Few events are more impressionable than a youngster’s first encounter with an Eastern collared lizard. Fortunately, it can happen to most Kansas youth just a short drive from their homes. I first came face-to-face with this lizard along the spillway at Bourbon State Fishing Lake in southeastern Kansas. As a wide-eyed second grader, it was easy for me to imagine the green reptiles as miniature T. rex, and to dream that I had entered another place — in a miniature scene from the Cretaceous of prehistoric time. They were sitting alertly on every other large rock. As I approached they would scamper for cover, occasionally lifting their front feet and running on their hind limbs with their tails elevated off the ground. I would just sit motionless — and watch — and wonder, how was I going to catch one?
My father led these excursions, and each trip only heightened my curiosity and appreciation for these unusual lizards with the over-sized heads. Usually, we were out fishing, but we always found time to flip a few rocks and chase some lizards. Looking back, it must have been entertaining for him; after demonstrating to me how to catch the reptiles, he would turn me loose, while he kept an eye on me from a distance. Eastern collared lizards are agile and fast, which makes them hard to catch over the relatively open terrain they naturally inhabit. More important to me at the time, they bit hard, and they held on — and chewed. But I was young, and the lizards were really never in any great danger of me capturing them.

The Eastern collared lizard is a wary predator, scaly and green with long claws, a strong tail, and a large powerful head for gripping and crushing live prey. These reptiles have excellent eyesight and spend much time resting on perches above the surrounding landscape. When a meal is spotted, it is run down and swallowed whole. Occasionally, a moth is snatched out of the air as it flies near. The lizard then quickly returns to its rock. Collared lizards aren’t picky eaters; the only two requirements for a potential meal are that it is moving and that it fits into the lizard’s mouth. These small dinosaur look-alikes eat small mammals, all manner of arthropods, other lizards and snakes, and even small birds. In turn, they are preyed upon by birds, mammals, bigger collared lizards, and snakes. Unlike most other lizard species in Kansas, the Eastern collared lizard is unable to regenerate its tail once lost. When cornered, this reptile will stand sideways, high on its legs, and curl its tail around to the front, then gape open its mouth, displaying a patch of black pigment inside. It may attempt to leap towards an aggressor and occasionally give a short hiss. It’s almost comical to see such a bluff from a creature so small but in the lizard’s day-to-day life, it must be a beneficial behavior.

The Kansas distribution of Eastern collared lizards is interesting. Collared lizards are not evenly distributed across the state. Instead, they are typically found only in the vicinity of suitable rock outcrops. In one rare exception, a population of these lizards has made use of mammal burrows in loess bluffs in a portion of Meade County that lacks any outcroppings. Generally, the larger and flatter the rocks, the better the lizards like an area. Collared Lizards are abundant throughout the Flint Hills, the Smoky Hills along the Smoky Hill, Saline, and Solomon rivers, and in the Red Hills of southcentral and southwestern Kansas. They are also known from several locations in the eastern quarter of the state, south of the Kansas River; however, these populations are typically isolated and local. A single population is known from the vicinity of Bear Creek in Stanton County along the Colorado border and is corroborated by other such lizards found in adjacent southeastern Colorado. These reptiles are absent from the more recent geologic deposits such as alluvium, dune sand, loess, and glacial drift which is the predominant land cover in much of the western half of the state and in the northeast.
Where they occur, you can see Eastern collared lizards perched atop large rocks during sunny warm days from late March to early November, when the air temperature reaches 70-90 degrees. Like all other reptiles in the state, Eastern collared lizards are cold-blooded and derive the energy necessary for their metabolic processes from the external environment. There is fierce competition among male Eastern collared lizards for the best rocks to occupy. This competition is generally non-violent, consisting of head-bobs and push-ups; however, when two lizards similar in size meet, one may aggressively chase the other away.

Collared lizards are active during the day, and at night retire to burrows or tunnels near or under their basking rocks where they sleep. In late October, they retire deep into these same burrows to avoid freezing temperatures and await the arrival of warmer temperatures in late March to April.

The Eastern collared lizard gets its common name from the two black rings on the neck, which resemble a collar. There are several species of collared lizards found throughout the southwest United States and Mexico, but ours occupies the eastern most range. The Eastern collared lizard reaches the northern limits of its range in Kansas. It can also be found in southeastern Colorado and southwestern Missouri, and south through northwestern Arkansas, Oklahoma, eastern New Mexico, and central Texas. It is the state lizard of Oklahoma, where it is commonly referred to as the Mountain Boomer. The name is a misnomer of sorts, and coined on the misconception that these lizards were capable of producing loud, far-reaching calls. The only vocalization they are capable of is a nearly inaudible hiss when threatened.

Their scales are small and granular, giving a very fine, smooth appearance. They shed their skin, not en masse as snakes do, nor cell-by-cell as we do, but rather in rough-edged, dime-sized patches. They are large lizards, reaching nearly 14 inches in length, with the head well differentiated from the neck. In most types of reptiles, it is often difficult to determine the gender of a specific individual. Eastern collared lizards are a notable exception, especially as adults. The males are green, and during the spring courtship period, they are bright green to blue and often have large yellow bars clearly visible. Collared lizards can grow to a length of 14 inches and while fleeing, they may lift their front legs and run only on their hind legs.
heads and occasionally narrow yellowish bands or spots along the sides. In contrast, the females are drab brown to gray with flecks of tan and often irregular tan bands along the sides. During late spring and early summer, mature females have several bright orange or red bands on the neck and along each side of their bodies, but otherwise retain their normal coloration. Both sexes have an irregular pattern of widely-spaced small white dots on the top of their body and tail.

Eastern collared lizards can be difficult to capture. During cool weather, they can be found snuggled up under rocks in a relatively torpid state where they are slow to move, and thus easy to pick up. However, during warm weather or sunny days, you’ll often need help – one person to lift a rock and another to see which nearby rock the quarry darted under. This process is repeated over and over (and typically involves lifting the same rocks several times) until someone makes a successful lunge and pins the lizard against the ground. At this point, the collectors are either thankful for the leather gloves they’re wearing, or wishing that they would have thought to wear them.

The collared lizard is non-venomous, and its teeth are actually quite small and of little consequence in its bite. The discomfort comes from the force of the bite, a trait evolved to crush grasshoppers but effective at pinching unprotected fingers as well. Once controlled in hand, they can be easily and safely carried by grasping them around their body just behind the head. The lizard can then be placed temporarily in a pillow case or other cloth bag for further examination or release. Actually, the only real danger associated with hunting and chasing collared lizards comes from: 1) rolling the large rocks over your own feet, 2) diving for a lizard in prickly-pear cactus, or 3) lifting a really big rock only to find that the space underneath it is home to a nest of hornets. All of this makes for great fun amidst some unusual language and much screaming.

Another catch method that may be used while the animals are active is noosing with monofilament line tied to a long thin pole. This technique requires some practice for the collector to become proficient. If you maintain that critical distance between yourself and the lizard, the reptile will allow you to slip a loop of fishing line attached to a long pole around its neck. In using this method, care must be taken to secure the lizards as quickly as possible to prevent them from thrashing around, although I have yet to
see one injured by using this technique. Back in the late 1960s, well-known herpetologist Joe Collins perfected this technique. He used an extra-long collapsible fishing pole with a small monofilament noose on the end. Collins and a companion would drive a car slowly along a rural road bordered with large rocks. After driving near a collared lizard (they are often accustomed to cars), he simply extended the pole out over the lizard, noosed the lizard, and jerked the pole until it collapsed back into the car. He would unhook the lizard, drop it in a container, and continue to cruise for lizards. Collins was legendary for his preference to collect specimens while riding in comfort whenever possible.

For most collectors, Eastern collared lizards make terrible long-term pets. Keeping them happy and healthy requires large enclosures and the ability to monitor and adjust nutrition, lighting, temperature, and humidity. Individual lizards can, however, be kept quite satisfactorily in a terrarium for a short period of time, allowing observation. They are unlikely to eat for very long in captivity and should be released where captured after a couple of days.

Eastern collared lizards are known to live 10-15 years in captivity when properly cared for. In nature, they would seldom reach that age. Male lizards are usually sexually mature by their first spring, although they seldom get to mate due to the competition from older and larger males. Males typically reach their maximum size by age three, while smaller females will continue to grow slowly over their entire lives.

Courtship and mating takes place in the spring following emergence from winter dormancy. Depending on body size, the female will lay 1-13 round, leathery-shelled white eggs in burrows or tunnels under rocks during May and June. During a warm spring, it is not uncommon for a female to lay two clutches of eggs up to one month apart. While incubating, the nest is vigorously defended by the female. The eggs hatch approximately 10 weeks later in August and September. The 3- to 4-inch young resemble miniature adults and immediately fend for themselves.

Other than natural predators,
Eastern collared lizards have few threats in Kansas. Due to differences in general habitat preference and use, interactions with humans are relatively infrequent when compared to many other reptile species in state. There seems to be little evidence to suggest that populations have changed much in number or geographic size over the past 50 years.

While perhaps not as ornate and prickly as the Texas horned lizard, nor as unusual as the Western slender glass lizard, the sight of an Eastern collared lizard on its perch is every bit as impressive. The next time you’re in a rocky area, take time to scan the tops of the largest boulders for this large lizard. Try to approach one and marvel as it aggressively bobs its head up and down in an attempt to scare you away. See just how close you can get to it, before it beats a hasty retreat beneath the boulder or inside a crevice. It’s the closest thing to a T. rex that will ever run from you.

Want to see ‘em?
Great public places to observe Eastern collared lizards on sunny days are Big Basin Prairie Preserve (Clark County), Bourbon State Fishing Lake and Wildlife Area, Chase State Fishing Lake and Wildlife Area, Clark Wildlife Area, Crawford State Park, Cowley State Fishing Lake, Geary State Fishing Lake and Wildlife Area, Hollister Wildlife Area, Kanopolis State Park, Meade State Park and Wildlife Area, Montgomery State Fishing Lake, and Wilson Wildlife Area.

Want to learn more?

Fun Fact
The largest Eastern collared lizard from Kansas was a 302 mm (12 inches) male collected by Charles J. Cole on August 27, 1963, in Chase County.

Collared Lizard Research In Kansas
Eva Horne, assistant director of Konza Prairie, and instructor and research assistant for the Division of Biology at K-State, is studying the territorial behavior of reptiles at Konza Prairie.