NOTES ON FISHES IN THE INDIAN MUSEUM.

XXIX.—On a Collection of Fish from Nepal.

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Nepal is generally regarded as a closed country to travellers and it is no wonder, therefore, that very little is known about its fauna. The lack of knowledge about the ichthyology of the Nepal Himalayas is a great handicap in any discussion concerning the geographical distribution of fishes that have been recorded from the eastern and the western parts of this great mountain chain. In 1907, Regan[1] reported on a small collection of fish obtained from Nepal and recorded the following species :—

1. *Oreinus richardsonii* Gray	Soondrijal hills above Katmandu.
2. *Diptychus annandalei* Regan	Pharping (Katmandu Valley).
3. *Saccorbranchus fossilis* (Bloch)	Katmandu.
4. *Euchiloglanis blythii* (Day)	Pharping.
5. *Ophiocephalus punctatus* Bloch	Pharping.

In 1923, I[2] pointed out that the Nepal specimens referred by Regan to *Euchiloglanis blythii* (Day) did not belong to that species and had to be referred to a new species which I designated as *Glyptosternum hodgarti*. This species is fairly common in the rivers below Darjiling and in the hill ranges of Assam. In 1931, Mukerji[3] discussed the generic position of *Diptychus annandalei* and came to a tentative conclusion that it should be referred to the genus *Schizothorax* or, if the absence of scales turns out to be a constant feature of the adults, to a new genus intermediate between *Schizothorax* and *Diptychus*.

From the beginning of 1935 Colonel F. M. Bailey, Resident at the British Legation, Nepal, has at my request sent four lots of fish from the Nepal territory and these form the subject matter of this note. Though no new species of fish is represented in this valuable collection, I have been enabled to extend the range of the remarkable genus *Semiplotus* Bleeker which had hitherto been recorded from Burma, the Assam hills and the Darjiling Himalayas and to record variation in colour in the case of *Barilius vagra* Ham. The occurrence of *Labeo dyocheilus* (McClelland) is also of some interest as the species had hitherto been known from the Assam hills on the one hand and Hardwar and Simla on the other.

In all 158 specimens belonging to 22 species were sent by Col. Bailey, but those from Devighat were not in a good condition to be preserved. The remaining specimens have been incorporated in the collection of

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[1] Regan, *Rec. Ind. Mus.*, I, p. 157 (1907).
[2] Hora, *Rec. Ind. Mus.*, XXV, p. 38 (1923).
[3] Mukerji, *Rec. Ind. Mus.*, XXXIII, p. 63 (1931).

the Zoological Survey of India (Indian Museum). I take this opportunity to offer my sincerest thanks to Col. F. M. Bailey for his kindness in collecting fishes from this interesting area and presenting the same to the Zoological Survey.

The entire material is listed below according to the localities:

Devighat (Lat. 27° 50′, Long. 85° 5′), 2 days march west of Katmandu (April, 1935).
1. *Barilius vagra* Ham. 14 specimens.
2. *Crossochilus latius* (Ham.) 1 specimen.
3. *Barbus* sp. (juvenile) 3 specimens.

Hulchok (on Gandak River near Lat. 28° 15′, Long. 84° 50′), 2,500 ft. (10.viii.1935).
1. *Oreinus richardsonii* Gray . 8 specimens.

Mangning (about Lat. 28° 10′, Long. 85° 10′), 5,000 ft. (13.viii.1935).
1. *Oreinus richardsonii* Gray . 6 specimens.

Nagarkot, (Lat. 27° 40′, Long. 85° 30′) 5,500 ft. (20.ix.1935).
1. *Oreinus richardsonii* Gray . . 14 specimens.
2. *Nemachilus rupicola* var. *inglisi* Hora 5 specimens.

Sundarwal (Central Nepal), 5,500 ft. (20.ix.1935).
1. *Oreinus* sp. (juvenile) . 6 specimens.

Katmandu, 4,500 ft. (29.ix.1935).
1. *Ophicephalus punctatus* Bloch 37 specimens.

Tribeni (Lat. 27° 26′, Long. 83° 56′), Nepal Terai (5.xii.1935).
1. *Chela baicala* (Ham.) 1 specimen.
2. *Laubuca laubuca* (Ham.) 1 specimen.
3. *Barilius bendelisis* (Ham.) 5 specimens.
4. *Barilius tileo* Ham. 9 specimens.
5. *Barilius shacra* Ham. . 3 specimens.
6. *Barilius vagra* Ham. . 5 specimens.
7. *Barilius (Opsarius) bola* Ham. 1 specimen.
8. *Aspidoparia jaya* (Ham.) . 4 specimens.
9. *Aspidoparia morar* (Ham.) 6 specimens.
10. *Labeo dero* (Ham.) . 1 specimen.
11. *Crossochilus latius* (Ham.) 7 specimens.
12. *Barbus putitora* (Ham.) . 1 specimen.
13. *Nemachilus scaturigina* (McClell.) 1 specimen.
14. *Ailia coila* (Ham.) 10 specimens.
15. *Clupisoma garua* (Ham.) 2 specimens.
16. *Xenentodon cancila* (Ham.) 4 specimens.

Nepal Terai, near Tribeni (February, 1936).
1. *Labeo dero* (Ham.) . 1 specimen.
2. *Labeo dyocheilus* (McClell.) . 1 specimen.
3. *Semiplotus semiplotus* (McClell.) 1 specimen.

Barilius vagra Hamilton.

In 1872, Day[1] described *Barilius modestus* from the Indus in Sind and the Ravi River at Lahore. So far as can be judged from its description, he distinguished it from the common *B. vagra* Ham. by the absence of the vertical colour bars. I have examined a typical specimen of the species in the collection of the Indian Museum and have compared it with specimens of *B. vagra*. There are no morphological features on which the two species can be recognised from each other. In Col. Bailey's collection there are 5 specimens from Tribeni which I have referred to *B. vagra*; they lack any colour markings on the body, except that the dorsal surface is grayish and strongly marked off from the silvery sides. The examination of these specimens has convinced me that Day's *B. modestus* is only a colour variant of *B. vagra* and not a distinct species.

[1] Day, *Journ. As. Soc. Bengal*, p. 4 (1872); *Fish. India*, p. 589, pl. cli, fig. 3 (1878).

To facilitate reference in future I give below a table of measurements of the Nepalese specimens :

Measurements in millimetres.

Total length	59·0	67·0	69·0	84·0	92·5
Length of caudal	10·0	13·5	13·5	18·0	21·3
Length of head	11·0	13·0	13·0	14·3	15·5
Height of head	7·0	8·5	8·8	10·0	11·3
Width of head	5·0	6·0	6·0	7·0	8·0
Diameter of eye	3·0	3·5	3·9	4·0	4·5
Interorbital width	3·3	3·3	4·0	4·3	5·0
Length of snout	3·0	3·8	3·8	3·8	4·0
Height of body	10·0	12·0	11·3	14·0	15·8
Width of body	5·0	6·0	6·0	6·3	7·0
Length of caudal peduncle	7·0	8·0	8·0	8·0	8·5
Least height of caudal peduncle	5·0	6·0	5·5	7·0	7·5
Longest ray of dorsal	9·0	10·0	10·0	11·5	14·0
Longest ray of anal	8·0	8·5	8·5	8·5	12·0
Length of pectoral	9·5	10·0	10·0	13·0	13·4

Labeo dyocheilus (McClelland).

Recently I[1] pointed out the distinguishing features of *Labeo dyocheilus* and showed the characters in which it differs from *Labeo dero* (Ham.). At the same time it was indicated that the collection of the Indian Museum contained only 4 specimens of this species—1 from Simla, 1 from Hardwar and 2 from Assam. The addition of one more specimen to the collection from an intermediate region is, therefore, of great value.

Semiplotus semiplotus (McClelland).

Semiplotus semiplotus was described by McClelland[2] from Assam and placed in the genus *Cyprinus* with only one other Indian species *Catla catla* (Ham.). Bleeker[3] proposed a new genus *Semiplotus* for it and this he defined as follows, presumably without examining any specimen of the species :

" Rostrum integrum lateribus non lobatum. Maxilla superior non protractilis. Ossa nasalia et suborbitalia cum maxilla superiore coalita. Labia continua nec crenata nec fimbriata. Cirri nulli. Pinna dorsalis elongata spina edentula armata, supra analem desinens. Squamae magnae."

Günther[4] recognised Bleeker's genus without any emendation, but he had only one bad skin for examination. In 1870, Day[5] described another species—*S. modestus*—in this genus from the hill-ranges of Akyab and remarked :

" This species appears intermediate between the genera *Semiplotus* and *Cyprinion* ; for it nearly agrees with the former in the slight motion

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[1] Hora, *Rec. Ind. Mus.*, XXXVIII, p. 320 (1936).
[2] McClelland, *As. Res.* (Ind. Cyprinidae), XIX, pp. 274, 346, pl. xxxvii, fig. 2 (1839).
[3] Bleeker, *Atl. Ichth.*, III, p. 25 (1863).
[4] Günther, *Cat. Fish. Brit. Mus.*, VII, p. 204 (1868).
[5] Day, *Proc. Zool. Soc. London*, p. 101 (1870).

of the upper jaw, absence of barbels, etc., whilst it likewise resembles the latter in having a serrated dorsal spine, although it has no bony edge to the lips or barbels."

Chaudhuri[1] described a third species of *Semiplotus*—*S. cirrhosus*—from very young specimens and distinguished it from the other two species by the possession of two small maxillary barbels and by the absence of a knob at the symphysis of the lower jaw. Col. Bailey's specimen from Nepal was identified as *Semiplotus semiplotus* but was found to possess two small maxillary barbels in the groove at the corner of the mouth. This led me to examine other specimens of the species in the collection of the Indian Museum and in every case the maxillary barbels were found to be present. In young individuals they are relatively much longer and project outside the groove whereas in half-grown and adult specimens they are more or less concealed, but it is not very difficult to make them out. Similar barbels are also present in Day's *S. modestus*. It is clear, therefore, that the presence of small, maxillary barbels is a constant feature of the genus. I am of opinion that Chaudhuri's unique specimen of *S. cirrhosus* is only a young of *S. semiplotus*. Day's species with the serrated dorsal spine is, however, quite distinct.

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[1] Chaudhuri, *Rec. Ind. Mus.*, XVI, p. 280 (1919).