



Ask the lobster doc

by Diane Cowan, PhD
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 This column provides lobster health and handling information.
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Lobster life cycle

Before starting the series of columns that will focus on lobster stewardship, a brief explanation of the lobster life cycle will be helpful to understanding the threats lobsters face.

Everyone has seen the underside of an egg-bearing female lobster. To begin life at this bead-size, pine green eggs are pushed through openings at the base of the female lobster's third pair of walking legs. These eggs are fertilized as they pass the seminal receptacle where the female has been storing sperm (see chart at right).

Fertilized eggs then travel along the underside of their female's abdomen until reaching the long hairs on her swimmerets where they remain attached for 9–13 months. The lobster embryos shed approximately 35 times inside the egg

before hatching as pre-larvae. Pre-larvae remain attached to the female until she releases them by fanning her swimmerets in rhythmic waves. On their way to the surface, pre-larvae molt into first stage larvae.

Lobsters have three distinct, planktonic larval stages, all of which are found in the water column. Larval lobsters are not particularly capable swimmers so their movements are largely controlled by the direction of wind and water currents.

Metamorphosis from the larval to a postlarval stage occurs at the fourth molt. Postlarvae are strong swimmers and it is currently thought that they make excursions to the sea bottom sampling the substrate to find a suitable place to "settle" down. From settlement onward

the lobster remains a bottom dweller.

Settling postlarvae find holes under rocks, dig tunnels in eelgrass beds, burrow in peat reefs, or find other dark shelters where they remain hidden.

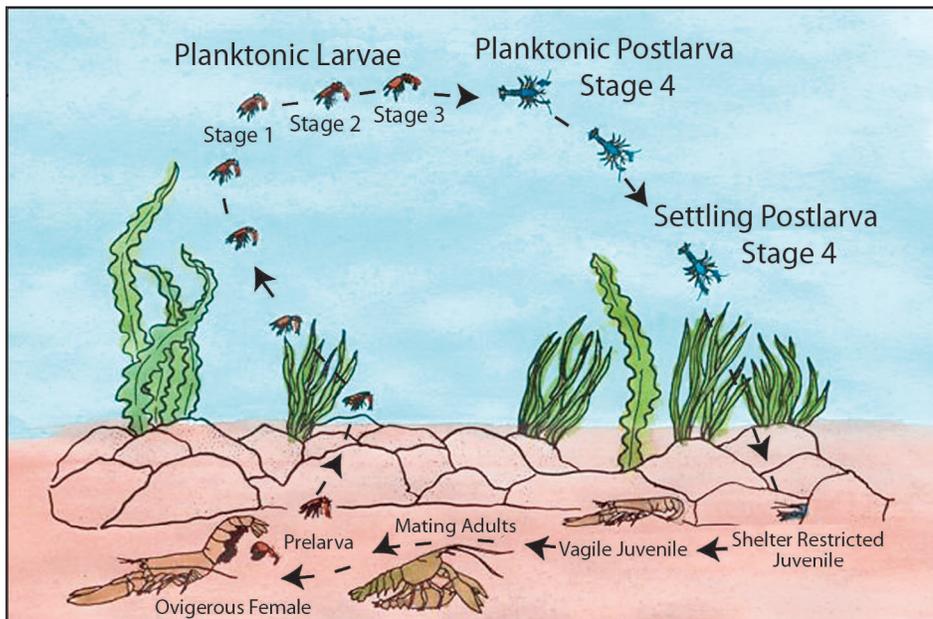
As they grow, juveniles are found outside of shelters more often and begin to explore and forage away from their burrows. The habits of a typical adolescent lobster are quite similar to those of an adult. Adulthood is generally reached after seven to 11 years.

Mating is seasonal and *must* take place when a female sheds. Mating *can* take place at other times but if a female does not find an appropriate suitor between the time she sheds and the time she eggs out, she will carry unfertilized eggs for 10–12 weeks. Those eggs will gradually turn bright orange as they die and fall from her body.

For successful mating, adult lobsters form a brief pair bond before the female sheds. The female lobster sheds in the shelter of a hard-shelled male, mates with him, and remains with him a few days while initially recovering from shedding. During mating, the male transfers a spermatophore (filled with sperm and nutrients to keep the sperm alive) into the female's seminal receptacle.

Then, the female moves out to live on her own and has a voracious appetite for the next few months while she grows into her new shell. Once her shell hardens sufficiently, the female lobster extrudes and broods the fertilized eggs, and the cycle is repeated.

Lobsters face many challenges on their journey from egg to plate. Understanding how to recognize the problems they face can allow us to help them survive their journey. ■



Graphic courtesy Diane Cowan