Juvenile Hawksbill Tagged in The Bahamas Nests in Tobago

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In the Atlantic there are few, if any, reports of the length of time required for wild-caught immature hawksbills to grow to sexual maturity. Here we report on an immature hawksbill tagged in The Bahamas and seen nesting more than nine years later on Tobago (Fig. 1).

Although the longterm research project at the Union Creek Reserve (UCR), Great Inagua, Bahamas, has focused on green turtles (Bjorndal & Bolten 2008), about 10% of the turtles captured there each year are hawksbills. On 2 February 1996, a hawksbill was captured in UCR, and a light blue plastic jumbo-roto flipper tag was applied to each flipper (BP4822/3/4/5). Two straight carapace lengths (Bolten 1999) were measured (± 0.1 cm). Straight carapace length notch to tip (SCLn-t) from the anterior point at midline (nuchal scute) to the posterior tip of the longer supracaudal was 45.1 cm, and minimum straight carapace length (SCLmin) from the anterior point at mid-line to the posterior notch at midline between the supracaudals was 42.4 cm. The turtle was not seen again in UCR.

In June 2005, members of the Save Our Sea Turtles program on Tobago twice encountered a hawksbill that carried tags BP4824 and BP4825 depositing eggs on the southwest coast of Tobago. On 13 June 2005 it nested on Mt Irvine Back Bay, and on 28 June 2005 (having lost BP4825) it nested on the nearby beach of Grafton or Stone Haven Bay. Also, a hawksbill with blue plastic tags had been reported nesting in the first two weeks of March on Turtle Beach, the beach north of Grafton, which was probably this turtle. Curved carapace length notch to tip (CCLn-t) was 84 cm.

The recapture interval from 2 February 1996 to 13 June 2005 was 3419 days (9.37 yr). To calculate growth rate of the turtle, we converted our SCL measures to CCLn-t using equations generated from 10 hawksbills from UCR for which we measured SCLn-t, SCLmin, and CCLn-t (Fig. 2). The resulting equations are:

CCLn-t = 1.0925 SCLn-t – 0.9254 [$p<0.0001$; $R^2 = 0.9997$]
and
CCLn-t = 1.1819 SCLmin – 1.9851 [$p<0.0001$; $R^2 = 0.9988$].

Thus, when the hawksbill was captured in UCR, its CCLn-t estimated from SCLn-t was 48.3 cm and its CCLn-t estimated from SCLmin was 48.1 cm. Taking the average value of 48.2 cm, we calculate that the rate of growth was 3.8 cm per year.

Of course, the hawksbill may have reached sexual maturity before it was seen nesting in 2005. If so, the duration for the 45 cm SCL hawksbill to grow to sexual maturity would be less than 9 years, and growth rates would have been more rapid, assuming growth slowed substantially once sexual maturity was attained. Until we have study aggregations of hawksbills at which growth to sexual maturity can be determined in tagged animals, such serendipitous encounters as that reported here are valuable to place bounds on our estimates. This report also underscores the importance of monitoring nesting beaches so that turtles tagged as immatures may be intercepted.

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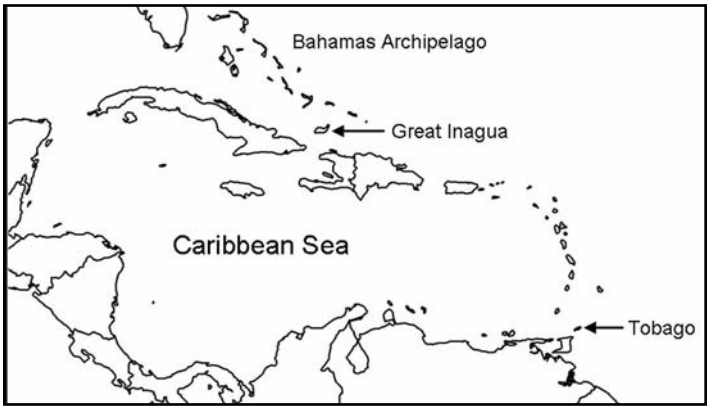

Figure 1. Map showing location of original tagging (Great Inagua) and recapture (Tobago) locations.

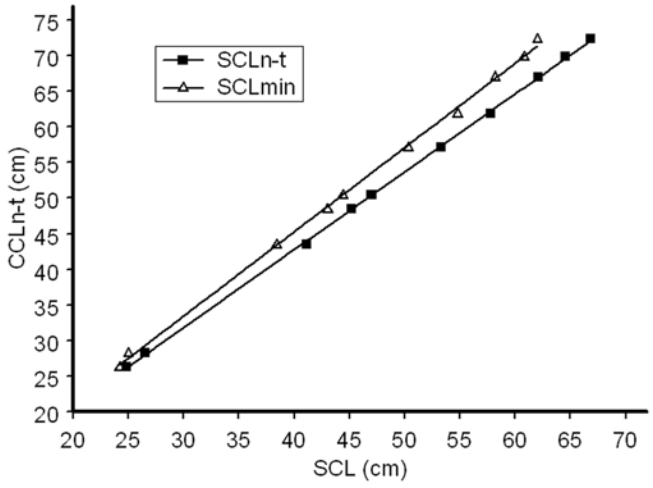

Figure 2. Relationship between CCLn-t and SCLn-t (closed squares) or SCLmin (open triangles) for 10 hawksbills measured in Union Creek Reserve, Great Inagua, The Bahamas.

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