Plastic debris entangled silky shark landed

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Several species of marine fishes have been documented as entangled in manmade debris in oceans, but comparatively few reports are available globally on sharks. Here we report the observation of a silky shark *Carcharhinus falciformis* affected by plastic debris caught in the Arabian Sea.

A juvenile male *C. falciformis* (148 cm total length, 122 cm fork length, 110 cm standard length) entangled by a synthetic fishing gear material was observed in the landings at Cochin Fisheries Harbour, Kerala on 15th February 2017. It was caught in a hook and line operation by a multi-day fishing unit near Ratnagiri, off Maharashtra coast and landed along with other shark species. The shark appeared normal but closer observation revealed a few wounds, with small holes at fifth gill slit of each side, base of left pectoral fin and top of the head. Small piece of plastic line of light green colour probably from each knot of the gear material protruded outside from each hole (Fig. 1). It appears that the specimen during its early life stages may have got entangled in the fishing gear and escaped with part of the net or accidentally entangled in discarded or lost fishing gear. Initially the material may have entangled around the gill region and as the animal grew in size, it remained embedded in the skin. The tissue was probably by regeneration process and was leaving a clear scar around the gill region (Fig. 1A-D). During swimming movements, the embedded material might have obstructed the normal feeding behaviour of the animal. From the

length-weight Relationships parameters of *C. falciformis* available in Fishbase (Froese and Pauly, 2017, *www.fishbase.org*), the expected weight of the specimen was calculated as 19.87 kg whereas it weighed only 16.60 kg. This reduced body weight might be due to reduced food intake caused by the stress the animal faced.

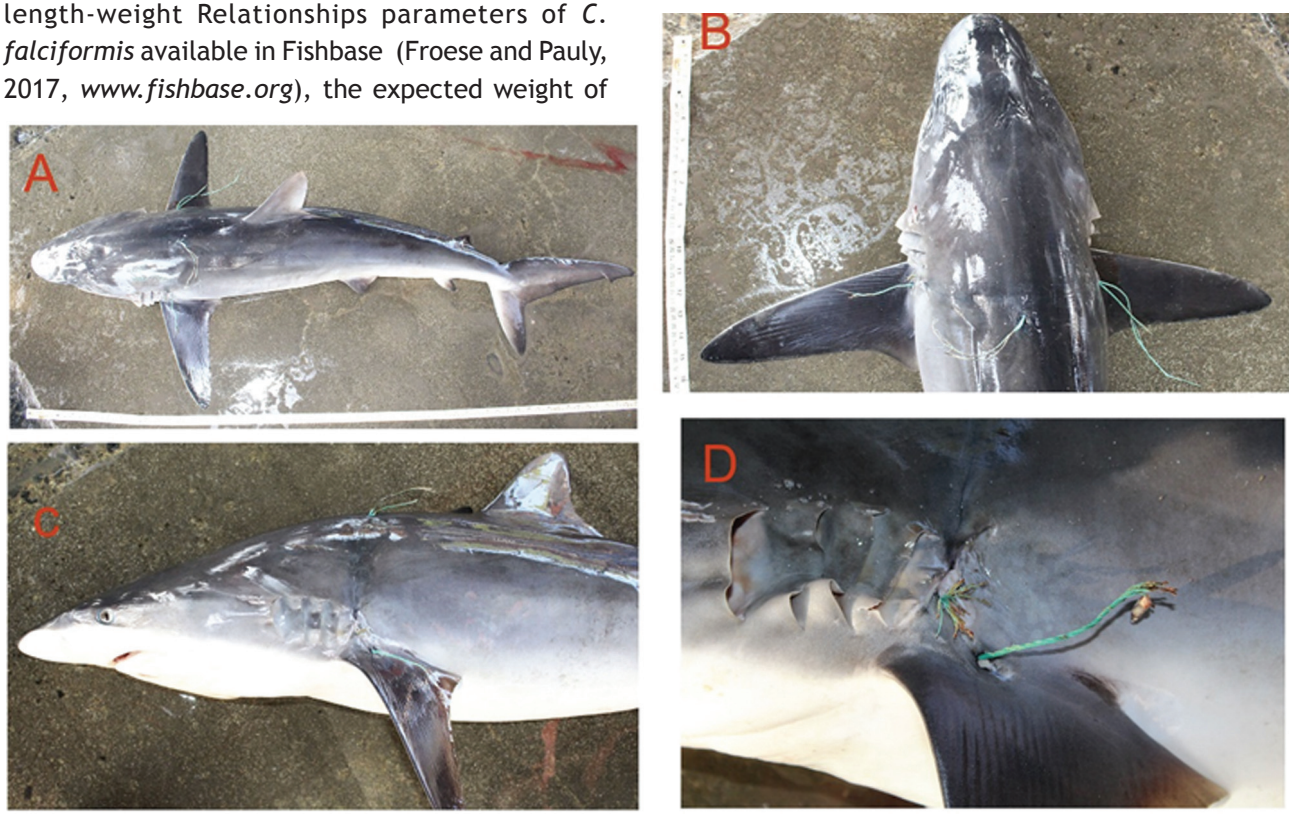

Fig. 1. Silky shark entangled with plastic debris. (A) General view of the specimen. (B) Dorsal view, (C) and (D) Lateral view of the head showing damage on the gill region, base of pectoral fin, top of head and scare mark around the head.

Sharks are top predators and considered as keystone species in the marine ecosystem. Carcharhinid sharks are more vulnerable to plastic debris than other shark because they usually breed in shallow waters and are the most abundant shark groups in coastal areas (Compagno, 1984, *FAO species catalogue. Sharks of the world. An Annotated and Illustrated Catalogue of Shark Species Known to Date Part 1. Hexanchiformes to Lamniformes vol. 4. FAO, Rome)*.The typical nature of sharks in hunting food could be a probable reason for entanglement especially when a food source is associated with this debris. Hence, it is necessary to reduce marine debris through proper legislation to control pollution of the sea, promoting public awareness and encouragement of caring for the environment culture in order to reduce such incidences.