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AN ACCOUNT OF FISHES OF UTTAR PRADESH PLAINS

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INTRODUCTION

Information on fish fauna from Uttar Pradesh plain's is far from satisfactory, as it is fragmentary and haphazardly documented particularly pertaining to plain area, but for hilly districts a systematic and comprehensive account is available. Fishes from eastern U.P. have been reported by Srivastava (1958) who listed 87 fish species. Hora (1949) made a detailed study on river Rihand fish fauna and recorded 42 species. Motwani and David (1957) reported 95 fish species from river Sone and Srivastava et al. (1965), 55 species from river Ken, district Banda, U.P. Menon (1974) listed 141 species occuring in Ganga river system and Natarajan (1989) while studying environmental impact on fisheries of Ganga river system recorded 45 commercially important fishes at important landing centres situated along the bank of river Ganga. Joshi (1994) has given an account of the fish fauna of Kali river. Study on reservoir fish fauna is limited to only two reservoirs i.e. Sharda Sagar (district Pilibhit) and Rihand reservoir (district Sonebhadra), Motwani & Saigal (1974) and Anon (1981) reported 61 and 41 fish species respectively from the two reservoirs. Fish fauna pertaining to hilly area of the state has been studied by numerous workers but mention may be made of a few such as Hora (1937), Hora & Mukherjee (1936), Menon (1949, 1974), Pant (1970), Singh *et al.*, (1983) and Singh (1990).

The resource : Uttar Pradesh is the most populous province besides being the 3rd largest state based on the area among the Indian states. It's physiography is as diversed as its fish fauna which ranges from tiny fishes (< 3cm) to large fishes (> 2m in length), from clean water fishes (carps) to marshy inhabitants (live fishes) and from upland cold water denizen to warm plain water dwellers. Nature has bestowed to the state vast resources of water (1.165 mha) in the form of rivers, brooks, rivulets reservoirs, beels, tanks and ponds. However, the prime river of the state is the mighty Ganga, which is home of the fishes and mainstay of fishery. Talwar & Jhingran (1991) have reported 265 freshwater species from Ganga river system. The Ganga originates from Gaumukh glacier in the Garwal Himalayas (30° 55' N, 70° 7' E) at an altitude of 4100 m MSL. The river enters the plain at Rishikesh after covering a distance of 250 km in mountain and a general slope of 1 in 67. Upland reaches are characterised by steep slopes, cascades and water falls. The upper Ganga traverses the Ganga plain between Rishikesh and Allahabad in a stretch of 770 km and a slope of 1 in 4100. The middle Ganga extends from Allahabad to Farakka, 1035 km long and a slope of 1 in 13800 and the lower Ganga extends from Farakka to the Bay of Bengal, a stretch of 479 km. The total length of the main channel of the Ganga is 2525 km from source to mouth. The main tributaries are : Ramganga, Gomti, Ghagra, Yamuna, Gandak, Kosi and Damodar. These tributaries have a combined length of 12,500 km. The river breaks into a number of mazed channels

in the Ganga plain with extensive flood plains, meanders and oxbow lakes. These water bodies act as reservoir of fish stock.

List of the fishes from plain of Uttar Pradesh : In the present communication most of the data has been taken from the secondary records, but at certain places gap has been filled on the basis of author's own observations. Altogether, 129 fish species belonging to 27 families have been recorded from the area of study and the same is listed in table 1. In the list fishes have also been included which are though resident of hill streams but have adapted in rivers stretches adjoining to plain. The fish fauna of the state is a mixture of Central Asia, Sri Lanka, Peninsular India, eastern & western Himalayas and endemic fauna of river Ganga. Hora (1937), while comparing the fish fauna of the eastern western Himalayas stated that the probable origin of the two fauna's is described from the same source (Yunan, China). The Central Asiatic fauna comprising comparatively less especialised forms, was probably differentiated at an early date, when the parental stock was of a generalised nature, whereas the fauna of the southern face of the Himalayas was derived from a younger and vigorous stock which had already become specialized in southern-eastern Asia for life in torrential streams. Probably, the nature of water currents in the two regions is responsible for differentiation in species. Further, at some early stage Himalaya acted as effective barrier between the northern & southern forms. The southern Himalayas fauna was unable to adapt themselves to very turbulent waters and however, to this day remained confined to low valleys. The Himalayan element is represented in Ganga by *Nemacheilus* spp. *Amblyceps mangois, Glyptothorax* spp, *Gagata cenia, Crossocheilus latius* and *Eresthistes* sp. The Central Asian elements are member of families : schizothoracinae, sisoridae & cobitidae, the peninsular elements includes *Salmostoma boopis, Garra mullaya, Labeo boggut* (Sykes) *Nemacheilus dayi, N. Denisonni.* Sri Lankan and Peninsular fauna is represented by *Tor khudree* and *Puntius ambassius*. However, large river fishes eg., *Catla catla, C. mrigala, Wallago attu, Labeo* spp. and *Pangasius pangasius* are spread all over the India because due to subdivision of ancient 'Shivalik' river or 'Indobrahm' river (Pascoe, 1949) where these were residing into 3 rivers i.e., the Brahamputra, the Ganga and the Indus. Further, Hora's Satpura hypothesis explains the reason of occurrence of peninsular fauna in the Ganga.

The above described fishes listed in Table 1 have been suitably adapted to habitat. For example, the hilly-fishes have developed streamlined body with reduced scales or without scales, a reduced respiratory system and small body size. While those living in pools, lakes, slow flowing rivers and marshes have suitably adapted to synchronize with the ecosystem i.e., their body is deep and large, well developed respiratory system to tide over low dissolved oxygen and europhagic feeding habits.

Causes of depletion of fish stock in the Ganga : The Ganga river system which supported a very lucrative fisheries in yesteryears, now is reeling under tremendous stress due to multifaceted anthropogenic activities. Developmental projects such as irrigation and hydroelectric, flood control measures, urbanization, changes in land use pattern and excessive use of pesticides in agricultural operation have resulted in wide changes in the river regime and in morphometry of the river's bed, floodplains and oxbow lakes causing deterioration in water quality. The ecological impact of these changes, coupled with sustained annihilation of broodstock, fry and fingerlings and unregulated fishing effort, has been adequatly reflected in depletion of fishery with distinct changes in fish composition manifesting pauly's syndrome of ecosystem degradation. The description which

follows support the above view point.

At present, a downswing in fish population of river Ganga has been noticed from the past. The total fish yield ($kg.ha^{-1}.yr^{-1}$) in the middle stretch of the river has declined from 50 (1961-1970) to 22.45 (1988-1991) while that of major carps from 14.08 to 5.12 during the above period (CICFRI report). Similarly, the hilsa yield has come down from 159 kg km^{-1} during pre-Farakka period to 9.4 kg km^{-1} in post farakka period due to check of its migration on account of construction of a barrage at Farakka (Chandra, 1991). Natarajan (1989) stated that at Allahabad, the catch rate for major carps ($kg.ha^{-1}$ yr^{-1}) decreased from 4.19 to 2.02 for catfishes from 2.10 to 1.58 and for hilsa from 0.91 to 0.04 but the catch rate for miscellaneous fishes increased from 2.17 to 3.16 between the periods 1958-69 and 1973-84. By species, mrigal decreased in annual yield by 71.64% catla, 69.45% and L. rohita by 68.14% in the above period. More or less same conclusion was drawn by Jhingran (1989) during his study on impact of environmental perturbiation on the fisheris ecology of river Ganga. On account of above described unplanned and unbridled developmental activities, a number of sensitive fish species are unable to adjust in existing ecosystem and their stock is gradually decreasing year after year. A list of endangered/threatened fishes in Ganga system has been prepared by Mohanta & Kapoor (1994), Pandey & Awasthy (1994) and for eastern U.P. by Singh *et al.*, (1994). Therefore, immediate attention should be paid for rehabilitation and conservation of these fishes. Remedial measures for eco-restoration for Ganga river have been prescribed by a host of workers (Natarajan, 1989, Jhingran, 1989 Khan *et al.*, 1996) but their implementation in letter & spirit is needed for revival of Ganga fisheries and for restoration of its past pristine glory.

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Table 1. Geographic area : UP, plain

Species	Local name	Distribution End/ exo	Present	Past	Occurence Present	Past	Abundance Present	Past	Max. Size cm Present	Past	Ref. & Remarks
Notopterus chitala (Ham.)	Moh	End	1996 R	1957 I	1996 0-2	1993 0-3	1993 A-2	1996 A-3	100.0	122.0	Talwar & Jhingran 1991;Khan pers.ob. 1996
N. Notopterus (pallas)	Patra	End	1996 UA	1957 UA	1983 0-4	1957 0-4	1991 A-4	1983 A-4	45.0	61.0	Talwar & Jhingran 1991; Hora, 1949, Khan, 1983
Xenentodon cancila (Ham.)	Thona	End	1957 UA	1991 UA	1991 0-1	1957 0-1	1991 A-1	1967 A-1	33.50	40.0	Motwani & David 1957; Talwar & Jhingran, 1991
Parlusiosma daniconius (Ham.)	—	End	1974 UA	1991 UA	1991 0-3	1974 A-3	1991 A-3	1974	10.0	—	Motwani & Saigal 1974; Talwar & Jhingran, 1991
Raiamas bola (Ham.)	Gulabi Machli	End	1981	1949 R	1981 I	1949 0-2	1981 0-3	1949 A-2	28.4 A-3	30.4	Hora & Mokerji, 1936; Misra, 1959; Anon, 1981
B. barila (Ham.)	Bhareli	End	1981 UA	1957 UA	1981 0-2	1957 0-2	1981 A-3	1957 A-3	9.0	10.2	Anon, 1981; Misra, 1959; Motwani & David, 1957
B. barna (Ham.)	Darangni	End	1981 UA	1957 UA	1981 0-2	1957 0-2	1981 A-2	1957 A-2	—	—	Motwani & David, 1957; Anon, 1981
***B. bendelisis var* chedra (Ham.)**	**Daurah**	**End**	**1981 UA**	**1957 UA**	**1981 0-3**	**1957 0-3**	**1981 A-3**	**1957 A-3**	**7.5**	**8.0**	**Motwani & David, 1957; Misra, 1959**

Species	Local name	Distribution			Occurence		Abundance		Max. Size cm		Ref. & Remarks
		End/ exo	Present	Past	Present	Past	Present	Past	Present	Past	
B. vagra (Ham.)	Chal	End	1991 UA	1981 UA	1991 0-2	1981 0-2	1981 A-2	1991 A-2	10.0	12.7	Anon, 1981; Talwar & Jhingran, 1991
B. Shacra (Ham.)	—	End	1957	—	—	—	—	—	—	—	Motwani & David, 1957
Brachydanio rerio (Ham.)	Salari	End	1981 UA	1957 UA	1981 0-4	1957 0-4	1981 A-4	1957 A-4	4.5	4.0	Motwani & David, 1957; Talwar & Jhingran, 1991 & Anon, 1981
Esomus danricus (Ham.)	Chiddulu	End	1991 UA	1949 UA	1991 0-4	1949 0-4	1991 A-4	1949 A-4	12.5	9.0	-do-, & Khan personnel obs.1996
Chela atpar (Ham.)	Chilwa	End	1981 UA	1957 UA	1981 0-4	1957 0-4	1981 A-4	1957 A-4	9.0	10.2	Motwani & Saigal, 1957; Anon, 1981
C. laubuca (Ham.)	Dennahrah	End	1957 UA	1981 UA	1981 0-4	1974 0-4	1981 A-4	1974 A-4	5.5	8.9	Motwani & Saigal, 1974; Misra, 1959
Salmostoma boopis (Day)	Chiluwa	End	1981 UA	1974 UA	1981 0-4	1974 0-4	1981 A-4	1974 A-4	9.0	10.2	Motwani & Saigal, 1974; Anon, 1981
S. clupeoides (Bloch.)	Chilwa	End	1957 UA	1991 UA	1991 0-3	1957 0-3	1957 A-3	1991 A-3	—	15.0	Motwani & David, 1957; Talwar & Jhingran 1991
S. bacaila (Ham.)	Jellahri, Chilwa	End	1949 UA	1991 UA	1991 0-4	1949 0-4	1991 A-4	1949 A-4	14.8	18.0	Hora, 1949; Talwar & Jhingran, 1991
Securicula gora (Ham.)	Chilwa	End	1981 UA	1957 UA	1981 0-3	1957 0-3	1981 A-3	1957 A-3	20.0	23.0	Motwani & David, 1957 & Anon, 1981

Species	Local name	Distribution End/ exo	Distribution Present	Distribution Past	Occurence Present	Occurence Past	Abundance Present	Abundance Past	Max. Size cm Present	Max. Size cm Past	Ref. & Remarks
Gadusia chapra (Ham.)	Chapra	End	1957 UA	1989 UA	1989 0-4	1957 0-4	1989 A-4	1957 A-4	15.0	17.0	Motwani & David, 1957; Natarajan, 1989
Hilsa ilisha (Ham.)	Ilish	End	1989 R	1957 I	1989 0-1	1957 0-4	1989 A-1	1957 A-4	43.0	60.0	Motwani & David, 1957; Natarajan, 1989
Setipinna phasa (Ham.)	Phasia	End	1989 R	1968 I	1989 0-2	1968 0-4	1989 A-2	1968 A-4	26.0	30.0	Natarajan, 1989; Chandra, 1991
Corica saborna (Ham.)	—	End	1966 —	1979 —	—	—	—	—	—	—	Srivastava *et al.* 1966; Kamal & Ahsan, 1979
Ilisha megaloptera (Ham.)	—	End	1966 UA	1991 UA	1991 0-3	1966 0-3	1966 A-3	1991 A-3	10.2	27.5	Misra, 1959; Srivastava et al., 1966 and Talwar & Jhingran, 1991
Gonialosa manmina (Ham.)	Mackundi	End	1989 UA	1970 UA	1989 0-3	1970 0-3	1989 A-3	1970 A-3	10.0	14.0	Natarajan, 1989; Jhingran, 1970
Danio devrio (Ham.)	—	End	1957 UA	1991 UA	1991 0-3	1957 0-3	1991 A-3	1957 A-3	10.0	9.0	Motwani & David, 1957; Talwar & Jhingran, 1991
Aspidopariya jaya (Ham.)	Jaya	End	1957 R	1991 I	1991 0-3	1957 0-2	1991 A-3	1957 A-2	15.0	13.0	Motwani & David, 1957; Natarajan 1989

Species	Local name	Distribution End/ exo	Present	Past	Occurence Present	Past	Abundance Present	Past	Max. Size cm Present	Past	Ref. & Remarks
A. morar (Ham.)	Pirohia	End	1989 UA	1957 UA	1989 0-4	1957 0-4	1989 A-4	1957 A-4	17.5	16.0	Motwani & David, 1957; Natarajan, 1989
Amblypharyngodon mola (Ham.)	Dhowri	End	1981 UA	1957 UA	1981 A-4	1957 0-4	1981 A-4	1957 A-4	18.0	20.0	Motwani & David, 1957; Anon, 1981
Crossocheilus latius latius	Petphorani	End	1981 UA	1957 UA	1981 0-3	1957 0-3	1981 A-3	1957 A-3	12.4	20.0	Motwani & David, 1957; Hora & Mukerji, 1936
Garra gotyla gotyla (Gray)	Siltokagotyl	End	1957 UA	1949 UA	1957 0-3	1949 0-3	1957 A-3	1949 A-3	17.0	15.2	Hora, 1949; Motwani & David, 1957
G. mullya (Sykes)	—	End	1957	1949 UA	1957 UA	1949 0-3	1957 0-3	1949 A-3	17.0 A-3	12.2	Hora, 1949; Motwani & David, 1957
Aplocheilus panchax (Ham.)	Lal Jhingra	End	1991 —	1822 —	—	—	—	—	9	—	Hamilton, 1822; Talwar & Jhingran, 1991
Catla catla (Ham.)	Bhakur	End	1963 I	1989 R	1989 0-2	1963 0-3	1989 A-2	1963 A-3	120.0	182.8	Natarajan & Jhingran, 1963, Talwar & Jhingran, 1991
Cirrhinus mrigala mrigala (Ham.)	Nain	End	1989 R	1957 UA	1989 0-2	1957 0-3	1989 A-2	1957 A-3	95.8	99	Motwani & David, 1957; Misra, 1959; Natarajan, 1989

Species	Local name	Distribution			Occurence		Abundance		Max. Size cm		Ref. & Remarks
		End/ exo	Present	Past	Present	Past	Present	Past	Present	Past	
C. Reba (Ham.)	Rewah	End	1989 UA	1957 UA	1989 0-3	1957 0-3	1989 A-3	1957 A-3	17.5	16.0	Motwani & David, 1957; Misra, 1959; Natarajan, 1989
Labeo rohita (Ham.)	Rohu	End	1989 R	1957 I	1989 0-2	1957 0-3	1989 A-2	1957 A-3	91.4	96.0	Motwani & David, 1957; Natarajan, 1989; Misra, 1959
L. bata (Ham.)	Bata	End	1989 UA	1957 UA	1989 0-4	1957 0-4	1989 A-4	1957 A-4	61.0	60.9	Motwani & David, 1957; Natarajan, 1989
L. boga (Ham.)	Bhagan	End	1989 UA	1957 UA	1989 0-3	1957 0-3	1989 A-3	1957 A-3	30.0	30.4	Motwani & David, 1957; Misra, 1959; Natarajan, 1989
L. boggut (Sykes)	—	End	1989 UA	1957 UA	1989 0-3	1957 0-3	1989 A-3	1957 A-3	20.0	19.0	Natarajan, 1989; Talwar & Jhingran, 1991; Motwani & David, 1957
L. calbasu (Ham.)	Kalbose	End	1989 UA	1957 UA	1989 0-3	1957 0-3	1989 A-3	1957 A-4	90.0	91.4	Motwani & David, 1957; Misra, 1959; Natarajan, 1989
L. dero (Ham.)	Gid	End	1989 UA	1957 UA	1989 0-3	1957 0-3	1989 A-3	1957 A-3	75.0	65.4	Motwani & Saigal, 1957, Misra, 1959, Natarajan, 1989
L. dyocheilus (McClell.)	Boolia	End	1989 UA	1957 UA	1989 0-3	1957 0-3	1989 A-3	1957 A-3	60.0	90.0	Motwani & David, 1957; Misra, 1959; Natarajan, 1989

Species	Local name	Distribution End/ exo	Present	Past	Occurence Present	Past	Abundance Present	Past	Max. Size cm Present	Past	Ref. & Remarks
L. gonius (Ham.)	—	End	1989 UA	1957 UA	1989 0-3	1957 0-3	1989 A-3	1949 A-3	40.0	45.0	Hora, 1949; Misra, 1959; Natarajan, 1989; Talwar and Jhingran, 1991
L. fimbriatus (Bloch)	—	End	1989 UA	1949 UA	1989 0-3	1949 0-3	1989 A-3	1949 A-3	91.0	95.7	Hora, 1949; Misra, 1959; Natarajan, 1989
L. pangusia (Ham.)	Rewa, Loane	End	1981 UA	1949 UA	1981 0-3	1949 0-3	1981 A-3	1949 A-3	48.0	60.0	Hora, 1949; Anon, 1981
Osteobrama cotio cotio (Ham.)	Goordah, Muchnee	End	1981 UA	1949 UA	1981 0-3	1957 0-3	1981 A-3	1957 A-3	15.0	15.2	Hora, 1949; Motwani & David, 1957; Anon, 1981; Talwar & Jhingran, 1991
Puntius amphibius (Valenc.)	Rotli	End	1957 UA	1949 UA	1957 0-3	1949 0-3	1957 A-3	1949 A-3	20.0	17.2	Hora, 1949; Motwani & David, 1957
P. conchonius (Ham.)	Pothia	End	1991 UA	1957 UA	1957 0-4	1949 0-4	1957 A-4	1949 A-4	14.0	12.0	Motwani & David, 1957; Talwar & Jhingran, 1991
P. sophore (Ham.)	Pothia	End	1991 UA	1974 UA	1991 0-4	1974 0-4	1991 A-4	1974 A-4	13.0	10.0	Talwar & Jhingran, 1991; Motwani & Saigal, 1974
P. ticto (Ham.)	Pothia	End	1974 UA	1936 UA	1974 0-4	1936 0-4	1974 A-4	1936 A-4	10.0	8.0	Hora & Mukerji, 1936; Motwani & Saigal, 1974

Species	Local name	Distribution End/ exo	Present	Past	Occurence Present	Past	Abundance Present	Past	Max. Size cm Present	Past	Ref. & Remarks
P. sarana sarana (Ham.)	Pothi	End	1949 UA	1989 UA	1989 0-3	1957 0-3	1989 A-3	1949 A-3	30.5	31.0	Hora, 1949; Misra 1959; Natarajan, 1989
P. chola (Ham.)	Siddhari	End	1991 UA	1957 UA	1991 0-3	1957 0-3	1991 0-3	1957 0-3	12.0	10.0	Talwar & Jhingran, 1991; Motwani & Saigal, 1974
P. guganio (Day)	Potti	End	1991 UA	1974 UA	1991 0-3	1974 0-3	191 A-3	1974 A-3	8.0	15.2	Talwar & Jhingran, 1991; Motwani & Saigal, 1974
P. chagunio (Ham.)	Musaina	End	1957 UA	1936 UA	1957 0-3	1936 0-3	1957 A-3	1936 A-3	25.0	46.0	Hora & Mukerji, 1936; Motwani & Saigal, 1974
P. Gelius (Ham.)	—	End	1991 UA	1974 UA	1991 0-4	1974 0-4	1991 A-4	1974 A-4	4.0	—	Hora & Mukerji, 1936; Motwani & Saigal, 1974
Cyprinus carpio (Lin.)	Common carp	Exo.	1996	—	—	—	—	—	30.0	—	Khan, 1996
Tor khudree (Sykes)	Mahseer	End	1981 R	1957 I	1981 0-3	1957 0-4	1981 A-3	1957 A-4	46.0	145.0	Talwari & Jhingran, 1991; Motwani & David, 1957
Tor tor (Ham.)	Mahseer	End	1989 R	1936 I	1989 0-2	1936 A-4	1989 A-4	1936 A-4	150	152	Hora & Mukerji, 1936; Motwani & David, 1957; Natarajan, 1989

Species	Local name	Distribution			Occurence		Abundance		Max. Size cm		Ref. & Remarks
		End/ exo	Present	Past	Present	Past	Present	Past	Present	Past	
Tor putitora (Ham.)	Do	End	1989 R	1936 I	1989 0-2	1936 0-4	1989 A-2	1936 A-4	270.0	274.0	Hora & Mukerji, 1936; Misra, 1959; Natarajan, 1989
Pangio pangia (Ham.)	—	End	1991 UA	1957 UA	1991 0-3	1957 0-3	1991 A-3	1957 A-3	6.5	5.0	Motwani & David, 1957; Talwar & Jhingran, 1991
Lepidocephalus guntea balgara (Ham.)	Nauni	End	1981 UA	1936 UA	1981 0-3	1936 0-3	1981 A-3	1936 A-3	15.0	12.0	Hora, 1936; Anon, 1981; Talwar & Jhingran, 1991
Nemacheilus moreh (Skys)	Ghiwa	End	1957 UA	1936 UA	1957 0-3	1936 0-3	1957 A-3	1936 A-3	24	—	Hora, 1936; Anon, 1981; Talwar & Jhingran, 1991
N. savona (Ham.)	—	End	1981 UA	1936 UA	1981 0-3	1936 0-3	1981 A-3	1936 A-3	24	—	Hora, 1936; Anon, 1981; Talwar & Jhingran, 1991
N. denisonii denisonii (Day)	—	End	1981 UA	1949 UA	1981 0-3	1949 0-3	1981 A-3	1949 A-3	7.00	—	Hora, 1949; Anon, 1981; Talwar & Jhingran, 1991
N. zonatus (McClelland)	—	End	1957 UA	1981 UA	1981 0-3	1957 0-3	1981 A-3	1957 A-3	—	—	Motwani & David, 1957; Anon, 1981
N. corica (Ham.)	—	End	1991 UA	1974 UA	1991 0-3	1974 0-3	1991 0-3	1974 0-3	6.20	—	Motwani & Saigal, 1974; Talwar & Jhingran, 1991

Species	Local name	Distribution End/ exo	Present	Past	Occurence Present	Past	Abundance Present	Past	Max. Size cm Present	Past	Ref. & Remarks
N. doonensis (Tilak & Hussain)	—	End	1991 UA	1977 UA	1991 0-3	1977 0-3	1991 0-3	1977 0-3	—	—	Tilak & Hussain, 1977; Talwar & Jhingran, 1991
N. rupicola (McClelland)	—	End	1936	1991	—	—	—	—	7.5	—	Hora & Mukerji, 1936; Talwar & Jhingran, 1991
Botio dario (Ham.)	—	End	1991 UA	1957 UA	1991 0-3	1957 0-3	1991 A-3	1957 A-3	9.0	8.9	Motwani & David, 1957; Talwar & Jhingran, 1991
B. dayi (Hora)	—	End	1991 UA	1981 UA	1991 A-3	1981 0-3	1991 A-3	1981 A-3	12.0	12.2	Misra, 1959; Anon, 1981; Talwar & Jhingran, 1991
Somileptis gangota (Ham.)	—	End	1991 UA	1974 UA	1991 0-3	1974 0-3	1991 A-3	1974 A-4	10.0	9.0	Motwani & Saigal, 1974; Talwar & Jhingran, 1991
Ompok bimaculatus (Bloch)	Pubta	End	1990 UA	1949 UA	1990 UA	1949 0-4	1990 0-4	1949 0-4	31.0	50.0	Hora, 1949; Misra, 1959; Khan, 1990, per. obs.
Ompok papda (Ham.)	Pallu	End	1990 UA	1957 UA	1990 0-3	1957 0-3	1990 A-3	1822 A-3	21	24	Hamilton, 1922; Khan, 1990; Motwani & David, 1957
Wallago attu (Sehneider)	Padhan	End	1990 R	1974 I	1990 0-3	1974 A-4	1990 A-3	1974 A-4	183.0	200.0	Motwani & Saigal, 1974; Khan, 1990 pers. obs.

Species	Local name	Distribution End/ exo	Present	Past	Occurence Present	Past	Abundance Present	Past	Max. Size cm Present	Past	Ref. & Remarks
Pinniwallago kanpurensis (Gupta, Jayaram, Hajela)	—	End	1991	1981	—	—	—	—	50.0	—	Talwar & Jhingran, 1991; Gupta *et. al.*, 1981
Ailia coila (Ham.)	Bansputta	End	1989 UA	1957 UA	1989 0-3	1957 0-3	1989 A-3	1957 A-3	18.0	17.7	Motwani & David, 1957; Misra, 1959; Natarajan, 1989
Clupisoma garua (Ham.)	Bachua	End	1989 UA	1957 UA	1989 0-4	1957 0-4	1989 A-4	1957 A-4	60.0	100.0	Motwani & David, 1957; Misra, 1959; Natarajan, 1989; Talwar & Jhingran, 1991
Clupisoma montana (Hora)	—	End	1957	1937	—	—	—	—	18.0	29.0	Hora, 1937; Motwani & David, 1957
Eutropiichthys murius (Ham.)	—	End	1966 UA	1957 UA	1966 0-4	1957 0-4	1966 A-4	1957 A-4	28.0	—	Motwani & David, 1957; Srivastava *et al* 1966; Khalanski, *et al.*, 1990
Eutropiichtyhs vacha (Ham.)	Baikiri	End	1981 UA	1957 UA	1981 0-4	1974 0-4	1981 A-4	1974 A-4	35.0	31.0	Motwani & Saigal, 1974; Anon, 1981
Silonia silondia (Ham.)	Silond	End	1981 UA	1957 UA	1981 0-4	1957 0-4	1981 A-2	1957 A-3	100.0	182.0	Motwani & David, 1957; Misra 1959; Anon, 1981

Species	Local name	Distribution End/ exo	Present	Past	Occurence Present	Past	Abundance Present	Past	Max. Size cm Present	Past	Ref. & Remarks
Pangasius Pangasius (Ham.)	Pangas	End	1989 R	1957 I	1989 0-2	1957 0-3	1989 A-2	1957 A-3	150.0	122.0	Motwani & David, 1957; Natarajan, 1989
Pangasius Pangasius upiensis	Pangas	End	1968	—	—	—	—	—	—	—	Srivastava, 1968
Aorichthys aor (Ham.)	Tengra	End	1989 R	1957 I	1989 0-3	1957 0-4	1989 A-3	1957 A-4	180.0	182.8	Motwani & David, 1957; Natarajan, 1989
Aorichthys seenghala (Sykes)	Seenghala	End	1989 R	1957 I	1989 0-3	1957 0-4	1989 A-3	1957 A-4	100.0	150	Motwani & David, 1957; Natarajan, 1989
Mystus cavasius (Ham.)	Tengra	End	1974 UA	1949 UA	1974 A-4	1949 0-4	1974 A-4	1949 A-4	40.0	45.7	Motwani & Saigal, 1974; Hora 1949
Mystus vittatus (Bloch)	Kala tengra	End	1966 UA	1974 UA	1966 A-4	1957 0-4	1966 A-4	1957 A-4	21.0	20.3	Motwani & Saigal, 1974; Srivastava, 1966
Mystus bleckeri (Day)	Tengra	End	1989	1966	—	—	—	—	13.5	8.90	Srivastava et al, 1966; Natarajan, 1989
Rita rita (Ham.)	Rita	End	1989 UA	1957 UA	1989 0-4	1957 0-4	1989 A-4	1957 A-4	129.0	150.0	Motwani & David, 1957; Natarajan, 1989
Amblyceps mangois (Ham.)	Billi	End	1981 UA	1957 UA	1981 0-3	1957 0-3	1981 A-3	1957 A-3	12.50	10.0	Motwani & David, 1957; Anon, 1981

Species	Local name	Distribution End/ exo	Present	Past	Occurence Present	Past	Abundance Present	Past	Max. Size cm Present	Past	Ref. & Remarks
Bagarius bagarius (Ham.)	Gonch	End	1991 R	1989 I	1991 0-2	1989 0-3	1991 A-2	1989 A-3	19.0	—	Talwar & Jhingran, 1991; Natarajan, 1989
Bagarius yarrellii (Sykes)	Gonch	End	1989 R	1949 I	1989 0-2	1949 0-3	1989 A-2	1949 A-3	152.0	200.0	Hora, 1949; Natarajan, 1989
Erethistoides mantana pipri (Hora)	—	End	1957	1949	—	—	—	—	—	—	Hora, 1949; Motwani & David, 1957
Gagata cenia (Ham.)	Bhagi	End	1957 UA	1949 UA	1957 0-3	1949 0-3	1957 A-3	1949 A-3	15.0	—	Hora, 1949; Motwani & David, 1957
Gagata gagata (Ham.)	—	End	1991 UA	1957 UA	1991 0-3	1957 0-3	1991 A-3	1957 A-3	30.5	—	Motwani & David, 1957; Talwar & Jhingran, 1991
Glyptothorax annandalei (Hora)	—	End	1981 UA	1949 UA	1991 0-3	1981 0-3	1981 A-3	1949 A-3	11.5	—	Hora, 1949; Anon, 1981
Glyptothorax horai Shaw & shebbeare	—	End	1981 UA	1957 UA	1981 0-3	1957 0-3	1981 A-3	1957 A-3	—	—	Motwani & David, 1957; Anon, 1981
Glyptothorax telchitta (Hora)	—	End	1981 UA	1949 UA	1981 0-3	1949 0-3	1981 A-3	1949 A-3	10.0	9.0	Hora, 1949; Anon, 1981
Glyptothorax Pectinopterus (McClell)	—	End	—	1937	—	—	—	—	—	—	Hora, 1937

Species	Local name	Distribution End/ exo	Present	Past	Occurence Present	Past	Abundance Present	Past	Max. Size cm Present	Past	Ref. & Remarks
Glyptothorax cavia (Ham.)	—	End	1991	1949					10.0	—	Hora, 1949; Talwar & Jhingran 1991
Sisor rhapdophorus (Ham.)	Kirla	End	1991	1957	—	—	—	—	18.0	—	Motwani & David, 1957; Talwar & Jhingran, 1991
Nangra itchkeea (Sykes)	—	End	1991	1981	—	—	—	—	7.6	—	Anon, 1981; Talwar Jhingran, 1991
Laguvia kapuri	—	End	1974	—	—	—	—	—	4.0	—	Tilak & Hussain, 1974
Laguvia ribeiroi (Hora)	—	End	1991	1949	—	—	—	—	10.0	—	Hora, 1949; Talwar & Jhingran, 1991
Heteropneustes fossils (Bloch)	Singee	End	1989 UA	1957 UA	1989 0-4	1957 0-4	1989 A-4	1957 A-4	30.0	31.0	Motwani & David, 1957; Natarajan, 1989
Heteropneustes microps (Gunther)	Singhee	End	1991	1988	—	—	—	—	30.00	29.00	Datta Munshi & Srivastava, 1988; Talwar & Jhingran, 1991
Clarias batrachus (Linn.)	Mangur	End	1957 UA	1989 UA	1989 0-4	1957 0-4	1989 A-4	1957 UA	46.0	45.0	Motwani & David, 1957; Natarajan, 1989
Rhinomugil corsulsa (Ham.)	Answari	End	1991 UA	1957 UA	1991 0-3	1957 0-3	1991 A-3	1957 A-3	30.0	46	Motwani & David, 1957; Talwar & Jhingran 1991

Species	Local name	Distribution			Occurence		Abundance		Max. Size cm		Ref. & Remarks
		End/ exo	Present	Past	Present	Past	Present	Past	Present	Past	
Sicamugil cascasia (Ham.)	—	End	1991 UA	1957 UA	1991 0-4	1957 0-4	1957 A-4	1991 A-4	9.0	10.2	Motwani & David, 1991; Talwar & Jhingran, 1991
Chana orientalis (Bloch & Sch.)	Girahi	End	1957 UA	1949 UA	1957 A-4	1949 0-4	1991 A-4	1957 A-4	9.0	10.2	Motwani & David, 1957; Hora, 1949
Channa marulius (Ham.)	Sowal	End	1957 UA	1949 UA	1957 0-4	1949 0-4	1957 A-4	1949 A-4	13.0	33.0	Hora, 1949; Motwani & David, 1957
Channa punctatus (Bloch)	Soal	End	1966 UA	1957 UA	1966 0-3	1957 0-3	1966 A-3	1957 A-3	122.0	121.9	Motwani & David, 1957; Srivastava, *et al.*, 1966
Channa striatus (Bloch)	Sowal	End	1991 UA	1957 UA	1991 0-3	1957 0-3	1991 A-3	1957 A-3	75.0	91	Motwani & David, 1957; Talwar & Jhingran, 1991
Chanda nama (Ham.)	Chanri	End	1966 UA	1957 UA	1966 0-4	1957 0-4	1966 A-4	1957 A-4	11.0	7.6	Motwani & David, 1957; Srivastava *et al.*, 1966
Pseudambassis ranga (Ham.)	Chanari	End	1966 UA	1957 UA	1966 0-4	1957 0-4	1966 A-4	1957 A-4	7.0	10.0	Srivastava, *et al.*, 1966; Motwani & David, 1957
Johnius gangeticus (Talwar)	Bola	End	1991 UA	1966 UA	1991 0-3	1966 0-3	1991 A-3	1966 A-3	12.0	10.0	Talwar & Jhingran, 1991; Srivastava *et al.*, 1966

Species	Local name	Distribution			Occurence		Abundance		Max. Size cm		Ref. & Remarks
		End/ exo	Present	Past	Present	Past	Present	Past	Present	Past	
Pama pama (Ham.)	—	End	1991 UA	1966 UA	1991 0-4	1966 0-4	1991 A-4	1966 A-4	20.0	—	Talwar & Jhingran, 1991; Srivastava *et al.*, 1966
Colisa fasciatus (Schn.)	Kungee	End	1991 UA	1957 UA	1991 0-3	1957 0-3	1991 A-3	1957 A-3	12.0	10.0	Motwani & David, 1957; Talwar & Jhingran, 1991
Nandus nandus (Ham.)	—	End	1991 UA	1966 UA	1991 0-3	1966 0-3	1991 A-3	1966 A-3	19.00	17.7	Srivastava et al., 1966; Talwar & Jhingran, 1991
Badis badis (Ham.)	—	End	1991 UA	1966 UA	1991 0-3	1966 A-3	1991 A-3	1966 A-3	8.0	7.5	Srivastava, et al., 1966; Talwar & Jhingran, 1991
Anabas testudineus (Bloch)	Koi	End	1991 UA	1989 UA	1991 0-3	1989 0-3	1991 A-3	1989 A-3	25.0	20.3	Natarajan, 1989; Talwar & Jhingran, 1991
Mastacembalus pancalus (Ham.)	Bami	End	1989 UA	1957 UA	1989 0-3	1957 0-3	1989 A-3	1957 A-3	18.0	19.0	Motwani & David, 1957; Natarajan, 1989
Macragnathus aral (Bloch)	Bam	End	1989 UA	1957 UA	1989 0-3	1957 0-3	1989 A-3	1957 A-3	38.0	35.0	Motwani & David, 1957; Natarajan, 1989
Mastacembalus armatus (Leep)	Bam	End	1989 UA	1949 UA	1989 0-4	1949 0-4	1989 A-4	1949 A-4	61	60.9	Hora, 1949; Misra, 1959; Natarajan, 1989

Species	Local name	Distribution			Occurence		Abundance		Max. Size cm		Ref. & Remarks
		End/ exo	Present	Past	Present	Past	Present	Past	Present	Past	
Tetraodon cutcutia (Ham.)	—	End	1966	1822	—	—	—	—	—	—	Hamilton, 1822; Talwar & Jhingran, 1991
Anguilla bengalensis bengalensis (Gray)	Bam	End	1981 UA	1957 UA	1981 0-2	1957 0-2	1981 A-2	1957 A-2	120.0	80.0	Anon, 1981; Motwani & David, 1957
Glossogobius giuris (Ham.)	Bulla	End	1989 UA	1957 UA	1989 0-3	1957 0-3	1989 A-3	1957 A-3	30.0	31.0	Motwani & Saigal, 1957; Natarajan, 1989; Misra, 1959
Monopterus (Amphipnous) cuchia (Ham.)	Anvayabaun	End	1991	1959	—	—	—	—	61.0	60.9	Talwar & Jhingran, 1991; Misra, 1959
Pseudeutropius atherinoides (Bloch)	Barusa	End	1991	1966	—	—	—	—	Small aquarum Fish	—	Srivastava, *et al.*, 1966; Talwar & Jhingran, 1991

Explanation of observations

Distribution :- UA = Unaltered; R = reduced, I = increased, from the past.
Occurence :- is indcated in the scale of 0-1 to 0-4. 0-4 those commonly found and 0-1 for those species occuring sporadically in catches.
Abundance :- is indicated in the scale of A-1 to A-4. A-4 indicates abundance in large number and A-1 denotes only a few species.