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THE SIZE OF THE LOGGERHEAD NESTING FEMALES IN THE CAPE VERDE ISLANDS

Lluís Ballell-Valls and LuisFelipe López-Jurado

Departamento de Biología, Facultad de Ciencias del Mar Universidad de Las Palmas de Gran Canaria, 35017 Las Palmas, Canary Islands, Spain

INTRODUCTION

The recently discovered nesting colony of *Caretta caretta* at the island of Boavista (Cape Verde Islands, West Africa, FIGURE 1) is being subject of research since 1998. A total number of 1,391 different females have been tagged during the 1998, 1999 and 2000 nesting seasons. Although more data are needed, these islands may represent one of the most important populations for the species in the North Atlantic (Brongersma, 1982; Ross, 1995; López-Jurado & Andreu, 1998).

The present study shows a comparative analysis between the morphometric data collected at Boavista during the last 2000 nesting season and those recorded in the 1998 and 1999 seasons. These data have also been contrasted with those from other loggerhead nesting populations around the world for possible differences.

MATERIAL AND METHODS

During the 2000 nesting season, night surveys were conducted along 17 km of beaches on the southeastern coast of Boavista searching for nesting loggerheads. Once the egg-laying process concluded, the females were tagged and their body measurements were taken before release. The morphometric data (in cm) presented in this study are as follows: curved carapace length (CCL), curved carapace width (CCW), straight carapace length (SCL), straight carapace width (SCW), pileus length (PL), and pileus width (PW). A few turtles were also weighed (W).

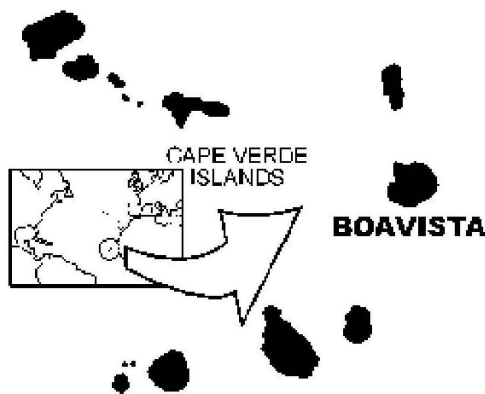
RESULTS

Morphometric and weight data of female loggerheads from Boavista are shown on TABLE I and TABLE II presents body size (curve and straight carapace length) from other nesting loggerhead populations of the world.

The global number of females emerging from the sea recorded in the 2000 season was 1,487. Although the number of emergences in the 1998 and the 1999 seasons was lower (143 and 998 emergences respectively).

The size of the female loggerheads at Boavista does not seem to vary as nesting season progresses and there is not a significant correlation between the curve carapace length and the time of the season either (ANOVA: $F_{1,941}=1.348$, $r^2=0.001$, $p=0.24$, FIGURE 2).

Figure 1. Map showing Cape Verde Islands, and the position of Boavista.



DISCUSSION

As we can see in TABLE I, nesting females at Boavista are relatively small. Only some loggerhead colonies in the eastern Mediterranean, such as in Turkey (Erk'akan, 1993), Cyprus (Broderick & Godley, 1996), and Greece (Margaritoulis, 1982), show a similar or smaller body size (TABLE II). In fact, this population has the smallest mean body size of the Atlantic.

The potential effect of an historical high level of human depredation on the size of nesting loggerheads at Boavista could be one of the possible explanations. Nonetheless, there are not still enough data to support this hypothesis. Otherwise, we may not discard that, the relative small body size in Mediterranean Sea and its high fisheries

incidence in *C. Caretta*, may has a parallelism with the situation in Cape Verde islands, where for at least 500 years human predation of this species (due to its meat) was so high. On the other hand, as mentioned before, female body size does not decrease as nesting season progresses. Some authors reported that larger females nest earlier in the season (Ehrhart & Witherington, 1987), but this fact has not been proved in our study.

Figure 2. Mean body size of loggerhead nesting females along the 2000 season.

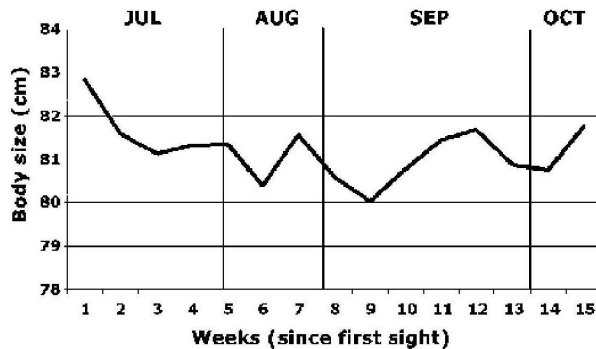


Table 1. Morphometric and weight data of loggerhead nesting females at boavista.

		CCL (cm)	SCL (cm)	Source
Florida (USA)	Mean (cm)	98.9	93.9	Witherington (1986)
	Range	87.9-108.9	82.5-104.4	
	N	119	114	
South Carolina (USA)	Mean (cm)		92.7	Caldwell (1959)
	Range		84.5-102.9	
	N		18	
Masirah Island (Oman)	Mean (cm)		92	Ross (1979)
	Range		79.0-101.0	
	N		—	
Australia (Queensland)	Mean (cm)	95.8		Limpus (1985)
	Range	80.0-113.5		
	N	2,207		
Tongaland (South Africa)	Mean (cm)	93.7	87.5	Hughes (1975)
	Range	82.0-108.5	78.0-98.0	
	N	254	320	
Colombia	Mean (cm)		87.9	Kaufmann (1975)
	Range		70.0-100.0	
	N		78	
Natal (South Africa)	Mean (cm)	84.7	79.2	Hughes (1974)
	Range	71.0-94.0	65.1-97.1	
	N	23	23	
Boavista (Cabo Verde)	Mean (cm)	81.1	75.8	
	Range	70.0-104.0	60.2-96.5	
	N	840	833	
Zakynthos (Greece)	Mean (cm)	80.4		Margantoulis (1982)
	Range	68.5-95.0		
	N	27		
Dalyan Beach (Turkey)	Mean (cm)		73.1	Erk'akan (1993)
	Range		60.2-93.9	
	N		49	
Northern Cyprus	Mean (cm)	73.4		Broderick (1996)
	Range	65.0-96.5		
	N	78		

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Table 2. Mean, range, and sample size (N), of CCL and SCL of some populations of the world, including Boavista (in bold).

	CCL (cm)	CCW (cm)	SCL (cm)	SCW (cm)	PL (cm)	PW (cm)
Mean	81.1	76.6	75.8	60.9	17.7	15.4
SD	3.94	4.07	3.80	4.22	1.22	1.22
Range	70.0-104.0	57.0-96.0	60.2-96.5	49.5-91.5	14.0-26.0	13.0-22.0
N	940	938	933	933	943	947

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