

Care of Hatchling and Young Juvenile Box Turtles (*Terrapene*)

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"Scout"

T. o. ornata x *T. o. luteola*

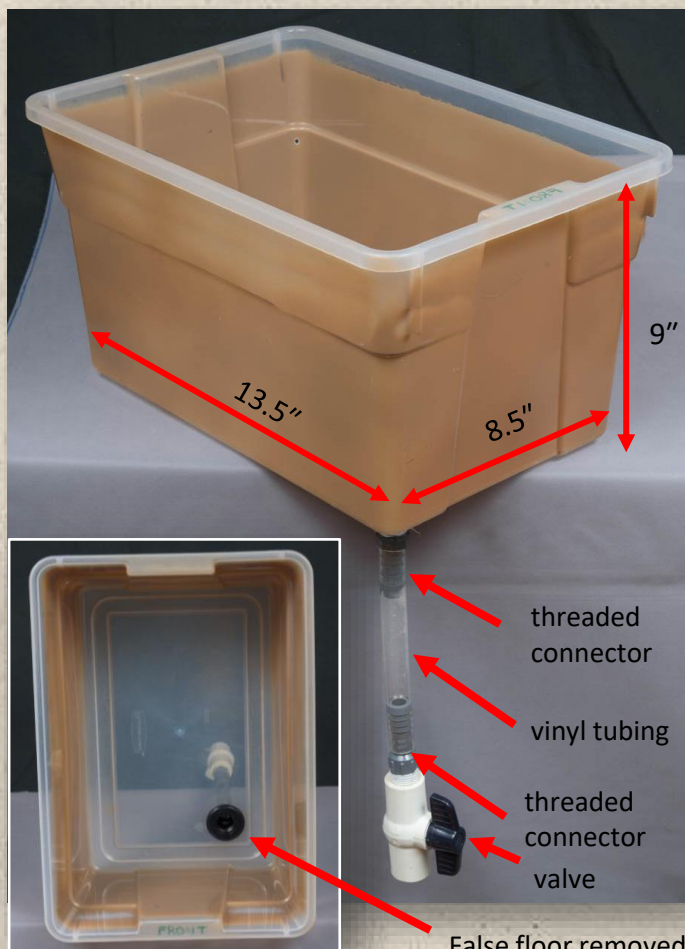
4 months old, 50.4 mm SCL, 30.6 g

Nursery Tote for 1-2 Hatchling *Terrapene*

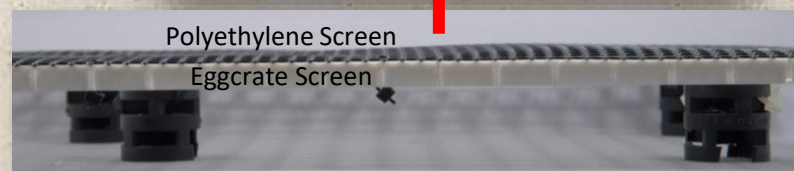
Young box turtles do best raised in a bog-like habitat. Raising babies in dry bedding with just a water dish for moisture is a recipe for creating deformed, unhealthy turtles. Moreover, as hatchlings, they can easily drown in a water dish no matter how shallow it is.

With proper nutrition and a saturated world, babies stay well hydrated, shells grow smoothly, skin is supple, and the eyes and respiratory tract are not irritated as they would be in a dry world.

The small tote shown here is plumbed to make cleaning and refreshing the water easy and less disruptive to turtles. Just open the valve and pour same-temperature water into the tote to flush it; larger enclosures can be used for larger groupings of babies or for older babies where a bog environment is still desired. Ideally no more than three babies should be raised together. They should be kept in same-size groupings, as opposed to same age groupings. Babies do not all grow at the same rate.



- The false (elevated) floor is made from eggcrate screen zip-tied to plastic biofilter ring "feet" (alternative: PVC pipe with notches along the bottom edge for drainage of debris)
- The eggcrate screen is covered with 1/8" polyethylene screen (alternative: fiberglass window screening) tacked in place with plastic zip ties. Be sure all edges are smooth or tucked under if rough. Babies burrow at edges!



Bedding

- Sphagnum moss (2.5-3" deep) is best. Fill the tote with water so that the bottom inch of moss is in standing water. Drain and refill the water daily the first week, then every other day thereafter. Use water at 26-27°C (≈79-81°F). Replace the moss every 2 months.

Enrichment

- Add soft plastic plants throughout the tote. Clutter is good! Arch the plant sprigs as needed to provide a pathway for the turtle to move underneath them, but keep the arch low enough for the plants to touch the turtle's carapace. It will help to make the turtle feel secure.

Heating

- An in-line thermostatically-controlled reptile heating mat (see p. 4) provides warmth. It is sandwiched between a Styrofoam sleeve surrounding the tote and the outside wall of the tote. Mats are not waterproof!
- For added security against temperature spikes, the heating mat can be attached to a separate thermostatic control unit. The lead on the thermostatic control unit is attached to the interior side of the wall shared with and directly opposite the heating mat.
- Keep a bedding temperature range of 25-28°C (77-82.4°F). Check temperatures with a thermometer or laser temperature gun; do not depend on the temperature readout on a thermostatic controller.

Lighting

- DON'T provide a basking light; it will only encourage babies to sit out which will dry and deform their shell.



Lighting (cont.)

- DO provide overhead full-spectrum long-tube lighting (e.g. [Arcadia](#), ZooMed T8 5.0 for UVI=1.5-2.5); DON'T use [compact fluorescent lights](#).

Heating Mats



While young box turtles thrive in a very moist habitat, evaporation will make it too cool even in a warm room unless supported by an external heat source. Place the mat along one side wall will produce a thermal gradient in the tote.



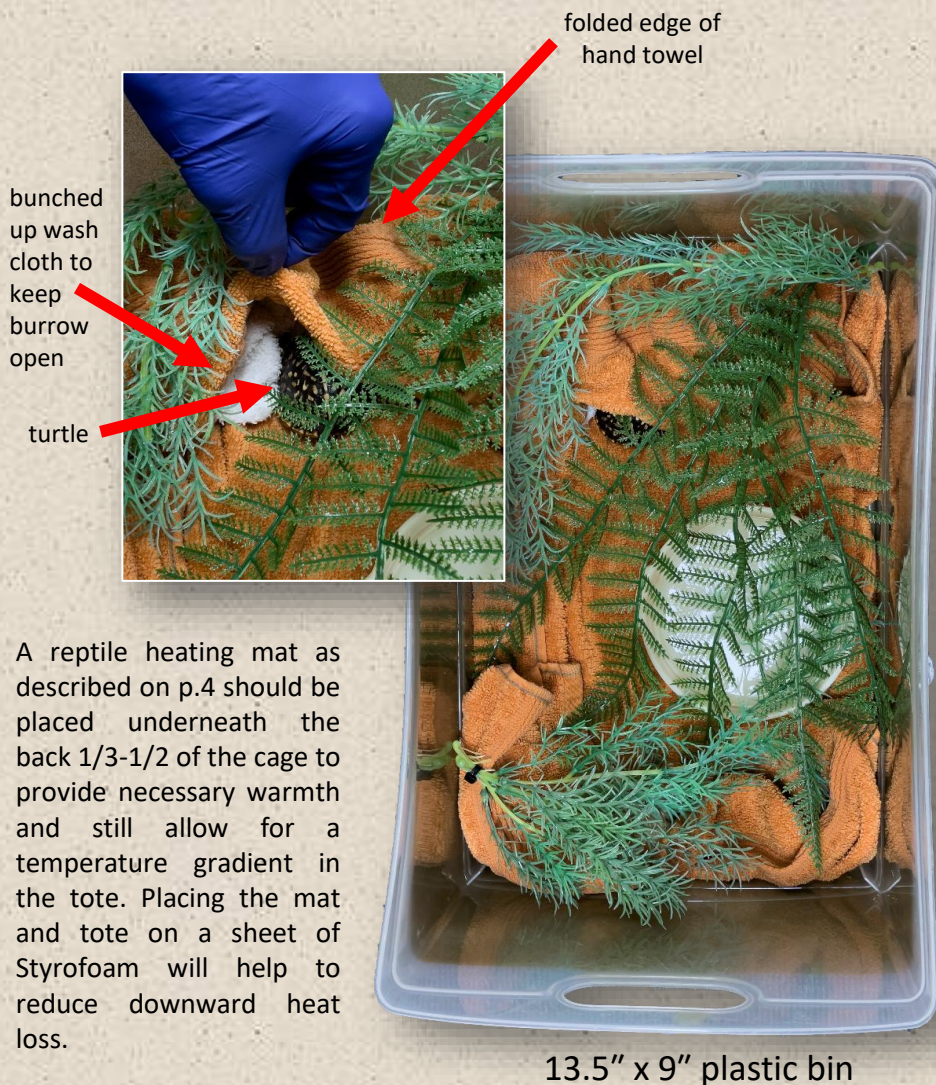
The 7-watt 6" x 11" non-stick Tbrand reptile heating pad with an in-line temperature controller is the perfect size for the small hatchling tote shown on p.3

There are many brands and sizes of reptile heating mats sold. *All of them are capable of reaching temperatures that are lethal to box turtles.* They should only be used with a thermostatic control unit and only occupy part of the space underneath or along the sidewall of an enclosure to guarantee that the turtle has a range of temperature to select from in order to regulate its body temperature.

When a thermostatic controller is connected to a reptile heating mat, the controller keeps turning the heater on and off to try to keep the substrate (where the probe is) at the temperature setting you have selected. When the mat is being fed power, it can get quite hot. If a turtle is resting immediately up against the wall shared with the heating mat, the turtle will be exposed however briefly to an extreme temperature. To guard against this, follow the steps below.

1. Purchase a quality thermal laser gun. There are many for under \$30 on Amazon. The tiny fob versions sold in pet stores are inadequate.
2. Purchase a reptile heating mat with an in-line rheostat control, such as the [Tbrand](#). There are multiple brands and sizes/wattages available on Amazon.
3. Set the rheostat on the heating pad to 27-28°C (81-82°F). To do this, use the laser gun to check the surface temperature of the pad with the rheostat set halfway on. Dial it back until it consistently reads 27-28°C, then tape the rheostat so it doesn't accidentally change.
4. To avoid overheating should the rheostat fail, consider attaching the heating pad to a separate thermostatic control unit, such as the [BN-LINK](#) set to 27°C. You may need to raise the temperature slightly if your room is cool.

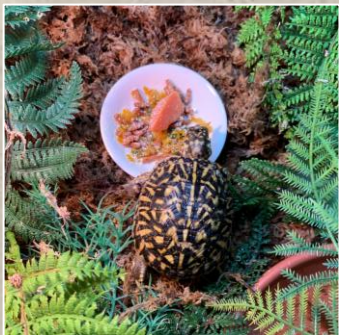
Enrichment for Hatchlings / Young Juveniles with Open Wounds



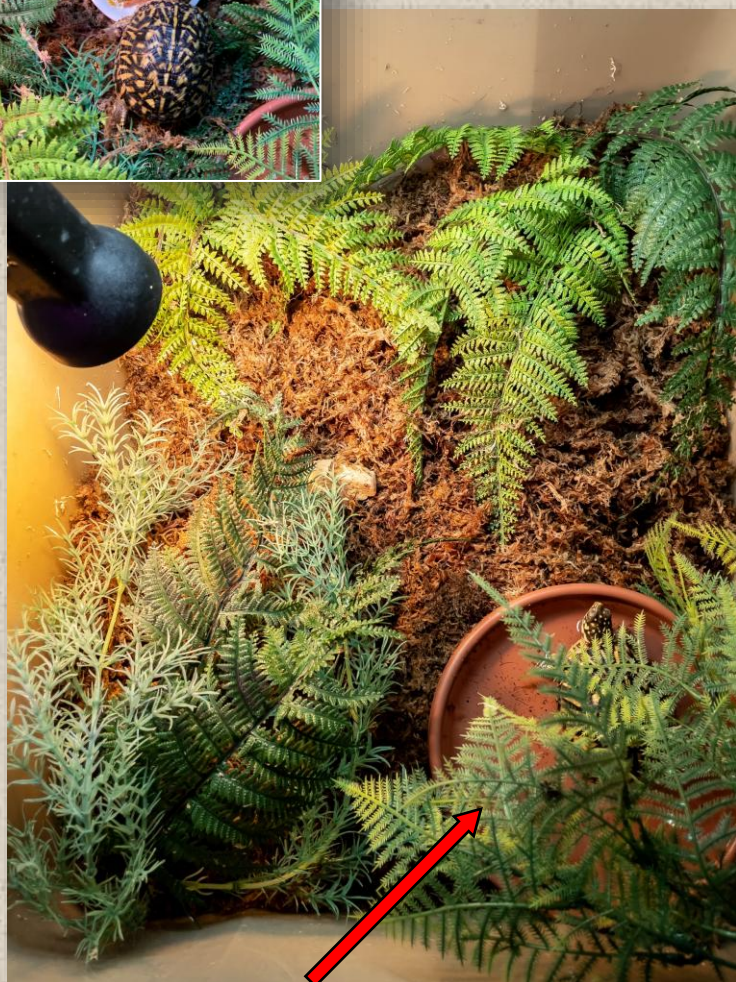
When a young turtle has an open wound, it is best to confine it to an enclosure with a cloth towel substrate rather than with moss or any other bedding that could contaminate the wound. The following set-up is recommended:

- Use very wet terrycloth toweling as substrate. Change the toweling daily. To minimize stress during cleaning, wrap the baby up lightly in a moist washcloth and put it in an escapable bowl or other container.
- Create a "burrow/cave," as shown in the far left photo, at each end of the tote by folding the edge of a hand towel over and stuffing a bunched up wet washcloth underneath the folded edge to prop it up.
- Add soft plastic plants throughout the tote. Clutter is good! Arch the plant sprigs as needed to provide a pathway for the turtle to move underneath them, but keep the arch low enough for the plants to touch the turtle's carapace. It will help to make the turtle feel secure.
- Only give a water dish to a turtle > ≈38 mm SCL. Smaller turtles easily drown even in shallow water.
 - Drape part of a plastic plant in the water dish for the turtle to grab onto both for safety and to feel more hidden.
 - The water should not be higher than the jawline of the turtle with its head retracted.
- For turtles < ≈38 mm SCL, be sure the substrate is very wet and the turtle is eating a moisture-rich diet. It will stay adequately hydrated.
- Cover the tote with a 1/2" mesh screen if the plants reach the lip of the tote; babies are excellent climbers!

Juvenile Box Turtle Enclosure



T. o. ornata "Quinn": 73.4 mm
SCL, 89.7g. For diet visit
boxturtlefacts.org



The water dish is under a fake plant sprig so the turtle feels hidden and safe, and is willing to soak long enough to drink well.

Bedding In Tote Without Drain

- Sphagnum moss (2.5-3" deep) is best. Add leaf litter for *T. carolina* if possible; none is needed for *T. ornata*. *T. carolina* naturally rest in the leaf litter column in the wild.

Enrichment

- Place soft arching plastic plants/leaves throughout; add screen to the cage top if plants are clipped to the upper walls to avoid escapes.

Water dish

- Use a water dish large enough for the turtle to fully sit in with low walls that a turtle can easily walk over. The water depth should not be higher than the jaw line of a box turtle resting with its head tucked in.

Heating

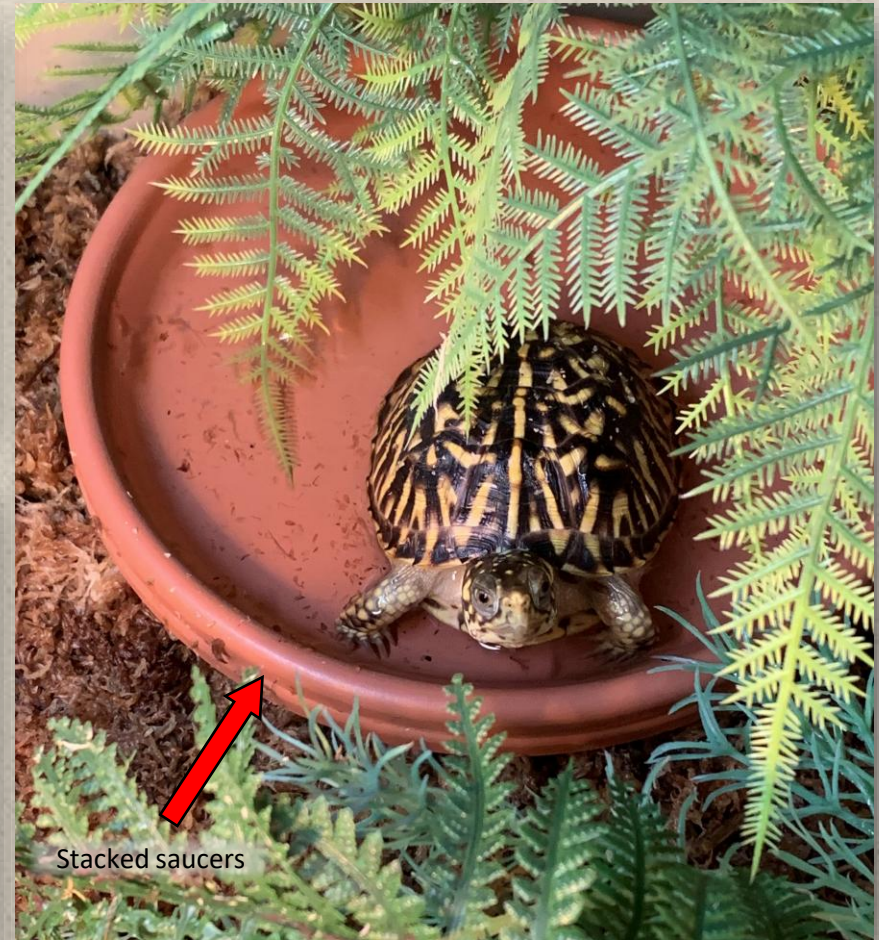
- Keep the bedding within a temperature range of 25-28°C (77-≈82°F) with the daytime basking zone of 29-31°C (≈84-88°F). If additional heating is needed to achieve these temperatures, use a reptile heating mat as described on p. 4, under 1/3-1/2 of the tote.
- Ideally, the ambient room temperature should be 25°C (76°F) night; 27°C (80°F) day. It can be hard to keep turtles in rooms much cooler even with supplemental heat on the cage.

Lighting

- Provide a small basking light as indicated above in "Heating."
- Provide overhead full-spectrum long-tube lighting (e.g. Arcadia, ZooMed T8 5.0 for a UVI = 1.5-2.5); DON'T use compact fluorescent lights.

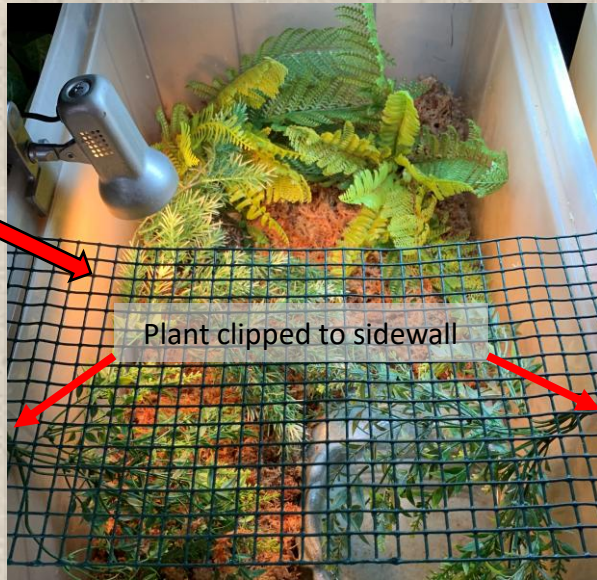
Flip-resistant Water Dish for Box Turtles

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Epoxy heavy ceramic bowl (recommend [PC11](#) – it is easy to use, no fumes) to underside of a stackable plastic or ceramic low-sided plant saucer. The water dish nestles in the epoxied unit and is easily removed for cleaning without disturbing the underlying “support structure.” The water dish assembly can rest in several inches of bedding yet the turtle cannot root under the water dish and flip it!

Juvenile Box Turtle Enclosure



To prevent escapes, a removable screen lid (½" PVC-coated hardware cloth) is placed over the front half of the cage to cover the location of plastic plant sprigs clipped (using a binder clamp) to the lip of the side walls. The screen can be removed for cleaning the water dish while leaving plant enrichment in place. It's less threatening for the turtle!

The only difference between the cage set-up for older juveniles and younger, smaller ones is water dish options. When a turtle is greater than about 89 mm (3.5 inches) it can comfortably use a ZooMed large-size "Repti Ramp" water bowl (shown in these pictures). Smaller size Repti Ramps are only appropriate for invertebrate pets.

Repti Ramp water bowls are often used for box turtles. They are made from shell-friendly plastic, are tip-proof, and textured slightly for traction. They provide easy egress via a ramp (although often ignored by the turtle), and the walls are high enough to minimize the tracking of debris into the water, although it still occurs to some extent. These dishes are purchased most inexpensively through [PetMountain](http://PetMountain.com).

T. o. luteola "Sierra":
90.1 mm, SCL, 174g



Feeding Baby Box Turtles

- Box turtles start eating about 2 weeks post-hatching. The guidelines provided on p. 10 are very general on how to feed them. Some turtles are out-going and will come to a food dish out in the open whereas others are quite shy and try to stay hidden. Never force a shy turtle to eat sitting out in the open. A shy turtle will always choose feeling safe over eating, and could end up not eating enough.
- Young box turtles are intensely food aggressive; eating is deadly serious to them. They can attack and seriously hurt one another biting the face, feet, and tail of cage-mates. Put multiple dishes in the cage and separate the babies by bits of vegetation (plastic plants) so everyone has a quiet place to eat in the cage. You may need to referee meals when turtles are young.
- Every 1-2 weeks weigh babies on a digital scale that can measure to at least 0.1g. A monthly weight gain should be noted. For the species that the author has worked with (*T. c. carolina*, *T. c. triunguis*, *T. o. ornata* and *T. o. luteola*) the average gain is 10 g per month for the first 6 months.



Two shy *T. c. carolina* readily eat from pill caps with their heads hidden under leaves.



While it is better to feed young box turtles apart, some inevitably end up eating from the same dish. Monitor these encounters with tiny babies.

Leave food in the cages for a few hours, never overnight as it can spoil. While most food is eaten quickly, babies often snack later.

Feeding Baby Box Turtles



An initially nervous baby *T. ornata* is encouraged to eat minced nightcrawler pieces wiggled around using a bamboo skewer. The skewer is not threatening like forceps or a finger.



Juvenile *T. ornata* eating pillbugs from an container trapping the bugs but easily walked in and out of by the turtle.

- Feed babies on very flat “dishes” such as pull-off (not safety screw-top) pill caps when very young, and soft plastic yogurt lids as they get older.
- Start babies on finely minced Canadian Nightcrawlers (available at Wal-Mart supercenters and bait stores) fed once daily. Composting worms have a lower calcium content and are thus less preferable. Feed pillbugs or sowbugs if available several times weekly in place of worms.
 - Do not feed commercially produced insects that have not been properly gut-loaded to reach a positive calcium to phosphorus ratio.
- At about 1 month of age, introduce the chow diet described in “Feeding North American Box Turtles” at www.boxturtlefacts.org but keep offering minced earthworm mixed into the meal for another month or two.
- At around 3 months of age, start offering chow meals alternating with an earthworm meal 4-6 days weekly; avoid two consecutive days of fasting. Feed earthworms whole or cut up, depending on what the turtle can handle. The less chopped the better.
- At about 5 months of age, it is O.K. to begin feeding every other day, making sure one meal per week is earthworms (as many as the turtle wants). A very small piece of fruit or a few pillbugs or sowbugs make a good between-meal snack, or these isopods, if served in a larger amount, can be fed as a full meal once weekly. Keep in mind that box turtles are sight feeders, so if bugs or worms dig down beneath the surface they may go uneaten.