

Crayfish in Kansas

Adapted from:

The Crayfishes of Missouri

By William Pfleiger, 1996, Conservation Commission of the State of Missouri

Crayfish are Crustaceans – in the same family as lobsters, shrimp and crabs. Unlike their cousins, they are found in freshwater rather than the ocean. Together with freshwater mussels, they are the largest invertebrate members of the freshwater community.

In common with their cousins, they breathe with gills and have:

- ✓ Strongly segmented bodies divided into two major parts – the **cephalothorax** and the **abdomen**
- ✓ Two pair of antennae
- ✓ Large grasping claws on their forelegs called **chelipeds**
- ✓ 5 pairs of legs

The body of a crayfish is covered by a jointed **exoskeleton** composed of **chitin**. This helps protect the animal from harm. It also limits the growth of the animal, requiring it to molt periodically in order to get bigger. The sheds left behind after molting may sometimes be found in shallow backwaters, offering a good opportunity to inspect the intricate structure of the body covering. A crayfish that loses a leg, even a front leg, can regenerate it through successive molts. The cephalothorax is covered by an unjointed shell-like structure called the **carapace** which extends over the mouth as a hoodlike **rostrum**. The abdomen ends in a flattened set of scalelike structures called the **telson** or **tail fan**.

Normally crayfish will walk about slowly using their four pairs of walking legs, but when threatened, the animal will use its tail fan to propel it backwards in a series of quick jerks to put distance between it and its enemy.

Crayfish are opportunistic feeders, taking small animals such as worms and minnows when they can catch them, and otherwise scavenging on plant and animal materials as they are available.

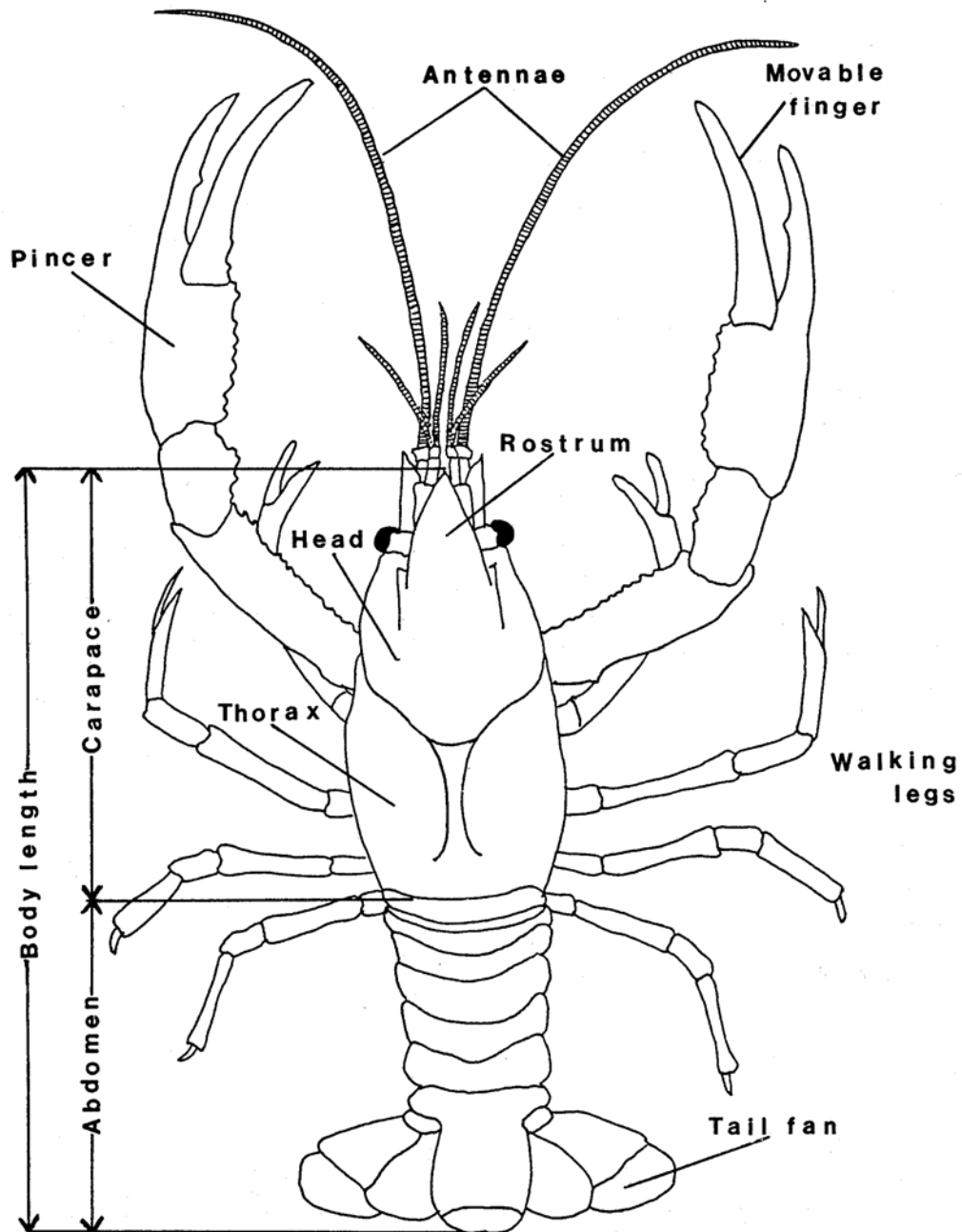
When not active, crayfish typically spend most of their time underneath a rock or log or some other protected situation or in a burrow that they dig themselves. Some species, such as the Devil Crayfish, will make their burrows away from water, creating mud “chimneys” that may be 6 to 8 inches tall. The burrows extend downwards until they reach the level of groundwater so the animal can bathe its gills and breathe properly. On moist, dewy nights these crayfish may come above ground and wander long distances seeking food or mates.

Females normally lay their eggs in the late spring and attach them to the underside of their abdomen as they are laid to protect them during the brooding process. She will seek out a protected situation, curl her tail around the eggs and fan water over them using little appendages called **swimmerets**. The baby crayfish will stay attached to the mother through their second molt before dropping off to make their way in the world. Some species will mature to breeding age in their first year, while others won't do so until their second year.

Roughly 3/4 of the ~450 species of freshwater crayfish in the World are found in North America. Most of the North American species are found in the eastern half of the country where rocky streambeds are more common. Kansas only has ten species and the three most common of those are illustrated in this document.

- Jim Mason, Naturalist
Great Plains Nature Center

Crayfish Anatomy





Northern Crayfish-*Oronectes virilis*

This is a rather plain, green to reddish-brown crayfish without prominent markings. The pincers are green with orange tips, and in adults are conspicuously studded with whitish knobs. Paired blotches run lengthwise along the abdomen. The rostrum has conspicuous notches or spines near its tip. This is one of our largest crayfish, with adults reaching a length of 4.8 inches or more.

This crayfish may be very abundant in the pools of rocky streams.

Prairie Crayfish-*Procambarus gracilis*

This crayfish is bright red to reddish-brown, without conspicuous blotches or spots. The pincers are short and heavy, and the high, dome-shaped carapace is longer than the abdomen. The carapace is not separated at its middle by a space (areola). Adults are about 2.1 to 2.8 inches in length.

The prairie crayfish lives in burrows that are often a long distance from any surface water. These may be six feet or more in depth. Some prairies may support large populations, but this crayfish is seldom seen because of its secretive habits.



Devil Crayfish-*Cambarus diogenes*

This powerfully built crayfish is usually a uniform olive or tan, without obvious blotches or spots. Occasional individuals are blue, with yellowish stripes on the abdomen and bright red outlining many body parts. The carapace is not separated at its middle by a space (areola). Adults are about 3.2 to 4.5 inches in length.

The devil crayfish lives in burrows in timbered or formerly timbered areas along the floodplains of streams. Its presence is often revealed by conspicuous mud chimneys. In early spring, young and some adults occur in roadside pools and other temporary waters.



Another burrowing species, the prairie crayfish, superficially resembles the devil crayfish. However, adults of the prairie crayfish are often bright red. In males the tips of the reproductive structures (gonopods) are strongly curved in the devil crayfish, nearly straight in the prairie crayfish.