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## Glass frogs (*Family Centrolenidae*)

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### **The Amazing, See Through Frogs!**

Glass frogs belong to a very large and diverse group of small, neotropical, mostly arboreal to semi-arboreal frogs indigenous to a wide distribution over much of the New World, including Mexico, throughout Central America, and into much of South America depending upon the families, genera, and species. These small yet diverse groups of frogs consist of well over one hundred species generally consisting of two subfamilies, and twelve genera, although the taxonomy and classification of these unique frogs remains largely fluid and unsettled. Regardless of the taxonomy, however, most members of these genera and species are relatively small frogs with large, high-set eyes, slightly enlarged toepads for climbing, and generally range in color from lime green to yellowish-green to brownish or greenish brown, sometimes with paler flecks or other dorsal markings. Glass frogs earn their common names from the semi-transparent nature of their skin and ventral, or belly surfaces in many species, oftentimes revealing their internal organs, viscera, and gastrointestinal tracts. These unique frogs also have several differing means of reproduction and breeding, with many species laying or depositing their eggs on vegetation overhanging small bodies of running water, where the newly emerged tadpoles then drop into from above, while some species also display parental care as well. Glass frogs are a highly specialized and unique group of frogs which, for the more moderate to intermediate amphibian and reptile enthusiast, can make for very enjoyable terrarium and display species, and given the increased rates of exploration in the Neotropics, and the secretive and oftentimes inaccessible natural history of these frogs, even more species and genera are sure to continue to be discovered!

### **Taxonomy**

**Life:** All living, physical, and animate entities

**Domain:** Eukaryota

**Kingdom:** Animalia

**Phylum/Sub Phylum:** Chordata/Vertebrata

**Class:** Amphibia

**Order:** Anura

**Suborder:** Neobatrachia

**Family:** Centrolenidae

**Subfamilies:** Centroleninae, Hyalinobatrachinae, and Allophryninae

**Genera:** Allophryne, Celsiella, Centrolene, Chimerella, Cochranella, Espadarana, Hyalinobatrachium, Nymphargus, Rulyrana, Sachatamia, Teratohyla, and Vitreorana

*\*Taxonomy subject to change and revision.*

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### **Lifespan and Longevity**

If provided the proper care, glass frogs can attain longevity of up to 5 to 6 years or more.

### **Distribution and Habitat**

Glass frogs are a widely ranging, New World group of frogs indigenous to much of the Neotropics depending on the family, genus, and species. Species may range from southern Mexico, through much of Central America, and into Panama. In South America, these groups of frogs may occur from the Andes, through Venezuela, Bolivia, and into the Orinoco and Amazonian River basins of northern South America, from the Guiana Shield, to Brazil and northern Argentina. Within these ranges, most species of glass frogs occupy arboreal to semi-arboreal, riparian or edge vegetation and habitats along flowing bodies of water such as streams, rivers, and other wetlands. Some species also occupy the higher altitude, montane or cloud forests, while others occupy tropical to semi-tropical or semi-deciduous rainforests or other forests of Central and South America.

### **Conservation Status**

Conservation status is dependent upon the exact family, genus, and/or species. Most are IUCN Red List Least Concern (LC) or Not Evaluated (NE). See the IUCN Red List for any further species specific conservation statuses pertaining to members in the family Centrolenidae.

### **Legal and Regulatory Status (\*Subject to Change)**

Consult with your local, municipal, and state ordinances and regulations for any ownership restrictions.

### **Experience Level Required**

Intermediate/Moderate.

### **Size**

Most genera and species of glass frogs are relatively small frogs as adults, reaching average sizes of 0.7 to 3.0 inches, although some genera and species can be somewhat larger.

### **Housing and Enclosure**

Housing must be sealed and escape proof with a secured top or aquarium hood. A 10 to 20 gallon tall glass aquarium or terrarium is suitable for one to four glass frogs, and height will be more important than floor space. Provide several horizontal and vertical perches for the frog(s) to climb and rest on. Provide additional live or artificial foliage, logs, cork bark, or other cage furnishings for added security and aesthetic appeal. Glass frogs enjoy moderate to high humidity. Substrates that retain some moisture and humidity should be used such as paper towels, or sphagnum moss, cypress mulch, gravel, or potting soil for more naturalistic enclosures. Substrate should be pesticide free. Provide a large, shallow water dish in the enclosure and change at least 2 to 3 times weekly. Spot clean daily.

### **Temperature, Lighting, and Humidity**

Glass frogs can be maintained at ambient and heated temperatures between 70 and 82 degrees F. Mist the enclosure at least once daily. Glass frogs have fairly simple and undemanding heating and lighting requirements in captivity, and do not require additional UVA/UVB lighting, although providing it in moderated amounts can be greatly beneficial for their health, immune system, and overall wellness. For any supplemental lighting and heating that may be needed, use a low wattage incandescent or UVA/UVB bulb, radiant or ceramic heat emitter, or UTH (under tank heating element). Maintaining ambient humidity levels at 50 to 70% will be ideal for these

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frogs. More specific lighting, heating, and humidity product suggestions and recommendations that can best suit one's needs, as well as those of one's animals can be given as well.

### **Feeding, Diet, and Nutrition**

***Insectivorous***; In the wild, glass frogs are insectivorous, and will eat insects, arachnids, and other invertebrates they can catch. In captivity, feed glass frogs a variety of appropriately sized feeder insects such as crickets, roaches, mealworms, superworms, and waxworms. They can also be fed microfauna including springtails, isopods, and fruit fly cultures. Feeder insects should be gut-loaded in order to increase their optimal nutritional value. Glass frogs also require additional calcium and vitamin D3 supplementation 1 to 2 times weekly or as otherwise directed for optimal health and development. This is in order to prevent Metabolic Bone Disease (MBD) and other growth and nutritional deficiencies. Their feeding frequency will depend on the age, size, and overall health of your animal. Use care as to not overfeed them, as obesity and other health related issues can become an issue. More specific dietary and supplementary product suggestions and recommendations that can best suit one's needs, as well as those of one's animals can be given as well.

### **Handling**

Glass frogs are small, fragile, and sensitive amphibians, and any handling overall should be done sparingly or not at all. As with all amphibians, their skin is soft and permeable; Wash hands thoroughly and avoid any lotions, creams, or oils before handling any amphibian.

**\*\*Also be sure to practice basic cleanliness and hygiene associated with proper husbandry after touching or handling any animals or animal enclosures to prevent the possibility of contracting salmonellosis or any other zoonotic pathogens\*\***

### **Contact**

Authored by Eric Roscoe. For any additional questions, comments, and/or concerns regarding this animal, group of animals, or this care sheet, please email and contact the Madison Area Herpetological Society at [info@madisonherps.org](mailto:info@madisonherps.org)

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