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Horned Lizards (*Phrynosoma* spp.)

Spiny and Specialized

Horned lizards are commonly known as “horny toads” or “horny frogs”, although they are not truly “toads”, “frogs”, or otherwise “amphibians”, but rather a genus of lizards. In fact, their genus name, *Phrynosoma* translates to “toad bodied”. Roughly 15 species altogether are known from the southwestern United States and Mexico. Horned lizards can be quite variable in color depending on the species and locality, and can range from blackish or grayish, to tan, brown, yellowish, olive, reddish, to pinkish. Most species have short, spiny, rotund heads and bodies resembling a toad or a frog (hence their common names). Most also have a series of distinctive spines behind their heads and necks as well. These species possess numerous spines and scales as a means of not only outward defense, but also to conserve water to remain hydrated in their arid to semi-arid environments. Horned lizards employ a very unique defensive strategy when provoked or hard pressed, which involve squirting blood from ducts in and near their eyes for distances up to 5 to 6 feet. Although the exact mechanisms for their blood squirting ability remain unknown, it has been most widely believed that this ability may be derived from their staple diet of harvester ants in the wild. They also rely upon crypsis as a means of camouflage, and their appearances can conceal them quite well to avoid detection. They will also inflate their bodies when directly threatened, making them much less easily ingested for any potential predators. Horned lizards are a very unique and specialized genera of lizards that can make for intriguing and rewarding captives provided the correct level of care and knowledge by the intermediate level or higher enthusiast.

Taxonomy

Life: All living, physical, and animate entities

Domain: Eukaryota

Kingdom: Animalia

Phylum/Sub Phylum: Chordata/Vertebrata

Class: Reptilia

Order: Squamata

Suborder: Lacertilia

Infraorder: Iguania

Family: Phrynosomatidae

Genus: *Phrynosoma*

Species: *Phrynosoma* spp.*

*Taxonomy subject to change and revision.

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Lifespan and Longevity

Captive longevity of horned lizards is not fully known or understood, but they have to potential of attaining at least 5 or more years in captivity.

Species

Commonly seen species include the Regal Horned Lizard (*P. solare*), Mexican Horned Lizard (*P. taurus*), Desert Horned Lizard (*P. platyrhinos*), Coast/Texas Horned Lizard (*P. coronatum*), and Giant Horned Lizard (*P. asio*).

Distribution and Habitat

There are approximately 15 species of horned lizards indigenous to the arid to semi-arid deserts, grasslands, steppes, and scrublands of the Southwestern United States and Mexico.

Conservation Status

Conservation status is dependent upon the species. Some are IUCN Red List Least Concern (LC), Near Threatened (NT), or Not Evaluated for the IUCN Red List (NE) or otherwise Data Deficient (DD).

Legal and Regulatory Status(*Subject to Change)

Phrynosoma blainvillii, Phrynosoma cerroense, Phrynosoma coronatum, and Phrynosoma wigginsi are CITES Appendix II as of October 2017. Also consult with your local, municipal, and state ordinances and regulations for any ownership restrictions.

Experience Level Required

Intermediate/Moderate to Advanced.

Size

Horned lizards are fairly small lizards that can vary somewhat in size depending on the species. Most species of horned lizards typically are from 3 ½ to 8 inches as adults.

Housing and Enclosure

Housing must be sealed and escape proof, as well as be adequately ventilated. Horned lizards are communal, and can be kept together with members of the same species, although housing them with other species should be discouraged. A minimum of a roughly 20 gallon long, or similar sized enclosure can comfortably house one to a trio of these lizards. Horned lizards will enjoy burrowing and thus should be provided with two to four inches of a natural particulate substrate such as play sand, crushed walnut shells, or some other commercially available sands, but avoid calcium sand. Although they are not frequent climbers, horned lizards should also be provided with several additional furnishings for climbing, basking, and hiding opportunities such as log, rock, or cork bark hides, rocks, driftwood, artificial foliage, and/or other similar furnishings inside the enclosure. Also provide a sturdy, non-porous water bowl or dish they can readily enter and exit, that should be cleaned and changed at a minimum weekly or when otherwise fouled.

Temperature, Lighting, and Humidity

As with all reptiles, horned lizards are ectothermic, and should be provided with suitable basking and thermal gradient temperatures. Horned lizards enjoy hot, dry conditions, and basking temperatures of around 110 to 115 degrees F are acceptable. The cool side, as well as overall ambient temperatures can be within 70 to 75 degrees F. Many of the commercially available overhead incandescent or mercury vapor bulbs, radiant heat panels or emitters, and/or under tank

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heating elements can be used to maintain horned lizards. A 12 to 14 hour light cycle can also be provided as well using a properly fitted timer, temperature gauge, or thermometer/thermostat. Overall, horned lizards will require the correct amounts of UVA/UVB lighting and heating in order to properly derive calcium and vitamin D3. Spot clean the enclosure for urates, feces, or uneaten food at least twice per week. Be sure to periodically replace the substrate, clean, and disinfect the enclosure and its furnishings at minimum every 2 to 3 months. 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, horned lizards most often tend to be dietary specialists, feeding largely to exclusively on harvester ants, as well as occasionally other insects and invertebrates. Regarding horned lizards in captivity, conventional knowledge about their diets in the wild can make these species a challenge to maintaining in captivity. However, harvester ants can and have been successfully substituted using small feeder crickets for practicality and ease of feeding, but additional dietary supplementation will thus be required using formic acid supplementation (that they naturally derive from the ants) available in some commercially available diets. Horned lizards can be given food at least 2 to 3 times weekly, but also be sure to monitor their progress to ensure they are eating and/or able to capture their food. As with any insect diet, also be sure to provide calcium and vitamin D3 supplements in horned lizard diets whenever possible. 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

Horned lizards may tolerate some levels of handling, but are generally not as hardy or handleable of lizard species as some other commonly kept species are. Therefore, frequent handling should be discouraged. If they are handled, it should be done so gently and deliberately, but do not drop or injure the animal. Allow the horned lizard to sit and/or walk in between or from hand to hand as a way of best handling them. Although horned lizards are well known for squinting blood from their eyes as a defensive mechanism, most will become tolerant and acclimated to at least being in captivity, and must be severely or hard pressed for them to do so. More common defensive behaviors include relying on their camouflage (crypsis), running in short bursts, and/or puffing their bodies to appear larger or more inaccessible if wedged in between a crack or crevice.

****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

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