

Sharks and Rays: Myth and Reality

Week 4

Electrosensory System of Hammerhead Shark

Dr. Marcelo Carvalho: If we look at the head of a hammerhead shark, it exemplifies very well all other sharks and rays, because we can see lots of pores on the underside of the head. Sharks and rays usually have pores scattered over their head and along their body, belonging to both the lateral line system and the ampullae of Lorenzini system. These pores are important in detecting electrical fields. The ampullae pores are pretty deep. They converge onto a small ampullae organ inside the dermis of the fish, which allows a shark to detect electrical fields. If we squeeze the head of this shark, we can see a lot of preservative exiting from these pores, indicating the location and extent of the pores. In the particular case of a hammerhead shark, such pores are important because hammerheads feed a lot of the times off stingrays that are buried in the sediment, and they can detect the stingrays by hovering head down over the sediment. The stingrays might be buried, so they can't be seen. But the hammerhead can detect their electric fields, using the ampullae of Lorenzini.