Callinectes similis (Lesser Blue Crab)

Order: Decapoda (Crabs, Lobsters and Shrimps)
Class: Malacostraca (Crustaceans: Crabs, Sand-hoppers and Woodlice)
Phylum: Arthropoda (Arthropods)

Fig. 1. Lesser blue crab, *Callinectes similis.*

[http://www.ncfishes.com/families/aquatic-invertebrates/, downloaded 26 April 2016]

TRAITS. The lesser blue crab *Callinectes similis* and the blue crab *C. sapidus* are commonly found together, widely distributed within estuaries, and can be hard to differentiate from each other. The carapace of *C. similis* is smoother than that of *C. sapidus*, and it is less blue coloured. Males have a shell length of about 55mm and width of 97mm, 122mm across the lateral spines (Hsueh et al., 1992). Females have a shell length of 45mm and a width of 76mm, 95mm across the spines (Williams, 1984). The adult male dorsal shell is green with iridescence at the edges. The legs and chelipeds (claws) are similar in colour or more tannish green, and the outer and upper edges are iridescent (Fig. 1). Its underside is white and blue. The female is similar to the male but has a more intense shade of violet blue on its body (Williams, 1984).

DISTRIBUTION. This crab can be found in estuaries of the eastern and southern coasts of the USA and the Gulf of Mexico and in open-bay habitats in the Caribbean (Fig. 2) (Gore, 1977). The lesser blue crab is distributed in more offshore areas than *C. sapidus*. The adults can be found in oceanic zones with a salinity level above about 15 PPT (parts per thousand) and a maximum depth of 100m.

HABITAT AND ACTIVITY. This crab can be found in abundance in estuaries with salinity readings of 15 PPT and up, very rarely are they seen in areas under 15 PPT. The temperature of the water ranges between 13.2-29.0 ^{o}C with the depth of the water being as deep as 92m. One was observed at a depth of 379m off the eastern side of Florida (Williams, 1984). This species is usually seen with its close relative *C. sapidus*. These crabs are also called swimming crabs as they have two oval-shaped rear legs (Fig. 1) that allow them to swim rapidly in several directions including backwards, forwards and sideways (Williams, 1984).

FOOD AND FEEDING. *Callinectes similis* is an omnivore and their diet consists of four main prey; fish, bivalves, crabs and gastropods (Hsueh et al., 1992). Some studies have also found other crustaceans, detritus and even squid in their stomachs. They have several ways of eating their prey. Small to medium size *C. similis* pull open the shells of their prey, whereas larger ones crush, twist and crack the shells to get to the prey. *C. similis* shares several things in common with its close relative *C. sapidus*, one of which is their method of hunting for food. They would bury themselves in the sand leaving only their eyes visible and may stay there for several minutes until a potential prey ventures nearby, at this point they would swiftly leap out of the sand and grab the prey with their claws (Hsueh et al., 1992). There are no significant variations in the diet of the female compared to the male, but the feeding habits of *C. similis* changes in relation to size class, age group, time of day and night and moult stage (Rosas et al., 1994).

POPULATION ECOLOGY. *C. similis* is a very close relative of *C. sapidus* and most of their traits, habits and ecology overlap with each other. Very little differentiates them and at first glance they may look the same. *C. similis* are more dominant in open bays as compared to its close relative, and can live up to 2-3 years if undisturbed by humans. The juveniles of *C. similis* can, however, be found in both salt marshes and open bays (Rosas et al., 1994). In the early stage of life juveniles migrate upstream to areas with a lower salinity level. The sex ratio is biased heavily towards the males having a larger proportion of the population (Rosas et al., 1994).

REPRODUCTION. *C. similis* has separate sexes, which can be distinguished by the shape of the abdomen, beneath the carapace. The male's abdomen resembles the letter T whereas the female's resembles a triangle. It can take a male 18-19 moults to reach maturity and 19-20 for a female, which can take up to 10-20 months depending on the location. During the winter time they enter a stage of semi-hibernation and eggs may hatch in early summer as the temperature increases. The females mate only once they have moulted and are in a soft-shell stage. While moulted the male will protect her by holding her with his front pair of walking legs and position her under him (Chazaro-Olvera et al., 2000). Mating occurs during the spring or fall seasons and can last as long as 5-12 hours. A female can produce approximately 175,000-200,000 eggs per spawning. When it is time for the female to lay her eggs she migrates offshore to an area with a higher salinity level. Here the eggs produced by the female are attached to her abdomen where it may stay for approximately 2 weeks (Chazaro-Olvera et al., 2000). After they hatch the juveniles migrate further inshore to waters with a lower salinity level.

BEHAVIOUR. *C. similis* is very aggressive and uses both visual and chemical cues to evaluate danger and potential mates from a distance (Chazaro-Olvera et al., 2000). They use colour as a means of determining which mate they will try to attract then they display to the female with

their pincers. However when they have recently moulted and in the soft-shell phase they will burrow under the sand to hide and get away from danger.

REFERENCES

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Author: Kysean S. Phillip

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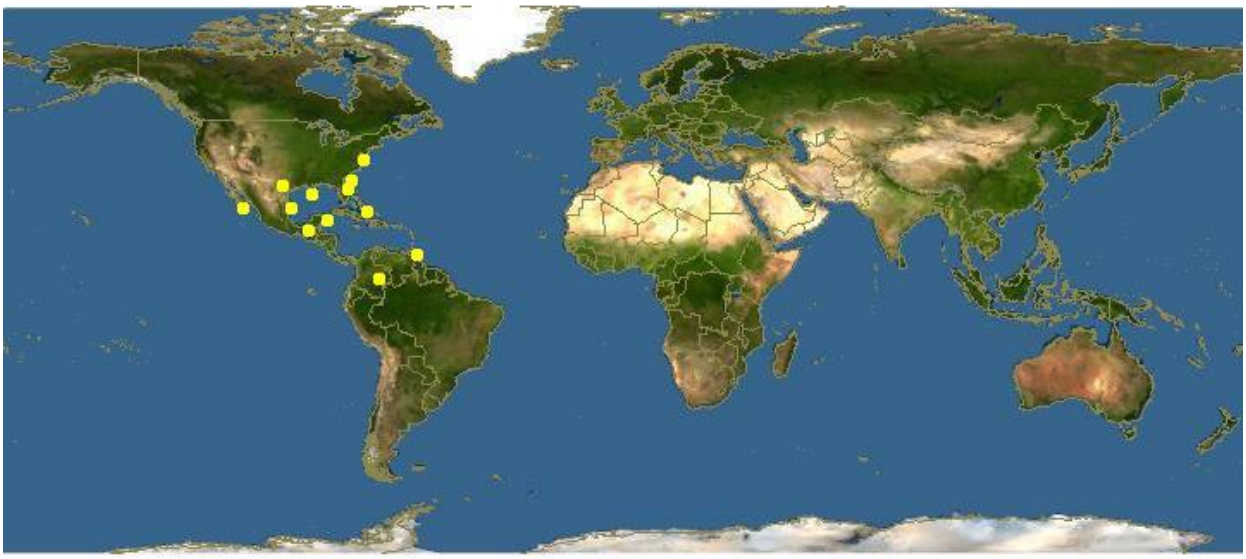

Fig. 2. *C. similis* geographic distribution.

[http://www.discoverlife.org/mp/20q?search=Callinectes+similis, downloaded 2 March 2016]