A PRELIMINARY REPORT ON THE FERNS OF CHESTER COUNTY, TENNESSEE[1]

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Chester County, the field of this study, lies on the Plateau Slope of West Tennessee and occupies an area of three hundred and thirteen square miles. It is crossed, north and south, by the drainage divide of the western division of the state. All the streams of this county are small. The western portion of the county is drained by upper tributaries of Rose Creek and Piney Creek, the surplus water of the central section is carried by the South Fork of Forked Deer River, and the eastern division delivers its waters to Hurricane Creek.

The topography of the county falls into three main divisions: (1) Rolling hills, (2) Level uplands, and (3) Low flat bottoms. The hills are usually low, well rounded, and have gentle slopes, but there are some exceptions. Most of the hills form a connecting link between the level uplands and the low bottoms. These level uplands, which may slope gently or be slightly rolling, occupy most of the elevated areas between the bottoms and make up a large part of the county. The bottoms are wide, in proportion to the sizes of the streams, very level and so poorly drained that they are swampy except where canals or ditches have been provided.

The soil of the hills and uplands is derived from clay and sand formations; as a whole it is loose, sandy, poor, and erodes rapidly under cultivation. The soil of the bottoms consists chiefly of alluvial deposits and is more fertile. As rocks are practically unknown in this county, one would not expect to find those ferns which prefer, or demand, a rocky habitat.

Most of the ferns of this county are found at what might be called the border line between the hills and bottoms. Out in the bottoms where the land is subject to overflows ferns are rare and, except for a few species, they are seldom found on the dry hillsides or out on the level uplands. But at the foot of these hills where the soil is more fertile and where seeps and small springs furnish a better water supply ferns grow in abundance.

So far as we have been able to learn no one has ever undertaken to make a complete survey of the ferns in Chester County. However, as early as 1892 and 1893 Professor S. M. Bain collected and reported ten or twelve species from Chester and Madison Counties. But if

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[1]Read before the Nashville meeting of the Tennessee Academy of Science November 30, 1934. The author wishes to express his appreciation to Dr. Jesse M. Shaver for his advice and encouragement and his permission to use the illustrations included in this paper. Dr. Shaver first discovered two species listed in this report but both have later been found by the author.

anything has been done during the intervening years, a report of it has failed to reach me.

This study was begun early in August, 1934, and has continued as time and opportunity permitted until the present. About half of the county has been covered, but there is reason to believe that most of the best fern territory has been studied. During the coming spring and

Photograph by Jesse M. Shaver

Fig. 1. Woodwardia areolata in the foreground and Osmunda cinnamomea in the background.

early summer I hope to study the territory that has not yet been covered and to recheck the regions that have already been studied. To date I have found representatives of three families, twelve genera, and fourteen species. The common names used in this report are those given in Standardized Plant Names as reported by Durand

(1928) in *Field Book of Common Ferns.* While in the order of arrangement and the scientific names I have followed Gray's *New Manual of Botany,* Seventh Edition.

Polypodiaceae

RESSURECTION FERN (*Polypodium polypodioides* (L.) Hitchc.

Fairly common on trees and logs in the bottoms, but seldom seen elsewhere.

Photograph by Jesse M. Shaver

Fig. 2. Sterile fronds of Osmunda cinnamomea nearly six feet tall.

WINGED BEECHFERN (*Phegopteris hexagonoptera* (Michx.) Fée)

Fairly common, especially on hillsides.

AMERICAN MAIDENHAIR (*Adiantum pedatum* (L.))

It appears to be rather rare as I have found it in only one community.

BRACKEN (*Pteris aquilina var. pseudocaudata* (Clute))

Abundant in some localities, found most frequently in open woodlands and pastures.

Photograph by Jesse M. Shaver

Fig. 3. The sterile and fertile fronds of Botrychium obliquum.

NARROWLEAF CHAINFERN (*Woodwardia areolata* (L.) Moore)

Common and widely distributed, especially about springs and seepy places.

EBONY SPLEENWORT (*Asplenium platyneuron* var. *serratum* (E. S. Miller))

Common in some localities, but they are usually widely separated.

LOWLAND AND UPLAND LADY FERN (*Asplenium Filix-femina* (L.) Bernh.)

The most abundant and most widely distributed species found in the county to date.

CHRISTMAS FERN (*Polystichum acrostichoides* (Michx.) Schott)

Widely but unevenly distributed, usually found on steep banks or hillsides.

NEW YORK FERN (*Aspidium noveboracense* (L.) Sw.)

Well distributed over the county and usually found on land that is a little dryer than where most other ferns grow.

BRITTLE FERN (*Cystopteris fragilis* (L.) Bernh.)

This delicate little fern does not seem to be very common in this section.

SENSITIVE FERN (*Onoclea sensibilis* (L.))

Not abundant but fairly common in its typical habitat—wet places.

Osmundaceae

ROYAL FERN (*Osmunda regalis* var. *spectabilis* (Willd.))

This fern is widely distributed and fairly abundant.

CINNAMON FERN (*Osmunda cinnamomea* (L.))

The largest and one of the most common ferns found in this section.

Ophioglossaceae

GRAPEFERN (*Botrychium obliquum* (Muhl.))

The rarest fern of this section.

LITERATURE CITED

Durand, Herbert. 1928. Field Book of Common Ferns. Putnam, New York.

Robinson, B. L., and M. L. Fernald. 1908. Gray's New Manual of Botany. Seventh Edition. American Book Co., New York.