



Opsarius kanaensis a new species of bariliine fish (Cypriniformes: Cyprinidae) from Manipur, Northeastern India

Arunkumar L¹, Wanglar Alphonsa Moyon²✉

1. Department of Zoology, MayaiLambi College, Yumnam, Huidrom - 795009, Manipur, India

2. Department of Zoology, South East Manipur College, Komlathabi - 795135, Manipur, India

✉Corresponding Author:

Department of Zoology,
South East Manipur College,
Komlathabi - 795135,
Manipur,
India
Email: alphonshawanglar@gmail.com

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General Note

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ABSTRACT

Opsarius kanaensis is a new species from cyprinid fishes, Manipur. The new species is differentiated with other cyprinid fishes through the combination of morphological characters: 1 pair of short maxillary barbel, no mandibular knob, length of the origin of

dorsal fin to the upper end of caudal fin lobe is longer than the distance between the origin of dorsal fin to the anterior margin of nares, 8-10 blue black lateral bands, a round blue black spot at the anterior base of caudal fin which is overlap by the last vertical band, a mid-transverse band of black colour in the dorsal fin, distinct red colouration of anal fin, depth of caudal peduncle 9.2-9.9% SL; eye diameter 6.3-8.5% SL; post dorsal length 72.1-78.5% SL; head length 18.7-24.2% SL; head depth at occiput 17.2-21.2% SL; and at eye 64.6-70.0% HL; snout length 30.8-37.2% HL; interorbital width 32.2-35.8% HL and width of head at neck 42.6-48.5% HL. A key to the species *Opsarius* from the Chindwin basin of Manipur is provided.

Key words: *Opsarius kanaensis*, North eastern India, New species.

1. INTRODUCTION

Bariliine fishes are a large genus of cyprinid fishes and are widely distributed in running waters from the Indian subcontinent to mainland Southeast Asia and Borneo (Tejavej, 2010). They are generally recognized by their elongate compressed body with rounded belly, vertical bands on lateral sides, 9-17 total anal fin rays, lateral line along the lower part of body, dorsal profile less convex than ventral profile (Hamilton, 1822; Howes, 1980; Talwar & Jhingran, 1991; Rainboth, 1996). Males are more colourful and have tubercles on various body parts (Talwar & Jhingran, 1991 and Tejavej, 2010 & 2012). They are one of the dominant fishes in the hill streams and upland rivers over a vast geographical range from Pakistan and India eastward to Myanmar and Indochina (Hamilton, 1822; Gunther, 1868; Day, 1878; Hora, 1921; Howes, 1980; Talwar & Jhingran, 1991; Jayaram, 1999; Dishma & Vishwanath, 2012; Tejavej, 2010 & 2012 and Kottelat, 2013). All former *Barilius* from Southeast Asia are included in the genus *Opsarius* (Kottelat, 2013).

As of 2017 atleast 14 species of bariliine fishes are hitherto known from the Eastern Himalaya region and only 4 species from the Chindwin basin of Manipur (Dishma & Vishwanath, 2012). The ichthyofauna of Kana river of Sajik-Tampak near the Indo-Myanmar border of Manipur, belonging to the Yu River basin of Manipur is poorly explored. While conducting ichthyological surveys in the Kana River (Yu River Basin), in the Chandel District of Manipur, 25 specimens of *Opsarius* were obtained somewhat similar to *O.dogarsinghi*. These specimens, after detail comparisons revealed it to belong to an undescribed species and is therefore described as a new species, *Opsarius kanaensis*.

2. MATERIALS AND METHODS

Measurements were taken point to point with digital calipers and data recorded to tenths of a millimeter. Counts and measurements were made on the left side of specimens. The colour in fresh specimen was noted before fixation and preservation in 10% formalin. Measurements follow that of Tejavej (2012). One individual (52.2 SL mm) was dissected for vertebrae count by removing flesh with needle and scalpel. The examined materials (type series) were deposited in the Manipur University Museum of Natural History (MUMNH), Canchipur, Manipur. Comparative data for species were derived from the following literature sources: *Opsarius barnoides* from Nathetal (2010); Talwar & Jhingran (1991) and Vishwanath & Manojkumar (2002); *Opsarius bernatziki* from Tejavej (2012); *Opsarius chatricensis* from Selim & Vishwanath (2002); *Opsarius dogarsinghi* from Hora (1921), Selim & Vishwanath (2002), Talwar & Jhingran (1991), Jayaram (1999), Tejavej (2012) & Nathetal (2010); *Opsarius koratensis* from Fishbase.org./summary/270626; *Opsarius lairokensis* from Arunkumar & Singh (2000); *Opsarius ngawa* from Vishwanath & Manojkumar (2002); *Opsarius ornatus* from Tejavej (2012); *Opsarius pulchellus* from Tejavej (2012); *Opsarius signicaudus* from Tejavej (2012).

3. RESULTS

3.1. *Opsarius kanaensis* new species

3.2. Types-Holotype

75/NH/MUM, 53.6mm SL, 68.5mm TL, India, Manipur: from Kana River at Sajik-Tampak, located in Chakpikarong of Chandel, Yu River basin about 43 km towards South from District Headquarter, Chandel from Chandel Bazar, Chandel District; Coordinate: Latitude and Longitude of Sajik-Tampak runs as 24.0054⁰ N and 93.9160⁰ E (www.com.indiamapia.com>Chandel). The fishes were collected by L. Arunkumar and fishermens of Sajik-Tampak & Moyon's party, 7th April 2017.

Paratypes: 75/NH/MUM, 24 exs.: 53.6-56.5mm SL; 67.7-73.0mm TL; (1, Skeleton), 52.2 mm SL; same data as for holotype.

3.3. Local name

Ngawa-macha/Ngawa-apikpa (in Manipuri), Ngaphar – Eshiing (in Moyon).

3.4. Diagnosis

Opsarius kanaensis, a new species of bariliine cyprinid fish is described from the Yu River basin of Manipur, north eastern India. The new species can be differentiated from its congeners occurring in the Chindwin basin of Manipur in having the following combination of characters: 1 pair of short rudimentary maxillary barbel, no mandibular knob, length of the origin of dorsal fin to the upper end of caudal fin lobe is longer than the distance between the origin of dorsal fin to the anterior margin of nares, 8-10 blue black lateral bands, a round blue black spot at the anterior base of caudal fin which is overlap by the last vertical band, a mid-transverse band of black colour in the dorsal fin, distinct red colouration of anal fin, depth of caudal peduncle 9.2-9.9% SL; eye diameter 6.3-8.5% SL; post dorsal length 72.1-78.5% SL; head length 18.7-24.2% SL; head depth at occiput 17.2-21.2% SL; and at eye 64.6-70.0% HL; snout length 30.8-37.2% HL; interorbital width 32.2-35.8% HL and width of head at neck 42.6-48.5% HL.

3.5. Description

General body shape as in Figures 1, 2 (a, b), 3. Biometric data are presented in Table 1. Body slightly compressed, abdomen rounded. Dorsal profile in front of dorsal fin origin relatively straight gently slopes downward towards the base of caudal peduncle. Ventral profile slightly convex. Head longer than wide. Snout bluntly rounded. Eyes moderate, not visible from ventral side of head, situated in anterior half of head, slightly smaller or equal with inter-orbital distance. Inter-orbital space slightly arched or straight. Mouth terminal, obliquely directed upwards. Gape of mouth reaches anterior margin of eye. Lipsthin. Dentary tubercles poor and minute. Nostril almost at the level of upper margin of eye and mid to eye and tip of snout. Barbel one pair of maxillary and rudimentary. Dorsal-fin rounded free margin, inserted more or less mid between pelvic and anal fin origin with ii simple and 7 branched rays, longer than pectoral, pelvic and anal fin- rays. Pectoral fin rounded free margin, with i simple and 12 branched rays, not reaching the origin of pelvic fin. Pelvic fin with i simple and 8 branched rays, not reaching the anal opening and anteriorly far in front of dorsal fin-origin. Anal-fin origin at vertical from the last branched fin ray of dorsal fin, with ii simple rays and 9 branched fin rays. Anal opening located immediately anterior to anal fin origin. Axillary lobes are present in pectoral and pelvic fin rays. Caudal forked, 19 (10+9=19) branched-rays and lower-lobe longer than upper-lobe. Scales moderate. Lateral-line curved downwards and runs nearer to the ventral part of body. 38-40, 7-8/3-3 ½ and 20-22 for lateral line scales, lateral line transverse scales and predorsal scales respectively. Lateral line complete. 40 Vertebrae. Small tubercles on side of snout, front and top of eye, cheek region and lower jaw. Minute dentary tubercles poorly developed.



Figure 1 *Opsarius kanaensis* sp. nov, side view of paratype, 75/NH/MUM, 54.6mm SL

Table 1 Biometric data of *Opsarius kanaensis* sp. nov. (n=25)

| Measurements | Holotype 75 NH/MUM | Range (including holotype) | Mean | ± SD |
|------------------------------------|-----------------------|-------------------------------|------|------|
| (1) | (2) | (3) | (4) | (5) |
| Standard length (SL) in mm | 53.6 | 53.6-56.5 | 54.6 | 2.5 |
| Total length (TL) in mm | 68.5 | 67.7-73.0 | 69.7 | 2.8 |
| In % of standard length | | | | |
| Body depth | 26.9 | 23.7-26.9 | 25.8 | 1.7 |
| Pelvic-fin to dorsal-fin depth | 27.4 | 25.3-27.4 | 26.7 | 1.7 |
| Caudal peduncle depth | 9.9 | 9.2-9.9 | 9.7 | 1.0 |
| Caudal peduncle length | 19.9 | 15.4-19.9 | 18.4 | 1.4 |
| Preanus length | 65.5 | 64.5-67.2 | 66.1 | 2.0 |
| Preanal length | 68.4 | 63.7-70.7 | 67.6 | 2.7 |
| Predorsal length | 59.1 | 59.1-62.7 | 60.3 | 2.6 |
| Postdorsal length | 72.2 | 72.1-78.5 | 74.3 | 2.9 |
| Prepelvic length | 49.7 | 49.7-54.1 | 51.2 | 2.4 |
| Pelvic-fin to anal-fin length | 18.8 | 14.5-18.8 | 17.4 | 1.4 |
| Caudal-fin length | 27.8 | 21.8-29.0 | 26.3 | 1.3 |
| Dorsal-fin height | 21.8 | 21.8-30.0 | 25.2 | 2.4 |
| Pectoral-fin length | 22.6 | 19.7-23.4 | 21.5 | 1.1 |
| Pelvic-fin length | 15.7 | 13.3-20.0 | 17.5 | 1.0 |
| Anal-fin length | 24.8 | 21.3-24.8 | 23.2 | 1.0 |
| Dorsal-fin base length | 13.0 | 12.5-17.9 | 14.5 | 1.3 |
| Anal-fin base length | 14.4 | 14.4-16.9 | 15.2 | 1.3 |
| Lateral head length(HL) | 24.2 | 18.7-24.2 | 22.4 | 1.6 |
| Dorsal head length at occiput | 19.4 | 17.8-19.4 | 18.5 | 1.4 |
| Head width | 11.7 | 10.1-11.7 | 11.2 | 1.1 |
| Head depth at occiput | 17.5 | 17.2-21.2 | 18.6 | 1.4 |
| Snout length | 7.8 | 6.6-7.8 | 7.4 | 0.9 |
| Preorbital head depth | 11.6 | 11.6-15.5 | 12.9 | 1.2 |
| Postorbital head depth | 15.7 | 12.3-15.7 | 14.6 | 1.3 |
| Postorbital length | 12.7 | 12.3-13.6 | 12.9 | 1.2 |
| Interorbital width | 7.9 | 7.7-7.9 | 7.9 | 0.9 |
| Eye diameter | 8.5 | 6.3-8.5 | 7.8 | 0.9 |
| Upper jaw length | 10.3 | 8.6-10.3 | 9.7 | 1.0 |
| Body width at dorsal fin origin | 7.4 | 6.6-8.8 | 7.6 | 0.6 |
| Body width at anal fin origin | 6.1 | 5.5-6.7 | 6.0 | 0.6 |
| In % of lateral head length | | | | |
| Head width at neck | 48.5 | 42.6-48.5 | 45.7 | 2.2 |
| Head depth at occiput | 72.4 | 72.4-81.4 | 75.7 | 2.9 |
| Head depth at eye | 64.6 | 64.6-70.0 | 66.6 | 2.7 |
| Snout length | 37.2 | 30.8-37.2 | 35.1 | 2.0 |
| Post orbital length | 52.6 | 52.6-57.0 | 53.9 | 2.4 |
| Interorbital width | 32.6 | 32.2-35.8 | 33.5 | 1.9 |
| Eye diameter | 35.0 | 26.4-35.0 | 32.1 | 1.9 |
| Upper jaw length | 42.6 | 40.3-46.2 | 43.0 | 2.2 |

3.6. Sexual dimorphism

Males are brightly coloured, tend to grow a little larger and are thicker bodied than females. Nuptial males developed tubercles on the head, more or less four to six rows of tubercles on the entire lateral sides of the body and distinct red colouration of anal-fin. Females have greater depth of pelvic-fin to dorsal-fin than males viz., 27.4 Vs. 23.7-25.3, deeper head at occiput 21.2 vs. 17.2-18.9, longer anal fin 24.8 vs. 21.3-22.7, longer post-orbital length 15.7 vs. 12.3-13.6, wider body at dorsal- fin origin 8.8 vs. 6.7-7.3 and at anal- fin origin 6.7 vs. 5.5-5.7, longer pectoral- fin 23.4 vs. 19.7-20.3 and longer caudal fin 29.0 vs. 21.8-26.8 in percent of standard length respectively. Sexual dimorphism of *Opsarius kanaensis* is shown in Figure 2.



(a)



(b)

Figure 2 *Opsarius kanaensis* sp. nov. showing (a) Male and (b) Female

3.7. Colour

In fresh specimens, 2-3 vertical bands of posterior parts of body flank near caudal fin is distinct. Width of lateral bands and interbands are more or less same. Caudal spot is distinct in juveniles and fingerling stages. Pectoral, ventral, dorsal and anterior caudal fins are light orange. Caudal spot is rounded at the centre and overlapped by the last vertical band at the base and origin of caudal fin-rays. It is not extended in the posterior part of caudal-fin rays but extended semi circularly in anterior portion of it. A mid-transverse band of black colour in the dorsal-fin is distinct and is shown in Figure 3. Anal-fin is distinctly reddish in colouration. 8-10 blue-black lateral body bands. Dorsal surface is also banded and continued as the number of vertical lateral bands in greenish to blackish colouration. Caudal-fin dusky in its posterior half. In preserved specimens, vertical bands of flank are distinct. Reddish colouration of anal-fin disappeared.



Figure 3 *Opsarius kanaensis* sp. nov. showing a mid-transverse black band in the dorsal-fin

3.8. Habitat

Opsarius kanaensis is found in fast-flowing stream and river with clear water, gravel or cobble bottoms (Figure 4). The new species *O.kanaensis* accompanied with *Schisturamanipurensis*, *Pethiameingangbii*; *Glyptothoraxgranulus*; *Channamarulius*; *Rasboraornatus*; *Devarioaequipinnatus*; *Acanthocobitiszonalternans*; *Botiahistronica* etc.

3.9. Distribution

Opsarius kanaensis at present is known only from the Kana River, a tributary headwater of the Yu River basin of Manipur (Figure 5).

3.10. Etymology

The species *Opsarius kanaensis* is named after the Kana River of Sajik-Tampak, located at Chakpikarong of Chandel District, Manipur.



Figure 4 Kana River of Sajik-Tampak located at Chakpikarong of Chandel District, Manipur, type locality and natural habitat of *Opsarius kanaensis* sp. nov.

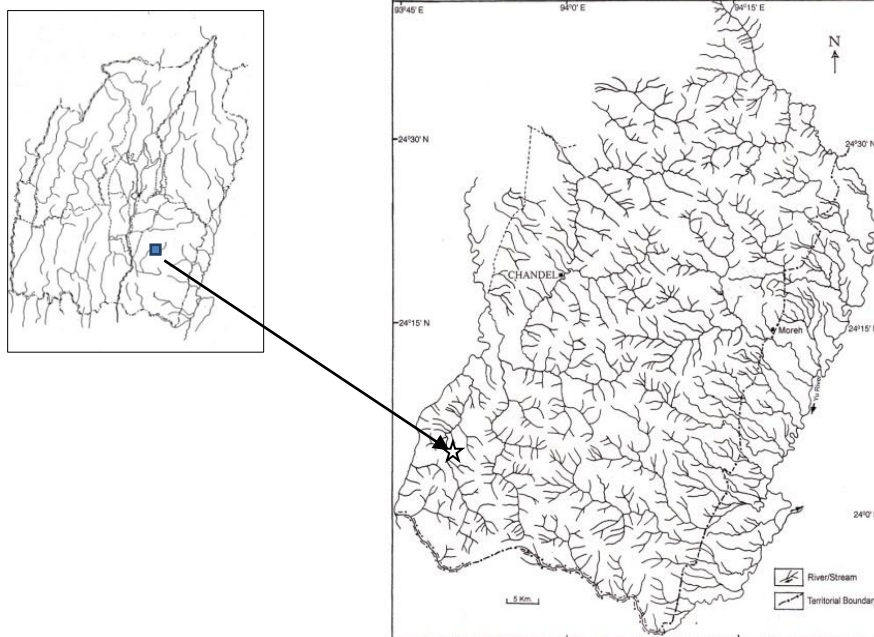


Figure 5 Map of Manipur, India showing the type locality of *Opsarius kanaensis* sp. nov. indicated by star (☆) symbol.

4. DISCUSSION

The new species, *Opsarius kanaensis* one of the smallest barilline cyprinid fish in Manipur. *O. kanaensis* sp. nov. differs from *O. barnoides* in having a distinct deep black band across the middle of dorsal fin vs. absent, less number of lateral-line scales (39-40 vs. 42-46), less number of vertical bars (8-10 vs. 14-15), less number of barbel (1 pair vs. 2 pairs), shorter head (218.7-24.2 vs. 26.1-26.4% SL), larger eye (6.3-8.5 vs. 5.3-6.5% SL), longer predorsal (59.1-62.7 vs. 57.3-57.7% SL), longer prepelvic (49.7-54.1 vs. 47-48% SL), longer anal-fin (21.3-24.8 vs. 16.8-17.3% SL) and shorter caudal-fin (21.8-29.0 vs. 29.9-30.7% SL) respectively. Data of Nathet *et al* (2010), Talwar & Jhingran (1991), Vishwanath & Manojkumar (2002) and Tejavej (2012) for *Opsarius barnoides* were used for comparison.

Opsarius kanaensis sp. nov. differs from *O. bernatziki* in having more vertical bars (8-10 vs. 6-7), more lateral line scales (38-39 vs. 33), a large caudal blotch at the base of caudal fin (absent vs. present as laterally elongate and extending onto the basal fin rays) and less barbel (1 pair vs. 2 pairs) respectively. Data of Tejavej (2012) and [www seriously fish com/species/Opsarius](http://www.seriouslyfish.com/species/Opsarius) for *Opsarius bernatziki* were used for comparison.

Opsarius kanaensis sp. nov. differs from *O. chatricensis* in having a distinct deep black band across the middle of dorsal fin vs. absent, more predorsal scales (20-22 vs. 15), barbel (present vs. absent), narrower interorbital (32.2-35.8 vs. 45.3-53.1% HL), longer predorsal (59.1-62.7 vs. 51.4-55.4% SL), smaller eye diameter (6.3-8.5 vs. 25.7-29.8% SL), slender caudal peduncle (9.2-9.9 vs. 38.0-43.6% SL) and shorter caudal peduncle (15.4-19.9 vs. 71.7-79.7% SL) respectively. Data of Selim & Vishwanath (2002) for *Opsarius chatricensis* were used for comparison.

Opsarius kanaensis sp. nov. differs from its closest species *O. dogarsinghi* in having longer distance between origin of dorsal-fin to the tip end of upper lobe of caudal fin than the distance between origin of dorsal fin to the anterior margin of nares, colour of anal fin (red vs. white), greater eye diameter (26.4-35.0 vs. 25% HL), more predorsal scales (20-22 vs. 20) and less number of barbels (1 pair vs. 2 pairs) respectively. Data of Hora (1921) for *O. dogarsinghi* were used for comparison. The new species differs from *O. dogarsinghi* in having slender caudal peduncle 9.2-9.9 vs. 45.90-52.80 (i.e. ZSI/F220 8/2 n=3), and 46.06-47.27 (MUM 360/n=10), less number of barbels (1 pair vs. 2 pairs), extension of ventral fin (not reaches anal fin origin vs. reaches anal fin origin) and extension of bands (not reaching lateral line vs. reaching lateral line) respectively. Data of Selim & Vishwanath (2002) for *O. dogarsinghi* were used for comparison.

Presence of two pairs of barbels are one of the distinctive characters of *Opsarius dogarsinghi* according to Hora (1921), Talwar & Jhingran (1991), Jayaram (1999), Selim & Vishwanath (2002) and Tejavej (2012) respectively. But, it belongs to the presence of single barbel (one pair of rostral) bearing group by Nath *et al* (2010). However, the new species, *Opsarius kanaensis* have only one pair of short rudimentary maxillary barbel.

Opsarius dogarsinghi was reported from the Ayeyarwaddy basin and its distribution records in area from Irrawaddy drainage in Myanmar by Tejavej (2010) and Kottelat (2013) respectively. The new species, *O. kanaensis* differs from *O. dogarsinghi* in having a

distinct deep black band across in the middle of dorsal fin vs. submarginal pigment band on the dorsal fin and presence of 1 pair of maxillary barbel vs. presence of 1 pair of long rostral and 1 pair of maxillary barbels respectively according to Tejavej (2012).

Nathet *al* (2010) wanted to keep separately the species *Barilius lairokensis* due to the presence of dorsal and anal fins with spines. Thus, Kottelat (2013) kept it in species inquirenda. After vivid examinations, it has no spines in pectoral and ventral fins, nor in dorsal and anal fins. So, *Barilius lairokensis* is revalidated here as *Opsarius lairokensis*. Kottelat (2013) synonymized *Barilius chatricensis* and *B.ngawa* into *Opsarius barnoides*. They were used as valid species for comparisons with the new species, *O.kanaensis* due to the occurrence in the same river basin.

Opsarius kanaensis sp. nov. is differentiated from *O.infraciatus* in having slender depth of head (17.2-21.2 vs. 18.3-23.9% SL), more scale rows above the lateral line (7-8 vs. 6-7) and dorsal fin band (present vs. absent) respectively. Data of Tejavej (2012) for *O.infraciatus* were used for comparison.

Opsarius kanaensis sp. nov. differs from *O.koratensis* in having more predorsal scales (20-22 vs. 15-18), more number of lateral line scale (39-40 vs. 32-36) and a faint broad longitudinal stripes on each flank (absent vs. present) respectively according to www.fishbase.org./summary/270626.

Opsarius kanaensis sp. nov. differs from *O.lairokensis* in having 1 pair of barbel vs. 2 pairs of barbels, less number of vertical bands (8-10 vs. 14-16), longer predorsal (59.1-62.7 vs. 56.5-58.1% SL), shorter preanal (63.7-70.7 vs. 71.9-75.2% SL) and shorter head (18.7-24.2 vs. 25.3-26.0% SL) respectively. Data of Arunkumar & Singh (2000) for *Barilius lairokensis* were used for comparison. Other data are also shown in the key to species of this paper.

5. KEY TO THE SPECIES OF *OPSARIUS* FROM THE CHINDWIN BASIN OF MANIPUR

| | | |
|-----|---|------------------------------------|
| 1. | Presence of a deep black band across the middle of dorsal-fin | 10 |
| | Absence of a deep black band across the middle of dorsal-fin | 2 |
| 2. | Absence of barbel | 3 |
| | Presence of barbel | 4 |
| 3. | 7-8 distinct vertical bands | <i>O.chatricensis</i> |
| 4. | Presence of 1 rostral and 1 maxillary barbel | 5 |
| 5. | 14-16 distinct vertical bands | 6 |
| | 13-14 distinct vertical bands | 8 |
| 6. | Preanal length 71.9-75.2%SL | 7 |
| 7. | Eye diameter 26.8-27.4%HL | <i>O.lairokensis</i> |
| 8. | Preanal length 66.0-70.0%SL | 9 |
| 9. | Eye diameter 21.3-25.8%HL | <i>O.ngawa</i> |
| 10. | The origin of dorsal fin is equidistant from the end of the upper lobe of caudal and the anterior margin of nares | 11 |
| | The origin of dorsal fin is not equidistant from the end of the upper lobe of caudal and the anterior margin of nares | 12 |
| 11. | Depth of caudal peduncle 11.6-14.2%SL; Post dorsal length 37.9-40.6%SL; Barbel 2 pairs | <i>O.dogarsinghi</i> |
| 12. | Depth of caudal peduncle 9.2-9.9%SL; Post dorsal length 72.1-78.5%SL; Barbel 1 pair. | <i>O. kanaensis</i> sp.nov. |

Opsarius kanaensis sp. nov. also differs from *O.ngawa* in having lesser barbel (1 pair vs. 2 pairs), less number vertical bands (8-10 vs. 13-14), longer predorsal (59.1-62.7 vs. 55.1-57.8% SL), larger eye (26.4-35.0 vs. 21.3-25.8% HL) and other data are also shown in the key to species of this paper. Data of Vishwanath & Manojkumar (2002) for *Barilius ngawa* were used for comparison.

Opsarius kanaensis sp. nov. differs from *O.ornatus* in having slender body depth (23.7-26.9 vs. 27.2-32.5% SL), lesser body depth at pelvic to dorsal-fin (25.3-27.4 vs. 27.1-32.8% SL), slender caudal peduncle depth (9.2-9.9 vs. 9.6-12.1% SL), longer predorsal (59.1-62.7 vs. 53.2-57.6% SL), shorter length between pelvic fin to anal fin (14.5-18.8 vs. 15.8-22.7% SL), shorter head (18.7-24.2 vs. 23.7-28.4% SL), at occiput (17.8-19.4 vs. 17.7-22.5% SL), narrower head (10.1-11.7 vs. 10.0-12.8% SL), shorter snout (6.6-7.8 vs. 7.0-9.9% SL), slender post-orbital head depth (12.3-15.7 vs. 15.3-19.0% SL), narrower inter-orbital width (7.7-7.9 vs. 7.9-9.3% SL), narrower eye

diameter (6.3-8.5 vs. 6.4-9.4% SL), shorter post orbital (12.3-13.6 vs. 40.9-52.5% HL), dorsal- fin (with a black band across the middle vs. absent) and lesser number of vertical bars (8-10 vs. 8-14) respectively. Data of Tejavej (2012) for *Barilius ornatus* were used for comparison.

Opsarius kanaensis sp. nov. differs from *O.pulchellus* in having a caudal spot with (not separated from the last body bar vs. separated from the last body bar), less number of dorsal soft rays (7 vs. 10-11), less number of anal soft rays (9 vs. 10-11) and dorsal fin (with a distinct deep black band across the middle vs. dark pigments concentrated in the middle of the inter-radial regions) respectively. Data of Tejavej (2012) and www.fishbase.org/summary for *Barilius pulchellus* were used for comparison.

Opsarius kanaensis sp. nov. differs from *O.signicaudus* in having (absence of blotch vs. an elongated blotch at the caudal fin base), barbel (1 pair vs. 2 pairs), shorter snout (6.6-7.8 vs. 7.1-11.1% SL), slender post orbital head depth (12.3-15.7 vs. 17.0-21.7% SL) and shorter upper jaw length (8.6-10.3 vs. 11.1-13.7% SL respectively). Data of Tejavej (2012) for *Barilius signicaudus* were used for comparison.

6. COMPARATIVE MATERIAL

Opsarius barnoides: CMK 4052, 4280, 2 exs; Mae Hong Son Province, Thailand. (CMK=Collections of Maurice Kottelat, Switzerland). Data from Nath *et al* (2010), Talwar & Jhingran (1991), Vishwanath & Manojkumar (2002) and Tejavej (2012).

Opsarius bernatziki or *Barilius bernatziki*: Data from Tejavej (2012) and Website: www.seriouslyfish.com/species/opsarius.

Opsarius chatricensis or *Barilius chatricensis*: Holotype: MUMF 530/1, 86.4mm (SL) Chatrikong River, Ukhrul District, Manipur, India, 150km from Imphal. Coll. Keishing Selim, 16.xi.1995.
Paratype: MUMF 531/9, 58.6-89.00mm (SL). Data from Selim & Vishwanath (2002).

Opsarius dogarsinghi or *Barilius dogarsinghi*: Type Specimen-F9983/1. Zoological Survey of India (Ind. Mus.). Data from Hora (1921), ZSI/F 2208/2, n=3; MUMF 360/n=10. Data from Selim & Vishwanath (2002). Additional data from Talwar & Jhingran (1991), Jayaram (1999), Nath *et al* (2010), Tejavej (2012).

Opsarius infrafasciatus: Data of Tejavej (2012).

Opsarius koratensis: Data from www.fishbase.org/summary/27026.

Opsarius lairokensis or *Barilius lairokensis*: Holotype MUMF 3700/1A, TL 110mm; SL 87mm; from Lairok Maru, Moreh, Chandel district, Manipur, 17.x.1992. coll. Laifrakpam Arunkumar. MUMF 27075, 105.0mm SL, Moreh Bazar, Moreh, Chandel District, Manipur, India. Data from Arunkumar & Singh (2000). Additional data from Dishma & Vishwanath (2012).

Opsarius ngawa or *Barilius ngawa*: Holotype: MUFM 149, 84.8m Sherou river (tributary of Manipur river), 83km south of Imphal, Manipur, W. Manojkumar, 20.iii.1993.
Paratype: MUFM 150, 61.5-134.3mm. Data from Vishwanath & Manojkumar (2002). Additional data from Dishma & Vishwanath (2012).

Opsarius ornatus or *Barilius ornatus*: ZSI6/2986-87, Kolkata. Data from Vishwanath & Manojkumar (2002) and Tejavej (2012).

Opsarius pulchellus or *Barilius pulchellus*: Data from Tejavej (2012) and www.fishbase.org/summary/27046.

Opsarius signicaudus or *Barilius signicaudus*: Data from Tejavej (2012).

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