

## ON A SMALL COLLECTION OF FISHES FROM SIKKIM

D. K. KUNDU

Zoological Survey of India, 'M' Block, New Alipore, Calcutta - 700053

### INTRODUCTION

A faunastic survey tour to Sikkim was conducted by the author during March-April, 1996, with special reference to the collection of helminth parasites of vertebrates of Sikkim. In the field while examining the host material a good number of fish hosts were examined to investigate parasitic infection and host fishes were preserved for taxonomic studies. The present paper deals with the said fish material collected from a hill stream at the confluence of the river Ramam with the river Ranjeet at Nayabazar (Jorthang) District West Sikkim in April, 96 by the author. The river Ramam is essentially a hill stream which has close association with Darjeeling district of West Bengal.

McClelland (1845) described *puntius spinulosus* (McClelland), *Puntius clavatus* (McClelland) and *Ctenops nobilis* McClelland from Sikkim. Hora (1927 and 1935) in two reports recorded *Glyptothorax gracilis* (Gunther) and described two new species, *Noemacheilus devdevi* Hora and *Noemacheilus inglisi* Hora from Sikkim. In addition Gunther (1868), Day (1878), Hora and Silas (1951, 1952) and Menon (1954, 1964), in separate reports recorded the occurrence of 8 species under 6 genera from Sikkim. Raj Tilak (1972) compiled the earlier works and studying the collections present in the Zoological Survey of India made a consolidated list.

In the present communication a list of 30 species of fishes so far from the area are provided which include all the species mentioned above.

### SYSTEMATIC LIST

Order : CYPRINIFORMES  
Family : CYPRINIDAE  
Subfamily : RASBORINAE

*Barilius bendelisis* (Hamilton-Buchanan)

*Barilius vagra* (Hamilton-Buchanan)

*Barilius barna* (Hamilton-Buchanan)

*Barilius* Sp.

*Brachydanio rerio* (Hamilton-Buchanan)

*Danio aequipinnatus* (McClelland)

## Subfamily CYPRININAE

*Accrossocheilus hexagonolepis* (McClelland)  
*Crossocheilus latius* (Hamilton-Buchanan)  
*Garra annandalei* Hora  
*Garra gotyla gotyla* (gray)  
*Garra lamta* (Hamilton-Buchanan)  
*Labeo dyocheilus* (McClelland)  
*Neolissochilus spinolosus* (McClelland)  
*Puntius clavatus* (McClelland)  
*Schizothorax plagiostomus* Heckel  
*Schizothorax richardsonii* (Gray)  
*Tor mosal* (Hamilton-Buchanan)  
*Tor putitora* (Hamilton-Buchanan)

Family : COBITIDAE

*Noemacheilus devdevi* Hora  
*Noemacheilus deTerrai* Hora  
*Noemacheilus inglisi* Hora  
*Noemacheilus rupicola* (McClelland)  
*Pangio pangia* (Hamilton-Buchanan)

Order SILURIFORMES

Family : SISORIDAE

*Euchiloglanis hodgarti* (Hora)  
*Glyptothorax striatus* (McClelland)  
*Glyptothorax gracilis* (Gunther)  
*Glyptosternum maculatum* (Regan)  
*Laguvia shawi* Hora  
*Pseudochensis sulcatus* (McClelland)

Order : PERCIFORMES

Family BELONTIDAE

*Ctenops nobilis* McClelland

## SYSTEMATIC ACCOUNT

Order : CYPRINIFORMES

Family : CYPRINIDAE

Subfamily RASBORINAE

Genus *Danio* Hamilton-Buchanan, 1822*Danio aequipinnatus* (McClelland)1839. *Perilampus aequipinnatus* McClelland, *Asiat. res.*, 19(2) : 393, pl. 60, fig. 1 (type-locality : Assam).

1991. *Danio aequipinnatus* Barman, Occ. Papers, Zool. Surv. India, No. 137, p. 22.

**Material** : 2 exs. (7.2-8 cm. total length) Ramam river, Nayabazar, West Sikkim, 2.iv.1996, D. K. Kundu coll.

**Diagnosis** : Head 5 in total length, Dorsal rays 1/11, Ventral rays 8, Pectoral rays 12, Anal rays 14-15. Lateral line scales 34-35. Barbels 2 pairs, snout obtuse. Mouth anterior, obliquely upwards, the end of lower jaw with a knob at symphysis.

**Distribution** : Widely distributed in India. Elsewhere : Bangladesh, Nepal, Malay, Myanmar, Sri Lanka, Sumatra, Thailand, Yunnan Provinces, China.

Genus *barilius* Hamilton-Buchanan, 1822

*Barilius bendelisis* (Hamilton-Buchanan )

1807. *Cyprinus bendelisis* (Hamilton-Buchanan), journey in Mysore, 3 : 345, pl. 32, (Type locality : Rivers of Mysore).

1991. *Barilius bendelisis* Talwar and Jhingran, Inland fishes of India and adjacent countries, 1 : 346. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.

**Material** : 2 exs. (7.2-12.5 cm. total length), Ramam river, Nayabazar, West Sikkim, 2.iv.1996, D. K. Kundu coll.

**Diagnosis** : Adult specimen - Head 5 in total length, eye 6 mm. Lateral line scale 42-44. Maxillary barbel one pair (short). Pectoral fin rays 12. Absence of any band on the body. Black spot in between the scales all through the body. Lateral line scales low, above 3 transverse scales from abdomen. Transverse scales 11, snout with prominent tubercles.

Juvenile specimen-Total length 7.2 cm. Number of vertical bands 11 extend from back to lateral line. Lateral line scales all through the body.

**Distribution** : Through out India including Sikkim. Elsewhere : Bangladesh, Pakistan, Sri Lanka.

Subfamily : CYPRININAE

Genus *Crossocheilus* Van Hasselt, 1823

*Crossocheilus latius* (Hamilton-Buchanan)

1822. *Cyprinus latius* Hamilton-Buchanan, *Fishes of Ganges* : 345, 393.

1991. *Crossocheilus latius latius*, Talwar and Jhingran, Inland fishes of India and adjacent countries 1 : 416, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.

**Material** : 1 ex. (18.2 cm. total length) Ramam river, Nayabazar, West Sikkim, 2.iv.1996, D. K. Kundu coll.

**Diagnosis** : Head 5.51 in total length. Lateral line scales 39-41, Rostral barbels 3 cm. long. Maxillary barbels could not be traced. D.3/7, V.9, A.2/5. 4.5 rows of scales between lateral line and pelvic base. Snout overhanging mouth. Upper lip indented on the edge.

*Distribution* : Drainage of the Ganga and Brahmaputra; Mahanadi river drainage in Orissa; and Western ghats, South to the head water of Krishna river. Sikkim and West Bengal.

Genus *Garra* Hamilton-Buchanan, 1822

*Garra annandalei* Hora

1921. *Garra annandalei* Hora, *Rec. Indian mus.*, **22**(5) : 657 (Type locality : Mahananda river, below Darjeeling).

1964. *Garra annandalei*, Menon, *Mem. Indian Mus.*, **14**(4) : 173-200.

*Material* : 1 ex. (11.4 cm. total length), Ramam river, Nayabazar, West Sikkim, 2.iv.1996, D. K. Kundu coll.

*Diagnosis* : Head 5.4 in total length. Branched rays of dorsal fin 8, pectoral 14-15. Lateral line scales 35, barbels 2 pairs. Absence of any transverse grooves and tubercles on the snout.

*Distribution* Assam, Bihar, Sikkim and West Bengal. Elsewhere : Nepal, Bangladesh.

*Garra gotyla gotyla* (Gray)

1832. *Cyprinus gotyla* Gray, *Illust. Indian Zool. Hardwicke*, 1, pl. 88, figs. 3, 3a (Type locality : Northern India).

1964. *Garra gotyla gotyla*, Menon, *Mem. Indian Mus.*, **14**(4) : 173-200.

*Material* 2 exs. (9-13 cm. total length), Ramam river, Nayabazar, West Sikkim, 2.iv.1996, D. K. Kundu coll.

*Diagnosis* : Snout transversely grooved. 14 tubercles on snout. Dorsal 3/8, Pectoral 1/14, Ventral 1/8, Anal 2/5. Barbels 2 pairs. Lateral line scales 34.

*Distribution* : All along the Himalayas, Chotanagpur plateau and Vindya-Satpura mountains of the Indian Peninsula, Sikkim. Elsewhere Bangladesh, Nepal, Upper Myanmar, Pakistan (Peshawar).

Genus *Schizothorax* Heckel, 1838

*Schizothorax richardsonii* (Gray)

1830-32. *Cyprinus richardsonii* Gray, *Ill. Indian Zool.*, pl. 14, fig. 2 (Illustration only).

1987. *Schizothorax richardsonii* Tilak, *Fauna of India : Pisces Teleostomi* : 50, figs. 12-24.

*Material* 1 ex. (17.3 cm. total length), Ramam river, Nayabazar, West Sikkim, 2.iv.1996, D. K. Kundu coll.

*Diagnosis* Head 5.4 in total length. Barbels 2 pairs. Lateral line scales 98-100. D.3/8, p.16-17, v.10, a.7. Dorsal spine strong, upper half serrated, dentation 10. Absence of any tubercles on the snout. Snout rounded, mouth inferior. Transverse suctorial disc on the posterior edge of lower jaw. Mouth as a whole having suctorial adaptation.

*Distribution* : Jammu and Kashmir to Assam (along the Himalayas), Sikkim. Elsewhere : Bhutan, Nepal, Pakistan, Afghanistan.

Genus *Tor* Gray, 1834

*Tor putitora* (Hamilton-Buchanan)

1822. *Cyprinus putitora* Hamilton-Buchanan, *Fishes of Ganges* : 303, 308.

1991. *Tor putitora* Talwar and Jhingran, Inland fishes of India and adjacent countries, 1 : 308. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.

*Material* : 1 ex. (13.1 cm. total length), Ramam river, Nayabazar, West Sikkim, 2.iv.1996, D. K. Kundu coll.

*Diagnosis* : Head 5.03 in total length. Eyes 8 cm. Lateral line scales 27-28, Barbels 2 pairs, Maxillary barbels 1 cm. long, Rostral. 5 cm. long. Dorsal rays 3/7, Pectoral 15-16, ventral fin to lateral line 2.5 scales. Caudal rays 24-25, depth of body 3 cm.

*Distribution* : Assam Uttar Pradesh and West Bengal. Elsewhere : Afganistan, Bangladesh, Nepal, Pakistan.

Family : COBITIDAE

Subfamily : NOEMACHEILINAE

Genus *Noemacheilus* Van Hasselt, 1823

*Noemacheilus devdevi* Hora

1935. *Noemacheilus devdevi* Hora, *Rec. Indian Mus.*, 37 : 54, pl. 3, fig. 503 (Type locality : Eastern Himalyas, small stream below Darjeeling and Sikkim).

1987. *Noemacheilus devdevi* Menon, *Fauna of India, Pisces*, 4 : 36-197, pl. 1, fig. 7.

*Material* : 1 ex. (5.5 cm. total length), Ramam river, Nayabazar, West Sikkim, 2.iv.1996, D. K. Kundu coll.

*Diagnosis* : Head 5 in total length. 7-8 irregular white bands from caudal base to middle of the body. Barbels 3 pairs, Nosal opening very prominent. A slender fish, upper profile slightly arched. Ventral profile straight. Caudal end furcate.

*Distribution* : Sikkim and West Bengal.

Subfamily : COBITINAE

Genus *Pangio*

*Pangio pangia* (Hamilton-Buchanan)

1878. *Acanthopthalmus pangia*, Day, *Fishes of India* : 610.

1991. *Pangio pangia*, Talwar and Jhingran, Inland fishes of India and adjacent countries, 1 : 531. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.

*Material* 1 ex. (7 cm. total length) Ramam river, Nayabazar, West Sikkim, 2.iv.1996, D. K. Kundu coll.

*Diagnosis* Head 7 in total length. Dorsal 2/6, Pectoral 10, Anal 2/5, Caudal 19. Barbels 3 pairs, dorsal fin little anterior to anal. A pair of pelvic fin present on ventral surface. Distance between snout and pelvic origin 3.5 cm., snout to anal origin 4.7 cm., Anal origin 11 cm posterior to pelvic origin. Depth 8 cm. Eyes minute.

*Distribution* Sikkim and West Bengal. Elsewhere Bangladesh, Myanmar.

Order SILURIFORMES

Family SISORIDAE

Genus *Laguvia* Hora, 1921

*Laguvia shawi* Hora

1921. *Laguvia shawi*, Hora, *Rec. Indian mus.*, **22** (5) 740.

1991. *Laguvia shawi*, Talwar and Jhingran, *Inland fishes of India and adjacent countries 2* : 672, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.

*Diagnosis* Adhesive disc present on the chest is faintly developed. Pectoral spine serrated internally. Dorsal spine smooth. The skin is full of black spots. White vertical bands on the body as well as on the caudal fin.

*Distribution* West Bengal (Tista drainage, Darjeeling Himalaya) and Sikkim. Elsewhere : Bangladesh.

Genus *Pseudecheneis* Blyth, 1860

*Pseudecheneis sulcatus* (McClelland)

1842. *Glyptosternon sulcatus* McClelland, *Calcutta J. nat. Hist.*, **2** : 587, pl. 6 (Type locality : Khasi Hills).

1991. *Pseudecheneis sulcatus* Talwar and Jhingran, *Inland fishes of India and adjacent countries 2* : 679-30, Oxford and IBH Publishing co. Pvt. Ltd., New Delhi.

*Material* 2 exs. (8-10 cm. total length) Ramam river, Nayabazar, West Sikkim, 2.iv.1996, D. K. Kundu coll.

*Diagnosis* : Barbels 4 pairs, Dorsal 1/6, spine of ventral modified as adhesive apparatus, Thorax consisting of 14 transverse folds of skin.

*Distribution* : Meghalaya, Sikkim and West Bengal. Elsewhere : Bangladesh, Nepal.

## SUMMARY

Eleven species of hill stream fishes belonging to ten genera under three families are reported here of them four species viz., *Crossocheilus Latius Latius* (Hamilton-Buchanan), *Laguvia shawi*

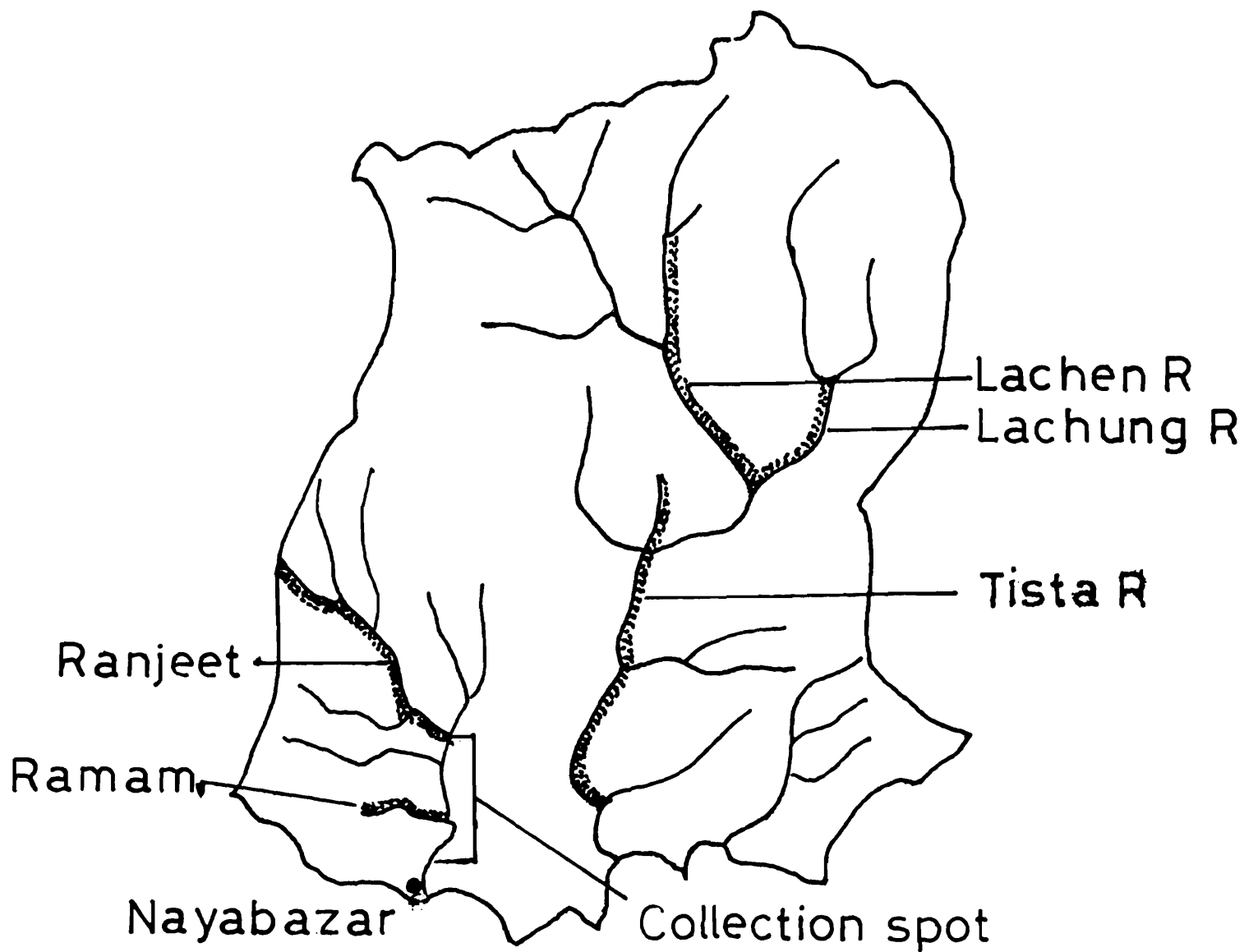
Hora, *Pangio pangia* (Hamilton-Buchanan) and *Tor putitora* (Hamilton-Buchanan) are first record from the state.

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Map of Sikkim showing the drainage and the places of collection.