

American Toad Care and Husbandry

Can you give us information on feeding and care for our American toads?

By Margaret A. Wissman, DVM, DABVP

Our American toads will not eat anything. We tried worms and toad food; we also tried force feeding. Can you give us some information on feeding and care for our American toads?

Also, one of the American toads is pregnant! What is the gestation period of an American toad, and how many eggs will she lay?

American toad. Well, let's start by discussing husbandry, as how you are keeping your American toads may affect their interest in eating. The American toad (*Bufo americanus*) can be housed in an aquarium or terrarium constructed of molded plastic that is 12 inches wide by 12 inches tall by 24 inch long. This is suitable for two adult toads. Their enclosure does require a tight-fitting cover as they are good jumpers and can hop quite high.

They like to burrow and hide during the day, as they are basically nocturnal, so they require some sort of substrate that they can dig down into. Many herpetoculturists recommend a substrate of coconut husk fiber, as that allows the toad to burrow, it is easy to maintain and should be relatively safe if swallowed. Other herpers recommend peat moss (unfertilized), leaf litter or cypress mulch. Short-term, you can also use moist paper towels or foam rubber chips. Do not use sand, gravel or small bark shavings, as they may result in gastrointestinal impactions or other GI problems if ingested.

Problems related to vitamin D synthesis and calcium absorption do not seem to cause significant disease issues with toads, but to play it safe, they should be provided with a full-spectrum light with UVB output. It should be changed regularly, based on the manufacturer's recommendations.

Because they are carnivores, feel free to add live potted plants to their environment as visual barriers. You can also place large pieces of bark, rocks or cork for hiding places and for additional visual barriers. I like to use appropriate-sized clay pots for hiding areas, as they hold moisture well. These toads prefer to feed at dusk; perhaps you should try to feed them at that time.

During the day, most toads stay buried under litter, which keeps the temperature cool. I am wondering if you have provided your toads with a substrate for burying themselves. They won't be comfortable just sitting out in front of everyone and should have the ability to partially bury themselves in their substrate, which should be kept slightly moist but not wet. They do best at a temperature range of 60 to 70 degrees Fahrenheit. Their nighttime temperature can be a few degrees lower. Toads from the southern portion of their range may do better if kept somewhat warmer. Toads from more northern areas may burrow underground during the colder winter months. They are therefore more active from April through November.

Toads should be provided with a shallow dish as they may drown in deep dishes, being poor swimmers. Because amphibians are very sensitive to environmental toxins, they should only be provided with water that has had chlorine, chloramines and heavy metals removed via filters and conditioners. As an alternative, bottled spring water may be used. Be sure to not use distilled water, which is devoid of minerals and salts, and is dangerous to the osmoregulation of frogs and toads. Other types of acceptable bottled water include filtered water or deionized water that has had minerals replaced. Read the labels on bottled waters carefully to ensure that you get one with minerals and salts added (or not removed in the first place). Toads live on land, but because they are amphibians, they require moisture and humidity and a shallow dish of water (or something similar) for soaking and reproducing. Their skin must be kept moist for optimal health.

Toads should not be fussy eaters. Healthy toads are usually actually quite pudgy! If you are housing them correctly within the suggested temperature range, then they will accept crickets, mealworms, waxworms, earthworms or superworms of appropriate size. They usually consume anything that they can fit in their mouth. Gut-loaded crickets can make up the majority of the diet; however, variety is the spice of life, and the more you can vary a toad's diet, the better off it will be. During warm months, catching local insects (nontoxic, of course) can provide added variety. Moths seem to be particularly relished by most toads. In the wild, they eat grubs, spiders, worms, insects, slugs, snails and other invertebrates. If your toads are wild-caught, try offering them what they eat in the wild.

Adult toads should be offered three to six food items every other day. Toads under an inch in length should be offered

appropriately sized food items, such as flightless fruit flies, pinhead crickets and other tiny insects. In addition to gut-loading crickets, other insects should be dusted with a mineral/vitamin powder every other feeding. Juvenile toads should receive supplementation daily. With all nutritional programs, it is always best to discuss the diet and any supplementation with your herp vet for specific advice tailored to your particular charges.

If you haven't already taken your toads to your herp vet for examination and fecal parasite exam, then I would recommend that you do so immediately, to rule out any medical conditions that could result in your toad's anorexia (lack of appetite). Wild-caught specimens might be harboring a significant parasite load that could cause problems.

The Birds and the Bees and the Toads

In regards to your reproductive questions, let's start with the basic facts. Males make several different types of calls. If you want to do something cool, do a search on the Internet for some of the sites that have recordings of the different frog and toad calls. They are very neat to listen to. If they are not calling, it can be difficult to sex young males from females. Males (5 to 7.5 cm at maturity) are slightly smaller than females (7 to 10 cm at maturity). Males also have dark throats and horny tubercles on the first and second digits when they mature. Mature toads are much easier to sex.

Toads usually breed in temporary pools of water. Breeding season usually begins in February or March and continues through May. However, the actual start of breeding is temperature and light dependant to take advantage of optimal conditions. Males find a suitable pool and begin calling to females. They use a specialized dewlap that is a pouch that holds air for calling. Their call is long and pleasant, and sounds somewhat like crickets chirping. Amplexus (the amphibian act of copulation) occurs when the male gets on the back of the female and clasps her, holding on for hours or even days. The male is not fertilizing the eggs internally, but is actually stimulating the female to oviposit (lay) her eggs, which he then fertilizes with a cloud of milky sperm. The female usually lays two strings of eggs into the water pool.

When a female is getting ready to breed, she produces eggs internally. When you said your female was "pregnant"; what you really are referring to is her being " gravid." Pregnancy refers to carrying a fertilized embryo within the female uterus. Don't be fooled by a nice, plump female, who might be just that. What makes you think she is gravid? They don't have a gestation period, either. A gravid female will oviposit when stimulated by the male during amplexus. If she is not courted by a male, she may resorb her eggs entirely and not oviposit that season.

Depending on the ambient temperature, the fertilized eggs may hatch within one week. Water quality and nutrition for the tadpoles is beyond the scope of this answer. But, suffice it to say that sanitation is very important for the delicate tadpoles. Tadpoles consume vegetation from the water. They will usually undergo metamorphosis into toadlets within four weeks. Tadpoles go from being vegetarian to carnivores when they turn into toads. These tiny toads can begin consuming wingless fruit flies and other very small insects. They need to be able to climb out of the water and onto land when their limbs develop. At that point, they can be housed as described for adult toads.

The American toad can live for up to 30 years with proper husbandry and nutrition. I hope this helps you with your toads. Amphibians can be really cool creatures to care for. Just remember that the parotid glands produce a mixture of toxins that can be irritating to the skin and mucus membranes of humans and other mammals. Interestingly, the secretions from some frogs and toads can be very irritating to other amphibians, as well. After handling your toads, be sure to wash your hands thoroughly and make sure that you don't touch your face, eyes, nose or mouth prior to washing up.

Need a Herp Vet?

If you are looking for a herp-knowledgeable veterinarian in your area, a good place to start is by checking the list of members on the Association of Reptilian and Amphibian Veterinarian (ARAV) web site at www.arav.com. Look for DVMs who appear to maintain actual veterinary offices that you could contact.