

TABLE 1. Observations of diurnal nesting of *Caretta caretta*.

Source	Number	Time	Location
Caldwell et al. 1959. Bull. Florida State Mus. 4:295-308.	3	dawn-0905 h	South Carolina Georgia, Florida
Fritts and Hoffman. 1982. J. Herpetol. 16:84-86.	7*	0540-1930 h	Florida
Bustard, R. 1973. Sea Turtles, Their Natural History and Conservation. Taplinger Publ. Co. 220 pp.	Several	1630-1725 h	Australia
LeBuff, C. H., Jr. 1990. The Loggerhead Turtle in the Eastern Gulf of Mexico. Caretta Research Inc. 216 pp.	2	1130 h, 1140 h	Florida

*One *Chelonia mydas* was also observed nesting in daytime during this study.

Some authors (Bustard 1973. *Sea Turtles, Their Natural History and Conservation*. Taplinger Publ. Co.; Fritts and Hoffman 1982. *J. Herpetol.* 16:84-86) suggested daytime emergences are timed with high tides. In the two examples of diurnal nesting on Wassaw Island reported here, the turtles emerged approximately 45 min prior to high tide. However, other turtles have been observed through the years on Wassaw during twilight hours of the day or night, either beginning or ending their land activities in full daylight. One such example was an untagged loggerhead found on 22 June 1985 at 0547 h as she emerged from the water, one hour after the tide had begun to flood. After crawling about 85 m, the turtle (SCL = 91.0 cm; tags: GA6791; GA6815) began digging a nest at 0602 h and did not return to the water until well after daylight.

On Wassaw Island, one out of 139 (0.72%) crawls in 1992 and one out of 57 (1.75%) crawls in 1993 were confirmed as diurnal. Observations by other researchers (Table 1) confirm that diurnal nesting behavior in loggerheads is extremely rare. I thank the U.S. Fish and Wildlife Service, the Wassaw Island Trust, and the Skidaway Island Boat Club for their continued help and support of the *Caretta* Research Project. Special thanks is extended to all the volunteers who participated in this program since its inception in 1973.

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CARETTA CARETTA (Loggerhead Sea Turtle). **PREDATION.** Marine turtles are threatened throughout the world by various biotic and abiotic factors, either natural or man-induced, including incidental catch, pollution, disappearance of suitable nesting sites, and predation. At nesting beaches predation is generally limited to eggs and hatchlings (Frazer 1992. *Cons. Biol.* 6:179-184; Pritchard 1980. *Amer. Zool.* 20:609-617). Mortality of nesting females by large terrestrial predators has been documented rarely. This note reports predation of nesting female loggerhead turtles, *Caretta caretta* by golden jackals.

During June-August 1991 and June-September 1992 we studied the loggerhead population breeding on the beaches of the Göksu Delta, on the Turkish Mediterranean coast, 80 km west of Mersin. Based on the numbers of nests observed during daily beach patrols and assuming an average clutch frequency of 3 nests

per female per season (Frazer and Richardson 1985. *Herpetologica* 41(3):246-251; Talbert et al. 1980. *Copeia* 1980(4):709-718), we concluded that in the Delta 45 (1991) and 35 (1992) *C. caretta* had nested. In both years several nesting females were killed by large canid predators. These females, 4 in 1991 and 3 in 1992, represented approximately 10% of the nesting females in each year.

All evidence clearly indicated that the predator involved was the golden jackal, *Canis aureus*. Although predation was never observed by us, numerous canid footprints, all of jackal shape and size, were found around dead females. The delta supports a population of golden jackal (D.H.K.D. 1992. *Towards Integrated Management in Göksu Delta, a Protected Special Area in Turkey*, Feasibility Report. Istanbul. 272 pp.), and additionally, local fishermen claimed to have observed jackals attacking sea turtles on the beach.

The female turtles were usually killed soon after emerging from the sea, even before the start of nest excavation. Tracks and prints at the sites indicated that the jackals operated either alone or in groups of a few individuals, and that turtles were often killed after a short struggle. They were attacked at the neck and opened via the shoulder, through which some of the viscera were removed. Several carcasses were thoroughly cleaned out, others only partly devoured and one individual was left almost intact.

Predation of adult sea turtles by terrestrial predators has never been reported before in the Mediterranean. Worldwide, only few anecdotal or speculative data are available and the impact on turtle populations is thought to be minimal (Márquez 1990. *FAO Fisheries Synopsis*. No. 125, Vol. 11. Rome. 81 pp.; Stancyk 1982. *In* K. A. Bjorndal (ed.), *Biology and Conservation of Sea Turtles*, Washington D.C., pp. 139-152). However, withdrawal of reproductive females has a relatively large impact on a population and the effect of jackal predation on this vulnerable *C. caretta* population could be profound if it continues on this scale for several years.

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CHELONIA MYDAS (Green Turtle). **PREDATION.** During a three month sea turtle tagging and monitoring program in 1991 on Gielop Island (9°56'N, 139°54'E), Yap State, Federated States of Micronesia, coconut crabs (*Birgus latro*) were observed feeding on naturally emerged hatchling green turtles. In addition, coconut crabs were found preying on green turtle hatchlings which had surfaced into open-top nest enclosures. One could periodically observe one or two coconut crabs a night, sometimes for several nights in a row, eating hatchling green turtles.

Coconut crabs were not observed to burrow down to nest eggs, as has been noted in the Seychelles Islands by Honegger (1967. *British J. Herpetol.* 4:8-11). However, coconut crabs were frequently sighted scavenging sea turtle eggs which were strewn from previously laid nests by nesting green turtles.

Other observed land predators of hatchling green turtles at Gielop Island include ghost crabs (*Ocypodes* sp.) and hermit crabs (Paguridae).

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