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Article

Additional distribution records of *Hypselobarbus lithopidos* (Day, 1874), (Cypriniformes: Cyprinidae) from peninsular India

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Abstract
The distributional record of *Hypselobarbus lithopidos* (Day, 1874) was from south Canara since its description and a recent record of this species from Khal River, Maharashtra raised some comments and the species identity. In order to ascertain the distribution of this species in Maharashtra and also from an east flowing river, Thunga in Karnataka, the present paper is dealt with the diagnosis and description. Also there is some taxonomic ambiguity on *H. lithopidos* in the published paper of the senior author on the molecular phylogeny of selected species of *Hypselobarbus* from peninsular India and this is also resolved based on further examination of those and with additional specimens from the same localities.
Keywords: Cyprinidae, *Hypselobarbus*, *H. lithopidos*, *H. thomassi*.
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Introduction

Day (1874) described *Barbus (=Hypselobarbus) lithopidos* from south Canara (Karnataka state, India) and further records of this species from streams and rivers of Western Ghats raised reservation on the occurrence of this species (Ali et al. 2013) and comments on the occurrence of this species (Arunachalam et al., 2000) from Maharashtra part of Western Ghats, India. Recently, the identity of *H. lithopidos* was cleared to some extent (Knight et al. 2013) and after the publication of Ali et al. (2013) on this species, the senior author traced out and examined all the specimens of *Hypselobarbus* collected from peninsular India resulted in the discovery of a specimen of *H. lithopidos* from Khal River (Arunachalam et al. 2000) and a specimen from Thunga River, Karnataka. Based on the examination of the materials collected by Ashwin Rai and Marcus Knight (Knight et al. 2013) which are available in Zoological Survey of India, Chennai and we herein present the new distribution records of *H. lithopidos* from two peninsular rivers of India.

Also the identity of *H. thomassi* was reported by Knight et al. (2013) based on collection from a tributary of Nethravathi River, Karnataka and Chalakudi River, Kerala. As there is some taxonomic ambiguity on the report of *H. lithopidos* (Arunachalam et al. 2012) from Rosemalai and Shimoga fish farm, the senior author again examined additional specimens from Rosemalai and a specimen collected from Shimoga fish farm. The identity of *H. thomassi* with *H. lithopidos* is also discussed.

Methods

Fish collections were made between 1996-2005 by M. Arunachalam from river sites, nearby fishermen and fish markets. Measurements were made point to point using digital calipers. Methods used for the meristic and morphometric data are based Hubbs and Lagler (1964). Morphometric characters of 9, 18-26 and 29-31 and 34-35 are the additional truss measurements (Strauss and Bookstein 1982). We also provide one more meristic character, the preanal scales (Jayaram 1991) which are the scales from the anus to the isthmus. Body measurements are expressed as percentage of Standard Length (%SL); head measurements are expressed as percentage of Head Length (%HL).

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Abbreviations: ZSI (Zoological Survey of India, Kolkatta), ZSI/SRC (Zoological Survey of India, Southern Regional Centre, Chennai), MSUMNH (Manonmaniam Sundaranar University Museum of Natural History), and CMA (Collections of M. Arunachalam).

Comparative materials: *Hypselobarbus kurali*, ZSI/SRC F4003/1, Holotype, 270.00 mm SL, Kumaradhara River, near Nettana, Dakshin Kannada, A.G.K. Menon, 7 January 1992. ZSI/SRC F4003/1, 258.66 mm SL, Kumaradhara River, near Nettana, Dakshin Kannada, A.G.K. Menon, 7 January 1992. MSUMNH88, 1, 166.83 mm SL, Kallada River at Rosemala village, Kerala, M. Arunachalam, 23 January 2003. CMA39, 7, 144.55-160.55 mm SL, Kallada River at Rosemala village, Kerala, M. Arunachalam, 23 January 2003.

Hypselobarbus lithopidos: ZSI/Kolkatta, F. 2392, 1, 326.08 mm SL, Day's syntype. ZSI/SRC F8663/2, 104.02-135.76 mm SL, Phalguni River, Karnataka, Aswin Rai, 14 October 2012. CMA185, 1, 68.35 mm SL, Thunga River at Mandeggodde, M. Arunachalam and team, 20 November 2004. CMA186, 1, 118.33 mm SL, Khal River (Maharashtra), M. Arunachalam and team, 20 November 2004.

Hypselobarbus thomassi: ZSI/SRC F8665/1, 135.28 mm SL, Athirampally Falls, Chalakudi River, Kerala, Aswin Rai, 11 July 2012. ZSI/SRC F8664/1, 131.62 mm SL. Kempahole River, Karnataka, Aswin Rai, 13 January 2012. CMA324, 4, 184.05-204.04 mm SL, Rosemalai, M. Arunachalam and team, 19 March 2001. CMA325, 3, 115.87-159.72 mm SL, Rosemalai, Thenmala, M. Arunachalam and team, 19 March 2003. CMA326, 1, 139.48 mm SL, Rosemalai, M. Arunachalam and team, 21 May 2003.

Results

Hypselobarbus lithopidos (Day, 1874)

(Fig. 1, Tables 1-2)

Diagnosis: *Hypselobarbus lithopidos* is distinguished from *H. kurali* in having fewer lateral line scale rows (37-40 vs. 42-43), fewer circumferential scale rows (25-26 vs. 32-33), fewer transverse breast scale rows (11 vs. 21-23), fewer preanal scale rows (29-32 vs. 43-46) and the morphometric character of dorsal origin to pectoral fin insertion (29.86-37.29 vs. 25.24-26.90 %SL).

Description: Body moderately deep, and its depth is 26.52-38.84 %SL, dorsal fin origin anterior to pelvic fin insertion vertically by 1.5 scale rows; predorsal length 48.46-51.58 %SL; pre-pelvic length 49.75-51.56 %SL, preanal length 72.83-76.68 %SL and prepectoral length 21.83-25.84 %SL, pelvic fin insertion to anal origin 19.35-22.51 %SL. Nape slightly convex behind a concavity posterior to occiput. Caudal peduncle is moderately deep, depth at narrowest region 11.40-14.37 %SL; caudal peduncle length is 10.84-13.85 %SL.

Head long 21.99-26.28 %SL, with long cranium of 18.26-22.55 %SL, head depth at nostril 30.72-36.77, at pupil 54.96-64.71 and at occiput 68.10-79.45 %HL, respectively. Preopercle straight with 73.51-75.95 %HL, interorbital concave, interorbital distance 33.86-41.46 %HL. Eyes large, 31.09-36.97 %HL. Snout long, length 33.98-37.13 %HL; mouth subterminal. Upper jaw length 25.49-32.63 %HL; gape width 31.06-34.06 %HL; lower jaw keratinous but not sharp. Two pairs of barbels; hided rostral barbel 2.5 times shorter than orbit width.

Dorsal-fin rays iii-9(3) or iv-9(1), anal-fin rays iii-5(4), pelvic-fin rays ii-8(1), i-9(1) or ii-9(2), and pectoral-fin rays i-14(3) or 15(1), dorsal fin moderately high, 25.75-33.53 %SL, and length of dorsal spine 21.07-26.32 %SL. Anal fin when depressed extending beyond caudal fin base, its length 17.91-22.44 %SL. Distal margin of anal fin is convex, first, second and the third unbranched rays not equal in length. Length of anal fin base 7.56-11.06 %SL. Pelvic fin long, 18.82-22.58 %SL; pectoral fin long, 13.00-22.16 %SL and fin moderately falcate, extending to 3-3.5 scale rows anterior to pelvic fin origin. Caudal fin deeply forked 30.30-36.46 %SL and upper and lower lobes are 3.5 times longer than middle rays.

Scales small, lateral-line scale rows 37(1), 38(1), 39(1) or 40(1), pre-dorsal scale rows 13(4), upper transverse scale rows 6.5(4), lateral line to pelvic scale rows 4(1) or 4.5(3), lower transverse scale rows 5.5(4),

Figure 1. (A) *Hypselobarbus lithopidos*: ZSI/SRC F8663/1, 135.76 mm SL, Phalguni River Karnataka, Aswin Rai, 14 October 2012, (B) *Hypselobarbus lithopidos*: CMA185, 68.35 mm SL, Thunga River Mandeggodde, M. Arunachalam and team, 20 November 2004, and (C) *Hypselobarbus lithopidos*: CMA186, 118.33 mm SL, Khal River (Maharastra), M. Arunachalam and team, 30 February 2002.

circumpeduncular scale rows 15(2) or 16(2), circumferential scale rows 25(2) or 26(2), transverse breast scale rows 11(4), and pre-anal scale rows 29(1), 31(1) or 32(2).

Hypselobarbus thomassi (Day, 1874)
(Fig. 2, Tables 3-4)

Diagnosis: *Hypselobarbus thomassi* is distinguished from *H. lithopidos* in having fewer lateral line scale rows (33-35 vs. 37-40), fewer circumpeduncular (13-14 vs. 15-16) and circumferential scale rows (22-24 vs. 25-26) and fewer upper transverse scale rows (5.5 vs. 6.5). It is distinguished from *H. kurali* in having fewer lateral line scale rows (33-35 vs. 42-43) fewer upper transverse scale rows (5.5 vs. 7.5-8) and fewer circumferential (22-24 vs. 32-33), transverse breast (8-10 vs. 21-23) and preanal scale rows (27-28 vs. 43-46).

Description: Body moderately deep, and its depth is 27.68-30.06 %SL, dorsal fin origin anterior to pelvic fin insertion vertically by 1.5 scale rows; pre-dorsal length 46.88-49.82 %SL; pre-pelvic length 48.03-53.53 %SL. Pre-anal length 71.41-74.56 %SL, and pre-pectoral length 22.52-25.23 %SL, pelvic fin insertion to anal origin 17.79-21.28 %SL. Nape slightly convex behind a concavity posterior to occiput. Caudal peduncle is moderately deep, depth at narrowest region 10.83-12.79 % SL; caudal peduncle length is 10.30-15.04 %SL.

Head long 23.90-26.00 % SL, with long cranium of 19.92-22.18 %SL, head depth at nostril 33.81-43.28, at

Table 1. Morphometric characters of *Hypselobarbus lithopidos*.

Measurements from point to point (identified by numbers and names)	*H. lithopidos* ZSI/SRC F 8663/1	*H. lithopidos* ZSI/SRC F 8663/1	*H. lithopidos* CMA185	*H. lithopidos* CMA186	*H. lithopidos* ZSI/SRC F. 8663. CMA 185,186, n=4
Standard length	135.76	104.02	68.35	118.33	68.35-135.76
% of Standard Length					
Snout to urocentrum	92.86	91.11	96.61	97.37	91.11-97.37
Preanal length	75.89	75.57	76.68	72.83	72.83-76.68
Predorsal length	49.29	48.46	51.05	51.58	48.46-51.58
Prepelvic length	49.75	51.56	50.94	49.95	49.75-51.56
Prepectoral length	21.83	21.91	25.54.	24.72	21.83-25.84
Pre occipital length	18.26	19.44	22.55	22.49	18.26-22.55
Caudal peduncle length	10.84	13.85	11.31	13.64	10.84-13.85
Dorsal origin to pelvic insertion	27.50	27.90	30.46	35.75	27.50-35.75
Dorsal spinous height	21.07	26.13	23.76	26.32	21.07-26.32
Anal fin height	18.05	17.91	22.02	22.44	17.91-22.44
Depth of caudal peduncle	11.50	11.40	13.46	14.37	11.40-14.37
Caudal fin length	33.30	33.49	34.63	36.46	30.30-36.46
Dorsal fin height	26.89	25.75	30.68	33.53	25.75-33.53
Pectoral fin length	19.16	13.00	21.71	22.16	13.00-22.16
Pelvic fin length	19.24	18.82	21.35	22.58	18.82-22.58
Pelvic axillary scale length	7.65	8.29	9.90	8.05	7.65-9.90
Occiput to dorsal fin origin	29.66	28.85	29.71	31.05	28.85-31.05
Occiput to pectoral fin insertion	17.83	17.87	21.86	21.70	17.83-21.86
Occiput to pelvic fin insertion	42.30	43.91	43.12	43.44	42.30-43.91
Dorsal insertion to pelvic fin insertion	23.31	23.45	27.15	31.23	23.31-31.23
Dorsal origin to pectoral fin insertion	30.71	29.86	32.17	37.29	29.86-37.29
Dorsal origin to anal fin origin	41.99	38.10	39.69	42.75	38.10-42.75
Dorsal fin insertion to caudal	44.92	38.98	32.07	38.83	32.07-44.92
Dorsal insertion to anal fin origin	28.63	26.27	27.07	30.06	26.27-30.06
Dorsal insertion anal fin insertion	31.11	28.21	29.48	31.51	28.21-31.51
Dorsal fin base length	13.78	14.53	17.34	17.10	13.78-17.34
Anal fin base length	7.56	7.84	11.06	8.37	7.56-11.06
Pectoral insertion pelvic fin insertion	28.62	29.29	23.83	25.40	23.83-29.29
Pectoral insertion anal fin origin	51.31	49.55	45.65	46.51	45.65-51.31
Pelvic insertion to anal fin origin	22.51	19.35	21.51	19.77	19.35-22.51
Post-dorsal length	48.34	49.82	52.51	58.77	48.34-58.77
Body depth	27.34	26.52	32.61	38.84	26.52-38.84
Distance between pectoral fin and vent	54.60	51.67	50.31	48.94	48.94-54.60
Distance between pelvic fin and vent	25.46	22.02	22.84	23.27	22.02-25.46
Head length	21.99	22.41	26.28	25.24	21.99-26.28
% of Head Length					
Snout to opercle	75.95	74.99	75.56	73.51	73.51-75.95
Snout length	34.66	33.98	34.80	37.13	33.98-37.13
Upper jaw length	25.49	26.51	32.63	30.96	25.49-32.63
Prenasal length	22.91	23.55	22.72	24.79	22.72-24.79
Orbit width	33.32	36.85	36.97	31.09	31.09-36.97
Inter orbital width	33.86	35.22	40.09	41.46	33.86-41.46
Inter nasal width	23.38	24.97	27.12	26.99	23.38-27.12
Head width	59.41	61.39	58.46	60.41	58.46-61.39
Gape width	31.08	34.06	33.13	31.06	31.06-34.06
Lower jaw to isthmus	60.95	65.21	64.14	59.75	59.75-65.21
Head depth at nostril	31.92	30.72	36.02	36.77	30.72-36.77
Head depth at pupil	54.96	56.33	63.37	64.71	54.96-64.71
Head depth at occiput	76.39	75.89	68.10	79.45	68.10-79.45
Maxillary barbel length	20.76	22.39	24.00	23.64	20.76-24.00
Rostral barbel length	7.13	8.62	12.25	10.51	7.13-12.25

Table 2. Meristic characters of *Hypselobarbus lithopidos*.

Meristic characters	*H. lithopidos* ZSI/SRC 8663/1	*H. lithopidos* ZSI/SRC 8663/1	*H. lithopidos* CMA185	*H. lithopidos* CMA186
Dorsal fin rays	iii,9	iii,9	iii,9	iv,9
Anal fin rays	iii,5	iii,5	iii,5	iii,5
Pelvic fin rays	ii,9	i,9	ii,8	ii,9
Pectoral fin rays	i,15	i,14	i,14	i,14
Caudal fin rays	10+9	10+9	10+9	10+9
Upper transverse scale rows	6.5	6.5	6.5	6.5
Lower transverse scale rows	5.5	5.5	5.5	5.5
Lateral line to pelvic scale rows	4	4.5	4.5	4.5
Lateral line scale rows	40	39	38	37
Predorsal scale rows	13	13	13	13
Circumpeduncular scale rows	16	15	15	16
Circumferential scale rows	25	26	25	26
Transverse breast scale rows	11	11	11	11
Preanal scale rows	32	32	31	29

Figure 2. *Hypselobarbus thomassi*: CMA325, 159.72 mm SL, Rosemala, Thenmala, M. Arunachalam and team.

pupil 53.20-61.77 and at occiput 74.70-78.19 %HL respectively. Preopercle straight and 72.44-78.63 %HL, interorbital concave, interorbital distance 29.05-39.15 %HL. Eyes large, 28.74-35.25 %HL. Snout long, length 36.97-43.01 %HL; mouth subterminal. Upper jaw length 24.64-31.71 %HL; gape width 22.31-27.03 %HL; lower jaw keratinous but not sharp. Two pairs of barbels; hided rostral barbel, 2 times shorter than orbit width.

Dorsal-fin rays iv-9(10), anal-fin rays iii-5(10), pelvic-fin rays ii-9(10), and pectoral-fin rays i-14(6) or 15(4), dorsal fin moderately high, 25.70-27.92 %SL, and length of dorsal spine 22.67-25.75 %SL. Anal fin when depressed extending beyond caudal fin base, its length 15.42-20.38 %SL. Distal margin of anal fin is convex, first, second and the third unbranched rays not equal in length. Length of anal fin base 6.92-8.07 %SL. Pelvic fin long, 16.56-18.92 %SL, pectoral fin long, 18.04-20.11 %SL, and moderately falcate, extending to 3.5 scale rows anterior to pelvic fin origin. Caudal fin deeply forked 31.96-38.10 %SL, upper and lower lobes are 3 times longer than middle rays.

Scales small, lateral-line scale rows 33(4), 34(4) or 35(2), pre-dorsal scale rows 11(10), upper transverse scale rows 5.5(10), lateral line to pelvic scale rows 3.5(10), lower transverse scale rows 4.5(10), circumpeduncular scale rows 13(5) or 14(5), circumferential scale rows 22(1), 23(4) or 24(5), transverse breast scale rows 8(4), 9(5) or 10(1) and preanal scale rows 27(3) or 28(7).

Discussion

Recent collections reported by Knight et al. (2013) on *H. lithopidos* from Phalguni River, Karnataka validates its identity. Based on the examinations of those specimens in the Zoological Survey of India, Chennai, we found much similarity with the senior authors' collections from Thunga River (68.35 mm SL) and also another specimen

Table 3. Morphometric characters of *Hypselobarbus thomassi*.

Measurements from point to point (identified by numbers and names)	*H. thomassi* ZSI/SRC F 8665/1, n=1	*H. thomassi* ZSI/SRC F 8664/1, n=1	*H. thomassi* CMA 324, 325, 326, n=8	*H. thomassi* ZSI/SRC F 8664, 8665 CMA 324, 325, 326, n=10
Standard length	135.3	131.6	115.9-204.0	115.9-204.0
% of Standard Length				
Snout to urocentrum	93.45	92.20	93.60-95.68	92.20-95.68
Preanal length	71.41	72.98	72.31-74.56	71.41-74.56
Predorsal length	47.07	49.60	46.88-49.82	46.88-49.82
Prepelvic length	48.03	49.56	48.92-53.53	48.03-53.53
Prepectoral length	22.52	23.06	22.56-25.23	22.52-25.23
Pre occipital length	21.05	19.92	20.52-22.18	19.92-22.18
Caudal peduncle length	10.30	15.20	11.24-14.19	10.30-15.04
Dorsal origin to pelvic insertion	24.34	27.59	26.65-29.79	24.34-29.79
Dorsal spinous height	23.26	22.95	22.67-25.75	22.67-25.75
Anal fin height	15.42	20.38	17.66-20.36	15.42-20.38
Depth of caudal peduncle	11.32	12.29	10.83-12.79	10.83-12.79
Caudal fin length	36.92	34.75	31.96-38.10	31.96-38.10
Dorsal fin height	27.92	26.93	25.70-27.83	25.70-27.92
Pectoral fin length	18.07	18.30	18.04-20.11	18.04-20.11
Pelvic fin length	17.60	18.64	16.56-18.92	16.56-18.92
Pelvic axillary scale length	6.36	7.95	4.52-5.91	4.52-7.95
Occiput to dorsal fin origin	27.42	23.36	25.84-29.85	23.36-29.85
Occiput to pectoral fin insertion	17.62	19.84	17.77-20.09	17.62-20.09
Occiput to pelvic fin insertion	41.03	41.60	40.68-43.04	40.68-43.04
Dorsal insertion to pelvic fin insertion	23.60	23.43	23.41-27.04	23.41-27.04
Dorsal origin to pectoral fin insertion	27.59	31.14	30.19-32.99	27.59-32.99
Dorsal origin to anal fin origin	37.93	38.57	35.78-38.35	35.78-38.57
Dorsal fin insertion to caudal	34.08	40.59	34.00-36.04	34.00-40.59
Dorsal insertion to anal fin origin	22.72	26.87	24.66-31.12	22.72-31.12
Dorsal insertion anal fin insertion	27.82	24.10	27.09-29.09	24.10-29.09
Dorsal fin base length	15.16	13.46	12.53-14.65	12.53-15.16
Anal fin base length	7.97	8.07	6.92-7.1	6.92-8.07
Pectoral insertion pelvic fin insertion	25.50	27.02	27.77-29.84	25.50-29.84
Pectoral insertion anal fin origin	45.49	46.13	47.12-50.69	45.49.50.69
Pelvic insertion to anal fin origin	17.79	18.93	19.28-21.28	17.79-21.28
Post-dorsal length	52.62	49.93	47.81-51.42	47.81-52.62
Body depth	27.68	27.72	28.74-30.06	27.68-30.06
Distance between pectoral fin and vent	47.86	48.22	48.08-51.48	47.86-51.48
Distance between pelvic fin and vent	22.43	20.93	21.22-23.57	20.93-23.7
Head length	23.90	24.11	23.91-26.00	23.90-26.00
% of Head Length				
Snout to opercle	74.57	75.27	72.44-78.63	72.44-78.63
Snout length	38.54	39.00	36.97-43.01	36.97-43.01
Upper jaw length	31.39	24.64	25.59-31.71	24.64-31.7
Pre nasal length	26.23	27.79	25.03-28.45	25.03-28.45
Orbit width	29.42	34.06	28.74-35.25	28.74-35.25
Inter orbital width	36.90	34.09	29.05-39.15	29.05-39.15
Inter nasal width	23.91	22.81	21.16-23.99	21.16-23.99
Head width	58.46	59.51	55.43-61.38	55.43-61.38
Gape width	22.55	22.31	22.52-27.03	22.31-27.03
Lower jaw to isthmus	68.70	66.79	58.81-65.51	58.81-68.70
Head depth at nostril	38.88	33.81	34.43-43.28	33.81-43.28
Head depth at pupil	61.77	56.90	53.20-61.64	53.20-61.77
Head depth at occiput	76.12	74.70	74.81-78.19	74.70-78.19
Maxillary barbel length	22.64	14.65	18.07-24.80	14.65-24.80
Rostral barbel length	17.17	16.51	13.84-19.46	13.84-19.45

Table 4. Meristic characters of *Hypselobarbus thomassi*.

Meristic characters	*H. thomassi* ZSI/SRC F 8665/1	*H. thomassi* ZSI/SRC F 8664/1	*H. thomassi* CMA 324, 325, 326. n=8
Dorsal fin rays	iv,9	iv,9	iv,9
Anal fin rays	iii,5	iii,5	iii,5
Pelvic fin rays	ii,9	ii,9	ii,9
Pectoral fin rays	i,15	i,14	i,14-15
Caudal fin rays	10+9	10+9	10+9
Upper transverse scale rows	5.5	5.5	5.5
Lower transverse scale rows	4.5	4.5	4.5
Lateral line to pelvic scale rows	3.5	3.5	3.5
Lateral line scale rows	33	34	33-35
Predorsal scale rows	11	11	11
Circumpeduncular scale rows	14	13	13-14
Circumferential scale rows	23	22	23-24
Transverse breast scale rows	8	10	8-9
Preanal scale rows	28	27	27-28

(118.33 mm SL) from Khal River, Maharashtra as already reported in Arunachalam et al. (2000). Our specimens of *H. lithopidos* showed a range of 37 and 38 lateral line scale rows versus 39-40 (Knight et al. 2013). Predorsal scale rows 13(4), circumpeduncular scale rows of 15-16, circumferential scale rows of 25-26 and transverse breast row scales of 11(4) in all the four specimens showed that all belong to the same species. However, the collections made from Chandragiri River by Ali et al. (2013a) showed the predorsal scale rows of 12-13 and the lateral line scale rows of 38+1. Also the syntype of Day (ZSI/Kolkata, F. 2392) with the lateral line scale rows of 40 and the predorsal scale rows of 13 are comparable to our specimens.

The identity of *H. lithopidos* in the molecular phylogenetic relationship of the genus *Hypselobarbus* (Arunachalam et al. 2012) was because of the ambiguity in the whole species complexes of the genus *Hypselobarbus* during that time. However, fig. 1A of p.64 truly represented *Puntius carnaticus* as the authors tentatively treated this species into the genus *Hypselobarbus* because of this formed the basal group of all other *Hypselobarbus*. Also fig. B belonged to *Hypselobarbus* sp.1 from Shimoga fish farm, while figs. C and D were *H. dubius* and *H. micropogon* respectively. Also in fig. 3A of p.66, it was represented a specimen from Rosemalai and it was considered as *Hypselobarbus* sp. 2. While the manuscript was in progress, the senior author received a personal communication (Dr. Rema Devi examined specimens of *Barbus lithopidos* in British Museum of Natural History, London) showed that a specimen of Day with 37 lateral line scale rows and hence during the advanced stage of publication, it was tentatively fixed by the senior author as *H. lithopidos* from Rosemalai and Shimoga fish farm. Moreover, it was hurriedly published before the senior author sent back the proof as the electronic mailing system was not efficient like now (exemplified by some spelling mistakes such as Rusewalai fish farm but the collections were made from Kallada River at Rosemalai village in Kerala. Also we tentatively placed a specimen from the Shimoga fish farm from Karnataka (where the farm had natural populations of fishes come from nearby river) as *Hypselobarbus* sp.1. After carefully examined the specimens from Rosemalai including the specimen figured out in Arunachalam et al. (2012, fig 3A of p. 66), it is clear that it belongs to *H. thomassi*. Data on meristic and morphometric characters of the six specimens showed the lateral line scale rows of 33-35 vs. 33-34 collected from the type locality and from Chalakudi River by Aswin Rai and Marcus Knight (Knight et al. 2013). Also meristic characters of predorsal scales 11(10), and the preanal scale rows of 27(3)-28(7) showed that all specimens belong to *H. thomassi*.

It is worthwhile to mention that the enigmatic genus, *Hypselobarbus* from peninsular India contains many more species complexes than expected earlier.

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