

AMPHA FEEDING GROUND FOR JUVENILE GREEN TURTLES, *CHELONIA MYDAS*, ON THE WESTERN COAST OF TURKEY

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ABSTRACT

In this study, it is proved that Fethiye Beach (western coast of Turkey) represents a feeding ground for juvenile Green Turtles, *Chelonia mydas*. However, the size of the population that has been using this area could not be determined. Some precautions were recommended for the conservation of this endangered species.

INTRODUCTION

The biology of sea turtles has mostly been studied on the nesting beaches. Our knowledge of immature sea turtles is still poor and little is known of the situation in the Mediterranean. All dead turtles were recorded between Mersin and the Syrian border, most of them along the Çukurova coast (Baran & Kasperek 1989). Another record of an immature Green Turtle that washed ashore at Serik (Vilayet Antalya) with a carapace length of 44 cm was made by Basoglu and Baran (1982). This specimen is still kept in the collection of the Aegean University, Izmir. Baran and Kasperek state that there is another record from Büyük Menderes Delta.

An intensive study was carried out by DHKD on trawl fishing and its effects on marine turtles in the eastern Mediterranean (Oruç *et al.* 1997). It is likely that juvenile Green Turtles are more localized in distribution to the east, where they often caught in fisheries and recorded stranded (Baran & Kasperek 1989; Laurent *et al.* 1996; Margaritoulis *et al.* 1996; Godley *et al.* 1998). The estimated annual female nesting population of Green Turtles could be as low as between 300-400 in the Mediterranean (Groombridge, 1990).

Important feeding grounds for Green Turtles include the Miskito Cays of Nicaragua, the coastal shallows of Brazil, the Gulf of Oman in the Middle East, the Arafura and Coral Seas between Vanuatu and Fiji in the South Pacific, the Pacific side of the Japanese Archipelago and the East China Sea, the coastal waters of Baja California, and the Pacific Coast of the Americas from Costa Rica to Peru (Ripple, 1996).

Up to now there is no record of feeding grounds for juvenile *Chelonia mydas* on the western coast of Turkey. Our aim in this study was to prove that Fethiye Beach represents a feeding ground for juvenile *C. mydas*.

MATERIAL AND METHODS

In this study, Fethiye Beach (Figure 1), Vilayet Mugla, was investigated for the nesting status of the Loggerhead Turtle throughout the breeding seasons from 1993 to 1998.



Plate 1. Juvenile *Chelonia mydas*



Fig. 1 Map showing the location of Fethiye Beach, on the western coast of Turkey

During this period, the number of juvenile *C.mydas* that were washed ashore or incidentally caught were recorded. The presence of juvenile *C.mydas* in front of the beach pushed us to make an underwater survey in 1995.

RESULTS

A total of 9 juvenile *C. mydas* (Plate 1) were recorded during our 6 year survey in front of the nesting beach. Of these, 4 were washed ashore and 5 were incidentally caught by fishermen and released. Details of these juveniles are presented in Table 1 with respect to years.

Table 1: The information on juvenile Green Turtles recorded at Fethiye Beach, Turkey

Date	SCL (cm)	SCW (cm)	CCL (cm)	CCW (cm)	Explanations
1994	-	-	-	-	<ul style="list-style-type: none"> • 3 live juvenile <i>C. mydas</i> were incidentally caught by a fishing boat and then released • 1 dead washed ashore, most probably drowned.
16.6.1995	-	-	-	-	• Juvenile <i>C.mydas</i> . Head and extremities had been cut
19.9.1995	-	-	-	-	• Found dead on beach
12.7.1996	41	33.5	45	40	• Tagged with monel tag and then released. Tag no 761
25.7.1998	-	-	43	31.5	• Found dead. Most probably drowned
3.9.1998	48	39	51	48	• Tagged with monel targe and then released. Tag no 242

These records were made only in front of our study site. These records may be increased with an intensive study in co-operation with the fishing boats in the whole region. The presence of only juveniles of *C. mydas* in the region convinced us that this site most probably represents a feeding ground for juvenile *Chelonia*. Our underwater survey in 1995 increased the possibility of this matter. In front of the beach, where the juveniles were recorded, the following species were identified:

Eupagurus caunensis

Cerithium sp.

Anemone sulcata

Schizaster canaliferus

Spirographis spallanzani

Cliona celata

Peltodoris atromaculata

Truculariopsis trunculus

Macropodia sp.

Petrosia fuciformis

Spirastrella cunclatrix

Hinia sp.

Hermodice carunculata

Zostera marina

Caulerpa prolifera

Charonia sp.

Astropecten sp.

Halophila stipulacea

Cerastoderma sp.

Sphaerechinus granularis

The bottom of the sea was covered especially with Eelgrass (*Zostera marina*). According to literature, the diet of the Green Turtle, *Chelonia mydas*, is well known and in certain parts of its range stomach contents of large numbers of individuals have been examined. Immature Green Turtles in Mosquito Lagoon, Brevard County, Florida seem to be grazing exclusively on sea grasses (*S. filiforme*, *Halodule wrightii* and *Halophila sp.*). The Green Turtles of the Galapagos islands feed mainly on algae, especially green algae of the genera *Ulva* and *Caulerpa*. Green Turtles of the Infiernillo region, between the island and mainland feed on Eelgrass, *Zostera marina*. (Mortimer, 1995). The stomach contents of 94 Green Turtles between 31 and 120 cm of carapace length from the commercial catch of the coast of Ceara, Brazil included 88.3 % to 95.5 % of benthic algae and the remainder was made up of small quantities of phanerogams, sponges, bryozoans, crustaceans, sea urchins, molluscs and sea squirts (Marquez, 1990). Durmus (1998) has dissected a Green Turtle that washed ashore in Samandag (on the eastern coast of the Mediterranean). He has found *Posidonia oceanica* and *Zostera sp.* in the stomach contents.

DISCUSSION

Baran and Kasperek (1989) suppose that immature Green Turtles stay around their birth place and later nesting ground. Up to now, no nesting or nesting attempts of the Green Turtle have been recorded from Fethiye Beach or in the vicinity (Baran & Kasperek, 1989a, Türkozan & Baran, 1996, Baran & Türkozan 1996, Türkozan 1998). The closest nesting of the Green Turtle was recorded from Kumluca (Fig 1) with 7 nests (Yerli & Demirayak, 1996). This site is almost 120 km distant from Fethiye as the crow flies. A high level of site fidelity was recorded for juvenile Green Turtles in St. Lucie County, Florida (Bresette *et al.* 1998).

Fishermen in Turkey caught an estimated 2.5 turtles/boat/year versus an estimated 4.0 turtles/boat/year in Cyprus. This yielded a likely minimum bycatch estimate of over 2000 marine turtles per year in the region (Godley *et al.* 1998). Due to the highly endangered status of the Green Turtle urgent measures should be taken. The fishermen especially should be educated not to kill the marine turtles incidentally caught by their nets. The site studied should be placed under strict protection.

We need to make a detailed survey to identify the size of the population feeding at Fethiye Beach.

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