

# FISH FAUNA OF THE KUMAON HILLS

By

M. C. PANT

*Government Degree College, Gopeshwar, U.P.*

## I—INTRODUCTION

The Kumaon lakes are of considerable importance for fishing as well as entertainment. Angling is very popular here and provides good sport but our knowledge about the fish fauna of Kumaon hills is scanty. Day (1878, 1889) was the first to undertake the scientific survey of the fishes of India and published his work in two volumes. Walker (1888) recorded five species from the Nainital lake. Hora (1937*a,b,c*) recorded seventeen species of fishes belonging to different families from Kumaon hills. His collections were mainly from lower waters of Nandhaur and Kalaunia rivers and from Kosi river near Khairna. Menon (1949 *a, b*) gave a list of twentythree species of fishes from the lake and rivulets of Nainital. He also collected fishes from Kosi river (Khairna) and from Almora proper. Menon (1954, 1962) published a long list of fishes from the Himalayas. This is based on a collection from 'Assam Himalayas', 'Nepal Himalayas', 'Punjab Himalayas' and 'Kumaon Himalayas'

As the fish fauna so far described from the Kumaon Himalayas is mainly from Nainital district, it was considered desirable to make an extensive collection from Almora and Pithoragarh districts of this region (Table I). The fishes were collected during the period 1963-64 and were brought to the Zoological Laboratories of this College for identification. The present paper also includes a brief report on the methods employed by the local people for catching fishes.

## II—LOCALITIES SURVEYED

The following localities were not easily accessible in the past due to which an account of the fish fauna of this area is not available. An extension of the transport facilities to these hilly areas helped in the collection of fishes from these places for the first time.

<i>River</i>	<i>Place of collection</i>	<i>Elevation above sea level</i>
(A) <i>Almora District</i>		(Meters)
1. Sarju	Bageshwar	1579
2. Western Ram Ganga	Chaukhutia	976
	Bhikiasan	1036
3. Kosi	Someshwar	1066
	Hawalbagh	1194

4. Garur Ganga	Garur (Baijnath)	1080
5. Gomati	Bageshwar	1579
	Garur (Baijnath)	1080
6. Lohawati	Lohaghat	1679
7. Gagas	Gagas	975
8. Suyal	Almora	1584

(B) *Pithoragarh District*

1. Dhauli	Tawaghat	914
2. Kali	Dharchula	914
	Balua Koat	1066
	Jauljibi	890
3. Gori	Jauljibi	890
4. Eastern Ram Ganga	Thal	1066
	Gangolihat	1584
	Rameshwar Ghat	1036
5. Charma Gar	Askote	1219
6. Small Ponds at	Berinag	1554
	Barechina	1993
	Gangolihat	1584

## III — SYSTEMATIC LIST OF SPECIES

**Tor tor (Hamilton)**

1822. *Cyprinus tor* Hamilton, *Fish Ganges*, pp. 305, 388. (*Type-locality*: Mahanada)  
 1959. *Tor tor* : Misra, *Rec. Indian Mus.*, 57 (1-4), p. 150.

*Local Name*.—Mahaseer.

*Specimens examined*.—15 specimens, from Almora and Pithoragarh districts, 200 mm. to 525 mm. in Standard length.

*Distribution*.—Fresh waters of East Punjab, U.P., Western and Eastern Himalayas, Nepal, Darjeeling, West Bengal and Assam. This is the first record from the Pithoragarh district.

**Tor putitora (Hamilton)**

1822. *Cyprinus putitora* Hamilton, *Fish Ganges*, pp. 303, 388. (*Type-locality* Eastern parts of Bengal).  
 1959. *Tor putitora* : Misra, *Rec. Indian Mus.*, 57 (1-4), p. 150.

*Local Name*.—Mahaseer.

*Specimens examined*.—13 specimens, from Almora and Pithoragarh districts, 250 mm. to 500 mm. in Standard length.

*Distribution*.—East Punjab, Assam, Western and Eastern Himalayas, Darjeeling, Kumaon Himalayas, U.P. and West Bengal. This is the first record from the Pithoragarh district.

**Puntius chilinoides (McClelland)**

1807. *Barbus chilinoides* McClelland, *Indian Cyprinidae*, pp. 271, 340.  
 1962. *Puntius chilinoides* : Menon, *J. zool. Soc. India*, 14 (1-2), p. 26.

*Local Name*.—Karnchula.

*Specimens examined*.—75 specimens, from Almora and Pithoragarh districts, 125 mm. to 225 mm. in Standard length.

*Distribution*.—All along the Himalayas, Darjeeling, U.P., Kumaon Himalayas and Assam. This is the first record from the Pithoragarh district.

**Puntius ticto** (Hamilton)

1822. *Cyprinus ticto* Hamilton, *Fish Ganges*, p. 314.

1959. *Puntius ticto* : Misra, *Rec. Indian Mus.*, 57 (1-4), p. 156.

*Local Name*.—Dumrua.

*Specimens examined*.—50 specimens, from Almora and Pithoragarh districts, 37 mm. to 80 mm. in Standard length.

*Distribution*.—It is reported from throughout India. This is the first record from Pithoragarh district.

**Puntius conchoni** (Hamilton)

1822. *Cyprinus conchoni* Hamilton, *Fish Ganges*, p. 317.

1959. *Puntius conchoni* : Misra, *Rec. Indian Mus.*, 57 (1-4), p. 152.

*Local Name*.—Dumrua.

*Specimens examined*.—32 specimens, from Almora and Pithoragarh districts, 51 mm. to 102 mm. in Standard length.

*Distribution*.—Freshwaters of East Punjab, U.P., Western and Eastern Himalayas, Bihar, West Bengal and Assam. This is the first record from Almora and Pithoragarh district.

**Puntius gelius** (Hamilton)

1822. *Cyprinus gelius* Hamilton, *Fish Ganges*, pp. 320, 390.

1962. *Puntius gelius* : Menon, *J. zool. Soc. India*, 14 (1-2), p. 26.

*Local Name*.—Dumrua.

*Specimens examined*.—7 specimens from Almora district, 30 mm. to 75 mm. in Standard length.

*Distribution*.—Orissa, Bengal, and Assam.

**Crossocheilus latius** (Hamilton)

1822. *Cyprinus latius* Hamilton, *Fish Ganges*, pp. 345, 393.

1959. *Crossocheilus latius latius* : Misra, *Rec. Indian Mus.*, 57 (1-4), p. 169.

*Local Name*.—Saknera.

*Specimens examined*.—17 specimens, from Almora district, 115 mm. to 200 mm. in Standard length.

*Distribution*.—Hill streams, from plains to 1000 m., U.P., Bihar and West Bengal. This is the first record from Almora district.

**Schizothorax plagiostomus** (Heckel)

1838. *Schizothorax plagiostomus* Heckel, *Fische aus Cashmir*, p. 16.

*Specimens examined*.—20 specimens, from Almora and Pithoragarh districts, 115 mm. to 300 mm. in Standard length.

*Distribution*.—Afghanistan, Kashmir and Bhutan. This is the first record from Pithoragarh district.

**Schizothorax sinuatus** (Heckel)

1838. *Schizothorax sinuatus* Heckel, *Fische aus Caschmir*, p. 21.

*Specimens examined*.—3 specimens from Almora and Pithoragarh

districts, 100 mm. to 225 mm. in standard length.

*Distribution.*—Himalayan rivers, but not extending in the plains to far from their bases. This is the first record from Pithoragarh.

#### **Schizothorax richardsoni** (Gray & Hardwicke)

1832. *Cyprinus richardsoni* Gray & Hardwicke, *Illust. Ind. Zoology*.

1962. *Schizothorax richardsonii* : Menon, *J. zool. Soc. India*, **14** (1-2), p. 27.

*Specimens examined.*—15 specimens, from Almora and Pithoragarh districts, 125 mm. to 550 mm. in standard length.

*Distribution.*—Sub-Himalayan range, Darjeeling, Bhutan and Nepal. This is the first record from Pithoragarh district.

#### **Garra gotyla gotyla** (Gray)

1832. *Cyprinus gotyla* Gray, *Ill. Indian Zool.*, London, **1**, p. 88, Figs. 3, 3a.

1964. *Garra gotyla gotyla* : Menon, *Mem. Indian Mus.*, **14**, p. 233.

*Local Name.*—Bhagnera.

*Specimens examined.*—13 specimens, from Almora and Pithoragarh districts, 80 mm. to 225 mm. in standard length.

*Distribution.*—Assam all along the Himalayas, Chota Nagpur plateau and the Vindhya-Satpura mountains of the Peninsula. Extends to Burma and West Punjab in West Pakistan. This is the first record from the Almora and Pithoragarh districts.

#### **Garra lamta** (Hamilton)

1822. *Cyprinus lamta* Hamilton, *Fish Ganges*, pp. 343, 393.

1962. *Garra lamta* : Menon, *J. zool. Soc. India*, **14** (1-2), p. 27.

*Local Name.*—Bhagnera.

*Specimens examined.*—5 specimens, from Almora and Pithoragarh district, from 60 mm. to 100 mm. in standard length.

*Distribution.*—Throughout India. This is the first record from Pithoragarh district.

#### **Labeo dero** (Hamilton)

1822. *Cyprinus dero* Hamilton, *Fish Ganges*, p. 277.

1959. *Labeo dero* : Misra, *Rec. Indian Mus.*, **57** (1-4), p. 161.

*Local Name.*—Unera.

*Specimens examined.*—15 specimens, from Almora and Pithoragarh districts, 175 mm. to 250 mm. in standard length.

*Distribution.*—Assam, Darjeeling, Western and Eastern Himalayas, East Punjab, U.P., and Kumaon Himalayas. This is the first record from Pithoragarh district.

#### **Labeo dyocheilus** (McClelland)

1807. *Cyprinus dyocheilus* McClelland, *Indian Cyprinidae*, p. 268.

1962. *Labeo dyocheilus* : Menon, *J. zool. Soc. India*, **14** (1-2), p. 27.

*Local Name.*—Unera.

*Specimens examined.*—3 specimens, from Almora district, 152 mm. to 200 mm. in standard length.

*Distribution.*—All along the Himalayas, U.P., (Dehra Dun) and Sind Hills.

**Barilius barna** (Hamilton)

1827. *Cyprinus barna* Hamilton, *Fish Ganges*, pp. 268, 384.

1889. *Barilius barna* : Day, *Fauna Brit. India*, Fish, 1, p. 592.

*Local Name*.—Dhaur.

*Specimens examined*.—7 specimens from Almora district, 75 mm. to 135 mm. in standard length.

*Distribution*.—Assam, Bengal, U.P., and Orissa.

**Barilius bendelisis** (Hamilton)

1807. *Cyprinus bendelisis* Hamilton, *Journey Mysore*, 3, p. 345.

1959. *Barilius bendelisis* : Misra, *Rec. Indian Mus.*, 57 (1-4), p. 141.

*Local Name*.—Dhaur.

*Specimens examined*.—32 specimens from Almora and Pithoragarh districts, 75 mm. to 152 mm. in standard length.

*Distribution*.—Assam, Western and Eastern Himalayas, West Bengal, Simla, Punjab, U.P., Bihar, Nilgiris and Palaghat. This is the first record from Pithoragarh district.

**Barilius vagra** (Hamilton)

1822. *Cyprinus vagra* Hamilton, *Fish Ganges*, pp. 269, 385.

1889. *Barilius vagra* : Day, *Fauna British India*, Fish, 1, p. 589.

*Local Name*.—Dhaur.

*Specimens examined*.—5 specimens, from Almora and Pithoragarh districts, 70 mm. to 125 mm. in standard length.

*Distribution*.—Himalayan and Sub-Himalayan Range, Sind Hills, Jumna and Ganges, Punjab and Assam. This is the first record from Pithoragarh district.

**Noemacheilus botia** Hamilton

1822. *Noemacheilus botia* Hamilton, *Fish Ganges*, pp. 350, 358, 394 & 395.

1959. *Noemacheilus botia* : Misra, *Rec. Indian Mus.*, 57, (1-4), p. 18.

*Local Name*.—Gadera.

*Specimens examined*.—22 specimens, from Almora and Pithoragarh districts, 60 mm. to 92 mm. in standard length.

*Distribution*.—Assam, all along the Himalayas. This is the first record from the Pithoragarh district.

**Noemacheilus multifasciatus** Day

1889. *Noemacheilus multifasciatus* Day, *Fauna British India*, Fish, 1, p. 617.

*Local Name*.—Gadera.

*Specimens examined*.—7 specimens, from Almora and Pithoragarh districts, 50 mm. to 97 mm. in standard length.

*Distribution*.—Assam and Darjeeling. This is the first record from Almora and Pithoragarh district.

**Noemacheilus beavani** Günther

1831. *Noemacheilus beavani* Günther, *Cat. Fish British Mus.*, 7, p. 350.

*Local Name*.—Gadera.

*Specimens examined*.—32 specimens Almora and Pithoragarh

districts, 50 mm. to 103 mm. in standard length.

*Distribution*.—Madras, Mysore and Orissa. This is the first record from Pithoragarh district.

#### **Noemacheilus rupicola (McClelland)**

1807. *Schistura rupicola* McClelland, *J. Asiat. Soc., Beng.*, 7, Pl. 55 and *Indian Cyprinidae*, pp. 307, 441.

1889. *Noemacheilus rupicola* : Day, *Fauna British India*, Fish, 1, p. 616.

*Local Name*.—Gadera.

*Specimens examined*.—17 specimens, from Almora and Pithoragarh districts, 75 mm. to 98 mm. in standard length.

*Distribution*.—All along the Himalayas, Tibet, at 16,000 ft. above the Sea level. This is the first record from Pithoragarh district.

#### **Noemacheilus rupicola inglisi Hora**

1938. *Noemacheilus rupicola inglisi* Hora, *J. Roy. Asiat. Soc. Beng.*, 3, p. 27.

*Local Name*.—Gadera.

*Specimens examined*.—8 specimens, from Almora and Pithoragarh districts, 72 mm. to 90 mm. in standard length.

*Distribution*.—All along the Himalayas. This is the first record from Pithoragarh district.

#### **Botia almorhae Day**

1889. *Botia almorhae* Day, *Fauna British India*, Fish, 1, p. 607.

*Local Name*.—Chittal.

*Specimens examined*.—5 specimens, from Almora district, 105 mm. to 150 mm. in standard length.

*Distribution*.—Kashmir, Almora, and Khasi Hills.

#### **Homaloptera brucei Day**

1867. *Homaloptera brucei* Day, *Proc. zool. Soc. Lond.*, p. 348.

*Local Name*.—Pathrua.

*Specimens examined*.—7 specimens, from Almora district, 100 mm. to 130 mm. in standard length.

*Distribution*.—Himalayas, Darjeeling, Assam, Madras and Bhutan. This is the first record from Almora district.

#### **Glyptothorax pectinopterum McClelland**

1807. *Glyptosternum pectinopterum* McClelland, *Cal. J. nat. Hist.*, 2, p. 587.

*Local Name*.—Kathrua.

*Specimens examined*.—25 specimens, from Almora and Pithoragarh districts, 90 mm. to 200 mm. in standard length.

*Distribution*.—Western and Eastern Himalayas, Punjab, Simla and Dehra Dun. This is the first record from Pithoragarh district.

#### **Euchiloglanis hodgarti Hora**

1952. *Euchiloglanis hodgarti* Hora & Silas, *Rec. Indian Mus.*, 49 (1), pp. 5-30.

*Local Name*.—Kathrua.

*Specimens examined*.—4 specimens, from Pithoragarh district,

75 mm. to 105 mm. in standard length.

*Distribution.*—Western and Eastern Himalayas, West Bengal, Kameng Frontier Division (NEFA). This is the first record from Pithoragarh district.

#### ***Pseudecheneis sulcatus* (McClelland)**

1807. *Glyptosternum sulcatus* McClelland, *Cal. J. nat. Hist.*, p. 587.

1964. *Pseudecheneis sulcatus* : Jayaram & Majumdar, *J. Bombay nat. Hist. Soc.*, 61 (2), p. 586.

*Local Name.*—Kathrua.

*Specimens examined.*—100 specimens, from Pithoragarh district, 100 mm. to 200 mm. in standard length.

*Distribution.*—Western Himalayas and Kameng Frontier Division (NEFA). This is the first record from Pithoragarh district.

#### ***Channa gachua* (Hamilton)**

1822. *Ophiocephalus gachua* Hamilton, *Fish Ganges*, p. 68.

1959. *Channa gachua* : Misra, *Rec. Indian Mus.*, 57 (1-4), p. 218.

*Local Name.*—Shoyn.

*Specimens examined.*—11 specimens, from Almora and Pithoragarh districts, 75 mm. to 153 mm. in standard length.

*Distribution.*—Freshwaters of East Punjab, Western and Eastern Himalayas, Assam, Orissa, Travancore, Madras, Bombay, Poona, West Bengal, Delhi and U.P. This is the first record from Pithoragarh district.

#### ***Mastocembelus armatus* Lacépède**

1800. *Mastacembelus armatus* Lacépède, *Hist. Nat. Poiss*, 2, p. 283.

*Local Name.*—Bayan.

*Specimens examined.*—13 specimens, from Almora and Pithoragarh districts, 125 mm. to 885 mm. in standard length.

*Distribution.*—Fresh and brackish waters all over India. This is the first record from the Pithoragarh district.

#### ***Amblyceps mangois* (Hamilton)**

1822. *Pimelodus mangois* Hamilton, *Fish Ganges*, pp. 179, 379.

1933. *Amblyceps mangois* : Hora, *Rec. Indian Mus.*, 35, pp. 617, 621.

*Local Name.*—Nain.

*Specimens examined.*—5 specimens, from Almora district, 60 mm. to 105 mm. in standard length.

*Distribution.*—Kangar, W Himalayas, U.P., and Darjeeling. This is the first record from Almora district.

### IV—METHODS OF CATCHING FISHES

The following methods are commonly employed for catching fishes in different parts of Kumaon hills:

(a) *By bait and hooks.*—This is a simple method in which a long thread and a hook or thorn is tied to a long bamboo stick. Various types of baits are used depending upon the species of the fish.

(b) *By using hair of horse.*—A bait is not used in this method. A piece of lead about 6" to 8" in length is tied to a long thread which in turn is connected with a bamboo or a wooden stick. A number of hair with a loop at the end are tied perpendicularly to the long axis of the lead. Fishes, while swimming, get entangled inside the hair loop which gets tightened automatically.

(c) *Ghagharia net.*—It is a circular net used very commonly in all parts of the Kumaon hills and is made up of strings in the form of an umbrella. Lead weights or iron weights are tied round the net. The cord is held tightly by the hand while net is thrown into the water where it spreads and the fishes get trapped inside the net. The meshes of the net are made according to the size of the fish available in the area.

(d) *Bag net.*—It is a small rectangular net made up of strings and is called 'Phatyala' by the people. Its meshes are about 8 mm. wide and it is used for catching small fishes.

(e) *Dip net.*—A very small conical net prepared from strings or cloth, resembling an insect collecting net, is used for catching very small fishes or fry.

(f) *Kyari net.*—This is a fixed type of net and is called 'Kyari' by local people. It is fairly big in size and is made of strings and ropes. Some lead weights are tied along its lower margin. The net is stretched in the river from one bank to another and is fixed by poles and stones. A sac-like 'Bhog' commonly present in the fixed nets used elsewhere, is absent in this case. The fisherman drifts down the fishes which are ultimately caught by the net. A large number of fishes can be collected by this method.

(g) *Gowda Trap.*—This method is a unique one and is probably restricted to the hilly areas. It is in the form of a conical basket made of bamboo sticks. The mouth of this, known as 'Bhog', is kept open by means of a circular bamboo stick. This is generally used in shallow waters, streams and tributaries and is fixed during the night at selected places where the water current is fast. Fishes during downward migration get entrapped inside the 'Gowda' and cannot escape.

(h) *By hand.*—Some hill stream fishes live under the stones in stagnant and shallow water. These are caught by hand specially during summer.

(i) *Dynamiting process.*—In this process explosives are used to cause terrific shock in the water. A large number of fishes come up on the surface and float with their bellies upwards. They are then collected easily. This is a cruel method and causes a great disturbance in the water.

(j) *Damming of the pools.*—Small streams or tributaries are drained into small side pools into which the fishes enter and are collected by hand.

#### V—ACKNOWLEDGEMENTS

The author is grateful to Dr. A. G. K. Menon for help in the identification of some fishes of my collection. My thanks are also due to the C.S.I.R., New Delhi, for the award of a Research Fellowship. This work was carried out under the supervision of Dr. S. S. Khanna, Professor of Zoology, D.S.B. Government College, Nainital.



## VI—SUMMARY

An extensive collection of fishes was made from Almora and Pithoragarh districts of the Kumaon hills during the year 1963-64. In all twenty-nine species from Almora district and twenty-three from Pithoragarh were collected and identified. The places visited for collection have been indicated. A brief account of the methods employed by the local people for catching fishes has been given.

## VII—REFERENCES

- DAY, F. 1878. *The Fishes of India*.—London, pp. xx+778, 198 pls.
- DAY, F. 1889. *The Fauna of British India including Ceylon and Burma. Fishes, Vol. I*, pp. xviii+548—London (Taylor and Francis).
- HORA, S. L. 1937a. Comparison of the Fish-fauna of Northern and Southern faces of the Great Himalayan Range.—*Rec. Indian Mus.*, Calcutta, **39** (3), pp. 241-250.
- HORA, S. L. 1937b. Distribution of Himalayan fishes and its bearing on certain palaeogeographical problems.—*Rec. Indian Mus.*, Calcutta, **39** (3), pp. 251-259.
- HORA, S. L. 1937c. Notes on fishes in the Indian Museum. XXXIII. On a collection of Fish from Kumaon Himalayas.—*Rec. Indian Mus.*, Calcutta, **39** (4), pp. 338-341.
- MENON, A. G. K. 1949a. Notes on fishes in the Indian Museum. XLIV Fishes of Kosi Himalayas, Nepal.—*Rec. Indian Mus.*, Delhi, **47**, pp. 231-235.
- MENON, A. G. K. 1949b. Fishes of Kumaon Himalayas.—*J. Bombay nat. Hist. Soc.*, Bombay, **48** (3), pp. 535-542.
- MENON, A. G. K. 1954. Fish geography of the Himalayas.—*Proc. nat. Inst. Sci. India*, New Delhi, **20** (4), pp. 467-493.
- MENON, A. G. K. 1962. A Distributional list of fishes of the Himalayas.—*J. zool. Soc. India.*, Calcutta, **14** (1/2), pp. 23-32.
- \*WALKER, W. 1888. Angling in Kumaon lakes.
- \*(Not consulted in original)

TABLE I.—LIST OF FISHES FROM ALMORA AND PITHORAGARH DISTRICTS, WITH THEIR DISTRIBUTION :—

Sl. No.	Species	Almora Dist. Rivers							Pithoragarh Dist. Rivers					Range of distribution as known at present		
		Sarju	West Ram Ganga	Kosi	Garur Ganga	Gomati	Lohawati	Gagas	Suyal	Dhauri	Kali	Gori	East Ram Ganga		Charma Gar	Small ponds
Order : CYPRINIFORMES.																
Division : CYPRINI.																
Family : CYPRINIDAE.																
1.	<i>Tor tor</i> (Hamilton)	+	+	+	—	+	+	+	—	+	+	+	+	—	—	East Punjab, U.P., Western and Eastern Himalayas, Nepal, West Bengal and Assam.
2.	<i>Tor putitora</i> (Hamilton)	+	+	+	—	+	+	+	—	+	+	+	+	—	—	East Punjab, U.P., Assam, Western & Eastern Himalayas, Darjeeling, Kumaon Himalayas, and West Bengal.
3.	<i>Puntius chilinoides</i> (McClelland)	+	+	+	+	+	+	+	+	—	—	—	+	+	—	All along the Himalayas, Darjeeling, U.P., Kumaon Himalayas and Assam.
4.	<i>Puntius ticto</i> (Hamilton)	—	+	+	+	+	+	+	+	—	—	—	—	+	+	It is reported from throughout India.
5.	<i>Puntius conchoni</i> (Hamilton)	—	+	—	+	—	—	—	+	—	—	—	—	+	+	East Punjab, U.P., Western and Eastern Himalayas, Bihar, West Bengal and Assam.
6.	<i>Puntius gelius</i> (Hamilton)	—	—	—	+	—	—	—	+	—	—	—	—	—	—	Orissa, Bengal and Assam.
7.	<i>Crossocheilus latius latius</i> (Hamilton)	—	+	+	—	—	—	—	+	—	—	—	+	+	—	Hill streams, from plains to 2000', U.P., Bihar and West Bengal.
8.	<i>Schizothorax plagiostomus</i> (Heckel)	+	+	+	—	—	—	—	—	+	+	+	—	—	—	Afghanistan, Kashmir and Bhutan.
9.	<i>Schizothorax sinuatus</i> (Heckel)	+	+	+	—	—	+	—	—	—	+	+	+	—	—	Himalayan rivers but not extending in the plains to far from their bases.
10.	<i>Schizothorax richardsoni</i> (Gray & Hardw.)	+	+	—	—	—	+	—	—	—	+	+	+	—	—	Sub Himalayan range, Darjeeling, Bhutan, and Nepal.
11.	<i>Garra gotyla gotyla</i> (Gray)	+	+	+	+	—	—	+	+	—	—	—	+	+	—	Assam, all along the Himalayas, Chota

Contd.

TABLE 1.—Contd.

Sl. No.	Species	Almora Dist. Rivers										Pithoragarh Dist. Rivers.				Range of distribution as known at present
		Sarju	West Ram Ganga	Kosi	Garur Ganga	Gomati	Lohawati	Gagas	Suyal	Dhaulti	Kali	Gori	East Ram Ganga	Charama Gar	Small ponds	
12.	<i>Garra lamta</i> (Hamilton)	—	+	+	+	—	—	—	—	—	—	+	+	—	Nagpur plateau and the Vindhya-Satpura mountains of the Peninsula. Extends to Burma and West Punjab in West Pakistan.	
13.	<i>Labeo dero</i> (Hamilton)	+	+	+	—	—	—	—	—	+	+	+	—	—	Throughout India.	
14.	<i>Labeo dyocheilus</i> (McClelland)	+	+	+	—	—	—	—	—	+	+	—	—	—	Assam, Darjeeling, Western and Eastern Himalayas, East Punjab, U.P., and Kumaon Himalayas.	
15.	<i>Barilius barna</i> (Hamilton)	—	+	+	+	+	—	+	—	—	—	+	+	—	All along the Himalayas, U.P., and Sind Hills.	
16.	<i>Barilius bendelisis</i> (Hamilton)	+	+	+	+	+	+	+	—	+	+	+	+	—	Assam, Ganges, Bengal, U.P., and Orissa.	
17.	<i>Barilius vagra</i> (Hamilton)	—	+	+	+	+	—	+	—	—	—	—	+	—	Assam, Western and Eastern Himalayas, West Bengal, Simla, Punjab, Bihar, U.P., Nilgiris and Palaghat.	
Family : COBITIDAE.																
18.	<i>Noemacheilus botia</i> Hamilton	—	+	+	+	+	—	—	—	—	—	—	+	+	Himalayas and Sub Himalayas range, Sind Hills, Jumna and Ganges, Punjab, and Assam.	
19.	<i>Noemacheilus multifasciatus</i> Day	—	+	+	+	+	—	—	—	—	—	+	+	+	Assam and all along the Himalayas.	
20.	<i>Noemacheilus beavani</i> Günther	—	+	+	+	+	+	+	—	—	—	+	+	+	Assam and Darjeeling.	
21.	<i>Noemacheilus rupicola</i> (McClelland)	—	+	+	+	+	+	+	—	—	—	+	+	+	Madras, Mysore and Orissa.	
															All along the Himalayas, Tibet, at 16,000' above the Sea level.	

Contd.

22. <i>Noemacheilus rupicola inglisi</i> Hora	—	—	+	+	+	+	+	+	—	—	—	—	+	+	All along the Himalayas.
23. <i>Botia almorhae</i> Day	—	+	—	—	—	—	—	+	—	—	—	—	—	—	Kashmir, Almora and Khasi Hills.
Family : HOMALOPTERIDAE.															
24. <i>Homaloptera brucei</i> Day	+	—	—	—	—	—	—	—	—	—	—	—	—	—	Himalayas, Darjeeling, Assam, Khasi Hills, Madras, Bhutan.
Division : SILURI.															
Family : SISORIDAE.															
25. <i>Glyptosternum pectinopterum</i> (McClelland)	—	+	—	—	—	—	—	—	—	+	+	+	+	—	Western and Eastern Himalayas, Punjab, Simla and Dehra Dun.
26. <i>Euchiloglanis hodgarti</i> Hora & Gilas	—	—	—	—	—	—	—	—	—	+	—	—	—	—	Western and Eastern Himalayas, West Bengal, Kameng Frontier Division, (NEFA)
27. <i>Pseudecheneis sulcatus</i> (McClell.)	—	—	—	—	—	—	—	—	—	+	+	+	—	—	Western Himalayas and Kameng Frontier Division (NEFA).
Order : OPHIOCEPHALIFORMES															
Family : CHANNIDAE															
28. <i>Channa gachua</i> (Ham.)	—	+	—	+	—	—	—	—	—	—	—	—	—	—	East Punjab, Western and Eastern Himalayas, Assam, Orissa, Travancore, Madras, Bombay, Poona, West Bengal, U.P., and Delhi.
Order : MASTOCEMBELIFORMES.															
Family : MASTOCEMBELIDAE.															
29. <i>Mastocembelus armatus</i> (Lacépède)	—	+	+	+	—	—	—	—	—	—	—	+	—	—	Fresh and blackish waters all over India.
Family : AMBLYCEPIDAE.															
30. <i>Amblyceps mangois</i> (Hamilton)	—	+	—	—	—	—	—	—	—	—	—	—	—	—	Kangra, W Himalayas, Darjeeling and U.P.

NOTE :— In the above list the symbol + indicates presence and — its absence from the area.