Glass Frog Care and Information

Everything you want to know about the glass frog.

By Brian Kubicki

Captive Care
Appropriate housing for glass frogs is very important for the long-term survival and health of these anurans. Much care and planning is necessary for both the external and internal structures. Because most glass frog species are arboreal in nature, it is best to house them in an enclosure that provides plenty of vertical space for plants and other structures that the frogs will use in captivity. I like to use enclosures that are a least 150 percent higher than they are wide. For example, if the enclosure is 50 centimeters wide, the preferred height is 75 centimeters. You must consider the number of specimens and species you wish to house. In my experience, it is best to house no more than two males and three females in an area 75 centimeters tall by 30 centimeters lateral depth by 35 centimeters wide. These dimensions equate to a 20-gallon area, so, considering the number of specimens for this allotted space, it works out to one frog per four gallons of leaf space.

Glass frogs also benefit from the available light in their ecosystems. Make sure to provide a source of light with the appropriate spectrum and intensity for all the plant and animal specimens. Ventilation allows for the exchange of fresh air into the enclosure. Fresh, clean air is vital to combat problems with pathogens and fungus. Humid, stagnant air is a potential problem for both glass frogs and the plants they live on. Provide enough ventilation to allow fresh air to constantly enter, but be careful not to overdry the enclosure. An ecosystem that is too arid can be almost as harmful as one with stagnant humid air. The vivarium should always smell humid and fresh.

Captive Diet
Glass frogs are excellent little predators, possessing great vision in their little eyes, which are oriented at 45 degrees forward to view the distance of their small prey. They feed by leaping at their prey with an open mouth, and even at a distance of several centimeters, they are dead-on accurate. Glass frogs in the wild feed on a wide variety of live insects and other arthropods, and in captivity the same menu is best. I feed my specimens a diet of drosophilid flies. Glass frogs have incredible appetites, and there is a vital need to have a constant supply of small insects available for them when they are active at night. Other possible food items are any small, soft-bodied arthropods, but use care that they are not poisonous or otherwise dangerous food items.

Captive Breeding
The captive breeding of glass frogs depends on the conditions of the enclosure and the specimens. Healthy specimens in an appropriate enclosure with lots of plants and a moving water source can be encouraged to breed with higher humidity levels. These levels can be attained with heavy spraying or an automated rain-chamber device. An automated rain-chamber device simply refers to any automated spray system that simulates rain showers. The specimens will be in breeding readiness, which is most often demonstrated by calling males in conditions resembling the rainy season. The females must also be given plenty of food to promote the development of healthy eggs, which may be laid once they have successfully gone into amplexus with chosen males.

Egg masses in the wild are typically deposited on the surfaces of leaves overhanging streams below, but in captivity they will deposit on glass and other surfaces in the enclosure. The number of eggs in an egg mass depends both on the health of the specimens and the species, but typically 20 to 30 eggs can be expected.

It is important to thoroughly check the enclosure each morning to locate any possible egg masses that may have been deposited the prior night. When and if eggs are located, you have basically two choices. One choice is to leave the eggs in the enclosure to undergo development there. The other choice is to remove the eggs and place them into a separate incubation container. I have always removed the eggs and placed them into a special incubation container. An incubation container consists of a small, clean, plastic box where you place the eggs, and any substrate to which they may be attached. I provide a small cup with clean water to increase humidity and spray the eggs lightly every couple of days as well. To finish the container, I place a thin plastic film with a few small holes over the top to keep in the humidity.

It is important to prevent eggs from drying out. Watch the eggs closely to make sure no fungal infections take place. If an egg or two goes bad, simply remove the bad egg(s).

The time of egg development varies with temperature and species, but it typically lasts seven to 15 days. After the larvae

hatch from their eggs it is time to introduce them into appropriate rearing containers. Rearing centrolenid larvae is tricky, and is typically best done by housing each larva individually. Glass frogs have a long larval stage, sometimes taking a year to completely undergo metamorphosis, but typically the larval developmental stage lasts seven to 10 months. The type of rearing container I have used is one of smaller volume, typically between 250 and 500 milliliters. It is best to use a clean water source, free of possible pesticides, pollutants and other harmful chemicals. I typically use clean stream water or rainwater, but I have also used water produced from a reverse-osmosis (R/O) DI unit. The main problem with R/O DI units is that they sometimes clean the water too well and vitally needed chemical compounds are often absent. I combat this by adding mixed terrestrial substrate rich in mineral and chemical compounds.

Wild glass frog larvae typically undergo development in the detritus of a stream bed, and you should replicate this in the confines of a captive-rearing container. I often collect forest floor substrate and place it into the rearing container. Moss, dead leaves, small twigs, dirt, mud and decaying plant matter are what typically compose the forest floor substrate. Once again, be careful to not include any toxic items or pollutants into this substrate. I next place this substrate into the rearing container and place these containers in an area receiving decent to strong lighting, but be careful not to exceed a water temperature of 27 degree Celsius (80 degrees Fahrenheit) with containers in strong light areas. The water in the container will soon turn a greenish color with the presence of micro algae, and this marks the readiness of the container for the placement of the larvae. Keep a close eye on the developing specimens, and keep track by documenting observations in their development.

The method just described has worked for me, but by no means is it the final word on rearing glass frog larvae. In my opinion, anyone working with anurans in such a manner is, in fact, doing scientific work, and the need for experimentation is vital. Please experiment and share any results with friends and colleagues.

One larvae-rearing method I have been planning is to set up a river-type aquatic ecosystem, with stream substrate and an undergravel filter fitted with a smaller powerhead to provide current. However, I have not experimented with this ecosystem yet and, therefore, have no results to provide. We all need to work together to enhance the captive-breeding efforts among the various captive-bred anurans with which we work.

Once the larvae have reached the stage of metamorphosis, which is typically defined by the penetration of the front limbs, it is time to place them into an intermediate container. An intermediate container should consist of 50-percent aquatic and 50-percent terrestrial environments. Make the container with a gradual slope, which will allow the specimens to easily exit their aquatic environment when they are ready. The glass frogs will be in a transition stage of absorbing their tail remnants for several days and typically will not consume any food items. Once they have fully absorbed their tails, it is especially important to provide a steady supply of small food items for the developing juveniles.

Glass frogs are usually less than a centimeter long when they leave the water, so remember to provide them with tiny food items appropriate to their small size. Watch the juvenile specimens closely to make sure they are actually feeding on the small insects provided to them. This stage after metamorphosis is the most challenging and crucial.

The tiny froglets can be introduced to a rearing container together with their siblings. The rearing container should only provide minimal plant cover. I advise not placing specimens in enclosures more than 50 centimeters by 25 centimeters by 30 centimeters. After a few months of development, when the captive juveniles have reached a length of about 1.5 centimeters, introduce them into larger, permanent setups that have the characteristics of the adults' ecosystems.

Conclusion

Glass frogs are beautiful and rewarding to keep if given the chance. However, they share the fate of many other anurans in the tropics, that of habitat destruction and pollution.

If you are fortunate enough to encounter these rare little rain forest gems, do your part to provide them with the best care possible. Glass frogs are too beautiful to suffer the grim fate of dying in inadequate captive environments. With our combined captive-care efforts, glass frogs, along with many other species of amphibians, may have a second chance in an otherwise bleak future.

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