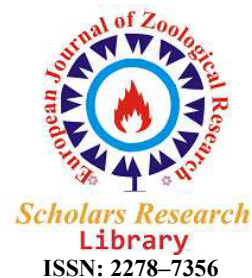




Scholars Research Library

European Journal of Zoological Research, 2017, 5 (1):40-44
(<http://scholarsresearchlibrary.com/archive.html>)



ISSN: 2278-7356

urn:lsid:zoobank.org:pub:DDBCC03E-F187-46B1-BCE3-946E01269229

urn:lsid:zoobank.org:act:F2EC29A9-B985-4F08-A404-D68F1E05A11D

***Pristolepis procerus* (Perciformes: Pristolepididae), a New Fish Species from Kerala, India**

Mathews Plamoottil

Department of Zoology, Government College, Chavara, Kollam, Kerala, India

ABSTRACT

Pristolepis procerus, new species, can be distinguished from its congeners in having a blackish brown and higher body, dusky fins, longer head, greater number of soft rays in dorsal fin and elongated pectoral, pelvic and caudal fin. The new species is described and compared with its relative species.

Keywords: Taxonomy, Percoid fishes, New species, *Pristolepis pentacantha*, *Pristolepis Marginatass*

INTRODUCTION

Pristolepis is a genus of food and aquarium fishes distributed in the freshwater bodies of India, Sri Lanka, Sumatra, Java and Borneo. *Pristolepis* species are characterized by the presence of sub ocular shelf, small mouth and laterally compressed body with dorsal, ventral and anal fins with strong spines. Even though a few species had been described from other countries [1]; most of the *Pristolepis* species were described from Peninsular India. In India *Pristolepis* species are found in aquatic bodies of Kerala and Karanataka [2].

Pristolepis marginata Jerdon [3,4], *P. malabarica* (Guenther) [5,6], *P. rubripinnis* Britz *et al.* [7] and *P. pentacantha* Plamoottil [8,9] are the species of the genus described from Kerala. The present fish described from the Kozhikode of Kerala, India possesses characters of the genus *Pristolepis* but carries enough features to distinguish it from its congeners. So it is described here as a new species *Pristolepis procerus*.

MATERIALS AND METHODS

Fishes were collected using cast nets and preserved in 10% formalin. Methods used are those of Jayaram [10] and measurements follow standard practices. Measurements were taken on the left side of specimens. Body depth is measured at the origin of first dorsal fin. Abbreviations used: HT-Holotype; PT-Paratype; LLS-Lateral line scales; LL/D-Scales between lateral line and dorsal fin; LL/V-Scales between lateral line and ventral fin; OLS-Overlapping scales; ZSI/NERC-Zoological Survey of India, North Eastern Regional Centre, Shillong, Meghalaya; ZSI/ANRC-Zoological Survey of India Andaman & Nicobar Regional Centre, Port Blair; ZSI/WGRC-Zoological Survey of India Western Ghats Regional Centre Calicut; ZSI/FF-Zoological Survey of India, Kolkata; UOK/AQB- University of Kerala, Department of Aquatic Biology & Fisheries, Trivandrum.

RESULTS AND DISCUSSION

***Pristolepis procerus*, new species** (Figure 1 and Table 1)

Type Materials Examined:

Holotype: ZSI/NERC//4057, 85.0 mm SL, 10 December, 2013, Chaliyar, Kozhikode District, Kerala, India; coll. Mathews Plamoottil.

Paratype: ZSI/ANRC/16619, 72 mm SL, same information as in the Holotype.

Diagnosis: *Pristolepis procerus* can be diagnosed from its congeners in having a blackish brown and higher body, dusky fins, longer head, larger orbits, more posteriorly located anal fin, 13 soft rays in dorsal fin and elongated pectoral, pelvic and caudal fin [11].



Figure1: Holotype of *P. procerus*, ZSI/NERC//4057

Table 1: Morphometric characters of *Pristolepis procerus*, sp. Nov.

| SL. No | Characters | Measurements |
|--------|-------------------------------------|---------------------|
| | | HT- ZSI/NERC//4057 |
| | | PT- ZSI/ANRC/16619) |
| 1 | Total Length (mm) | 98.5-113.9 - |
| 2 | Standard Length (mm) | 72-85.0 |
| | | % SL |
| 3 | Body depth at dorsal origin | 47.2-47.6 |
| 4 | Body depth at anal origin | 45.8-46.7 |
| 5 | Body width at dorsal origin | 22.2-24.1 |
| 6 | Body width at anal origin | 13.9-15.3 |
| 7 | Pre dorsal distance | 41.8-43.7 |
| 8 | Post dorsal distance | 59.4-62.5 |
| 9 | Length of pectoral fin | 32.0-32.3 |
| 10 | Length of pelvic fin | 25.9-26.4 |
| 11 | Length of anal fin | 20.6 |
| 12 | Length of caudal fin | 34-36.8 |
| 13 | Pre pectoral distance | 35.1-38.9 |
| 14 | Pre pelvic distance | 42.3-45.8 |
| 15 | Pre anal distance | 76.5-80.5 |
| 16 | Length of soft dorsal fin | 23.624 |
| 17 | Length of spinous dorsal fin | 16.0-16.7 |
| 18 | Length of soft anal fin | 19.7-20.6 |
| 19 | Length of spinous anal fin | 16.0-16.7 |
| 20 | Length of spinous dorsal fin | 48.8-53.0 |
| 21 | Length of base of soft dorsal fin | 18.8-29.8 |
| 22 | Length of base of anal fin | 23.6 |
| 23 | Length of base of caudal fin | 16.9-22.3 |
| 24 | Length of caudal peduncle | 7.6-8.3 |
| 25 | Depth of caudal peduncle | 16.7-17.6 |
| 26 | Distance from pelvic to anal fin | 33.4-34.0 |
| 27 | Distance from anal to caudal fin | 28.5-30.0 |
| 28 | Distance from anal to vent | 5.8-6.9 |
| 29 | Distance from ventral to vent | 27.8-28.2 |
| 30 | Distance from occiput to snout | 23.0-23.5 |
| 31 | Distance from occiput to dorsal fin | 18.8-29.4 |
| 32 | Head length | 40.3-41.2 |
| 33 | Head depth | 30.3-35.3 |
| 34 | Head width | 20.0-20.1 |
| | | %HL |
| 35 | Eye diameter | 28.6-33.4 |

| | | |
|----|------------------------|-----------|
| 36 | Snout length | 27.1-30.3 |
| 37 | Inter orbital width | 22.4-25.7 |
| 38 | Inter narial width | 17.1-17.2 |
| 39 | Width of gape of mouth | 28-29.3 |

Description: Body compressed; both dorsal and ventral sides equally convex; a considerable rise to the dorsal fin; head large, pointed towards the snout. Eyes inserted in the dorso- anterior half of head, its upper margin nearly close to dorsal profile; nostrils wide apart, anterior nares opens out at the end of a short tube; posterior nostrils form a round opening, located close to orbit; Upper jaw a little longer than lower one; upper lip fleshier; intermaxillaries protractile; mouth terminal, situated just below the central line of the body; maxilla ending a little in front of anterior margin of orbit; pre orbital without serrations; opercle with two undivided spines posteriorly; pre opercle angle moderately serrated with 18 serrae; junction of inter and sub opercle slightly serrated. Dorsal spines stout, stronger but shorter than rays; longer than remaining ones; interspinous membrane deeply emarginate; a groove present on middorsal line for the reception of dorsal spines; soft dorsal fin triangular and originates considerably in front of soft anal fin; tip of soft dorsal fin reaching a little behind the middle of caudal fin; pectoral fin originate slightly in front of first dorsal spine; pectoral tip reaching 9 – 10 scale rows, a little behind the tip of pelvic fin and nearly above anal opening; pelvic fin originates just behind pectoral fin base and its tip never reach anal opening. Anal fin with three strong spines; second spine stronger and third spine longer than other spines; soft anal fin triangular; caudal fin elongated and its margin rounded. Scales comparatively large; tiny scales occur on chest, bases of soft dorsal, soft anal fin and caudal fin. Scales absent on inter orbital and pre orbital regions; Lateral line interrupted, dorsal branch passes through 19 scales to 21 scales, then ceases below 6th soft dorsal ray, body blackish brown; fins dusky (Figure 2 and 3).



Figure 2: *P. Marginata* ZSI FF 4935



Figure 3: *P. malabarica* ZSI/WGRC/IR/237

Etymology: The specific epithet “*procerus*” is a Latin word meaning ‘tall’, referring to the high body depth of the new fish.

Comparisons: *Pristolepis procerus* can be distinguished from all its congeners in its color, meristic counts (Table 2) and in many morphometric characters (Table 3). The new species differs from *P. marginata* Jerdon [3] in having 14 (vs. 15 in *P. marginata*) dorsal fin spines, 13 (vs. 12) dorsal soft rays, 3 (vs. 4) anal spines and deeper body (Body depth 47.2 to 47.6- % SL vs. 40.0 to 42.1). *Pristolepis procerus* differs from *P. malabaricus* [5] in having a deeper body (Body depth 47.2 to 47.6 % SL vs. 41.4 to 45.5), 13 (vs. 11-12) dorsal soft rays, 19- 21/10-11 (vs. 19- 23/ 8-11) lateral scales and also in having a blackish brown body (vs. greenish to yellowish green) and dusky fins (vs. greenish yellow). The new species can be distinguished from *Pristolepis pentacantha* in having 14 (vs. 15- 16) dorsal spines, 13 (vs. 11) dorsal fin rays, 3 (vs. 5) anal fin spines and 8- 9 (vs. 7) anal fin soft rays. *Pristolepis procerus* differs from *P. rubripinnis* in having 13 (vs. 14) dorsal fin soft rays, dusky (vs. orange red) fins and blackish (vs. reddish brown) body (Figure 4 and 5).

Table 2: Meristic counts of *Pristolepis procerus* and its congeners.

| Sl. No | Characters | <i>P. procerus</i> | <i>P. pentacantha</i> | <i>P. marginata</i> | <i>P. malabarica</i> | <i>P. rubripinnis</i> |
|--------|-------------------|---------------------------------|-------------------------|---------------------|----------------------|-----------------------|
| | | ZSI/NERC//4057 & ZSI/ANRC/16619 | ZSIFF 5191; ZSI FF 5192 | ZSI FF 4935 | ZSI FF 4937 | STC/DOZ/55 |
| 1 | Dorsal fin spines | XIV | XV- XVI | XV | XIV | XIV |
| 2 | Dorsal fin rays | 13 | 11 | 12 | 11-12 | 14 |
| 3 | Pectoral rays | 13-14 | 14 | 13- 14 | 12-14 | 14 |
| 4 | Pelvic rays | 1,5 | 1,5 | 1, 5 | 1, 5 | 1, 5 |
| 5 | Anal soft rays | 8-9 | 7 | 7-8 | 8-9 | 9 |

| | | | | | | |
|----|-------------|----------|------|-------------|--------------|-------------|
| 6 | Anal spines | III | V | IV | III | III |
| 7 | LLS | 19-21/10 | 22-7 | 19-21/12-15 | 19- 23/8- 11 | 20- 22/9-10 |
| 8 | LL/D | 4½ | 4 | 4½ | 3½ | 4-5 |
| 9 | LL/V | 9½ | 9½ | 9½ | 8½ -10½ | 10 |
| 10 | OLS | 2 | 4 | 1-4 | 0-3 | 2-4 |

Table 3: Morphometric differences of *Pristolepis procerus* from its congeners.

| Sl. No | Characters | <i>P. procerus</i> | <i>P. malabarica</i> | <i>P. marginata</i> | <i>P. pentacantha</i> | <i>P. rubripinnis</i> |
|-------------|----------------------------------|---------------------------------------|----------------------|---------------------|------------------------------|-----------------------|
| | | ZSI/NERC//4057 & ZSI/ANRC/16619 | ZSI FF 4937 | ZSI FF 4935 | ZSI FF 5191 & ZSI FF 5192 | STC/DOZ/55 |
| % SL | | | | | | |
| 1 | Head length | 40.3-41.2 | 33.6-36.5 | 32.7-38.0 | 33.3- 35.4 | 33.2- 36.4 |
| 2 | Body depth at dorsal fin | 47.2-47.6 | 41.4-45.5 | 40.0-42.1 | 40.0-41.3 | 44.0- 45.4 |
| 3 | Pre dorsal distance | 41. 8-43.7 | 37.1-40.9 | 38.5-41.8 | 39.4- 40.7 | 40.0- 41.4 |
| 4 | Post dorsal distance | 59.4-62.5 | 63.6-68.3 | 64.5-70.2 | 70.7-72.0 | 69.5-70.7 |
| 5 | Length of pectoral fin | 32.0-32.3 | 23.6-28.4 | 22.8-24.4 | 24.9-25.0 | 24.5-26.3 |
| 6 | Length of pelvic fin | 25.9-26.4 | 20.6-23.3 | 20.2-23.8 | 20.6-22.1 | 21.5-23.2 |
| 7 | Length of caudal fin | 34-36.8 | 24.3-28.7 | 22.8-25.9 | 23.9-25.0 | 24.1-26.3 |
| 8 | Pre anal distance | 76.5-80.5 | 69.2-74.6 | 68.6-73.3 | 69.0-69.3 | 69.8-75.4 |
| 9 | Length of dorsal spine | 16.0-16.7 | 11.4-14.3 | 11.6-14.3 | 12.2-14.1 | 10.311.8 |
| 10 | Length of anal spine | 16.0-16.7 | 10.1-15.4 | 12.6-15.2 | 13.5-14.6 | 11.6-12.3 |
| 11 | Distance from pelvic to anal fin | 32.1-34.0 | 27.2-31.4 | 28.6-31.7 | 28.4-31.4 | 35.3-35.4 |
| 12 | Distance from anal to vent | 5.8-6.9 | 6.4-7.7 | 3.8-5.4 | 5.8-7.0 | 6.4-6.9 |
| 13 | Distance from ventral to vent | 27.8-30.2 | 22.8-26.2 | 25.0-27.7 | 24.8-25.0 | 27.6 |
| % HL | | | | | | |
| 1 | Eye diameter | 28.6-33.4 | 25.8-26.7 | 22.8-28.6 | 33.3-33.9 | 26.8-32.5 |
| 2 | Inter orbital width | 22.4-25.7 | 26.1-33.3 | 23.3-30.3 | 20.9-22.8 | 22.5-23.4 |

Comparative Material; *Pristolepis malabarica*: ZSI/WGRC/IR/2373, 10 exs, 63-88 mm SL, Mundakkayam, Manimala River, Kerala, collected by Mathews Plamoottil, 8.10.2011, 9.12.2011 and 9.12.2012; ZSI FF 4937, 2 exs, 65.0-69.0 mm SL, Mundakkayam, Manimala River, Kerala, collected by Mathews Plamoottil, 14.10.2012; UOK/AQB/F/112 and 113, 2 exs, 60.0-65.0 mm SL, Mundakkayam, Manimala River, Kerala, collected by Mathews Plamoottil, 14.10.2012.

***Pristolepis marginata*:** ZSI FF 4935, 8 exs, 82.0 mm- 103.0 mm SL, Valloorkkavu, Mananthavady River, Wayanad, Kerala, collected by Mathews Plamoottil, 20.03.2013.

***Pristolepis pentacantha*:** Holotype: ZSI FF 5191, 94.5 mm SL, India: Kerala, Bavali, Kabani River, Wayanad, coll. Mathews Plamoottil, 10 January 2012. Paratype: ZSI FF 5192, 70.0 mm SL India: Kerala, 11 January 2012, same data as holotype.



Figure 4: *P. pentacantha*, ZSI FF 5191



Figure 5: *P. rubripinnis* STC/DOZ/55

***Pristolepis rubripinnis*:** STC/DOZ/55, 4 exs, 100-136 mm SL, Edathua, Pampa River, Kerala, collected by Mathews Plamoottil, 10.01.2013.

ACKNOWLEDGEMENT

The author acknowledges the Principal, Government College, Chavara, Kollam for the facilities provided. I am grateful to anonymous reviewers for comments that helped to improve the manuscript. The author is greatly indebted to Dr. Richard Pyle, associate zoologist in ichthyology, Hawaii.

REFERENCES

- [1] Bleeker, P., *Natuurkundig tijdschrift voor Nederlandsch Indie*, **1851**. 2: 65.
- [2] Yadav, BE., *Geobios New Reports*, **1996**. 15 (1): 55-56.
- [3] Jerdon, TC., *Madras Journal of Literature and Science*,**1849**. Xv: 139-149.
- [4] Plamoottil, M., *Research Journal of Animal, Veterinary and Fishery Sciences*, **2013**. 1(7): 1.
- [5] Guenther, A., *The annals and magazine of natural history*, **1864**. 14(3): 375-376.
- [6] Plamoottil, M. and Abraham, NP., *Journal of Advanced Zoology*, **2013**. 34(1): 28-35.
- [7] Britz, RK., Kumar, and Baby, F., *Zootaxa*, **2012**. 3345: 59-68.
- [8] Plamoottil, M., *International Journal of Scientific Research*, **2014**. 3(5): 552-554.
- [9] Plamoottil, M., *International Journal of Pure and Applied Zoology*, **2015**. 3(2): 142-143.
- [10] Jayaram, KC., *Fundamentals of fish taxonomy*. Narendra publishing House, Delhi, **2002**. 2: 53-65.
- [11] Günther, A., *Proceedings of the General Meetings for Scientific Business of the Zoological Society of London*, **1822** 5: 188-194.