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## ENTANGLEMENT OF A JUVENILE OLIVE RIDLEY TURTLE IN A GHOST NET IN THE ANDAMAN ISLANDS

ZOYA TYABJI<sup>1#</sup> & VARDHAN PATANKAR<sup>2,3</sup>

<sup>1</sup>Andaman and Nicobar Islands' Environmental Team (ANET) - Centre for Island Ecology, Port Blair, Andaman Islands, India

<sup>2</sup>Centre for Wildlife Studies, Bengaluru, Karnataka, India

<sup>3</sup>National Centre for Biological Sciences, Tata Institute of Fundamental Research, Bengaluru, Karnataka, India

#zoya.tyabji@gmail.com

Accidental entanglement of turtles in abandoned fishing nets has been, and will likely continue to be, a major threat to sea turtles (Wilcox *et al.*, 2015). The impact of abandoned or lost nets, also known as ghost nets, can occur far from their point of origin as nets may drift far distances with ocean currents (Stelfox *et al.*, 2015). Turtles that swim through ghost nets may get their body or flippers snagged in the net, potentially leading to lost circulation and injury to flippers, drowning, or prevention from feeding to the point of starvation (Arthur *et al.*, 2014). Entangled turtles may also end up towing large amounts of fishing gear, resulting in exhaustion and, eventually, death. The animals that escape with severe injuries are highly prone to bacterial infections (NOAA, 2014).

During a coral reef survey on 9<sup>th</sup> May 2016, between 11°54'47.35" N and 93°00'58.94" E at Havelock Island, South Andaman (Figure 1), we encountered what appeared to be a discarded net floating in the water, 1 km from the coastline. On approaching it closer, we identified a juvenile olive ridley turtle (~45cm curved carapace length) and a dead snapper (*Lutjanus boahr*) entangled in the net. Schools of juvenile golden trevally (*Gnathanodon speciosus*), scissortail sergeant (*Abudefduf sexfasciatus*), fusiliers (*Caesio varilineata*) and rudder fish (*Kyphosus* sp.) were swimming close to the dead snapper, some feeding off it. The turtle was thrashing in the water, struggling to surface. The net was made of nylon fibre and was drifting with the current. We released the turtle from the net by cutting the latter with a knife, and lifted the turtle onto the boat to examine it for injuries. The turtle was observed to be harshly gulping in air but had no obvious external injuries

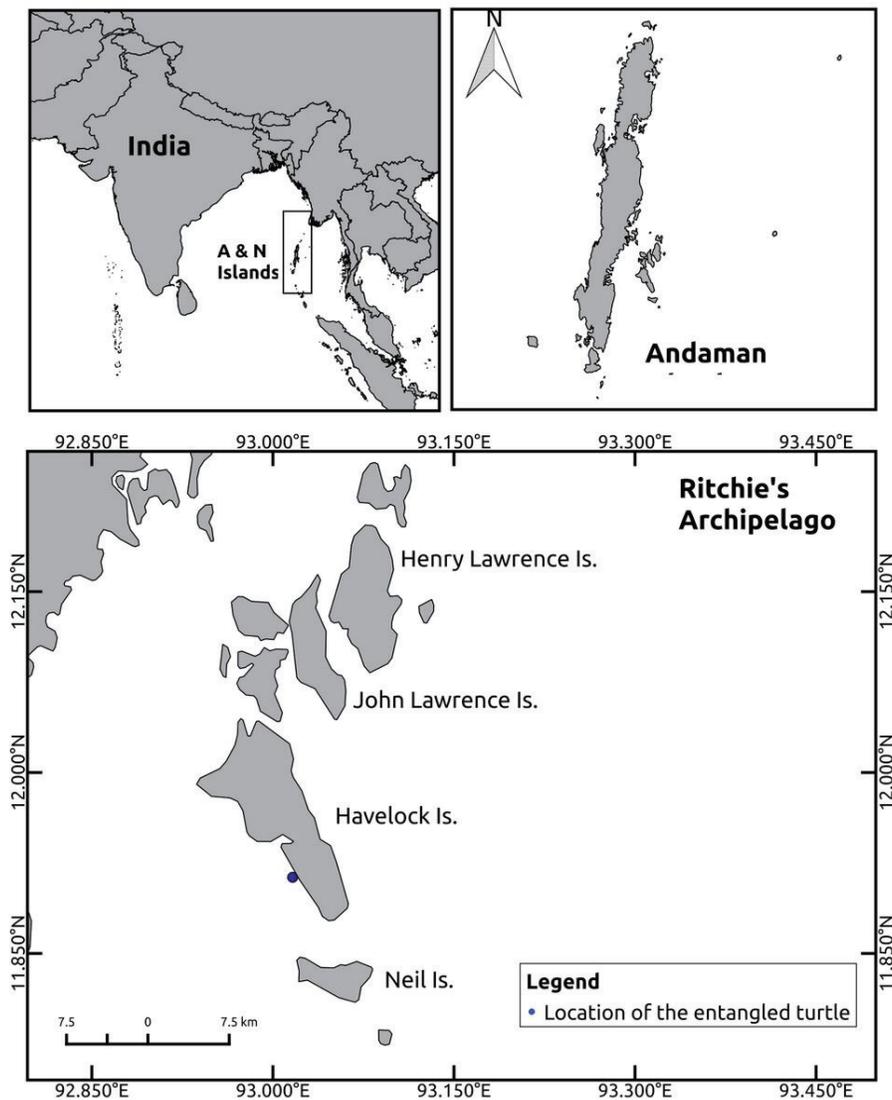
and was released back into the sea within 5 minutes.

The olive ridley turtle is an abundant circumglobal species, known to nest sparsely on several beaches on the east coast of the Andaman Islands, and east and west coasts of the Nicobar Islands (Frazier, 1987; Andrews *et al.*, 2006), with an important mass nesting site in Cuthbert Bay Wildlife Sanctuary, Middle Andamans (Namboothri *et al.*, 2015). Information on the natural history of juvenile olive ridley turtles is limited, but the life stage is believed to spend their years drifting with oceanic currents (Shenoy *et al.*, 2011; Stelfox *et al.*, 2015). Our observation of a juvenile olive ridley turtle in the open sea is in concurrence with what is known.

The observed incident highlights the threat of ghost nets to sea turtles and other marine wildlife. Awareness programs for local youth, beach clean-up activities, regional workshop for artisanal fishermen on how to ethically dispose of fishing gear, and cooperation between government organization, NGO's and community members could help in reducing the at-sea disposal of abandoned and discarded fishing gear and thus avoid accidental entanglement of turtles (Stelfox *et al.*, 2014).

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**Figure 1. Location of the entangled turtle.**

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## A NOTE ON THE RESCUED OLIVE RIDLEY TURTLES FROM SHORE SEINES OPERATED IN DHANUSKODI, TAMIL NADU INDIA

SHANMUGAM THIRUMALAISELVAN<sup>#</sup>, MUTHUSAMY RAJKUMAR, RAMAR VINOTHKUMAR & ARUMUGAM VAIRAMANI

Central Marine Fisheries Research Institute, Mandapam Regional Centre, Tamil Nadu India

<sup>#</sup>aquathirumalai@yahoo.com

The Gulf of Mannar Biosphere Reserve was started in 1989 jointly by the Government of India and the state of Tamilnadu. It has an area of about 10,500 km<sup>2</sup> between 8°45'N and 9°25'N and 78°05'E and 79°30'E about 170 nautical miles including the 21 islands in the gulf. Of the seven species of sea turtles in the world, four have been reported nesting on the Gulf of Mannar coast of Tamil Nadu (Kar & Bhaskar, 1982): the green (*Chelonia mydas*, local name: *Paer aamai*), olive ridley (*Lepidochelys olivacea*, local name: *Yeth aamai*), leatherback (*Dermochelys coriacea*, local name: *Ezhuvvari aamai*) and hawksbill (*Eretmochelys imbricata*, local name: *Kilimooku aamai*) sea turtles.

The nesting season for olive ridley turtles along the Gulf of Mannar coast of Tamil Nadu occurs from December to April (Bhupathy & Saravanan, 2006). The operation of shore seines may result in the accidental catch of turtles, and capture occurs more frequently from October to February (Thirumalaiselvan, pers.ob.). The accidental catch of sea turtles in the Gulf of Mannar is mostly unreported or unnoticed. Some reported cases include olive ridley turtles at Pamban (Kasinathan, 1988) and Dhanuskodi (Krishna & Kasinathan, 1989), and leatherback turtles at Dhanuskodi (Krishna & Kasinathan, 1989), Rameswaram (Krishna

*et al.*, 1995) and Mandapam (Rao *et al.*, 1989).

During our routine field observations on 28<sup>th</sup> January 2017, we observed a shore seine operation by the traditional fishers of Dhanuskodi. The shore seine was operated by 35 to 40 local fishers. When the shore seine drag ended, we found two sea turtles had been accidentally caught in the net with the fish catch. The turtles were identified as one male and one female (sex based on plastron shape and proximity of the cloaca to the plastron) olive ridley turtle; morphometric measurements are given in Table 1. The turtles were thoroughly examined and showed no sign of injury. The local fishers initially declined to release the turtles into the sea due to their lack of awareness about the turtles. However, we explained about the importance of turtles to the marine ecosystem and, with their assistance, we released them back into the sea. We speculate that

Table 1: Carapace dimensions and weight of olive ridley turtles rescued from a shore seine net in Dhanuskodi, Tamil Nadu.

Sex	CCL (cm)	CCW (cm)	Weight (kg)
Male	61	58	38
Female	65	61	45