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FISH FAUNA OF ITANAGAR WILD LIFE SANCTUARY ARUNACHAL PRADESH, INDIA

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INTRODUCTION

Itanagar Wildlife Sanctuary (IWS hereafter) which is situated in Papumpare District of Arunachal Pradesh covering a total area of 140.30 sq. km is bound by the Senki stream in the north, Pachin in the south, Neorochi on the North East and Pam river in the East. The township of Itanagar, capital of Arunachal Pradesh is located within the sanctuary.

Till date there is no record available on the fish fauna of IWS except for Tamang et al, (2007), Nath & Dey (2000) who have reported ichthyofauna from Senki and Pachin streams which are the major drainages of IWS. The present report is an attempt to compile the fish fauna of IWS based on specimens collected by various workers of Zoological Survey of India (ZSI) from different localities of IWS. This is likely to be the first comprehensive compilation of fish fauna of IWS based on surveys and also those reported by other workers from different localities of IWS.

METHODOLOGY

Various workers of ZSI have surveyed different drainages (As in table1) within the IWS and fish representatives collected were kept preserved in Arunachal Pradesh Regional Centre, Zoological Survey of India, Itanagar (APRC/ZSI/ITA) laboratory. With a view to ascertain the fish fauna of IWS these specimens were studied and taxonomic details were noted. Besides these, fresh collections were also made through various local surveys. Senki stream is one of the main drainages in IWS and was selected as one of the major collection site as it is contiguous with Pachin Stream which finally falls into the Brahmaputra through the river Dikrong. The collections were made using a cast net, gill net and also various indigenous fishing methods. The representatives were all preserved in 10% formalin and have been registered and deposited in APRC/ ZSI / ITA.

Table No. 1 : Collection sites

Sl.No	Collection Sites	Abbreviations used in Table 2
1	Senki Stream, Itanagar (in and around Chandranagar)	SR1 (Ita)
2	Senki Stream, Itanagar (bordering Police Colony & around)	SR2 (Ita)
3	Stream near Raj Bhavan, Itanagar	RB (Ita)
4	Stream near Indira Gandhi Park, Itanagar	IGP (Ita)
5	Ganga Lake near Itanagar	GL (Ita)
6	Pachin stream, Jollang	RP (Jol)

RESULTS AND DISCUSSION

The present enumeration of fishes was compared with previous studies (Tamang,2007; Nath & Dey, 2000) and a detailed list of 66 species belonging to 42 genera and 17 families have been prepared (Table.2). The list contains the number of specimens examined with their corresponding registration number along with the localities from where they have been collected. Out of these 66 species,37 species have been recorded in our present collections.12 species reported exclusively from Senki stream,7 species from Pachin and 10 species common to both Pachin and Senki (Tamang, 2007; Nath & Dey, 2000) have been included in the compilation for a comprehensive account of the fish fauna of IWS.

An analysis of the composition of fish fauna shows that Siluriformes is the most dominant order with 8 families followed by Cypriniformes and Perciformes with 4 families each and

Table. 2 : List of fish fauna of Itanagar WLS

Sl. No.	Type	No. of Specimens examined	Registration no. in our museum APRC/ZSI/P-	Collection sites in the present study	Reported by (Tamang. et al. 2007 Nath & Dey, 2000)
	Order : Cypriniformes				
	Family : Cyprinidae				
1	*Aspidoparia jaya* (Hamilton)	-	-	-	Senki
2	*Barilius bendelisis*(Hamilton)	13	13,14,22,187,492	SR1,SR2(Ita) ;RP(Jol)	-
3	*Barilius barna* (Hamilton)	-	-	-	Pachin,Senki
4	*Barilius tileo* (Hamilton)	-	-	-	Pachin,Senki
5	*Raiamas bola* (Hamilton)	01	491	RP(Jol)	-
6	*Danio dangila* (Hamilton)	01	53	SR1(Ita)	-
7	*Danio rerio* (Hamilton)	09	52	SR1(Ita)	-
8	*Devario aequipinnatus* McClelland	43	44,45, to 48,152	SRI(Ita)	-
9	*Devario devario* (Hamilton)	-	-	-	Senki
10	*Rasbora rasbora* (Hamilton)	1	98	SRI(Ita)	-
11	*Tor putitora* (Hamilton)	1	490	RB(Ita)	-
12	*Tor tor* (Hamilton)	-	-	-	Pachin,Senki
13	*Neolissochilus hexagonolepis* (McClelland)	2	2,185	SR2(Ita)	-
14	*Chagunius chagunio* (Hamilton)	1	493	RP(Jol)	-
15	*Puntius chola* (Hamilton)	1	93	RB(Ita)	-
16	*Puntius conchonius* (Hamilton)	1	92	IGP(Ita)	-
17	*Puntius sophore* (Hamilton)	1	89	SRI(Ita)	-
18	*Puntius ticto* (Hamilton)	2	90, 91	SRI(Ita)	-
19	*Cyprinion semiplotum* McClelland	-	-	-	Pachin, Senki
20	*Labeo gonius*(Hamilton)	10	64	SRI(Ita)	-
21	*Bangana dero* (Hamilton)	-	-	-	Pachin, Senki
22	*Crossocheilus latius*(Hamilton)	-	-	-	Pachin, Senki
23	*Schizothorax* sp.	13	102, 103	SR1(Ita)	-
24	*Schizothorax richardsoni* (Gray)	-	-	-	Pachin
25	*Schizothorax esocinus* Heckel	-	-	-	Pachin
26	*Garra annandalei* Hora	-	-	-	Pachin, Senki
27	*Garra lissorhynchus* (McClelland)	1	303	SR1(Ita)	-
28	*Garra gotyla*(Gray)	1	183	SR2(Ita)	-
29	*Garra mcclelland* (Jerdon)	-	-	-	Pachin
30	*Oreichthys cosuatis*(Hamilton)	-	-	-	Senki
	Family : Psilorhynchidae				
31	*Psilorhynchus balitora* (Hamilton)	1	88	SR2(Ita)	-
	Family : Balitoridae				
32	*Acanthocobitis botia*(Hamilton)	-	-	-	Pachin, Senki
33	*Balitora brucei* Gray	1	27	SR2(Ita)	-
34	*Schistura rupecula* McClelland	1	182	SR2(Ita)	-

Sl. No.	Type	No. of Specimens examined	Registration no. in our museum APRC/ZSI/P-	Collection sites in the present study	Reported by (Tamang. et al. 2007 Nath & Dey, 2000)
35	*Schistura devdevi* (Hora)	2	177, 184	SR2(Ita)	-
36	*Schistura sikimaiensis* (Hora)	1	188	SR2(Ita)	-
37	*Aborichthys elongatus* Hora	2	178	SR2(Ita)	-
38	*Aborichthys kempi* Chaudhuri	-	-	-	Pachin
	Family : Cobitidae				
39	*Botia rostrata* Gunther	1	376	SR2(Ita)	-
40	*Botia dario* (Hamilton)	1	149	SR2(Ita)	-
41	*Lepidocephalichthys guntea* (Hamilton)	5	70,388	SR2; SR2(Ita)	-
42	*Lepidocephalichthys annandalei* Chaudhuri	3	67	SR1(Ita)	-
	Order : Siluriformes				
	Family: Bagridae				
43	*Mystus tengara* (Hamilton)	1	82	SR1(Ita)	-
44	*Mystus montanus* (Jerdon)	-	-	-	Senki
	Family : Amblycipitidae				
45	*Amblyceps arunachalensis* Nath & Dey	9	180	SR2(Ita)	-
46	*Amblyceps mangois* (Hamilton)	1	5	SR1(Ita)	-
	Family : Sisoridae				
47	*Glyptothorax indicus* Talwar	1	181	SR2(Ita)	-
48	*Glyptothorax cavia*(Hamilton)	-	-	-	Senki
49	*Glyptothorax telchitta* (Hamilton)	-	-	-	Senki
50	*Glyptothorax brevipinnis* Hora	-	-	-	Senki
51	*Glyptothorax pectinopterus* (McClelland)	-	-	-	Senki
52	*Bagarius bagarius* (Hamilton)	-	-	-	Pachin
	Family : Erithistidae				
53	*Hara hara*(Hamilton)	1	179	SR2(Ita)	-
54	*Pseudolaguvia shawi* (Hora)				Senki
	Family : Claridae				
55	*Clarius magur*(Hamilton)	-	-	-	Senki
	Family : Heteropneustidae				
56	*Heteropneustes fossilis* (Bloch)	-	-	-	Senki
	Family : Chacidae				
57	*Chaca chaca* (Hamilton)	1	35	SR2(Ita)	-
	Family : Olyridae				
58	*Olyra longicaudata* McClelland	-	-	SR2(Ita)	-
	Order: Beloniformes				
	Family: Belonidae				
59	*Xenentodon cancila* (Hamilton)	-	-	-	Pachin
	Order : Perciformes				
	Family : Chandidae				
60	*Chanda nama* (Hamilton)	-	-	-	Pachin, Senki
61	*Parambassis ranga* (Hamilton)	-	-	-	Pachin, Senki
62	*Parambassis baculis* Hamilton	-	-	-	Pachin
	Family : Badidae				
63	*Badis badis* (Hamilton)	1	15	GL(Ita)	-
	Family : Cichlidae				
64	*Oreochromis mossambicus* (Peters)	-	-	-	Senki
	Family : Channidae				
65	*Channa striata* (Bloch)	1	41	GL(Ita)	-
66	*Channa marulius* (Hamilton)	02	39	SR1(Ita)	-

Beloniformes with a single family Belonidae represented by a single species, *Xenentodon cancila*. The study also shows that Cyprinidae is the most dominant family with 30 species. Balitoridae forms the next dominant family with 7 species, Sisoridae with 6 species, *Chandidae* with 3 species followed by *Bagridae, Amblycitipidae, Erithistidae and Channidae* with 2 species each and the remaining 9 families-*Psilorhynchidae, Cobitidae, Claridae, Heteropneustidae, Chacidae, Olyridae, Belonidae, Badidae* and *Cichlidae* with a single representative each. (Table no.3)

It has been observed that the distribution of 7 species namely *Schizothorax richardsoni, Schizopyge esocinus, Garra mcclelland, Aborichthyes kempi, Bagarius bagarius, Xenentodon cancila* and *Parambassis baculis* are restricted to Pachin river. Out of 66 species, record of 4 species-*Chaca chaca, Schistura rupecula, Mystus tengara and Glyptothorax indicus* from Senki are significant as they have not been reported by earlier workers from IWS and hence form new records of IWS. Tamang et al,2006 reported *Pseudolaguvia shawi*(Hora,1921) from Senki which formed a new record for the state. An analysis of the record shows that out of 66 species reported from different localities of IWS, Senki stream dominates the list with 50 species. The record of higher diversity and also rare species indicates that it is an important drainage of IWS. The record of *Mystus tengara* from this drainage is significant as it could be a new record for the state. This lotic system drains into the Brahmaputra through the Pachin and Dikrong rivers. The three water bodies are contiguous and as there is no barrier there is equal chance of migration of fishes to and fro from all the three water bodies. It is important to mention that *Mystus tengara, Schistura rupecula and Chaca chaca* have been studied from collections made in the early 90s. However these species were not found in the more recent surveys undertaken by the ZSI team members. The Senki stream from where they were collected flows through the township of Itanagar. This water body has been immensely affected by the rapid urbanisation and spread of settlements. Tons of waste and garbage are disposed in the stream from the nearby settlements. Washing of clothes and bathing in the Senki stream could have also lead to depletion of the aquatic faunal diversity. Removal of sand, boulders and stones seem to change the microhabitats of the stream and could be a sound reason in depletion of

Table. 3 : Record of fish fauna of IWS at a glance

Sl. No.	Order	Family	Genera	Species
1	**Cypriniformes**	Cyprinidae	18	30
		Psilorhynchidae	01	01
		Cobitidae	02	04
		Balitoridae	04	07
2	**Siluriformes**	Bagridae	01	02
		Amblycipitidae	01	02
		Sisoridae	02	06
		Erilthistidae	02	02
		Claridae	01	01
		Heteropneustidae	01	01
		Chacidae	01	01
		Olyridae	01	01
3	**Beloniformes**	Belonidae	01	01
4	**Perciformes**	Chandidae	02	03
		Badidae	01	01
		Cichlidae	01	01
		Channidae	01	02
	Total	**17**	**42**	**66**

species inhabiting the water bodies. Fishing by the nearby local inhabitants could also pose to be a serious threat to the fish fauna. Strict conservation measures by the administration are definitely the need of the hour which can save this water body from further depletion.

This communication has been compiled based on the fish fauna recorded primarily from two main drainages of IWS namely the Senki stream and the Pachin. The ichthyofaunal diversity of IWS could be much higher than what has been recorded keeping in view the different unexplored streams and rivers draining the IWS. The survey and seasonal sampling of these unexplored water bodies could reveal many more interesting ichthyofaunal compositions and also throw light on the distribution and status of the species.

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