

# *Tor barakae*, a new species of mahseer fish (Cyprinidae : Cyprininae) from Manipur, India

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(Accepted for Publication - 9<sup>th</sup> August, 2003)

## Abstract

*Tor barakae*, new species is described from the Barak river of Manipur, India. It differs from other congeners by the following unique combination of characters: dorsal fin inserted nearer the base of caudal fin, opposite or slightly in advance of ventral fin; dorsal spine length shorter to the body depth, weak and smooth; head length shorter than body depth, 3.4 to 3.77 in standard length; pectoral fin not reaching pelvic fin, height of caudal peduncle 1.05 to 1.31 in the length of caudal peduncle and predorsal scales 9.

**Key words :** *Tor barakae* sp. nov., Barak river, Manipur, India.

## Introduction

Sen & Jayaram (1982) recognized 6 valid species and 3 valid sub-species of the genus *Tor* from India. Kulkarni (1988) and Menon (1992) reported 6 and 5 species of *Tor* from India, respectively. Jayaram (1999) reported 7 species of *Tor* from the freshwater fishes of Indian region and synonymised *Tor kulkarnii* Menon (1992) into *T. khudree* (Sykes).

In Manipur, fishes of the genus *Tor* are distributed in the Barak, the Manipur and the Yu river systems. Hora (1921, 1936) reported the occurrence of *T. tor* and *T. progeneius*, from the Barak river system of Manipur. Menon (1954) listed *T. putitora* and *T. tor* from Manipur. The spelling of specific names of *T. progeneius* (Menon, 1992) and *T. progenius* (Jayaram, 1999) is full of confusion. Arunkumar (2000) reported the mahseer fishes of Manipur

including their synonymies, local names, distribution, spawning grounds, declining factors and with some conservative measures.

During our studies on the fish diversity of Manipur 5 undescribed specimens of *Tor* were collected from the Barak river at Barak Bridge on February 7, 1997. It does not fit into any known species of the genus. Thus, the fish is described here as a new species, named *Tor barakae*.

## Materials and Methods

Measurements and counts followed Sen & Jayaram (1982), Menon (1992) and Jayaram (1999). Measurements were made with a dial calliper and expressed in of standard length (SL) or head length (HL). The type specimens of the new species are deposited in the Institute of Bioresources and Sustainable Development (IBSD).

## Results and Discussion

*Tor barakae* sp. nov. (Figure 1)

**Local name :** Nung nga

**Holotype :** Regn. No. IBSD. 01, 119 mm. SL.,  
Locality : India : Manipur : Barak river at Barak Bridge,  
collected by Ch. Basudha 7<sup>th</sup> February, 1997.

**Paratypes :** Regn. No. IBSD 04, 4ex., 111 to 136  
mm. SL. Collection data same as Holotype.

**Diagnosis:** A species of *Tor* from its congeners by the following combination of characters: 25 lateral line scales, 9 predorsal scales, dorsal fin inserted nearer the base of caudal fin, opposite to slightly in advance of ventral fin, dorsal spine length shorter to the body depth; weak and smooth, head length shorter than body depth; 3.4 to 3.77 in standard length, pectoral fin not reaching ventral fin and height of caudal peduncle 1.05 to 1.31 in the length of caudal peduncle.

**Description :** D IV, 9; P14; V9; A II, 6; C19; L.1. 25; L.tr. 4½/2¼; PDS 9. General body shape and appearance are shown in Figure 1. Body elongate,

Proportional measurements of holotype and paratypes (in parentheses): Body depth 31.09 (30.30 to 33.33), Length of caudal fin 33.61 (32.14 to 33.08), height of head 21.00 (19.69 to 22.52), head length 26.89 (26.51 to 28.82), predorsal length 52.10 (51.47 to 54.05), width of body at dorsal fin origin 12.60 (12.5 to 12.61), snout length 9.24 (8.08 to 9.90), eye diameter 9.24 (7.35 to 9.09), interorbital distance 9.24 (8.03 to 9.09), length of caudal peduncle 16.80 (14.28 to 15.90), height of caudal peduncle 12.60 (12.5 to 13.51), prepelvic length 53.78 (50.89 to 54.95) and prevent length 76.47 (75.00 to 85.29) in the percentage of standard length, respectively.

Body depth 115.62 (113.51 to 116.66), depth of head at occiput 71.87 (68.57 to 75.00), height of head 78.12 (74.28 to 81.28), width of head at nares 34.37 (32.43 to 34.37), width of head at neck 53.12 (48.57 to 54.04), eye diameter 34.37 (27.02 to 34.37), interorbital distance 34.37 (29.72 to 34.37), snout length 34.37 (29.27 to 34.37) and length of pectoral fin length 81.25 (81.08 to 85.71) in the percentage of

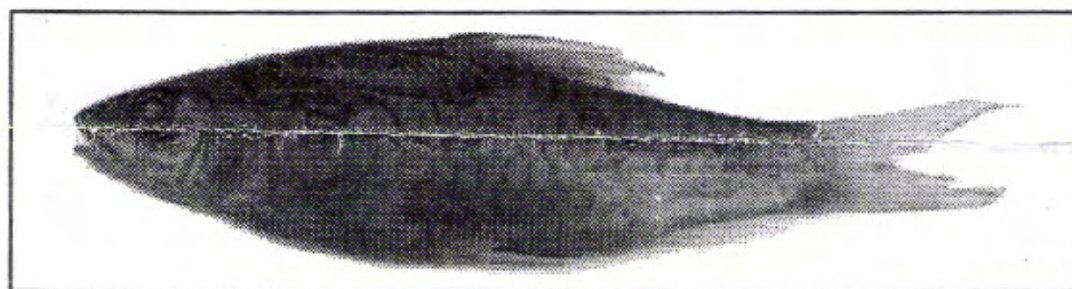


Fig. 1 : *Tor barakae*

moderately compressed. Sides of head not tubercles. Snout obtuse. Eye superolateral. 2 pairs of barbels. Mouth not hypertrophied lip. Dorsal profile more arched than the ventral. Dorsal spine length shorter than the body depth, smooth and weak. Pectoral fin not reaching the pelvic fin. Anal fin reaching the caudal fin base. Vent closed to anal fin origin. Abdomen rounded. Caudal deeply forked, the upper lobe sharply pointed. Lateral line complete.

head length, respectively.

Height of caudal peduncle 83.33 (76.19 to 94.44) in the percentage of length of caudal peduncle. Length of dorsal spine 70.27 (71.42 to 78.57) in the percentage of body depth.

**Colour :** Back dark, greyish brown, belly white. Scales with black margins.

**Etymology** : The specific name alludes to the Barak river and is treated as a feminine.

**Distribution** : India : Barak river near Barak bridge, Barak river system, Tamenglong district of Manipur.

**Remarks**: Comparison of meristic and morphological characters of *T. barakae* sp. nov.; *T. progenieus*; *T. putitora* and *T. tor* is shown in Table 1 and 2. *Tor barakae* is different from *T. mosal* (Jayaram, 1999) by its predorsal scales (9 vs. 8), insertion of dorsal fin (nearer the base of caudal fin vs. nearer tip of snout), height of caudal peduncle in the length of caudal peduncle (1.05 to 1.31 vs. to 1.55) and distribution (India: Manipur vs. Myanmar).

ventral vs. ventral more arched than dorsal) and predorsal scales (9 vs. 11 to 12), snout length (29.27% to 34.37% vs. 33.33% to 41.46%), eye diameter (27.02% to 34.37% vs. 19.51% to 27.50%) of head length, height of caudal peduncle (76.19% to 94.44% vs. 59.38% to 78.26%) of its own length, length of pectoral fin (81.08% to 85.71% vs. 62.50% to 86.21% in head length) and unbranched and branched anal rays (II, 6 vs. III 5) (Menon, 1992).

**Material examined** : *T. progenieus*: Uncat. MUMF, 2 exs. 300 to 320mm. TL., India: Manipur: Iyei stream, Awangkhuil; M. G. Sharma, 16 April, 1985.

*T. putitora* : MUMF 1039, 66.2mm. SL., MUME 1040, 133.4mm. SL., MUMF 1042, 134.3mm. SL.,

Table 1: Comparison of meristic characters of *Tor barakae* sp. nov., *T. progenieus*, *T. putitora* and *T. tor*.

<i>Tor barakae</i> sp. nov.	<i>T. progenieus</i> (Menon, 1992)	<i>T. putitora</i> (Menon, 1992)	<i>T. tor</i> (Menon, 1992)
D. IV, 9	D. IV, 9	D. IV, 9-10	D. IV, 9
P. 14	P. 14-16	P. 14-17	P. 14-16
V. 9	V. -	V. 9	V.
A. II, 6	A. III, 5	A. III, 5	A. III, 5
C. 19	C. 19	C. 19	C. 19
L1. 25	L1. 27-31	L1. 23-28	L1. 22-28
L.tr. 4 <sup>4</sup> /2 <sup>1</sup> / <sub>2</sub>	L.tr. 4 <sup>4</sup> /2 <sup>1</sup> / <sub>2</sub>	L.tr. 4 <sup>4</sup> /2 <sup>1</sup> / <sub>2</sub>	L.tr. 3 <sup>4</sup> -4 <sup>4</sup> /2 <sup>1</sup> / <sub>2</sub> -3 <sup>4</sup> / <sub>2</sub>
PDS 9	PDS 10-12	PDS 9-11	PDS 11-12

It is also different from *T. putitora* (Jayaram, 1999) by its insertion of dorsal fin (nearer the base of caudal fin vs. midway between tip of snout and caudal fin base), dorsal spine length (shorter to the body depth vs. equal to body depth) and length of head (shorter than depth of body vs. greater than depth of body).

It is different from *T. progenieus* (Jayaram, 1999) by its non hypertrophied lips vs. hypertrophied lips and lateral line scales (25 vs. 27 to 30) (Menon, 1992).

It is different from *T. tor* (Jayaram, 1999) by its predorsal scales (9 vs. 6), insertion of dorsal fin (nearer the base of caudal fin vs. midway between tip of snout and caudal fin base), profile (dorsal more arched than

MUMF 119.2mm. SL., Chatrickong river, Selim, 2<sup>nd</sup> February, 1997. *T. putitora*: ZSIF 5663/2, lex., 71.0mm SL. Jhajjar Nala, Udhampur. Jammu, India R. Tilak, 10 October, 1964; ZSIF 5759/2, lex., 90.0mm SL. Birwan Nala Udhampur, Jammu, R. Tilak, 6 September, 1964. *T. putitora*: Uncat. MUMF, 4 exs. 200 to 250mm. TL., India: Manipur: Irang stream; M.G. Sharma, 02 April, 1985. 2 exs. 115 to 167mm TL, India: Manipur: Nungleiband stream of Leimatak river; 04 April, 1994. 3 exs. 157 to 212mm TL; India: Manipur: Lokchao river at Lokchao, 13 April, 1996 and 2 exs, 165 to 195mm TL., India: Manipur: Taret hill stream at Saibol. L. Arunkumar, 12 May, 1996.

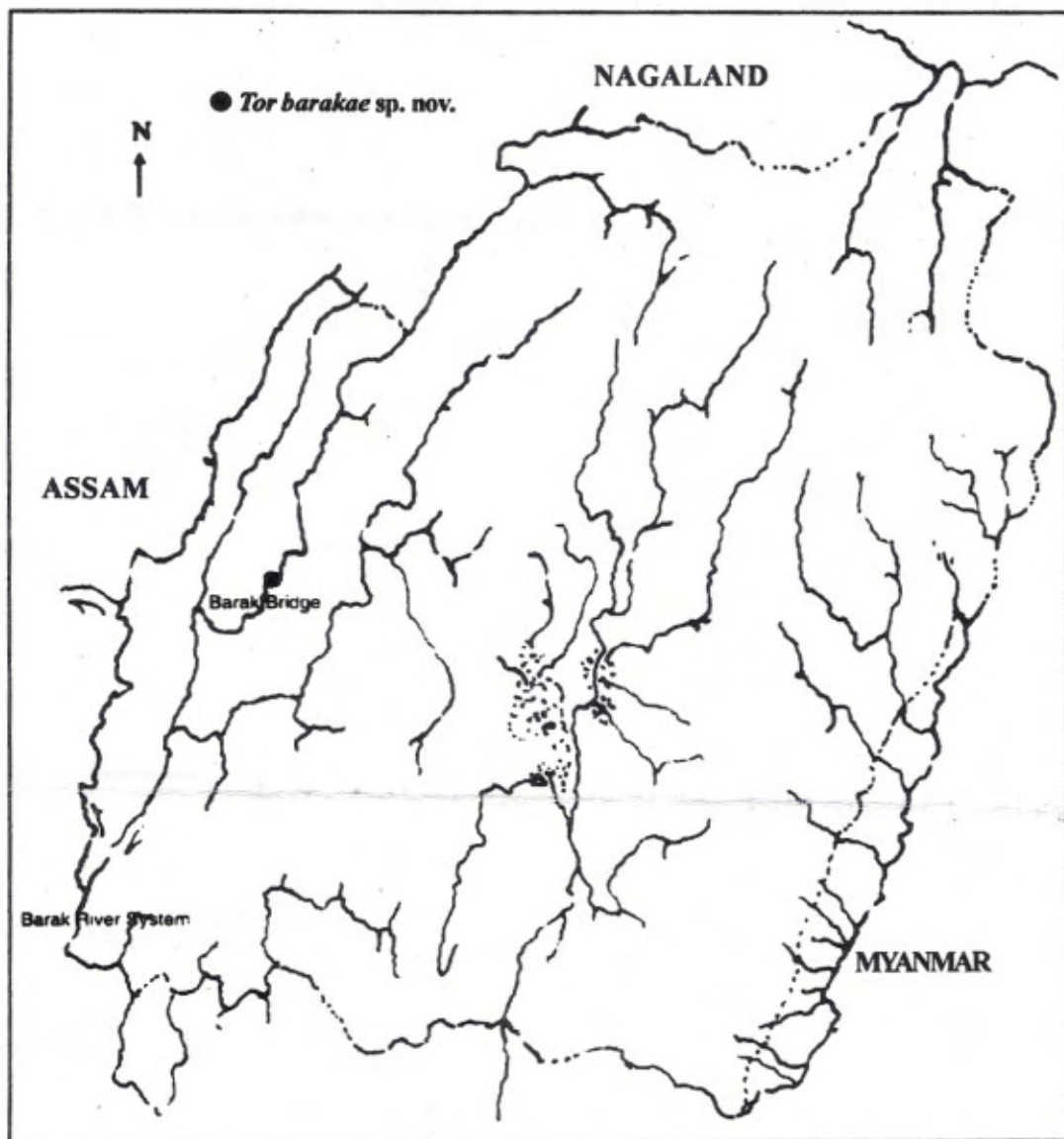


Fig. 2 : Distribution of *Tor barakae* sp. no. in Manipur, India.

MUMF 2057-2059, 3 exs, 69.0 to 90.5mm SL., Challou river, Thetsi, Manipur-Nagaland border; L. Kosygin, 02 June, 1994; MUMF 2194, 1 ex, 70.0mm SL., Tizu river, Akash Bridge near Thetsi, L. Kosygin, 15 August, 1994. Uncat. MUMF, 1 ex. Momo stream Tusom CV, 02 March, 1998; collected by L. Kosygin.

*T. tor* : Uncat. MUMF, 9 exs. 200 to 300mm. TL., India: Manipur: Barak river, M.G. Sharma, 06 June, 1985. 1 ex. 174mm. TL., India: Manipur: None, 15 January, 1995. 2 exs. 165 to 195mm. TL., India: Manipur: Taret stream at Saibol; L. Arunkumar, 12 May, 1995. MUMF 2246-2247, 2 exs, Challou river Manipur- Nagaland state border, L. Kosygin, 07

Table 2: Comparison of morphological characters of *Tor barakae* sp. nov., *T. progenetus*, *T. putilora* and *T. tor*.

	<i>Tor barakae</i> sp. nov., Range		<i>T. progenetus</i> (Menon, 1992) Range		<i>T. putilora</i> (Menon, 1992) Range		<i>T. tor</i> (Menon, 1992) Range	
	Min.	Max	Min.	Max	Min.	Max	Min.	Max
In the % of Standard Length								
Head Length	26.51	28.82	20.69	28.0	26.67	30.0	23.53	29.41
Body Depth	30.30	33.33	22.07	27.20	20.78	25.86	22.46	31.75
In the % of Head Length								
Depth of Head at occiput	68.57	75.00	63.33	72.00	55.41	63.64	69.23	77.59
Width of Head at neck	48.57	54.04	53.33	66.67	43.92	55.56	50.00	62.50
Snout length	29.27	34.37	35.57	40.00	29.17	41.67	33.33	41.46
Eye diameter	27.02	34.37			14.44	22.73	19.51	27.50
Length of pectoral fin	81.08	85.71	73.00	86.00	58.89	72.22	62.50	86.21
In the % of Snout Length								
Eye Diameter	90.00	100	45.00	69.77	36.00	75.00	47.06	78.57
In the % of Inter Orbital Length								
Eye diameter	90.90	100		80.00	50.00	83.33	53.33	91.67
In the % of Length of caudal peduncle								
Heigh of caudal peduncle	76.19	94.44	41.67	68.19	50.00	71.43	59.38	78.26

October, 1997. ZSIF 5609/1, 1 ex., 40.0mm. SL., Nongpriany river, Assam. Dr. Annandale, no date. MUMF 1590, 106.1mm. SL., Chatrickong river 150 km. from Imphal, Manipur. Selim, 12 May, 1996.

### Acknowledgement

We are grateful to Prof. H. Tombi Singh, Director, Institute of Bioresources and Sustainable Development (IBSD), Takyelpat, Imphal. Dr. R. K. Shyamananda Singh, Ex OSD of IBSD and Prof. W. Vishwanath Singh, Department of Life Sciences, Manipur University, Canchipur, Manipur for their valuable suggestions, encouragements and cooperations.

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