

## THE FERNS OF TURKEY RUN.

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Turkey Run Park consists of about 900 acres of land situated in Parke County, about ten miles north of Rockville,—the county seat. The park is almost completely wooded. Over 200 acres are virgin woods and all the rest except a few areas are second growth timber. These areas, other than one cultivated field, are covered with undergrowth and weeds of many kinds.

Sugar Creek runs approximately east to west through Turkey Run and empties into the Wabash River about ten miles from Turkey Run. Canyons of sandstone formation, found on either side of Sugar Creek, were formed in the Mansfield Age of the Pennsylvania Era. There are five main canyons ranging from a few feet to 65 feet in depth, namely—Rocky Hollow, Bear Hollow and Boulder Canyon on the north side of the creek and Turkey Run Hollow and Newby Gulch on the south side.

In these canyons are exposed rock ledges and overhanging cliffs whose moist surfaces are well adapted for the growth of many species of ferns, lichens, mosses and liverworts. Back of the canyons are moist, shady woods rich in flowers and mosses and well suited to many of the deep wood ferns. These many favorable habitats suitable to various kinds of ferns make Turkey Run especially rich in different species and also in abundance of individuals.

Following is the list of ferns and their allies as found in Turkey Run State Park between June 20 and September 7, 1927.

1. Common maidenhair fern.—*Adiantum pedatum* var. *aleuticum* (L.) Rupr. The maidenhair is distributed throughout the park in the uplands. It is one of the most common of the ferns found in Turkey Run and ranges in size from about six to eighteen inches across, and from one to two feet in height.
2. Goldie's fern.—*Thelypteris Goldiana* (Hook) Nieuwl. One of the largest species of ferns of the park. Often the fronds are three feet in height. Although not common, it is frequently found in the park, especially in the rich woods back from trails 4, 8, 3, and 5.
3. Marginal shield fern.—*Thelypteris marginalis* (L.) Nieuwl. Throughout Turkey Run we may find this fern in the deep woods. It is one of the most common of the ferns of the park. It is especially abundant along Lover's Lane, trail 1 and on trail 7.
4. New York fern.—*Thelypteris noveboracensis* (L.) Nieuwl. This delicate fern in Turkey Run has been found on what is known as the Test Trail. It is situated on the top of the ledge of Rocky Hollow. Although not common, it is frequently found in rich woods and among second growth timber.

5. American spinulose shield fern.—*Thelypteris spinulosa* var. *americana* (Fisk) Weatherby. Common in rich woods of Turkey Run, often growing from two to two and one-half feet in height.
6. Ebony spleenwort.—*Asplenium platyneuron* (L.) Oakes. In only two places did we find this fern and in each place it was abundant. The first place was on the moist north exposed banks at the north-west part of trail 2 and the other place in the wet, rich woods east on trail 2 from the head of Newby Gulch.
7. Silvery spleenwort.—*Athyrium acrostichoides* (Sw.) Diels. Among the narrow-leaved spleenworts we found this fern to be frequent. It was found in situations like those of its relative, the narrow-leaved spleenwort, and is especially abundant on trail 8.
8. Narrow-leaved spleenwort.—*Athyrium angustifolium*. (Michx.) Milde. In shady ravines which were filled with rich soil and moisture this fern was found to abound. On September 1, before we closed our summer's work, we found a few of these ferns on which the spores were developing.
9. Upland lady-fern.—*Athyrium angustum* (Willd.) Prisl. Frequent though not common in most parts of the park.
10. Rattlesnake fern.—*Botrychium virginianum* (L.) Sw. This peculiar fern was found scattered throughout the park in places where the soil was very rich. On trail 8 near the coal mine this fern is locally most abundant although it may be found on nearly every trail in the park, where it is only rare to frequent.
11. Walking fern.—*Camptosorus rhizophyllus* (L.) Link. Although this very peculiar fern prefers limestone we found it to be quite common on the sandstone cliffs in the canyons. It is especially abundant in Rocky Hollow, and Turkey Run Hollow.
12. Bulblet bladder fern.—*Filix bulbifera* (L.) Beruk. The graceful fronds of this fern may be found in all of the canyons in Turkey Run. There we found them with the peculiar bulbs on them during the first half of the summer. It is especially common in Rocky Hollow and in Gypsy Gulch.
13. Fragile bladder fern.—*Filix Filix fragilis* (L.) Esten. Common in certain localities in the park, especially in damp places under the cliffs in the hollows. Found with the bulblet bladder fern in Rocky Hollow and Gypsy Gulch.
14. Sensitive fern.—*Onoclea sensibilis*. L. In some moist soil under the second growth of trees we may find this well-known fern. It is especially abundant on trail 8, being found in large patches with the long-beech, maidenhair, and cinnamon ferns.
15. Cinnamon fern.—*Osmunda cinnamomea* L. This fern is found in the more wet places among the sensitive fern. It was also found on the Test trail and ranged from about 18 to 30 inches in height. It fruits very early in the spring.
16. Broad beech fern.—*Thelypteris hexagonoptera*. (Michx.) Weatherby. This fern was rarely found among the long beech ferns. It was found in a similar habitat but is much rarer than the long beech fern.

17. Long beech fern.—*Thelypteris phegopteris* (L.) Slosson. Throughout the second growth of the park this fern was found to be frequent to common, especially back from trails 3, 5, 4, and 8.
18. Common polypody.—*Polypodium vulgare*. L. Abundant to common on rocks and cliffs in all the hollows of the park.
19. Christmas fern.—*Polystichum acrostichoides* (Michx.) Schott. This well-known fern is very abundant in Turkey Run where the soil at many places is very rich. It is common on practically every trail in the park.
20. Purple cliff brake.—*Pellaea atropurpurea* (L.) Link. This fern has been found and reported as rare to frequent by many observers prior to 1926. It was reported by Miss Caroline H. Swanson of Chicago University in 1925 on west overhanging cliffs in Turkey Run Hollow on trail 6, about 50 to 100 feet south of the mouth of Turkey Run Creek and along the north banks of Sugar Creek near the covered bridge. It was not found in 1927.

Charles Deam reports the maidenhair spleenwort, *Asplenium Trichomanes* L., from Parke County, but it was not found at Turkey Run during the summer of 1927.

The ferns in the above list are listed according to the check list used by G. H. Tilton in his "Check List on the Ferns of Northeastern America." The nomenclature used is the later one adopted and now used at the Gray Herbarium.

In the study of the ferns during the last summer both Mr. S. R. Esten of Pendleton and Mr. Fred Test of Lafayette helped in making the above list. The ferns of the above list have been checked and verified as to species by Dr. Flora Anderson of the Botany Department of Indiana University.

