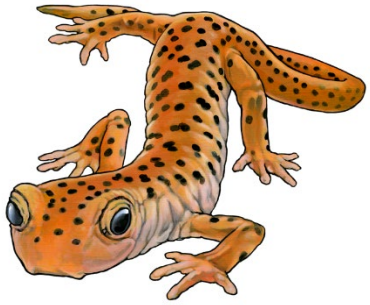
Missouri Master Naturalist

2026 Certification Pin

The Cave Salamander *Eurycea lucifuga*



Description (key characteristics)

The cave salamander is a medium-sized salamander (10 to 15 cm) with a long tail. It is normally bright orange, but occasionally they may appear yellowish-brown to dark orange shaded red. The belly is plain yellowish-orange, and the rest of the body and tail are covered with black or dark brown spots. The sides of the body have 13-14 costal grooves, and the end of the tail is often black. Young cave salamanders are yellow with shorter tails. Fully-grown females are larger than adult males. Males have more prominent cirri (downward projections from the nostrils). Males also can be distinguished from females by the presence of a swollen cloaca.

Diet

Their diet is completely carnivorous and moving water (live water) in a karst feature helps bring prey into the cave and furnish habitat needs of the prey's lifecycle. Cave salamanders' food regime consists of a variety of small arthropods, especially isopods, ostracods, worms, and dipterans (larva and adult forms of the fly family).

Habitat

True to the characteristics of a "troglophile", cave salamanders are most commonly found in caves and especially ones having flowing water or springs. However, they may occur in rocky outcroppings and crevices along forested areas, along rocky streams and springs, and occasionally under rocks in a glade habitat. The cave-dwelling ones primarily utilize the habitat in the dimly lit region beyond karst openings; however, some venture into total darkness several yards from the twilight zone. They are good climbers, and their wet bodies can easily cling to cave walls. Often biologists will refer to their tail as prehensile, although the tail doesn't grip, it assists them in pushing and pulling along cave features such as stalactites and stalagmites. Cave salamanders can jump and scamper away if startled in a cave system or on hillside rocks during the spring when the soil is moist.

Reproduction

Courtship and mating occur in the late summer and early fall prior to the majority of egg laying from early fall to winter. Egg laying mainly occurs in underground habitats, especially in caves with streams. However, eggs can be found in springs and rocky streams outside of karst features. Cave salamanders are known to have a prolonged egg laying period

throughout the season. The timing appears to be aligned to low stream flow in cave systems. Eggs are generally laid as singles or in small clusters on the bottom or along the sides of rocks in a stream or in the cave's rimstone pool area. A female may lay 60 to 120 white eggs in a season, and gilled larvae hatch in 10-20 days at about 1 cm long. Most larvae live 12-15 months in the water before metamorphizing. It is common with seasonal rain for larvae to be washed into springs and streams where they grow to transformation. When they leave the water, they may be up to 5.5 cm in length and reach mature adulthood with an additional one to two years. Growth to maturity depends mostly on food availability.

Population Status

They are found throughout most of Missouri's southern region except the bootheel and the Osage Plains. Their range in North America extends from Indiana south to northern Georgia and Alabama, northwest to Missouri, and southeastern Kansas.

Glossary

Cloaca:	The common chamber through which the urinary, digestive, and reproductive canals discharge their contents through the vent.
Costal grooves:	Vertical grooves located on the sides between the forearms and hindlimbs of several species of salamanders. The grooves are aligned with the segmental and abdominal muscles.
Karst:	A landscape marked by caves, sinkholes, losing streams, springs, natural bridges, and other features. Missouri's karst features are usually limestone or dolomite.
Troglobite:	The "Cave dweller", an organism (animal)that solely lives in caves.
Troglophile:	The "Cave Lover", an organism (animal)that can complete its life cycle in caves but may also do so in suitable habitats outside of caves.
Trogloxene:	The "Cave Visitor", an organism (animal)that habitually enters caves but must return periodically to the surface for some of its living requirements, usually food.
Twilight Zone:	A part of the cave that is close enough to an opening that it receives limited amount of sunlight. It is usually not far from the main entrance, frequently it is cool and damp, with the temperature is constant.
Vent:	External opening to the cloaca; also referred to as the anus.