

First Evidence of Leatherback Movement from Africa to South America

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Descriptions of trans-Atlantic migrations of female leatherbacks focus essentially on movements from the western Atlantic to the eastern Atlantic. Bleakney (1965) speculated that some female leatherbacks from Guyanese nesting sites may migrate across to Europe. In April 1971, a leatherback tagged at Bigisanti Beach, Suriname, in May 1970 was recaptured at Salt Pond in Ghana (Pritchard 1973). Females tagged in French Guiana have been captured at various locations in the northeastern Atlantic (Fretey & Fernandez-Cordeiro 1996; Fretey & Girondot 1996). More recently, satellite telemetry has detailed the routes actually used by leatherbacks from different western Atlantic nesting sites during their migrations across the Atlantic (Eckert 1998; Ferraroli *et al.* 2004; Hays *et al.* 2004).

Here we present the first evidence of trans-Atlantic migrations by female leatherbacks nesting in the eastern Atlantic, in Gabon, to western Atlantic waters. Gabon supports one of the largest leatherback nesting beaches in the world along with the Guianas and has an annual nesting population between 6,000 to 7,000 females on a 90-km beach in southern Gabon alone (unpublished data). Four leatherbacks flipper-tagged on the beaches of Gabon were recently recovered in the waters of Argentina and Brazil (Fig. 1). Tagging location and recapture location information as well the curved carapace length (CCL) measurement (from nuchal notch to tip of caudal peduncle along the crest of the midline vertebral ridge) at the nesting beach are provided below for each of the four leatherbacks:

Turtle 1: This leatherback (CCL: 170 cm) was tagged while nesting on Gamba Beach, Gabon (between 2.83°S-10.07°E and 2.79°S-10.02°E), on 15th December 2003. She was recaptured almost 14 months later on 9th February 2005 in the waters of San Clemente del Tuyú, Buenos Aires Province, (36.37°S and 56.65°W; Fig. 1) in Argentina, more than 7,000 km straightline distance. The turtle was entangled and dead in an artisanal gillnet in San Clemente del Tuyú.

Turtle 2: This leatherback (CCL: 154.5 cm) was tagged while nesting on Mayumba Beach (between 3.68°S-10.93°E and 3.72°S-10.97°E) on 21st November 2002 and was seen nesting again on 20th December 2002, on the same stretch of beach. She was recaptured

2 years and seven months later on 30th July 2005, by a longline vessel in Brazil at 31.22°S and 49.53° W (Fig. 1). The observer put another tag on the female, which was released in good condition, without any hooks or monofilament lines on her.

Turtle 3: This leatherback (CCL: 147 cm) was tagged while nesting at Mayumba Beach (between 3.68°S-10.93°E and 3.72°S-10.97°E) on 22nd December 2003, and was found reneesting on 21st January 2004, on the same stretch of beach. Approximately 21 months later, on 9th October 2005, this turtle was found freshly dead in a gill net, in Itacuruça, (23.02°S and 43.93°W; Fig. 1) a city located in Rio de Janeiro State, Brazil.

Turtle 4: This leatherback (CCL: 144 cm) was tagged on 7th February 2003 at Mayumba Beach (between 3.68°S -10.93°E and 3.62°S -10.87°E). This animal was found dead on the island of Ilhabela, located on the northern coastline of São Paulo State, Brazil (23.82°S and 45.38°W; Fig. 1) on 26th August 2005.

No satisfying explanation has been found to explain trans-Atlantic migrations of leatherbacks. If the presence of foraging grounds in the eastern Atlantic explains the direct west to east migration routes observed in leatherbacks from western populations (Eckert 1998; Ferraroli *et al.* 2004) as well as the 7000-km migration by a leatherback nesting in Tongaland in the Indian Ocean to Namibian waters in the Atlantic (Hughes *et al.* 1998), then further investigations are required to understand why leatherbacks nesting in Gabon would migrate to Argentinean and Brazilian waters. A first hypothesis may be that the 6-month lag between nesting seasons for leatherbacks in the eastern Atlantic (November-January) and the western Atlantic (April-June) may result in different trophic conditions at the onset of their migrations. Satellite telemetry studies are currently underway in Gabon and French Guiana to identify the actual determinants of at sea movements in this endangered species.

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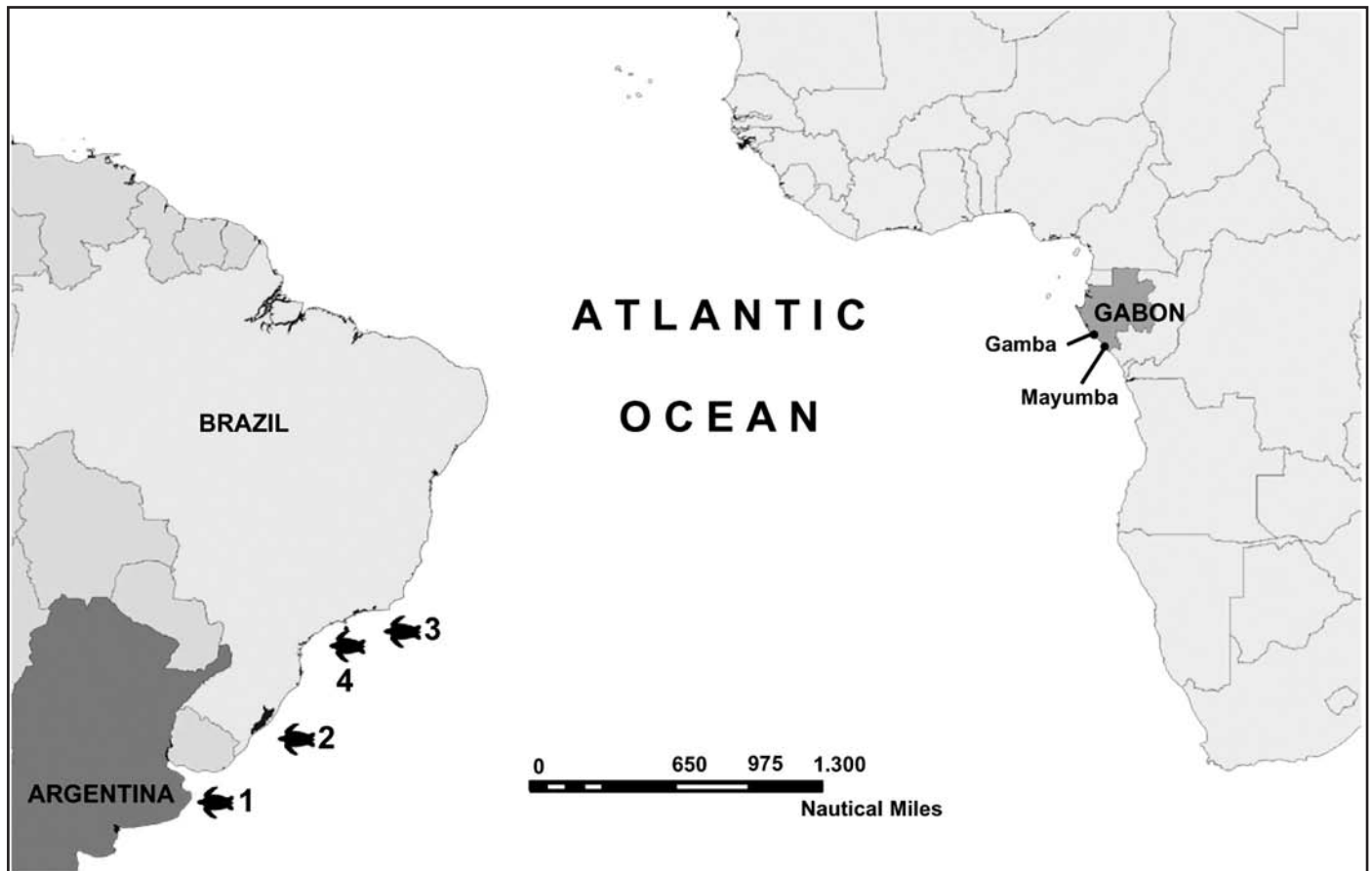


Figure 1. Recapture locations in Brazil and Argentina of four leatherbacks tagged on nesting beaches in Gabon.

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