



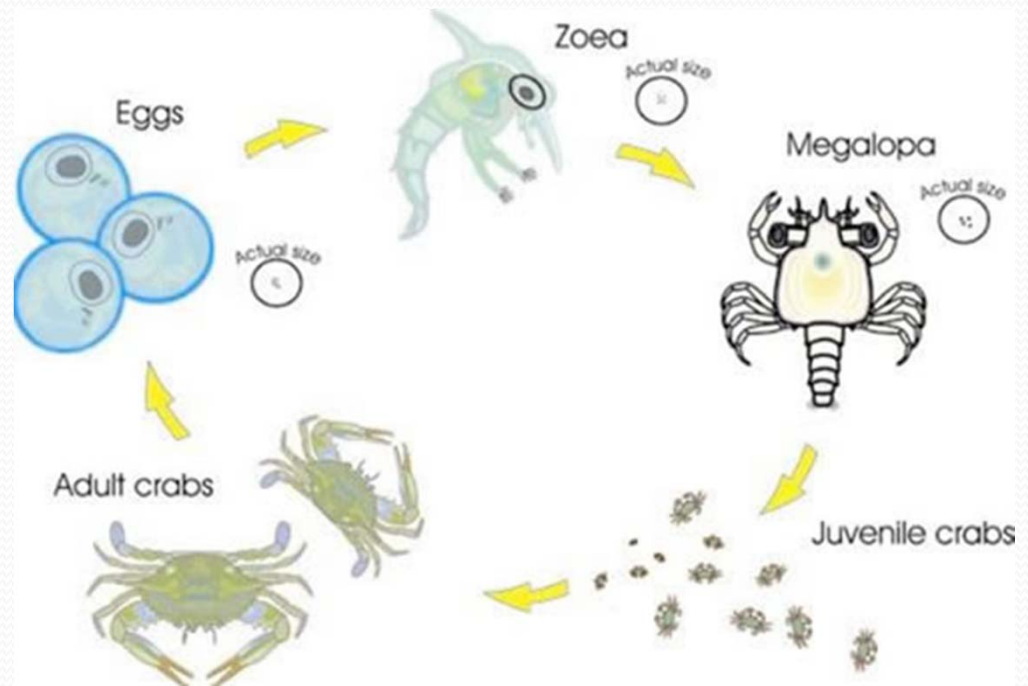
Atlantic Blue Crab
(*Callinectes sapidus*)

Thank you to our camp sponsors



Life cycle

- Female can only mate once
- The male can only mate with the female when she a sponge crab
- Egg
- Zoea
- Megalopa
- Juvenile crab
- Adult crab



Locations

- The blue crab can be found along the eastern seaboard of North and South America



Download from
Dreamstime.com

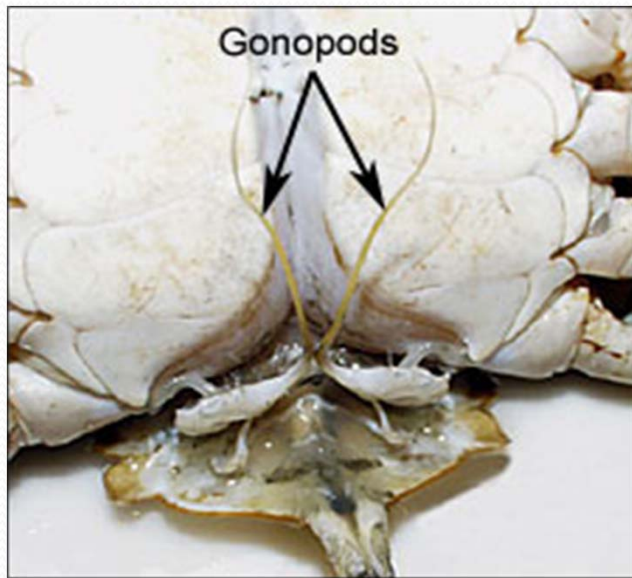
This watermarked comp image is for previewing purposes only.

ID 18055209

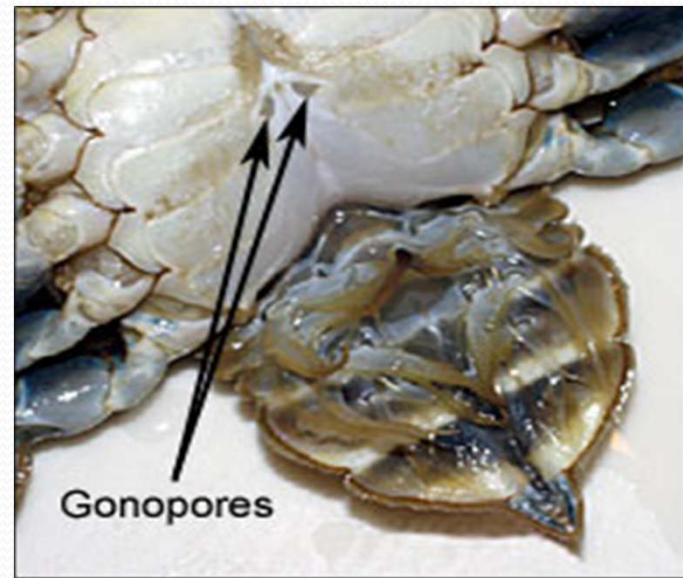
Esvesia | Dreamstime.com

how to tell the difference?

- Males have a smaller area shown below also females have red claws

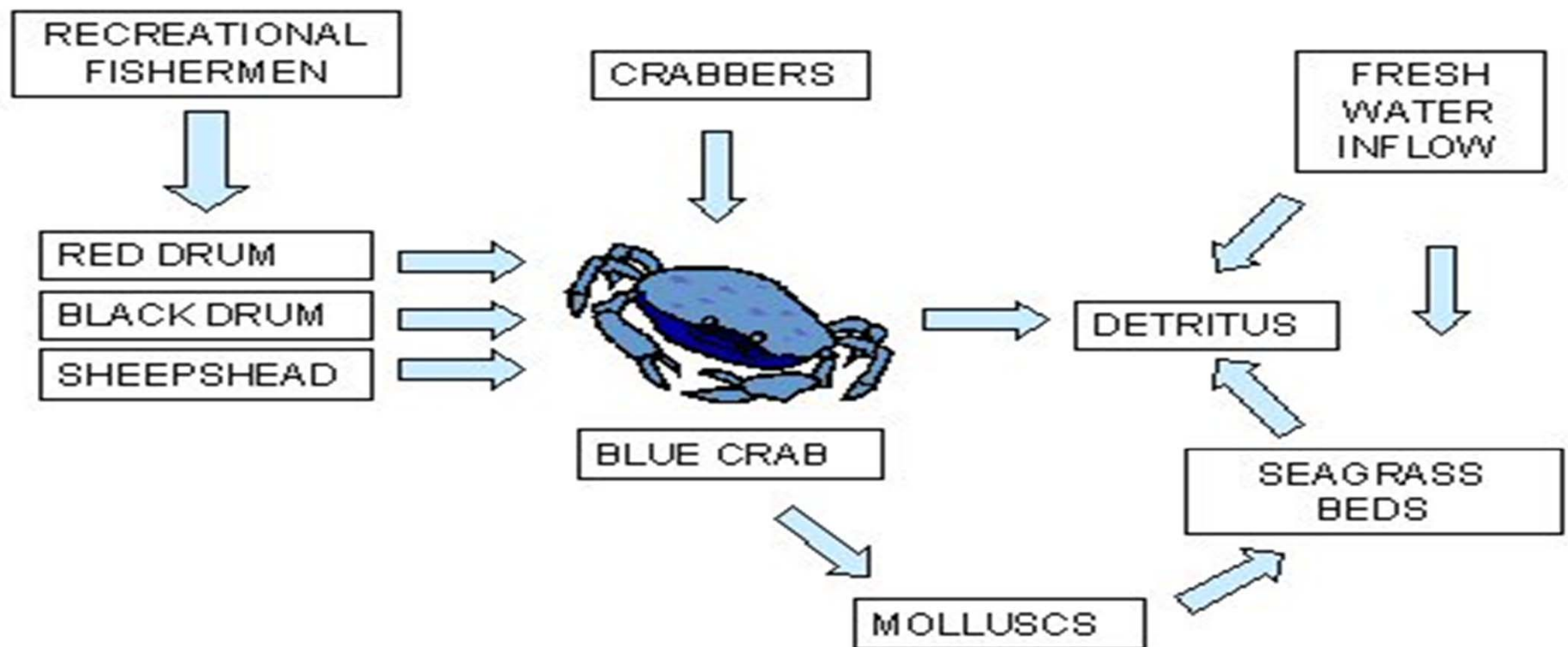


Male Anatomy
Click on image for more detail

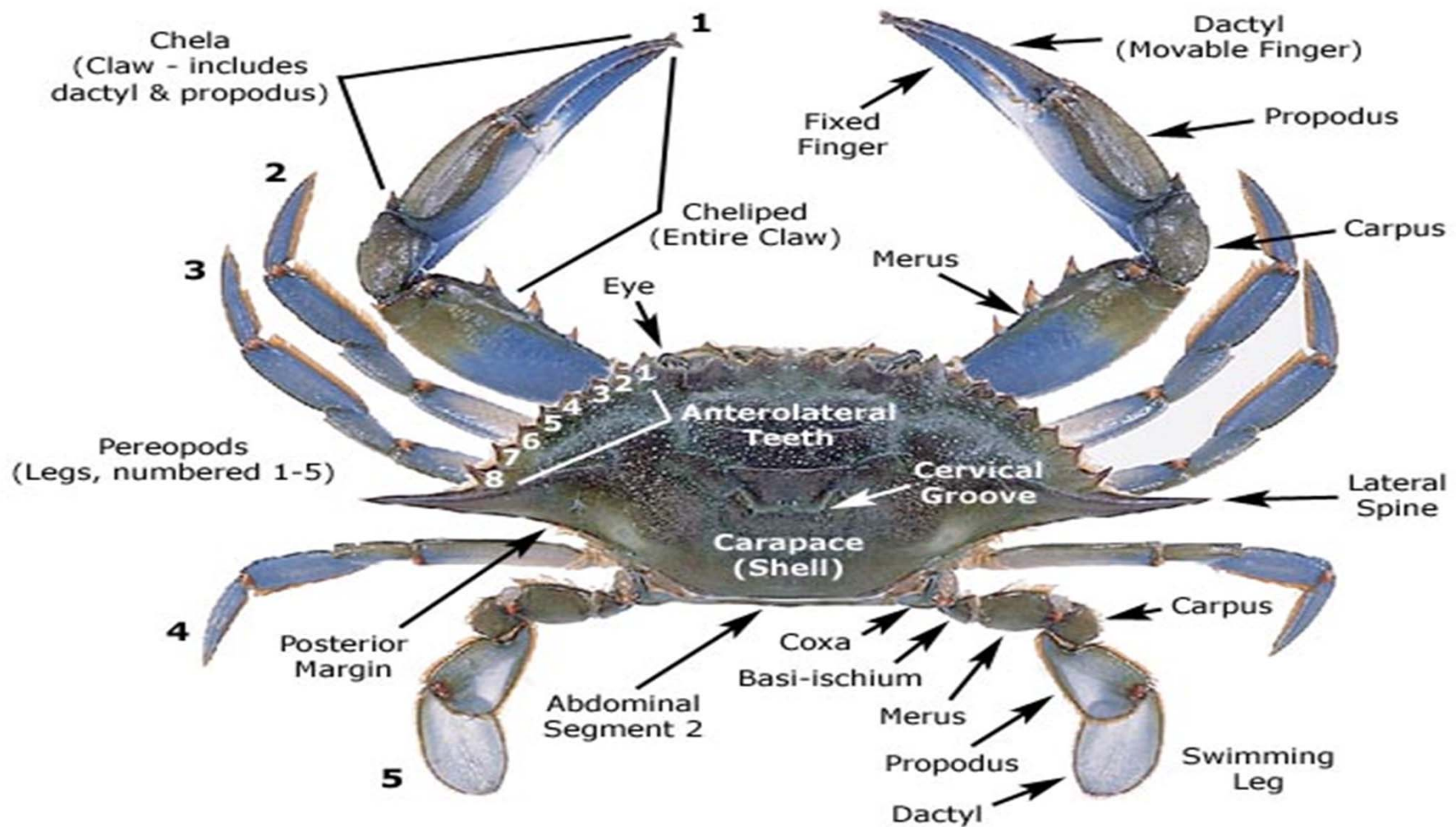


Female Anatomy
Click on image for more detail

Predators and Prey



Anatomy





Habitat

- Crabs live in many different places throughout their lives.
- They can live in many different levels of salinity from a high one to a low one or even one with no salt at all
- The larva though are not as hardy as the adults
- The larva are seen in estuaries and marsh beds





- Question:

- Does the presence of a predator change vertical migration behavior in the saltmarsh Periwinkle.

- Hypothesis:

- the Periwinkle will climb the *Spartina Alteriflra* to avoid the blue crab.



Experiment Design

- 4 enclosures: 3 experimental/1 control
- Periwinkles were introduced and acclimated
- Crab introduced and test started
- time for 3 hours
- data collect ever 30 minutes
- We measured distance from bottom to snail



Data

name	time	30min	1hr	1hr 30min
control	1:57	2:27	3:05	3:37
tub2	2:04	2:34	3:07	3:35
tub 3	2:16	2:44	3:12	3:43
tub 4	2:13	2:43	3:14	3:45

Data

- Test 1 cm

	control	tub2	tub3	tub4
1	33	20	37	0
2	34	26	34	40
3	33	30	40	43
4	25	37	54	34
5	25	18	42	47
6	0	0	45	29
7	12	0	38	0
8	3	0	13	0
9	14	0	31	0
10	0	0	0	0

Data

- Test 2 cm

	control	tub2	tub3	tub4
1	41	0	55	69
2	59	71	61	68
3	86	0	69	45
4	44	31	67	35
5	42	19	46	10
6	89	49	51	55
7	88	31	0	59
8	47	0	0	49
9	47	65	0	51
10	47	26	0	24

Data

- Test 3 cm

	control	tub2	tub3	tub4
1	47	0	43	0
2	57	80	23	0
3	51	56	64	0
4	48	27	66	8
5	45	30	69	54
6	42	76	25	60
7	60	51	4	62
8	39	60	45	76
9	85	0	57	31
10	55	0	54	0



No pattern was observed for this experiment.



Experiment 2

- After the first experiment we thought that the Periwinkles might have been reacting to the presence of water and not the presence of the blue crab
- So in the next experiment one tub water out of the equation

• Change

- 2 buckets
- Both without water
- One with a crab(tub2)
- 5 periwinkles each labeled
- Record if they were on mesh, Spartina Alteriflra, and bottom

Test 1

	climbed	control	climbed	tub2
1 b		0 m		23
2 s		12 s		0
3 s		22.5 b		0
4 s		17.5 b		0
5 b		0 b		0

Test 2

	climbed	control	climbed	tub2
1 b		0 m		9
2 b		0 on claw		0
3 m		17 m		5
4 b		0 b		0
5 b		0 b		0

Test 3

	climbed	control	climbed	tub2
1 b		0 s		13
2 m		3 on crab		0
3 s		12 m		11
4 m		13 b		0
5 b		0 b		0

Test 4

	climbed	control	climbed	tub2
1 m		10 b		0
2 b		0 b		0
3 b		0 m		20
4 s		2 b		0
5 b		0 b		0



Conclusion

- We rejected the hypothesis because this experiment showed that the Periwinkles were probably trying to avoid water instead of reacting to the presence a crab.



Work sited

- "Blue Crabs, Blue Crab Pictures, Blue Crab Facts - National Geographic." *National Geographic*. National Geographic, n.d. Web. 25 July 2015
- "Blue Crab Life Cycle." *BLUECRAB.INFO* -. N.p., n.d. Web. 25 July 2015.
- "Fewer Crabs -- Fewer Fish." *TPWD: Blue Crab Decline*. N.p., n.d. Web. 25 July 2015.
- "Blue Crab - Fish Facts - Chesapeakebay.noaa.gov." *Blue Crab - Fish Facts - Chesapeakebay.noaa.gov*. N.p., n.d. Web. 25 July 2015.
- "SERC - Education K12: Blue Crab Life Cycle." *SERC - Education K12: Blue Crab Life Cycle*. N.p., n.d. Web. 25 July 2015.