

The Outside Story

Life in a Shell: Eastern Box Turtle

By Loren Merrill

As a budding naturalist growing up in the concrete-heavy environs of Boston, I would regularly thumb through my family's collection of nature books and daydream about the creatures within. One species I was particularly drawn to was the eastern box turtle. These charismatic terrestrial turtles have high-domed shells festooned with colorful yellow or orange markings, and stout legs built for walking.

Notwithstanding their similarities to tortoises, box turtles are part of the "water turtle" family Emydidae, which includes species like the eastern painted turtle and spotted turtle. Box turtles also have a hinged plastron (bottom shell) that allows them to close up shop in the front and rear, creating a "box" that protects their entire body from predators.

Formerly, the eastern box turtle's range extended from southern Maine and New Hampshire across to the upper Midwest and then down to Texas and North Florida. Today, their foothold in northern New England is tenuous, with no known populations remaining in Maine or Vermont, and only a handful of breeding groups in southern New Hampshire. Small pockets of turtles persist in Massachusetts and the Hudson Valley in New York.

In the southern part of their range, eastern box turtles can be active year-round, while up north that window narrows to the six or seven months from early spring until early autumn. During the cooler spring and fall months, box turtles are often active throughout the day, alternating between basking in the sun and foraging. In the warmer summer months, they may burrow under logs or into the substrate during the middle part of the day to avoid overheating. Their activity peaks in May and June, when males are spurred into action by amorous thoughts, and mated females go searching for nest sites. When a female has found a nice sandy location, she digs a hole and deposits 4 to 7 eggs, buries them, and leaves them to their fate.



Ten years ago on a cool late spring morning, I stumbled across a batch of recently emerged baby box turtles. Five of these tiny turtles, each about the size of a quarter and a perfect replica of an adult, were crawling around the dewy grass at the edge of an agricultural field. The babies had just dug their way to freedom after hatching the previous fall and overwintering within the nest. They now propelled themselves through the towering grass, struggling to make it to the relative safety of the shrubby forest edge. Survival prospects for baby box turtles are grim – less than 1 in 100 will survive to adulthood – and many become bite-sized snacks for local predators, including an array of birds, mammals, and snakes. It was no surprise that the baby box turtles were in a rush to get out of the open and under cover.

Eastern box turtles can be found in many habitats, including damp meadows, deciduous woodlands, pinelands, shrublands, and even suburban landscapes. Adults are opportunistic omnivores, dining on the food items du jour: plant matter, insects, worms, snails, amphibians, eggs, the odd bit of carrion, and mushrooms. There are claims that eastern box turtles can safely consume poisonous mushrooms and may be able to incorporate the toxins into their tissues, thereby making the turtles noxious to potential predators, but this anecdotal speculation needs more thorough research.

Despite their remarkable anti-predator traits and flexible diets, these turtles are declining across their range due to several factors. Habitat loss and fragmentation from development may be the biggest threat, but mortality from vehicle strikes, emerging infectious diseases like ranavirus, and elevated rates of nest-predation due to burgeoning raccoon populations all play a role. Box turtles also have to contend with illicit collecting from the wild for the pet trade and black-market cuisine. Many states that are home to eastern box turtles have conferred some degree of protection upon them, and a number of state agencies and herpetological societies are interested in eastern box turtle sightings. If you happen to come across one while doing yard work, out on a hike, or along a road, check to see if your state has a form to report your observation.

Loren Merrill is a writer and photographer with a PhD in ecology. Illustration by Adelaide Murphy Tyrol. The Outside Story is assigned and edited by Northern Woodlands magazine and sponsored by the Wellborn Ecology Fund of New Hampshire Charitable Foundation: nhcf.org.

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