

# Reproduction biology of the marine turtle populations in Northern Karpaz (Cyprus) and Dalyan (Turkey)

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**Abstract.** The reproduction biology of Green Turtles, *Chelonia mydas*, and Loggerhead Turtles, *Caretta caretta*, was studied at Northern Karpaz, northern Cyprus, and Dalyan, Turkey, in 1996–1997. A total of 22 *C. mydas* and 7 *C. caretta* nests were recorded at Northern Karpaz in 1996, and 135 Loggerhead Turtle nests at Dalyan in 1997. The Green Turtle nesting density was 9.2 nests/km, the Loggerhead Turtle density 2.9 nests/km at Northern Karpaz and 28.7 nests/km at Dalyan. For Green Turtles, 78.9% of the hatchlings were able to reach the sea. The corresponding values for Loggerheads are 55.5% at Northern Karpaz and 87.1% for Dalyan. The mean incubation period for *C. mydas* was 58.0 days at Northern Karpaz and for *C. caretta* this period was 52.4 days on Dalyan Beach. Nests which were threatened by the tide or human activities were transplanted to safe areas of the beach. The hatching success of transplanted nests (72.8%) was significantly higher than nests left under natural conditions (55%).

**Kurzfassung.** Die Fortpflanzungsbiologie der Suppenschildkröte, *Chelonia mydas*, und der Unechten Karettschildkröte, *Caretta caretta*, wurde 1996 und 1997 in Nord-Karpaz im nördlichen Zypern, und in Dalyan, Türkei, vergleichend untersucht. Insgesamt wurden 1996 in Nord-Karpaz 22 Nester von *C. mydas* und 7 von *C. caretta* gezählt, und 1997 135 von *C. caretta* in Dalyan. Die Nestdichte der Suppenschildkröte betrug 9,2 Nester/km, die der Unechten Karettschildkröte in Nord-Karpaz 2,9 Nester/km und in Dalyan 28,7 Nester/km. 78,9% der Schlüpflinge der Suppenschildkröte konnten das Meer erreichen. Der entsprechende Wert für die Unechte Karettschildkröte betrug 55,5% in Nord-Karpaz und 87,1% in Dalyan. Die durchschnittliche Dauer des Eistadiums betrug für *C. mydas* in Nord-Karpaz 58,0 Tage und für *C. caretta* in Dalyan 52,4 Tage. Nester, die durch die Gezeiten oder durch menschliche Störungen gefährdet waren, wurden an sichere Stellen des Strandes versetzt. Der Schlüpfertag der transplantierten Nester war mit 72,8% signifikant höher als unter natürlichen Bedingungen (55%).

**Key words.** *Chelonia mydas*, *Caretta caretta*, Northern Karpaz, Dalyan, Mediterranean Sea.

## Introduction

In the Mediterranean, the major nesting grounds for Loggerhead Turtles, *Caretta caretta*, are Turkey and Greece (BARAN & KASPAREK 1989, MARGARITOUΛIS 2000) with smaller numbers recorded in Cyprus (BRODERICK & GODLEY 1996, DEMETROPOULOS & HADJICHRISTOPHOROOU 1985), Egypt (KASPAREK 1993), Libya (LAURENT et al. 1995), Tunisia (LAURENT et al. 1990), Israel (KULLER 1999), and Syria (KASPAREK 1995). The distribution of the Green Turtle, *Chelonia mydas*, nesting is much more localised, the only substantial nesting areas being Turkey and Cyprus (KASPAREK et al. 2001).

To compare the nesting biology of marine turtles in Cyprus and the Turkish mainland, two beaches were selected: the Northern Karpaz Beach on the north-east coast of Cyprus, and Dalyan in the western Mediterranean Region of Turkey. In northern Cyprus, the first systematic survey of marine turtles was carried out in 1988 (GROOMBRIDGE 1990), and since