

Nesting of the Leatherback Turtle on Grande Anse Beach, St. Lucia — A Preliminary Look

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ABSTRACT

Se estudiaron los hábitos de anidamiento de la tortuga baula *Dermochelys coriacea*. Los resultados fueron obtenidos mediante observaciones en la Playa Grand Anse, de Santa Lucia, realizados una vez por semana, durante el 1986, en la época de anidamiento. Los resultados sugieren una diferencia en la frecuencia de anidamiento cuando esta se relaciona con la marea. Los patrones de anidamiento estudiados sugieren un ciclo de diez días en el anidamiento. Al comparar datos del 1985, se encontró que el período de mayor auge en anidamiento es entre mayo y junio. El anidamiento ocurre entre las 21:00 horas y las 3:00. Los datos no permitieron estimar definitivamente la población anidando, pero los mismos indican que por lo menos 12 tortugas baula anidan en la Playa Grand Anse. Se necesita realizar más estudios continuos para poder dar seguimiento durante la noche a los anidamientos durante la estación correspondiente.

INTRODUCTION

The turtle fishery of St. Lucia, W.I., is on the decline and has been for some years now. Bearing in mind the worldwide concern for turtles in general (Ross, 1982), the Fisheries Management Unit of the Ministry of Agriculture, Lands, Fisheries and Co-operatives (F.M.U.), has not encouraged its further development. On the contrary, the Unit has centred its efforts on the conservation of all species of marine sea turtles.

Beach surveys over the past four years have identified Grande Anse Beach as a major turtle nesting beach; in fact it was determined rather early (Murray, 1984) that the main nester on the beach was the leatherback turtle. In light of that, the Unit initiated studies to determine the magnitude of the nesting population. To facilitate this, the Unit began a series of "beach patrols" on Grande Anse which escalated to "night watches" on a regular basis, to the extent that the duties of the officers responsible would allow.

Noting the need for more regular monitoring of the beach (Pritchard *et al*, 1983), the Unit solicited the assistance of the St. Lucia Naturalists Society. The objective of the program was to attempt, by weekly night watches and by tagging and recapture methods, to assess the nesting population on the beach, as well as to ascertain whether or not other sea turtle species nested on that beach.

METHODS

Teams of naturalists and F.M.U. staff traveled to the beach on Saturday evenings, set up camp, and conducted an initial "walk" of the beach while there was still light to determine, by looking for tracks and other signs of nesting activity, whether any nesting activity had taken place since the last "turtle watch." Any signs observed at that time are noted and a visual estimate made of the age of the track or nest.

After this initial activity, the shifts were organized with a view to commencing watch activity at 21:00 hours. Depending on the number present,

no less than two shifts were organized; it was the responsibility of the shift to patrol the beach (1600 m long), such that one length would be covered every half-hour if no nestings were sighted.

In the event that a turtle was sighted moving on to the beach to nest, or in the act of nesting, watchers allowed it to begin digging the egg pit before approaching it closely. Once the digging process has begun, the carapace length and width were measured, distinguishing marks noted, and the turtle tagged on the trailing edge of both front flippers between the proximal end of the flipper and the elbow joint. Data were recorded on a prepared form and kept for later analysis.

The nesting patterns that would result from nine, ten, and eleven day cycles were compared with actual observations. The pattern which best fitted the collected data was determined as being our preliminary conclusion of the nesting pattern.

An attempt was made to correlate the number of turtles sighted with the nature of the tide (high, low, or in between). Nesting frequencies (observed from actual sightings) were plotted on a scale from -6 (six hours before) to +6 hours (six hours after) high tide. A similar relationship was considered for time of night between 6 p.m. and 6 a.m.

RESULTS

The best fit for sightings was achieved using a ten day cycle as the assumed base, suggesting that this is the existing seasonal nesting cycle for the species. Most nestings were found between -2 and +3 hours from high tide (Figure 1 a.). All nestings sighted during 1985 and 1986 were between 21:30 hrs and 02:29 hrs, with peak nesting frequency between 23:30 hrs and 24:29 hrs Figure 1 b.).

At least 12 turtles were estimated (using the data available) as having nested on the beach (on the basis of the ten day cycle), though it appears that the figure may be as high as 28, with nesting taking place primarily between mid-May and mid-June.

DISCUSSION AND CONCLUSION

Perhaps the major shortcoming of this study was the lack of sufficient data to determine a definitive pattern of events with regard to the nesting of *Dermochelys coriacea* on Grande Anse beach. It was felt though, that in the absence of sufficient funds, this study had from the onset, to be considered as being preliminary in nature. The conclusions serve as a starting point for further study wherein continual (nightly) data collection could take place throughout the entire nesting season, as well as establishing a permanent station to monitor other species that nest on Grande Anse beach.

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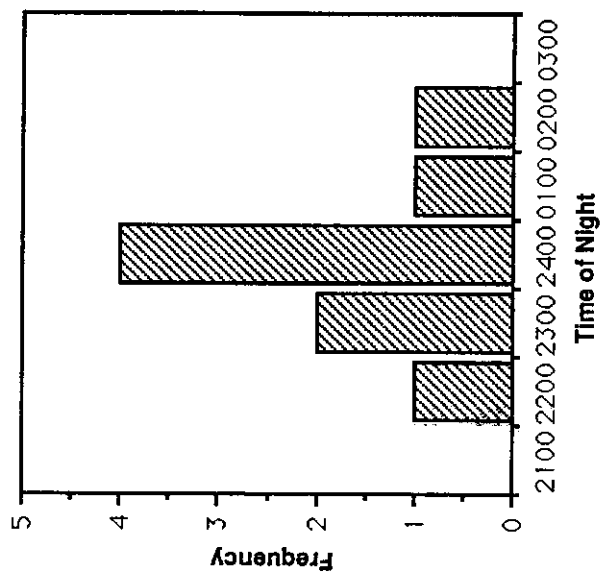


Figure 1b. Distribution of *Dermochelys coriacea* — nestings in relation to time.

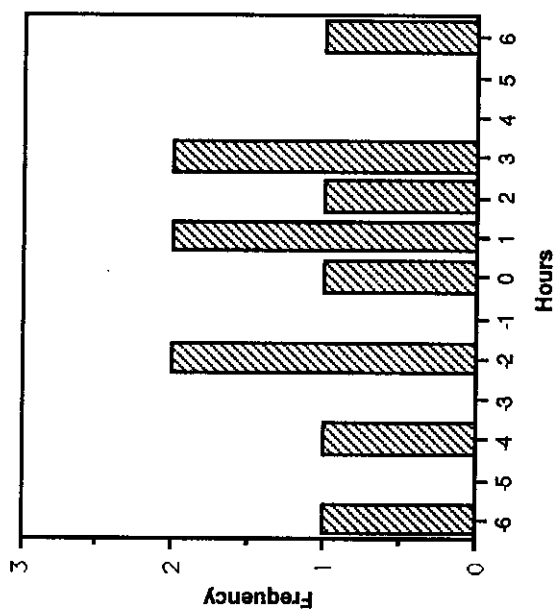


Figure 1a. Distribution of *Dermochelys coriacea* — nestings in relation to high tide.

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