

Description of a new species of *Hypselobarbus* from Kerala region of Western Ghats, peninsular India (Cypriniformes: Cyprinidae)

Muthukumarasamy ARUNACHALAM^{*1}, Sivadosh CHINNARAJA², Richard L. MAYDEN³

¹Manonmaniam Sundaranar University, Sri Paramakalyani Centre for Environmental Sciences, Alwarkurichi-627 412, Tamil Nadu, India.

²Research Department of Zoology, Poompuhar College (Autonomous), Melaiyur-609 107, Sirkali, Nagapattinam dist., Tamil Nadu, India.

³Department of Biology, Saint Louis University, Saint Louis, Missouri 63103, USA.

*Email: arunacm@gmail.com

Abstract: *Hypselobarbus kurali* (Menon & Rema Devi, 1995) consists of multiple species with similarity in the color pattern of the tip of their caudal fins being orange and black. This complex of species possesses two pairs of barbels. Inspection of collections of *H. kurali* from the senior author's samples from various streams/rivers of Western Ghats covering the Indian states of Tamil Nadu, Kerala and Karnataka revealed that an additional species has gone unrecognized. This new species, *Hypselobarbus keralaensis*, is diagnosed from its likely closest relative *H. kurali* by having fewer transverse breast scale rows (16 vs. 21-23) and fewer pre-anal scale rows (38-39 vs. 43-46).

Keywords: Cyprinidae, *Hypselobarbus keralaensis* sp. n, Taxonomy.

Zoobank: urn:lsid:zoobank.org:pub:51502EEE-C071-4FE5-BBC3-B0EEEE5D1D51

Citation: Arunachalam, M.; Chinnaraja, S.; Mayden, R. L. 2016. Description of a new species of *Hypselobarbus* from Kerala region of Western Ghats, peninsular India (Cypriniformes: Cyprinidae). Iranian Journal of Ichthyology 3(2): 73-81.

Introduction

The genus *Hypselobarbus* was erected by Bleeker (1860b) with the type species of *H. mussullah*. Big-sized barbels representing this genus are endemic to peninsular India and consisted of 14 species. Menon & Rema Devi (1995) described *H. kurali* as a complex of species. Examination of a number of specimens collected and identified as *H. kurali* from Tamil Nadu, Kerala and Karnataka parts of Western Ghats revealed one additional undescribed species from three river systems representing three river basins in Kerala. Herein, we describe this new species of the genus *Hypselobarbus*.

Methods

Fish collections were made during 1996-2005 at river

sites by earlier workers led by M. Arunachalam. Measurements were made point to point using digital caliper. Methods used for the meristic and morphometric characters are based on Hubbs & Lagler (1964). Morphometric characters from landmarks 9, 18-26, 29-31 and 34-35 (Table 1) were the additional truss measurements (Strauss & Bookstein 1982). Preanal scales (Jayaram 1991) are the scales from anus to the isthmus. Body measurements are expressed as percentage of Standard Length (%SL); head measurements are expressed as percentage of Head Length (%HL).

Abbreviations used: ZSI/SRC (Zoological Survey of India, Southern Regional Centre, Chennai), MSUMNH (Manonmaniam Sundaranar University, Museum of Natural History) and also from CMA

(collections of M. Arunachalam).

Results

Hypselobarbus keralaensis sp. n.

(Figs. 1-2)

Holotype: MSUMNH95, 176.65 mm SL; India: Thodaiyar stream, Karamana River basin, 09°39' 29.9"N, 77°09'9.7"E; M. Arunachalam and team, 10 November 2001.

Paratypes: CMA45, 4ex, 180.8-192.3 mm SL; same data as holotype. CMA46, 2ex, 161.51-172.15 mm SL; India: Kallada River at Rosemela, Kallada River basin, 08°52'37.4"N 77°11'42"E, M. Arunachalam and team, 29 January 2003. CMA245, 1ex, 95.82 mm SL; India: Eranjipuzha, Chandragiri River basin, north Kerala, M. Arunachalam and team, 28 January 2004.

Diagnosis: *Hypselobarbus keralaensis* sp. n. is distinguished from *H. curmuca* by two pairs of barbels (vs. one pair), fewer upper transverse scale rows (8.5 vs. 9.5-10), fewer circumferential scale rows (32-33 vs. 39-40), fewer circumpeduncular scale rows (18 vs. 20-21), more transverse breast scale rows (16 vs. 10-11), a shorter upper jaw length (26.31-31.51 vs. 38.85-43.05 %HL) and longer pre-nasal length (33.60-44.58 vs. 26.57-31.48 %HL). It is distinguished from *H. kolus* in having two pairs of barbels (vs. one pair), fewer upper transverse scale rows (8.5 vs. 9.5-10), fewer lower transverse scale rows (6.5 vs. 7.5-9), fewer circumpeduncular scale rows (18 vs. 20-21), more transverse breast scale rows (16 vs. 12-14), longer snout (46.51-53.89 vs. 34.3-42.76 %HL), longer pre-nasal length (33.60-44.58 vs. 22.61-33.18 %HL) and presence of orange and black on caudal tip (vs. absence of color pattern). It is distinguished from *H. dubius* in having a weaker dorsal spine (vs. strong), fewer lateral lines scale rows (41 vs. 42-45) and more transverse breast scale rows (16 vs. 9-11). The species is distinguished from *H. micropogon* in having a weaker dorsal spine (vs. strong), more transverse breast scale rows (16 vs. 8-12), and more circumferential scale rows (32-33 vs. 26-29). It is distinguished from *H. nilgiriensis* in

having a weaker dorsal spine (vs. strong), fewer pre anal scale rows (38-39 vs. 41-45) and fewer circumferential scale rows (32-33 vs. 34-35). It is distinguished from *H. periyarensis* in having fewer lateral line scale rows (41 vs. 43-44), fewer pre-dorsal scale rows (13-14 vs. 17-18), more transverse breast scale rows (16 vs. 10-13), and the morphometric features of having a shorter distance between occiput and dorsal fin origin (23.74-25.13 vs. 30.12-34.75 %SL), shorter dorsal origin to pectoral insertion (25.54-27.63 vs. 33.25-37.45 %SL) and longer snout (46.51-53.89 vs. 35.45-38.34 %HL).

Description: See Figures 1–2 for general appearance; morphometric and meristic data are given in Tables 1-3. Body moderately deep, 23.90-25.76 %SL; dorsal and ventral margins almost convex. Dorsal-fin origin anterior to pelvic-fin insertion by 1.5-2 scales; pre-dorsal length 46.74-49.41 %SL, and pre-pelvic length 48.46-51.77 %SL. Anal fin distant with a length of 72.05-75.70 %SL. Distance from pectoral-fin insertion to pelvic-fin insertion 23.54-26.65 %SL; distance between pelvic fin-insertion and anal-fin origin 19.15-21.36 %SL. Nape slightly convex behind a concavity after occiput. Peduncle moderately deep, 8.66-9.54 %SL at its narrowest region, and of moderate length 10.73-12.77 %SL.

Head long, 26.94-29.90 %SL, with long cranium of 22.39-27.16 %SL; head depth 36.71-48.19 %HL at nostril, 52.32-60.98 %HL at pupil and 61.01-67.22 %HL at occiput. Head long with preopercle straight, its length 74.33-77.87 %HL. Eyes large with a range of 21.69-23.65 %HL. Interorbital space concave and 32.21-37.42 %HL. Snout long having tubercles; snout length 46.51-53.89 %HL. Mouth subterminal. Upper jaw length 26.31-31.51 %HL; gape width 22.74-28.64 %HL. Barbels long; maxillary barbels 20.24-25.34 %HL, and rostral pair 8.60-15.25 %HL.

Dorsal-fin rays iv-9(8), anal-fin rays iii-5(8), pelvic-fin rays ii-8(3) or 9(5), and pectoral-fin rays i-14(6) or 15(2). Dorsal fin moderately high 22.77-23.98 %SL, with straight distal margin, and with weak last unbranched (spinous) ray; length of dorsal

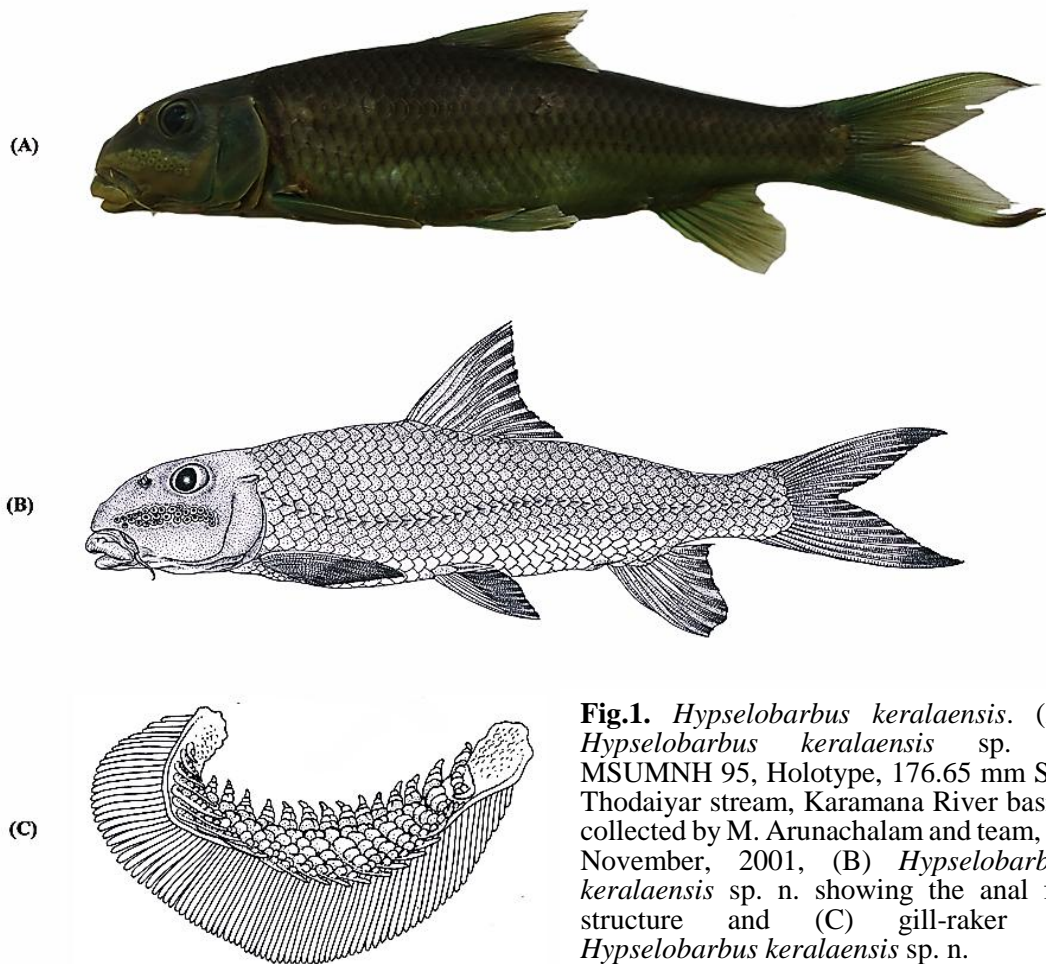


Fig.1. *Hypselobarbus keralaensis*. (A) *Hypselobarbus keralaensis* sp. n. MSUMNH 95, Holotype, 176.65 mm SL, Thodaiyar stream, Karamana River basin, collected by M. Arunachalam and team, 10 November, 2001, (B) *Hypselobarbus keralaensis* sp. n. showing the anal fin structure and (C) gill-raker of *Hypselobarbus keralaensis* sp. n.

spine 21.09-23.13 %SL. Depressed anal fin extending beyond caudal fin base, its length 17.38-25.82 %SL. Distal margin of anal fin convex; first, second and the third unbranched rays not equal in length. Length of anal fin base 7.88-9.76 %SL. Pelvic fin long 15.34-16.73 %SL. Pectoral fin long 19.86-21.61 %SL and moderately falcate, extending to 2-2.5 scales anterior to pelvic fin insertion. Caudal fin long and deeply forked, 28.68-31.44 %SL; upper and lower lobes nearly equal.

Scales small; lateral lines scale rows 41(8), predorsal scale rows 13(5) or 14(3), upper transverse scale rows 8.5(8), scales from lateral line to pelvic fin insertion 4.5(8), lower transverse scale rows 6.5(8), circumpeduncular scale rows 18(8), circumferential scale rows 32(3) or 33(5), transverse breast scale rows 16(8), and pre-anal scale rows 38(4) or 39(4).

Coloration: Dorsal half of body greyish, lighter on the sides and venter; deep black bar behind opening of operculum. Base of the scales above and below the lateral line with dark spots. Tips of caudal tinged black.

Distribution: This species is currently known from three rivers in Kerala.

Etymology: The new species is named after the state of Kerala as specimens were collected from south and north Kerala.

Discussion

Day in his earlier studies (1871, 1873) before the compilation on the book of Fishes of India (1878) stated that *Barbus curmuca* from south Canara possessing four barbels and caudal fin tipped with black was a variety of *Barbus curmuca*. Hora & Law

Table 1. Morphometric characters of *Hypseobarbus keralaensis* sp. n.

Measurements from point to point (identified by numbers and names)	<i>H. keralaensis</i> sp. n.	
	MSUMNH95(n=1) Holotype	CMA, 45, 46, 245 (n=7) Paratype
Standard length	176.65	95.82-192.30
% of standard length		
Snout to urocentrum	93.64	92.30-94.55
Pre anal length	73.38	72.05-75.70
Pre dorsal length	49.41	46.74-49.41
Pre pelvic length	50.03	48.46-51.77
Pre pectoral length	27.12	25.48-27.78
Pre occipital length	27.16	22.39-27.16
Caudal peduncle length	12.35	10.73-12.77
Dorsal origin to pelvic fin insertion	27.61	24.20-27.61
Dorsal spinous height	21.19	21.09-23.13
Anal fin height	19.15	17.38-25.82
Depth of caudal peduncle	9.15	8.66-9.54
Caudal fin length	29.95	28.68-31.44
Dorsal fin height	23.06	22.77-23.98
Pectoral fin length	20.79	19.86-21.61
Pelvic fin length	16.30	15.34-16.73
Pelvic auxiliary scale length	8.94	7.83-10.21
Occiput to dorsal fin origin	23.97	23.74-25.13
Occiput to pectoral fin insertion	19.43	19.13-19.95
Occiput to pelvic fin insertion	36.30	36.30-38.53
Dorsal insertion to pelvic fin insertion	20.89	19.76-21.71
Dorsal origin to pectoral fin insertion	26.90	25.54-27.63
Dorsal origin to anal fin origin	35.18	34.93-36.92
Dorsal fin insertion to caudal fin	35.96	31.99-37.39
Dorsal insertion to anal fin origin	24.39	22.45-24.65
Dorsal insertion to anal fin insertion	27.89	25.75-28.45
Dorsal fin base length	13.38	13.38-15.03
Anal fin base length	8.81	7.88-9.76
Pectoral insertion to pelvic fin insertion	23.54	23.54-26.65
Pectoral insertion to anal fin origin	44.59	42.53-47.98
Pelvic insertion to anal fin origin	19.86	19.15-21.36
Post-dorsal length	51.39	48.80-52.03
Body depth	24.35	23.90-25.76
Distance from pectoral fin insertion to vent	45.96	45.96-49.57
Distance from pelvic fin insertion to vent	22.59	21.54-24.25
Head length	28.21	26.94-29.90
% of Head length		
Snout to opercle	77.87	74.33-77.87
Upper jaw length	28.13	26.31-31.51
Snout length	53.89	46.51-53.89
Pre nasal length	44.58	33.60-44.58
Orbit width	21.69	21.69-27.85
Inter orbital width	33.47	32.21-37.42
Inter nasal width	22.65	22.65-25.49
Head width	56.56	54.84-58.96
Gape width	26.20	22.74-28.64
Lower jaw to isthmus	65.81	57.93-65.81
Head depth at nostril	48.19	36.71-48.19
Head depth at pupil	60.98	52.32-60.98
Head depth at occiput	67.22	61.01-67.22
Maxillary barbel length	22.67	20.24-25.34
Rostral barbel length	12.14	8.60-15.25

Table 2. Meristic characters of *Hypselobarbus keralaensis* sp. n.

Meristic characters	<i>H. keralaensis</i> sp. n.	
	MSUMNH 95. n=1	CMA, 45,46, 245. n=7
	Holotype	Paratype
Dorsal fin rays	iv.9	iv.9
Anal fin rays	iii.5	iii.5
Pelvic fin rays	ii.8	ii.8-9
Pectoral fin rays	i.14	i.14-15
Caudal fin rays	10+9	10+9
Upper transverse scale rows	8.5	8.5
Lower transverse scale rows	6.5	6.5
Lateral line to pelvic scale rows	4.5	4.5
Lateral line scale rows	41	41
Pre-dorsal scale rows	14	13-14
Circumpeduncular scale rows	18	18
Circumferential scale rows	33	32-33
Transverse breast scale rows	16	16
Pre-anal scale rows	38	38-39

Table 3. Meristic and morphometric characters distinguishing two closely relative species of *Hypselobarbus*.

Counts and measurements	<i>H. kurali</i>	<i>H. keralaensis</i> sp. n.
Transverse breast scale rows	21-23	16
Pre-anal scale rows	43-46	38-39
Occiput to pectoral fin insertion	17.69-18.85	19.13-19.95
Pre-nasal length	28.72-31.47	33.60-44.58
Orbit width	24.29-28.92	21.69-23.65

(1941) also recorded this from peninsular India (1941). Jerdon (1849) described two species, *Gobio curmuca* and *Gobio canarensis* in which the specimens were from south Canara showed the caudal fin tipped with orange and black. *Gobio curmuca* was described from Palghat and Ariacode in south Malabar with 40 lateral line scales and caudal margin tipped with black and *G. canarensis* from south Canara with the caudal fin tipped with orange and black.

Hence, as recognized by Jerdon (1849), it seems probable that there were multiple species having caudal fins tipped with black and orange or black from Malabar region and south Canara. The assertion of *H. kurali* as a synonym of *H. canarensis* by Knight et al. (2013) is thus misleading; and he himself agreed that *H. kurali* is a distinct species. However, the reasons he put forward to change it (Knight et al. 2014) were because nearly 25 studies have been published in the past 19 years with the name

Hypselobarbus kurali, a name that has priority over *H. canarensis* as per Article 23.9 of the International Code of Nomenclature ICZN (1999). It is worth mentioning that Jerdon (1849) described both *G. curmuca* and *G. canarensis* as having a single pair of barbels. As Jerdon's specimens were destroyed it is not possible to ascertain whether his two species had single pair or two pairs of barbels. Regardless, the color pattern he described for the caudal fin being tipped with orange and black is consistent in the identity of *H. kurali* of Menon & Rema Devi (1995).

This species consistently has two pairs of barbels. Followed by the description of *H. kurali*, subsequent authors designated the species as *H. kurali* (Zacharias et al. 1996; Shaji et al. 2000; Thomas et al. 2000; Ajithkumar et al. 2001; Johnson & Arunachalam 2009; Radhakrishnana & Kurup 2010; Abraham 2011; Arunachalam et al. 2012; Yang et al. 2012; Bijukumar et al. 2013; Venkadeshwarlu et al. 2014). Rajan (1955) recorded *H. curmuca* from a tributary



Fig.2. Thodaiyar stream, Karamana River basin, Kerala, India, type locality of *Hypselobarbus keralaensis* sp. n.

of Cauvery River.

Menon had a clear vision that (personal discussion by the senior author when Dr. Menon was alive and worked in Zoological Survey of India as Emeritus Scientist) there is a clear pattern of fish species distributions in east and west flowing rivers in peninsular India. He argued that species have common distributional patterns around mountain peaks where both east and west flowing streams take their origin and flow either towards the western side in Kerala and Karnataka as part of Western Ghats or east flowing towards eastern side of Tamil Nadu and Andhra Pradesh. For example, the record of *Puntius ophicephalus* from the west flowing river of Kerala was considered to be a narrow range of distribution (still holds true) right from its description (Raj 1941) and the new record of this species from the mountain peak of Suruli hills adjacent to Periyar Tiger Reserve in Kerala supports the above concept (Arunachalam & Johnson 2002). One more species with a narrow distribution and found on both eastern and western sides of the Western Ghats is *Puntius kannikattiensis*. This species is described from streams of the Kannikatti region in Podigai hills in south Tamil

Nadu (Arunachalam & Johnson 2002) on the eastern side of the Western Ghats. This species has also been sampled by the senior author from the western side in Kanyakumari District in Tamil Nadu.

Comparative materials: Details were provided in Arunachalam et al. (2016) for *Hypselobarbus curmuca*, *H. kolus*, *H. kurali*, *H. dubius*, *H. micropogon*, *H. nilgiriensis* and *H. periyarensis*.

Acknowledgments

Senior author thanks Dr. K. Ilango, Officer-in-charge, Zoological Survey of India, Southern Regional Centre, Chennai, Tamil Nadu for providing permission to examine the specimens of *Hypselobarbus*. Also we thank Dr. Jayashree Tilak, who is in charge of the freshwater fishes in ZSI/SRC, Chennai, Tamil Nadu. The senior author (M.A.) was supported by Manonmaniam Sundaranar University under one time grant by University Grants Commission, New Delhi for faculty/Professors produced 15 Ph.D.s in UGC-BSR. {No.19-88/2013(BSR) dt., 21. Nov. 2013}. This research was also possible with grants to RLM under Saint Louis University and the US National Science Foundation

Grants EF-0431326, DEB-1021840 and DBI-0956370 for the taxonomy and systematics of Cypriniformes fishes. The two initiatives Cypriniformes Tree of Life and All Cypriniformes Global Biodiversity Initiative (www.cypriniformes.org) have aided in this mission.

References

- Abraham, R. *Hypselobarbus kurali*. In: IUCN 2013. IUCN Red List of Threatened Species, 2011b. Version 2013.1. Available from: www.iucnredlist.org (accessed 27 August 2013).
- Ajithkumar, C.R.; Biju, C.R.; Thomas, R. & Azeez, P.A. 2001. On the Fishes of Puyankutty River, Kerala, India. *Zoo's Print Journal* 16(4): 467-469.
- Arunachalam, M.; Raja, M.; Muralidharan, M. & Mayden, R.L. 2012. Phylogenetic relationships of species of *Hypselobarbus* (Cypriniformes: Cyprinidae): an enigmatic clade endemic to aquatic systems of India. *Zootaxa* 3499: 63-73.
- Arunachalam, M. & Johnson, J.A. 2002. A new species of *Puntius* Hamilton (Pisces: Cyprinidae) from Kalakad, Mudanthurai Tiger Reserve, Tamil Nadu, India. *Journal of Bombay Natural History Society* 99(3): 474-480.
- Arunachalam M.; Chinnaraja S. & Mayden, R.L. 2016. On the identity of *Barbus* (= *Hypselobarbus*) *gracilis* Jerdon (1849) and description of a new species of *Hypselobarbus* (Cypriniformes: Cyprinidae) from Western Ghats, peninsular India. *FishTaxa* 1(2): 75-83.
- Bijukumar, A.; Siby Philip Anvar Ali, Sushama, S. & Raghavan R. 2013. Fishes of River Bharathapuzha, Kerala, India: diversity, distribution, threats and conservation. *Journal of Threatened Taxa* 5(15): 4979-4993.
- Bleeker, P. 1860. *Devisschen vanden Indischen Archipel, Beschrevenen Toegelicht. Deel II. Acta Societatis Regiae Scientiarum Indo-Neêrlandicae* 7(NS, vol. 2): 1-492.
- Day, F. 1871. Monograph of Indian Cyprinidae, Parts 1-3. *Journal of Asiatic Society, Bengal* 40: 95-142, 277-367.
- Day, F. 1873. Report of freshwater fish and fisheries of India and Burma. Government Press, Calcutta.
- Day, F. 1878. The Fishes of India; being a natural history of the fishes known to inhabit the seas and freshwaters of India, Burma and Ceylon, part 4. William Dawson & Sons Ltd. London.
- Hora, S.L. & Law, N.C. 1941. The freshwater fishes of Travancore. *Records of the Indian Museum* 43(1): 9-27.
- Hubbs, C.L. & Lagler, K.F. 1964. Fishes of the Great lakes region. University of Michigan Press. USA.
- ICZN (International commission on Zoological Nomenclature) (1999). International Code of Zoological Nomenclature. International Trust for Zoological Nomenclature, The Natural History Museum, London.
- Jayaram, K.C. 1991. Revision of the genus *Puntius* Hamilton from the Indian region (Pisces: Cypriniformes, Cyprinidae, Cyprininae). *Records of the Zoological Survey of India, Occasional Paper* 135: 1-178.
- Jerdon, T.C. 1849. On the freshwater fishes of southern India. *Madras Journal of Literature and Science* 15(2): 302-346.
- Johnson, J.A. & Arunachalam, M. 2009. Diversity, distribution and assemblage structure of fishes in streams of southern Western Ghats, India. *Journal of Threatened Taxa* 1(10): 507-513.
- Knight, J.D.M.; Rai, A. & D'Souza, R.K.P. 2013. On the identities of *Barbus mussullah* Sykes and *Cyprinus curmuca* Hamilton with notes on the status of *Gobio canarensis* Jerdon (Teleostei: Cyprinidae). *Zootaxa* 3750(3): 201-215.
- Knight, J.D.M.; Rai, A. & D'Souza, R.K.P. 2014. A further note on the identity of *Barbus mussullah* Sykes (Teleostei: Cyprinidae). *Zootaxa* 3821(2): 280-284.
- Menon, A.G.K. & Rema Devi, K. 1995. *Hypselobarbus kurali* (Pisces: Cyprinidae), a new large barb from the south western rivers of peninsular India. *Journal of Bombay Natural History Society* 92(3): 389-393.
- Radhakrishnan, K.V. & Kurup, B.M. 2010. Ichthyodiversity of Periyar Tiger Reserve, Kerala, India. *Journal of Threatened Taxa* 2: 1192-1198.
- Raj, S.B. 1941. *Barbus* (*Puntius*) *ophicephalus* (type locality: Kallar, a tributary to the Pambiyar river, to the south of Pachakani estate adjoining Periyar Lake). *Records of the Indian Museum* 43: 375.
- Rajan, S. 1955. Notes on a collection of fish from the head waters of the Bhavani River, South India. *Journal*

- of Bombay Natural History Society 53: 44-48.
- Shaji, C.P.; Easa, P.S. & Gopalakrishnan, A. 2000. Freshwater fish diversity of Western Ghats, 33-55: In: Ponniah, A.G. & Gopalakrishnan, A. (eds.). Endemic Fish Diversity of Western Ghats. NBFGR-NATP Publication, National Bureau of Fish Genetic Resources, Lucknow, U.P. India.
- Strauss, R.E. & Bookstein, F.L. 1982. The truss: Body from reconstruction in morphometrics. *Systematic Biology* 31(2):113-135.
- Thomas, R.K.; Biju, C.R.; Aithkumar, C.R. & George, M.J. 2000. Fish Fauna of Idukki and Neyyar Wildlife sanctuaries of Kerala, S. India. *Journal of Bombay Natural History Society* 97: 442-445.
- Venkateswarlu, M.; Arun Kumar Shetty, B. & Kiran, B.R. 2014. Conservation status of fish diversity of rivers-Sita, Swarna and Varahi in Udupi district, Western Ghats, Karnataka, India. *International Journal of Advanced Scientific and Technical Research* 1(4): 797-813.
- Yang, L.; Hirt, V.; Sado, T.; Arunachalam, M.; Manickam, R.; Tang, K.L.; Simons, A.M.; Wu, H.H.; Mayden, R. & Miya, M. 2012. Phylogenetic placements of the barbin genera *Discherodontus*, *Chagunius*, and *Hypselobarbus* in the subfamily Cyprininae (Teleostei: Cypriniformes) and their relationships with other barbines. *Zootaxa* 3586: 26-40.
- Zacharias, V.J.; Bhardwaj, A.K. & Jacob, P.C. 1996. Fish fauna of Periyar Tiger Reserve. *Journal of Bombay Natural History Society* 93: 38-43.

توصیف یک گونه *Hypselobarbus* از ناحیه کلارا، شبه جزیره هند (کیورماهی شکلان: کیورماهیان)

موتوکوماراسامی آرنالام*^۱، سیوادوس چیناراجا^۲، ریچارد ل. میدن^۳

^۱دانشگاه مانونماتیام سوندانار، تامیل نادو، هند.

^۲دانشگاه پومپوهار، تامیل نادو، هند.

^۳بخش جانورشناسی، دانشگاه سنت لوئیس، آمریکا.

چکیده: *Hypselobarbus kurali* (Menon & Rema Devi, 1995) شامل چندین گونه با تشابه طرح رنگی نوک باله دم، با رنگ نارنجی و سیاه است. این گروه گونه‌ای کمپلکس، دارای دو جفت سبیلک می‌باشد. بررسی مجموعه‌های *H. kurali* متعلق به اولین مولف از چشمه‌ها و رودخانه‌های مختلف Western Ghats شامل ایالت‌های هندی تامیل نادو، کلارا و کارناتیکا آشکار نمود که گونه دیگری وجود دارد که تاکنون شناسایی نشده است. این گونه جدید، *Hypselobarbus keralaensis* از نزدیک‌ترین گونه احتمالی خود یعنی *H. kurali* با داشتن تعداد کمتر ردیف‌های عرض فلس‌های سینه (۱۶ در مقابل ۲۳-۲۱) و تعداد کمتر ردیف‌های فلس‌های پیش مخرجی (۳۸-۳۹ در مقابل ۴۳-۴۶) تشخیص داده می‌شود.

کلمات کلیدی: کیورماهیان، *Hypselobarbus kurali*، آرایه‌شناسی.