FIRST RECORD OF THE GREY REEF SHARK CARCHARHINUS AMBLYRHYNCHOS, (BLEEKER, 1856) (CARCHARHINIFORMES: CARCHARHINIDAE) FROM THE LAKSHADWEEP SEA, INDIA

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Grey Reef Shark Carcharhinus amblyrhynchos (Carcharhiniformes: Carcharhinidae) is a widely distributed requiem shark in the Pacific Ocean, and has an extensively scattered distribution in the Indian Ocean (Compagno 1984; William 2006). Indian elasmobranch fishery is one of the largest in the world (Vannuccini 1999) but information available on this species is very scanty (Raje et al. 2007). Pillai & Parakal (2000) and Joshi et al. (2008) have reported the presence of C. amblyrhynchos landings from Indian waters. Grey Reef Shark is a typical 'reef shark', found in clear tropical waters often from 10-50 m around coral reefs, in shallow water near coral slopes of islands and continents particularly near dropoffs, passes of fringing reefs and relatively common in atolls (Wetherbee et al. 1997; Economakis & Lobel 1998). The IUCN Red List of Threatened Animals categorizes C. amblyrhynchos as Near Threatened (Smale 2009), possibly due to its restricted habitat, site fidelity, inshore distribution, small litter size, and relatively late age at

maturity, along with increasing fishing pressure.

Information available on the diversity and abundance of carcharhinid sharks in Indian waters is very meager though they contribute a major portion of the fishery. No scientific information



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is available on the presence of Grey Reef Shark in Lakshadweep waters which are known for coral reef biodiversity. In this paper, evidence for the occurrence of *C. amblyrhynchos* in Lakshadweep Sea is presented.

A female Grey Reef Shark *C. amblyrhynchos* was landed by fishermen from longline operation off Agatti Island in Lakshadweep Sea on 25 November 2010 (Image 1). The shark was caught by 3.4 Sun Japanese tuna hook and the location of capture was recorded as 10°47′N & 72°09′E (Image 2). The morphometric measurements of the shark were made to the nearest millimeter and weight was measured to the nearest gram. The species identification was based on Compagno (1984).



Image 1. Grey Reef Shark Carcharhinus amblyrhynchos (TL 126cm)

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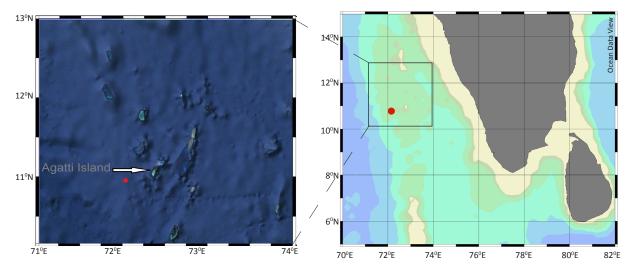


Image 2. The location of capture of a Grey Reef Shark from the Lakshadweep Sea.

Results and Discussion

The morphometric measurements of the specimen are given in Table 1. The total length (TL) of the specimen was 126cm and standard length (SL) was 106cm. The Grey Reef Shark is a moderately stocky species, distributed in the coastal and pelagic waters of Indo-Pacific. Carcharhinus amblyrhynchos can be identified by the following characters: dusky grey color above and white below; first dorsal fin irregularly to prominently white edged (Image 3); posterior margin of the caudal fin with a conspicuous broad black margin; pectoral, second dorsal, anal and pelvic fins with blackish or dusky tips and prominent blackish margin (Image 4). The First dorsal fin is moderately large and semifalcate with a narrowly pointed apex. Second dorsal fin is moderately large and high. Pectoral fins falcate. Snout fairly long and broadly rounded. Eyes are round and fairly large. Upper labial furrows short and inconspicuous. Inter dorsal ridge absent. Upper teeth are narrow and serrated (Image 5). The species inhabits continental and insular shelves preferably on coral reefs and in shallow lagoons. The area from where the specimen is reported was near the coral ridge in Lakshadweep Sea. Present record is the first report of Carcharhinus amblyrhynchos from the Lakshadweep Archipelago.

REFERENCES

Compagno, L.J.V. (1984). Sharks of the world. An annotated and illustrated catalogue of shark species known to date. Part 2—Carcharhiniformes. FAO Fish Synopsis 4(125): 251–655.

Economakis, A.E. & P.S. Lobel (1998). Aggregation behavior of the Grey Reef Shark *Carcharhinus amblyrhynchos*, at Johnston Atoll, Central

Table 1. Morphometric measurements of Carcharhinus amblyrhynchos (female, 126cm TL) from Lakshadweep Sea

Measurements	cm	% of total length
Total length	126	100.0
Standard length	106	84.1
Snout to eye	11	8.7
Snout to pectoral	33.5	26.6
Snout to first dorsal	43	34.1
Snout to pelvic	76.5	60.7
Eye diameter	2.5	2.0
Eye to pectoral	20	15.9
Between dorsal bases	25.2	20.0
Pectoral to pelvic	34.5	27.4
Pelvic to anal	8.5	6.7
Pre first dorsal length	43	34.1
First dorsal base	13	10.3
First dorsal anterior margin	17	13.5
Second dorsal base	4	3.2
Pectoral anterior margin	24	19.0
Pectoral base	8.5	6.7
Dorsal caudal margin	34.5	27.4
Anal base	5.5	4.4
Preventral caudal margin	19	15.1
Lower postventral caudal margin	11	8.7



Image 3. Irregular white edge of the first dorsal fin margin

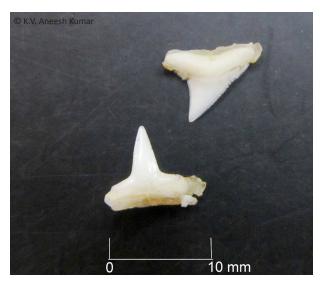


Image 5. Upper and lower teeth



Image 4. Blackish margins in the pelvic, second dorsal, anal and caudal fins

Pacific Ocean. Environmental Biology of Fishes 51: 129–139.

IUCN (2011). IUCN Red List of Threatened Species. Version 2011. www. iucnredlist.org. (Downloaded on 18 November 2011).

Joshi, K.K., K. Balachandran & S.G. Raje (2008). Changes in the shark fishery at Cochin. *Journal of Marine Biological Association India* 50 (1): 103–105.

Pillai, P.P. & B. Parakal (2000). Pelagic Sharks in the Indian Seas-their Exploitation, Trade, Management and Conservation. Central Marine Fisheries Research Institute Special publication 70: 1–95.

Raje, S.G., S. Sivakami, G. Mohanraj, P.P. Raju & K.K. Joshi (2007). An atlas on the elasmobranch fishery resources of India. CMFRI Special Publication 95: 253pp.

Smale, M.J. (2009). Carcharhinus amblyrhynchos. In: IUCN 2012. IUCN Red List of Threatened Species. Version 2012.2. <www.iucnredlist. org>. Downloaded on 17 January 2013.

Vannuccini, S. (1999). Shark utilization, marketing and trade. FAO Fisheries Technical Paper 398.

Wetherbee, B.M., G.L. Crow & C.G. Lowe (1997). Distribution, reproduction and diet of the gray reef shark *Carcharhinus amblyrhynchos* in Hawaii. *Marine Ecology Progress Series* 151: 181–189.

William, D.R. (2006). Abundance, demography and population structure of Grey Reef Shark (*Carcharhinus amblyrhinchos*) and the white tip Reef Shark (*Triaenodon obesus*) (Fam. *Carcharhinidae*). PhD Thesis, James Cook University, Australia, 197pp.