



United Nations
Environment Programme



Mediterranean Action Plan
Barcelona Convention



SPA / RAC

*The Mediterranean
Biodiversity
Centre*



Republic of Lebanon
Ministry of Environment

National Training Session on monitoring techniques of marine turtles

Tyre Nature Coast reserve (Lebanon) , 3-7 July 2018

Measurements, tagging, satellite telemetry of Sea turtles

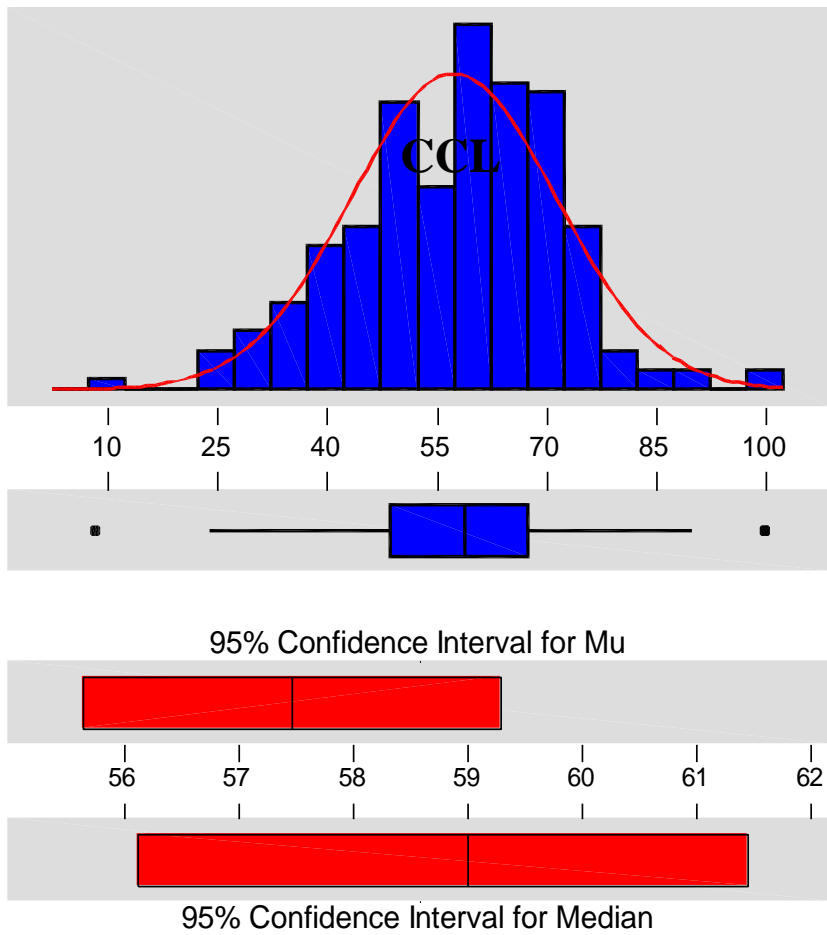
Measurements of Sea Turtles



Sea Turtles are measured to accomplish a number of objectives: on nesting beaches to relate body size to reproductive output, to determine minimum size at sexual maturity, and to monitor nesting female size for a particular rookery

The size frequency of a population is an important parameter of that population's demographic structure.

Descriptive Statistics



Variable: CCL death

Anderson-Darling Normality Test

A-Squared: 0,947
P-Value: 0,016

Mean 57,4649
StDev 14,0497
Variance 197,394
Skewness -2,2E-01
Kurtosis 0,447525
N 231

Minimum 8,400
1st Quartile 48,800
Median 59,000
3rd Quartile 67,500
Maximum 100,000

95% Confidence Interval for Mu

55,644 59,286

95% Confidence Interval for Sigma

12,875 15,463

95% Confidence Interval for Median

56,118 61,441

Sea Turtles are measured on foraging grounds to determine frequency of size classes of turtles

Linear measurements can either be taken with calipers (straight line measurements) or with a flexible tape measure (curved measurements).

The standard measurements are:

Carapace length – carapace width, tail length , head width, and plastron length. For many studies carapace length may be the only measurement needed.

Curved carapace length notch to tip is measured from the anterior point at midline (nuchal scute) to the posterior tip of the supra caudal.

Carapace width is measured at widest point.

Tail length (TTL) is the distance from the midline of posterior margin of the plastron to the end of the tail following the curvature of the tail

Post-cloacal tail length (PTL) is the distance from mid-cloacal opening to the end of the tail following the curvature of the tail

The most common measure is with flexible tap the **CCL**



Measurements



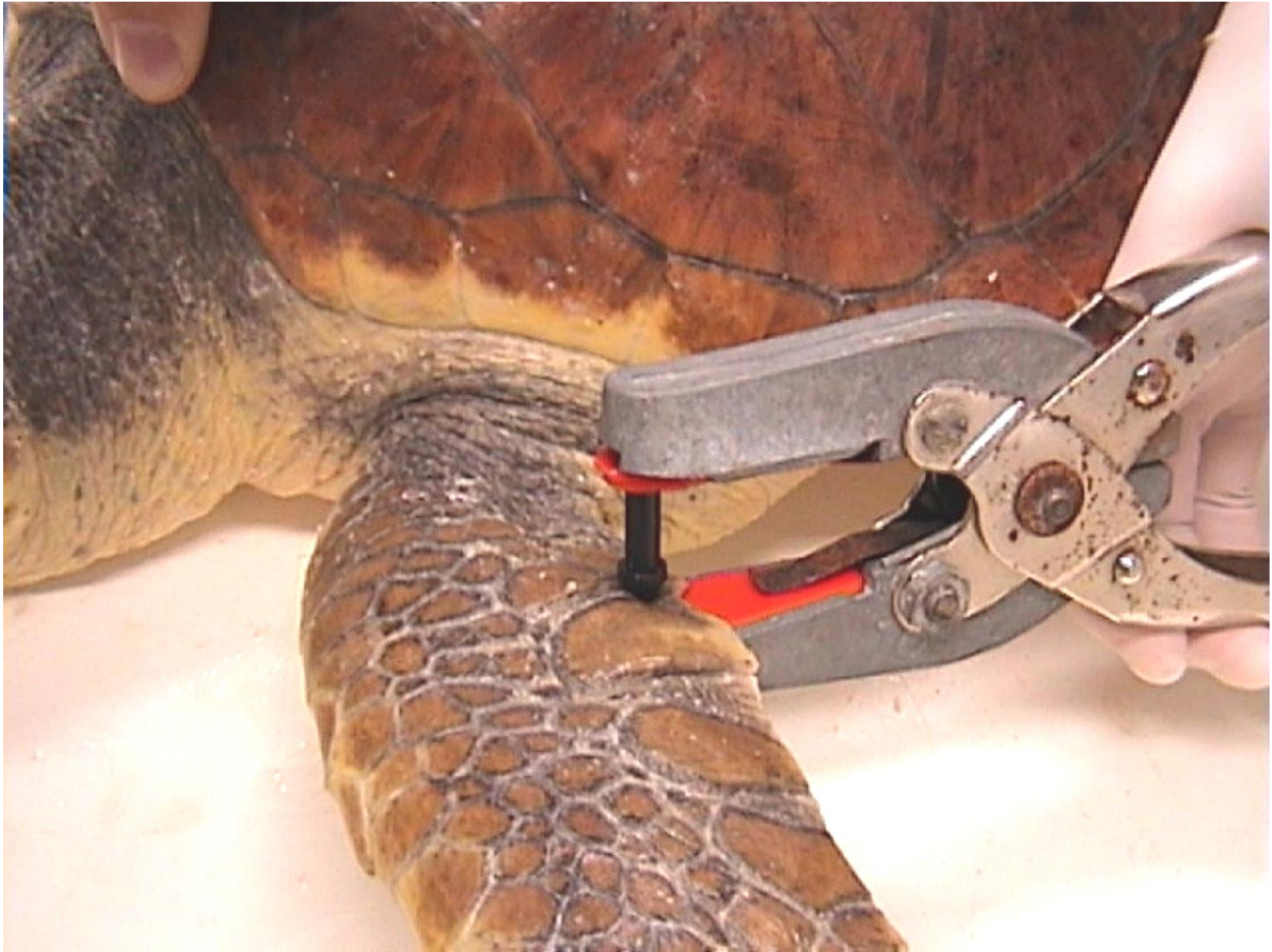
(CCW) Curved Carapace width

Tagging

Tagging should be undertaken just after the turtle has finished laying and covered the eggs . Tags should be attached to the soft, thin part of the fore flippers. Tags are put into place by special applicator



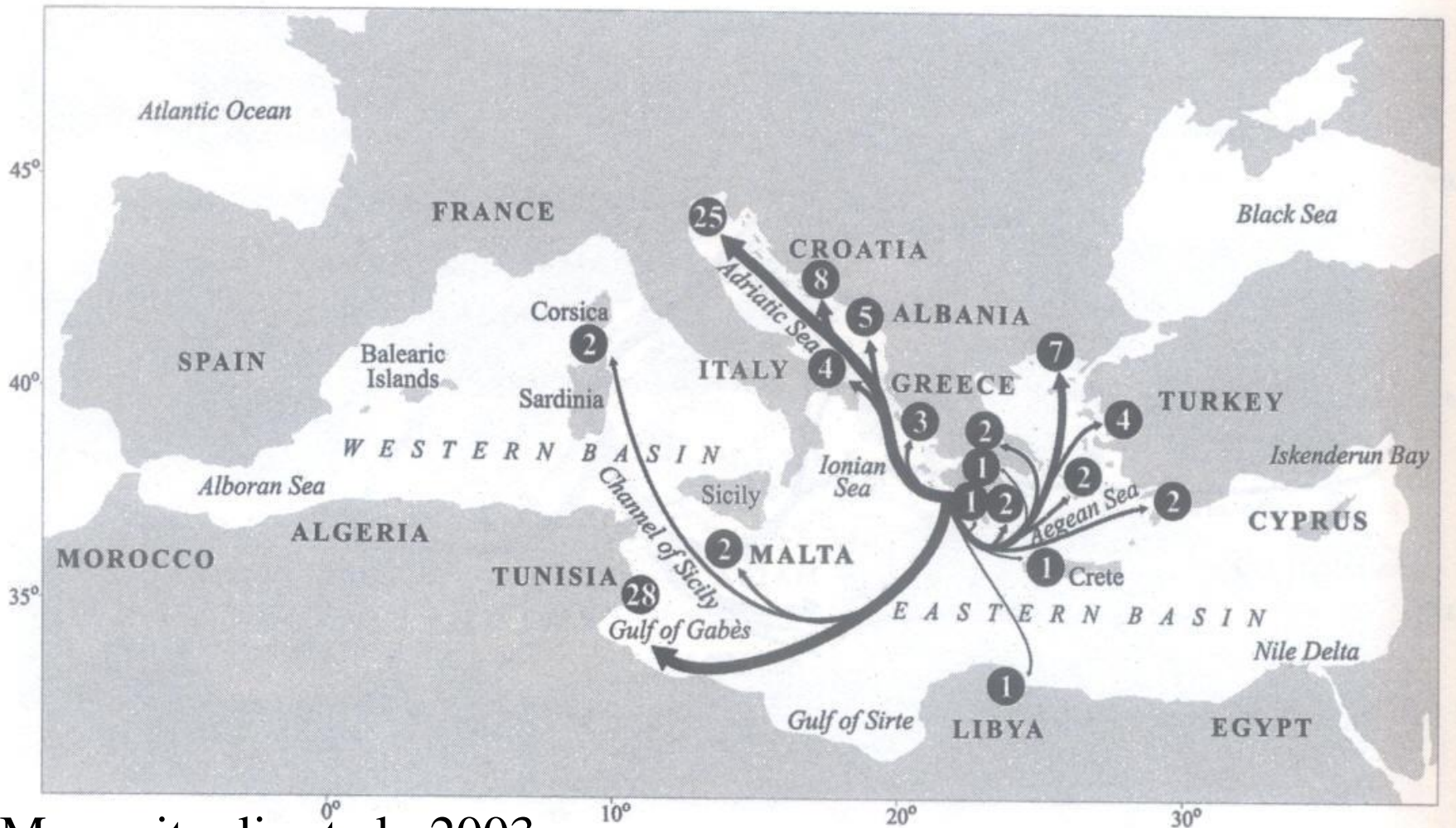
Tags are put into place by special applicator



Tagging

- On the tags must be written the identification number of the turtle and the address and phone number of the organization who marked the turtle

Through the tags you can follow the movements of Sea Turtles



Margaritoulis et al., 2003

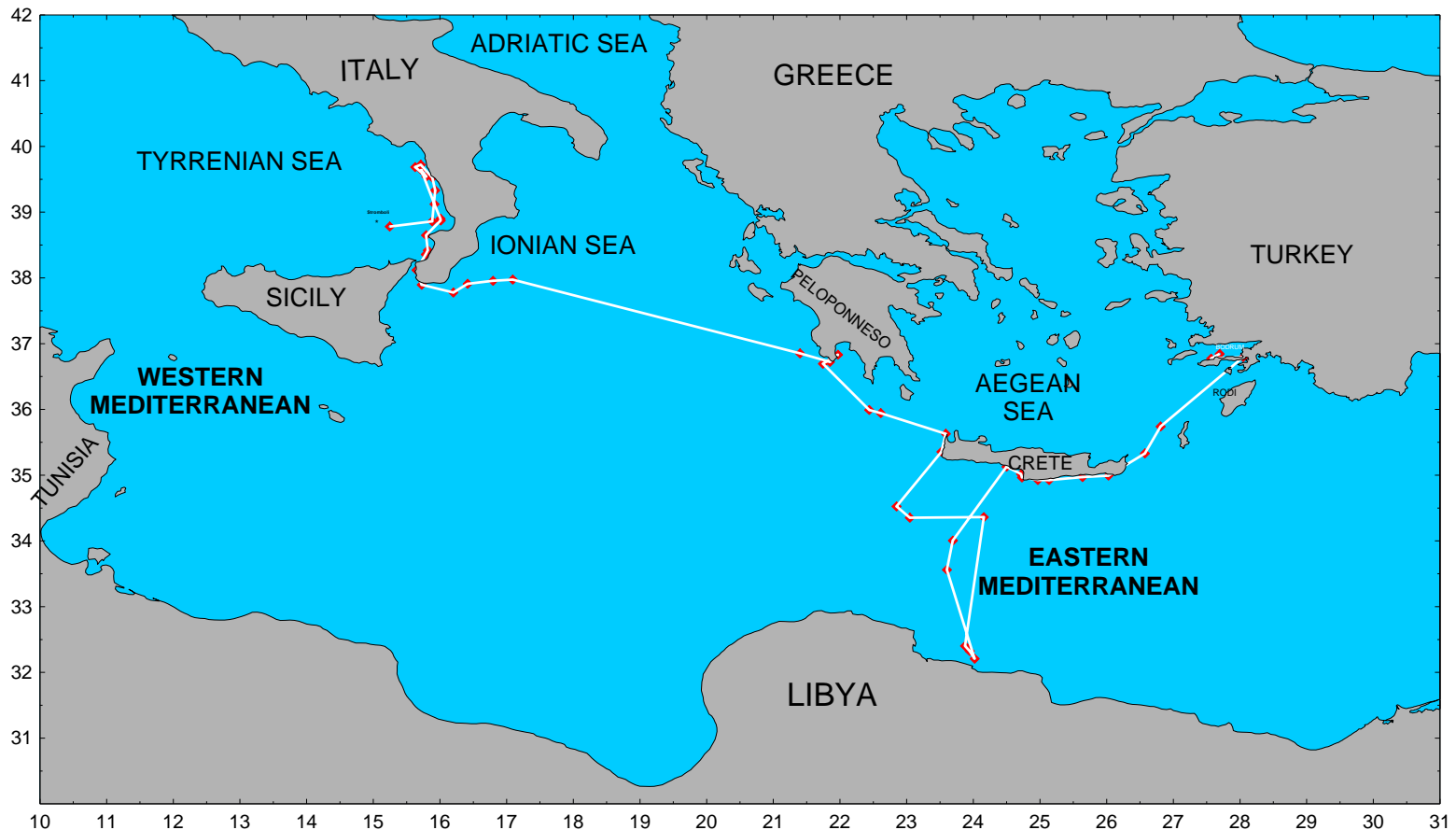
Satellite tracking



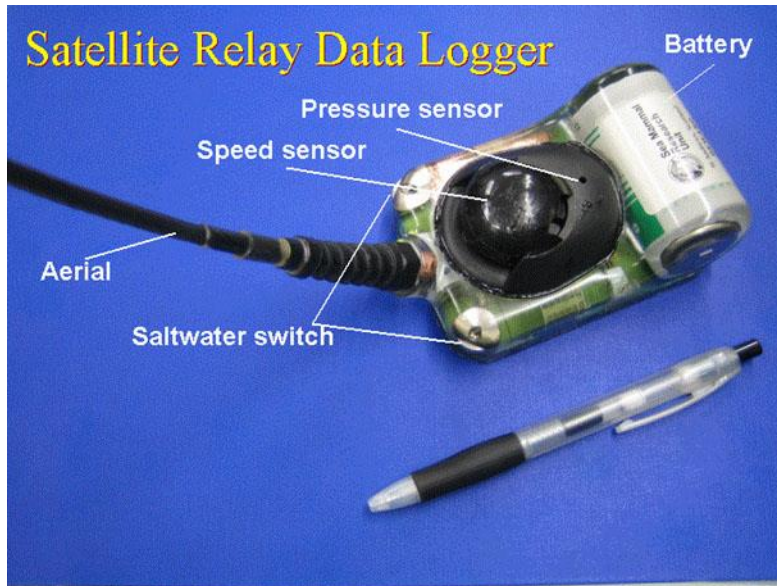
Satellite tracking of rehabilitated turtles

1996: first migration route obtained from a successfully rehabilitated sea turtle with a satellite transmitter

Total number of satellite tracked turtles: 27



Satellite transmitters





The transmitter is attached to the turtle with epoxy resin, after the carapace has been cleansed of grease and debris with acetone

- The turtles are localized through the Argos satellite system

