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Notes on a Possible Mass-migration of Marine Species off the West Cost of Sri Lanka

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A chance observation and two studies carried out by the author evokes the question as to whether there is an annual southward mass-migration of several marine species during the south-west monsoon period (i.e. from approximately May to November, Anon. 1966).

In July 1976 while at sea about 15 km off the West Coast at an estimated latitude of 7° 45' N I observed around half-dozen whales in the distance. The crew of the fishing craft in which I was travelling informed me that they had observed similar whales before and added that the whales would usually move inshore to within 4 or 5 km off the coast towards dusk. The whales would remain at this distance until daybreak, when they would move offshore again (A. van Cuylenberg, *et. al. pers. com*). I considered it significant that all the whales observed were swimming southwards. Our boat passed fairly close to one animal, which I noted was a baleen whale with long, rather pale, pectoral fins. The other whales also appeared to belong to the same species. On returning to Colombo I referred to the literature and identified them as Humpback whales (*Megaptera novaeangliae*). Referring to his observations in the Bay of Bengal, my observations (above) and those of Ross from Oman, Whitehead (1983) commented that the songs of the Humpbacks from Oman

and Sri Lanka were the same. He suggested therefore that these whales were from a single non-migratory stock. However as the whales seen by me were moving southwards, I speculate that they could possibly have been migrating towards rich feeding-grounds in the Southern Hemisphere.

In the mid 1970's I noted that in July and August fishermen on the west coast caught considerable numbers of Scalloped Hammerhead Sharks *Sphyrna lewini* (De Silva, 1986, 1995a). The sharks, which were possibly sub-adults, varied in length from approximately 120-150 cm. I was informed that they usually stayed several kilometers out at sea (possibly on the mud-banks) during day and only came closer to shore around dusk ("Kalu" *pers. com*). On account of the prevailing monsoon conditions I had to select relatively calm days in which to observe the sharks. Nevertheless even on such days disturbed seas and murky waters were the norm. I selected the reef know as *Palagala* for my study. This lies about a kilometer offshore in the Colombo region, where depths vary from approximately 15-20 m. I usually started diving late evening and continued after sunset until light became too weak for useful observations. (Divers will be familiar with the phenomenon by which sufficient light remains underwater for a considerable

period after sunset). My initial attempts to observe the sharks were unsuccessful as the few I glimpsed almost immediately disappeared into the murk. I guessed that they were probably frightened off by the sound of my SCUBA equipment. On subsequent dives therefore, I had no alternative but to dispense with the breathing apparatus and observe the sharks by free diving (i.e. holding my breath). "Down-time" was thereby restricted to less than one minute per dive; the extent of my breath- holding

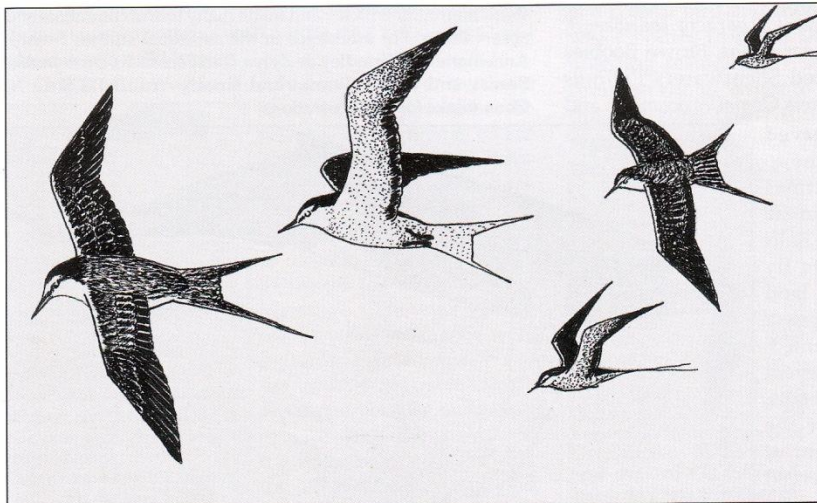


Figure 1. Bridled Terns *Sterna anaethetus* in migration.

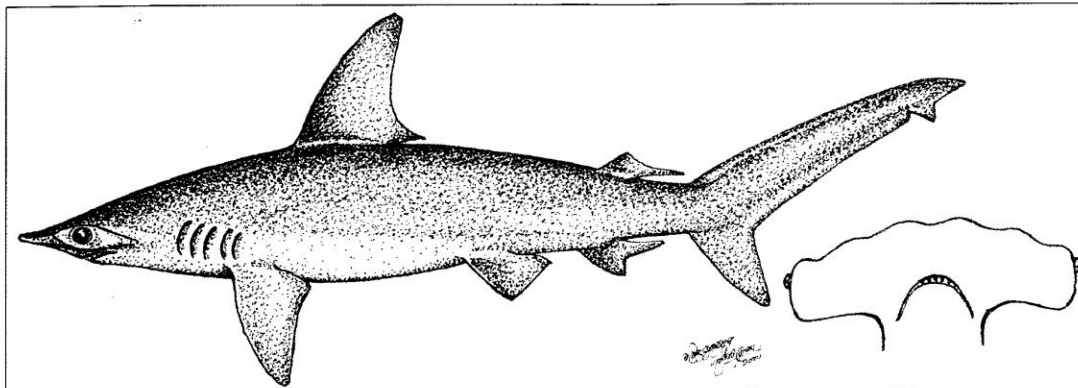


Figure 2. Scalloped Hammerhead Shark *Sphyrna lewini*

capacity at those depths. I was able to execute 20-30 such dives per evening before light became too faint. I noted that the bottom 3-5 m of water was extremely turbid (almost opaque) and therefore employed a strategy some used by spearfisherman for closing in on their prey. This involved diving into the turbid layer, swimming horizontally for some distance and then slowly ascending; in this manner I could often swim into the schools of sharks from below. Disappointingly the murky water precluded underwater photography. I observed that apart from random movements of a few sharks, the majority of hammerheads appeared to be swimming slowly southwards.

During the period 1981-1994 I made an intensive study of seabird migration off the west and south-west coasts of Sri Lanka (De Silva, 1986, 1995b, & De Silva & Perera, 1994). Large numbers of Bridled Terns *Sterna anaethetus*, together with smaller numbers of Sooty Terns *Sterna fuscata*, Brown Skuas *Catharacta lonnbergii*, Pomarine Skuas *Stercorarius pomarinus*, Brown Boobies *Sula leucogaster*, Flesh-footed Shearwaters *Puffinus carneipes*, Wilson's Storm Petrels *Oceanites oceanicus* and other seabirds were observed flying southwards from June to October (and sometimes November) each year. I estimate that in peak years close to half-million migrating seabirds fly southwards within sight of land during daytime (De Silva, *in press*). As this study is well documented, readers are directed to the relevant literature (listed below) for details.

It is not clear whether the (apparent?) mass movement of diverse marine species observed by me was the result of purely fortuitous and coincidental

circumstances, or whether an actual mass-migration, possibly brought on by meteorological, hydrographic, biological factors or a combination of these occurs each year. It is significant to note that Brown Skuas (De Silva, 1994), Flesh-footed Shearwaters (De Silva & Perera, 1994) Wilson's Storm Petrels and Humpback Whales (in the Indian Ocean) are all mainly creatures of the southern hemisphere.

In documenting this migration it is my hope that a competent naturalist (or naturalists) will be inspired to carry out a comprehensive biological investigation into, what may be, an interesting and significant phenomenon.

Acknowledgements

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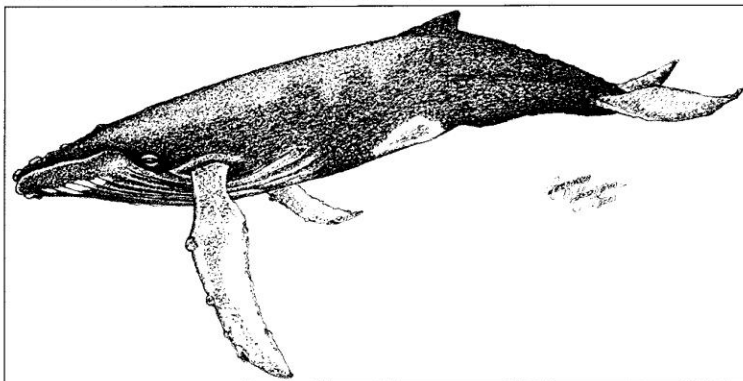


Figure 3. Humpback Whale *Megaptera novaeangliae*

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