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Marine Turtle Nesting in Eastern French Guiana

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INTRODUCTION

Three species of sea turtles can frequently be observed on the shores of French Guiana: the leatherback turtle (*Dermochelys coriacea*), the olive ridley (*Lepidochelys olivacea*), the green turtle (*Chelonia mydas*). Two others can also be seen, though more infrequently: the hawksbill (*Eretmochelys imbricata*) and the loggerhead (*Caretta caretta*) (Pritchard, 1969; Fretey and Lescure, 1998). For more than twenty years, the western part of French Guiana has had a conservation program for sea turtles (Fretey and Lescure, 1998).

The Hattes beach, situated in the Amerindian village of Awala-Yalimapo is now considered as the last important nesting site for leatherbacks, in spite of a significant decrease during the last few years. In 1998, 7,800 nestings were counted, which was the smallest number since the beginning of site monitoring (Chevalier and Girondot, 1999). These results most probably mean a decline in the populations but could also be at least partly the result of recent shifts of sea turtle populations on the Guyanese coast, especially towards the east (i.e., the Island of Cayenne and Kourou).

To confirm this hypothesis, a conservation program has been set up in the eastern part of the region, which is primarily aimed at the identification of the species present there, and of the main nesting sites as well as the number of nestings and their development during the year.

Moreover as the greatest number of people live near

Cayenne or Kourou, in the vicinity of nesting sites, we have made an awareness campaign one of our priorities.

METHODS

The monitoring of the sea turtle populations that nest on the eastern shores of Guiana has been done by counting the turtle tracks from 2 December 1998 to 20 January 2000.

Study Sites

In June 1999 a low flight over the whole coast confirmed that the only beaches in French Guiana were West of Organabo, towards Surinam and, in the East, close to Cayenne and Kourou (Fig. 1).

RESULTS

Four species of sea turtles nested on the eastern beaches, totalling about 2,000 nestings (Fig. 2).

Two peak nesting seasons have been observed for the leatherback, a main one from May to July and a small one in December and January. The second species which nests in eastern Guiana is the olive ridley which comes from May to August (Fig. 3).

We also counted deaths: six leatherbacks, eight olive ridley, two green turtles and one hawksbill, due to poaching, nests and dogs. Fifteen leatherbacks trapped in nests were set free.

DISCUSSION*Bimodal Nesting Season for Leatherback Turtles in French Guiana*

In the 1980s the world population of leatherbacks was estimated at 115,000 adult females then at 34,500 only in the middle of the 90s. Nowadays, the female population nesting in the Guyanas makes up, on its own, more than half the world population (Spotila *et al.*, 1996). A one year's study of the eastern part of Guiana allows us to show that the nesting sites in the Island of Cayenne and Kourou have totalled 1,350 leatherback nestings, which ranks them among the major nesting sites for this species in the Guyanas. This study also shows that there exist two different leatherback nesting seasons. A similar phenomenon can also be observed in the West of Guiana and seems to extend to the whole of the Guyana shield.

The leatherbacks frequenting the northern hemisphere beaches usually nest in May-June in the Guyanas and South East Asia. In the southern hemisphere, the nesting sites are frequented in December-January on the shores of Brazil, Gabon and South Africa (Eckert *et al.*, 1989). These two yearly periods coincide with the two nesting seasons observed in the Guyanas, we can therefore wonder if the leatherback nesting during the main and small nesting seasons belong to two different populations (Chevalier *et al.*, 2000).

A genetic study, marking with Passive Integrated Transponder tags and the implementation of a monitoring program with the help of satellite telemetry (Argos) could supply some answers. In addition to that, prospecting North Brazil beaches and especially the Marajo Island would help to widen our knowledge about possible shifts in populations between the two countries.

Olive Ridley Turtles

In the last fifteen years or so the number of olive ridley turtles in the Guiana-Surinam area has been sharply declining (Reichart and Fretey, 1993). This phenomenon has been noticed in Brazil too (M.H. Godfrey, personal observations). On the other hand this year, sparse nestings have been seen in western Guiana and Surinam. Otherwise, 1999 has been confirming the facts that eastern Guiana beaches are nowadays the major olive ridley nesting site on the whole of the west Atlantic side (Pritchard and Reichard, personal communications).

INTERACTIONS WITH HUMAN*Population*

Poaching on eastern beaches has been consistently noted. In French Guiana, sea turtles are fully protected and digging their eggs is a criminal offence. Dogs also cause a lot of damage: daily destruction of nests and bodily harm causing the death of several olive ridley turtles.

The nests cast along the coasts by holiday fishermen are also the cause of serious problems; they are prohibited along the shores of French Guiana (prefectorial order 21 July 1984). This problem of fishing is most certainly the main cause of death for reproductive animals. It doesn't only affect sea turtles. Many dolphins (*Sotalia fluviatilis*) have been found dead with net marks on their bodies (G. Talvy, personal observations).

Most nesting beaches are situated in an urban environment. The large numbers of people frequenting them and the activities which take place are likely to affect the population of sea turtles. On the other hand, the easy access to the sites is very much a reason for organising activities (such as school outings) and trying to make people contribute to the conservation of these species. It is also a reason to set up eco-tourism.

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Fig. 1. Map of French Guiana showing Cayenne and Kourou beaches.



Fig. 2. Number of nestings (classified by species) on the western beaches of Guiana.

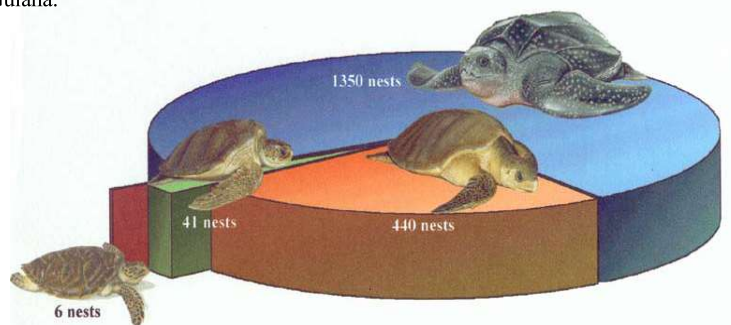


Fig. 3. Development of the number of nestings on the eastern beaches of Guiana from 07/12/1998 up to 20/01/2000 (counting on Kourou beaches only started on 01/03/1999).

