

Ornate Box Turtle (*Terrapene ornata ornata*)

Difficulty: Intermediate

Ornate box turtles are 4-6"/10-15cm long, terrestrial reptiles with a domed shell, short legs, and a uniquely hinged plastron that allows them to tightly seal themselves inside when they feel threatened (thus the term, "box" turtle). Coloring is generally dark brown to black, with a white to gold radiating pattern on each scute, and sometimes an additional line down the spine. The legs and face typically have yellow, orange, and/or red markings. Mature males can generally be distinguished from females by their red irises and longer tails.

Ornate box turtles are primarily native to the central United States, where they can be found in Texas, Louisiana, Arkansas, Oklahoma, Nebraska, Kansas, Wyoming, Missouri, and Illinois, as well as parts of Ohio, Wisconsin, and Indiana. They generally prefer semiarid habitats such as sandhills, prairies, and desert grasslands.

If you pay attention to providing excellent ornate box turtle care, your pet is likely to have a long lifespan, possibly up to 100 years!

Shopping List

The following recommendations are for housing an ornate box turtle indoors.

- 5'L x 2.5'W x 2'H enclosure
- 34" T5 HO forest UVB bulb
- 36" T5 HO fixture with reflector
- 22" T5 HO 6500K LED lamp, x2
- 90w PAR38 halogen flood bulbs, x2
- Dual dome heat lamp fixture
- Handheld pressure sprayer
- Digital probe thermometer/hygrometer, x2
- Digital light timer power strip
- 4 ft³ 60:40 sand/soil mix
- Hideouts/caves, at least 2
- Misc. décor (leaf litter, hollow logs, flagstone, edible plants, etc.)
- Shallow feeding dish
- 12" plant saucer
- Multivitamin supplement
- Cuttlebone

Housing

Box turtles, like other reptiles, require an enclosure that is large enough to give them adequate opportunity to explore, forage, thermoregulate, and generally exercise natural behaviors. And this species is very active! They will use however much space you can give them. They are also terrestrial, which means that they are a ground-dwelling species, so floor space is more important than vertical space.

A good rule of thumb for housing box turtles is to use the following calculation, based on the animal's expected adult length: Length = 10x adult length, Width = 5x adult length, Height = 3x adult length

Considering that ornate box turtles generally max out around 6"/15cm, the minimum recommended enclosure size for one ornate box turtle is **5'L x 2.5'W x 2'H, or 12.5 square feet of floor space**. In metric, that's 1.5m x 0.75m x 0.6m, or 1.16 square meters.

Indoors or Outdoors?

It's ideal to house your box turtle outdoors whenever possible. The pen should be placed in a location that is not too wet, with access to both shade and sunshine at all times of day, and it should have well-draining soil. The wall must be at least 2' tall and smooth enough to discourage climbing (concrete blocks work well), sunk at least

12" into the soil to discourage burrowing escapes, and the top of the pen should be covered with wide mesh (ex: chicken wire) to keep out potential predators. It's also wise to install triangular caps at each of the pen's corners.

If you live in an area where it's not appropriate to house your ornate box turtle outdoors year-round, you will need to have an appropriately-sized enclosure at the ready indoors. While you can buy an appropriately-sized enclosure custom, it's most cost-effective at this point to build your own. This enclosure should feature a 4-5" tall opaque barrier on the front to discourage pacing.

Can multiple box turtles be housed in the same enclosure?

While it can be done, social behavior appears to be minimal in this species, so housing one box turtle per enclosure is likely to be just fine and possibly even ideal.

Lighting & UVB

Box turtles are diurnal, which means that they are most active during the day. This also means that they need exposure to bright light and UVB during the day to maintain good mental and physical health. **Light sources should be left on for 14 hours/day during summer and 10 hours/day during winter** to replicate natural seasonal rhythms. If you are housing your pet outdoors, artificial lighting of any kind is not necessary.

UVB Lighting

UVB lighting can be tricky, because in order to get the right strength of UVB (measured by UV Index, or UVI), distance must be considered. To provide appropriate UVB to an ornate box turtle, you will need one Arcadia T5 HO 6% or Zoo Med T5 HO ReptiSun 5.0 in a reflective T5 HO fixture (preferably Arcadia or Vivarium Electronics brand for best performance). This bulb should be roughly **half the length of the enclosure** and **placed on the warm side**, close to the heat lamp(s).

If there is mesh between the lamp and your turtle, the basking area should place its back 13-14"/33-36cm below the lamp. If there is no mesh, the distance must be increased to 17-18"/43-46cm.

(This recommendation is an approximation. It is strongly recommended to use a Solarmeter 6.5 to determine the best placement to achieve a UVI of around 3.0 – 4.0 in the basking area.)

Daylight Lighting

A UVB bulb isn't bright enough to replicate daylight. To get a little closer to this goal, you will need to supplement with a bright, 6500K T5 HO fluorescent or LED lamp, long enough to span 3/4 to the full length of the enclosure. This is particularly important if you are using live plants, but it is also valuable for supporting your turtle's general wellbeing. The Arcadia Jungle Dawn LED Bar and the Bio Dude Glow & Grow are preferred.

Heating

Humans are warm-blooded, which means that our body temperature is regulated automatically. Turtles, however, are cold-blooded (poikilothermic), which means that they have to move between areas of different temperatures to regulate their body temperature. In the wild, box turtles warm up by basking in a sunny spot.

Indoors, you will need at least one halogen heat lamp to properly heat your turtle. If you are housing your pet in an outdoor pen, artificial heating should not be necessary. However, if nighttime temperatures dip below 50°F/10°C, you will need to provide a shelter with lightless heating such as a ceramic heat emitter or radiant

heat panel set to 60°F/16°C. You will also need to bring your turtle indoors for part of the year if you live in an area with winter temperatures below 25°F/-4°C.

- **Basking area temperature: 90-95°F / 32-35°C**
- **Cool zone temperature: 70-77°F / 21-25°C**

Indoor heating should be turned off at night to allow for a nighttime temperature drop.

To create an evenly-heated basking area, you will need a 90w Philips PAR38 Halogen Flood Bulb (one for juveniles, at least two for adults) and one or two Zoo Med Deluxe Porcelain Clamp Lamp fixtures. If you notice that the basking area is too warm, dial it down with a plug-in lamp dimmer. If your basking area is too cool, you will need a higher-wattage bulb.

To measure the temperature of the basking area, you will need a digital probe thermometer with the probe placed on the basking surface. There should be another digital probe thermometer on the other side of the enclosure to monitor the cool end of the temperature gradient. Most reptile-branded digital probe thermometers work well for this purpose.

Humidity

Ornate box turtles do well in slightly more arid conditions than other box turtles, but it's best to still pay attention to the humidity levels in your indoor enclosure and make adjustments accordingly. Here are your targets for average humidity levels:

- **Hatchlings: 60-70%**
- **Adults: 30-60%**

You can monitor humidity levels with a digital probe hygrometer with the probe placed in the middle of the enclosure. To increase general humidity levels in the enclosure, use a handheld pressure sprayer to moisten the substrate and other surfaces first thing in the morning. Avoid spraying the turtle directly.

Whether you are housing your turtle indoors or outdoors, it must always have access to a humid hideout. This should be a cave or hide box placed on the cool end of the enclosure and lined with moistened substrate to create a humid microclimate.

Substrate

For ornate box turtles, it's best to use a well-drained, naturalistic substrate that is similar to what is found in their native habitat. This substrate should be layered at least 4" deep in indoor enclosures, and 12" deep in outdoor enclosures.

Here are a few options: DIY semi-arid mix (60% organic topsoil, 40% play sand), Zoo Med Eco Earth, Zoo Med Reptisoil, Exo Terra Plantation Soil

New ornate box turtles should pass quarantine before naturalistic substrate is added to their enclosure.

Feces and urates should be removed daily, and contaminated substrate should be scooped out and replaced. Indoor substrate should be completely replaced once every 3-6 months, depending on how diligent you are about daily cleaning.

Décor

Decorations play a vital role in your ornate box turtle's enclosure as environmental enrichment. Enrichment items encourage exercise, stimulate your pet's natural instincts, and help promote overall wellbeing. And, of course, they make the enclosure look nicer! Without décor, your turtle's enclosure is just a big box of dirt.

Aside from at least 2 hideouts/burrows/caves, here are some other items to consider: hollow logs, flat stones, dirt mounds, piles of leaf litter, and edible, drought-resistant plants work well as décor in an ornate box turtle enclosure. To determine what plants are safe to use in your enclosure, [The Tortoise Table](#) is an excellent resource. [Tortoise seed mixes](#) are also a good way to stock your enclosure with appropriate plants.

Arrange these items in a way that encourages your turtle to explore, and provides a variety of places to sleep or shelter in during the day.

Food

Ornate box turtles are omnivorous, which means that they eat both plant and animal matter, depending on what's available. Their diet should be roughly 50% animal matter and 50% plant matter. Young and growing ornate box turtles should be given as much as they can eat every day. Once they near adulthood, this should be reduced to every other day to prevent obesity. Food should always be offered on a plate or tray to prevent unnecessary ingestion of substrate.

Here is a list of appropriate protein-rich foods for ornate box turtles: black soldier fly larvae, chicks (pre-killed), crayfish, darkling beetles, discoid roaches, dubia roaches, earthworms, egg (cooked), grasshoppers/locusts, hornworms, isopods, mice (pre-killed), mealworms, millipedes, quail chicks (pre-killed), silkworms, snails (captive-bred only), superworms

Plant matter should also be made available, such as: apples, bananas, blackberries, cactus pads/fruit, cantaloupe, collard greens, dandelion greens/flowers, endive, grapes, kale, mulberries, mushrooms (edible), mustard greens, persimmons, romaine lettuce, squash, strawberries, sweet potato, tomatoes

Appropriate commercial diet options include [Reptilinks](#), [Mazuri Tortoise Diet](#), [Repashy Veggie Burger](#), and [Arcadia OmniGold](#).

The key to providing your pet with balanced nutrition is VARIETY! This is especially important with ornate box turtles, as they are known to get bored of eating the same thing quickly, and will refuse food.

Supplements

To make sure your turtle is getting the right nutrients in its diet, it's a good idea to sprinkle its food with [Repashy Superveggie](#) supplement powder. You will also need to provide a [cuttlebone](#) in the enclosure. Aside from being a good source of calcium, it also helps keep your turtle's beak trimmed!

Drinking Water

Your turtle should have access to clean drinking water at all times. They tend to foul the water quickly, so you will need to replace the water daily and give it a good scrub with animal-safe disinfectant weekly. A large [flower pot saucer](#), sunk into the substrate for easy access, makes for a good water dish. The water should be no deeper than your tortoise's knees.