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Evidence of Leatherback Nesting Activity in Northern Bahia, Brazil

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Leatherbacks (*Dermochelys coriacea*) are distributed circumglobally, nesting primarily on tropical sandy beaches. In the Atlantic Ocean, major leatherback rookeries are found in French Guiana and Suriname in South America, Trinidad in the southern Caribbean, and Gabon and Congo in Africa (Spotila *et al*. 1996; Eckert 2006; Thomé *et al*. 2007). Espírito Santo is the only state in Brazil where leatherbacks regularly nest (Thomé *et al*. 2007). Nesting occurs mainly on the beaches of Comboios and Povoação, where two stations of Projeto TAMAR are located. However, occasional nesting has been documented in the states of Rio Grande do Norte, Bahia, Rio de Janeiro, Santa Catarina and Rio Grande do Sul (Soto *et al*. 1997; Barata & Fabiano 2002). In 2004, one leatherback nest was also documented in the state of Piauí, northeastern Brazil (Loebmann *et al*. 2008), and since then, a few additional leatherback nests have been reported in the area (Silva *et al*. 2010)

On 5 December 2012 (i.e., 2012-2013 nesting season), a huge turtle track was found on Massarandupió beach (-37.84061°S and -12.33008°W), located in the city of Entre Rios, in the northern part of Bahia State, Brazil (Fig. 1). Except for the distinct track left in the sand, the nest was completely camouflaged.

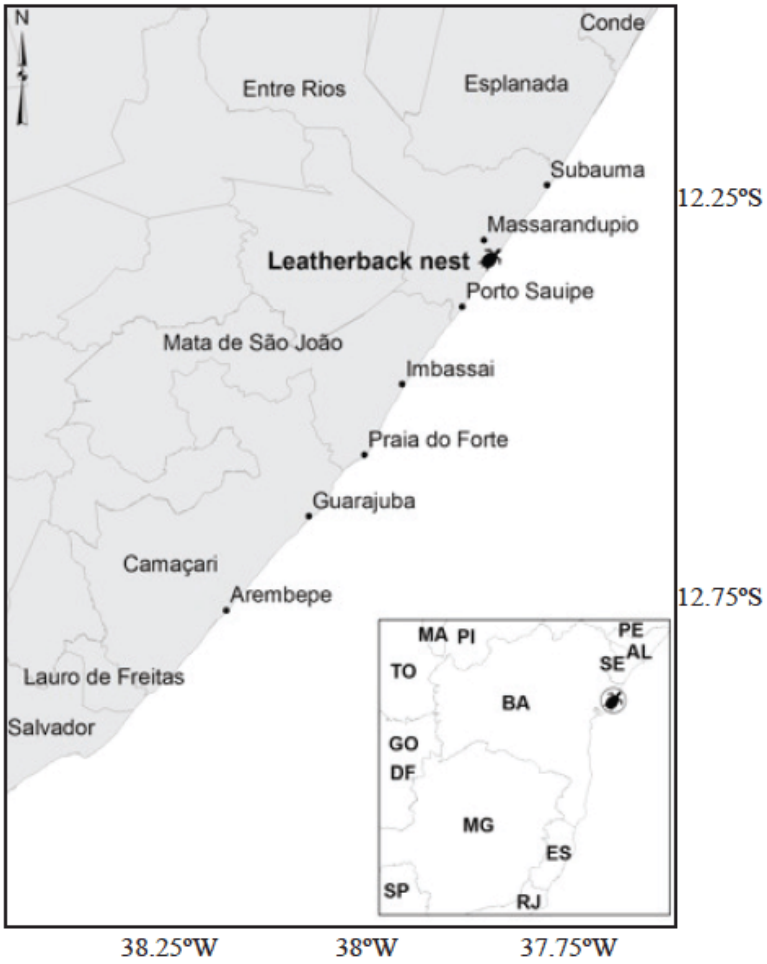

Figure 1. Location of the leatherback nest in Massarandupio, Bahia, Brazil.

The nest was left in situ and monitored closely until 31 January 2013, when evidence of hatchling emergence was observed. The nest was then excavated within 3 hours to confirm the species identification, to calculate hatching success and to release hatchlings that could not exit the egg chamber by themselves.

Clutch size was calculated as 78 yolked eggs, from which 49 were live hatchlings, two were dead hatchlings, 27 unhatched eggs and 18 yolkless eggs. Hatching success of yolked eggs was estimated to be 62.8%.

The northern coast of Bahia is the main nesting region for loggerheads (*Caretta caretta*) and is considered an important nesting area for hawksbills (*Eretmochelysimbricata*), olive ridleys (*Lepidochelys olivacea*) (Marcovaldi & Chaloupka 2007; Castilhos *et al*. 2011; Marcovaldi *et al*. 2011; Santos *et al*. 2011) and occasionally for green turtles (*Chelonia mydas*) (Almeida *et al*. 2011). However, the occurrence of leatherbacks nesting in Bahia is rare. The earliest known record was documented in the early 1990s, in the form of an unconfirmed report of leatherback hatchlings found in the city of Prado, in the southern part of the State (Barata & Fabiano 2002). Subsequently, no reports of leatherback nesting activity were observed in northern Bahia until the 2011-2012 nesting season, when one nest was localized but did not produce hatchlings, and two “false crawls” were documented in the region.

The degree of site fidelity among sea turtles is variable, and new rookeries may indeed be established by a few turtles that stray far from their natal rookery. This mechanism could be used to facilitate faster divergence of lineages (Bowen, 1992). In Brazil, sea turtles are known to have nested in greater numbers in the past (that is, before widespread exploitation) (Barata & Fabiano 2002); however, numbers have declined dramatically, especially for leatherbacks. The exact reason for occasional nests remain unknown, nevertheless analysis of historical data might help elucidate this matter.

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