

A Record of the Northernmost, Verified Leatherback Sea Turtle Nesting Event on the East Coast of the USA

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Three sea turtle species have been documented to utilize the coast of Georgia, USA for nest deposition. Historically, loggerhead sea turtles (*Caretta caretta*) are the most common nesters observed. Leatherback (*Dermochelys coriacea*) and green (*Chelonia mydas*) turtles have also been observed nesting in Georgia, but to a lesser extent (Dodd & Mackinnon 2000). In one instance, an adult female Kemp's ridley turtle (*Lepidochelys kempi*) was observed crawling on the beach at Blackbeard Island, Georgia (31° 28.4' N, 81° 13.1' W) but no nest was deposited (U.S. Fish and Wildlife Service/Savannah Coastal Refuges, unpublished data).

Since nesting emergences by sea turtles other than loggerheads are relatively rare events in Georgia and most state projects do not conduct nighttime research activities, data associated with these events are scarce. Here we report data collected from an adult female leatherback as well as nest and hatchling information obtained on Wassaw Island, Georgia. See Williams and Frick (2001) for survey and data collection methodologies.

At 0000 h on the night of 29 May 2001 *Caretta Research Project* (CRP) staff observed an adult female leatherback nesting on the north end of Wassaw Island (31° 54.3' N, 80° 56.2' W). The turtle hosted several platylepadid barnacles (*Platylepas* sp.) along the anterior margin of the carapace and bore two, ~12 cm long and 2 cm deep, wounds on corresponding locations of both front flippers. These wounds were situated along the interior trailing edge of each front flipper close to where the flipper attaches to the body. The origin of these wounds is unknown but both appeared to be healing well.

The leatherback carapace morphometrics were 157 cm (CCL) and 114 cm (CCW). No tags or tag scars were visible on the turtle and no P.I.T tag was detected anywhere outside of the carapace region. The female was tagged with two inconel tags (SSX-233, SSX-240), one in each hind flipper, and a single pit tag (# 407D1F1B1D) in the right front flipper.

Since the nest was deposited at the high water mark in an area subject to frequent tidal inundation, the nest was relocated to a less dynamic area of the beach and further from the high water mark. The distance between the sand surface to the top of the nest cavity containing the eggs measured 55.5 cm deep. The nest contained 27 yolkless eggs and 76 normal eggs.

The nest hatched in 74 days with a 66% hatch rate (50/76 eggs, not including 27 yolkless eggs). Ten unhatched eggs contained dead embryos in various stages of development, 14 appeared to have no development whatsoever and 2 unhatched eggs were too decomposed to determine if any development had occurred. Fifty hatchlings emerged from the nest and no dead hatchlings were found during the nest excavation.

The morphometrics and mass of 24 leatherback hatchlings were recorded. Morphometrics were recorded in mm using Vernier calipers and all sand was removed from hatchlings using a small paintbrush. Straight carapace length (SCL) was determined by measuring from the nuchal notch to the longest point of the tapering, posterior carapace. Straight carapace width (SCW) was determined by measuring the widest portion of the carapace from marginal edge to marginal edge. Depth was determined by measuring the highest profile of the carapace. The average morphometrics recorded were SCL = 61.0 mm (range = 59 – 62 mm), SCW = 42.6 mm (range = 40 – 47 mm) and depth = 26.8 mm (range = 25 – 28 mm). Hatchling mass was determined using a spring scale. The average mass was 46.3 g (range = 44 – 49 g).

This was the first leatherback nest recorded for Wassaw Island since the CRP began monitoring sea turtle nesting activity in 1973. Additionally, ours is the northernmost, verified report of leatherback turtle nesting along the east coast of the USA (Seyle 1985). Only 9 leatherback nests, including the previously discussed event, have been documented in Georgia from 1981 –2001 (Mark Dodd, Georgia Department of Natural Resources, *personal communication*).

Currently, it is unknown how many individual leatherback turtles utilize the Georgia coast for nest deposition or if leatherback turtles nesting in Georgia also represent those individuals that occasionally nest in other areas of the southeastern USA.

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DODD, M.G. & A.H. MACKINNON. 2000. Loggerhead turtle (*Caretta caretta*) nesting in Georgia, 2000: Implications for management. Annual Report to the Georgia Department of Natural Resources and the U.S. Fish and Wildlife Service.

SEYLE, C.W., JR. 1985. Correction of the northernmost leatherback nesting on the U.S. Atlantic coast. *Herpetological Review* 16: 38.

WILLIAMS, K.L. & M.G. FRICK. 2001. Results from the long-term monitoring of nesting loggerhead sea turtles (*Caretta caretta*) on Wassaw Island, Georgia: 1973-2000. NOAA Technical Memorandum NMFS-SEFSC-446. 32 pp.

Leatherback Turtles in Mid-South Atlantic Waters

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Ascension Island (7°57' S, 14°22' W) supports the second largest breeding population of green turtles *Chelonia mydas* in the Atlantic, with between 13,000 and 15,000 nests in the 1998-99 season (Godley *et al.* 2001). Small numbers of hawksbill turtles *Eretmochelys imbricata* are also found in the waters around Ascension, but have not been observed nesting there. In December 2001 a single leatherback turtle *Dermochelys coriacea* was recorded about 1 km off the west coast of the island. In January 2002 the Master of the Royal Mail Ship *St Helena* observed a second leatherback turtle at 12° 47' S, 9° 10' W.

Leatherback turtles are typically found throughout the tropical and temperate waters of the Atlantic, with large nesting populations in western Africa and north-east South America (Spotila *et al.* 1996). That these are the first records in these waters may be a reflection of the low numbers of would-be observers in the region or low densities of leatherback turtles in the area. These observations add to satellite tracking studies that have reported the transatlantic movement of post-nesting leatherbacks from the Americas (Ferraroli *et al.* in press).

FERRAROLI, S., S.A. ECKERT & Y. LE MAHO. In press. Satellite tracking of leatherback turtles nesting in French Guiana. Proceedings of the 21st Annual Symposium on Sea Turtle Biology and Conservation

GODLEY, B.J., A.C. BRODERICK & G.C. HAYS. 2001. Nesting of green turtles (*Chelonia mydas*) at Ascension Island, South Atlantic. *Biological Conservation* 97: 151-158

SPOTILA, J.R., A.E. DUNHAM, A.J. LESLIE, A.C. STEYERMARK, P.T. PLOTKIN, & F.V. PALADINO. 1996. Worldwide population decline of *Dermochelys coriacea*: are leatherback turtles going extinct? *Chelonian Conservation and Biology* 2: 209-222.