



# The Trail Builder

Newsletter of the Ozark Trail Association Late Fall 2008

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The Ozark Trail Association is a non-profit group with the mission to develop, maintain, preserve, promote and protect the rugged natural beauty of the Ozark Trail

## Bugged on the Ozark Trail

By Ted C. MacRae

The Ozark Trail is a renowned resource for recreational activities. Perhaps less well appreciated are the outstanding opportunities for nature study it also offers. Traversing some of the state's most pristine areas, numerous plants and animals make their homes in the diverse natural habitats found along its length. While reptiles, birds, and mammals may be the most conspicuous animals encountered, they are far from the most diverse or numerous. That honor belongs overwhelmingly to the insects.



Isn't she a beauty? Splendid tiger beetles can be found in dry, rocky soil along the OT, on sunny days during spring and fall

The types of insects found along the Ozark Trail depend greatly upon the habitat and season. Spring and early summer are the best times to observe insects, as adults of many species become active with the flush of growth of the plants on which they feed. Insects are more abundant in open areas of the trails than in the deep forest interior due to the greater diversity of wildflowers and plants that grow in sunny habitats. Many species of insects are restricted to certain types of plants and can, thus, only be found where those plants grow.

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There may be as many as 25,000 species of insects living in Missouri. The Ozark Highlands are home to a great many of these species...

—Ted C. MacRae

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### The beetle beat

An especially amusing group of insects has actually become more common along the Ozark Trail due to horseback riders. Dung beetles are a diverse group of round, black beetles that quickly find fresh droppings – whether from deer, coyote, or horses – on the trail and begin burying it as food for their brood. Some species dig directly underneath the dung, while others carve balls out of the pat, which they “roll” for some distance with their hind legs before burying. Once buried, the adult

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# Bugged on the Ozark Trail

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female lays a single egg within each dung ball, which is then covered with soil. The eggs hatch and the larvae consume the dung from inside out. While the dietary habits of these comical beetles may be unappealing, imagine how littered the trail would become were it not for their services.

Glades are natural island communities surrounded by a sea of forest. Their shallow, dry, rocky soil conditions support tiger beetles. The splendid tiger beetle (*Cicindela splendida*) – flashing brilliant green and clay-red – can be found sunning on the bare rock surfaces in glades throughout the Ozarks. Adults emerge during fall and then spend the winter deep inside tunnels dug into the rocky soil. In spring, they re-emerge and look for mates. Male tiger beetles grab females by the neck, their jagged, toothy jaws fitting precisely in grooves on the female neck designed specifically for such, and often “ride” on top of the female for long periods of time to prevent mating by another male.

## Other insects beware

Flowers are attractive to a great variety of insects, especially bees, wasps, butterflies, and flies, as well as beetles. Other insects, however, are attracted to flowers not because of anything that the flower offers, but in hopes of snatching as prey those insects that visit the flower. An example of this is the group known as ambush bugs. These small, squat insects look like little tanks but are almost impossible to see because of their brown and yellow mottled coloring that helps them blend into their surroundings. They sit motionless on flowers and wait for a bee or other insect to land, at which time they pounce – grabbing the prey with their vise-like front legs and piercing its body with their beak-like mouthparts. An injection of toxic saliva paralyzes their hapless prey and begins dissolving the body contents, allowing the ambush bug to suck up the liquefied contents.

## Winging it

The many aquatic habitats found along the Ozark Trail also provide homes to a great variety of flying insects. Many, such as dragonflies and their smaller, more delicate relatives the damselflies, depend upon these small ponds and lakes to complete their life cycles. While adults are conspicuous due to their large size and acrobatic flight capabilities, the immatures – called naiads – spend their lives unseen beneath the water’s surface, where they are predators of smaller aquatic insects. When they are ready to transform into adults, they climb above the water and shed their skin to allow their wings to expand and harden before flying off. One can often find the shed skins that they leave behind on cattails or other plants. At least one species, the Hine’s emerald dragonfly (*Somatochlora hineana*), is restricted to a



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handful of calcareous wetlands in the Ozarks. Because of its small population and the rarity of the habitat in which it lives, the species has been added to the Federal Endangered Species List.

Of course, not all flying insects encountered along the Ozark Trail are desirable. A variety of biting flies, from gnats and mosquitoes to horseflies and deerflies, conspire to make your trail experience less enjoyable. Ticks and chiggers, which are not insects but actually more related to spiders, also can be encountered in more brushy areas along the trail. These annoyances can be minimized by the proper use of insect repellents, especially those containing DEET

## Trailside serenade

Some insects along the Ozark Trail are more easily heard than seen. Cicadas – large relatives of aphids and leafhoppers – sit high in the branches of trees and sing during the day. As a group, they are among the loudest animals in the world. Only the males sing, and each of the 13 species in Missouri has a characteristic song that can be used to identify the species without even seeing the insect. Occasionally an individual may be found sitting low enough to approach, but only those who do so very slowly will be rewarded with seeing this extremely wary insect before it shrieks and takes flight. Katydid, resembling large, leaf-like grasshoppers, are another of the singing insects. Filling the night air, their rasping sounds are produced by rubbing special structures on their wings together. Several species can be found in the Ozarks, many of which are especially fond of the many oaks and hickories found along the trail.

The next time you hike the Ozark Trail, take a moment to look more closely at the plants and flowers along the trail. You’ll be amazed at the diversity of insects that can be seen, and your trail experience will be richer because of it. 🍷