

Star Tortoise - *Geochelone elegans* - Chris Tabaka DVM and Darrell Senneke

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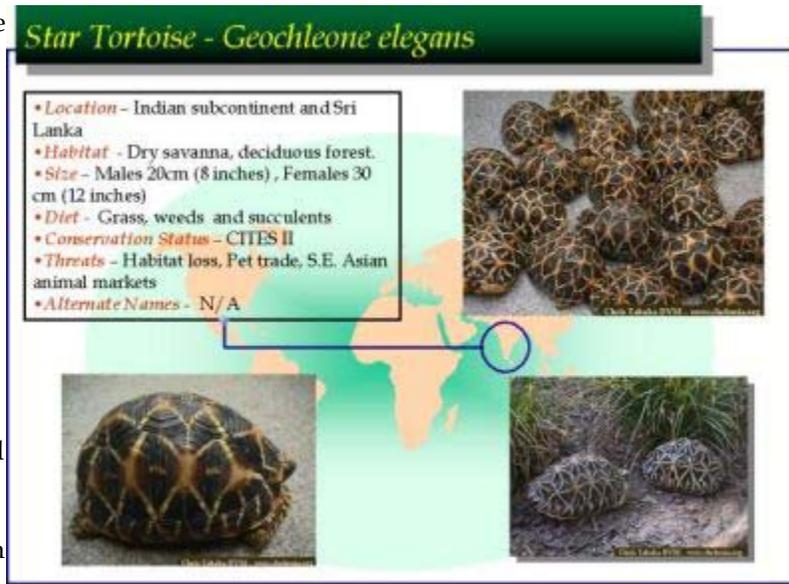


This care sheet is intended only to cover the general care of this species. Further research to best develop a maintenance plan for whichever species/subspecies you are caring for is essential.

Star tortoises are stunning in their beauty with the radiating "star" pattern on their carapace making them an eye-catching display in zoos or private collections the world over. Removing one of these animals from its display and placing it in tall grass where this pattern mimics the light and shadow of sunlight through tussocks of grass brings about an instant realization of the effectiveness of their camouflage pattern as well as a better understanding of their native habitat.

The shell of the Star tortoise may range from smooth to fairly bumpy with raised scutes giving it a pyramided appearance. The reason for this natural pyramiding is uncertain but it is one author's belief that the raised scutes make it easier for a Star tortoise to right itself should it become turned over. The raised scutes would make it naturally slant to one side or the other, a genuine help in a flat grassy habitat. If higher domed and bumpier Star tortoises had a greater survival rate because of this, the tendency to a pyramided appearance would be selected for in future generations. Star tortoises are a sexually dimorphic species with females growing to much larger sizes than males. A typical male Star tortoise is about 20 cm (8 inches) in SCL (Straight Carapace Length) while a female may grow as large as 30 cm (12 inches)

This species ranges over large parts of the Indian subcontinent including Sri Lanka. At least three geographically separate variants are differentiated and there is the distinct possibility that the species will eventually be divided into several subspecies. Star tortoises from the Northern parts of the Indian subcontinent are large and have a relatively dark ground coloration. Animals from the Southern parts of the subcontinent are smaller with a more intense and contrasting pattern. Sri Lankan specimens look much like the animals of the Southern "type", but grow much larger and have more yellow in their carapacial radiating lines than the Indian variants.



Geochelone elegans is found in a number of habitat types, from forests to grasslands to deserts but the one unifying trait of these geographical variants is that for at least a portion of the year it is very, very dry. Star tortoises CANNOT tolerate consistently damp or high humidity conditions...much less cold and damp conditions.

HOUSING STAR TORTOISES INDOORS - The most useful form of indoor accommodation for Star tortoises consists of a "turtle table". ([How to Build an Indoor Land Turtle Table](#) by David T. Kirkpatrick Ph.D) To all appearances this looks like a bookshelf unit flipped onto its back. A reasonable size for a hatchling is 2 feet by 2 feet, (60 cm by 60 cm). As the animal grows the size of this habitat should be increased. For an adult Star tortoise the indoor habitat should be at least 4 feet by 4 feet, (120 cm by 120 cm). Holes can be cut in the bottom of this structure to allow for the sinking of food, water and eventually nesting containers flush with the surface for easier animal access.

The water dish in the habitat should be large enough to allow the tortoise to soak in it if it wishes. It must also be shallow enough to prevent it from drowning. For larger tortoises, photographic developing trays work well for this purpose. As a substrate, in the dry portion of the environment a mixture of topsoil and children's play sand or cypress bark works well, but for this and other arid loving species the substrate of choice for the authors is grass hay. Grass hay is easily maintained and provides nourishment if they nibble it. This area must be kept dry as the Star tortoise cannot tolerate wet or constant high humidity conditions. If sand is used in the substrate this area should also not have food placed directly upon it as the sand can build up in the tortoise's GI tract leading to possible impaction and even death. A completely separate sand-free area in the habitat should be utilized to feed.

In one corner of the environment, a hardware store reflector clip light lamp should be positioned to provide artificial basking facilities. This should be positioned to provide a basking spot of 95 degrees F or so (35 degrees C) in that section of the habitat. The habitat should also be equipped with a full spectrum fluorescent light to provide for UVB. A UVB source is necessary for Vitamin D3 synthesis (needed in calcium metabolism). If preferred to this lighting arrangement a Mercury vapor bulb may be used that fulfills all requirements. There should be a hide box located in the corner away from the basking spot to allow the animal a cooler dim retreat. A dry, outdoor habitat during at least the warmer parts of the year should be utilized for optimum growth/health of the animals though.

OUTDOOR HOUSING - Predator-proof outdoor habitats offer many advantages over indoor accommodations and should be seriously considered as an option during warm weather. In particular, because of their grazing habits, Star tortoises should be kept out of doors when the climate allows if at all possible. A well planted outdoor habitat for food, shelter, UV, and natural behaviors is well worth the minimal investment for the sake of your animal.

DIET: The Star tortoise is a herbivore. It feeds primarily on large amounts of different fibrous, low quality grasses and when available, leafy weeds and greens. A very high fiber, low protein, and calcium rich diet will ensure good digestive tract function as well as smooth growth. Avoid over reliance upon 'supermarket' greens, which typically contain vastly inadequate fiber levels, excessive pesticide residues, and are too rich in sugar content as they are designed for human consumption. While carrion might be eagerly consumed if encountered, the Star tortoise should NOT be fed any meat-based protein. *Geochelone elegans* fed on cat or dog foods frequently die from renal failure or from impacted bladder stones of solidified urates. Star tortoises are a grazing species; every effort should be made to duplicate this diet in captivity. Fruit should be offered very, very rarely if at all.

- Grasses (timothy, Bermuda)
- Leafy greens (dandelions, clover, endive, grape leaves, mulberry leaves etc.)
- Weeds
- Cactus pad (despined)

Additional calcium supplementation is essential. Powdered calcium can be sprinkled all foods. It is suggested that one use calcium supplemented with vitamin D3 if the animal is being maintained indoors and calcium without D3 if it is outdoors. Provision of a cuttlefish bone, which can be gnawed if desired, is also recommended.

NOTES: Keeping *G. elegans* successfully can be a challenge outside its natural climate zone. The species tends to develop respiratory problems if not kept in optimum surroundings. Star tortoises are also very susceptible to pathogens such as Mycoplasma carried by other species and strict isolation from ANY contact with them should always be observed. As an example the Leopard tortoise, which has very similar care requirements may host pathogens asymptotically which could rapidly bring about the death of a Star tortoise.

This species does not hibernate in nature. Facilities should be provided for the continued health and well being of the tortoise indoors in cooler and/or damp conditions. While the species can tolerate dry, cool temperatures fairly well, it cannot handle damp conditions in conjunction with those lower temperatures.

It should be noted that turtle and tortoise care research is ongoing. As new information becomes available we share this on the World Chelonian Trust web site at www.chelonia.org Serious keepers find it to be a benefit to have the support of others who keep these species. Care is discussed in our free online email community, which may be joined from the web address above. Please contact us about the many benefits of becoming a member of the World Chelonian Trust.

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