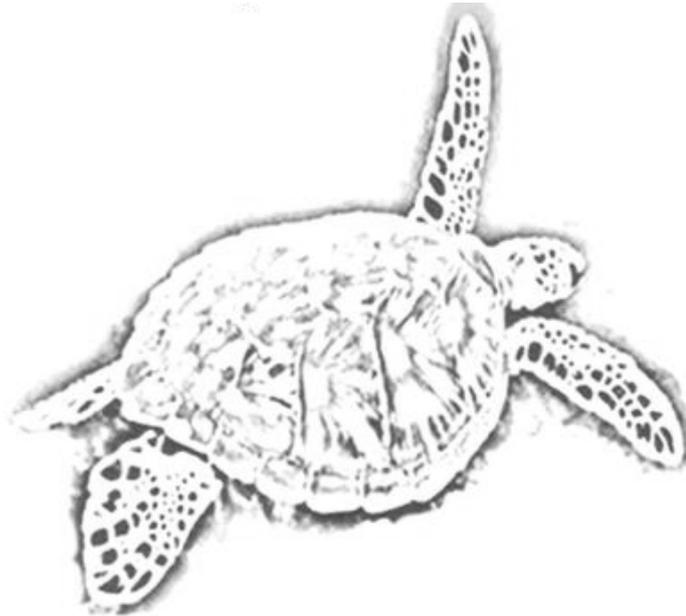


# **PROCEEDINGS OF THE SECOND MEDITERRANEAN CONFERENCE ON MARINE TURTLES**

**Kemer, Antalya, Turkey, 4-7 May 2005**

**Editors:  
Andreas Demetropoulos  
Oguz Turkozan**



**Barcelona Convention – Bern Convention – Bonn Convention (CMS)**

**April 2009**

**INCUBATION CONDITIONS OF THE LOGGERHEAD SEA TURTLE  
*CARETTA CARETTA* IN KYPARISSIA BAY, GREECE**

**Karen A. REID (1), Dimitris MARGARITOULIS (2) and John R. SPEAKMAN (1)**

(1) School of Biological Sciences, University of Aberdeen, Tillydrone Avenue, Aberdeen  
AB24 2TZ, Scotland, UK

(2) ARCHELON, the Sea Turtle Protection Society of Greece, Solomou 57, GR-10432,  
Athens, Greece

Kyparissia Bay, western Peloponnesus, Greece represents numerically one of the most important nesting areas for the loggerhead sea turtle in the Mediterranean. This study was carried out during the nesting seasons of 2001 and 2002, and aimed to determine which of several potentially important environmental and biological variables were actually significantly related to hatching and emergence success. Several variables were entered as covariates into a General Linear Model, including nest temperature during the first, middle, and final thirds of incubation, nest location with respect to distance from the vegetation line, clutch size, nest depth, laying date and two sand parameters, mean particle size and sort coefficient. Whether or not a nest was inundated by seawater and whether or not a nest was relocated were included as factors in the model. Three mortality factors were identified which strongly influenced hatching and emergence success - the percentage of the total clutch containing no visible embryo, the percentage of visible dead embryos, and the percentage of hatchlings produced which died in the nest. Of the variables considered to be potentially important, temperatures experienced during the first and final thirds of incubation, nest depth, and whether or not a nest was inundated were significantly related to the three mortality factors. These variables were themselves related to laying date, the number of developing embryos and nest location. Results from this study suggest that sea turtles nesting in Kyparissia Bay have the potential to significantly influence the success of their clutch through choice of nest site, choice of nest depth and timing of reproduction.