

Is the Hawksbill Turtle, *Eretmochelys imbricata*, a Regular Nester on Rodrigues Island (Indian Ocean)?

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The volcanic Island of Rodrigues, with a surface area of 110 km², is part of the Mascarene Archipelago in western Indian Ocean, some 700 km east of Madagascar and 600 km from Mauritius. It is entirely surrounded by a fringing reef of about 200 km². In the north of the island, to the west of Anse aux Caves (approximately 19°40'10 S, 63°27'15 E), on the 30 January 2013 around 15:30 h, a cattle shepherd observed a marine turtle emerging from under some prickly acacia (*Accacia nilotica*) shrubs behind Jeantac Beach (Fig. 1). He called the owner (Mcgill Meunier) of a nearby motel who was familiar with the newly established marine turtle conservation project CARET (Comite Rodriguais d'Etudes et de Protection des Tortues marines).

Mr. Meunier rushed down to the beach to photograph the turtle just as it was departing toward the sea, and based on the photo, we identified it as an adult *Eretmochelys imbricata* (Fig. 2). Two excavations, 3 m apart, were discovered under the bushes about 12 to 15 m from the high water mark. Two of us searched unsuccessfully for the presence of eggs. Our guess is that the turtle was disturbed by the presence of the cattle and the shepherd, and it returned to the sea without nesting.

The hawksbill turtle is considered a solitary nester, with nesting observed in the whole of the Western Indian Ocean, particularly on the islands. Frazier (1975, 1982) noted that the nesting of this species on the African continent in Tanzania, Kenya, Somalia, as well as in the Comoros Archipelago, Mayotte and particularly

in the Seychelles. Since then, a small number of nests have been recorded on Zanzibar, Mozambique, the Scattered Islands (Grande Glorieuse, Juan de Nova) (Lauret-Stepler *et al.* 2010; Bourjea *et al.* 2011), Mauritius, and areas in the Red Sea, Arabian Sea and the Persian Gulf.

On the periphery of the Red Sea, nesting has been reported from Shedwan Island and from the Giftun Islands Group in the open sea off the coasts of Egypt (Frazier & Salas 1984; Hanafy & Sallam 2003), the Archipelago of Suakin in Sudan (Hirth & Abdel Latif 1980; Moore & Balzarotti 1977), Saudi Arabia in the Archipelago of Farasan in the Aquaba Gulf (Miller, 1989), the Kamaran Islands, Makran, Perim and Jabal Aziz in Yemen (Hirth & Carr 1970; Green 1996; Ross & Barwani 1982), and probably in Eritrea (Hillman & Gebremariam 1996). In the Arabian Sea and the Persian Gulf, *E. imbricata* nests on the Daymaniyat Islands (Salm *et al.* 1993), the Saudi's islets of Jana and Karan (Pilcher 1999; Al-Merghani *et al.* 2000). The species also nests also in Iran (Ross & Barwani 1982), particularly on Shidvar Island (Mobaraki 2004), but not on the continental part of Saudi Arabia. Further south, according to the survey carried out by Griffiths & Tatayah (2007), it is possible that *E. imbricata* nests on Agalega Island, a dependency of Mauritius.

In Madagascar, the over exploitation of the hawksbill turtles shells has drastically brought down the reproductive population since the 1930s (Hughes 1973). Greater numbers nest in South Africa and the Seychelles. The most remarkable reproductive population of the species in the entire Western Indian Ocean is in the Seychelles. Mortimer (1984) estimated the reproductive population



Figure 1. Jeantac beach on Rodrigues Island.



Figure 2. Hawksbill leaving Jeantac beach in January 2013.

to be between 1230 and 1740 females. The exploitation of the turtle shells and harpoon submarine hunting had brought the population to a serious decline since the 1960s (Mortimer 1998), until the legislation of 1994 forbade all captures and that conservation efforts help to increase the population (Mortimer 1995).

The hawksbill turtle was observed in Rodrigues on the beach of Jeantac at the end of January 2013. In Yemen, *E. imbricata* nest from October to December (Green 1996) and in November-December in the Comoros (Mortimer 1993), while the nesting season at Cousin Island stretches from October to the end of January during the peak annual rainfall (Mortimer & Bresson 1999). Therefore, nesting by hawksbills in January on Rodrigues Island is obviously plausible.

On Rodrigues Island, the presence of marine turtles had been noted since Pingre (1761 in Hoarau *et al.* 2004). Marragon (1795) confirmed that "Le Caret se montre parfois: sa chair n'est pas aussi bonne que celle de la tortue [de mer (*C. mydas*)], mais l'écaille en est belle." (The hawksbills shows itself sometimes: its flesh is not as delicious as that of the turtle [green turtle (*C. mydas*)], but its shell is beautiful.). This information was mentioned without any more details by Dupon (1969). Only the writing of Cheke (1987) gives an indication of potential nesting of *E. imbricata*: "Both green turtles and hawksbills still come ashore at Rodrigues, juveniles of the latter in sufficient numbers that each time the Mauritius [a boat] leaves the island there are five or six stuffed ones brought on board as souvenirs (pers. obs. 1974)."

The professional divers of the diving clubs of Rodrigues Island report observations of hawksbill of various sizes in the madrepoes (among coral reefs) around Rodrigues. An exercise of identifying the individual turtles by their scute patterns on their heads has started. Furthermore, CARET has undertaken a campaign among the Rodriguans (public, fishers, and school children) to raise awareness of the conservation status of hawksbills and other sea turtles, and to fight against poaching.

All the beaches considered favorable for nesting by marine turtles, on the main island and the satellite islands, were identified and visited in 2011 and 2012. A regular follow-up of certain beaches is going to be made by CARET. Cheke & Hume (2008) wrote: "Both turtles would undoubtedly recolonise Rodrigues if hunting was successfully controlled." We hope that with the current conservation project, their prediction will come true.

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