

Sharks and Rays: Myth and Reality

Week 5

Male Reproduction Overview

Dr. Marcelo Carvalho: Here we have our dogfish laid on its back. Male dogfishes, just like all sharks and rays, have one clasper associated with each pelvic fin. The clasper is the male intromittent organ [organ of insertion].

The pleuro-peritoneal cavity is now open and exposed - we can see basically digestive and reproductive systems. In order to show the reproductive system, we place the liver slightly to the side, and we pull the digestive organs to the side as well so we can show the testes.

We will remove the digestive system by cutting at the base of the esophagus, cutting the mesentery, or these thin membranes that keep the organs in place, and cutting the cloaca.

Now we can more clearly see the reproductive system, which lies dorsal to the digestive system. Here we can see the testes, which are rather enlarged. They're paired just as in higher vertebrates.

Reproduction in the male begins with the formation of sperm – spermatozoa - in the testes. The sperm pass into small tubules that are hard to see, they're very minute, called vas deferens. The posterior portion of the vas deferens is called the seminal vesicle where the sperm are now united with other secretions from Leydig's Gland. From here they will pass into the urogenital papilla.

Semen is stored in the urogenital papilla. From the urogenital papilla it is launched into the cloacal chamber. From the cloacal chamber the semen will pass into the clasper groove. This is the ventral side of the clasper from another specimen where we can see the clasper groove more clearly. The semen will pass through the clasper groove into the distal tip of the clasper, which is inserted into the female. The distal tip of the clasper is held inside the female's cloaca by the clasper spur, a cartilage that anchors it inside the cloaca of the female.