

**REDESCRIPTION OF THE FLAT FISH *PARDACHIRUS MARMORATUS*
(LACÉPÈDE) FROM INDIAN WATERS**

ABSTRACT

The note describes *Pardachirus marmoratus* (Lacépède) (Order : *Pleuronectiformes*, Family : *Soleidae*) occurring in the Gulf of Mannar along the Indian Coast. The presence of pores at the base of each dorsal and anal ray, both on the dextral and sinistral side of the specimens is found to be a noteworthy feature.

On 10th May 1973 a specimen of *Pardachirus*, measuring 192 mm in total length, was noticed in the trawl catches landed at Tuticorin. Though very rarely seen in commercial catches, three more specimens of the same genus were collected subsequently from the trawl net catches on 14.5.73, 25.5.73, and 26.5.73. It was ascertained from the skipper of the vessels that on all these days trawling was done in one and the same area namely off Manapad (Lat. 8° 25'N, long. 78° 20'E) at 23 metres depth. During periodical collections of the juveniles of fishes from the Silavathurai lagoon*, two juveniles of *Pardachirus* were also collected on 25.6.73 and 5.11.73, from the shore-seine landings. A close examination of the above specimens revealed that they all belonged to the species *marmoratus*. Since the occurrence of this species in this area was considered to be of some interest to the systematists, a brief note of the same is given below.

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***Pardachirus marmoratus* (Lacépède)**

(Fig. 1 & 2)

D. 62-70; A. 49-54; V. 5; C. 16-17; L.I. 104-110.

* Silavathurai lagoon lies 1 km north of Tuticorin town and is a very shallow area with a maximum depth of 2 metres, muddy bottom and with a thick growth of sea weeds on the shoreward side.

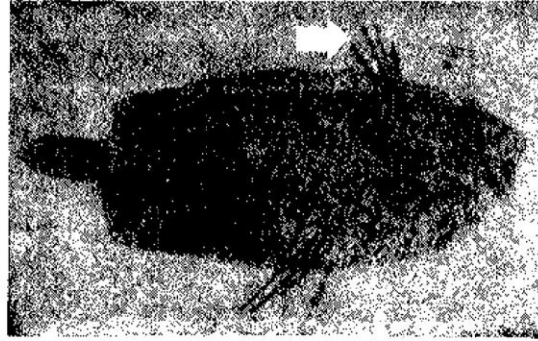


FIG. 1. Dextral side of *Pardachirus marmoratus* showing the position of pores at the base of dorsal and anal rays (arrow indicates the bristles inserted into the pores).

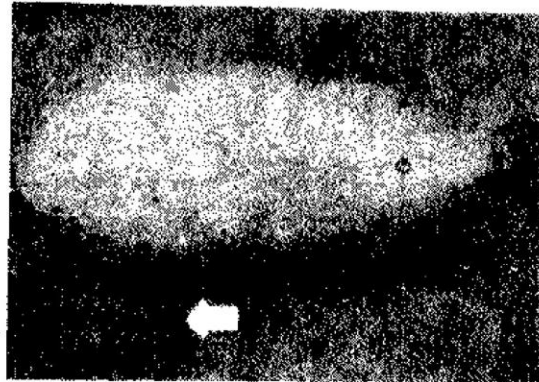


FIG. 2. Sinistral side of *Pardachirus marmoratus* showing the position of pores at the base of dorsal and anal rays (arrow indicates the bristles inserted into the pores).

Depth 2.3-3.2, head 5.2-5.9, in total length. Eyes small, on right side; upper slightly in advance of the lower; mouth strongly con-

torted, more developed on right side than on blind side; head of sinistral side covered with rather long filaments forming a fringe along the lower profile and opercular borders of both sides; nasal tentacle short; one lateral line on

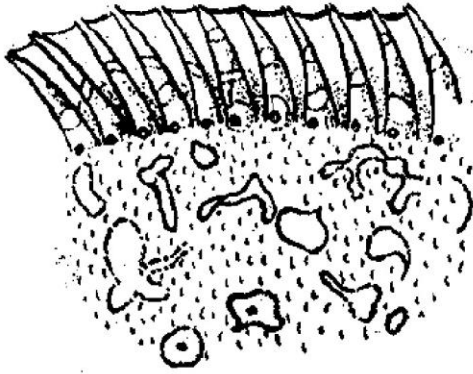


FIG. 3. The presence of pores at the base of each dorsal ray on the ocular side.

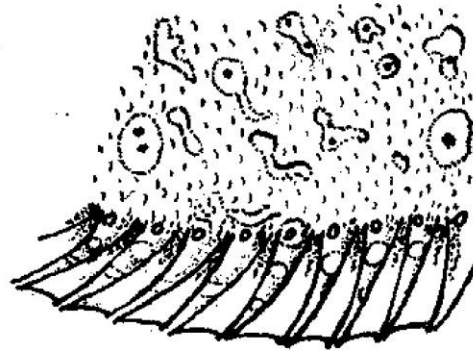


FIG. 4. The presence of pores at the base of each anal ray on the ocular side.

ocular side and two on blind side; with two or three black ocelli on the lateral line; scales cycloid, pectorals wanting; ventrals unsymmetrical; dorsal commencing on snout; an open pore at the base of each dorsal and anal ray both on dextral side and sinistral side vertical fin rays branched; vertical fins separate from caudal; dark brown in colour with a number of irregular dark-edged brown spots having one to five black dots; only a very few devoid of dots.

Pardachirus is an Indo-Pacific genus of which only four species are known so far, distributed in the Red Sea, east coast of Africa and Polynesia. The species recorded so far are *Pardachirus pavoninus* (Lacépède), *Pardachirus hedleyi* (Ogliby), *Pardachirus poropterus* (Bleeker) and *Pardachirus marmoratus* (Lacépède). Of these *Pardachirus marmoratus* has been recorded from the east coast of Africa, Red Sea, Persian Gulf and Gulf of Oman (Norman, 1928 and Smith, 1961), Ceylon (de Silva, 1956) and Orissa Coast of India (Talwar and Chakrapany, 1966).

Until Talwar and Chakrapany (1966) recorded *Pardachirus marmoratus* as occurring off Orissa Coast, (based on the examination of the specimens collected in 1909 by Annandale and kept preserved in the Indian Museum) only *Pardachirus pavoninus* was known as occurring along the Indian Coast (Norman, 1928). The present collection has made it possible to extend the distribution of *Pardachirus marmoratus* to the Gulf of Mannar area of the Indian Coast. From an examination of the specimens presently collected it is of particular interest to note that each dorsal and anal ray has an open pore at its base, on the ocular side as well as on the blind side (Fig. 1, 2). Whereas previous descriptions of this species do not make any reference to such a peculiar feature, i.e. presence of pore on both sides, in order to clarify whether the presence of these pores on the otherside was overlooked or not. It seems desirable to re-examine the specimens of *Pardachirus marmoratus* described by Norman (1928), Smith (1961), Talwar and Chakrapany (1968) in the light of the present observation. If this feature is not there in the specimens described by them it may stand to reason that a variety of *Pardachirus marmoratus* should be created to describe the specimens before the author.

Norman (1928), Smith (1961), Talwar and Chakrapany (1966) had shown a body depth

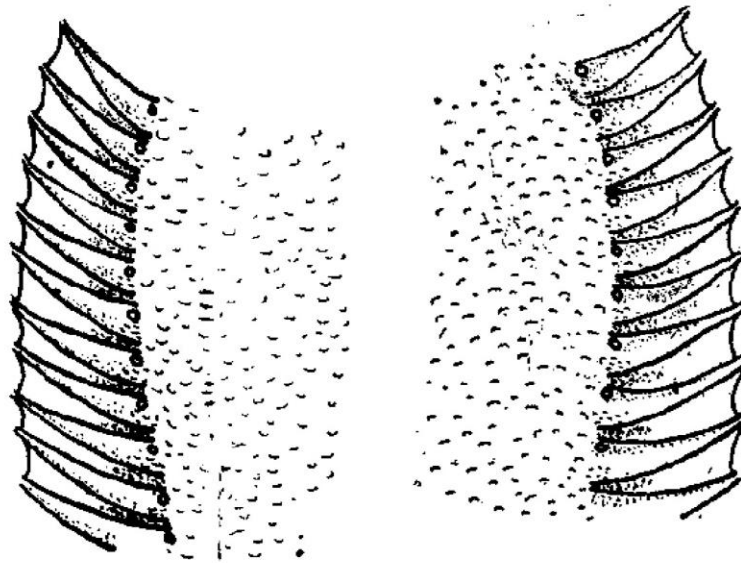


FIG. 5. The pores on the blind side.

TABLE 1. Meristic counts and morphometric measurements of the six specimens of *Pardachirus marmoratus* (Morphometric measurements expressed as % in standard length)

Character	Dates on which collected					
	(10.5.73)	(14.5.73)	(25.5.73)	(26.5.73)	(25.6.73)	(5.11.73)
Total length (in mm)	.. 192	161	172	157	41	58
Standard length (in mm)	.. 161	140	145	131	33	46
Maximum height of body	.. 49.06	44.44	47.58	47.32	39.39	45.65
Length of head	.. 22.98	19.28	22.68	21.37	27.27	26.08
Eye diameter	.. 3.72	3.57	2.75	3.81	6.06	6.52
Snout	.. 6.21	6.42	6.20	6.87	6.06	6.52
Inter-orbital distance	.. 3.1	2.14	2.06	2.29	4.54	4.34
Post-orbital distance	.. 11.8	11.42	11.03	10.67	15.15	13.04
Distance from snout to angle of mouth	.. 6.8	6.42	6.20	6.87	10.60	10.86
Distance from angle mouth to the gill opening	.. 14.9	12.85	15.86	14.50	15.15	17.38
Number of dorsal rays	.. 70	68	68	62	62	67
Number of anal rays	.. 52	51	54	51	49	54
Number of ventral rays	.. 5	5	5	5	5	5
Number of caudal rays	.. 16	16	16	17	17	16
Number of lateral line scales	.. 105	110	105	104	..	83

of 2.25 to 2.5 in total length for *Pardachirus marmoratus*. A comparison of this feature with the present specimen shows a fairly wide range of 2.3 to 3.2. Similarly the values for head given by them range from 4.25 to 4.6 whereas the specimens on hand show a range of 5.2 to 5.9. The specimens No. 5 and 6, which are juveniles, show a value 2.7 - 3.1 for body depth and 4.5 - 4.8 for head.

It should be admitted, however, as may be noticed from Table I, that specimen No. 5 (juvenile) has a very low lateral line scale count of 83 when compared with other specimens which show a range of 105 to 110. It was not possible to count the lateral lines scale of the specimen No. 5 accurately because of the damaged condition of that area. This raises a doubt whether juvenile characters can be depended upon for comparison with adult specimens. However, since these juveniles agree with the other four specimens in the matter of pores being present at the base of

each dorsal and anal ray, both on the ocular side and blind side, it was thought that they can belong to the same species.

KEY TO THE IDENTIFICATION OF SPECIES
OF THE *PARDACHIRUS* OCCURRING
IN INDIAN WATERS

Flat fishes characterised by the presence of an open pore at the base of each dorsal and anal ray. Two lateral lines on blind side.

- A. Scales on ocular side of head without marginal spinules. Presence of an open pore at the base of each dorsal and anal ray both on dextral and sinistral side. *marmoratus*.
- B. Scales on ocular side of head with marginal spinules. Pores at the base of each dorsal and anal ray only on one side. *pavoninus*.

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