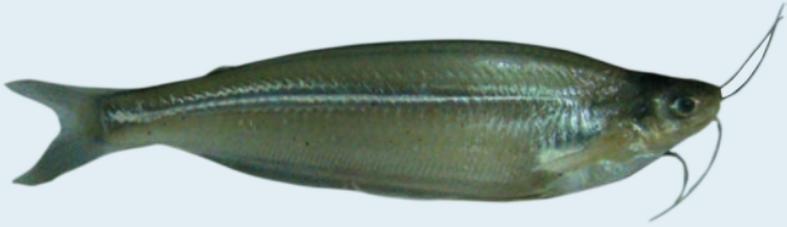
Common Name: Tinkantiya (Nep), Kanitengra (Ban), Painted Cat fish (Eng).

Synonyms: *Laguvia ribeiroi*, *Glyptothorax ribeiroi* (Hora, 1921).

Diagnostic Character: D.7, P.8, V.6, A.11, C.19, Grey brown with speckled with dots and crossed by two yellow bands. It has got two yellow bands and indistinct thoracic adhesive disc. **Distribution:** Moromanas, Taklaikhola.

IUCN Red List Status: Least Concern (LC).

4.3.4 Family Schilbeidae



42. *Ailia coila* (Hamilton, 1822)

Common Name: Gangetic aila (Eng), Patanga (Nep), Kajuli (Asm).

Synonyms: *Acanthonotus hardwickii* (Gray, 1830), *Ailia affinis* (Gunther, 1864).

Diagnostic Character: D.0, P.14, A.75, V.6, C.19. Barbels 4 pairs. Dorsal rays absent. Colour is silvery white deeply compressed body.

Distribution: Manas River.

IUCN Red List Status: Near Threatened (NT).

4.3.5 Family Amblycipitidae



43. *Amblyiceps apangi* (Nath & Dey, 1989)

Common Name: Lulee (Nep), Gangaley nga (kheng).

Diagnostic Character: D. 6, P.1/6, V.1/5, A.7, C.14. Adipose continues to caudal fin.

Distribution: Udangang, Moromanas.

IUCN Red List Status: Least Concern (LC).



44. *Amblyiceps laticeps*(McClelland, 1842)

Common name: Lulee (Nep).

Synonyms: *Olyra laticeps* (McClelland, 1842).

Diagnostic Character: D.6, P.10, V.7, A.15. Barbels 6. Colour is brown.

Distribution: Udangang, Zomrong, Moromanas.

IUCN Red List Status: Least Concern (LC).



45. *Amblyiceps mangois* (Hamilton, 1822)

Common name: Indian torrent catfish (Eng).

Synonyms: *Pimelodus indicus* (McClelland, 1842), *P. mangois* (Hamilton 1822).

Diagnostic Character: D.7, P.7, V.6-7, A.9-10, C.18-19. Barbels 8. Colour is dull brown.

Distributions: Moromanas.

IUCN Red list Status: Least Concern (LC).

4.3.6 Family Sisoridae



46. *Bagarius bagarius* (Hamilton, 1822)

Common name: Giant Goonch (Eng), Goonch (Nep), Norshomed (Kheng).

Synonyms: *Pimelodus bagarius* (Hamilton, 1822), *Bagarius buchani* (Bleeker, 1853).

Diagnostic Character: D.7, P.10, V.6, A.13, C.17, and Barbels 8. Largest of Genus and colour is yellowish brown with dark bands.

Distributions: Manas River.

IUCN Red List Status: Near Threatened (NT).



47. *Glyptothorax cavia* (Hamilton, 1822)

Common name: Catfish (Eng), Kani tengra (Ban).

Synonyms: *Bagarius cavia* (Hamilton, 1822).

Diagnostic Character: D.6, P.11, V.6, A.10. Barbels 8. Colour of the body is ashy sparsely granulated with dark brown spots. Fin yellowish granulated with dark spots.

Distributions: Manas River.

IUCN Red List Status: Least Concern (LC).



48. *Glyptothorax striatus* (McClelland, 1842)

Common name: Kabre, Jantaray (Nep), Badbala (Sharchop).

Synonyms: *Glyptosternon striatus* (McClelland, 1842).

Diagnostic Character: D.7, P.9, V.6, A.9, C.15-16. Barbels 4 pairs. Colour is uniformly brownish with distinct continuous light orange streak line runs along the lateral line.

Distributions: Udangang, Dechenmina Nalha.

IUCN Red List Status: Near Threatened (NT).



49. *Pseudecheneis sulcata* (McClelland, 1842)

Common name: Sucker throat catfish (Eng), Kabre (Nep).

Synonyms: *Glyptosternon sulcatus* (McClelland, 1842).

Diagnostic Character: D.7, P. 14, V.6, A.11-12, C.16. Barbels 8. The body is conical tapering towards caudal and flattened ventrally. The colour is yellowish longitudinal bands in the grayish body. It has transverse folds on the chest.

Distributions: Udangang Stream and Angdechu.

IUCN Red List Status: Least Concern (LC).



50. *Gogangra viridescens* (Hamilton, 1822)

Common name: Gang tengra (Ban), Huddah nangra (Hind).

Synonyms: *Gagata viridescens* (Hamilton, 1822), *Gangra viridescens* (Hamilton, 1822).

Diagnostic Character: D.7, P.9, V.6, A.8. C.21. Barbels 6. Colour is variegated colour with white and banded black. The body tapering towards tail and head is rounded.

Distribution: Manas River at opposite Royal Guest House in RMNP.

IUCN Red List Status: Least Concern (LC).



51. *Parachiloglanis hodgarti* (Hora, 1923)

Common name: Torrent catfish (Eng), Telcapre (Nep).

Synonyms: *Euchiloglanis hodgarti* (Hora, 1923), *Exostoma blythii* (Day, 1970).

Diagnostic Character: D.10, P.12, V.6, A.8, C.19. Barbels 4 pairs. Small seised and ventrally flattened. Head and anterior part depressed and tail compressed from side to side. Colour is yellowish above and lighter ventrally.

Distribution: Gortey, Moromanas.

IUCN Red List Status: Least Concern (LC).



52. *Exostoma labiatum* (McClelland, 1842)

Common name: Stone Cat (Eng).

Synonyms: *Glyptosternon labiatum* (McClelland, 1842), *Exostoma labiatum* (Mishra, 1976).

Diagnostic Character: D.7, P.12, V.6, A.6, and C.17. Small sized with flattened tailed, depressed snout and compressed towards the tail. The color is yellowish grey and white or cream belly and chin.

Distribution: Karnamakura River and Udangang.

IUCN Red List Status: Near Threatened (NT).

4.3.7 Family Olyridae



53. *Olyra longicaudata* (McClelland, 1842)

Common name: Himalayan Olyra (Eng), Botsingi (Hind), Dharke lulee (Nep), Gangaley Nga (Kheng).

Synonyms: *Olyra elongata* (Günther, 1883).

Diagnostic Character: D.7, P.9, V.5, A.18-23, C.21. Barbels 8. Caudal forked, upper lobe longer than lower one. Colour is brown and faintly striped with dark brown along the lateral body.

Distribution: Sukuntaklai, Zomrong.

IUCN Red List Status: Least Concern (LC).

4.3.8 Family: Siluridae



54. *Pterocryptiscf. barakensis*(Vishwanath and Nebeswar Sharma, 2009)

Description: D.0, P.14-15, A.65-77, C.6-7. Barbels 4. Large sensory pores in the head. Upper jaw is longer than lower jaw. Colour is grayish brown.

Distribution: Dechenminna, Gurung Nalha, Zomrong.

IUCN Red List Status: Endangered (EN).

4.4 Order BELONIFORMES

4.4.1 Family Belonidae



55. *Xenentodon cancila* (Hamilton, 1822)

Common name: Kokila (Asm), Fresh water garfish (Eng), Sui (Nep).

Synonyms: *Belone cancila* (Hamilton, 1822), *B. graii* (Sykes, 1839), *Exos cancila* (Hamilton, 1822), *E. hindostanicus* (Falconer, 1868), *E. indica* (McClelland, 1842).

Diagnostic Character: D.16-17, P.11, V.6, A.16-17, C.15. Colour is dorsally green-silvery and whitish below. Silvery band with dark margin run laterally. Present beak like jaws.

Distribution: Taklai khola and Mormanas.

IUCN Red List Status: Least Concern (LC).

4.5 Order SYNBRANCHIFORMES

4.5.1 Family Mastacembelidae



56. *Mastacembelus armatus*(lacepede, 1800)

Common name: Spiny eel (Eng), Zigzag eel (Eng), Chusi bam (Nep).
Poi-nga (Kheng).

Synonyms: *Macronathus armatus* (Lacepede, 1800), *Mastacembelus armatus armatus* (Lacepede, 1800).

Diagnostic Character: D.67-82, P.23, A.67-83, C.14-17. Present dorsal spine (33-40). Colour is brownish and lighter dorsally, longitudinal zigzag lines laterally. Body elongated. Snout pointed.

Distribution: Zomrong, Mormanas.

IUCN Red List Status: Least Concern (LC).

4.6 Order PERCIFORMES

4.6.1 Family Channidae



57. *Channa stewartii* (Playfair, 1867)

Common name: Assamese snakehead (Eng), Hilae (Nep), Sengale (Asm), Borka (Kheng).

Synonyms: *Ophicephalus stewartii*(Playfair, 1867).

Diagnostic Characters: D.38, P. 17, A.24. C.13.Caudal fin rounded. Large head as of snakes. Colour dorsally and sides are dark molted with white and ventrally white.

Distribution: Singye khola.

IUCN Red List Status: Least Concern (LC).

4.6.2 Family Badidae



58. *Badis badis* (Hamilton, 1822).

Common name: Badis (Eng), Khesalei (Nep), Phag-nga (Kheng).

Synonyms:*Badis buchanani* (Bleeker, 1853), *Cychla fasciata* (Swainson, 1839).

Diagnostic Character: D.7-10, A.6-8, P.12, L.l.25-27, L.tr.19-20. It has got dorsal spine of 15-17. It has dark blotch along dorsal fin.

Distribution:Taklaikhola, Sukuntaklai.

IUCN Red List Status: Least Concern (LC).



59. *Badis singenensis*(Geetakumari & kadu 2011).

Common name: Badis (Eng), Phag-nga (Kheng).

Synonyms:

Diagnostic Character: D.21, P.16, A.8-9, C.13-14, L.l.25-26, L.tr.19-20. It has got distinct dark blotch at the base of anal fin and dorsal soft rays.

Distribution:Zomrong.

IUCN Red List Status:Not Evaluated (NE).

4.7 Order TETRAODONTIFORMIS

4.7.1 Family Tetraodontidae



60. *Tetraodon cutcutia* (Hamilton, 1822).

Common Name: Ocellated Puffer fish (Eng), Tapa (Ban, Hind), Pokcha (Nep).

Synonyms: *Leisomus marmoratus* (Swainson, 1839), *Tetrodon caria*, *T. gularis* (Hamilton, 1822).

Diagnostic Character: D.10, P.18-21, A.10, C.7. Small sized fish. Colour is greenish yellow dorsal and white ventral.

Distribution: Tsatsapani (near Panbang).

IUCN Red list Status: Least Concern (LC).

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