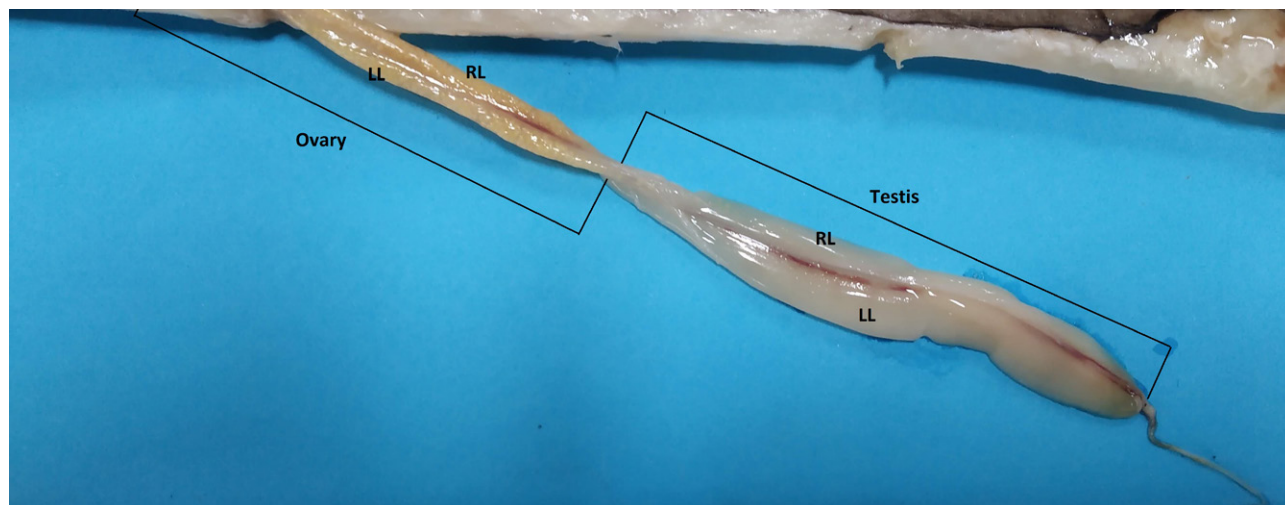


Note on hermaphroditism in largehead hairtail *Trichiurus lepturus*



Gonad of *T. lepturus* showing testicular and ovarian lobes

The ribbonfishes earlier formed low-value bycatch, mainly used as dry fish and for local consumption. An increase in export demand in the international market, mainly from China, Japan, and Southeast Asia has led to its targeted fishing along the Indian coast and the resource is regularly monitored for assessing its stock status. Hermaphroditism in ribbonfish *Trichiurus lepturus* was reported from the southwest coast of India but further reports are scanty. During a routine fish biology investigation in *T. lepturus* (35 numbers; length: 690.42 ± 48.01 mm; weight: 206.57 ± 49.45 g) samples collected from the multi-day trawl landing at the New Ferry Wharf landing

centre of the Mumbai coast, three hermaphrodite fishes were observed. The details of the hermaphrodite and normal specimens are given in Table 1.

The total length and post-anal length of three hermaphrodite specimens ranged between 681.33 ± 56.22 mm and 252.67 ± 17 mm respectively. Hermaphroditic gonads of all three specimens were testicular at the anterior side and ovarian at the posterior side with clear distinction between the two. The testicular portion was creamy white, while the ovarian was orange to yellowish in color. The testicular portion occupied $59.32\% \pm 10.8\%$ of the total gonad and the rest was formed by the

ovarian portion at $40.68\% \pm 10.8\%$. Ovarian tissues in the hermaphrodite gonads were maturing (III and IV stages in 2 specimens) and mature stage (V stage in one specimen). The gonads of the hermaphrodite specimens were elongated, and the length and width of both lobes of the testis and ovary were identical. Hermaphrodite specimens of ribbon fish exhibited a normal appearance like other specimens.

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Table 1. Gonadal measurements of normal and hermaphrodite *T. lepturus*

Specimens	Stage	Testis					Ovary					
		Length (mm)		Width (mm)		Weight (gm)	Stage	Length (mm)		Width (mm)		Weight (gm)
		RL	LL	RL	LL			RL	LL	RL	LL	
Hermaphrodite I	Gravid	69.94	71.39	2.81	3.4	0.276	IV	45.11	44.45	2.41	1.92	0.138
Hermaphrodite II	Gravid	56.51	85.7	1.34	1.42	0.075	III	31.06	30.78	2.55	2.2	0.106
Hermaphrodite III	Gravid	56.57	55.96	2.98	2.58	0.628	V	61.99	61.43	1.97	1.83	0.278
Male/Female	Developing, Gravid	72.68	70.88	1.87	1.77	0.265	III-VI	76.47	74.55	5.24	4.04	2.8