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Indian Star Tortoise (*Geochelone elegans*)

Popular Stars Among Tortoises

Indian star tortoises are a medium sized species of tortoise with a large, domed black to dark brown carapace with highly sculptured scutes. Each carapace scute has a lighter yellowish to whitish radiating pattern of dashes and streaks giving this tortoise its common name. This patterning provides these tortoises with much greater camouflage and ability to become cryptic, which disrupts the outline of these tortoises to potential threats when they are in dense grass or vegetation. These tortoises are a primarily herbivorous species, feeding on grasses, fallen fruits and vegetables, and leaves, although they will occasionally consume carrion as well. Star tortoises are also a highly sexually dimorphic species, with females being considerably larger than males, and having less concave plastrons than males, although exceptions do exist. All tortoises are mainly terrestrial (land dwelling) and are characterized by highly domed shells and large, elephantine like feet. Indian star tortoises are an IUCN-Threatened species in the wild, but are a popular and sought after tortoise species for the pet trade nonetheless.

Taxonomy

Life: All living, physical, and animate entities

Domain: Eukaryota

Kingdom: Animalia

Phylum/Sub Phylum: Chordata/Vertebrata

Class: Reptilia

Order: Testudines

Suborder: Cryptodira

Superfamily: Testudinoidea

Family: Testudinidae

Genus: *Geochelone*

Species: *Geochelone elegans**

**Taxonomy subject to change and revision.*

Lifespan and Longevity

Star tortoises, if given the proper care, and live for 50 to 70 years or more and require long term care and commitment.

Distribution and Habitat

The star tortoise is a mid-sized to large terrestrial tortoise species indigenous to the Indian subcontinent of southern to southeastern Asia. Namely, this species occurs from western India

and extreme southeastern Pakistan, to southeastern India, to Sri Lanka. Within their ranges, these tortoises can be found in a variety of habitats and environments, from tropical to sub-tropical moist deciduous forests and woodlands, dry to semi-arid lowland forests, thorny scrublands and scrub forests, grasslands, open savannahs, agricultural areas, to semi-deserts. These tortoises can be quite tolerant of seasonally wet or dry areas in general.

Origin/History

Geochelone elegans Schoepff, 1795.

While there is no known specific timeline for when Indian star tortoises were first kept and imported for the pet trade, it is likely that they have been for many decades, possibly since at least the 1960's or 1970's. They would be especially heavily imported out of Thailand and India. These beautiful mid-sized tortoise species would long be popular and sought after, which resulted in the species becoming threatened by habitat loss and poaching for the illegal wildlife trade. Since 1975, this species has been included as an Appendix II under CITES.

They were upgraded to CITES Appendix I in 2019 by full consensus among all member states, giving them the highest level of international protection from commercial trade. In spite of their protection, imports of "farmed" specimens still appear in the United States periodically. Wild-caught star tortoises have generally not fared well, creating a long-standing negative reputation that Indian star tortoises didn't do well to captivity. Fortunately, enough people are now breeding them in the U.S. that captive-born specimens are generally available (Fife, Jerry 2017).

Experience Level Required

Intermediate/Moderate to Advanced.

Size

Adult star tortoises are small to medium sized tortoise species typically ranging from 5 to 9 inches in carapace, or upper shell length for males, and 15 to 16 inches carapace length in females, or depending on the species, age, and gender, as well as locality.

Housing and Enclosure

Enclosure System: Primarily Terrestrial. Provide a secure and escape proof enclosure. If housed indoors, a minimum of a 6 foot by 6 foot pen, tortoise table, or other enclosure should be used. Substrates that enable burrowing such as a mix of fine aspen chips, organic bark, or coconut fiber substrates are acceptable substrates to use for these mid-sized tortoises. Outdoor pens can work during the warmer months in temperate to sub-tropical climates, and can provide ample access to natural sunlight. Outdoor pens must have a perimeter at least 8 to 9 inches deep and at least 12 inches high. Be sure the enclosure is adequately sealed to prevent access by outdoor predators. Although they derive much of their water from their food, it is best to provide a shallow water dish or pan within the enclosure, which should be changed every several days or if fouled. Soaking your tortoise at least weekly in lukewarm water can also serve as added hydration. Providing an artificially heated hide box if housed in outdoor enclosures can provide for added safety and security for these tortoises.

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 star tortoises 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. These 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 82 degrees F and the basking area should be from 90 to 95 degrees F. Maintain a light cycle of 12 to 14 hours per day, and monitor temperatures with a quality thermostat. If kept outside, move inside if daily temperatures drop below 70 degrees, and below the 50's at night. Spot clean the enclosure for urates, feces, or uneaten food at least twice per week, and be sure to periodically replace the substrate, clean, and disinfect the enclosure and its furnishings at minimum every 2 to 3 months. Respiratory issues in star tortoises as a result of poor or improper temperatures, enclosure, and/or setups are also one of the most notable species specific husbandry related issues with star tortoises. Maintaining these factors correctly will greatly lessen or eliminate the possibility of encountering respiratory issues. 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. As adults, star tortoises require moderate relative humidity, and should ideally be maintained at, or around 40 to 75%.

Feeding, Diet, and Nutrition

Herbivorous to Omnivorous; In the wild, these tortoises are primarily herbivorous, and will graze upon a variety of grasses, flowers, fruits, vegetable and other plant matter. They will also occasionally consume insects, other invertebrates, fungi, and carrion, or dead and decaying plant and animal matter.

In captivity, these mid-sized tortoises can be given a mixed and varied assortment of chopped up greens and vegetables daily or as otherwise directed. Avoid spinach, citric fruits, Iceberg lettuce, and other acidic or otherwise nutritionally poor food items. More food items to avoid include most grain products, and dog and cat foods. Many flowers, dandelions, hibiscus, turnip, kale, mustard, and collard greens are also suitable choices. Ensure that all food intended for food for herbivorous to omnivorous animals is chemical, pesticide and herbicide free. Many of these are readily available in any grocer's market. Several commercially available herbivore and veggie mix diets are also available which can be used. Food items given should be sprayed with 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), shell pyramiding, and other shell and bone growth and nutritional deficiencies and maladies. Their feeding frequency can also often depend on the age, size, and overall health of your animal. Use care as to not overfeed turtles or tortoises, 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. Some mid-sized to large tortoises can be pickier eaters than others, sometimes preferring certain foods over others, and require some trial and error to determine which foods may be preferred by your tortoise. Several books, websites, and other resources are also available that provide further in-depth detail as to proper red-footed and yellow-footed tortoise diets, and which foods are acceptable to use and which are not.

Handling

Star tortoises tend to be a shyer species of tortoise, but can be interacted with and can become accustomed to their keepers over time. 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 shy 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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