

ZOOLOGICAL RESULTS OF THE INDIAN CHO-OYU EXPEDITION (1958) IN NEPAL

PART 6.—PISCES [IN PART]

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(With 1 Plate)

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I—INTRODUCTION

This paper is based on the fish collection made by me as a member in the Indian Cho-Oyu Expedition in Eastern Nepal from March to June, 1958. Thirteen species belonging to 12 genera and 4 families were collected. The fish *Coraglanis kishinouyei* Kimura is recorded here for the first time in the Indian Region.

I am thankful to Dr. M. L. Roonwal, Director, Zoological Survey of India, for giving me the opportunity in joining the Expedition from the Zoological Survey of India, and for the facilities in studying the collection. I am also thankful to Dr. K. S. Misra, lately Assistant Superintendent, Zoological Survey of India for guidance in working out the collection.

Abbreviations used.—m., altitude in metres ; *exs.*, examples ; *Sta. No.*, Collecting Station.

II—SYSTEMATIC ACCOUNT

Order I. CYPRINIFORMES

Division (A) CYPRINI

Family 1. CYPRINIDAE

Subfamily (a) CYPRINIAE

Genus 1. *Barilius* Hamilton

1. *Barilius vagra* Hamilton

1822. *Cyprinius vagra* Hamilton, *Gangetic Fishes*, pp. 269 385. (*Type-loc.* : R. Ganges, Patna.)

Material.—(i) 7 exs., Sta. No. 61 (Nilkanth, *ca.* 1,524 m.) in the Baghmata River in rocky pools, 2. vi. 58. (ii) 25 exs., Sta. No. 60 (Kukanath, *ca.* 1,371 m.) in the Baghmata River, 11.vi.58.

Systematic remarks.—Length of the head 5·0—6·5, depth of body 5·0—6·0 in total length. Diameter of eye 3·5—4·0 in length of head. Barbels 2 pairs, rostral nearly half as long as head; maxillary very short. Dorsal origin midway between the posterior origin of the orbit and root of caudal, its last two rays over the anal. Pectoral not long as the head. Lateral-line scales 42-44; 2·0-2·5 rows between the lateral-line and base of the Pelvic; 20 rows before the base of dorsal. Colour silvery with 10-14 blue cross bars from the back to the lateral-line. Head naked. Body scaly.

Distribution.—Rivers in the Himalayan ranges, Jamuna and Ganga and Rivers in the Punjab, Assam and Baghmata R., Kathmandu Valley, Nepal.

Genus 2. *Schizothorax* Heckel

2. *Schizothorax richardsonii* (Gray)

1832. *Cyprinus richardsonii* Gray, *Illustr. Indian Zool.*, p. 1, Pl. 94, Fig. 2. (*Type loc.* : Eastern Himalayas.)

Material.—(i) 1 ex., Sta. No. 8 (Sikri, *ca.* 2,100 m.) in the Sikri stream, 2.iv.58. (ii) 6 exs., Sta. No. 52 (Chagma, *ca.* 2,875 m.) in the tributary of Khimte Khola stream, 3.vi.58. (iii) 2 exs., Sta. No. 13 (Takshindu, *ca.* 3,100 m.) in the Dudh Kosi drainage, 7.iv.58. (iv) 1 ex., Sta. No. 51 (Chinga, *ca.* 2,438 m.) in the Dudh Kosi drainage 2.vi.58. (v) 1 ex., Sta. No. 55 (Kerantichapp, *ca.* 1,829 m.) in the stream below Keranti village, 6.vi.58. (vi) 3 exs., Sta. No. 57 (Sanghosli, *ca.* 2,133 m.) in the Sun Kosi river, 8.vi.58. (vii) 6 exs. Sta. No. 3A (Dolaghat, *ca.* 710 m.) in the Sun Kosi river, 23.iii.58.

Systematic remarks.—Length of head 5·0—6·0, depth of body 5·0—6·0 in total length. Diameter of eye 5·5—6·0 in length of head. Barbels 2 pairs about half the length of eye and hidden in the fold of upper lip. Dorsal fin commencing about midway between the snout and base of caudal; its spine moderately strong and toothed. Ventral fin not reaching the anal. Caudal forked. Lateral-line scales 98—100, 24 rows of scales between lateral-line and base of dorsal and 19 between lateral-line and ventral. Head naked; body scaly.

Distribution.—The Dudh Kosi River, Eastern Nepal, and rivers in the Himalayas.

Genus 3. *Labeo* Cuvier

3. *Labeo dyocheilus* (McClelland)

1839. *Cyprinus dyocheilus* McClelland, *Indian Cyprinidae*, pp. 268, 330, pl. 37, Fig. 1. (*Type-loc.* : Assam.)

Material.—(i) 4 exs., Sta. No. 62 (Soumbhunath, ca. 1,370 m.) in rocky pools ; Baghmata river, 22.vi.58.

Systematic remarks.—Length of head 5.0—5.5, depth of body 5.5 in total length. Diameter of eye 4.5—5.0 in length of head. Barbels pairs, one short maxillary pair. Dorsal fin commences midway between end of snout and posterior end of base of anal fin. Pectoral reaches the ventrals. Caudal deeply forked. Lateral-line scales 42-43, 5 rows between lateral-line and base of ventral fin. Head naked, body scaly.

Distribution.—Rivers in the Himalayan ranges ; Assam ; Burma. R. Baghmata, Kathmandu Valley, Nepal.

Genus 4. *Danio* Hamilton

4. *Danio dangila* Hamilton

1822. *Cyprinus dangila* Hamilton. *Gangetic Fishes*, pp. 321, 390. (*Type-loc.*: Monghyr, Bihar.)

Material.—(i) 22 exs., Sta. No. 54 (Kirtipur, ca. 1,981 m.), in rocky pools ; Baghmata drainage, 24.vi.58.

Systematic remarks.—Length of head 4.5—5.0, depth of body 3.5—4.0 in total length. Diameter of eye 2.5—3.0 in length of head. Barbels 2 pairs ; rostral shorter than the head ; maxillary pair slightly longer. The posterior dorsal ray of the dorsal fin is above the anal. Caudal slightly emarginate. Lateral-line scales 37-38, 2 rows between the lateral-line and base of the ventral ; 18 rows before dorsal fin. Head naked, body scaly.

Distribution.—Rivers in the Himalayas at Darjeeling ; also hills close to Akyab (Day). R. Baghmata, Kathmandu Valley, Nepal.

Genus 5. *Garra* Hamilton

5. *Garra gotyla* Gray

1832. *Garra gotyla* Gray, *Illustr. Indian Zool.*, p. 88 , Fig. 3. (*Type-loc.* : Rapti R., Gorakhpur, U. P.)

Material.—(i) 6 exs., Sta. No. 57 (Sanghosli, ca. 2,133 m. alt.) in rocky pools ; 8.vi.58.

Systematic remarks.—Length of head 5.0—5.5, depth of body 5.0—6.0 in total length of head. Barbels 2 pairs ; rostral one, maxillary, both are of equal length. Dorsal fin arises anteriorly to the origin of the ventral. Pectoral fin shorter than the head. Caudal slightly lobed. Lateral-line scales 32-34. Head naked, body scaly.

Distribution.—Dudh Kosi River, eastern Nepal. Also along the base of the Himalayas (Kangra, Ravi river, Simla, Chumba, Gharwal ; and Mahanadi river in Darjeeling District).

Subfamily (b) *PSILORHYNCHINAE*Genus 6. *Psilorhynchus* McClelland6. *Psilorhynchus* sp.

Several specimens of this fish were collected from the Dudh Kosi River, eastern Nepal. They constitute a new species, which is described in the next part (Part 7) of this series by A. G. K. Menon and A. K. Datta.

Family COBITIDAE

Genus 7. *Botia* Gray7. *Botia dayi* Hora

1932. *Botia dayi* Hora, *Rec. Indian Mus.*, Calcutta, 34, p. 571. (*Type-loc.* : Mahananda R., Darjeeling, Eastern Himalayas, W. Bengal.)

Material.—(i) 8 exs., Sta. No. 63 (Thankot, ca. 1,800 m.) in the Baghmati River, 23.vi.58.

Systematic remarks.—Length of head 4.0—4.5, depth of body 4.8—5.1 in the total length. Diameter of eye 5.9—6.4 in length of head. Barbels 8 ; 4 rostral, 2 maxillary and 2 mandibular. Origin of the dorsal fin is midway between the tip of snout and the base of caudal fin. Pectoral long and narrow. Caudal deeply forked with two lobes, sharp and rounded. Head naked.

Distribution.—Baghmati River, Kathmandu Valley, Nepal. Also Mahananda R., Darjeeling, W Bengal ; in the Ganga, Jamuna and Sone rivers in northern India.

Genus 8. *Nemacheilus* Van Hasselt8. *Nemacheilus beavani* Gunther

1868. *Nemacheilus beavani* Gunther, *Cat. Brit. Mus.*, London, 7, p. 350. (*Type-loc.* : Kosi R., Eastern Himalayas.)

Material.—45 exs., Sta. No. 60 (Pasupatinath, ca. 1,371 m.) in the Baghmati River, 11.vi.58.

Systematic remarks.—Length of head 5.0—5.5, depth of body 7.5—8.0 in total length. Diameter of eye 5.5 in length of head. Barbels six ; 4 rostral and 2 maxillary. Dorsal fin arises slightly nearer the end of the snout than base of the caudal. Caudal lobed. Pectoral extends two-thirds the distance to the root of the ventral. Caudal distinctly lobed and pelvic provided with fleshy appendages. Head naked ; scales embedded in the body skin. Observed for the first time in the Kathmandu Valley.

Distribution.—Rivers at the foot-hills of eastern Himalayas and Baghmati R., in the Kathmandu Valley, Nepal, (eastern Nepal).

9. *Nemacheilus inglisi* Hora

1935. *Nemacheilus* var. *inglisi* Hora, *Rec. Indian Mus. Calcutta*, 37, p. 58, ^P 3, Figs. 9, 10. (*Type-loc.* : Teesta R., Northern Bengal.)

Material.—(i) 6 exs., Sta. No. 6 (Phoktey, *ca.* 2,000 m. alt.) 31.iii.58 (ii) 10 exs., Sta. No. 9 (Those, *ca.* 2,400 m.) 3.iv.58. (iii) 2 exs., Sta. No. 51 (Chunga, *ca.* 2,438 m.) 2.vi.58. (iv) 5 exs., Sta. No. 8 (Sikri, *ca.* 2,100 m.) 2.iv.58. (v) 8 exs., Sta. No. 56 (Chetra, *ca.* 2,400 m.) 7.vi.58. (vi) 6 exs., Sta. No. 31 (Dolaghat, *ca.* 710 m.) 28.iii.58. (vii) 5 exs., Sta. No. 4 (Chaubas, *ca.* 2,021 m.) 29.iii.58. (viii) 7 exs., Sta. No. 55 (Kerantichap, *ca.* 1,8282 m.) 6.vi.58. (ix) 2 exs., Sta. No. 59 (Kathmandu, *ca.* 1,371 m. alt.) 11.vi.58. (x) 2 exs., Sta. No. 52 (Chagma, *ca.* 2,895 m.) 3.vi.58. (xi) 2 exs., Sta. No. 2 (Panchkhal, *ca.* 1,800 m.) 28.iii.58. (xii) 3 exs., Sta. No. 57 (Sangsholi, *ca.* 2,133 m. alt.) 8.vi.58. (xiii) 3 exs., Sta. No. 64 (Kirtipur, *ca.* 1,981 m.) 24.vi.58. (xiv) 6 exs., Sta. No. 54 (Yarshah, *ca.* 2,286 m.) 5.vi.58 in the Sun Kosi River.

Systematic remarks.—Length of the head 5.0—5.5, depth of the body 7.0—7.5 in the total length. Diameter of the eye 5.0—5.25 in the length of the head. Barbels 6 ; rostral shorter than the maxillary. Origin of the dorsal fin nearer to the base of the caudal than to the tip of the snout. Longest ray of the dorsal shorter than the depth of the body. Pectoral shorter than the head. Caudal fin truncate. Scales indistinctly embedded in the skin on the upper surface, none on the lower. A stoutly built little fish, cylindrical in front, tapering towards the tail ; slightly flattened in the vertical plane. Dorsal profile slightly arched and the ventral straight. Head naked and scales embedded in the upper surface of the body skin.

Distribution.—Dudh Kosi River in the eastern Nepal. Also in rivers of northern Bengal.

Division (B) SILURI

Family SISORIDAE

Genus 9. *Coraglanis* Hora10. *Coraglanis kishinouyei* Kimura

1934. *Auchloglanis kishinouyei* Kimura, *Sanghai Sci. Inst.*, Shanghai, 3, pp. 178-179, Pl. 4. *Type-loc.* : Chengtu or Loshan (—Kiating) markets, (Min River drainage, Szechwan, China.)

Material.—(i) 1 ex., Sta. No. 11 (Ghat, *ca.* 3,200 m.) in a flowing stream with rocky bed (a tributary of the Dudh Koshi River) 9.iv.58. (ii) 2 exs., Sta. No. 52 (Chagma, *ca.* 2,895 m.) in the Dudh Kosi River, 3.vi.58. (iii) 2 exs., Sta. No. 53 (Mekchang, *ca.* 2,590 m.) in the Likhu Khola stream, 4.vi.58. (iv) 2 exs., Sta. No. 9 (Those, *ca.* 2,600 m.) in the Likhu Khola stream, 3.iv.58.

Systematic remarks.—Length of head 5 in the total length. Barbels 4 pairs. Distance between anterior origin of pelvic and anal fin is 3 times in that between anterior origin of pelvic and base of caudal fin. Vent at the anterior origin of anal fin. Length of caudal peduncle 2 times in length of head and width 1.55 in its own length. *Goraglanis kishinouyei* is recorded for the first time the Indian Region. This species is known after two examples obtained by Dr. Cora D. Reeves from the markets of Chengru and Kiating in China. The addition of 7 examples in the collection of Zoological Survey of India is of great value. The characteristic feature in this species is that the gill openings are restricted and extended only upto the base of the pectorals spine.

Distribution.—Dudh Kosi River in eastern Nepal. Also Miu River drainage, Szechwan, China.

Genus 10. *Glyptothorax* Blyth

11. *Glyptothorax cavia* (Ham.)

1822. *Pimelodus cavia* Hamilton, *Gangetic Fishes*, p. 188. (*Type-loc.*: Northern Bengal.)

Material.—(i) 4 exs., Sta. No. 62. (Soumbhunath, ca. 1,370 m.) in the Baghmati stream. Kathmundu Valley, 22.vi.58.

Systematic remarks.—Length of the head 4.5—5.0, depth of the body 5.5—6.0 in total length. Diameter of eye 10.0—10.5 in length of head. Barbels 8, nasal barbel short; maxillary as long as head; mandibular shorter than the head. The origin of the dorsal fin is more towards the tip of the snout than the root of the caudal. The dorsal spine is blunt and rough, non-serrated on the anterior surface. Caudal fin forked. The occipital process is distinctly separated from basal bone of dorsal. The adhesive apparatus on the chest has a smooth space in the middle with a distinct central pit. Head and body scaleless.

Distribution.—Baghmati R. Kathmandu Valley, Nepal. Also in rivers of northern Bengal, Assam, eastern Himalayas and Burma.—

Genus 11. *Pseudecheneis* Blyth

12. *Pseudecheneis sulcatus* (McClelland)

1842. *Glyptosternon sulcatus* McClelland, *J. Nat. Hist. Calcutta*, 2, p. 587, Pl. 4. (*Type-loc.*: Khasi Hills, Assam.)

Material.—(i) 1 ex. Sta. No. 14 (Kharikhola, ca. 2,800 m. in the Dudh Kosi stream, 3.vi.58.

Systematic remarks.—Length of the head 5.5—5.25, depth of the body 6.0—6.5 in total length. Diameter of the eye 8.5—9.0 in length of head. Barbels 6; maxillary pair with broad and its length is one third of the length of the head. Origin of the dorsal fin is towards the tip of the snout than to the root of the caudal. Spine of the anterior dorsal is broad and weak. Caudal emarginate. The underside of the thorax is flattened into an adhesive apparatus with 14 transverse folds of skin. Head and body scaleless.

Distribution.—Dudh Kosi River, eastern Nepal. Also in rivers in Darjeeling (W. Bengal), and Khasi Hills (Assam).

Order II. OPHICEPHALIFORMES

Family OPHICEPHALIDAE

Genus 12. *Channa* Gronovis

13. *Channa gachua* (Ham.)

1822. *Ophiocephalus gachua* Hamilton, *Gangetic Fishes*, p. 68, Pl. 21, Fig. 21. (*Type-loc.* : Ponds and ditches of Bengal.)

Material.—(i) 5 exs., Sta. No. 2 (Panchkhal *ca.* 1,800 m. in the Punch stream, 27.iii.58. (ii) 1ex., Sta. No. 59 (Kathmandu *ca.* 1,371 m.) in the Baghmata River, 11.vi.58.

Systematic remarks.—Length of the head 4.2—5.5, depth of the body in total length. Diameter of the eye 6.5—7.0 in length of head. Barbels absent. Origin of the dorsal fin is towards the tip of the snout than to the root of the caudal. Pectoral fin is as long as the head behind the eye, pelvic fin is absent. Lateral-line scales 44-45; it bends downwards after proceeding about 12 scales. Head and body scaly.

Distribution.—Baghmata R., Kathmandu Valley, Nepal. Also rivers in India (including Andamans), Ceylon and Burma.

III—SUMMARY

During the course of the survey 13 species of fish belonging to 12 genera and 4 families were collected in which *Coraglanis kishinouyei* Kimura, *Psilorhynchus* sp., *Pseudecheneis sulcatus* (McClelland), *Glyphothorax cavia* (Ham.), *Danio dangila* Ham., *Garra gotyla* Gray, *Botia dayi* Hora, *Nemacheilus beavani* Gunther and *Channa gachua* (Ham.) have been recorded for the first time in the eastern Nepal Himalayas.

The genus *Schizothorax* Heckel is represented by *Schizothorax richardsonii* (Gray) It is found upto the altitude of 3,000 metres. This genus is spread from Afghanistan along the whole Himalayan range through the contiguous range of hills to south-eastern China. *Garra* Hamilton is represented by *Garra gotyla* Gray. It is found at 2,000 metres alt. in the rocky pools where the water is comparatively deeper and less rapid. *Psilorhynchus* McClelland is represented by a new species which are abundant in the torrential streams and grows to a fairly large size, with the body elongated almost whip-like posteriorly.

Nemacheilus van Hasselt is represented by two species, *N. beavani* Gunther and *N. inglisi* Hora. They are found among pebbles and stones at the bottom of the streams, where they largely escape the effects of the rushing water-current.

Coraglanis kishinouyei Kimura has been recorded for the first time in the Indian Region, in the torrents of the Dudh Kosi River (3,000m.)

in the Solo Khumbu District, eastern Nepal. *Pseudecheneis sulcatus* (McClelland) is recorded for the first time from the Dudh Kosi drainage (2,800 m.).

The genera *Labeo* Cuvier, *Danio* Ham., *Botia* Gray, *Barilius* Ham., *Glyptothorax* Blyth, and *Channa* Gronowis are found in the Baghmati drainage in the Kathmandu Valley up to the altitude of 1,800 metres, where the water is comparatively deep and less rapid.

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