

## ICHTHYOLOGICAL DEVELOPMENTS IN ASSAM DURING NINETEENTH CENTURY

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### PROLOGUE

According to 1871-72 census report (Hunter 1879 *a, b*) the then province of Assam was situated in between  $89^{\circ} 48' 23''$ — $97^{\circ} 4' 58''$ E. and  $23^{\circ} 58' 42''$ — $28^{\circ} 17' 10''$  N. and comprised of eleven districts namely, Kamrup, Darrang, Nowgong, Sibsagar, Lakhimpur, Goalpara (including Eastern Dwaras), Garo hills, Naga hills, Khasi and Jaintia hills, Sylhet and Cachar. It had a total area of 54,647.26 square miles with a population of 41,90,066 souls. Baruah (1884) opined that the then Assam was bounded by Mishmi and Singfou hills in the east; Manah river and Habraghat parganas of Goalpara district in the west; Bhutia, Dofla and Abor countries in the north and Naga, Garo and Khasia hills in the south. The province of Assam, as reported by Barpujari *et al.* (1977) was taken away from Bengal in 1874 and made a Chief Commissioner's province under direct control of the Governor General in council.

The twin river systems of the province, the Barak and the Brahmaputra along with their large number of perennial tributaries and myriads of lakes (locally called as *beels*) afforded a lucrative field for ichthyological importance in the region during nineteenth century. Fishes in those days were abundant in the river systems probably due to under exploitation as well as sparse population density.

The present paper portrays the developments and researches made on fish and fisheries of Assam during nineteenth century to substantiate the historical background of the province from the ichthyological perspectives.

### ICHTHYOLOGICAL RESEARCHES AND DEVELOPMENTS

In the nineteenth century, the earliest account of Assam was given by Wade (1801) from his personal observations of and direct contact with the life and manners

of the people of Assam. Unhappily, his work had no references of the fish and fisheries of the province, probably due to various limitations he encountered. After him Francis Hamilton (1814), the eminent ichthyologist of the period gave an elaborate account of Assam during his long and arduous survey of the districts of eastern India from 1808 through 1814. Hamilton (1814), according to his terms of instructions, could not enter Assam due to Ahom rule and conducted the survey work from his headquarters at Goalpara and Rungpoor and derived his materials mainly from Assamese fugitives in Bengal and Bengali visitors to Assam. His inability to personally come to Assam deprived him to publish a comprehensive account of the fishes of the province although in his monumental work on the Fishes of the Ganges, which was published in 1822, he included the type localities of 16 fish species as Assam/Brahmaputra and 12 spp. as north-eastern part of Bengal which also might have relevance to Assam.

Scientific studies on Assam fishes were first made by John McClelland who happened to visit the upper Assam being attached to a mission of Bengal Medical Service during 1835-36. He described 138 ichthyospecies covering various localities of India including Assam and published in 1839 a memoir on *Indian Cyprinidae* in the second part of the 19th volume of the *Asiatic Researches*.

Covering most of the works of McClelland (loc. cit.) on Assam fishes, Robinson (1841) gave a descriptive account of Assam where along with various aspects of the region he meticulously recorded 74 fish species from the province. In addition to that he gave an account of the fish-capturing devices those were in vogue in Assam during the period. According to him impoundment, *polo* (a basket trap), *jakoi* (operated by poorest class) and various nets namely *dāinijāl*, *jaujāl*, *parāngani* and casting nets were prevalent. Besides, fishermen also used seines of several sizes and of different names, he observed.

In the following years some casual reports on Assam fishes had been made. In this context references may be made to Muller and Troschel (1845) with report of one ichthyospecies, Peters (1861) with 1 sp., Gunther (1864, 1868) respectively with 3 and 3 spp. and Playfair (1878) with 2 spp. from the province. Indeed, Beavan (1877) published an important 'compilation' (the term he himself preferred to use), *Handbook of freshwater fishes of India*, containing a short account of 417 fish species of which, according to him, 46 spp. were distributed to the then province of Assam.

Happily, Francis Day during his strenuous venture from 1865 to 1877 contributed his ichthyological researches through 54 papers covering most of the parts of India including Assam. According to his own comment, he visited almost all the rivers of India (1878, p ii). In his monumental works on the *Fishes of India* (1878) and *Fauna of British India, Fishes* (1889) he exposed the ichthyological treasure of Assam through 81 fish species while a good many of additional species of the province were probably included as 'throughout India'.

Though the ichthyological researches on Assam waters beyond Day's era (loc. cit.) were not discernible during nineteenth century, a detailed and coherent picture of the fisheries of eleven districts of the province were rigorously collected and published by Hunter (1879a, b) in two volumes of his work, *A Statistical Account of Assam*. According to him Biswanath, Tezpur, Chutia and Mangoldai towns of Darrang district; Dimaruguri, Haibargaon, Raha, Hatipara, Bheluguri, Chamguri, Chilabandha, Marikalang, Puranigudam, Simluguri and Narikhali villages of Nowgong district and Siju and Rayak villages of Garo hill district contained significant fisheries while no definite fishing villages and towns in respect of the remaining eight districts of the province were discernible during the period. Along with fisheries he also reported the fish-capturing devices prevalent in some of the districts of the province. According to him fishes of the rivers and streams in Kamrup district were captured by poisoning with barks and trees. While rods were used in Lakhimpur district, bamboo traps, harpooning and poisoning were the chief devices in Garo hill district operated for capturing fishes. Besides his general comment 'numerous varieties of fishes abound in all the streams' Hunter (loc. cit) also significantly reported on the occurrences of some fish types (all in vernacular name) from eight districts of the province. The number of fish varieties (in parenthesis) in different districts were: Kamrup (3), Sibsagar (13), Lakhimpur (3), Goalpara including eastern Dwars (46), Garo hills (3), Sylhet (1), Khasi and Jaintia hills (1) and Cachar (14).

#### SYSTEMATIC ACCOUNT OF THE ICHTHYOSPECIES

A good many fish species reported by the foregoing workers from Assam waters during nineteenth century happen to be the synonymies of those acknowledged valid in the present day. An elucidation in this context is considered necessary to extricate ambiguity and is purported hereunder. Altogether 123 good species of fishes belonging to 65 genera were truly reported from Assam during that period. Indeed, the status of 5 spp. namely *Barbus rodactylus*, *Gobio malacostomus*, *Leuciscus pellucidus*, *Cobitis chlorosoma* and *Schistura aculeata* given by Robinson (1841) and 6 spp. namely *Labeo falcatus*, *Labeo bicolor*, *Chela parseus*, *Nemachilus griffithii*, *Nemachilus chlorosoma* and *Chatoessus cortius* reported by Beavan (1877) as distributed to the then Assam could not be ascertained and therefore, have been excluded from the present account.

The first reference is original with type locality followed by all synonymies under each species reported from the province during the periods under report. The locality has been kept in parenthesis after each author and the year of report (including details of original reference) where omitted (to avoid repetition) denotes Hamilton (1822), McClelland (1839), Robinson (1841), Beavan (1877), Day (1878) and Hunter (1879a, b). All the fish species have been arranged after the classification of Greenwood *et al.* (1966).

1. *Gudusia chapra* (Hamilton)  
*Clupanodon chapra* Hamilton (upper parts of the Ganges); *Clupea* sp. Robinson (Assam); *Clupea indica* Beavan (Assam); *Clupea chapra* Day (fresh water rivers throughout India); *chānpila|khaira|kharia* Hunter (Goalpara district).
2. *Hilsa ilisha* (Hamilton)  
*Clupanodon ilisha* Hamilton (Bay of Bengal and large salt water estuaries of the Ganges, Agra and Kanpur, Patna on the Ganges and Goalpara on the Brahmaputra); *Clupea* sp. Robinson (Assam); *Clupea ilisha* Day (Indian coasts passing up the large rivers to breed); *ilis|ilsā* Hunter (Goalpara and Cachar district).
3. *Notopterus chitala* (Hamilton)  
*Mystus chitala* Hamilton (larger freshwater rivers of Bengal and Bihar); *Notopterus chitala* Beavan (throughout India), Day (freshwater of Assam); *chital|chitalā* Hunter (Kamrup, Sibsagar, Goalpara, Garo hill and Cachar districts).
4. *Notopterus notopterus* (Pallas)  
*Gymnotus notopterus* Pallas, *Specil. Zool.* 7, p. 40 (Indian ocean); *Notopterus kapirat* Beavan (throughout India), Day (fresh and brackish water of India); *kāndhuli* Hunter (Goalpara district).
5. *Chela cachius* (Hamilton)  
*Cyprinus cachius* Hamilton (Ganges river, about the commencement of the delta); *Cyprinus atpar* Hamilton (the Brahmaputra); *Perilampus ostreographus* Robinson (Assam); *Cachius atpar* Beavan (India generally); *Perilampus atpar* Day (throughout India).
6. *Chela laubuca* (Hamilton)  
*Cyprinus laubuca* Hamilton (Bengal); *Perilampus parseus* Robinson (Assam); *Perilampus laubuca* Day (freshwater of India).
7. *Oxygaster gora* (Hamilton)  
*Cyprinus gora* Hamilton (Ganges and its tributaries); *Osparius pholicephalus* Robinson (Assam); *Chela gora* Day (Assam); *chela* Hunter (Goalpara district).
8. *Salmostoma bachaila* (Hamilton)  
*Cyprinus bachaila* Hamilton (Gangetic provinces); *Osparius lancerus* Robinson (Assam); *Chela bachaila* Day (Assam); *chela* Hunter (Goalpara district).
9. *Salmostoma phulo phulo* (Hamilton)  
*Cyprinus phulo* Hamilton (rivers and ponds of north-eastern part of Bengal); *Chela phulo* Gunther (north-east Bengal).
10. *Barilius barila* (Hamilton)  
*Cyprinus barila* Hamilton (northern Bengal); *Barilius barila* Day (lower Assam).

11. *Barilius barna* (Hamilton)  
*Cyprinus barna* Hamilton (Yamuna and Brahmaputra); *Opsarius latipinnatus* McClelland (upper Assam), Robinson (Assam); *Opsarius acanthopterus* McClelland (Assam); *Barilius barna* Beavan, Day (Assam).
12. *Barilius bendelisis* (Hamilton)  
*Cyprinus bendelisis* Hamilton, *Journey in Mysore* 3, p. 345, 1807 (Vedawati stream, headwaters of the Kistna near Heriuru, Mysore); *Leuciscus brachiatus* McClelland (R. Brahmaputra), Robinson (Assam); *Cyprinus bendelisis* Robinson (Assam); *Barilius bendelisis* Day (Assam).
13. *Barilius bola* (Hamilton)  
*Cyprinus bola* Hamilton (R. Brahmaputra); *Osparius gracilis* McClelland (the Brahmaputra system), Robinson (Assam); *Osparius megastomus* McClelland (R. Brahmaputra), Robinson (Assam).
14. *Barilius shaera* (Hamilton)  
*Cyprinus shaera* Hamilton (R. Kosi); *Shaera cirrhata* Beavan (Assam); *Barilius shaera* Day (Assam).
15. *Barilius tileo* (Hamilton)  
*Cyprinus tileo* Hamilton (R. Kosi); *Opsarius maculatus* McClelland (U. Assam); Robinson (Assam); *Opsarius brachialis* McClelland (Upper Assam), Robinson (Assam); *Barilius tileo* Beavan, Day (Assam).
16. *Barilius vagra* (Hamilton)  
*Cyprinus vagra* Hamilton (Ganges at Patna); *Barilius vagra* Day (Brahmaputra).
17. *Danio* (*Danio*) *aequipinnatus* (McClelland)  
*Perilampus aequipinnatus* McClelland (Assam); *Danio aequipinnatus* Beavan (Assam and Garo hills); Day (Assam).
18. *Danio* (*Danio*) *devario* (Hamilton)  
*Cyprinus devario* Hamilton (rivers and ponds of Bengal), Robinson (Assam); *Danio devario* Beavan, Day (Assam).
19. *Rasbora daniconius* (Hamilton)  
*Cyprinus daniconius* Hamilton (rivers of southern Bengal); *Rasbora daniconius* Day (continent of India); *dwarding* Hunter (Goalpara district).
20. *Rasbora elanga* (Hamilton)  
*Cyprinus elanga* Hamilton (rivers and ponds of Bengal); *Leuciscus dystomus* Robinson (Assam); *Rasbora elanga* Beavan, Day (Assam); *elang* Hunter (Goalpara district).

21. *Rasbora rasbora* (Hamilton)  
*Cyprinus rasbora* Hamilton (ponds of Bengal); McClelland, Robinson (Assam);  
*Rasbora buchanani* Beavan, Day (Assam).
22. *Acrossocheilus hexagonolepis* (McClelland)  
*Barbus hexagonolepis* McClelland (upper Assam); Robinson, Day (Assam).
23. *Amblypharyngodon mola* (Hamilton)  
*Cyprinus mola* Hamilton (ponds and freshwater in every part of the gangetic provinces), Robinson (Assam); *Amblypharyngodon mola* Beavan (India generally), Day (Assam); *Amblypharyngodon pellucidus* Beavan (Assam); *mauya* Hunter (Goalpara district).
24. *Aspidoparia jaya* (Hamilton)  
*Cyprinus jaya* Hamilton (northern Bihar); *Leuciscus margaroides* McClelland, Robinson (Assam); *Aspidoparia jaya* Day (Assam).
25. *Aspidoparia morar* (Hamilton)  
*Cyprinus morar* Hamilton (Yamuna and Tista rivers), Robinson (Assam);  
*Aspidoparia morar* Day (Assam); *phisaranga* Hunter (Goalpara district).
26. *Catla catla* (Hamilton)  
*Cyprinus catla* Hamilton (rivers and tanks of Bengal), McClelland (Assam);  
*Catla catla* Robinson (Assam); *Catla buchanani* Day (throughout Assam);  
*bhokajkatla* Hunter (Lakhimpur, Goalpara and Cachar districts).
27. *Chagunius chagunio* (Hamilton)  
*Cyprinus chagunio* Hamilton (Yamuna and the northern rivers of Bihar and Bengal); *Barbus chagunio* Day (Assam).
28. *Cirrhina mrigala* (Hamilton)  
*Cyprinus mrigala* Hamilton (ponds and freshwater rivers of the gangetic provinces), McClelland, Robinson (Assam); *Cirrhina mrigala* Beavan (India generally); *mrigal* Hunter (Goalpara district).
29. *Cirrhina reba* (Hamilton)  
*Cyprinus reba* Hamilton (rivers and ponds of Bengal and Bihar); *Gobio isurus* McClelland (upper Assam); Robinson (Assam); *Cirrhinus macronotus* Robinson (Assam); *Cirrhina reba* Day (throughout India); *bhangnā* Hunter (Goalpara district).
30. *Crossochilus latius latius* (Hamilton)  
*Cyprinus latius* Hamilton (R. Tista); *Gonorhynchus gobioides* Robinson (Assam);  
*Crossochilus soda*, *Crossochilus mosario* Beavan (Assam).

31. *Garra gotyla gotyla* (Gray)  
*Cyprinus gotyla* Gray, *Ill. Ind. Zool.*, 1, pl 88 (not given); *Garra bimaculatus* McClelland (Mishmee mountains); *Discognathus lamta* Day (throughout India).
32. *Garra lissorhynchus* (McClelland)  
*Platycara lissorhynchus* McClelland, *Calcutta J. Nat. Hist.*, 2, p. 587, 1842 (Khasi hills, Assam); *Gobio lissorhynchus* Robinson, Beavan (Assam); *Discognathus macrochir* Gunther, 1868 (Assam).
33. *Garra nasuta* (McClelland)  
*Platycara nasuta* McClelland, *J. Asiat. Soc. Beng.* 7(2), p. 947, 1838 (Khasi hills, Assam); *Gonorhynchus caudatus* McClelland (Khasi hills, Assam).
35. *Garra rupecula* (McClelland)  
*Gonorhynchus rupeculus* McClelland, (Mishmi hills, Assam); *Gonorhynchus brachypterus* McClelland (Mishmi hills, Assam), Robinson (Assam); *Gonorhynchus rupiculus* Robinson (Assam).
36. *Labeo bata* (Hamilton)  
*Cyprinus bata* Hamilton (Bengal); *Labeo bata* Day (Assam); *bhangnā* Hunter (Goalpara district).
37. *Labeo boga* (Hamilton)  
*Cyprinus boga* Hamilton (River Brahmaputra); *Gobio boga* McClelland, Robinson (Assam); *Labeo boga* Beavan (India generally).
37. *Labeo calbasu* (Hamilton)  
*Cyprinus calbasu* Hamilton (Bengal); McClelland, Robinson (Assam), Beavan, Day (throughout India); *Barbus micropogon* Beavan (probably Assam); *mali/baus* Hunter (Sibsagar and Goalpara districts).
38. *Labeo dero* (Hamilton)  
*Cyprinus dero* Hamilton (R. Brahmaputra), Beavan (Brahmaputra river).
39. *Labeo gonius* (Hamilton)  
*Cyprinus gonius* Hamilton (Bengal), Robinson (Assam); *Cyprinus curchius*, *Cyprinus cursis* Robinson (Assam); *Labeo gonius* Day (Assam); *kuri/kursa/ganiya* Hunter (Sibsagar, Goalpara and Cachar districts).
40. *Labeo nandina* (Hamilton)  
*Cyprinus nandina* Hamilton (R. Mahananda), McClelland, Robinson (Assam); *Labeo nandina* Beavan, Day (Assam); *nandini* Hunter (Goalpara district).

41. *Labeo pangusia* (Hamilton)  
*Cyprinus pangusia* Hamilton (R. Kosi); *Cyprinus angra* Hamilton (R. Brahmaputra), *Cyprinus dyochilus* McClelland, Robinson (Assam); *Cyprinus angra*, *Cyprinus hamiltonii* Robinson (Assam); *Labeo dyochilus* Beavan, Day (Assam); *Labeo angra*, *Labeo pangusia* Day (Assam).
42. *Labeo rohita* (Hamilton)  
*Cyprinus rohita* Hamilton (Gangetic provinces), McClelland, Robinson (Assam); *Labeo rohita* Beavan (India generally), Day (Assam); *Labeo dussumieri* Beavan (India); *rohu/rui* Hunter (Kamrup, Sibsagar and Cachar districts).
43. *Osteobrama cotio cunma* (Day)  
*Rohtee cunma* Day, *Fish India Suppl.* p. 807, 1888 (Assam); *Osteobrama alfrediana* Beavan (Assam).
44. *Puntius chola* (Hamilton)  
*Cyprinus chola* Hamilton (north eastern parts of Bengal); *Systemus tetrapagus* McClelland (Brahmaputra and ponds in Assam), Robinson (Assam); *Systemus immaculatus* Robinson (Assam); *Barbus sophoroides*, *Barbus thermalis* Beavan (Cachar); *Barbus tetrapagus* Beavan (Assam), Day (India); *Barbus chola* Beavan (throughout India), Day (India).
45. *Puntius conchoniis* (Hamilton)  
*Cyprinus conchoniis* Hamilton (north-east Bengal and rivers of Kosi & Ami); *Systemus pyrropterus* McClelland (upper Assam); *Barbus pyrropterus* Beavan (Assam); *Barbus conchoniis* Day (Assam).
46. *Puntius gelius* (Hamilton)  
*Cyprinus gelius* Hamilton (north-east part of Bengal); *Cyprinus canius* Hamilton (north-east part of Bengal); *Barbus gelius* Day (Assam).
47. *Puntius guganio* (Hamilton)  
*Cyprinus guganio* Hamilton (the Brahmaputra and the Yamuna); *Barbus guganio* Beavan, Day (Assam).
48. *Puntius phutunio* (Hamilton)  
*Cyprinus phutunio* Hamilton (north-eastern Bengal); *Barbus phutunio* Day (Assam).
49. *Puntius sarana sarana* (Hamilton)  
*Cyprinus sarana* Hamilton (Gangetic system, Bengal); *Barbus deliciosus* McClelland, Robinson (Assam); *Barbus sarana* Beavan (throughout India), Day (Assam); *punta* Hunter (Cachar district).



50. *Puntius sophore* (Hamilton)  
*Cyprinus sophore* Hamilton (ponds and rivers in the Gangetic provinces); *Systemus chrysopterus* McClelland Robinson (Assam); *Barbus chrysopterus* Beavan (Assam); *Barbus sophore* Day (Assam and Khasya hills); *Barbus stigma* Day (throughout India); *punti* Hunter (Goalpara district).
51. *Puntius terio* (Hamilton)  
*Cyprinus terio* Hamilton (north-east Bengal); *Systemus gibbosus* McClelland (Assam); *Cobitis gibbosa* Robinson (Assam).
52. *Schizothoraichthys progastus* (McClelland)  
*Oreinus progastus* McClelland (upper Assam), Robinson (Assam), Beavan (upper Assam); *Schizothorax progastus* Day (mountain streams and rivers of the Himalayan region).
53. *Semiplotus semiplotus* (McClelland)  
*Cyprinus semiplotus* McClelland (R. Brahmaputra, upper Assam), Robinson (Assam); *Semiplotus mclellandi* Beavan, Day (Assam).
54. *Tor putitora* (Hamilton)  
*Cyprinus putitora* Hamilton (eastern parts of Bengal); *Barbus macrocephalus* McClelland (rapids of upper Assam), Robinson (Assam); *Barbus tor* Day (throughout India); *pitiā/pithiā* Hunter (Kamrup and Lakhimpur districts).
55. *Tor tor* (Hamilton)  
*Cyprinus tor* Hamilton (R. Mahananda); *Barbus megalepis* McClelland (northern part of Bengal); *Barbus hexastichus*, *Barbus progenius* McClelland (great rivers in the plains of India); *Barbus hexastichus*, *Barbus megalepis*, *Barbus progenius* Robinson (Assam); *Barbus hexastichus* Beavan, Day (Assam), *mahāsaul/mahāsail/mahsir* Hunter (Sibsagar, Lakhimpur, Goalpara, Garo hills, Sylhet and Khasi & Jaintia hill districts).
56. *Psilorhynchus balitora* (Hamilton)  
*Cyprinus balitora* Hamilton (rivers of north-east Bengal); *Psilorhynchus balitora* Beavan (Assam), Day (hill streams and rivers of Assam).
57. *Psilorhynchus sucatio* (Hamilton)  
*Cyprinus sucatio* Hamilton (rivers of northern Bengal); *Psilorhynchus sucatio*, Beavan (Assam).
58. *Balitora brucei* Gray  
*Balitora brucei* Gray, *Ill. Ind. Zool.* 1, 1830-32 (mountain streams, India); *Platycaea anisura* McClelland (Khasya hills); *Cirrhina anisura* Beavan (Assam).

59. *Balitora maculata* Gray  
*Balitora maculata* Gray, *Ill. Ind. Zool.* 1, 1830-32 (mountain streams, India);  
*Homaloptera maculata* Day (Khasya hills).
60. *Acanthopthalmus pangia* (Hamilton)  
*Cobitis pangia* Hamilton (north-eastern part of Bengal); *Acanthopthalmus pangia*  
Beavan, Day (Assam).
61. *Botia almorhae* Gray  
*Botia almorhae* Gray, *Zool. Misc.*, p. 8, 1831 (Almorha); Day (Khasya hills).
62. *Botia dario* (Hamilton)  
*Cobitis dario* Hamilton (rivers of Bengal), Robinson (Assam); *Botia dario*  
Gunther, 1868 (Assam), Day (Assam and Cachar).
63. *Botia lohachata* Chaudhuri  
*Botia lohachata* Chaudhuri, *Rec. Indian Mus.* 7, p. 441, 1913 (Gandak river at  
Saran, Bihar); *Cobitis geta* Robinson (Assam); *Botia geto* Day (Assam).
64. *Botia rostrata* Gunther  
*Botia rostrata* Gunther, *Cat. Fish. Brit. Mus.* 7, p. 367, 1868 (Bengal); Beavan  
(Assam).
65. *Lepidocephalus guntea* (Hamilton)  
*Cobitis guntea* Hamilton (ponds and freshwater of Bengal); *Cobitis phoxochila*  
McClelland (Mishmee mountains); *Cobitis guntea*, *Cobitis phoxochila* Robinson  
(Assam); *Cobitis guntea* Beavan (India generally); *Cobitis phoxochila* Beavan  
(upper Assam); *Lepidocephalichthys guntea* Day (India).
66. *Noemacheilus botia* (Hamilton)  
*Cobitis botia* Hamilton (rivers of north-eastern part of Bengal); *Cobitis bilturio*  
Hamilton (R. Brahmaputra); *Cobitis turio* Hamilton (R. Brahmaputra); *Cobitis*  
*avonacea* McClelland, Robinson (Assam); *Cobitis ocellata* Robinson (Assam);  
*Noemacheilus pavonacea* Beavan (throughout India); *Noemacheilus turio* Beavan,  
Day (Assam); *Noemacheilus botia* Day (throughout India).
67. *Noemacheilus corica* (Hamilton)  
*Cobitis corica* Hamilton (R. Kosi); *Schistura punctata* Robinson (Assam);  
*Noemacheilus corica* Day (Assam).
68. *Noemacheilus guttatus* (McClelland)  
*Cobitis guttata* McClelland (upper Assam), Robinson (Assam); *Noemacheilus*  
*guttatus* Day (Jorhath in upper Assam).

69. *Noemacheilus monoceros* (McClelland)  
*Cobitis monoceros* McClelland (upper Assam), Robinson (Assam); *Noemacheilus monoceros* Beavan, Day (Assam).
70. *Noemacheilus multifasciotus* Day  
*Noemacheilus multifasciotus* Day (Darjeeling and Assam).
71. *Noemacheilus rupicola rupicola* (McClelland)  
*Schistura rupicola* McClelland (mountain streams of Simla), Robinson (Assam).
72. *Noemacheilus scaturigina* (McClelland)  
*Cobitis scaturigina* McClelland (Assam); *Cobitis propria* Robinson (Assam).
73. *Noemacheilus subfusca* (McClelland)  
*Cobitis subfusca* McClelland (upper Assam); *Schistura subfusca* Robinson (Assam); *Noemacheilus subfusca* Beavan (Assam).
74. *Noemacheilus zonatus* (McClelland)  
*Schistura zonata* McClelland (upper Assam), Robinson (Assam); *Noemacheilus zonata* Day (Assam).
75. *Somileptes gongota* (Hamilton)  
*Cobitis gongota* Hamilton (rivers of northern Bengal, towards the mountains); *Cobitis oculata* Robinson (Assam); *Cobitis gongota* Beavan (Assam); *Somileptes gongota* Day (Assam).
76. *Mystus cavasius* (Hamilton)  
*Pimelodus cavasius* Hamilton (Gangetic provinces); *Macrones cavasius* Day (Assam); *tengrā* Hunter (Sibsagar & Goalpara districts).
77. *Mystus menoda* (Hamilton)  
*Pimelodus menoda* Hamilton (R. Kosi, Mahananda; Bengal); *Pimelodus corsula* Hamilton (Assam); *Macrones corsula* Day (Assam); *gagla* Hunter (Goalpara district).
78. *Mystus seenghala* (Sykes).  
*Platystamus seenghala* Sykes, *Trans. Zool. Soc. Lond.* 2, p. 371, 1831 (R. Moā Mota, Poona); *Macrones seenghala* Day (the Brahmaputra); *āir* Hunter (Sibsagar and Goalpara districts).
79. *Mystus vittatus* (Bloch)  
*Silurus vittatus* Bloch, *Ichthyol. Hist. nat. d. Poiss.* 11, p. 40, 1797 (Tranquebar, S. India); *Macranes vittatus*, *Macrones tengara* Day (India, Assam).

80. *Rita rita* (Hamilton)  
*Pimelodus rita* Hamilton (estuaries of Bengal); *Rita buchamani* Day (large Indian rivers); *rita* Hunter (Cachar district).
81. *Ompok bimaculatus* (Bloch)  
*Silurus bimaculatus* Bloch, *Ichthyol. Hist. Nat. d. Poiss.* 11, p. 17, 1797 (Malabar); *Gonorrhynchus bimaculatus* Robinson (Assam); *Callichrous bimaculatus* Beavan (India generally); *Callichrous latovittatus* Beavan (Cachar); *Cryptopterus latovittatus* Playfair, *Proc. Zool. Soc. Lond.* p. 16, 1878 (Indian freshwater); *Pabela* Hunter (Cachar district).
82. *Ompok pabda* (Hamilton)  
*Silurus pabda* Hamilton (Bengal); *Callichrous pabda* Day (the Brahmaputra in Assam); *pabda* Hunter (Sibsagar and Goalpara districts).
83. *Ompok pabo* (Hamilton)  
*Silurus pabo* Hamilton (R. Brahmaputra, Assam); *Callichrous pabo* Beavan (Assam).
84. *Silurus cochinchinensis* Valenciennes  
*Silurus cochinchinensis* Valenciennes (in C & V), *Hist. Nat. Poiss.*, 14, p. 352, 1839 (Cochin China); *Silurus afgana* Gunther, *Cat. Fish. Brit. Mus.* 5, p. 34, 1864 (Assam); *Pterocryptis gangetica* Peters, *Monats. Koing, Akad. Wissens, Berlin* p. 712, 1861 (probably Assam).
85. *Wallago attu* (Schneider)  
*Silurus attu* Schneider, *Syst. Ichthy.*, p. 378, 1801 (Malabar); *Wallago attu* Beavan, Day (throughout India); *boyāl/boāl* Hunter (Sibsagar and Goalpara districts).
86. *Ailia coila* (Hamilton)  
*Malapterurus coila* Hamilton (Bengal); *Ailia affinis* Gunther, *Cat. Fish. Brit. Mus.*, 5, p. 56, 1864 (Assam); *Ailia coila* Day (Brahmaputra); *bānspātā* Hunter (Goalpara district).
87. *Clupisoma garua* (Hamilton)  
*Silurus garua* Hamilton (Gangetic provinces); *Pseudeutropius garua* Day (Assam); *gharia* Hunter (Goalpara district).
88. *Pseudeutropius atherenoides* (Bloch)  
*Silurus atherenoides* Bloch, *Naturges, ausland Fische*, 8, p. 48, 1794 (Tranqueber); *Pseudeutropius atherenoides* Day (freshwater of India including those of Assam).
89. *Silonia silondia* (Hamilton)  
*Pimelodus silondia* Hamilton (Gangetic estuaries); *Silundia gangetica* Day (throughout the large rivers of India); *siland* Hunter (Goalpara district).

90. *Pangasius pangasius* (Hamilton)  
*Pimelodus pangasius* Hamilton (estuaries of Bengal); *pāngā* Hunter (Cachar district).
91. *Amblyceps mangois* (Hamilton)  
*Pimelodus mangois* Hamilton (northern Bihar); *Gobio anisurus* Robinson (Assam); *Olyra laticeps* McClelland 1842, Day (Khasi hills, Assam), Beavan (Khasi and Jaintia hills); *Brachiosteus laticeps* Gunther 1864 (Khasya mountains).
92. *Bagarius bagarius* (Hamilton)  
*Pimelodus bagarius* Hamilton (not given); *Bāgrus yarrellii* Day (throughout the course of large rivers of India); *gilchak* (in Garo); *bāghair* Hunter (Goālpara and Garo hill districts).
93. *Butasio tengana* (Hamilton)  
*Pimelodus tengana* Hamilton (R. Brahmaputra); *Macrones tengana* Beavan (Assam); *Gagata tengana* Day (Brahmaputra); *Leiocassis rama* Day (eastern Bengal and Assam).
94. *Conta conta* (Hamilton)  
*Pimelodus conta* Hamilton (R. Mahananda, N. E. Bengal); *Erethistes elongata* Beavan, Day (Naga hills); *Hara elongata* Day (Garo hills, Assam).
95. *Erethistes pussilus* Muller & Troschel  
*Erethistes pussilus* Muller & Troschel, *Horae Ichthyol.* 3, p. 12, 1845 (Assam), Beavan (Assam); *Erethistes hara* (pussilus) Day (rivers of Bengal and Assam).
96. *Exostoma labiatum* (McClelland)  
*Glyptosternon labiatum* McClelland, 1842 (Mishmee hills); *Exostoma labiatum* Beavan (Mishmee hills, Assam), Day (Mishmee mountains in upper Assam).
97. *Glyptothorax cavia* (Hamilton)  
*Pimelodus cavia* Hamilton (northern Bengal); *Euglyptosternum lineatum* Day (upper Assam).
98. *Glyptothorax striatus* (McClelland)  
*Glyptosternon striatus* McClelland 1842 (Kosyah mountains); *Glyptosternum striatum* Day (Khasia hills of Assam).
99. *Hara hara* (Hamilton)  
*Pimelodus hara* Hamilton (R. Kosi); *Erethistes hara* Beavan, Day (Assam); *Erethistes conta* Day (east Bengal and Assam).
100. *Hara jerdoni* Day  
*Hara jerdoni* Day, *J. Asiat. Soc. Beng.* 39, p. 39, 1870 (Sylhet); *Erethistes jerdoni* Beavan (Sylhet), Day (east Bengal).

101. *Pseudecheneis sulcatus* (McClelland)  
*Glyptosternon sulcatus* McClelland, 1840 (Khasi hills); *Pseudecheneis sulcatus* Day (Khasya hills).
102. *Clarias batrachus* (Linnaeus)  
*Silurus batrachus* Linnaeus, *Syst. Nat.* 1, ed. 10, p. 305, 1758 (Asia and Africa); *Clarias magur* Beavan (India generally), Day (India); *Clarias assamensis* Day (Assam); *māgur* Hunter (Sibsagar and Goalpara districts).
103. *Heteropneustes fossilis* (Bloch)  
*Silurus fossilis* Bloch, *Ichth. Hist. nat. d. Poiss.* 11, p. 36, 1797 (Tranquebar); *Saccobranchus fossilis* Beavan, Day (India); *singhi* Hunter (Goalpara and Cachar districts).
104. *Chaca chaca* (Hamilton)  
*Platystacus chaca* Hamilton (north-east Bengal); *Chaca bankanensis* Beavan (Assam); *Chaca lophoides* Day (Brahmaputra in Assam); *siethoka* Hunter (Goalpara district).
105. *Olyra longicaudata* McClelland  
*Olyra longicaudata* McClelland 1842 (Khasi hills, Assam), Beavan (Khasi and Jaintia hills); *Olyra burmanica* Day (Khasya hills).
106. *Xenentodon cancila* (Hamilton)  
*Esox cancila* Hamilton (Gangetic provinces); *Esox* sp., *Esox cancila* Robinson (Assam).
107. *Channa barca* (Hamilton)  
*Ophiocephalus barca* Hamilton (R. Brahmaputra near Goalpara, Assam); *Ophiocephalus amphibius* McClelland (r. Chail, tributary of Brahmaputra); *sail/sāl* Hunter (Goalpara and Cachar districts).
108. *Channa marulia* (Hamilton)  
*Ophiocephalus marulius* Hamilton (R. Ganges); Beavan, Day (throughout India); *gajar* Hunter (Goalpara and Cachar districts).
109. *Channa orientalis* Schneider  
*Channa orientalis* Schneider, *Syst. Ichthyol. Bloch.* p. 496, 1801 (India); *Ophiocephalus aurantiacus* Hamilton (Goalpara, Assam); *Ophiocephalus gachua* Beavan (India generally), Day (India and Andamans); *cheng* Hunter (Goalpara district).
110. *Channa punctata* (Bloch)  
*Ophiocephalus punctatus* Bloch, *Naturges ausland Fische.* 7, p. 139, 1793 (Coromondal coast), Beavan (India generally), Day (India); *goroi/latha/taki* Hunter (Sibsagar and Goalpara districts).

111. *Channa stewartii* (Playfair)  
*Ophiocephalus stewartii* Playfair, *Proc. Zool. Soc. Lond.* p. 14, 1867 (Cachar, Assam), Beavan (Assam), Day (Cachar, Assam).
112. *Channa striata* (Bloch)  
*Ophiocephalus striatus* Bloch, *Naturges ausland Fische*, 2, p. 141, 1853 (Malabar); *Ophiocephalus chena* Hamilton (Goalpara, Assam); *Ophiocephalus striatus* Beavan (throughout India), Day (India); *saul; sul* Hunter (Sibsagar and Goalpara districts).
113. *Amphipnous cuchia* (Hamilton)  
*Unibranchapertura cuchia* Hamilton (south-east Bengal); *Pneumabranchnus striatus* McClelland (Assam), *Amphipnous cuchia* Day (freshwaters of Assam); *kunchia* Hunter (Goalpara district).
114. *Chanda nama* Hamilton  
*Chanda nama* Hamilton (Bengal); *Ambassis nama* Beavan (throughout India), Day (freshwaters of Assam); *chanda* Hunter (Goalpara district).
115. *Nandus nandus* (Hamilton)  
*Coius nandus* Hamilton (Gangetic provinces); *Nandus marmoratus* Beavan, Day (throughout India); *bheda* Hunter (Goalpara district).
116. *Sicamugil cascasia* (Hamilton)  
*Mugil cascasia* Hamilton (northern rivers of Bengal), Day (rivers of east Bengal and Assam); *tātkini* Hunter (Goalpara district).
117. *Glossogobius gutum* (Hamilton)  
*Gobius gutum* Hamilton (lower parts of Padma river); *Gobio bicolor* Robinson (Assam); *Gobius giuris* Beavan (east Indian freshwaters), Day (freshwater of India), *bhul* Hunter (Goalpara district).
118. *Anabas testudineus* Bloch  
*Anabas testudineus* Bloch, *Naturges ausland Fische*, 7, p. 121, 1795 (Japan), Day (deltas of large rivers); *kai; koi* Hunter (Sibsagar, Goalpara and Cachar districts).
119. *Colisa sota* (Hamilton)  
*Trichopodus sota* Hamilton (not mentioned); *Trichogaster chuna* Day (Bengal and Assam).
120. *Colisa fasciata* (Schneider)  
*Trichogaster fasciatus* Schneider, *Syst. Ichth. Bloch.* p. 164, 1801 (Tranquebar), Beavan (India generally), Day (large rivers of India); *Opsarius fasciatus* Robinson (Assam); *khalisā; kalisā* Hunter (Goalpara and Cachar districts).

121. *Ctenops nobilis* McClelland  
*Ctenops nobilis* McClelland (rivers at Sikkim); *Osphronemus nobilis* Day (north-east Bengal and Assam).
122. *Mastacembelus pancalus* (Hamilton)  
*Macrogathus pancalus* Hamilton (Bengal); *Mastacembelus pancalus* Beavan (throughout India), Day (Assam); *baim* Hunter (Goalpara district).
123. *Tetraodon cutcutia* Hamilton  
*Tetraodon cutcutia* Hamilton (R. Ganges), Day (freshwaters of Assam); *Raia* sp. Robinson (Assam).

#### CONCLUSION

Although the occurrence of fishes in India dates back to three millennium B.C. (Hora 1956) and the first writer on Indian fishes was Bloch (1785), it would be seen that the scientific attempt on the fishes of Assam which was initiated by Hamilton (1814, 1822) with 16 species was truly elucidated by McClelland in 1839.

Robinson's (1841) list of 74 species of Assam fishes, however, gives us a comprehensive account of the ichthyospecies of the province during nineteenth century. Beavan (1877) meticulously analysed the fishes of Assam showing that 28 spp. were widely distributed while 46 spp. were restricted to the province. Indeed, it was Day (1878, 1889) who in his list of 109 spp. of fish of the province exposed the zoogeographical pattern of the fishes with the plan that 28 spp. were widely distributed throughout India, 6 spp. restricted to Khasiya hills and 1 sp. each to Naga, Garo, Mishmee hills and Himalayan belt while the remaining 71 spp. were found within the remaining geographical boundary of the province.

Hunter's (1879*a, b*) work significantly portrayed the trend of fisheries of the province during the period under report. From his account it appeared that Kamrup, Sibsagar, Lakhimpur, Nowgong and Darrang districts were more productive for yielding better revenue to the Government exchequer from the fisheries while Sibsagar, Goalpara and Cachar districts were rich in fish types.

Fish capturing devices of the province given by Robinson (1841) and those of Kamrup, Lakhimpur and Garo hill districts purpurted by Hunter (1879*a, b*) during the century were significant.

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