

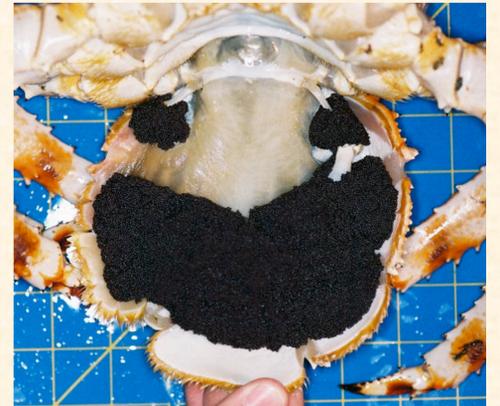
Early Life History of King Crabs, *Paralithodes camtschaticus* and *P. platypus*

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Red king crab female

Red and blue king crabs (*Paralithodes camtschaticus* and *P. platypus*, respectively) supported valuable commercial fisheries in the Bering Sea. In 1998, populations of blue king crabs declined dramatically and its fishery was closed. Research on king crab life history has focused on the first year of life, from fertilization, through embryo development, hatching, larval development, settling, and juvenile growth. This poster documents important events in the life cycle of the king crab.



Blue king crab female with fertilized eggs

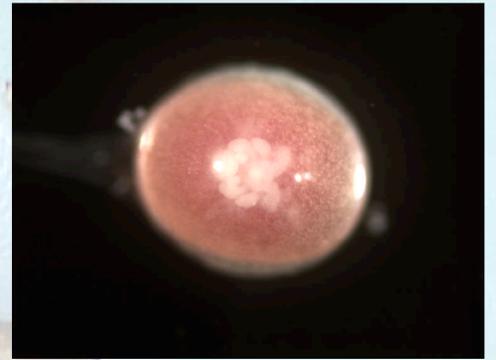
King crabs extrude eggs within 24 hr of mating, and they are fertilized with spermatophores deposited by the male crab. Stages of development are shown below.



On day 1, the fertilized egg is about 1 mm in diameter. It does not start to divide until day 4, after which it undergoes one division daily



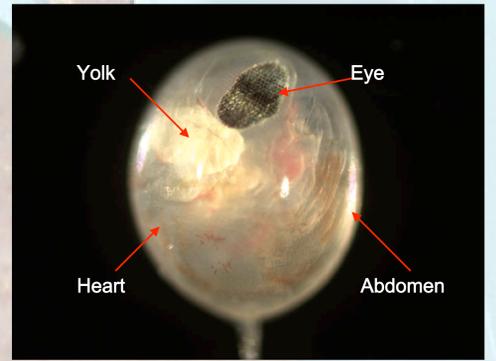
By day 12, the eggs are at the 256-512 cell stage.



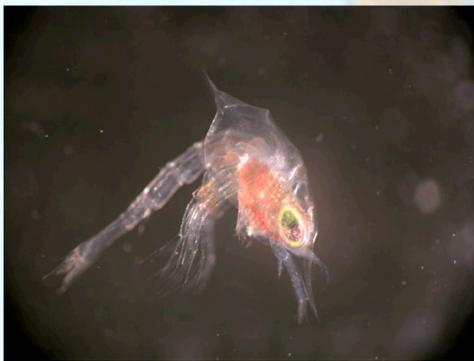
The embryo becomes apparent after about 4 months. At this point, only the eyes, abdomen, and mouthparts are visible.



About 6 months after fertilization, the eyes begin to form as small crescent slivers. Yolk occupies most of the egg.



At 13 months (388 days), the eyes are large, and the embryo is almost ready to hatch. The egg is 1.3 mm in diameter, and only a small amount of yolk remains. Chromatophores (red color cells) are easily seen. The abdomen (tail) is wrapped around and over the head.



Hatching occurs in the first 2 hours after dark and requires 30 days for each female. The pre-zoea quickly molts to the first zoeal stage (Z1). Larvae pass through 4 zoeal stages, requiring 30-60 days. They feed actively on diatoms and zooplankton.

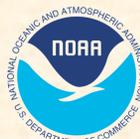


After zoea stage IV, larvae metamorphose to the glaucothoe stage, which lasts for 30-40 days. Glaucothoe actively seek structurally complex habitats for shelter. They live off stored energy and do not feed.



Glaucothoe molt to the first crab (C1) stage, and remain hidden. Coloration of the blue king crab closely matches its preferred habitat, broken shells.

Above: A male red king crab holds a female with his claws in a pre-mating embrace.



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