

# Tracking A HUNDRED-MILLION-YEAR-OLD giant

by Adhith Swaminathan

Even on a dark moonless night, it is impossible to miss this giant living relic emerging on the white sandy shores of Little Andaman Island. Leatherback sea turtles *Dermochelys coriacea* sometimes grow over six feet in length, which is larger than an average human body. They are the largest of all sea turtle species, weighing up to a tonne, maintaining this massive physique solely on a diet of jellyfish. They are named from their leathery, flexible back, which is unlike the hard shell of other turtles. Perhaps



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In India, the nesting of leatherback turtles is currently restricted to the Andaman & Nicobar Islands where 1,000 nests are found annually

unsurprisingly, Leatherbacks are found in every ocean except the Arctic and Antarctic, ranging longer than any other reptile. Sri Lanka and India are currently the only sites in South Asia that are known to host large nesting populations.

Leatherbacks were known to nest sporadically on the Indian mainland up to the late 1960s. However, current nesting populations are restricted to the Andaman & Nicobar Islands. Leatherback nesting was first reported from this archipelago of 500-odd islands in 1979, and research over the last three decades has confirmed the importance of the Islands as Leatherback rookeries. Known for their untouched and picturesque beaches, the Andaman

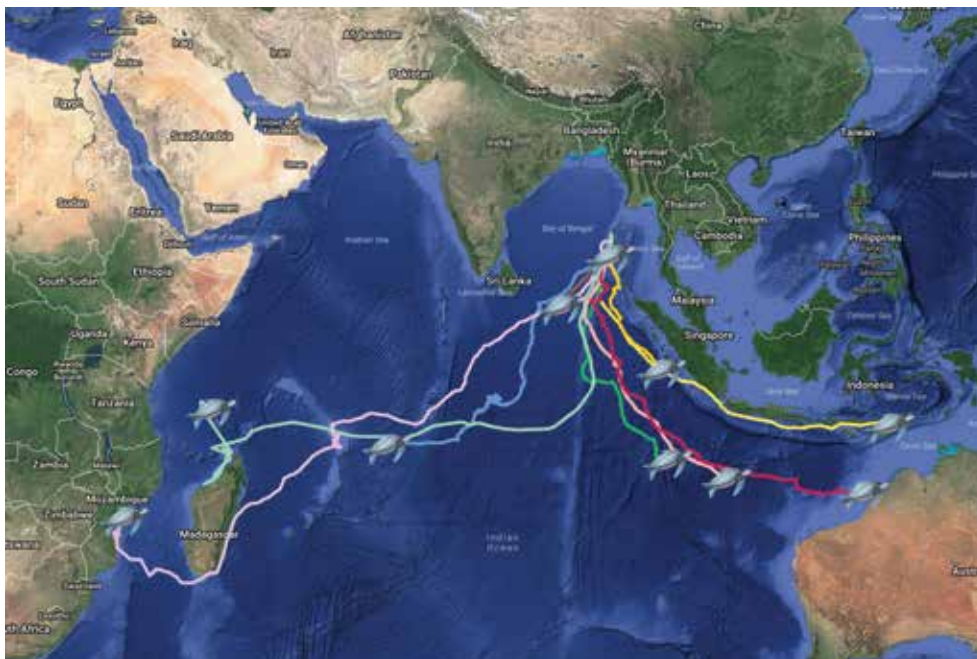


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& Nicobar Islands underwent drastic changes in 2004 when an earthquake and the resulting tsunami swept across the ocean; these islands, lying close to the epicenter, bore the brunt of the tidal onslaught. Most of the coastal plates of the Nicobar group got submerged, while some of those in the Andaman group were uplifted.

In the wake of such large scale alteration of the shore topography of the archipelago, a collaborative monitoring programme was initiated in 2008 on Little Andaman Island by Dakshin Foundation, Madras Crocodile Bank Trust, Andaman Nicobar Environment Team (ANET), Centre for Ecological Science, Indian Institute of Science, Bangalore, and the Department of Environment and Forests, Andaman & Nicobar Islands. Since the initiation of the programme, two nesting sites, South Bay and West Bay of Little Andaman Island, have been monitored annually and serve as representative sites for Leatherback nesting in the region.

One of the turtles tagged with a satellite tracker in 2014 covered over 13,000 km from West Bay, Little Andaman, to the coast of Mozambique in 266 days. The turtle traversed close to about 50 km a day



Post nesting migratory route of Leatherback Turtles fitted with satellite trackers in West Bay, Little Andaman



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The eggs take about two months to hatch. The hatchlings are only 5–8 cm long

Every nesting season, between December and March, a team of six field staff sets up temporary camps at the two nesting sites. During these months, the team is cut off from the outside world, without access to mobile network or electricity. Coming across people is a rare event at these sites which are inaccessible to most people as they fall within the Onge Tribal Reserve.

Our monitoring efforts have focused on West Bay beach and the main task during the nesting season is to patrol the 7 km beach daily, looking for tracks and evidence of nesting. In the last decade, more than 100 nesting females have been tagged with Passive Integrated Transponders (PIT) and external metal flipper tags to help identify individual turtles. When turtles are encountered, biometric measurements and



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Leatherback Turtles can nest 4 to 7 times in a nesting season; at West Bay, an average of 30–35 females nest annually

information on time of nesting, egg-laying duration, tidal activity, and clutch size are collected. The recapture of tagged individuals over the years indicates a minimum nesting interval of one year. These turtles are known to migrate over 10,000 km between their foraging and nesting grounds. They seem to make it back, remarkably, to the same stretch of the beach. All the recaptured turtles in the last decade were initially tagged at the same beach.



The primary threat faced by leatherback turtles in the region is fishery-associated mortality. Though they are not usually hunted for their meat, other threats include predation of nests and hatchlings by dogs, water monitor lizard, and feral pigs

To understand long distance migration of leatherbacks, 10 females were tagged with satellite transmitters at West Bay between 2010 and 2014. The turtles travelled in two directions across the Indian Ocean, southeast towards the western coast of Australia and southwest towards the eastern coast of Africa. While we have identified two main migratory routes, more satellite telemetry studies need to be carried out to assess if there are other migratory routes taken by the turtles and to identify areas where they are most susceptible to fishing-related mortality in the high seas.

Globally, in recent years, many leatherback populations have been stable or are increasing, leading to downlisting of the species from Critically Endangered to Vulnerable by the International Union for Conservation of Nature (IUCN). The data from South and West Bay reveals a steady increase of leatherback nesting in comparison to the period following the December 2004 tsunami. Although the number of nests recorded dips in certain years, these fluctuations can be attributed to variations in reproductive cycles, food supply, and environmental conditions. Our recent survey of the Nicobar Islands in 2016 also confirmed the recovery of previously known nesting beaches and nesting numbers, which are comparable to the surveys conducted before the 2004 tsunami. With more than 1,000 nests located per season across the region, the Andaman & Nicobar Islands are a stronghold for leatherback populations of the South Asian region. Though we have successfully monitored the nesting population in Little Andaman for more than a decade, we still need to fully understand an animal whose lifespan exceeds ours.



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A researcher at Dakshin Foundation since 2008, Adhith has worked on marine turtles since the age of 10. He has been working on the Leatherback Sea Turtle monitoring project based in Little Andaman for the last eight years.