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Green Turtle Tag Recovery Further Links Northern Brazil to the Caribbean Region

Eduardo H.S.M. Lima¹, Maria Thereza D. Melo¹, Magnus M. Severo² & Paulo C.R. Barata³

¹*Fundação Pró-TAMAR, Acesso Projeto TAMAR 151, Almofala - CE, 62592-000 Brazil (E-mail: tamarce@tamar.org.br);*

²*ICMBio-Piauí, Praça Santo Antônio 843, Parnaíba - PI, 64200-030 Brazil (E-mail: magnusms.ibama@yahoo.com.br);*

³*Fundação Oswaldo Cruz, Rua Leopoldo Bulhões 1480-8A, Rio de Janeiro - RJ, 21041-210 Brazil (E-mail: paulo.barata@ensp.fiocruz.br)*

On 28 December 2006, a sea turtle bearing the flipper tag PPM-433/NMFS LAB was found stranded dead by a fisherman (Mr. Antonio R. da Costa) on Bitupitá Beach (2.90°S, 41.27°W), state of Ceará, northern Brazil, on the border with the state of Piauí. Species and carapace size were not recorded at the time. The flipper tag originally had been applied to a green sea turtle (*Chelonia mydas*) captured on 29 October 1997 in the feeding grounds of Puerto Manglar, Culebra, Puerto Rico. At that time, the turtle had a straight carapace length (SCL) of 41.7 cm. The turtle was recaptured at that same location on 10 June 1998 measuring 46.6 cm SCL. After the second capture in Puerto Rico, the turtle was neither captured nor seen again before the stranding in northern Brazil (C. E. Diez, personal communication, 2007).

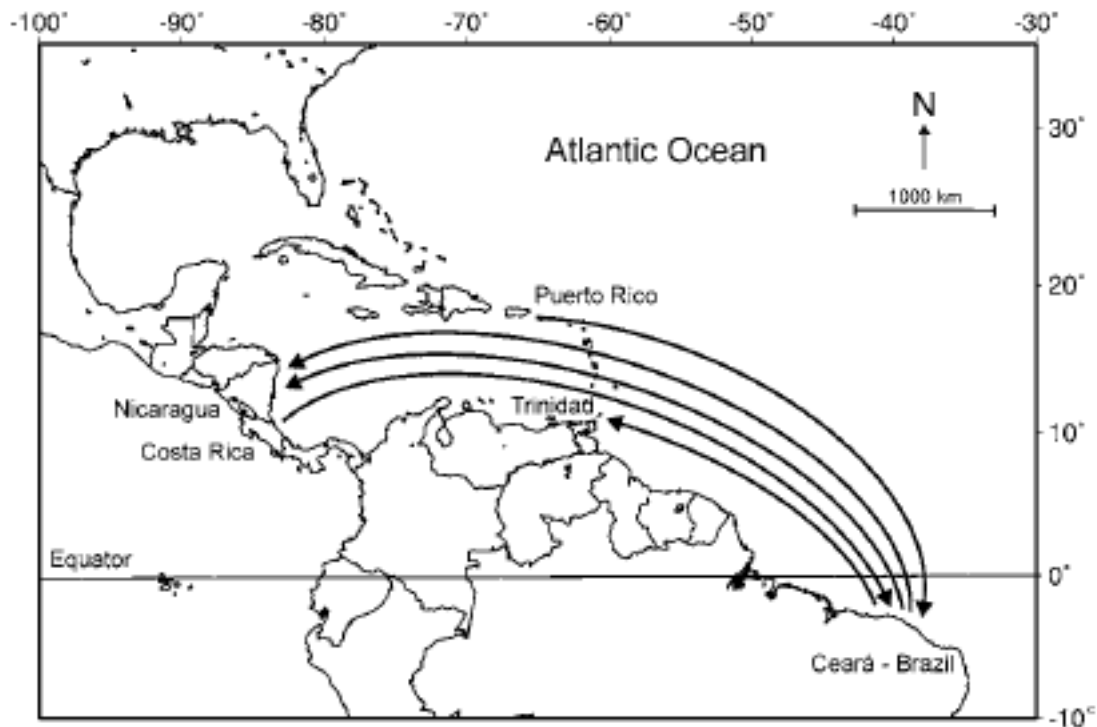


Figure 1. Records of green turtle movements between Ceará, northern Brazil, and the Caribbean region obtained since 1997 through flipper tagging. Arrows only connect capture and recapture locations and do not imply actual travel routes. Map generated by

This is the fifth tag return since 1997 from green turtles moving between Ceará, Brazil, a green turtle feeding ground, and the Caribbean region, as recorded by Projeto TAMAR-ICMBio, the Brazilian Sea Turtle Conservation Program (Figure 1). Among the five records, four documented movements between feeding grounds, and one documented movement between a rookery in the Caribbean and Ceará. Besides the Puerto Rico record reported here, three green turtles captured at sea and tagged at Almofala, Ceará (2.93°S, 39.82°W), where TAMAR maintains a station (Lima 2001), were later found dead in Trinidad (a juvenile with curved carapace length (CCL) of 48 cm when tagged in Brazil) and Nicaragua (two turtles, one with CCL of 88 cm and the other with CCL of 98 cm when tagged in Brazil) (Lima *et al.* 1999; Lima *et al.* 2003; Lum *et al.* 1998). In addition, a green turtle tagged on the nesting beach of Tortuguero, Costa Rica was found dead in Fortaleza, the capital of Ceará (3.72°S, 38.53°W); this turtle had CCL of 106 cm when tagged in Costa Rica (Lima & Troëng 2001).

Small juvenile to adult green turtles, with CCL ranging from 20 to 132 cm (N = 655, data for 1993-2005, Projeto TAMAR-ICMBio, unpublished data, 2007), have been found at sea or stranded on beaches at Almofala, Ceará. The five flipper tag returns, indicating green turtle movements both ways between the coast of Ceará and the Caribbean region, are consistent with previous findings. Tagging data obtained in the 1960s and 1970s revealed that green turtles nesting at French Guiana, Suriname, and Ascension Island (United Kingdom) migrated to the coast of Ceará (Carr 1973, 1975; Pritchard 1973, 1976). Genetic analyses based on mitochondrial DNA indicated that approximately half of the juvenile green turtles found at Almofala originate

from Ascension Island, and roughly forty percent originate from the Matapica (Suriname), Aves Island (Venezuela) and Tortuguero (Costa Rica) rookeries. Other nesting areas in the Atlantic, such as Trindade Island (Brazil), may also contribute in a lesser way to the juvenile green turtle population at Almofala (Naro-Maciel *et al.* 2007). Overall, these results point to the need for concerted conservation actions between Brazil and the Caribbean, as well as Ascension Island.

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