

# Geometric morphometrics, scute patterns and biometrics of loggerhead turtles (*Caretta caretta*) in the central Mediterranean

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## Supplementary Material

**Table S1.** Frequency of loggerhead turtles with different patterns of marginal scutes in the central Mediterranean.

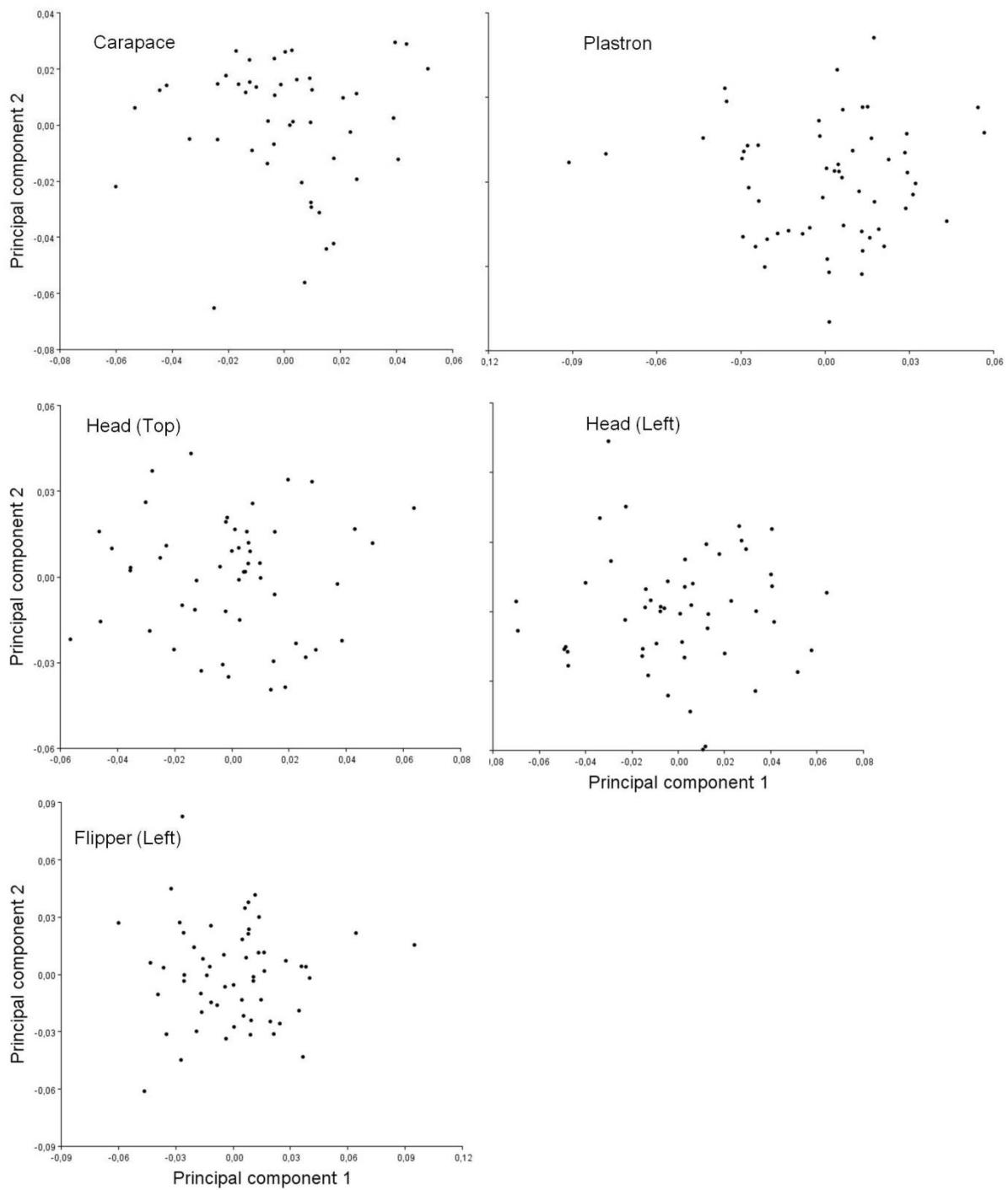
Left	Right					Tot
	10	11	12	13	14	
10			1			1
11		5	4	2		11
12	2	7	349	128	1	487
13		1	165	807	11	984
14				10	4	14
tot	2	13	519	947	16	1497

**Table S2.** Frequency of loggerhead turtles with different numbers of prefrontal scales in the central Mediterranean.

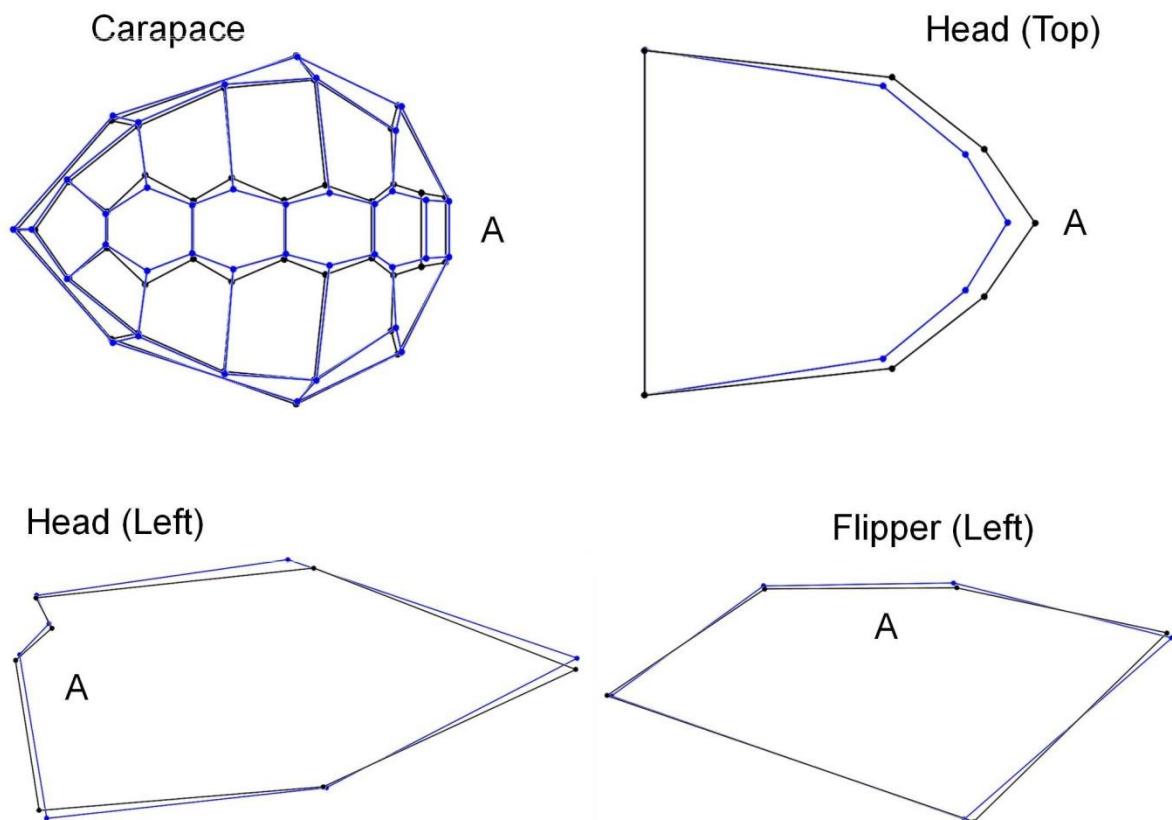
N Prefrontals	N Turtles
3	5
4	581
5	495
6	304
7	84
8	25
9	2
10	1
Total	1497

**Table S3.** Results of pair-wise comparisons (Fisher exact test, with Holm's correction for multiple comparisons) of marginal scute patterns of loggerhead turtles in different Mediterranean areas (see table 4). Only pairs with significant difference are shown.

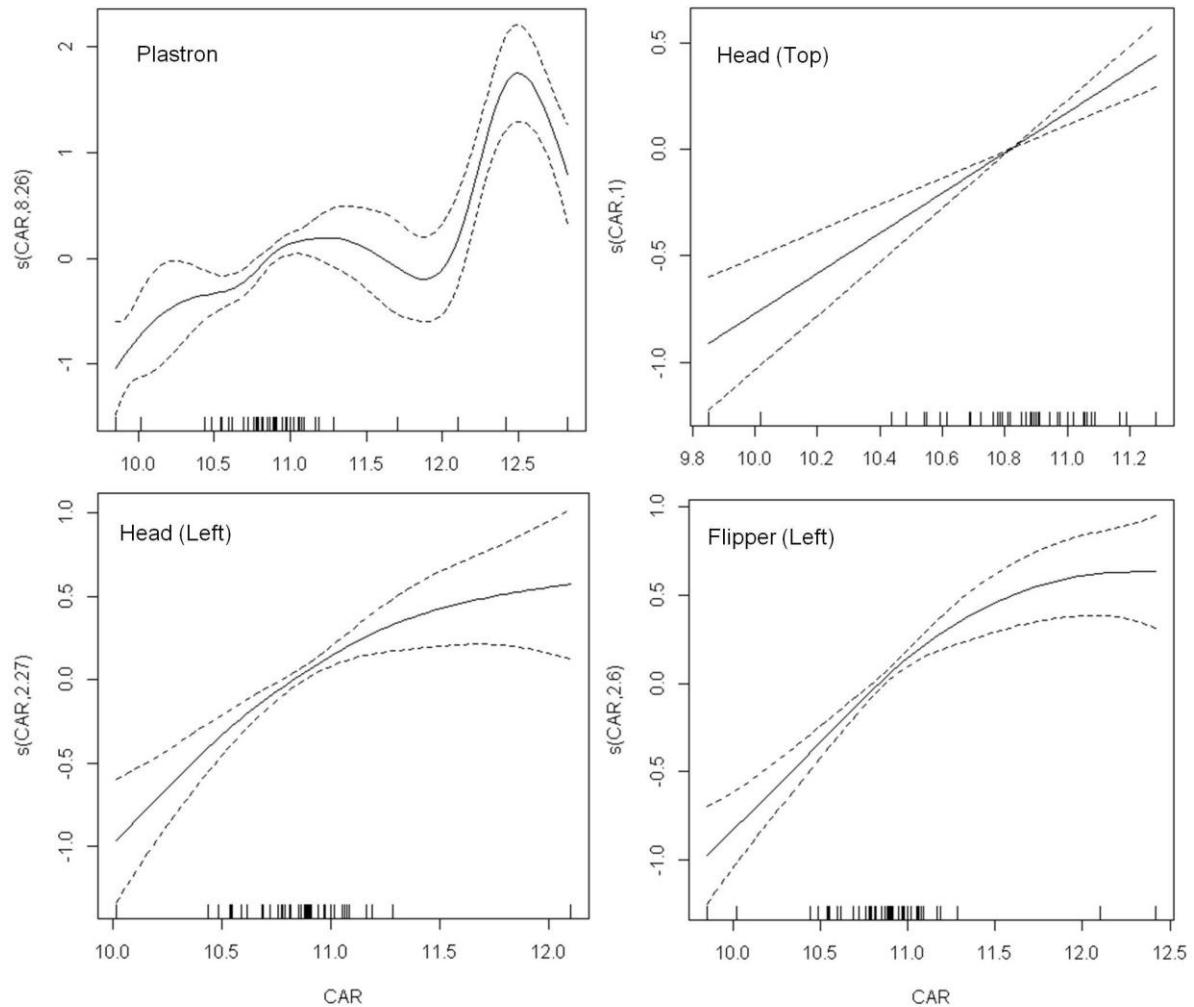
		Juveniles + Adults		Adults		Hatchlings					
		Central Mediterranean	France	Zakynthos	Kizilot+ Fethiye	Kizilot	Belek	Fethiye	Karpaz	Dalyan	Dalyan
		1	2	3	4	8	9	10	11	12	13
Juveniles + Adults	France	2	p<0.01								
Adults	Zakynthos	3	p<0.05								
Adults	Dalyan	7			p<0.01						
Hatchlings	Kizilot	8	p<0.01	p<0.01	p<0.01						
Hatchlings	Belek	9		p<0.01	p<0.05		p<0.01				
Hatchlings	Fethiye	10	p<0.05	p<0.01		p<0.05	p<0.01	p<0.05			
Hatchlings	Karpaz	11	p<0.05	p<0.01	p<0.01				p<0.01		
Hatchlings	Dalyan	12	p<0.01	p<0.01	p<0.01	p<0.05	p<0.01	p<0.01	p<0.01		
Hatchlings	Dalyan	13	p<0.01	p<0.01	p<0.01		p<0.01	p<0.05	p<0.01		
Hatchlings	Alata	14	p<0.01			p<0.01	p<0.01		p<0.01	p<0.01	p<0.01



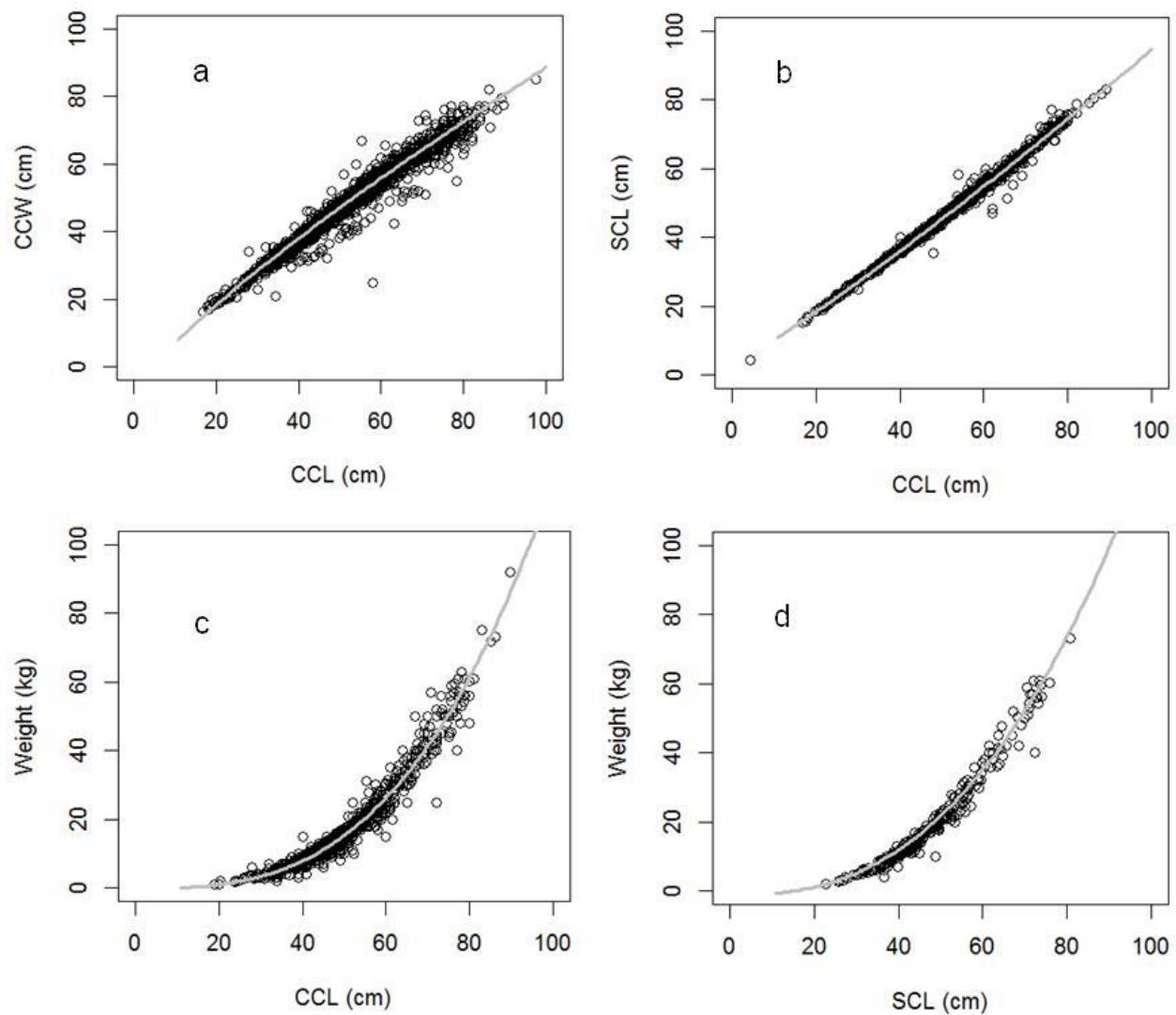
**Figure S1.** Variability in the first two principal components of the shape of five body parts of Mediterranean loggerhead turtles. See table 1 for PC values.



**Figure S2.** Shape variation of four body parts between small (<40 cm SCL; black wireframes) and large (>50 cm SCL; blue wireframes) loggerhead turtles in the Mediterranean. Only body parts with a significant allometric component are shown. Wireframes represent average shapes. The anterior part of the body is indicated by the letter A. See figs 1 and 2 for landmark positions.



**Figure S3.** Generalized additive model (GAM) derived effects of the predictor CAR (centroid size of carapace) on the centroid size of plastron, flipper and top and lateral side of the head of loggerhead sea turtles in the Mediterranean. The y-axis is the normalized effect of the variable; rugplot on the x-axis represents the observations; dashed lines represent  $\pm 2$  SE.



**Figure S4.** Relationships between pairs of five biometrical measures of loggerhead turtles in the central Mediterranean. The grey curves represent the fittest functions, which are given in table 3.