ANATOMY OF SEA TURTLES

Jeanette Wyneken, PhD
Florida Atlantic University
**External Parts, Key Characteristics**

**Fig. 4.** Scutes of the carapace.

**Fig. 5.** Scutes of the plastron and bridge.
Key Characteristics
Species Identification

From D.R. Mader 2005 Reptile Medicine and Surgery, 2nd Ed.
Sea Turtle Species of the World

Hawksbill Turtle

Green Turtle

Loggerhead Turtle

Flatback Turtle

Leatherback Turtle

Photo: Matthew Godfrey
Sea Turtle Species of the World

Green Turtle
Loggerhead Turtle
Hawksbill Turtle
Flatback Turtle
Leatherback Turtle

Photo: Matthew Godfrey
Characteristics – ridley
Characteristics - ridley

- Identified by having more than 5 costal scutes
Characteristics - ridley

- Distinct Infra-marginal pores which lead to Rathke’s
- Similar glands in freshwater turtles produces scent
The Shell & Skeleton
The Shell & Skeleton
How to take a turtle apart
Who, What, Where, When
Inside the Carapace

Inside the Plastron
Inside and Internal Landmarks
Inside and Internal Landmarks
Basic Gastrointestinal Anatomy

Alimentary Canal: esophagus, stomach, intestines & cloaca
Oral Cavity (Buccal Cavity)

Mouth: Prey capture and transport, also display.

Teeth: No!

Rhamphotheca or beak: cutting & crushing, also aggression & defense

Tongue: Taste food manipulation
Rhamphotheca (or beak) varieties:
• Cusped, thick & crushing,
• Serrated and clipping,
• Thin and slicing
• Species-specific
Minimally mobile tongue compared with tortoises
Basic Anatomy

Oral Cavity

Large Intestine

Small Intestine

Rectum

Stomach

Cloaca

Alimentary Canal: esophagus, stomach, intestines & cloaca
Esophagus - tube to the stomach
Esophagus - tube to the stomach
Esophagus

- Esophagus is similar in most sea turtles; muscular wall with papillae lining lumen.
Intestines and glands
GI Diversity in Sea Turtles
Cloacal Anatomy

- Rectal sphincter
- Urinary & Gonadal papillae
- Neck of Urinary Bladder
- Sulcus spermaticus

P  U  C  R

Legend:
- P: Proximal
- U: Urinary
- C: Cloacal
- R: Rectal
Gonadal Systems

Immature Ovary

Ovary

Testis
Gonadal Systems

- Immature Ovary
- Maturing Ovary & Oviduct w/ eggs
- Testis
Lungs & Heart

Lung Longitudinal Section
Brain & Sense Organs