

## Guest Editorial

### Early accounts of marine turtles from India and neighbouring waters

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One of the most difficult challenges for turtle researchers and conservationists is to understand how populations (or “management units”) have behaved over time: have they decreased, stayed the same or increased in size? Because it is rare to find systematic information on population sizes and trends that goes back more than a couple of decades, one is often obliged to try to make use of old accounts, even when they are cursory. Hence, brief descriptions relevant to marine turtles from an oceanographic campaign in Indian waters at the end of the 19<sup>th</sup> century and the situation at the Madras Aquarium in 1911 may be of interest.

Two such historic sources are Alfred Alcock’s (1902) account of four years on the Royal Indian Survey Ship *Investigator*, and John Henderson’s (1913) general account of the Madras Aquarium. While marine turtles were not of primary interest for either the *Investigator*’s oceanographic survey, or for the aquarium, these reptiles are mentioned in at least five passages by Alcock, and with some detail by Henderson. Although not systematic, this information helps to portray the general situation regarding marine turtles over a century ago in various places in India, as well as on a remote island of Myanmar.

#### **Alcock’s account of the oceanographic survey**

From 12 December 1888 until 21 March 1889 the *Investigator* was working at False Point and other locations along the coast of Orissa, such as Gopalpur (Alcock, 1902: 59). Although many details about different marine organisms were described, there appears to be not a single mention of marine turtles. This is unusual since during the

past few decades at least, the period from December to March overlaps with the main nesting season of *Lepidochelys olivacea* in Orissa at several places (Shanker *et al.*, 2004) that are not more than 10 km from where the *Investigator* was working.

Between 14 and 22 April 1889 the *Investigator* was based at Port Blair, Andaman Islands, from where they made short excursions. Alcock (pg. 79) wrote:

“Though I never came across any Andamanese, I once saw a kitchen-midden of ashes, shells, and bones of fish, turtle, and dugong.”

He continued (pp. 85–86) with an account for 23 April:

“On the beach of South Sentinel we were fortunate enough to witness the entry of a brood of turtles into the world. There was a tremendous commotion in the dry sand, and out of it there emerged a swarm of little objects, looking like beetles, which all with one consent made for the sea. Even when we caught them and started them off in the opposite direction, some unerring instinct caused them at once to turn round towards the sea again, as other observers in other lands have described.”

Unfortunately, there is inadequate information to decipher which species was involved, but in modern times *Chelonia mydas* are documented nesting on South Sentinel (Andrews *et al.*, 2006).

Much later in the year, on 28 October 1889, the

ship left Bombay and steamed back to the Bay of Bengal; between calling at Port Blair and Rangoon, they stopped at Diamond Island where Alcock reported (pp. 93–94) that:

“It is a great breeding resort of turtles and the Burmese who farm the eggs objected that our boat-party would frighten all the turtles away.”

This remote Burmese island is known as a nesting area for *C. mydas* (Thorbjarnarson *et al.*, 2000); it is notable that Alcock described the Burmese as *farm*ing turtle eggs, when most likely they were simply collecting them for later transportation to Rangoon (Yangon).

A little later, a team from the *Investigator* camped on Little Coco Island sometime after 8 November, where Alcock (pg. 142) reported:

“On the beach there were numerous tracks of turtles, whose *caches* of eggs we several times found violated by the great water-lizard (*Varanus salvator*).”

This northern-most island of the Andamans is also well-known to be an important nesting area for *C. mydas* (Andrews *et al.*, 2006).

A month later, Alcock reported (pg. 205):

“On December 12<sup>th</sup> we left Minnikoy [southern-most of the Lakshadweep islands], taking with us good store of the turtles for which the island is so justly famous, our immediate destination being Colombo, there to take in coal preparatory to resuming our survey of the Coromandel coast.”

Again, Minicoy is regarded as an important nesting area for *C. mydas* (Tripathy *et al.*, 2006).

### **The Madras Aquarium**

The Madras Aquarium was opened on 21 October 1909 under the charge of the Superintendent of Museums, and in 1912, the Governor of Madras

decided to enlarge it; in 1919, the Aquarium was administratively transferred to the Department of Fisheries. It became very popular, and in 1919–1920 a total of 163,517 people were reported to have paid for admission. At the time it was the only permanent aquarium on the “Asiatic mainland” (Hornell [1921?]: 1–2).

On page 15 of the first “Guide to the Marine Aquarium” (Henderson, 1913), the following account is provided:

“The Turtle Tank - In this are generally to be found two or more of the four known species of marine Turtles, enumerated below in the order of their frequency on the Madras coast:-

(1) The Green or Edible Turtle (*Chelone mydas*). Common on the Madras coast. This species is usually described as herbivorous, but local specimens are quite as carnivorous as any of the other turtles. The shell reaches a length of four feet and is mottled or spotted above.

(2) The Loggerhead (*Thalassochelys caretta*). Not uncommon on the Madras coast. This turtle is about the same size as the last, from which it may be distinguished by the uniform brownish colour of its upper shell.

(3) The Hawksbill (*Chelone imbricata*). Not uncommon in the Gulf of Mannar. Tortoise shell is obtained from the horny plates which cover the upper shell. The Hawksbill may be recognised by the hooked upper jaw, from which the popular name is derived, and by the fact that the dorsal plates overlap. It is the smallest of the marine turtles.

(4) The Leathery Turtle (*Sphargis coriacea*). Rare on the South Indian coast. A specimen was captured on the Guntûr coast in April 1911, but up to the time of writing none have been brought to the Aquarium. It is the largest of all the turtles and reaches a length of eight feet.”

Several observations from Henderson's comment are warranted.

- a) The reference to the "Madras Coast" must be interpreted within the historic context of the early 20<sup>th</sup> century, for this term could refer to two very different areas: the coast in the immediate vicinity of the city of Madras (now Chennai), or the coast of Madras Presidency (also called the "Presidency of Fort St. George"), a large political entity during colonial times that included almost the entire present-day south India, with the states of Tamil Nadu and Andhra Pradesh, as well as the Malabar region of north Kerala, much of Karnataka, and the Lakshadweep Islands (Eastwick & Murray, 1879). Given that Henderson also refers separately to the Gulf of Mannar for the hawksbill turtle and "South Indian coast" for the leathery turtle, and that these two areas would be included within Madras Presidency, it seems that Henderson used the term "Madras" in the more restrictive sense, to refer to the coast near the city of Madras.
- b) Green turtles were reported to be "common on the Madras Coast", but a century later it seems that they are no longer common along the coast of Madras city.
- c) The comment that green turtles "are quite as carnivorous as any of the other turtles" could be a general observation, say based on stomach contents of animals that had been slaughtered for market, or it could refer just to animals in captivity.
- d) Loggerheads were said to be "not uncommon on the Madras coast". It is important to note that in Henderson's time there was confusion between two species that are recognised today: *Caretta caretta* and *Lepidochelys olivacea*, and both of them were often called loggerheads (Frazier, 1985). Nonetheless, the description of colour (brownish) and size (comparable to that of a green turtle = shell length 4 feet long) is consistent with *C. caretta*, but inconsistent with *L. olivacea*. If

indeed *C. caretta* were not uncommon 100 years ago, this would indicate a significant decline in the abundance of this species in this area.

- e) Hawksbills were "not uncommon in the Gulf of Mannar", and today this description is not inappropriate.
- f) Leatherbacks were evidently rarely sighted, and the capture of one off the Guntur coast in April 1911 was regarded as noteworthy; the situation today seems to be comparable.
- g) It is remarkable that the olive ridley turtle, *Lepidochelys olivacea*, which today is one of most common turtles in the Gulf of Mannar (Bhupathy & Saravanan, 2007), was evidently not recognised a century ago.

Remarkably, by the time of the subsequent guide to the Madras Aquarium about a decade later, marine turtles were no longer featured as important attractions, although by then there were more tanks and improved facilities at the aquarium (Hornell [1921]?).

### Summary

While not systematic, the information provided by the oceanographic survey and aquarium guide indicate several generalities:

1. A century ago green turtles were notably common on inaccessible islands of the Andaman Sea, namely South Sentinel, Little Coco, and Diamond, and also on Minicoy, in the south of the Lakshadweep Islands. They were also common on the Madras coast. There has evidently been a decline in abundance on the Madras coast, but it is not known if the impressive nesting populations on Diamond Island and Minicoy are comparable in abundance to their earlier state.
2. Loggerhead turtles have evidently declined in abundance along the Madras coast.
3. The Gulf of Mannar continues to be an

important area for Hawksbill turtles.

4. Leatherback turtles continue to be rarely reported in waters off south India.
5. Remarkably, olive ridley turtles are abundant

today in areas from Orissa to the Gulf of Mannar, where they were not reported a century ago. It is intriguing to ponder the possibility that some of the mass nesting populations in Orissa are a relatively recent phenomenon.

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