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DECLINE OF LOGGERHEAD TURTLE NESTS ON FETHIYE BEACH, TURKEY

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Decline and loss of sea turtle populations are increasingly becoming an international concern. In this respect conservation efforts are carried out on most of the nesting beaches in the world. Fethiye Beach is one of the most important nesting sites of loggerhead turtles (*Caretta caretta*) in Turkey. Previous studies showed a negative population trend of the loggerhead turtle population at Fethiye Beach based on nesting data. The nesting biology of loggerhead turtles, *Caretta caretta*, on Fethiye Beach was studied in this work during the 2011 and 2012 nesting seasons. In addition, we analyzed nesting trends over 20 consecutive years, from 1993 to 2012. As a result, we recorded a total of 145 emergences in 2011 and 247 emergences in 2012, of which 60 (41.4%) and 89 (36 %) resulted in nests respectively. 3854 hatchlings emerged (76.03%) from 5015 eggs and 3813 hatchlings reached the sea in 2011 nesting season. For the 2012 nesting season, a total of 7223 eggs were laid, 5238 (72.5%) of them hatched and 4835 (92.4%) hatchlings were able to reach the sea. On the other hand, we recorded a total of 1978 nests on Fethiye Beach during 20 consecutive years with a mean of 99 nests per year. There were also strong annual fluctuations in the number of nests, which ranged from a minimum of 58 nests (in 1994) to a maximum of 158 (in 2004). Linear regression analyses showed that there is a statistically significant negative relationship between years and nest numbers at the 99% confidence level ($r^2=0.39$; $p<0.01$). This result has led to the interpretation that the number of nesting turtles is still in decline at Fethiye Beach. The main reasons of the decrease can be excessive use of the beach by the people, lights from the back side of the beach, and boat traffic on the shore. With such a potential negative trend at a key Turkish nesting beach shows a need for more sharp effective conservation programs.

INVERTEBRATE INFESTATION IN LOGGERHEAD SEA TURTLE NESTS ON DALYAN BEACH, TURKEY

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Sea turtle nests face many dangers during the two month incubation period. It is not yet clear whether certain invertebrates found in the nests are predators or parasites to the eggs or hatchlings. The damage caused by some invertebrates to the eggs of loggerhead turtles, *Caretta caretta*, was investigated during the summer of 2010 on Dalyan Beach, Turkey. The specimens were identified to family or species: *Pimelia* sp. (Coleoptera: Tenebrionidae), Muscidae (Diptera), Myrmeleonidae (Neuroptera), Isopoda (Crustaceae) and Enchytridae (Oligochaeta). The specimens of Enchytridae, *Pimelia* sp. and Muscidae were observed on empty eggshells and in eggs. Samples of Myrmeleonidae and Isopoda were observed in the sand columns of nests. The heaviest impacts of these invertebrates on loggerhead turtle nests were Enchytridae (Oligochaeta). Seventeen (32 %) of the randomly selected 53 loggerhead hatched nests were effected by this group. The damage of Oligochaeta was recorded in 188 (5.1 %) out of 3,253 eggs. However it was determined that Oligochaeta individuals were encountered in the sand columns of nests. The damage in one nest of Muscidae and *Pimelia* sp. was recorded in 4 and 7 eggs, respectively. Although no statistical comparison was possible due to the small sample size, the nests containing these invertebrate were also near the vegetation line.