

# Identified fish remains regurgitated by a solitary Indian Ocean Bottlenose Dolphin, *Tursiops aduncus*, in the Gulf of Aqaba

(Mammalia: Delphinidae)

Nadav Mizrahi, Dan Kerem, Oz Goffman, Omri Lernau, Ehud Spanier

**Abstract.** A total of 210 fish bones was collected between August 1998 and April 2001, after having been regurgitated by a solitary social Indian Ocean Bottlenose Dolphin (*Tursiops aduncus* (Ehrenberg, 1833)), off Nuweiba M'zeina on the east coast of the Sinai Peninsula, Egypt. Of these, 143 bones were identified, representing nine different fish families (in descending order of prevalence): Fistulariidae, Sparidae, Lethrinidae, Scaridae, Serranidae, Congridae, Muraenidae, Belonidae and Balistidae. Six genera (*Fistularia*, *Lethrinus*, *Epinephelus*, *Lithognathus*, *Tylosurus* and *Scarus*) and three species (*F. commersonii*, *E. chlorostigma* and *T. choram*) were further identified. Identified prey items varied in form (elongated, eel-like or fusiform), behaviour (solitary/schooling, diurnal/nocturnal), and belonged to species inhabiting diverse areas (open water, near corals and caves). Prey identified also showed diverse diets ranging from coral feeding species, to piscivorous species and those feeding on invertebrates. Although very limited in scope, the accessibility of this dolphin within a small radius and over a long period constituted a unique opportunity for investigating the diet of the species in this region.

**Key words.** Diet, cetaceans, *Tursiops aduncus*, Sinai, Egypt.

## Introduction

The conventional methods of assessing the dietary habits of wild dolphins include direct observation of predation (SHANE 1990, RICHARD & BARBEAU 1994), identifying prey by floating remnants (scales) around the feeding location (AGAZZI et al. 2004), analysis of prey DNA from faeces (DUNSCHEA et al. 2008), and analysing stomach contents of dead animals which is the most widely used method (e.g. BARROS & ODELL 1990, BARROS et al. 2000, COCKCROFT & ROSS 1990).

Information on the diet composition of the Indian Ocean Bottlenose Dolphin *Tursiops aduncus* (Ehrenberg, 1833) is scanty and hitherto reliant on the stomach contents of dead animals, i.e. shark-net entanglement victims in Natal, South Africa (COCKCROFT & ROSS 1990) and gill-net entanglements in Zanzibar, Tanzania (AMIR et al. 2005). These studies show the species to be a versatile predator, feeding on a variety of fish and cephalopods. Lack of scientific facilities, a very steep shoreline with few sandy beaches, and scattered artisan fishing practices render the systematic study of the feeding habits of this species on the eastern shore of the Sinai Peninsula very difficult.

The practice by several species of toothed whales of the periodic ejection of water and hard ingested remnants (e.g. HEYNING & MEAD 1986) provides yet another potential source