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First record of *Lestrolepis japonica* (Tanaka, 1908) Paralepididae in South-east coast of India

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Abstract

Two specimens of *Lestrolepis japonica* (Tanaka, 1908) were collected from Tuticorin, South-east coast of India during January 2016 with the average total length of 194.83 ± 1.1 and average standard length of 181.55 ± 1.3 . Though it was first recorded in 1970 at the west coast of India, but it is the first record from the east coast of India. The measurements of head length, body depth, snout length, upper jaw length, eye diameter, inter-orbital length, pre dorsal length, pre pectoral length, pre pelvic length, pre anal length, pectoral fin length, the distance from pectoral fin to pelvic fin, distance from pelvic fin to anal and caudal peduncle depth were measured. The counts of dorsal fin rays, pectoral rays, pelvic fin rays and anal fin rays were also counted from the obtained specimens. The counts and measurements of the obtained specimens were compared with existing specimens.

Keywords: Paralepididae, *Lestrolepis japonica*, east coast, west coast

1. Introduction

The family Paralepididae had been subdivided into two subfamilies (Paralepidinae and Sudinae) based on pectoral fin length and number of vertebrae. The family Paralepididae is elongated body form of fishes with small needle-like teeth, which inhabit deeper open oceans world-wide. Totally 12 genera and about 59 species were recorded^[1]. Among the 12 genera, *Lestrolepis* genus having only two parallel ventral bands of luminous tissue on belly from between pelvic fins to isthmus, a prominent black spot immediately before eye and lower jaw and palatine with canines^[2]. Based on these key characters, it comprised of three species: First species *Lestrolepis intermedia*: This species distribution status was circum-temperate, subtropical and tropical species (Korea, Japan, China, Pacific, Indian and Atlantic Ocean)^[2]. It has a depth distribution of 50-500 m. This species is listed as Least Concern (IUCN) with a need for more research concerning its population, habitat and ecology. Second one *Lestrolepis luetcheni*: This species regarding very limited information available, it is bathypelagic fishes and the current distribution ranges Indo-Pacific: from East Africa to Indonesia; north to Japan and to Samoa and the Line Is. Third species *Lestrolepis japonica* is commonly called as Japanese barracudina and it has been already reported from the west coast of India during 1970 based on the single specimen and few characters only able to compare to know specimens^[3].

The report of *L. japonica* described in the present study is the first detailed documentation for its presence in Tuticorin coast, south-east coast of India.

2. Materials and Methods

2.1. Study Area

Two specimens of *L. japonica* were collected from Tuticorin fishing harbour on 1st January 2016. The specimen was caught approximately 35 km south-east of Tuticorin harbour, at a depth ranged from 100-150 m by using trawler (98° 38' 127" N and 78°12' 612"E) (Figure 1).

2.2. Measurements and Counts

Measurements and counts were taken with a digital vernier calliper to the nearest 0.1 mm followed by Hubbs and Lagler^[4] and Nakabo^[5].

3. Results and Discussions

The *L. japonica* extends the distribution of the species into the south-east coast from the nearest known record of this species of south west coast of India.

The occurrence of this species represents an eastward extension of its known geographical distribution within the Indian Ocean. The present report adds to the species diversity of *L. japonica* in the Bay of Bengal. In recent years, many new deep-sea species have been recorded from the exclusive economic zone of India [6, 13].

Description of collected *L. japonica* are: Body elongate; compressed; Head to caudal gradually narrowing; mouth large; snout piercing; lower jaw slightly protruding; interorbital space concave; flexible canines at front and lateral aspect of jaws; dorsal fin located before midway between posterior end of pelvic fin base and origin of anal fin; dorsal and pelvic fins small; anal fin base long; caudal fin forked; adipose fin small; body transparent; papilla black; postorbital; abdominal regions silvery; abdominal cavity black; caudal peduncle brown, scaled area silvery and origin of anal fin with a black blotch (Figure 2).

The morphometric and meristic characters along with color pattern of the two specimens compared by Kim *et al.* [2] and Talwar [3]. The average total length and average standard length of collected *L. japonica* were 194.83 ± 1.1 and 181.55 ± 1.3 , respectively. The morphometric characters and

meristic counts of the collected specimens were taken and compared with existing specimens were shown in Table 1. The present study measurements of *L. japonica* are very close with previously recorded Kim *et al.* [2] and Talwar [3]. Head length is 21.37-21.56 and 20.2-21.6 for previously reported. Similarly, body depth is 9.88-9.97 vs 7.2-10.0, snout length is 10.64-10.73 vs 10.2-10.8, upper jaw length is 9.95-10.07 vs 9.4- 9.9, eye diameter is 3.20-3.32 vs 3.1-3.6, inter-orbital length is 2.31-2.44 vs 2.0- 2.5. Based on these characters, head length, body depth and inter-orbital length showed slight variation.

Counts of the *L. japonica* are similar with previously recorded specimens except pectoral (13 vs 10-11) and pelvic fins (10 vs 9). Present findings increases the knowledge about *L. japonica* which may used for detailed comparison in next level of future studies. *Lestrolepis japonica* was obtained from by-catches of deep sea exploitation of commercial trawlers. This can be attributed to the intensified deep sea exploratory studies and closer monitoring of by-catch of the deep sea fishery. The present study is raising the better understanding of the behavior of the deep-sea fish diversity in the south-east coast of India to the researchers.

Table 1: Morphometric and meristic measurements of *L. japonica* compared with specimens examined by Kim *et al* (2007) and Talwar (1970)

Measurements (% of SL)	Present study (n=2)	Kim <i>et al.</i> (2007) Korean waters (n=3)	Talwar (1970) South west coast of India (n=1)
Head length	21.37 - 21.56	20.2 - 20.8	21.6
Body depth	9.88 - 9.97	7.6 - 10.0	7.2
Snout length	10.64 - 10.73	10.2 - 10.8	10.3
Upper jaw length	9.95 - 10.07	9.4 - 9.7	9.9
Eye diameter	3.20 - 3.32	3.1 - 3.6	3.4
Inter-orbital length	2.31 - 2.44	2.0 - 2.22	2.5
Pre dorsal length	59.67 - 62.15	61.3 - 61.5	-
Pre pectoral length	21.87 - 21.9	21.0 - 21.5	-
Pre pelvic length	52.75 - 53.53	51.9 - 53.4	-
Pre anal length	73.65 - 74.06	73.5 - 75.2	-
Pectoral fin length	7.64 - 8.79	8.15 - 8.79	-
Distance from pectoral fin to pelvic fin	30.07 - 30.77	28.0 - 33.1	-
Distance from pelvic fin to anal	20.47 - 21.8	21.2 - 22.4	-
Caudal peduncle depth	2.04 - 2.14	2.2 - 2.3	-
Counts			
Dorsal fin rays	9	9	9
Pectoral rays	13	10	11
Pelvic fin rays	10	9	9
Anal fin rays	36	36 - 40	36

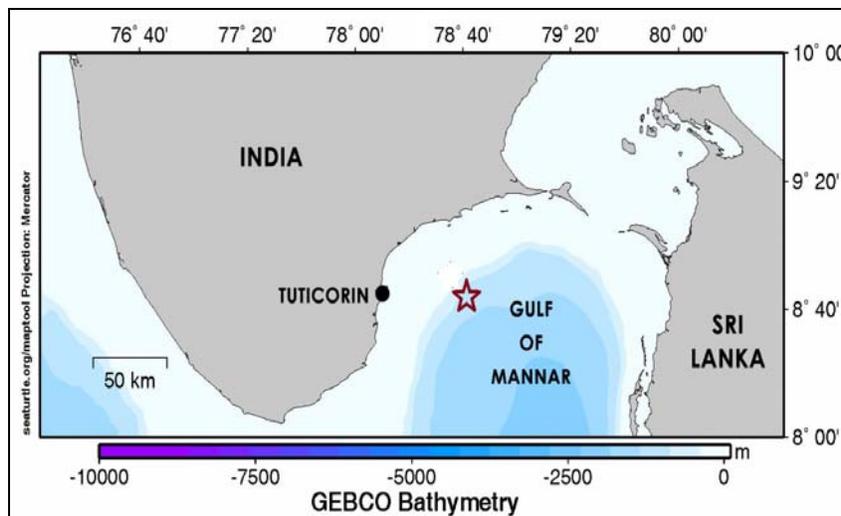


Fig 1: The Study Area (* sampling location)



Fig 2: Lateral view of *L. japonica* collected from Tuticorin, south east coast of India.

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