

Heavy landing of unicorn leatherjacket *Aluterus monoceros* by trawlers at Tuticorin Fishing Harbour of the Gulf of Mannar

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Tuticorin Fishing Harbour (8.48° N, 78.11° E) is one of the major landing centres along the Gulf of Mannar coast of Tamil Nadu from where 65% of fish of Tuticorin District is landed. Every year, after 45 days monsoon ban from April 15th to May 30th, trawlers get good catches at the rate of 2 to 4 t per unit per day and this continues for 3 months. Unusually heavy landing of the filefish or unicorn leatherjacket, *Aluterus monoceros* locally known as “white klathi” occurred during July 2009. This was first noticed on 17th of July 2009 and the heavy landing lasted till the end of August. During this period, filefish was landed on an average of 1 - 3 t everyday by almost 35% of the observed vessels (Table 1).

Table 1. Details of *Aluterus monoceros* landings by trawlers at Tuticorin Fisheries Harbour

Date	Unit	Catch (t)
17 th July 2009	201	76.21
27 th July 2009	204	59.74
13 th Aug 2009	199	118.80
20 th Aug 2009	186	302.25
20 th Aug 2009	182	79.99

During August 2009, the landing was heavy and the total catch of unicorn leatherjacket realised was 3,306 t at catch rate of 117.83 kg h⁻¹ (Table 2). However, during subsequent months of September and October, the landings have come down but again good landing was noticed in November. Thereafter, filefish occurred in trawl catches in limited quantities till April 2010. However, when the trawl fishery resumed after the ban period in 2010, moderately good landing of filefishes was noticed in June 2010 and catches remained the same till August and got reduced in September-October and increased again in November 2010. Filefishes formed 53.9% of the trawl catch in August 2009 and 27.2% in August 2010.

The size of *A. monoceros* in the catch ranged from 47 to 59 cm in length (n=56) and from 750 g to 1.3 kg in weight. The fishes were purchased by local merchants at the rate of ₹ 50/ fish at the landing centre. Fishes were transported to Kochi for processing and

exporting to Taiwan. About 4-5 truckloads each weighing 5 t were transported to Kochi during July and August 2009. The income realised by selling filefish alone per vessel ranged from ₹ 75,000 to ₹ 1.5 lakhs per day.

At Tuticorin, the mechanised trawlers start for fishing early in the morning at 0500 hrs, reach the fishing ground after 2-4 h of travel and after searching the trawling grounds, fishing operations will be carried out for 4 to 6 h. Three to four hauls will be taken on each day, each haul lasting for 1.5 - 2 h. As per the regulations imposed by the trawl boat owners association in consultation with state fisheries department, the boats have to return to the harbour on the same day before 2300 hrs.

Aluterus monoceros (Linnaeus, 1758) or unicorn filefishes under the family Monacanthidae are reef associated fishes. They have highly compressed body and occur in tropical and temperate waters generally as bycatch. The species is distributed in the western Indian Ocean, eastern Atlantic and eastern Pacific Ocean. These fishes have strong teeth to eat coral and hard rocks and the body is covered with rough textured scales. They feed mainly on benthic crustaceans, planktonic invertebrates, cnidarians, hard corals, benthic algae and weeds. They move solitarily or in pairs, occasionally in groups of five or six, at less than 10 m depth. Juveniles are benthic-pelagic, seen under floating objects. Adults and juveniles are rarely seen near reefs. Juveniles often move with large jellies and these may bring them close to reefs and adults may nest on sandflats adjacent to reefs in deep water. At other times, the adults may form large schools under weed-rafts. These fishes have very long (14 years) population doubling time and hence considered as highly vulnerable (Fishbase, 2009). Ciguatera poisoning is reported from these fishes.

Filefishes are considered as bathypelagic fishes and the fishes were abundant during July-August in the depth range of 40-60 m off Tuticorin. However, during subsequent months, the catch was reduced

as the fishes available in shallow waters were almost exploited by trawlers. At Tuticorin Fisheries Harbour alone, the landing of *A. monoceros* during 2009 was estimated as 5,313 t and in 2010 the landing was 1,359.8 t. There was report of heavy landing of *A. monoceros* during September-December 2010 at Chennai Fisheries Harbour especially in November 2010. The reason for the abundance of file fishes in large quantities in certain months along Tuticorin is not clear and hence need further investigation.



Fig. 1. Heap of filefishes landed at Tuticorin Fisheries Harbour on 17th July 2009

Table 2. Month-wise catch details of *A. monoceros* in trawls at Tuticorin Fisheries Harbour during 2009 and 2010

Month	Fishing effort (AFH)	Total trawl catch (t)	Filefish landing (t)	% in total catch	Catch rate (kg/h)	Depth of operation (m)
July (2009)	28800	6212.124	862.464	13.8	29.95	25-40
August	28065	6126.587	3306.877	53.9	117.83	40-60
September	29160	4400.088	197.056	4.4	6.76	60-110
October	31374	3073.614	33.384	1.0	1.06	70-225
November	18054	3231.004	886.690	27.4	49.11	70-150
December	16236	1173.458	26.928	2.2	1.66	100-150
Total	151689	24216.875	5313.399	21.94	35.03	
Jan (2010)	19404	3662.594	33.345	0.9	1.06	40-200
February	24398	3053.244	24.396	0.7	1.0	80-400
March	24983	2572.406	10.440	0.4	0.42	80-350
April	13140	1079.040	11.340	1	0.86	35-340
May	No fishing					
June	33412	4272.356	303.721	7.1	9.09	19-42
July	30464	3024.896	256.746	8.4	8.42	30-83
August	12607	1596.546	435.690	27.2	34.56	19-60
September	25555	3982.088	30.668	1.9	1.20	17-100
October	31013	4532.749	202.228	4.4	6.52	17-100
November	16742	1729.212	92.220	5.3	5.51	27-120
December	19832	1359.872	38.776	2.8	1.96	40-150
Total	251550	20515.719	1359.779	6.63	5.41	