



**Photo Credit: William Romanowski.*

Spotted Turtle (*Clemmys guttata*)

Variable Shallow Water Citizens

Spotted turtles are a fairly small, semi aquatic pond turtle species indigenous to discontinuous portions of the Midwestern and eastern United States and southeastern Canada. These small turtles are most often distinguished by their blackish to dark brown, streamlined carapace with variable amounts of yellow to orange-yellow spots ranging from no spots to numerous spots. Being an aquatic, omnivorous species, spotted turtles are one of many turtle species whose sex can be determined by the ambient temperatures during embryonic development, and some aspects of habitat loss, degradation, and global warming are certainly negatively affecting this, and many other turtle species. Spotted turtles are highly intelligent species well, and have performed well in laboratory conducted studies utilizing mazes, and where it has been found that these turtles have at least the brain capacity of mice and rats in many respects. Unfortunately, due to their frequent terrestrial habits, small size, and oftentimes attractive appearance, spotted turtles are under threat from habitat loss and fragmentation through the construction of roads, as well as other human impacts such as over-collection and over-exploitation. They are a federally threatened and endangered species, and ensuring that only captive bred and born animals are selected can go a long way towards protecting and conserving wild populations of these turtles.

Taxonomy

Life: All living, physical, and animate entities

Domain: Eukaryota

Kingdom: Animalia

Phylum/Sub Phylum: Chordata/Vertebrata

Class: Reptilia

Order: Testudines

Suborder: Cryptodira

Family: Emydidae

Subfamily: Emydinae

Genus: Clemmys

Species: *Clemmys guttata**

**Taxonomy subject to change and revision.*

Lifespan and Longevity

Spotted turtles may attain longevity of 20 to 40 years or more with proper care and conditions.

Distribution and Habitat

The spotted turtle is a unique, relatively small to medium sized aquatic to semi-aquatic turtle

with a fragmented and discontinuous distribution over much of eastern North America. This species ranges along the coastal northeastern and eastern seaboard of the United States, as well as portions of southeastern Canada, including Quebec. This species also occurs in the Great Lakes and Midwestern region of the United States, and into extreme southern Ontario in southeastern Canada. Between these two ranges, these turtles furthermore have disjunct, and spotty distributions in several other Midwestern, eastern, and northeastern U.S. states as well. Within their ranges, spotted turtles prefer shallow, well vegetated wetlands and bodies of water including shallow, weedy, isolated ponds, sedge meadows, fens, tamarack and coastal swamplands, isolated inlets of lakes, seepages, sphagnum bogs and marshes, and slow moving rivers and streams. They will also frequently wander or travel overland in search of new habitats as well.

Origin/History

Clemmys guttata (Schneider, 1792).

It is not certain when exactly spotted turtles were first kept as pets for the pet trade, although they probably were when the aquatic turtle trade first took rise during the 1950's and 1960's. They became popular and sought after turtles due to their relatively small sizes, and colors. In 1975, the USDA would prohibit the commercial sale of hatchling turtles under 4 inches, citing public health concerns such as salmonellosis. However, there would be a loophole allowing turtles to continue to be sold for bona-fide educational, scientific, or research purposes.

Spotted turtles became a heavily collected and exploited species, and many U.S. states in which they were native to would then prohibit or restrict their collection. In Canada, these turtles then became federally endangered, and in the U.S., they would be placed under review for endangered species status by the U.S. Fish and Wildlife Service under the Endangered Species Act. They were also placed as CITES Appendix II species in October 2017.

Experience Level Required

Intermediate/Moderate.

Size

A fairly small species, spotted turtles usually range from 3 ½ to 6 inches in carapace, or upper shell length.

Housing and Enclosure

Enclosure System: Semi-Aquatic. Spotted turtles are semi aquatic to semi-terrestrial turtle species. Provide a sturdy, escape proof aquarium or commercially available plastic or galvanized stock tank or turtle tub of sufficient size with an elevated dock or basking area/access to dry land using a substrate dam. The latter are perhaps preferred for maintaining aquatic to semi-aquatic turtles in, as they are easier to clean, move/transport, and maintain than aquariums. Provide a minimum of 10 gallons of space per inch of shell, or about 40 to 90 gallons for most adult spotted turtles. A general rule of thumb to follow for spotted turtles is to provide water is only deep enough to allow for complete submersion, and at least two to three times the carapace length for adequate swimming and movement. A powerful water filter rated at least twice that of the amount of water in the enclosure is highly recommended for aquatic turtles, as they are messy and require frequent cleaning and regular water changes. Use a submersible water heater with a guard to maintain water temperatures of 75 to 85 degrees F. Substrate is optional, and foregoing it makes for easier cleaning and maintenance, but small to medium sized gravel can be used. Additional rocks, logs, live or artificial foliage can also be provided for additional foraging, basking, and hiding opportunities.

Temperature, Lighting, and Humidity

Providing the correct amounts of UVA/UVB overhead incandescent and florescent lighting, and calcium-to-phosphorus ratios is essential for ensuring the health and overall well-being of spotted turtles in captivity. Without UVA/UVB, or adequate amounts of it, they can be susceptible to the abnormal bone and shell growth and development known as Metabolic Bone Disease (MBD), and other health and development maladies. Pyramiding of the scutes and shell can also occur due to poor or improper diet, lighting, or heating. Always be sure to 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. Spotted turtles require a thermal gradient using a ceramic or radiant heat emitter, UTH (or under tank heating pad), and UVA/UVB overhead lighting. Ambient and cool end temperatures should be within 70 to 80 degrees F and the basking area from 85 to 95 degrees F. Also be sure to maintain a light cycle of 12 to 14 hours per day, and monitor temperatures with a quality thermometer. Be sure to provide a basking area or platform for your spotted turtle to emerge completely from the water as well. 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. While humidity is somewhat less important for most aquatic to semi-aquatic turtles, a general humidity level should be at, or around about 60 to 75%.

Feeding, Diet, and Nutrition

Omnivorous to Carnivorous; In the wild, spotted turtles are primarily omnivorous to carnivorous, feeding on aquatic to semi-aquatic insects, crustaceans, mollusks, and other invertebrates, as well as smaller vertebrates including small fish, amphibians, and carrion, or dead and decaying plant and animal material. Some algae and other aquatic plants may also be consumed.

In captivity, variety is important with most aquatic to semi-aquatic turtle's diets. Spotted turtles can be given feeder insects of appropriate size including crickets, roaches, mealworms, waxworms, superworms, or other invertebrates. They can also eat small, frozen-thawed rodents of appropriate size, but offer these sparingly, if at all. Other food items that will be accepted by these turtles can include many of the commercially available aquatic to semi-aquatic turtle or omnivore mix diets, small feeder fish of appropriate nutritional value, earthworms, redworms, freeze dried shrimp or krill, or some other meats. Dog and cat foods can also be used, but use these sparingly, if at all as well. They can also be fed some chopped greens, fruits, and vegetable material as well. Commercially available canned or pelleted turtle diets are not good staples for feeding aquatic to semi-aquatic turtles, and should not exceed roughly 25% of their diets; Variety is always best.

Gutloading any feeder insects and providing additional calcium and vitamin D3 is essential for these turtle's optimal health and well-being. Without proper supplementation, they are susceptible to Metabolic Bone Disease, pyramiding of the shell, and other abnormal bone, growth, and health maladies. Feeding frequency will depend on the age, size, and overall health of your turtle, but typically in most cases should be twice to three times weekly. Do not overfeed them, though as obesity and other health related issues can become a concern. 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

Spotted turtles are fairly shy turtles that should be handled sparingly, or in moderation in most cases. Most small to mid-sized turtle and tortoise species that are not aggressive or prone to biting can be picked up and handled either by placing both hands along both sides of the shell, or

from the rear of the carapace with the thumb on the carapace and index through pinky fingers on the plastron to reduce the chances of being kicked, scratched, or nipped when they are threatened. Although most species of chelonians are not outwardly aggressive, defensive, or dangerous, they can become stressed as a result of over-handling, however, and some species, and even individual animals can be shyer than others. These are some considerations to keep in mind when handling any chelonian species.

****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:

Eric.S.Roscoe@gmail.com

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