



Volume 29/Issue 2

Idaho Giant Salamander

October 2015

# Idaho Giant Salamander

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# Idaho Giant Salamander

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Photo by © 2004 Gary Nafis

**G**iants are prowling Idaho's forests. They don't say, "fee, fie, foe or fum." They yelp. What are these giants? They are Idaho giant salamanders.

Idaho giant salamanders are special. Most salamanders are voice-less, but Idaho giants can make a yelping sound. They are only found in central Idaho and two places in western Montana. You can't find them any place else on the planet.

Idaho giants are the largest salamanders in Idaho. They can grow to be over a foot long. If salamanders were football players, Idaho giants would be linemen. They have huge heads, bulky bodies and muscular legs.

Like other salamanders, Idaho giants have three life stages. They start as eggs, hatch out into larvae (LAR-vee) and then turn into adults. Idaho giant salamanders may breed in the spring or fall; but females lay their eggs in the spring. They lay anywhere from 135 to 200 eggs in clean, cold streams. Each pea-sized egg is stuck under logs or rocks in the water. Females guard their eggs from predators until the eggs hatch. Once the eggs hatch, the mother salamander leaves. She does not help her young find food or shelter.

Larvae stay in the stream and breathe with small gills on the sides of their heads. Larvae are usually brown with yellowish spots on their

backs and sides. They also have a fin that runs down the top of their tails. Larvae eat insects, fishes, frogs and other salamanders. Most larvae metamorphose (met-a-MOR-foze) or change into adults when they are 18 to 24 months old, but some do not. They don't want to grow up and leave their watery home. They stay in the larva stage. These larvae may breed and can grow to be larger than the adults!

Adult Idaho giant salamanders are dark brown or black with gray, tan or copper colored marks on their backs. They spend most of their time on land and only venture back to water to breed and lay eggs. Adults are found in wet forests near streams, lakes and ponds. They usually hide during the day under rocks, logs or bark. They are most active on warm, rainy nights. Since they no longer spend the majority of time in water, they lose their gills and breathe with lungs. Adults will eat just about anything they can catch and fit in their mouths. They eat insects, small snakes, mice, frogs and other salamanders. Idaho giants are good climbers. They can climb up plants to a height of eight feet!

Look for Idaho giant salamanders next time you are in central and northern Idaho forests and mountain streams. Just be careful. Idaho giant salamanders have teeth. Their bite may break the skin. It might be best to just look at these giants.



# What is an Amphibian?

**H**ave you ever caught a frog? If you have, you've held an amphibian (am-FIB-ee-un). Frogs are amphibians. Toads and salamanders are amphibians, too.

Amphibians are split into three groups. The first are caecilians (si-SIL-yens). They are leg-less and look like worms. Idaho doesn't have any caecilians living here. Salamanders and newts are the next group. Idaho has four salamanders and one newt. The last group is frogs and toads. We have 10 different frogs and toads living in Idaho.

Amphibians are the only vertebrates (animals with backbones) that go through a metamorphosis. That means their bodies change shape as they develop and grow. Think of a frog. Frogs start their lives in eggs. They hatch out of the eggs as tadpoles. Tadpoles have round bodies with tails. As frogs develop and grow, they sprout legs and their tails go away. That is a huge change. All amphibians start their lives inside eggs. The eggs hatch and then the amphibians are called larvae (LAR-vee). The larvae then change into adults.

Amphibians are usually found in or around water. All amphibians lay their eggs in a wet place. Amphibian eggs are not covered with hard shells. They are covered with layers of jelly. The jelly needs to stay wet. If the jelly dries out, air can't flow in and out of the egg. The developing amphibian inside the egg may suffocate and die.

Most larvae live in water. They breathe with gills. Most adults live on land and breathe with lungs. Many amphibians can breathe through their skin! Their skin is moist and thin. Oxygen and other gases can pass right through the skin.

Some amphibians have bumpy skin. The bumps are glands that ooze liquid. The glands help keep their skin moist. Some glands make poison or a liquid that tastes bad. This helps protect amphibians from predators.

Amphibians are cold-blooded animals. Cold-blooded animals cannot make heat inside their bodies. If a salamander lives in a pond and the water is 50 degrees, the salamander will also be 50 degrees. Instead of cold-blooded, many scientists like to use the words ectothermic (ek-toe-THER-mic) or poikilothermic (poy-kee-lo-THER-mik). That's more fun to say than cold-blooded! Poikilotherms (poy-KEE-lo-therms) are animals whose body temperatures change with their surroundings. Amphibians are amazing animals! Keep an eye out for them next time you are around water.



**Mexican burrowing caecilian**

By Franco Andreone - see authorization (<http://calphotos.berkeley.edu>) [CC BY-SA 2.5 (<http://creativecommons.org/licenses/by-sa/2.5>) or CC BY-SA 2.5 (<http://creativecommons.org/licenses/by-sa/2.5>)], via Wikimedia Commons



**Eastern Newt**

By Patrick Coin (Patrick Coin) (Own work) [CC BY-SA 2.5 (<http://creativecommons.org/licenses/by-sa/2.5>)], via Wikimedia Commons



**Pacific Chorus Frog**

©2013 John P. Clare

# Sensational Salamanders

**S**alamanders are amphibians that have tails when they are adults. Idaho has four salamanders. They are the long-toed, the tiger, the Coeur d'Alene and the Idaho giant. The rough-skinned newt is also found in Idaho, but it is not supposed to be here. It was brought to Idaho and released into the wild.

Salamanders are usually placed into three general groups. These groups are terrestrial (te-RES-tree-el), aquatic (a-KWAT-ik), and amphibious (am-FIB-ee-us). What determines which group a salamander is in? It's all about the amount of time it spends in the water during each life stage.

Terrestrial salamanders spend their life on land. They lay their eggs on land, and they develop and grow on land. They rarely go into the water, but they are never far from it. Many terrestrial salamanders do not have gills or lungs. They breathe through their skins and the skin on the inside of their mouths and throats! If these salamanders stay underwater for a long time,

they could drown. Some terrestrial salamanders give birth to live young. The eggs develop and hatch inside the mothers' bodies. Then the mothers give birth to the baby salamanders. A terrestrial salamander in Idaho is the Coeur d'Alene salamander.

Aquatic salamanders never leave the water. Some never change into adults. Most aquatic salamanders have both gills and lungs. Their lungs help them rise and fall in the water. They fill their lungs with air to go up. To go down, they breathe out. Idaho doesn't have any fully aquatic salamanders.

Amphibious salamanders spend part of their lives in water and part on land. These salamanders lay their eggs in the water. The young salamanders develop in the water and change into adults. They then leave the water for a life on land. Most of Idaho's salamanders are this type.

Salamanders come in all sizes. The largest salamanders in the world are found in Japan and China. A Japanese giant salamander has measured over five feet long and weighed 55 pounds! The smallest salamander in the world is found in Mexico. It is about one inch long. Idaho's largest salamander is the Idaho giant at 13 inches. The smallest is the Coeur d'Alene. It is about four to five inches long. Salamanders truly are sensational animals!



Tiger salamander

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Long-toed salamander

By Thompsma [Public domain], via Wikimedia Commons



# Nature's Transformers

Do you have a toy called a transformer? It can be a lot of fun to play with transformers. It is like having two toys in one. A robot might turn into an airplane or truck. Nature has transformers, too.

Can you think of an animal that changes the shape of its body as it grows? Butterflies, frogs or salamanders may come to your mind. Their bodies change shape and form as they get older. They go through a metamorphosis (met-a-MOR-fo-sis).

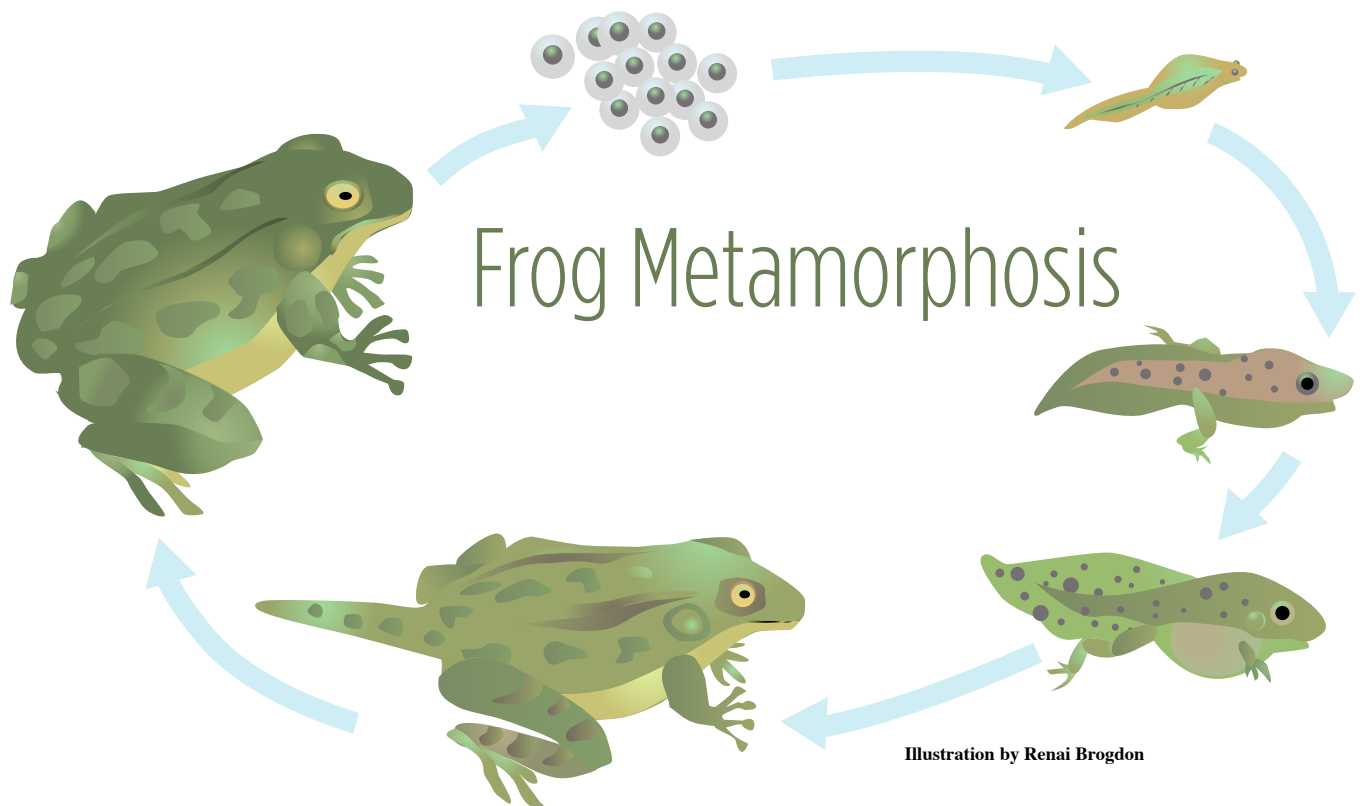
You may be thinking, "doesn't everything change as it grows?" Everything does change a bit as it grows and develops. During a metamorphosis though, changes happen quickly and are dramatic. Think of a butterfly. It changes from a fuzzy, crawling insect that chews its food to a beautiful, flying insect that drinks its food. What a change!

Maria Sybilla Merian was one of the first people to tell others about metamorphosis. In 1705, she published a book of her paintings showing butterflies and beetles in their different life stages. At one time, people thought that insects, like butterflies and beetles, just appeared out of dead and rotting plants and animals. Ms. Merian's paintings and descriptions changed this. Her work showed the world that metamorphosis was real.

Many scientists think that metamorphosis happens so that each life stage lives in a different habitat. That way the young and adults do not have to compete with each other for food.

Chemicals, called hormones, trigger the changes. At each stage, certain hormones control how the animal grows. Scientists have made these hormones in laboratories. They use them in insecticides to control mosquitoes and other insect pests.

Metamorphosis is a truly amazing thing to see. If you find a cocoon, leave it outside, but look at it every day. You may be able to see the insect changing and developing inside. It is fun to see what will emerge!



# Fire Lizards

The word salamander comes from Greek words that mean fire lizards. You may be wondering how a wet, slimy salamander could be connected to a hot, dry fire. It all goes back to ancient times.

During the Middle Ages, people depended upon fire for their survival. Fire was used for heating homes and cooking food. Gathering wood and building fires was a daily chore.

When people set damp logs on fire, salamanders would scurry out of the logs. They did not know salamanders were hiding in the cracks and holes in the logs. When they saw salamanders in their fires, people thought the salamanders had somehow been born out of the flames.

Salamanders would run and walk right through the fire. The fire didn't seem to hurt them at all. This was really puzzling. How could a creature walk through a fire and not appear to be hurt? People that lived during the Middle Ages believed in magic, and they thought salamanders must have magical powers. They did not know salamanders could move really fast when they needed to or that the slime on salamanders might protect them for a few seconds in a fire.

Some people made medicines out of salamanders. They thought the magical powers in salamanders could cure sick people. Other people were frightened by salamanders. They thought the magical powers could be used against people.

Of course, now people know salamanders are not magical creatures. They are just interesting animals that were accidentally thrown on a fire and ran for their lives.

## State Symbols

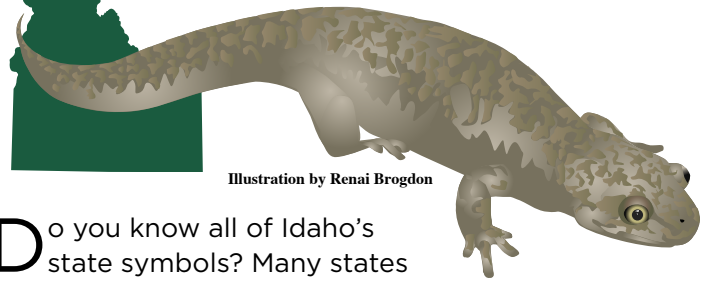


Illustration by Renai Brogdon

Do you know all of Idaho's state symbols? Many states have state symbols. These symbols represent something special about the state. Just this year, the Idaho giant salamander was adopted as Idaho's state amphibian.

State symbols usually have special meaning or value to the people of the state. A state symbol could have special historic or scientific importance. The Idaho state salamander lives almost exclusively in Idaho. It is only found in Idaho and a small part on Montana. You can't get more native than that! We have a state fossil, the Hagerman horse. This fossil came out of a fossil bed that is known as the world's best for fossils that are 3.5 million years old! People come from all over the world to look at Idaho's horse fossils.

A symbol may have been named for economic reasons. Idaho's state vegetable is the potato. Our climate is perfect for growing high-quality potatoes. This crop has made Idaho famous throughout the world. It also brings billions of dollars into our state every year.

For something to become a state symbol, it first must be proposed to the Idaho legislature. Elementary students have proposed many of Idaho's state symbols. Ilah Hickman proposed the Idaho giant salamander to become Idaho's state amphibian. She researched the salamander and realized it was something special. She found a legislator to write and sponsor a bill for the new state symbol. It took lot of hard work and determination to get lawmakers to see the importance of the Idaho giant salamander. It took five years, but Ilah Hickman never gave up! This year the legislature passed the bill making the Idaho giant salamander Idaho's state amphibian. Ilah Hickman finally saw her dream come true. The Idaho giant salamander will forever be remembered as an important part of Idaho.

# Whoa, Mama!

Some mothers really have their work cut out for them. The Idaho giant salamander may lay up to 200 eggs at one time. Other animals, like black bears, have one or two young at a time. Which mother has the hardest job? Why is there such a difference? The animal's life style, life span and the number of animals that eat it all come into play.

Usually, animals that have a large number of babies or lay many eggs at one time are prey animals. They are eaten by many different creatures. Often they do not care for their young. This is the case with most frogs and salamanders. A bullfrog may lay up to 20,000 eggs! In about four days, tiny tadpoles hatch from the eggs. Bullfrogs do not take care of their young. Once the female lays her eggs, she leaves. She is not there to protect her young or show them where to find food. Do you think other animals like to eat frog eggs and tadpoles? You bet! Many of the eggs and tadpoles will be eaten by other animals. Bullfrogs even need to watch out for their brothers and sisters. They will eat each other.

To make sure there will be bullfrogs in the future, nature has given the bullfrog the ability to lay thousands of eggs. Hopefully, some eggs and tadpoles will live to lay eggs themselves.

Animals that have a fewer number of young usually invest a lot of energy and time caring for their babies. Sometimes the babies are born helpless and need mother's help to survive. When bear cubs are born, they are tiny. They are about the size of a pop can and weigh less than one pound! It is up to the mother to care for her babies and make sure they survive. Imagine if she had 20,000 cubs to care for! The mother would not be able to take care of all of them. She just would not have the energy, time or food.

The frog lays thousands of eggs and leaves them. It has no guarantees that any of its young will survive. The bear has two cubs, spends a lot of time and energy caring for them and has a better chance her cubs will live. Which mother would you rather be?

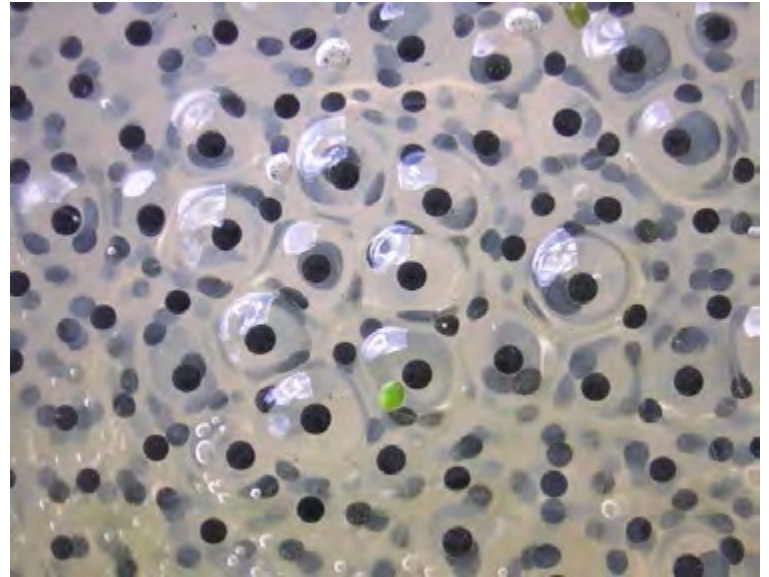


Photo by Tarquin at the English language Wikipedia

**Close-up of frogspawn. The spawn hatches into tadpoles, which will again develop into froglets and adult frogs.**



Photo by National Park Service

**Black Bear mother and cubs hibernating.**





# Be Outside Go Herping!

**H**ave you ever heard of herpetology? In Greek, herp means creeping, so herpetology is the study of creeping things. It is the study of reptiles and amphibians. Many people just call them “herps” for short.

It is fun to look for amphibians and reptiles and learn about what they need to survive. If you want to go “herping” and look for reptiles or amphibians, here are some things to keep in mind. You are more likely to see an amphibian or reptile in the spring during breeding seasons. Use a good sturdy stick to flip things over. Many herps hide under rocks, logs and leaves, so looking under things is a good place to start. Look for amphibians when the sun is going down and at night; reptiles are usually seen during the day.

If you would like to get a closer look at an amphibian or reptile, place the animal in a clear plastic box. Amphibians will probably need a bit of water in the box. Herps can bite! Use a net and wear thick leather gloves when handling animals and *never* handle a rattlesnake. Once you are done looking at your herp, put it back where you found it. Although it may seem fun to keep herps as pets, it can be tricky keeping them alive. Wild animals belong in the wild.

Herpetology can be fun! Read books and watch videos to learn more about amphibians and reptiles. Then go exploring and look for herps around your neighborhood.





# Salamander Word Search

S J S M L E L Z Y H E U K Y N  
C I O A T A V U I L M M G M A  
T D S G L A C U N Z M O P R M  
Q B G O V A U I J G L N A E P  
W E T R H H M W G O S G H H H  
L B A B Z P F A T A I V A T I  
F L B P V B R E N D M M W O B  
C G I L L S P O T D P K A L I  
I H S I C R C N M H E W T I O  
T E R R E S T R I A L R E K U  
A I A H F B M B J K T H R I S  
U I N I B D I I G L S E T O Q  
Q L R F G A I Z Y I D P M P N  
A E J E N O B K C A B P R E H  
A R J D H M H I W T G R O N V

## WORDS

AMPHIBIAN  
AMPHIBIOUS  
AQUATIC  
BACKBONE  
EGG  
FIRE  
GILLS  
HERP  
HERPETOLOGY  
LARVA  
LUNGS  
MAGICAL  
METAMORPHOSIS  
POIKILOTHERM  
SALAMANDER  
SKIN  
TAIL  
TERRESTRIAL  
WATER  
WET

## WILDLIFE EXPRESS

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WE WOULD LIKE TO HEAR FROM YOU!  
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