



EGYPTIAN ACADEMIC JOURNAL OF
BIOLOGICAL SCIENCES
ZOOLOGY

B



ISSN
2090-0759

WWW.EAJBS.EG.NET

Vol. 12 No. 2 (2020)

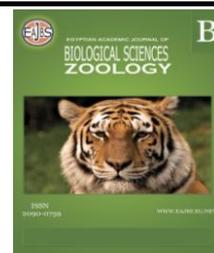
www.eajbs.eg.net

Puntius ocellus sp. nov

urn: lsid: zoobank.org:pub: FCDF6B76-A9B8-4D18-92AC-F2A3CDF297D6

urn: lsid: zoobank.org: act8:BA1D2FA-2C22-486C-9F4C-E903063DCC80

Citation: *Egypt. Acad. J. Biolog. Sci. (B. Zoology) Vol. 12(2) pp: 93-102(2020)*



Discovery of A New Teleost Fish, *Puntius ocellus* from Kerala, India

Mathews Plamoottil* and Vineeth. K.

BJM Government College, Chavara, Kollam District, Kerala- 691583, India

Email: mathewsplamoottil@gmail.com

ARTICLE INFO

Article History

Received:13/7/2020

Accepted:3/10/2020

Keywords:

New Species,
Discovery,
Cyprinids, *Puntius euspilurus*,
Puntius kyphus

ABSTRACT

A new *Puntius* species is described from a freshwater stream of Kerala, India. It is related to *Puntius mahecola*, *P. amphibius*, *P. euspilurus*, and *P. kyphus*; all these are small elongate fishes with laterally compressed body having a non-ossified and weak last simple dorsal fin ray. But the new fish shows a number of differences from its close relative species. It can be distinguished from its congeners in having a pointed and unusually elongated snout, a weak and non-osseous last simple dorsal fin ray, 23-24 lateral line scales, 2 ½ scales between lateral line and ventral fin, 7-8 predorsal scales, and a distinct golden or yellow ring surrounding its large caudal black spot on posterior most lateral line scales. The new fish is not uncommon in the water bodies of Kazargod; it is edible and can be used as ornamental fish. The new species is taxonomically analyzed and compared with its congeners.

INTRODUCTION

The genus *Puntius* Hamilton, 1822 includes pretty food and ornamental fishes commonly occurring in the freshwater bodies of south and southeast Asia. They are widely distributed in all aquatic bodies of India and adjacent countries. Hamilton (1822) created the genus to comprise small cyprinids, but later many medium and larger sized *Puntius* species were also included in the genus. Certain medium-sized current species of *Tor*, *Neolissocheilus*, *Barbodes*, and *Hypselobarbus* were formerly encompassed in *Puntius*. Jayaram (1991, in his revision, included many large barbs such as *Hypselobarbus carnaticus* (Jerdon, 1849), *Hypselobarbus dubius* (Day, 1867), and several tiny barbs such as *Pethia phutunio* (Hamilton, 1822), *Haludaria fasciatus* (Jerdon, 1849), *Pethia narayani* (Hora, 1937), etc. in the genus. Currently, the genus comprises small species, as mentioned by Hamilton (1822), excluding two large species *Puntius dorsalis* (Jerdon, 1849) and *Puntius cauveriensis* (Hora, 1937). Modern taxonomists such as Menon (1999) and Jayaram (2010) clarified many ambiguities prevailed in the genus *Puntius* and assigned most of the species to their respective taxa. Works of Pethiyagoda *et al.* (2012) and Pethiyagoda (2013) scientifically proved the existence of five lineages namely *Puntius*, *Systemus*, *Dawkinsia*, *Haludaria*, and *Pethia* occurring in the south Asian genus *Puntius*.

The state of Kerala is a paradise of a number of cyprinid fishes, especially of several *Puntius* species; many species of the latter genus has been discovered from the freshwater bodies of the state. *Puntius parrah* Day (1865), *P. melanostigma* (Day, 1878), *P.*

Puntius ocellus sp. nov

urn: lsid: zoobank.org:pub: FCDF6B76-A9B8-4D18-92AC-F2A3CDF297D6

urn: lsid: zoobank.org: act8:BA1D2FA-2C22-486C-9F4C-E903063DCC80

Citation: Egypt. Acad. J. Biolog. Sci. (B. Zoology) Vol. 12(2) pp: 93-102(2020)

madhusoodani Kumar *et al.* (2011), *P. viridis* Plamoottil & Abraham (2014), *P. nelsoni* Plamoottil (2014a), *P. nigronotus* Plamoottil (2014a), *P. dolichopterus* Plamoottil (2015), *P. euspilurus* Plamoottil (2016) and *P. kyphus* Plamoottil (2019) are the accepted *Puntius* species described from Kerala. Formerly it was thought that *P. chola* (Hamilton, 1822) of West Bengal and *P. dorsalis* (Jerdon, 1849) of Tamil Nadu were occurring in the water bodies of Kerala; but that view is no longer held now (Plamoottil, 2020b; Plamoottil & Maji, 2020). The last unbranched dorsal ray of most of the *Puntius* species of Kerala is strong and ossified. *Puntius euspilurus* and *P. kyphus* are peculiar in that they are with weak and non-osseous last simple dorsal ray. These authors could recently procure some specimens of *Puntius* species of similar features but differ in some durable taxonomic features. We describe this as a new species, *Puntius ocellus*.

MATERIALS AND METHODS

Specimens of the new fish were collected from an aquatic body using cast net and fixed in 10 % formalin; they were examined and analysed taxonomically; morphometric measurements were taken using digital calipers and data recorded to tenths of a millimeter; Relative species of the new fish kept in various ZSI museums of India were examined, compared and taxonomically analysed. Jayaram (2002) was followed for taxonomic analysis and comparison; counts and measurements were made on the left side of specimens. Head length and relevant measurements of body parts are taken as proportions of standard length (SL); essential measurements of the head are shown as proportions of head length (HL); distance between two fins or between fin and vent is taken from the origin of the fin. The specimens of the new fishes are now deposited in the Zoological Survey of India Western Regional Centre, Pune (ZSI/WRC).

RESULTS AND DISCUSSION

Puntius ocellus sp. nov. (Figs. 1-5; Tables 1 & 2)

Type Specimens Examined: Holotype: ZSI/WRC/P5541, 73 mm SL, India: Kerala, a water stream at Kasargod, coll. Mathews Plamoottil and Vineeth. K 02. August 2019. Paratypes: ZSI/WRC/P5542, 5 examples, 60.0- 69.0 mm SL, India: Kerala, water stream at Kazargod, coll. Mathews Plamoottil and Vineeth.K. 02 August 2019.

Diagnosis: *Puntius ocellus* can be distinguished from all other *Puntius* species in having a large deep black round caudal spot on posterior most (20-23 / 21-24) lateral line scales and a distinct golden or yellow ring surrounding it. It further differs from congeners in having a pointed and unusually elongated (32.5-35.1 % HL) snout, dorsal fin located in advance of the ventral fin, the former with a weak and non-osseous last simple ray, 23-24 lateral line scales, 2 ½ scales between lateral line and ventral fin and 7-8 predorsal scales.

Description: Body laterally compressed; dorsal profile ascending gradually from snout tip to dorsal front and descending roughly in a slightly concave or straight line from the latter to caudal-fin base; ventral profile from the tip of snout to anal fin base convex and then nearly straight to the caudal base. Eyes located above the angle of jaws, its upper border reach to the dorsal profile of the head and can be seen from below the ventral side; nostrils situated much closer to the anterior border of eyes than to the snout tip. One pair of small and feeble maxillary barbels, shorter than orbit, and never reach orbit or nostrils. Mouth terminal upturned and protrusible. Snout long and pointed. The operculum extends out as a tiny flap but never extends out of the pectoral fin base. The dorsal fin located in advance of ventral fin origin and slightly nearer to the snout tip than to the caudal fin base; no osseous rays in the dorsal fin, last simple dorsal ray flexible and weak; pectoral fin situated on the ventrolateral

part of the body, its tip reach 1-2 scales in front of ventral fin origin; the tip of the latter reach 2-3 scales in front of anal fin origin; one auxiliary scale, shorter than 1/3 of the ventral fin, present on either side of the base of ventral fin; anal fin with three simple and five branched rays, its outer margin concave and its tip never reach to caudal base; 5-6 scales occur between the posterior base of the anal fin and caudal base. Caudal fin lobes equally bifurcated. Scales moderate, soft, and easily deciduous; breast scales are of the same size as other scales of the body; no prominent scales on the base of the dorsal fin and anal fin. Lateral line roughly straight or with a slight concavity on its anterior 1/3 position and passes through the lower half of body; 23-24 lateral line scales; 1 scale on caudal base.

Table 1. Morphometric characters of *Puntius ocellus* (ZSI/WRC/P5541 & P5542)

Sl. No	Measurement	Holotype	Range	mean
1	Total length	93.0	75-93	84.5
2	Standard Length (mm)	73.0	60-73.0	66.9
3	Head Length(mm)	22.5	18.5-22.5	20.2
Percent of Standard length				
4	Head length	30.8	29.7-30.8	30.2
5	Head depth	21.9	20.6-22.4	21.5
6	Head width	16.4	15.9-17.5	16.8
7	Body depth at dorsal origin	32.1	29.8-32.1	30.7
8	Body depth at anal origin	21.9	21.0-22.3	21.7
9	Body width at dorsal origin	15.0	15.0-17.1	15.5
10	Body width at anal origin	10.2	9.52-10.4	10.0
11	Pre-dorsal length	49.3	46.6-51.5	48.7
12	Post-dorsal length	54.7	53.9-55.2	54.8
13	Pre-pelvic length	54.7	50.7-55.0	53.0
14	Pre-anal length	75.3	73.9-77.7	75.6
15	Length of dorsal fin	28.0	26.0-28.3	27.1
16	Length of pectoral fin	20.5	19.5-20.8	20.1
17	Length of pelvic fin	18.4	18.4-20.1	19.2
18	Length of anal fin	17.8	17.3-19.1	18.0
19	Length of caudal fin	30.8	28.9-30.8	30.2
20	Length of base of dorsal fin	15.0	14.4-17.1	15.6
21	Length of base of anal fin	8.21	7.97-10.0	8.85
22	Length of caudal peduncle	20.5	14.9-20.5	19.1
23	Depth of caudal peduncle	13.6	13.0-13.6	13.2
24	Width of caudal peduncle	4.8	4.8-5.07	4.8
25	Distance between pectoral fin and pelvic fin	24.6	21.7-26.9	24.4
26	Distance between pelvic fin and anal fin	25.3	23.1-26.2	24.3
27	Distance between anal fin and caudal fin	22.6	21.0-23.3	22.5
28	Distance from ventral to vent	22.6	21.0-23.1	22.1
29	Distance from anal to vent	2.3	1.6-2.5	2.0
Percent of Head length				
30	Head depth	71.1	68.4-72.5	70.8
31	Head width	53.3	53.3-57.5	55.3
32	Eye diameter	35.5	33.3-37.5	35.2
33	Pre-orbital distance	64.4	61.9-68.4	64.3
34	Post-orbital distance	42.2	35.7-42.2	39.2
35	Pre-occipital distance	80.0	76.1-84.2	79.9
36	Post-occipital distance	80.0	75.6-87.5	82.7
37	Inter orbital width	35.5	31.5-35.5	33.0
38	Inter narial width	24.4	21.0-24.4	22.0
39	Snout length	33.3	32.5-35.1	33.6
40	Width of gape of mouth	24.4	23.6-30.0	25.0
41	Length of maxillary barbels	17.7	9.5- 17.7	14.7

Table 2. Meristic Counts of *P. ocellus* (ZSI/WRC/P5541 & P5542)

Sl. No	Characters	Holotype	Range
1	Lateral line scales	24+1	23-24+1
2	Pre-dorsal scales	7	7-8
3	Dorsal fin origin to lateral line	4.5	4.5
4	Ventral fin origin to lateral line	2.5	2.5
5	Anal fin origin to lateral line	3.5	3.5
6	Circumpeduncular scales	6	5- 6
	Fin ray count		
7	Dorsal fin rays	ii.8	ii.8
8	Pectoral fin rays	i.13	i.13-14
9	Pelvic fin rays	i.8	i.8
10	Anal fin rays	ii.5	ii.5
11	Caudal fin rays	iii.17.iii	iii.17.iii
12	Number of barbels	2	2

Colour: Dorsal part light olive with green shining; flank and belly golden silvery; operculum and fins are lime yellow; a black blotch present on 20-23 / 21-24 scales; it is surrounded by a distinct golden or yellow ring.

Etymology: The species epithet '*ocellus*' is derived from the Latin word *oculus* (eye) and literally means "little eye"; it refers to the peculiar eye like a caudal black spot of the new fish encircled by a golden or yellowish ring.

Comparisons: The new fish, *Puntius ocellus*, differs from its close congeners (Figs. 6-9) in having a weak and non-osseous last simple dorsal ray, 2 ½ scales between the lateral line and ventral fin, and 7-8 predorsal scales; in addition to it, its snout is pointed, unusually elongated and it possesses a large deep black round spot on posterior most (20-23 / 21-24) lateral line scales and a distinct golden or yellow ring surrounding it; based on the first three characters it is clear that it is closely related to *Puntius kyphus* Plamoottil (2019), *P. euspilurus* Plamoottil (2016), *P. mahecola* (Valenciennes, 1842; Pethiyagoda and Kottelat, 2005) and *P. amphibius* (Valenciennes, 1842; Plamoottil, 2018). The non-osseous last simple dorsal ray is the prime affinity among all the above cyprinids. *P. euspilurus* Plamoottil (2016), described from Wayanad of Kerala, maybe the closest congener of *Puntius ocellus*. Both these have 23-24 lateral line scales, 7-8 predorsal scales, and 2 ½ scales between the lateral line and ventral fin. *Puntius ocellus*, in conjunction with the prime similarity with *P. euspilurus*, digresses from it in colour, and in many other morphometric and meristic characters. The new species diverge from *P. euspilurus* in having a higher body (depth at dorsal in origin 29.8-32.1 % SL vs. 23.8-26.3), a shorter (LP 19.5-20.8 % SL vs. 21.7-24.6) pectoral fin which never reach (vs. reaching) to ventral fin and in having (vs. lacking) a golden ring around the caudal black spot. Significant differences between *P. ocellus* and *P. euspilurus* are mobilized in Table 3. The new species differs from *P. kyphus* Plamoottil (2019), described from Thiruvulla in Kerala, in having a nearly straight (vs. having a prominent hump) predorsal region, 4 ½ (vs. 5 ½) scales between lateral line and dorsal fin, higher (26.0-28.3 SL vs. 21.0-22.5) dorsal fin and elongated (32.5-35.1 % HL vs. 24.2-27.3) snout. Dissemblance between *Puntius ocellus* and *P. kyphus* is shown in Table 3. *Puntius ocellus* differs from *P. mahecola* (Valenciennes, 1842; Pethiyagoda and Kottelat, 2005) in having a longer (29.7-30.8 % SL vs. 25.7-26.5) head, an elongated snout (32.5-35.1 % HL vs. 25.0-28.5), and in having (vs. lacking) a golden ring around caudal black spot. The new species further differs from *P. mahecola* in having a roughly square or round (vs. elongated horizontally) caudal colour spot. Major differences between *P. ocellus* and *P. mahecola* are

enlisted in Table 3. *Puntius ocellus* can be distinguished from *Capoeta amphibia* Valenciennes in having (vs. lacking) a caudal colour spot encircled by a golden ring. The identity of *C. amphibia* must be proved based on its collections from Mumbai, its type locality.

Table 3. Differences of *P. ocellus* with *P. euspilurus*, *P. kyphus* and *P. mahecola*

SL.No	Characters	<i>P. ocellus</i>	<i>P. euspilurus</i>	<i>P. kyphus</i>	<i>P. mahecola</i>
1	Head length/SL	27.3- 28.2	29.0- 31.1	---	25.7-26.5
2	Body height at dorsal/SL	30.9- 31.7	23.8- 26.3	32.3-35.6	28.7-30.0
3	Body height at anal /SL	22.6- 23.5	18.5- 21.2	---	20.9-22.1
4	Body width at dorsal	16.1- 17.4	17.8- 18.8	---	----
5	Pre anal distance	77.3- 77.6	71.7- 72.7	---	73.6-74.5
6	Height of dorsal fin	24.7-27.3	---	21.0- 22.5	22.6-25.2
7	Length of pectoral	18.8- 20.2	21.7- 24.6	---	---
8	Length of anal fin	17.6-19	----	14.0- 15.4	15.4- 16.9
9	Length of caudal fin	29.4-30.9	----	35.0- 35.6	--
10	Length of base of dorsal fin	14.2- 16.4	16.1-18.2	17.2- 22.1	---
11	Length of base of anal fin	8.3- 9.4	9.2- 10.7	9.6- 11.5	7.7-8.5
12	Length of caudal peduncle	14.2- 16.4	18.2- 20.0	16.7- 20.0	20.5-21.5
13	Distance from Pectoral to pelvic	25.0- 25.8	16.7- 22.3	23.1- 23.8	---
14	Distance from pelvic to anal	25.0-25.8	19.7- 24.2	27.0- 28.7	---
15	Distance from anal to caudal	21.4- 22.3	27.7- 30.3	28.8- 30.8	---
16	Eye diameter	28-29.1	----	31.3- 34.1	33.3- 36.7
	Snout length	32.5-35.1	----	24.2- 27.3	25.0- 28.5
17	Inter orbital width/HL	40.0- 41.6	31.6- 34.6	30.3- 32.7	--
18	Width of mouth gape	24.0- 25.0	25.7- 27.5	25.5- 27.3	22.9-24.4
19	Length of maxillary barbels	16.0- 16.6	9.9- 11.5	16.0- 17.4	10.2- 12.7
21	Pectoral	Not reaching pelvic fin	Reaching pelvic fin	--	---
22	Black caudal spot	Encircled by a golden or yellow ring	Not surrounded by a ring	Not surrounded by a ring	Not surrounded by a ring

The new species differs from *P. sanctus* Plamoottil (2020a), described from Velamkanni in Tamil Nadu, in having 7- 8 (vs. 10) predorsal scales, slender body (body depth 29.8-32.1 % SL vs. 35.4-37.8) and longer (32.5-35.1 % HL vs. 19.4-25.7) snout. *Puntius ocellus* differs from *P. dorsalis* (Jerdon, 1849; Plamoottil, 2020b), *P. chola* (Hamilton, 1822), *P. sophore* (Hamilton, 1822), and *P. stigma* (Valenciennes, 1844) in lacking (vs. having) a black spot on dorsal fin base. The new species further differs from *P. chola* in having 23-24 (vs. 26) lateral line scales, 7-8 (vs. 9) pre dorsal scales and longer (32.5-35.1 % HL vs. 28.3) snout. *P. ocellus* further differs from *P. dorsalis* in having (vs. lacking) a golden or yellow ring around caudal black spot. The new species further differs from *P. sophore* and *P. stigma* in having 2 ½ (vs. 3½) scales between the lateral line and ventral fin and a golden or yellow ring (vs. lacking) around the caudal black spot. The new species differs from *P. parrah* Day (1865), *P. nelsoni* Plamoottil (2014a), and *P. viridis* Plamoottil & Abraham (2014) in having a longer (32.5-35.1 % HL vs. 22.7-31.8) snout, 23-24 (vs. 25-26) lateral line scales, 2½ (vs. 3 ½) scales between lateral line and ventral fin and in having (vs. lacking) a golden or yellow ring around the black caudal spot. *Puntius ocellus* can be distinguished from *P. nigronotus* Plamoottil (2014b) in having 23-24 (vs 27) lateral line scales, 8 (vs. 9) branched rays in dorsal fin and 5 (vs. 6) branched rays in the anal fin.

The new species differs from *P. madhusoodani* in having 23-24 (vs. 25-26) lateral line scales, 8 (vs.7) branched rays in the dorsal fin and 5 (vs. 6) branched rays in the anal fin.

The new species differs from *P. dolichopterus* Plamoottil (2015) in having longer (32.5-35.1 % HL vs. 22.1-29.3) snout and in having (vs. lacking) a golden or yellow ring around black caudal spot; *P. dolichopterus* can further be differentiated from the new species in having an elongated pectoral fin reaching (vs. never reaching) pelvic fin and 3-4 longitudinal lines present (vs. absent) below the lateral line. *Puntius ocellus* can be differentiated from *Puntius mudumalaiensis* Menon & Devi (1992) in having a complete (vs. incomplete) lateral line, 23-24 (vs. 26) scales in lateral series, and in having (vs. lacking) a yellow or golden ring encircling the black caudal spot. *Puntius ocellus* can be distinguished from *P. arenatus* (Day, 1878) in having 23-24 (vs. 26) lateral line scales, 2 ½ (vs. 3½) scales between lateral line and ventral fin, and 8-9 (vs. 11) predorsal scales.

Barbus melanostigma, described by Day (1878) from Wayanad, is now considered as a junior synonym of *Puntius mahecola*; the new species differs from *B. melanostigma* in having 23- 24 (vs. 26) lateral line scales and in having (vs. lacking) a golden or yellow ring surrounding caudal spot. The new species differs from *Capoeta puckelli* Day (1868), currently, a junior synonym of *Puntius bimaculatus*, in having 8 (vs. 7) branched rays in the dorsal fin and in lacking (vs. having a horizontal black mark on the dorsal fin) any colour spot on dorsal fin.

CONCLUSION

Puntius ocellus is a distinct species found in the freshwater bodies of Kazargod; they are edible and can also be used for ornamental purposes. *Puntius euspilurus*, *P. kyphus*, *P. mahecola*, and *P. amphibius* are their congeners. All these have non-ossified and weak last simple dorsal ray. The new species is peculiar in having a distinct golden or yellow ring surrounding their colour spot on the caudal base; moreover, the caudal colour spot in these fishes is deep black, fairly round, and large in size compared to their relative species; the snout is unusually long in these cyprinids; among barbs, only *P. dorsalis* are having similar type of elongated snout. In most of the *Puntius* species snout length is shorter than 30 % of head length; in *P. ocellus* it is 32.5-35.1 % HL. It is expected that more taxonomic details of this cyprinid fish will be revealed in near future based on studies on more number of the fishes.



Fig. 1. A fresh specimen of *Puntius ocellus*, Paratype, ZSI/WRC/P5542.



Fig. 2. A fresh specimen of *P. ocellus*, Holotype, ZSI/WRC/P5541.



Fig. 3. A preserved specimen of *P. ocellus*, Paratype, ZSI/WRC/P5542.



Fig. 4. Head of *P. ocellus* showing elongated and pointed snout



Fig. 5. Tail region of *P. ocellus* showing golden ring surrounding caudal spot.



Fig. 6. *P. mahecola* PCMP 40



Fig. 7. *P. amphibius* PCMP 46



Fig. 8. *P. euspilurus* FBRC/ZSI/F/2314



Fig. 9. *P. kyphus* ZSI/NERC/V/F 4546

Comparative Materials Examined:

Puntius kyphus, Holotype: ZSI/NERC/V/F 4546, 80.0 mm SL, a water stream at Thiruvalla, Kerala, India, coll. Mathews Plamoottil, 20.08.2017. Paratypes: ZSI/NERC/V/F 4547, 2, 52.0- 93.0 mm SL, other details same as HT; *Puntius nelsoni*: Holotype: ZSI/WGRC/IR/2353, 91 mm SL, Kallumkal, Manimala River, Kerala, India, 9°20'0''N, 76°30'0''E, coll. Mathews Plamoottil, 21.08.2011; paratypes: ZSI/WGRC/IR/2354, 3, 81-84 mm SL, Kallumkal, Manimala River, Kerala, India, 9°20'0''N, 76°30'0''E, coll. Mathews Plamoottil, 21.08.2011. *Puntius dolichopterus*: ZSI/ANRC-12226, 68 mm SL, Kayamkulam, Kerala, India, coll. Mathews Plamoottil, 21.08.2014. Paratypes: ZSI/ANRC-12227, 5 specimens, 57.0 - 63.5 mm SL, Kayamkulam, Kerala, India, coll. Mathews Plamoottil, 21.08.2014. *Puntius nigronotus*: Holotype: ZSI FF 5285, 82.3 mm SL, India: Kerala, Mananthavady River, Wayanad, coll. Mathews Plamoottil, 01.01.2012. *Puntius viridis*: Holotype, ZSI/WGRC/IR/2382, 81 mm SL, Kallumkal, Manimala River, Kerala, India, 9°20'0''N, 76°30'0''E, coll. Mathews Plamoottil, 21.08.2011; paratypes, ZSI/WGRC/IR/2383, 5, 72- 76 mm SL, Kallumkal, Manimala River, Kerala, India, 9°20'0''N, 76°30'0''E, coll. Mathews Plamoottil, 21.08.2011; ZSI FF 4932, 2, 63- 74 mm SL, Manimala River at Kallumkal, Kerala, coll. Mathews Plamoottil, 10.10.2012. *Puntius madhusoodani*: Holotype, CRG-SAC 456, 91.4 mm SL, Manimala River, near Thirumoolapuram, Thiruvalla, Kerala, coll. K. Krishnakumar; 17.11.2010; paratypes, CRG-SAC 457 - 459, 3, 67.6 - 80.9 mm SL, Manimala River, near Thirumoolapuram, Thiruvalla, Pattanamthitta District, coll. K. Krishnakumar and Benno Pereira, 17.11.2010. *Puntius parrah*: ZSI/F 2718, Syntype, 1, Kariavannoor River, Kerala, coll. Francis Day, undated; ZSI FF 4934, Topotypes, 4, 65.5- 78.0 mm SL, Arattupuzha, Karavannoor River, Iringalakuda, Kerala, coll. Mathews Plamoottil, 10.01.2012. *Puntius cauveriensis*: ZSI F 12179/1, 122 mm SL, Cauvery River, Coorg, coll. CRN. Rao. *Puntius sophore*: ZSI FF 4938, 2, 58-59 mm SL, Ganges River, Serrampore, West Bengal, Coll. Mathews Plamoottil, 10.05.2012. *Puntius stigma*, PCMP 36, 4, 47.0 - 62.0 mm SL, Kollam, coll. Mathews Plamoottil, 07.01.2017; *Puntius chola*: ZSI/WRC/P/5537, 1, Ganges River at Naihati, Debarghya Maji & Mathews Plamoottil, 21.06.2019; *Puntius dorsalis*: ZSI/ANRC/M/23595, 2, 115.2-128.0 mm SL. A water stream at Chennai, coll. Mathews Plamoottil, 17.07.2019; ZSI/F 2730, 1, Madras, coll. Francis Day, undated; *Puntius sanctus*: Holotype: ZSI/WRC/P/5535, 70 mm SL, a small water stream at Velamkanni of Tamil Nadu, coll. Mathews Plamoottil, 10.07.2019; Paratypes: ZSI/WRC/P/5536, 4, 56.0-65 mm SL, other details the same as HT. *Puntius euspilurus*: Holotype: FBRC/ZSI/F/2314, 65.0 mm SL, India: Kerala, Mananthavady River,

Wayanad, coll. Mathews Plamoottil, 10 January 2013. Paratypes: FBRC/ZSI/F/2315, 3 examples, 60.0- 66.0 mm SL, India: Kerala, Mananthavady River, Wayanad, coll. Mathews Plamoottil, 10 January 2013. *Puntius mahecola*: PCMP 40, 4 ex, 63-74 mm SL, Thiruvalla, Coll. Mathews Plamoottil, 6.3.2011. *Puntius hamiltonii*: Account from Jerdon (1849) and Day (1865); *Puntius ampibius*: PCMP 46, 47.00 – 63.00 mm SL, collected from a water stream at Kollam, 7.3.2011. Details of other fishes taken from their original description.

ACKNOWLEDGEMENTS

The first author is grateful to DST- SERB for sanctioning Core Research Grant for funding this research work. We are thankful to anonymous reviewers for the comments that helped improve the manuscript.

REFERENCES

- Day, F. (1865): On the fishes of Cochin, on the Malabar coast of India. *Proceedings of Zoological Society of London*, 286- 318.
- Day, F. (1867): On the fishes of Neilgherry Hills and rivers around their bases. *Proceedings of Zoological Society of London*, 281-302.
- Day, F. (1868): On Some new fishes from Madras. *Proceedings of Zoological Society of 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 and Norgate, London, 30.
- Hamilton, F. (1822): An Account of Fishes found in the River Ganges and its branches. Edinburgh Hurst, Robinson & Co, London, 312-389.
- Hora, S. L. (1937): Notes on fishes in the Indian Museum, XXVIII. On three collections of fish from Mysore and Coorg, south India. *Records of the Indian Museum*, 39: 5-28.
- Jayaram, K. C. (1991): Revision of the genus *Puntius* Hamilton from Indian region. Records of zoological survey of India, *occasional paper no.13, Zoological Survey of India, Kolkata*, pp. 113-123.
- Jayaram, K. C. (2002): Fundamentals of fish taxonomy. Narendra Publishing House, New Delhi, 53-65.
- Jayaram, K. C. (2010): The freshwater fishes of Indian region. Narendra Publishing house, New Delhi. 118-134.
- Jerdon, T. C. (1849): On the freshwater fishes of southern India. *Madras Journal of Literature Science*, 15 (2): 302- 346.
- Menon, A. G. K. (1999): Check list of freshwater fishes of India. *Records of Zoological Survey of India, Occasional Paper No.175*, 366.
- Menon, A. G. K. and Rema Devi, K. (1992): *Puntius mudumalaiensis*, a new cyprinid fish from Mudumalai, Tamil Nadu. *Journal of Bombay natural History Society*, 89(2): 229-231.
- Pethiyagoda. R. (2013): *Haludaria*, a replacement generic name for *Dravidia*. *Zootaxa*, 3646 (2): 199.a
- Pethiyagoda R. and Kottelat, M. (2005): The identity of south Indian barb *Puntius mahecola* (Teleostei: Cyprinidae), *Zootaxa*, 12: 145-152.
- Pethiyagoda R, Meegaskumbura M and Maduwage K (2012): A synopsis of the South Asian fishes referred to *Puntius* (Pisces: Cyprinidae). *Ichthyological Exploration of Freshwaters*, 23 (1): 69-95.
- Plamoottil, M. (2014a): *Puntius nelsoni*, *Systomus chryseus* and *S. rufus*, three new fish species from Kerala, India. *International Journal of Fauna and Biological Studies* 1(6): 135-145.

- Plamoottil, M. (2014b): *Puntius nigronotus*, a new fish species (Cypriniformes: Cyprinidae) from Kerala, India. *Journal of Research in Biology*, 4(8): 1581-1588.
- Plamoottil, M. and Abraham N.P. (2014): *Puntius viridis*, a new fish species from Kerala, India. *Journal of Research in Biology*, 3 (7): 1093- 1104.
- Plamoottil, M. (2015): *Puntius dolichopterus*, a new fish species (Cypriniformes: Cyprinidae) from Kerala, India. *International Journal of Pure and Applied Zoology*, 3(3): 226-231.
- Plamoottil, M. (2016): *Puntius euspilurus*, a new fish species (cypriniformes: cyprinidae) from Kerala, India. *International Journal of Research Studies in Biosciences*, 4(9): 1-6.
- Plamoottil, M. (2019): *Puntius kyphus*, a new fish species from Kerala, India. *Journal of Experimental Zoology, India* 22 (2): 713-718.
- Plamoottil, M. (2020a): *Puntius sanctus*, a new fish species from Tamil Nadu India. *Bioscience Research*, 17(1): 560-567.
- Plamoottil, M. (2020b): Taxonomic Notes on *Puntius dorsalis* Jerdon (1849). *University Journal of Zoology, Rajshahi Univeristy, Bangladesh*, 37, 43-47.
- Plamoottil, M. and Maji, D. (2020): Taxonomic notes on *Puntius chola* (Hamilton, 1822). *Journal of Experimental Zoology, India*. 23(1): 47-51.
- Valenciennes, M. A. (1842) : Histoire naturelle Poissons.Paris., 17 : xxiii, 497p.
- Valenciennes, M. A. (1844) : Histoire naturelle Poissons, Paris, 14 : 93.