

Sharks and Rays: Myth and Reality

Week 4

Esophagus and Stomach Dissection

Dr. Marcelo Carvalho: The other important feature that we want to observe in the digestion of the shark is the difference between the esophagus and the stomach, and we want to look a little closely at the stomach of the shark. To do so we make a longitudinal incision throughout the length of the esophagus and stomach, and we open it. Upon exposing the lumen [the cavity of a tubular organ], we can see where the esophagus stops and the stomach begins. Here is the esophagus. The esophagus has lots of these small projections called papillae, which secrete a mucus, which enables food to pass through to the stomach more effectively. The stomach has these long, longitudinal folds inside called rugae. This is because the stomach of the shark is highly distensible. Distensible because the shark does not chew food. It swallows large chunks of prey, which can remain in the stomach until digestion occurs. Sharks produce very strong and high concentrations of gastric juices in their stomach, important to break down large pieces of food and food with hard shells of just chitin, for example, from crustaceans.