

Sea Science

A Series by SCDNR Marine Resources Division

Blue Crab



The bright colors of the Atlantic blue crab are an iconic image of the east coast. Blue crabs are noteworthy not just because of their bright and beautiful coloring but because they possess both swimming and walking legs. This adaptation allows them to paddle through the water column and scuttle across the sea floor and shoreline. They can most often be found in the brackish water of estuaries and tidal creeks but spend part of their life in the open ocean.

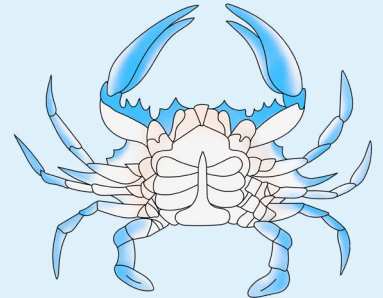
The strong claws of blue crab are versatile. They are used for defense, digging, attracting a mate and feeding. Blue crabs are opportunistic feeders, meaning they will eat whatever is available such as fish, oysters, clams, shrimp, snails and even smaller blue crabs. They can bury themselves in the mud or sand to ambush prey. In turn, blue crabs are a popular meal for fish, stingrays and sharks as well as humans. Blue crabs will use the two sharp points on either side of their carapace (shell) for defense. If caught by a predator, a blue crab may break off a claw or leg to escape. Luckily, their appendages will regrow in a process called regeneration.

Blue crabs are most vulnerable to predation when molting. Blue crabs are invertebrates meaning they have no internal skeleton. Instead, they have a hard exoskeleton that provides structure and protection. Their exoskeleton must be shed and replaced regularly as they grow in a process called molting. Juveniles molt as often as every three days but molting slows to every 20-50 days as the crabs mature. Like taking off a sweater that is too small, crabs scoot out of the back of their old shell, leaving them soft and vulnerable until their new carapace hardens a few days later.

Identifying Blue Crab

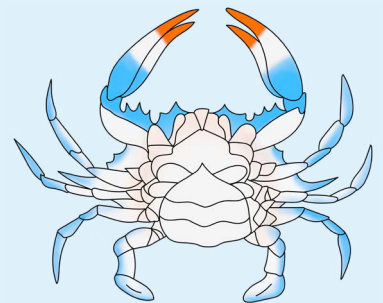
Adult Male

"Jimmy"



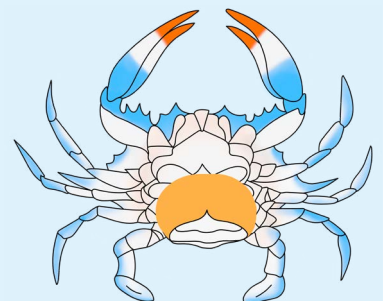
Adult Female

"Sook"



Sponge Crab

(Female carrying eggs)



Find the full Sea Science Series by SCDNR at bit.ly/seasciences

Life Cycle

Female blue crabs can be distinguished from males by the shape of their abdomen. Males have an abdomen that is pointed like the Washington Monument and mature females have a rounded abdomen that looks like the dome of the Capitol Building. Additionally, adult males usually have bright blue claws whereas adult females are defined by bright red tips on their claws.

Blue crabs mate in brackish water from February to November. Females only mate when in the soft shell stage and males will carry around a soon-to-molt female before mating. The male carries the soft shell female to protect her from predators and will continue carrying her until her shell hardens. One to two months after mating, females travel to higher salinity water to release their eggs. Females carrying eggs in their abdomen are called sponge crabs because the egg mass looks like an orange sponge. Females produce and release approximately 2 million eggs at a time, though only about one out of a million will live to adulthood.

Newly hatched blue crabs are microscopic and are considered zooplankton since they swim through the water following ocean currents. Blue crab larvae are eaten by fish, jellyfish and other plankton eating animals. The larvae can be swept out to sea by strong wind and water currents. They spend about a month growing and changing in the near shore ocean and then migrate back to tidal creeks and estuaries. Adult blue crabs that are harvestable, at a size of 5 inches or more, are at least one year old. Blue crabs can live up to three years in South Carolina (up to 5 years in the Chesapeake Bay).

Blue crabs are a staple of coastal cuisine in South Carolina. The blue crab's popularity comes from its sweet taste that is enjoyed steamed, boiled, fried, and in she-crab soup. In fact, the blue crab's scientific name, *Callinectes sapidus*, means "savory beautiful swimmer". In South Carolina, recreational and commercial harvesting of blue crabs can occur year-round. However, the best time to catch large, mature blue crabs is usually from October to December before they become inactive in colder waters. The size limit to keep a blue crab is five inches from point to point. Crabs smaller than five inches wide or carrying eggs must be returned to the water to insure a stable population for future generations.

