



Caring for Box Turtles

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NATURAL HISTORY

There are four North American species of box turtles currently available in the pet trade: the eastern box turtle (*Terrapene carolina carolina*), the three-toed box turtle (*T. c. triunguis*), the Gulf Coast box turtle (*T. c. major*) and the ornate box turtle (*T. c. ornata*). All captive box turtles, unless specifically documented to the contrary, have been caught in the wild.

Box turtles are partially aquatic, spending the greater part of their time on dry land within easy range of shallow fresh water. American box turtles are native to the eastern, central, and southwestern United States and on into the northern parts of Mexico. Box turtles forage for food on land, and spend much of their sleep time dug into burrows or wedged under fallen trees or rocks. They do, however, require plenty of fresh shallow water. While this water is generally used for rehydration and voiding body wastes, some turtles also eat aquatic plants and insects.

Box turtles are fully grown when they reach 6 to 8 inches in length. Males have thicker and longer tails than do females, and may be more colorful. Depending upon their environment and diet, box turtles will reach full size within 4-6 years, and reach sexual maturity at 4-7 years. If maintained at appropriate temperatures and fed a healthy varied diet, your turtle will probably outlive you. Some individual box turtles have lived more than 100 years.

As with all wild-caught reptiles, the box turtles found in pet stores have been under stress for some time. As a result, they are often suffering from protozoan and bacterial infections, and may be emaciated and dehydrated after enduring long periods of time without food, water, or appropriate environmental temperatures. As soon as you can after you take your turtle home, scoop up a fresh fecal sample and take it and your turtle to a reptile veterinarian. While the feces is being tested, the vet will check out your turtle for signs of nutritional deficiencies, topical bacterial or fungal infections, beak overgrowth, and respiratory or eye infections. All of these maladies are very common in wild-caught animals.

CREATING THE PROPER ENVIRONMENT

Box turtles tend to do well either outdoors, or in a large indoor enclosure. Large Rubbermaid tubs and specially built wooden boxes work well as indoor enclosures, as the opaque sides create a sense of security for the turtle. Set up your turtle's home to contain dry land and a pool of water, a warm end and a cool end, and a hide box. Add in an ultraviolet light and a regular day / night cycle, and you will have all the amenities needed to keep your turtle happy.

To create the dry land portion of your turtle's habitat, choose a bedding or material that is safe and can be easily cleaned or replaced. A combination of potting soil, sand, leaf mulch, and sphagnum moss works well as a substrate, as does newspaper, coconut fiber, or indoor/outdoor carpeting. Avoid particulate materials such as corncob, walnut shell, wood shavings, and gravel, all of which can be accidentally ingested by your turtle and cause intestinal problems.

Box turtles in the wild spend a large part of their day resting in hidden shelters. Providing a hollow log, hide box, or cave for your turtle will help it feel safe. Hide boxes can be purchased at a pet store, or fashioned at home out of wood, cork bark slabs, or a cardboard box.

Box turtles need constant access to water for drinking, wading, and soaking. Your turtle should have a water-filled dish or pan large enough for it to soak in but shallow enough for it to easily climb in and out of. The depth of the water should be one quarter to one third of your turtle's shell height. Turtles often defecate in their water container, so make sure to wash and refill it daily. A daily misting is also much appreciated by box turtles.

Reptiles cannot generate their own body heat or sweat, and must therefore rely on their environment to warm and cool themselves. As a result, reptiles do best when their environment has a range of temperatures (also called a temperature gradient) to choose from. The best way to create a temperature gradient for your turtle is to make a "warm end" (which has supplemental heat) at one side of the enclosure and a "cool end" (with no heat) at the other. During the day the "warm end" should be between 80-85 F, and at night it should drop to 65-75 F. There are a number of options available for heating the "warm end", including heating pads, incandescent bulbs, and ceramic bulbs. Since turtles need light as well as heat during the day, many owners provide daytime heat with an incandescent bulb. If supplemental heat is needed at night, it is best provided by a heating pad or ceramic bulb, which emit heat but no light. Turtles that do not see light for at least 12 hours a day can stop eating and become inactive, so keep your turtle's light on a timer to ensure a 12-14 hour day length.

Sunlight or artificial ultraviolet (UVB) light is required for box turtles to metabolize calcium. If you cannot get your box turtle outdoors on a regular basis, install an ultraviolet light over its indoor enclosure. Make sure that the light you choose is made specifically for reptiles; “full spectrum” bulbs made for fish, plants, or people do not provide the needed UVB. Make sure to follow the manufacturers’ instructions regarding placement of the light, as the UVB rays rarely extend further than 18” from the bulb.

FEEDING YOUR TURTLE

The best time to feed your turtle is after it has had several hours to warm up in the morning. Offer food daily to youngsters, and every other day to adults. Since turtles are motivated by sight and smell, provide a varied, colorful diet. Offer both plant matter and animal products at each feeding. Add a calcium supplement and a vitamin supplement (such as Reptivite) to the food twice a week. Young turtles need more animal protein than do adults, so the amount of protein offered should decrease over time until it is no more than 10% of total food volume.

Offer a variety of vegetables, greens, and fruits. A grated/shredded salad of carrots or orange squash, green beans, and fruit (such as strawberries, raspberries, cranberries, blackberries, cherries, or plums) should be all mixed together. Serve with some cantaloupe (with the rind), and chopped mustard, dandelion or collard greens. For treats, add flowers (hibiscus, rose petals, geraniums, or nasturtiums). You can occasionally also offer chard, sweet peppers, and leftover vegetables and fruits from your meals.

While you can add protein to your turtle’s diet by using high quality (low fat) canned chicken dog food or finely chopped cooked chicken, most turtles prefer live prey. Good sources of protein include freshly molted king mealworms, *Zoophoba* king worms, or *Tenebrio* mealworms (the tough brown exoskeletons are not digestible); earthworms and nightcrawlers; small pinky mice; slugs and snails; and crickets. If offering snails or slugs found in your garden, feed them for 4 days on dark leafy green vegetables before giving them to your turtle (any snails that have been exposed to poisons will die in that time). If feeding crickets, feed them with tropical fish flakes and fresh fruit for at least 24 hours before giving them to your turtle. Bait store worms are best avoided, as they tend to be loaded with parasites.

HEALTH CONCERNS

Signs of illness in your box turtle can include cloudy, closed or swollen eyes; swollen cheeks; open mouth breathing; bubbly mucous around the nose or mouth; runny stools; loss of appetite; listlessness; spots appearing on shell or skin; soft shell or excessive shedding or sloughing of skin or scales; buildup of food and dead skin around head and neck, and weight loss. Always take a sick turtle to a reptile veterinarian. Wash your hands after handling the turtle and objects in the turtle

tank. Make sure your kids also wash carefully in hot soapy water, as young children are especially susceptible to Salmonella infections.

HELP SAVE THE BOX TURTLE

American box turtles are become scarce throughout their range. In 1996, box turtles were classified as CITES III - vulnerable. This requires the U.S. Fish and Wildlife Service to monitor the numbers of these turtles exported to Europe and Asia, where they are sold as pets and, in some cases, as food. There is not, however, any legislation at this time that limits the number of box turtles that can be captured from the wild and sold.

Do your part to help preserve the natural environment and do not buy a wild-caught box turtle. Instead, contact your local herpetological society, turtle and tortoise group, or reptile rescue group, and see about adopting a turtle that needs a home. Sometimes turtles are turned into animal shelters and humane societies - be sure to check there, too. Occasionally, captive bred turtles may be available from the breeder or a reputable pet store.

Information in this handout is partially excerpted from Melissa Kaplan's Herp Care Collection. For additional information on Box Turtles and other reptiles, please visit Melissa Kaplan's website at <http://www.anapsid.org/>.