



*Richie Braatz

North American Softshell Turtles (*Apalone spp.*); Spiny, Smooth, Florida

Soft Shelled Oddities

Softshell turtles' most distinctive feature are their soft, flattened cartilaginous shells (lacking hardened bony scutes). They may be olive, olive brown, to pinkish brown with darker blotches, spots, or ocelli on the carapace. These turtles also have a tubular pig or snorkel like snout and, being highly aquatic, are strong and fast swimmers. They are also extremely quick on land as well, and will quickly retreat to the nearest water body if confronted. They use their extremely long necks and tubular snouts to breathe for air, as well as to forage and capture prey while either remaining submerged in the substrate or reducing effort in coming to the surface. Species in North America (including the United States) include the Smooth Softshell (*A. mutica*), Spiny Softshell (*A. spinifera*) and Florida Softshell (*A. ferox*). Softshell turtles are also highly aquatic, and powerful swimmers, and can be defensive if handled, using their sharp claws to scratch, and their long necks and sharply edged jaws to bite if restrained. As with many other turtles, softshell turtles also are frequent baskers, and may often be seen basking during warm or sunny conditions on or along river or stream banks, submerged rocks, locks, or other debris, where they are usually extremely wary, and will quickly dive into the water if disturbed or approached too closely.

Taxonomy

Life: All living, physical, and animate entities

Domain: Eukaryota

Kingdom: Animalia

Phylum/Sub Phylum: Chordata/Vertebrata

Class: Reptilia

Order: Testudines

Suborder: Cryptodira

Superfamily: Trionychoia

Family: Trionychidae

Subfamily: Trionychinae

Genus: *Apalone*

Species: *Apalone spp.**

*Taxonomy subject to change and revision.

Lifespan and Longevity

If provided the correct care, softshell turtles can attain longevity of 20 to 30 years or more.

Distribution and Habitat

Depending on the species and genus, the North American softshell turtles are a widely distributed genus of turtles over much of southern to southeastern Canada, and the central, south central, Midwestern, eastern, and southeastern United States, and into Mexico, and throughout much of Central America. Softshells are also introduced in some other western areas of their range as well. Within their ranges, these highly aquatic turtles most prefer mid-sized to large, permanent waterbodies with sandy or gravelly bottoms including large ponds, lakes, impoundments, larger rivers and streams, and their basins. These turtles are absent or much less common in temporary or only semi-permanent waterbodies.

Origin/History

Apalone spp. Rafinesque, 1832; Apalone ferox (Schneider, 1783); Apalone mutica (Lesueur, 1827); Apalone spinifera (Lesueur, 1827). Subspecies would have other authors first attributed to them at other years.

It is difficult to pinpoint when exactly softshells specifically were first kept as pets, although these turtles most likely became available during the same time period the aquatic turtle trade came into existence, in general, around the 1950's or 1960's along with other aquatic turtles. In the mid-1970's the USDA would prohibit the sale of hatchling turtles under 4 inches, citing salmonellosis public health concerns, although there would be a loophole allowing them to still be sold for bona-fide educational, scientific, or research purposes.

Experience Level Required

Intermediate/Moderate-Advanced.

Size

Softshells are large turtles that are often sexually dimorphic, with males being smaller. Males range from 5 to 10 ½ inches while females can reach sizes as large as 18 to 24 inches in carapace length.



Housing and Enclosure

Enclosure System: Primarily Aquatic to Semi-Aquatic. Softshell turtles are semi aquatic turtle species that have the potential to become quite large particularly females, and appropriate sized accommodations must be provided. 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 50 to 200 gallons for most adult softshell turtles. A general rule of thumb to follow for most aquatic to semi-aquatic turtles is to provide water that is at least 1 ½ to 2 times the turtle's height in depth 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. If one's climate permits, a custom designed pond or other form of housing allowing for more space may also be used and constructed.

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 softshells 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. Abnormal growth of the 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. Softshells 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 softshell 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

Primarily Carnivorous; In the wild, softshell turtles are primarily 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.

In captivity, variety is important with most aquatic to semi-aquatic turtle's diets. Softshell 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. 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

Softshell turtles are large and active turtles that require only experienced care and handling. They have very long necks and strong jaws, strong webbed claws, and can be aggressive. Captive bred and born softshells can become more docile and accustomed to people and some handling, but these species overall are more hands off and better suited as display animals. Overhandling causes stress to these animals and should be minimized or done so sparingly when and wherever possible.

****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

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