

# Glades of Kentucky

By Thomas Barnes  
and Marc Evans

Photos courtesy: Tom Barnes



*Limestone slope glade*



*Necklace glade*

A glade in the strict technical sense is an opening in the forest. However, from an ecological perspective, glades are much more than just forest openings. They are typically areas where the underlying bedrock comes to the surface or near the surface, and there are often large areas of exposed rock. These unique habitats are generally not large, an acre or two at best, and usually much smaller in size. Glades occur throughout Kentucky, but they are not common in any region and can occur on limestone, dolomite (dolomite is a type of limestone), shale, and sandstone. The true “cedar glades” of the southeastern United States, and represented only in Kentucky in Bullitt, Logan, Simpson and War-

ren counties, are dominated by a small annual grass, annual dropseed, and require no natural disturbance or management to persist. The other types of “Midwestern” glades typically require some type of periodic disturbance, such as fire, to maintain them, and they typically are dominated by a perennial grass, little bluestem.

One can only imagine what life would be like for plants in this extreme environment. The hot, dry environment is quite hostile to plant life. Most plants that grow there are xerophytes and can withstand these harsh environmental conditions. No plants grow in the harshest habitat of exposed rock except for lichens and mosses. However, on the edges or in cracks or crevices where some soil can be accumulated, you can find drought-tolerant perennials or annuals that develop and set seed prior to the onset of summer heat. Typ-



ical forbs might include widow's cross, prickly pear cactus, false aloe, three-awn grasses, narrow-leaf coneflower, and slender heliotrope. Woody plants find this type of environment difficult to grow in, and oftentimes you will find red cedar, post or blackjack oak, winged elm, fragrant sumac, or redbud eking out an existence.

Limestone glades occur mostly in the Mississippian Plateau, Outer Bluegrass, and Knobs regions of the state and are the most common type of glades in the state. These glades can occur on a steep slope or can be flat. If they are flat, unlike their cousins on slopes that have well-drained soils, these glades can be extremely wet in the winter and spring. This creates a unique environment for numerous rare plants. One flat rock or pavement glade in southern Kentucky supports populations of numerous rare plants including limestone fame flower, Butler's quillwort, necklace glade cress, stemless evening primrose, hispid flat mallow, and upland privet.

Dolomitic limestone glades are very restricted in Kentucky, and they generally occur only in southern Jefferson and northern Bullitt counties. These are typically flat to rolling, and where the bedrock comes to the surface, you find the following rare plants: Kentucky glade cress, Eggelson's violet, Crawe's sedge, Northern dropseed grass, and Great Plains ladies' tresses orchids. These rock outcroppings are often associated with deeper soils where a more prairie-like environment exists, and the vegetation is dominated by warm-season grasses and forbs. The Kentucky glade cress is a globally rare plant and one of only two endemic plants in Kentucky, and its populations have declined by more than 70 percent as a direct result of habitat loss to development.



*Sandstone glade*

Sandstone glades occur in the Cumberland Plateau and Shawnee Hills regions. One of the more interesting things about sandstone glades is that often the rocks are covered by a thick mat of mosses and lichens. Much like the other types of rock habitat, some unusual plants occur in these environments including roundleaf fame flower, Appalachian sandwort, and June grass. Some more common species likely to be found in this habitat include blue curls, pinweed, golden aster, and false dandelion.

Shale glades are found primarily in the Knobs region where the Mississippian, Silurian, and Devonian shale is exposed. These are usually quite small and, because they have such loose texture, hardly anything grows on them with the exception of Carolina wild pink. Shale glades in surrounding states do have some unusual and rare species associated with them.

As a private landowner, what should you do if you suspect you have a glade on your property? The first thing to do is to contact a qualified botanist. It takes a trained eye and experience to identify rare plants that might be growing in your glade. If you have a forester or wildlife biologist working with you on your property have them assist you with finding a botanist or contact the State Nature Preserves Commission [www.naturepreserves.ky.gov](http://www.naturepreserves.ky.gov) for help. Once a botanist has made this determination, your management options can vary depending on the type of glade. For instance, most flat rock, shale, and sandstone glades need nothing more than perhaps some occasional timber management around the perimeter or the removal of some exotic species. If you have a limestone slope glade, the prescription might be an occasional burn with some selective timber removal to open the area up and to reduce future problems with tree invasion on the glade. There is even money available today to assist you in managing these unique habitat types. Contact the Kentucky State Nature Preserves Commission for more information about this program.



*Limestone flower-of-an-hour*

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