

# Long-toed Salamander

## *(Ambystoma macrodactylum)*

**T**HOUGH RARELY SEEN above ground during the day, the long-toed salamander is western Montana's most common salamander. These amphibians live in every county west of the Continental Divide and in the drainage headwaters just east of the divide. The long-toed salamander found in Montana is the northern subspecies, known as *krausei*, and is also found in Idaho, southeastern British Columbia, and southwestern Alberta.

**APPEARANCE:** The adult long-toed salamander is 3 to 4 inches long. Its slender body is colored dark gray-green to black and sports an irregular green or yellowish stripe along the middle of the back. Scattered on the sides and belly are bluish-white speckles. The salamander is named for a toe on the back foot that is noticeably longer than the others. The larvae are aquatic, tan to black, less than 2 inches long, and have three pairs of external gills extending from the base of the head.

**HABITAT:** Long-toed salamanders live in moist habitats, from timbered valley floors to alpine meadows and alpine lake shorelines. They are usually found near a pond, lake, or stream, often under logs. Adults are dormant during winter and emerge from

ground or log burrows in early spring. Active mostly at night, they travel to temporary or permanent ponds right after the snow melts to breed. Once they have bred, these amphibians move to upland areas.

**FOOD:** Adult long-toed salamanders eat a variety of invertebrates, including slugs, worms, and insects. Smaller larvae eat tiny water crustaceans (zooplankton), but as they grow they eat invertebrates, frog tadpoles, and often other smaller salamander larvae.

**REPRODUCTION:** Long-toed salamanders breed earlier in spring than any other Montana amphibian. The males usually reach breeding ponds a few weeks earlier than females. Migration routes to the ponds can be as long as one-third of a mile, an extraordinary overland distance for such a small animal.

The salamander's mating ritual begins when the male approaches the female in the water, rubs his chin on her nose, and then moves away. A gland on the male's chin secretes an aphrodisiac chemical that induces the female to mate. If the female is receptive, she follows the male while keeping her snout to his tail.

The male fertilizes the female's eggs without actually copulating. He chooses a site and deposits a gelatinous sac containing sperm. The female moves over this spermatophore and draws it into her cloaca. After the eggs have been internally fertilized, the female lays them in clusters of 20 or so underwater on rocks, sticks, or stalks of vegetation. Larvae emerge from the eggs in



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a few weeks, and then grow for up to a year or more before metamorphosing into adults. Adults mature at age two to three and can live up to seven years or more.

**ECOLOGY AND STATUS:** Like all amphibians, the long-toed salamander absorbs water and oxygen through its skin and lives on land and water at various stages of its life. Because of their sensitivity to changes in their habitats, long-toed salamanders serve as early indicators of environmental problems.

Though removal of forest cover can reduce salamander numbers, long-toed salamander populations still appear secure in western Montana. "We find them in about two-thirds of the watersheds and water bodies we survey," says Bryce Maxell, a University of Montana research scientist.

**VIEWING:** Because they are common, long-toed salamanders are easy to find if you know where to look. The best spots are under logs in moist areas along ponds or temporary wetlands in spring, after snowmelt. Look for the yellow stripe on the salamander's back. Kids love to search for salamanders and handle them once found. Because these amphibians have a permeable skin, they can be harmed by over-handling or exposure to chemicals, perfumes, or other foreign substances. Some kids keep long-toed salamanders for a time in terrariums. Maxell says these pets should not be released back into the outdoors, to avoid introducing diseases they may have contracted in captivity to wild populations. 🐸



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