

Blue Crabs of the South Atlantic Bight

Native and Occasional species of *Callinectes*
(or, when isn't a blue crab a blue crab?)

Classification. Kingdom: Animalia
Phylum: Arthropoda
Subphylum: Crustacea
Class: Malacostraca
Subclass: Eumalacostraca
Superorder: Eucarida
Order: Decapoda
Suborder: Pleocyemata
Infraorder: Brachyura
Superfamily: Portunoidea
Family: Portunidae
Genus: *Callinectes*

Common name: Blue crab

Physical characteristics: *Callinectes* species, like most portunids, have a pair of flat, oar shaped rear legs (pereopods) called swimmerets. Members of the genus have a flat broad carapace with a series of distinct lateral teeth along each frontal margin between the eyes and the large terminal spines at the widest part of the carapace. There are also 4-6 “frontal teeth” between the eyes; the number, shape, and relative length of these teeth are useful in distinguishing the different species. Often the crabs are olive green on the back of the carapace and white on the belly, with blue or red areas coloring parts of the forelimbs (chelipeds). Additional colors and pigment patterns can produce variations that are characteristic of different species (see below).

Common local species: *Callinectes sapidus*, *C. similis*, *C. ornatus* (*C. ornatus* found mainly offshore)

Occasionally occurring species: *C. exasperatus*, *C. bocourti*, *C. larvatus*



Callinectes sapidus



Callinectes sapidus, blue coloration caused by abnormal pigmentation



Callinectes ornatus



Callinectes ornatus, male (top) and immature female (bottom)



Callinectes similis (immature)



Callinectes bocourti

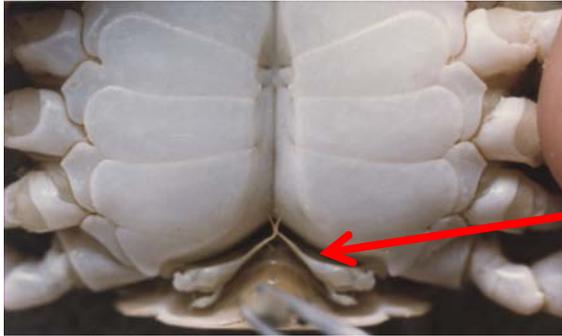


Callinectes exasperatus



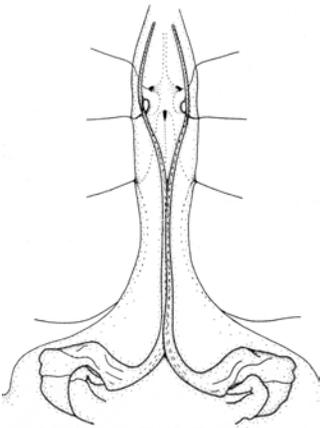
Callinectes larvatus

Diagnostic characteristic of species: In male crabs, the shape of the male gonopods (a pair of abdominal appendages that are modified for mating), may be viewed by lifting the abdomen from the underside of the crab. The length and curvature of the gonopods is distinctive in mature males of each *Callinectes* species. Below are illustrations that show the gonopods for each species discussed here.

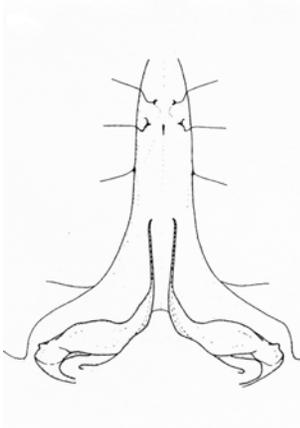


Gonopods of mature male *Callinectes* crabs located underneath abdomen (*Callinectes larvatus* shown here)

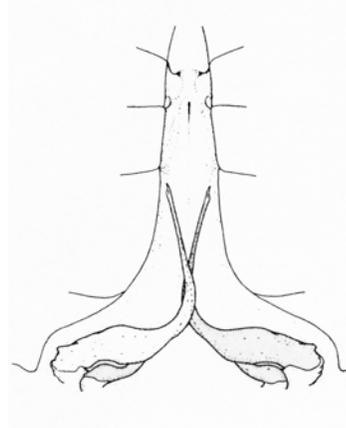
Illustrations from Williams, 1974



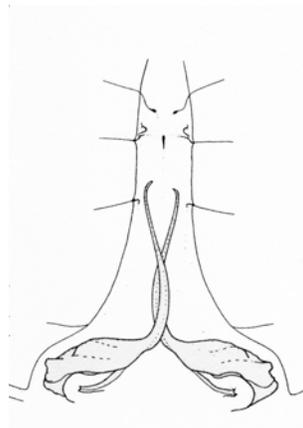
Callinectes sapidus



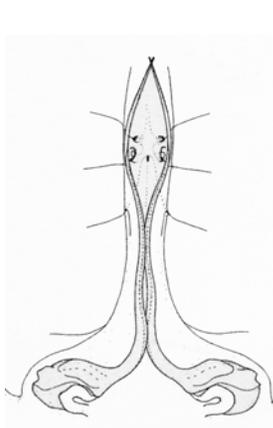
Callinectes similis



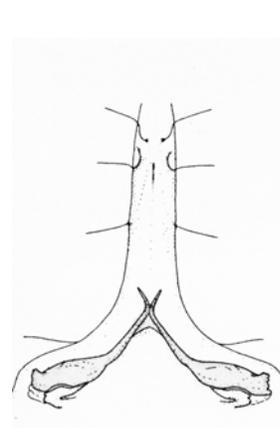
Callinectes ornatus



Callinectes exasperatus



Callinectes bocourti



Callinectes larvatus

General Information: *Callinectes sapidus* is the most abundant species of blue crab in the South Atlantic Bight, where it supports a major commercial fishery. *C. similis* is a smaller species and although it can be extremely abundant, its smaller size prevents commercial exploitation. In the fall of 2002, local fishermen reported unusually frequent landings of *C. exasperatus*, *C. bocourti* in their crab traps, and one *C. larvatus* was collected in Charleston Harbor. These three species are rarely recorded in the SAB. The reasons for the increased number of the rarer species are unclear, as is their potential effect on local *C. similis* and *C. sapidus* populations.

The commercial species, *C. sapidus*, mates in low salinity water (upriver in estuaries), but the females don't release their eggs until they have migrated downstream into high salinity water (in the lower estuary or coastal ocean water). In times of drought the crabs may migrate farther upriver to reach the low salinity water preferred for mating. Such behavioral changes may have profound effects on the commercial fishery, which is regulated by statutes with inflexible geographic restrictions that don't account for severe shifts in salinity regimes, like those seen in the South Carolina rivers in the past year.

Geographical distribution:

species	normal coastal range	unusual occurrences
<i>Callinectes sapidus</i>	Western Atlantic from Maine to Argentina, Gulf of Mexico, Caribbean, Bermuda	introduced in Europe and Japan
<i>Callinectes similis</i>	Delaware Bay to south Florida and northern coast of Gulf of Mexico	
<i>Callinectes ornatus</i>	Virginia to Brazil, southeastern Gulf of Mexico, Bermuda	
<i>Callinectes bocourti</i>	Caribbean to Brazil	1 specimen collected from south FL in 1950; 1 specimen collected from MS in 1971; 1 specimen collected from Indian River, FL in 1973; 2 specimens collected in SC in 1977; several specimens collected in Jacksonville, FL 2002; 5 specimens from central SC in fall of 2002 and 1 in September 2003
<i>Callinectes exasperatus</i>	southern tip of Florida to Brazil, western Gulf of Mexico, Bermuda	22 specimens collected in central SC by SERTC in fall of 2002
<i>Callinectes larvatus</i>	southern tip of Florida to Brazil, Bermuda	6 specimens collected from Cape Fear, NC in 1977; 1 specimen collected in Charleston, SC by SCDNR in fall of 2002

References

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