The key to keeping invasive crayfish out of Missouri

To keep our fisheries healthy, the Missouri Department of Conservation is working with aquaculturists and bait vendors to reduce intentional and unintentional introduction of non-native crayfish. These groups have a vested interest in this effort because the future of their livelihoods is dependent on Missouri's healthy aquatic systems and fisheries.

A non-native species is any plant or animal species that has been transported and released to an area in which it was not found historically. Because of their popularity, crayfish are sometimes released or otherwise introduced by well-meaning humans into water bodies from which they did not originate.

These introductions, unfortunately, can and have caused big problems to aquatic communities and fisheries, even in places where native crayfish previously existed. The rusty crayfish is probably the most widespread and harmful introduced crayfish in North America. Like other invasive crayfish species, rusty crayfish are extremely aggressive and cause many problems including:

- destruction of aquatic plants
- declines in fisheries
- declines of native crayfish.

Because crayfish species can be difficult to distinguish from each other, the Conservation Department is providing this guide to help you identify the invasive rusty crayfish and the four crayfish species on the Approved Aquatic Species List. As of March 1, 2008, approved crayfish species are virile (northern) crayfish, calico (papershell) crayfish, White River crawfish and red swamp crawfish. Use the information in the following pages to ensure that only crayfish species appearing on the Approved Aquatic Species List are available in Missouri.

If you find a rusty crayfish or another species that doesn't seem to match the characteristics described in this key, contact your conservation agent or Department office near you by calling 573-751-4115 or going online at *www.missouriconservation.org* to find the regional office near you.

Instructions for using crayfish key

Step 1: Read the descriptions provided in both choices (1a and 1b) of the first "couplet" and view the accompanying illustrations and photograph. Note that the illustrations and some photographs provide red arrows that point out the specific crayfish features being discussed.

Invasive rusty crayfish have black bands on tips of claws.

Step 2: Decide which of the two first choices (1a or 1b) better describes the physical appearance of the crayfish being identified.

Step 3: Move to the next couplet (either 2 or 3 as appropriate) and repeat steps 1 and 2 above. Note: If you move to couplet 2, either choice you select (2a or 2b) will result in an identification of your crayfish.

Step 4: If you move on to the next couplet and the described characteristics of neither choice seem to match the crayfish in hand, it is always a good idea to go back to the previous couplet and recheck your work.

Helpful Hints: Individual crayfish, like people, sometimes vary in their physical makeup. Therefore, have several individual crayfish of the species in question on hand. If characteristics described in a given couplet don't work for an individual crayfish, look at a second or third individual. Use all of the clues or characteristics presented in each couplet, and don't forget to use the illustrations and photographs provided.

Remember: This key is provided to help you keep unwanted and invasive crayfish species out of your aquaculture or bait facility and out of Missouri waters.

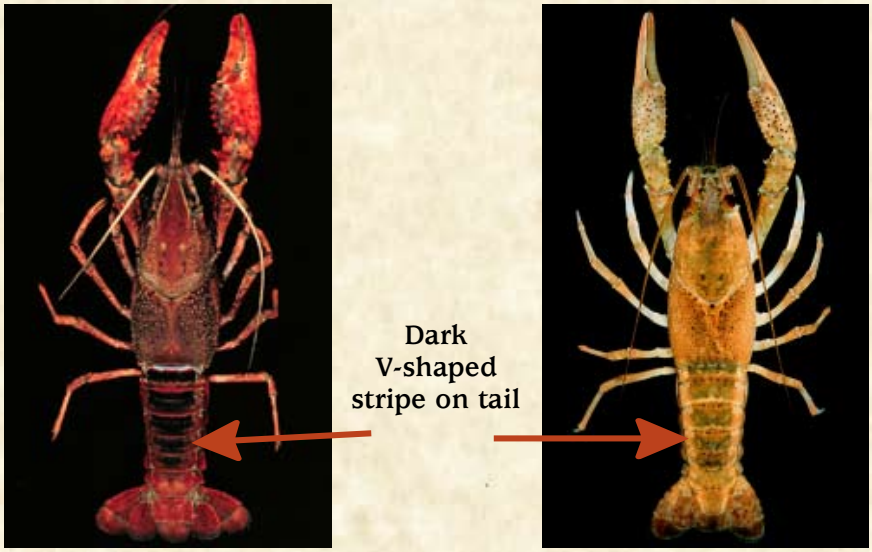
CRAYFISH KEY

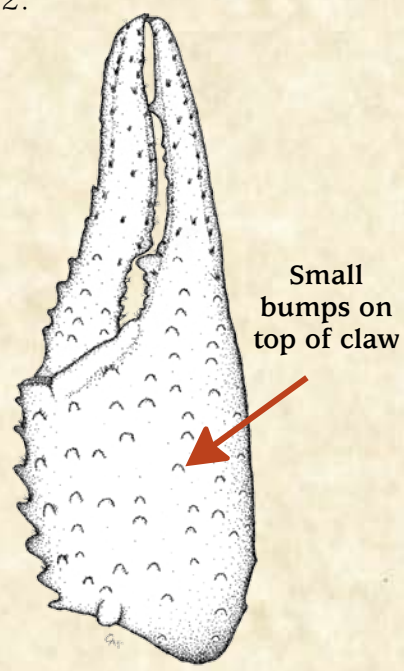
1. Look at crayfish's claws, sides of its body and tail for the presence of bumps. Based on these observations, decide if 1a or 1b better fits your crayfish:

1a. The sides of the body and top of the claws are covered with small bumps. Adults are red or light tan in color with a dark V-shaped stripe on top of the tail.

No: Go to option 1b below.

Yes: If this description matches your crayfish, go to 2.

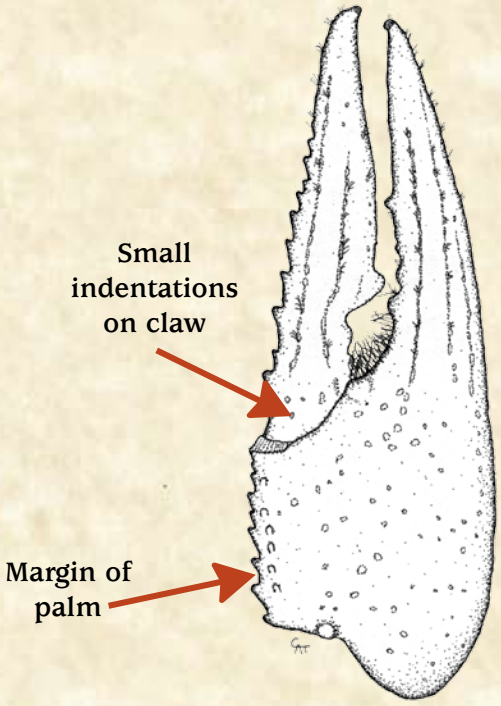




1b. The sides of the body are *not* covered with small bumps. Small bumps are found only along the margin of the claw's palm. Small indentations or pits may be present on the claws. The crayfish is tan to olive green with *no* distinctive V-shaped stripe on top of the tail.

No: Re-examine the same crayfish or try again with a different one from the same source.

Yes: If this description matches your crayfish, go to 3.



CRAYFISH KEY

4. Look at the tips of the claws and the sides of the crayfish, and decide if 4a or 4b better fits your crayfish:

4a. A large rust-colored spot is on the side of the body in front of the tail, and the fingers of the claws have black bands near the tips.

No: Go to 4b.

Yes: Contact the Conservation Department because you have identified the invasive rusty crayfish *(Orconectes rusticus)*!

Black band on tips of claws

Rusty-colored spot on each side

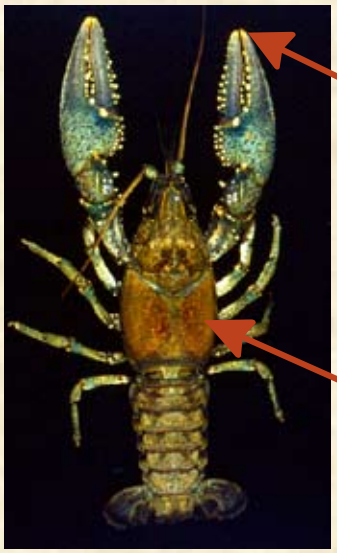
C. Lukhaup

Invasive rusty crayfish

4b. There is *not* a rust-colored spot on the side of the body in front of the tail, and *no* black bands are found on the tips of the claws' fingers.

No: Re-examine the same crayfish, or try again with a different one from the same source.

Yes: Virile (northern) crayfish *(Orconectes virilis)*



***No* black band on tips of claws**

***No* rusty colored spot on each side**

Crayfish regulations in Missouri

- Only species listed on Missouri's Approved Aquatic Species List may be sold as bait in Missouri.
- Crayfish sold as bait may not be obtained from the wild but can be obtained from a private commercial source.
- An organism may not be released into a water body from which it did not originate.
- It is illegal to dump unused bait into a water body from which it did not originate.
- Anglers may catch their own crayfish (up to 150 per day with a valid fishing license) but should not transfer crayfish to waters from which they did not originate.
- Crayfish captured from the wild may not be sold as bait or transported outside of the state.

For a copy of the *Wildlife Code of Missouri*, visit www.mdc.mo.gov/regs/code/, or contact your local conservation agent for additional information on regulations concerning crayfish.

Crayfish are vital to Missouri and its waters

Crayfish are an important part of Missouri's biodiversity. Of the 33 known species of crayfish in Missouri, eight are found nowhere else in the world. Crayfish play an important role in water quality. They break down decaying material such as leaves, woody debris, grass and dead animals in streams and lakes, which help keep debris from clogging up the water. Crayfish also serve as:

- prey for over 200 species of insects, fish, amphibians, reptiles, birds and mammals
- desired food for many popular sport fish
- most important forage for smallmouth bass and goggle-eye
- food for people and as bait for fishing
- source of income for bait dealers and aquaculturists

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ILLINOIS NATURAL HISTORY SURVEY

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Photo cover by Jim Rathert of a virile (northern) crayfish

Other photos and illustrations, unless noted, by Chris A. Taylor

Equal opportunity to participate in and benefit from programs of the Missouri Department of Conservation is available to all individuals without regard to their race, color, national origin, sex, age or disability. Questions should be directed to the Department of Conservation, P.O. Box 180, Jefferson City, MO 65102, (573) 751-4115 (voice) or 800-735-2966 (TTY), or to the U.S. Fish and Wildlife Service Division of Federal Assistance, 4401 N. Fairfax Drive, Mail Stop: MBSP-4020, Arlington, VA 22203.

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