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Double-Chambered Nest Cavities in the Leatherback Turtle

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The typical nest of the leatherback turtle (*Dermochelys coriacea*) has three sections: a "wash-bowl" above the eggs, a "laying well," and then an incubation chamber (Billes and Fretey, 2001). Although the depth and shape of sea turtle nests are variable, a common feature is that there is only one egg chamber and one opening (Carthy, 1996). However, Maglothin et al. (2002) found several instances of double-chambered loggerhead nests along Cape San Blas, Florida, though the turtle was not actually seen digging the nests. We describe here observations on a leatherback turtle repeatedly seen digging double-chambered nests.

The turtle was seen five times on the Awala-Yalimapo beach in French Guiana between April and June 2001. On three of these occasions, one or more of us observed her digging the chambers (Fig. 1). The first observation was made on 4 April when we watched her dig for over one hour. Each flipper dug a separate hole and the turtle's tail rested on a bridge of sand between the two cavities (Fig. 2). Digging was prolonged and we left before witnessing the outcome. A second observation was made on 1 May and the turtle repeated the same behavior. She persisted for at least two hours without laying. A final observation was made on 11 June. The nest-digging pattern was the same, however, this time beach patrollers removed the sand bridge and she began to lay shortly after. Roughly half of her eggs fell into each cavity and she then covered her nest and re-entered the water. A different leatherback turtle was observed on this beach digging a double-chambered nest later in the season (M. Godfrey, pers. comm.) and another instance of this behavior was recorded on the same beach by Billes and Fretey (2000).

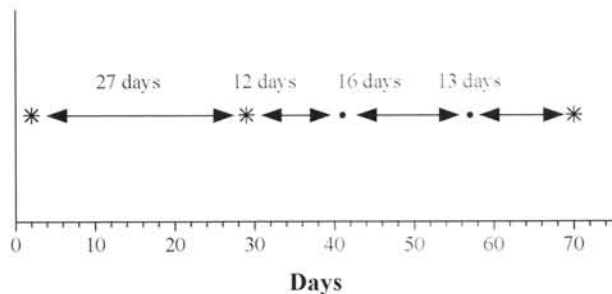


Figure 1. Number of days between sightings of the leatherback turtle digging a double-chambered nest cavity. Stars indicate the presence of one or both of the authors during nest digging.

The ability to lay eggs, as well as the intervals between nesting emergences (Fig. 1), suggest that the physiology of the reproductive system was basically normal. External trauma to the hind flippers was not visible (i.e., no missing limbs or deformities) and when the sand bridge was removed, the turtle was able to bring her flipper across the midline; therefore paralysis or weakness of the limbs seems an unlikely explanation for this behavior. The abnormality appeared to be in the motor control of the hind flippers, possibly due to the female shifting laterally to a greater extent as she placed her flippers into the cavity, allowing for this bridge to develop between the two flippers.

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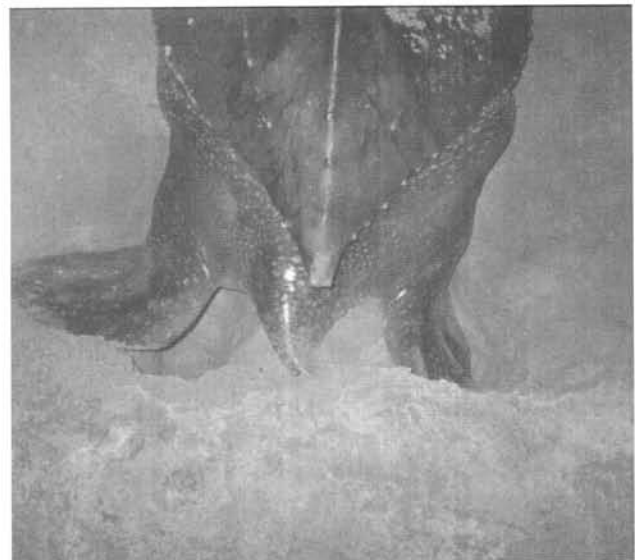


Figure 2. Leatherback turtle at Awala-Yalimapo, French Guiana, digging a double-chambered nest cavity on 4 April 2001.