

ON A SMALL COLLECTION OF FISH FROM JAVADI HILLS,  
NORTH ARCOT DISTRICT, TAMIL NADU

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INTRODUCTION

Javadi Hills are a detached group of hills (Map 1) lying between 12°18' and 12°54' N and 78°35' and 79°11' E, situated in the southwest corner of North Arcot District, though spurs run down to South Arcot and Salem in Tamil Nadu. They are separated from the Eastern Ghats by the broad valley of the Palar and in the neighbourhood of Ambur, the Javadis almost join the Eastern Ghats and the gap widens again as it leaves North Arcot and passes into Salem. The average elevation of the range is approximately 760 metres and the highest point is 1166 metres. This range lies in the rainshadow of the Southeast monsoon, the rainfall being from October to December.

The Cheyyar which forms one of the main tributaries of Palar drains most of the Javadi Hills. The other less important rivers and mountain streams flow through Javadi.

Four surveys were undertaken during premonsoon, monsoon and postmonsoon periods, by the Zoological Survey of India team led by Dr K. R. Rao, during 1982-1984. A total of 974 fish specimens belonging to 15 species were collected.

Menon, 1951 [ based on earlier records viz. Day ( 1878 ), Misra ( 1938 ), Hora ( 1938, 1940 ) and Chauhan ( 1947 ) ] reported 119 species from Eastern Ghats. The present exhaustive collections are from Inner Javadi Hills. In the systematic account of the species are included the first reference, material examined, length range in mm SL, locality, altitude and date of collection, distribution and relevant remarks.

SYSTEMATIC ACCOUNT

Order : CYPRINIFORMES

Family : CYPRINIDAE

Subfamily : RASBORINAE

1. *Amblypharyngodon microlepis* (Bleeker)

1853. *Leuciscus microlepis* Bleeker, *Verh. Batav. Genootsch*, 25 : 41,

(*Type locality* : River Hooghly)

*Material* : 2 exs., 31.0 mm SL, Amredi, 280 m, 3rd May 1984, F. 1616,

*Remarks* : D 2/7 ; A 3/5/1 ; L1 50 ; L tr 4-5 ; a faint broad lateral band seen on body extending upto caudal base ; L1 pored upto the 12th scale.

*Distribution* : "From the Hooghly through Orissa and down the Coromandal Coast to Madras" (Day, 1878).

## 2. *Barilius bendelisis* (Hamilton, Buchanan)

1807. *Cyprinus bendelisis* Hamilton, *Journey Mysore*, 3 : 345, pl. 32.

(*Type locality* : Rivers of Mysore)

*Material* : 1 ex., 73.0 mm SL, Amredi, water falls, 250 m, 4th May 1984, F. 1614.

*Remarks* : D 3/7 ; A 3/8 ; L1 43 ; L tr to ventral base 2 1/2 ; predorsal scales 20 ; body with about 10 vertical bars ; dorsal with rows of small spots and darkened on the upper half ; caudal edged with black and the lower lobe is longer. Vertical bars reported to disappear in adults is well marked in this specimen ; also an oblique black stripe from behind origin of opercls along the side.

*Distribution* : Throughout India. Nepal. Pakistan. Sri Lanka. Bangladesh.

## 3. *Esomus barbatus* (Jerdon)

1849. *Leuciscus barbatus* Jerdon, *Madras J. Lit. & Sci.*, 15 : 322.

(*Type locality* : Rivers and tanks all over Mysore and Carnatic)

*Material* : 13 exs., 33.0-47.0 mm. SL, Uttarakaveri aru, 310 m, 22nd Apr. 1984, F. 1627 and 16 exs., 36.0-46.0 mm. SL, Amredi, 280 m, 3rd May 1984, F. 1615.

*Remarks* : The predorsal scales number 18 ; the lateral line is complete and is pored upto the 30th scale. In a few specimens the L1 is discontinuous above the anal only. A bright lateral band is present from behind eye to caudal base. In *E. barbatus* the bright lateral band is reported to be absent (Hora & Mukerji, 1928). In *E. danricus* (Ham.) and *E. thermoicos* (Val.) the lateral band is conspicuous, but the lateral line is absent or nearly so in the former and the predorsal scale rows are 19-20 in the latter. The specimens from Javadi have been tentatively identified as *E. barbatus* which is characterized by a complete lateral line system.

*Distribution* : Peninsular India.

## 4. *Rasbora caverii* (Jerdon)

1848. *Leuciscus caverii* Jerdon, *Madras J. Lit. & Sci.*, 15 : 320.

(*Type locality* : River Cauvery, Coorg State.)

*Material* : 8 exs., 20.0-50.0 mm. SL, Pinnathurai, 415 m., 24th Apr. 1984, F. 1622 and 3 exs., 48.0-54.0 mm. SL, Amredi water falls, 250 m, 4th May 1984, F. 1613.

**Remarks :** The dorso-hypural distance when carried forwards falls behind posterior border of eye in the larger specimens and just reaches the posterior border of eye in the smaller specimens. In *R. daniconius* a closely related species this distance is greater and falls before the posterior border of eye.

**Distribution :** Peninsular India : Karnataka and Tamil Nadu.

Subfamily : CYPRININAE

### 5. *Puntius puckelli* Day

1868. *Puntius (Capoëta) puckelli* Day, *Proc. Zool. Soc.* : 197.

(Type locality : Bangalore.)

**Material :** 26 exs., 15.0-50.0 mm. SL, Bheemamadugu, 490 m, 24th Feb. 1984, F. 2966 ; 91 exs., 17.0-29.0 mm. SL, Jamnamathur, Motalapattu, 600 m, F. 2960 ; 89 exs., 13.0-48.0 mm. SL, Kanaru stream, 510 m, 26th Feb. 1983, F. 2959 ; 61 exs., 19.0-36.0 mm. SL, Vannanthurai, 590 m, 27th Feb. 1983, F. 2970 ; 126 exs., 14.0-50.0 mm. SL, Bheemamadugu, 500 m, 1st Mar. 1983, F. 2963 ; 23 exs., 23.0-31.0 mm. SL, Kanaru stream, 9th Mar. 1983, F. 2972 ; 8 exs., 18.0-23.0 mm. SL, Kavalur, Pannaikadu, 560 m, 1st Dec. 1983, F. 2716 ; 27 exs., 20.0-30.0 mm. SL, Utharakaveri aru, 300 m, 23rd Apr. 1984 ; 3 exs., 21.0-27.0 mm. SL, Vadavelakkal, Ambur, 360 m, F. 2203 ; 1 ex., 28.0 mm. SL, Utharakaveri aru, Odugathur, 310 m, 26th Apr. 1984 ; 3 exs., 23.0-27.0 mm. SL, Amredi, 280 m, 3rd May 1984 and 39 exs., 26.0-45.5 mm. SL, water falls, Amredi, 250 m, 4th May 1984, F. 2973.

**Remarks :** Day (1868) described *P. Puckelli* from a single specimen 3 inches long from Bangalore, characterised by the presence of 7 branched rays in the dorsal ; L1 24, L tr 4/3 ; a spot in the dorsal and one from the 19th to 21st lateral line scale. Hora (1936) synonymised *P. puckelli* with *P. dorsalis* (Jerdon) on the basis that the former is the juvenile of the latter. In the present collection the significant observation made on a large series of specimens is that the number of branched rays is 7 in 442 specimens (13.0-50.0 mm. SL) and is 6 in one specimen (22.0 mm. SL). The specimens also bear resemblance to a Sri Lankan species *P. bimaculatus* (Bleeker). On an examination of the types of *P. bimaculatus* it was observed that two species are mixed up in the lot, some with 7 dorsal rays and others with 8 dorsal rays, apart from the difference in head length and body depth. A note on the biometric study of *P. puckelli* from Javadi Hills is in the press. Jayaram et al (1982) observed 8 dorsal rays in all the 162 specimens of *P. dorsalis* studied by him and the L tr was 2 1/2 in 64 specimens studied by him. In the present collection *P. puckelli* has 3-3 1/2 lateral row of scales in all the specimens examined.

**Distribution :** S. India : Cauvery drainage system, Karnataka to as far south as Tambaraparni system in Tamil Nadu.

6. *Puntius sophore* (Hamilton)

1822. *Cyprinus sophore* Hamilton, *Fish Ganges* : 310, 319, pl. 19, fig. 86.

(Type locality : Ponds of Bengal.)

*Material* : 5 exs., 22.0-45.0 mm. SL, Utharakaveri aru, 310 m, 22nd Apr. 1984, F. 1626.

*Remarks* : D 3/8, strong but articulated at tip ; L1 25, complete, 21st and 22nd scales with a blotch ; L tr  $5/3\frac{1}{2}$  ; predorsal 8-9 ; a bright round spot at the base of middorsal from the 3rd to the 6th rays ; no barbel.

*Distribution* : Throughout India. Pakistan, Bangladesh, Sri Lanka, Myanmar and China.

Subfamily : GARRINAE

7. *Garra mullya* (Sykes)

1841, *Chondrostoma mullya* Sykes, *Trans. Zool. Soc. London*, 2 : 359, pl. 62, fig. 3.

1964. *Garra mullya*, Menon, *Mem. Indian Mus.*, 14 (4) : 212.

(Type locality : The Bheema river at Daunde.)

*Material* : 1 ex., 28.0 mm. SL, Kannaru stream, 510 m, 26th Feb. 1983 ; 2 exs., 36.0-38.0 mm. SL, Vannanthurai, 590 m, 27th Feb. 1983, F. 2971 ; 1 ex., 23.0 mm. SL, Bheemamadugu, 500 m, 1st Mar. 1983 ; 2 exs., 39.0-44.0 mm. SL, Nellivasal, 720 m, 18th Nov. 1983, F. 1631 ; 51 exs., 17.0-250 mm. SL, Kataru, 640 m, 21st Nov. 1983, F. 1625 ; 1 ex., 75.0 mm. SL, water falls, Amredi, 250 m, 4th May 1984, F. 1611.

*Remarks* : In some specimens a dark lateral streak on body ending in a blotch in the caudal peduncle ; distance between anus to anal is 3 times in the distance between pelvic to anal.

*Distribution* : Throughout India except Assam and Himalayas.

Family : COBITIDAE

8. *Lepidocephalus thermalis* (Valenciennes)

1846. *Cobitis thermalis* Valenciennes, *Hist. nat. Poiss.*, 17 : 78.

(Type locality : Sri Lanka.)

*Material* : 1 ex., 30.0 mm. SL, Paramandai near Chengam road, 200 m, 5th Dec. 1983 ; 17 exs., 21.5-42.0 mm. SL, Utharakaveri aru, 310 m, 22nd Apr. 1984, F. 1630 ; 8 exs., 31.5-26.0 mm. SL, Utharakaveri aru, 300 m, 23rd Apr. 1984 ; 180 exs., 20.0-35.0 mm. SL, Vadavelakkal, Ambur, 360 m, 25th Apr. 1984, F. 2201 ; 6 exs., 29.5-42.0 mm. SL, Utharakaveri aru, Odugathur, 310 m, 26th Apr. 1984, F. 1998 ; 7 exs., 32.0-40.0 mm. SL, Pudupattu, 340 m, 28th Apr. 1984, F. 2958 ; 7 exs., 30.0-37.0 mm. SL,

Gururajapalayam, 200 m, 29th Apr. 1984, F. 2957 ; 48 exs., 25.5-37.0 mm. SL, Amredi, 280 m, 3rd May 1984, F. 1617 ; 12 exs., 23.0-48.0 mm. SL, water falls, Amredi, 250 m, 4th May 1984, F. 1612.

*Distribution* : Peninsular India : Southern Karnataka, Kerala, Tamil Nadu. Sri Lanka.

Family : HOMALOPTERIDAE

Subfamily : NOEMACHEILINAE

### 9. *Noemacheilus denisoni denisoni* Day

1867. *Nemachilus denisoni* Day, *Proc. Zool. Soc. Lond.* : 287.

1987. *Noemacheilus denisoni denisoni*, Menon, *The Fauna of India and Adjacent Countries, Pisces IV, Part I Homalopteridae* : 93-99, figs. 3 & 4, pl. 10.

(*Type locality* : Bhowany River, Base of Nilgiris.)

*Material* : 14 exs., 17.0-42.5 mm. SL, Bheemamadugu, 490 m, 24th Feb. 1983, F. 2000 ; 1 ex., 24.0 mm. SL, Kannaru stream, 510m, 26th Feb, 1983 ; 1 ex., 19.5 mm. SL, Vannanthurai, 590 m, 27th Feb. 1983 and 14 exs., 17.0-27.0 mm. SL, Bheemamadugu, 500 m, 1st Mar. 1983, F. 1999.

*Remarks* : Adults with about 14 vertical bands, young with rows of vertical blotches on sides separated from a row of spot in middorsal ; dorsal and caudal fins spotted in rows.

*Distribution* : Peninsular India.

Order : SILURIFORMES

Family : BAGRIDAE

### 10. *Mystus montanus* (Jerdon)

1849. *Bagrus montanus* Jerdon, *Madras J. Lit. Sci.*, 15 (2) : 337.

(*Type locality* : Malabar.)

*Material* : 1 ex., 41.0 mm. SL, Amredi, 280 m, 3rd May 1984, F. 1619 ; 1 ex., 51.5 mm. SL, Pinnathurai, 415 m, 24th Apr. 1984, F. 1624.

*Remarks* : In this specimen the adipose dorsal base is longer ; maxillary barbel reaches anal ; horizontal bands on body ; caudal peduncle with a prominent oval blotch, rayed dorsal and anal fins long and tipped black.

*Distribution* : India : Kerala, Karnataka, Tamil Nadu and M. P.

Order : ATHERINIFORMES

Family : ORYZIIDAE

11. *Oryzias melastigma* (Mc Clelland)

1839. *Aplocheilus melatigma* McClelland, *Asiat. Res.* 19, *Indian Cyprinidae* : 301, 427, pl. 42, fig. 3.

(Type locality : Tanks in Calcutta.)

*Material* : 8 exs., 14.0-26.0 mm. SL, Bheemamadugu, 490 m, 24th Feb. 1983, F. 2968 ; 7 exs., 11.0-25.0 mm. SL, Bheemamadugu, 500 m, 1st Mar. 1983, F. 2965 ; 2 exs., 20.0-24.0 mm. SL, Uttarakaveri aru, 300 m, 23rd Apr. 1984 and 2 exs., 17.5-22.0 mm. SL, Gururajapalayam, 200 m, 29th Apr. 1984.

*Distribution* : Throughout India. Myanmar. Pakistan. Sri Lanka.

Order : CHANNIFORMES

Family : CHANNIDAE

12. *Channa orientalis* Schneider

1801. *Channa orientalis* Schneider, *Syst. Ichth.* : 496, pl. 90, fig. 2.

(Type locality : Ponds and ditches of Bengal)

*Material* : 1 ex., 41.5 mm. SL, Bheemamadugu, 490 m, 24th Feb. 1983, F. 2967 ; 1 ex., 60.0 mm. SL, Jamnamathur, Motalapattu, 600 m, 25th Feb. 1983, F. 2961 ; 1 ex., 71.0 mm. SL, Kannaru stream, 510 m, 26th Feb. 1983 ; 5 exs., 52.0-75.0 mm. SL, Vannanthurai, 590 m, 27th Feb. 1983, F. 2169 ; 3 exs., 57.0-88.0 mm. SL, Bheemamadugu, 500 m, 1st Mar. 1983, F. 2964 ; 10 exs., 19.0-47.0 mm. SL, Kalyanamandai, Kuttathur, 600 m, 1st Feb. 1983, F. 2717 ; 2 exs., 39.0-58.0 mm. SL, Pinnathurai, 415 m, 24th Apr. 1984, F. 1623 ; 1 ex., 29.0 mm. SL, Amredi, 280 m, 3rd May 1984, F. 1618.

*Distribution* : Throughout India. Afghanistan. Pakistan. Bangladesh. Sri Lanka. Myanmar. Thailand. Malaysia. China. Viet-Nam. Laos. Hainan.

13. *Channa punctatus* (Bloch)

1793. *Ophiocephalus punctatus* Bloch, *Naturg. Ausland Fisch.*, 2 : 139, pl. 358.

(Type locality : Coromandal Coast)

*Material* : 1 ex., 32.0 mm. SL, Vadavelakkal, Ambur, 360 m, 24th Apr. 1984, F. 2202.

*Distribution* : Throughout India. Pakistan. Nepal. Bangladesh. Myanmar and Sri Lanka.

Order : PERCIFORMES

Family : GOBIIDAE

14. *Glossogobius giuris* (Hamilton)

1822. *Gobius giuris* Hamilton, *Fish. Ganges* : 51, 366, pl. 33, fig. 15.

(Type locality : Ponds and freshwater rivers of Gangetic Provinces)

**Material :** 1 ex., 54.0 mm. SL, Utharakaveri aru, 310 m, 22nd Apr. 1984, F. 1628 ; 1 ex., 38.0 mm. SL, Utharakaveri aru, 300 m, 23rd Apr. 1984 and 3 exs., 32.0-61.0 mm. SL, Pinnathurai, 415 m, 24th Apr. 1984, F. 1621.

**Distribution :** Throughout India. Pakistan. Nepal. Bangladesh. Myanmar. Sri Lanka. Indo-Pacific.

Family : CICHLIDAE

### 15. *Oreochromis mossambica* (Peters)

1852. *Chromis mossambicus* Peters, *Montab, Akad. Wiss. Berlin* : 681.

(Type locality : Zambesi river, S. Africa.)

**Material :** 1 ex., 39.0 mm. SL, Bheemamadugu, 500 m, 1st Mar. 1983, F. 2962 ; 2 exs., 19.0-19.5 mm. SL, Utharakaveri aru, 310 m, 22nd Apr. 1984, F. 1629 and 1 ex., 93.0 mm. SL, Pinnathurai, 415 m, 24th Apr. 1984, F. 1620.

**Distribution :** East Africa to Natal ; widely distributed in India.

### DISCUSSION

Misra (1938) reported 37 species of fish from various mountain ranges of Eastern Ghats lying below the Krishna River and of these 11 were recorded from Cheyyeru river in Cuddapah District. Material from interior Javadi Hills were not studied by him. Recently Lazarus et al (1988) in their check-list included 11 species of fishes from Javadi Hills. In this report some current nomenclatural changes were overlooked viz. *Puntius stigma* (Val.) and *P. tetraupagus* (Ham. Buch.) are junior synonyms of *P. sophore* (Ham.) and *P. chola* (Ham.) respectively. *P. bimaculatus* (Blkr.) is a Sri Lankan species and the two spotted barbs encountered in plenty in the present collection are referable to *P. puckelli* Day.

With this report the fishes so far known from Javadi Hills totals to 25. The fishes that were collected earlier and not represented in the present collection are *Notopterus notopterus* (Pallas), *Cirrhinus fulungee* (Sykes), *Puntius ticto* (Ham.), *Heteropneustes fossilis* (Bloch) and *Channa striatus* (Bloch) (Misra, 1938) and *P. chola* (Ham.), *P. amphibius* (Val.), *Danio rerio* (Ham. Buch.), *Mystus armatus* (Day) and *Macrogathus aculeatus* (Bloch) (Lazarus et al, 1988). The species being reported for the first time from Javadi Hills are *Barilius bendelisis bendelisis* (Ham. Buch.), *Rasbora (Rasbora) caverii* (Jerdon), *Puntius puckelli* Day, *Noemacheilus denisoni denisoni* Day, *Mystus montanus* (Jerdon) and *Oryzias melanostigma* (McCl.). Besides, *Oreochromis mossambica* (Peters) reported here is an exotic species.

### SUMMARY

Studies on a small collection of fish fauna from Javadi Hills, in the Eastern Ghats, has revealed 15 species of which 6 are reported here for the first time from these Hills.

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## REFERENCES

- Day, F. 1868. On some new fishes from Madras. *Proc. Zool. Soc.*, London : 192-199.
- Day, F. 1878. *The Fishes of India being a natural history of the fishes known to inhabit the seas and fresh waters of India, Burma and Ceylon.* William Dawson, London, XX+778 pp., 195 pls.
- Chauhan, B. S. 1947. Fish and Fisheries of the Patna State, Orissa. *Rec. Indian Mus.*, 45 : 267-282.
- Hora, S. L. 1936. Notes on fishes in the Indian Museum. XXVI. On a small collection of fish from the Chitaldurg District, Mysore. *Rec. Indian Mus.*, 38 (1) : 1-7.
- Hora, S. L. 1938. On a collection of fish from the Bailadila Range, Bastar State, Central Province. *Rec. Indian Mus.*, 40 : 237-241,
- Hora, S. L. 1940. On a collection of fish from the Headwaters of the Mahanadi river, Raipur District, Central Provinces. *Rec. Indian Mus.*, 42 : 365-374.
- Hora, S. L. and Mukerji, D. D. 1928. Notes on fishes in the Indian Museum XVI. On fishes of the genus *Esomus* Swainson. *Rec. Indian Mus.*, 30 (1) ; 41-56.
- Jayaram, K. C., Venkateswarlu, T. and M. B. Raghunathan 1982. A survey of the Cauvery river system with a major account of its fish fauna. *Rec. zool. Surv. India*, Misc. Pu bl., Occ. Pap., 36 : 1-115, pls. 12, figs. 41.
- Lazarus, R. J., Arivudai, Nambi, V. and P. Sitarami Reddy 1988. A check-list of the fishes from the streams of Javadi Hills, with notes on the unique catching method, 'Pari'. *Matsya*, 14 : 47-52.
- Misra, K. S. 1938. On a collection of fish from the Eastern Ghats. *Rec. Indian Mus.*, XL (3) : 255-264.
- Menon, A. G. K. 1951. Further studies regarding Hora's Satpura hypothesis. The role of Eastern Ghats in the distribution of the Malayan Fauna and Flora to Peninsular India. *Proc. Nat. Inst. Sci. India*, XVII (6) : 475-497.