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OBSERVATIONS ON A LARGE SCHOOL OF SPINNER DOLPHINS, *STENELLA LONGIROSTRIS* OFF SOUTHWEST COAST OF INDIA WITH NOTE ON ITS BEHAVIOUR

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ABSTRACT

A large school of spinner dolphins, *Stenella longirostris* numbering about 120 were observed at 08° 52'N, 75° 36'E off Quilon coast along the southwest coast of India. The dolphins measured 2.0-2.5 m. They were bow-diving the vessel making acrobatic acts. The dolphins followed the vessel for about 45 minutes. Behaviour of the dolphins and an attempt made to study them in close quarter are also discussed.

INTRODUCTION

The spinner dolphin, *Stenella longirostris* has been reported from various parts of Atlantic, Pacific and Indian oceans (Gilpatric *et al.*, 1987). They are very often caught in large numbers in Pacific tuna fishery (Perrin, 1975). Along the Indian coast, they are caught in the gill net fishery as a by-catch. (Mohan, 1985). They are reported from other parts of Indian Ocean also. (Alling 1983; Leatherwood, 1985; D'Silva, 1987). However there are only a very few reports of them in large numbers from the Indian Ocean. Further as Indian Ocean is declared as a marine mammal sanctuary, the observations on their occurrence and behaviour are of interest.

OBSERVATIONS

While collecting fishery data in the FORV *Sagar Sampada* on 21-2-1987 at a depth of 100 m at 08°52'N and 75°36'E at a distance of 100 km off Quilon, a large school of about 120 spinner dolphins, *Stenella longirostris* was observed at about 1630 hrs (Figs. 1 & 2.) Soon they were found to bow-ride vessel in a batch of 10-12. The vessel was cruising at a speed of 3.75 knots per hour in the northsouth direction. The sea was calm and the surface temperature was 28.5°C.

The dolphins were characterised by the presence of an elongated beak and a broad dark band extending from the eye to the origin of the flippers. The body colour was dark grey on back, light cast on the sides and lighter on the belly. They were found to feed on a shoal of *Caranx kalla.*

The dolphins appeared in a pack of 10-12 numbers at the bow of the vessel. When one pack completed the bow-riding another pack replaced it. This process was continued for some time. While bow-diving, some of them swam ventro-dorsally also exposing the ventral side. A few of them were seen jumping over the water and spinning on their longitudinal axis. Some of them jumped over the water and dropped with a splash. While surfacing and jumping over the water they made an audible squirking vocal sound which could be heard well on the deck about 5 m above. When they dived deep in front of the vessel, trails of air bubbles were left behind them. As the water was clear the dolphins were visible for some depth.

Fig. 1. A School of Spinner dolphins off Quilon.

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As large number of dolphins were seen in the viscinity of the vessel, a life boat fitted with an outboard engine was lowered to reach the core area of the dolphin school and observe them in close quarters. The school was persued for about 30 minutes for a distance of about 3 km, but could not reach closer than about 50 m to the dolphins. The sound of the engine seemed to frighten them. The school disappeared with setting of the sun and the appearence of large sharks in the area.

Fig. 2. *A School of Spinner dolphin off Quilon.*

As Indian Ocean is declared as a marine mammal sanctuary by the International Whaling Commission, various efforts have been taken to study the population status of cetaceans of the Indian Ocean. Leatherwood (1985) and D'Silva (1987) reviewed cetaceans reported from Indian Ocean. Alling (1988) observed that about 38,000 odontocetes were caught in the gill nets in Sri Lankan coast out of which about 40% were spinner dolphins followed by Risso's dolphins (*Grampus griseus*) 17%, *Stenella attenuata* (13%) and the rest formed by other dolphins. Mohan (1985) also observed that *Stenella longirostris* formed 52.9% of the dolphins entangled off Calicut coast while *Tursiops aduncus* (*T. truncatus*), *Delphinus delphis* and *Sousa chinensis* formed 32.7%, 8% and 6.3% respectively.

It was observed that along the Indian coasts 133 dolphins were entangled in gill net fishery during 1988, of which 50.5% was *Delphinus delphis*. The other species *Stenella longirostris, Tursiops aduncus* and *Sousa chinensis* contributed 32.3, 9.7 and 7.5% respectively. There seems to be some difference in the species composition of the dolphins caught along the Indian coasts and Sri Lankan coast (Anon, 1989)

Further, a large number of this species are caught in the Pacific tuna fishery causing concern about the population of this species. However, our knowledge of the species from Indian Ocean is far from satisfactory and more information is required for any meaningful estimate of the stock which is essential for management.

Reference

Alling, A. 1983. A preliminary report of marine mammal fishery in Djibouti, Oman and Sri Lanka. *Proc. Symp. Mar. Mamm. Indian Ocean, Colombo.*

Alling, A. 1988. Preliminary report of the incidental entrapment of Odontocetes by Srilanka's coastal drift net fishery. *Jour. Bombay Nat. Hist. Soc.*, 85 : 538-55.

Anon. 1989. Annual Report, CMFRI, 1987-1989, Cochin, p. 11.

D'Silva, P.H.D.H. 1987. Cetaceans (whales, dolphins and porpoises) recorded off Srilanka, India, Arabian Sea, Gulf of Aden and from the Red Sea. *Jour. Bombay Nat. Hist. Soc.*, 84 (3): 505-525.

Gilpatrick. Jr. William F. Perrin, S. Leatherwood and L. Shiroma 1987. Summary of distribution record of spinner dolphins *Stenella longirostris* and Pantropical spotted dolphin *S. attenuata* from the western Pacific Ocean, Indian Ocean and Red Sea. *NOAA Technical Memorandum NMFS SWFC -89* : 1-42.

Leatherwood, S. 1985. Whales, dolphins and porpoises of the Indian Ocean Cetacean Sanctuary. A summary of available information. *Manuscript U.N. Environ. Prog. Nairobi, Kenya* : 1-141.

Mohan R.S. Lal 1985. Observations on the by-catch of dolphins *Stenella longirostris, Tursiops aduncus, Sousa chinensis* and *Delphinus delphis tropicalis* in the gill nets off Calicut coast, India. *Symp. Edangered Marine Animals and Marine Parks*, Cochin, India, 1-13.

Perrin, W.F. 1975. Variation of spotted and spinner porpoises (Genus *Stenella*) in the eastern tropical Pacific and Hawaii. *Bull. Scripps Inst. Oceanogr., Univ. Calif.* 21 : 1-206.