

THE VASCULAR FLORA OF HAYWOOD COUNTY, TENNESSEE

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ABSTRACT

A floristic survey of Haywood County, Tennessee, in the western third of the state between Memphis and Jackson, was conducted from October, 1982, to July, 1984. Habitats in the study area were classified as: 1) upland forest; 2) bottomland forest; 3) cypress-gum swamp; 4) beaver marsh; 5) old field; 6) wet field; and 7) disturbed areas. Of the 734 taxa documented, 552 were county records and 15 were state records. Seventy taxa from Haywood County of which voucher specimens exist were not rediscovered during the course of this study. The list of taxa consists of 113 families, 383 genera, and 710 species.

INTRODUCTION

A study of the native and naturalized vascular flora of Haywood County, Tennessee, was conducted from October, 1982, to July, 1984 (Lewis 1984). The choice of Haywood County as the study area resulted from the need for floristic

attention to western Tennessee, especially in light of the current development of an "Atlas of the Vascular Plants of Tennessee" (Wofford 1980; Wofford and Evans 1979a, 1979b), and the rapid rate of habitat destruction in western Tennessee. A total of 67 trips to the study area has resulted in 1610 field collection numbers. A voucher specimen of each reported taxon was accessioned in either the Ramond Athey Herbarium at Memphis State University (MEM), Memphis, Tennessee, or the Herbarium of the Ohio State University (OS), Columbus, Ohio.

DESCRIPTION OF THE STUDY AREA

Haywood County is located in the western half of the Gulf Coastal Plain, an area of low elevation, flat to rolling topography, and humid, subtropical climate (Espenshade 1970). It encompasses the Hatchie National Wildlife Refuge that covers 45.3 of the county's 1365 square kilometers. The two rivers draining the county are the Hatchie River, a State Scenic River unaltered by man, and the channelized South Fork of the Forked Deer River.

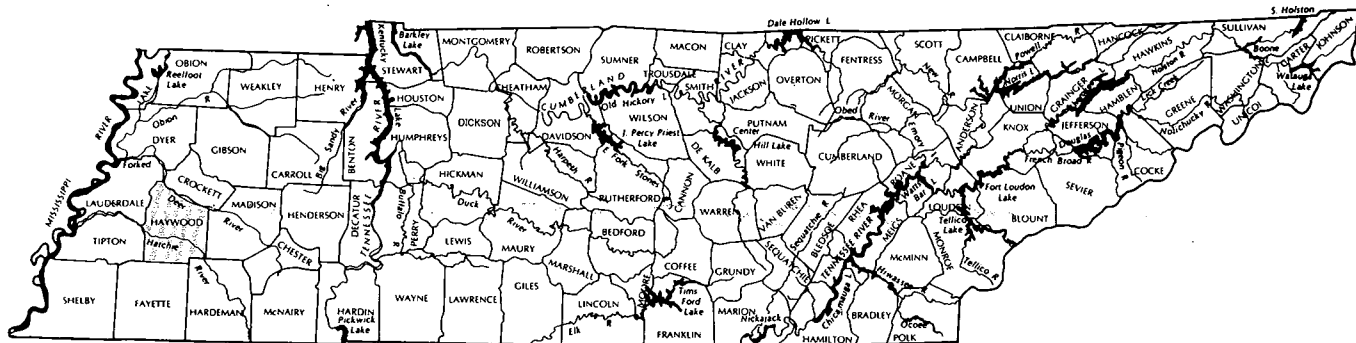


Figure 1. Map showing Haywood and surrounding counties.

Loess covers underlying sands, sandy clays, and clays to an average depth of two meters (U.S. Department of Agriculture 1982). Temperatures range from 3.8° C in January to 27° C in July, with a mean annual temperature of 15.8° C. Precipitation ranges from 7.49 cm in August to 14.2 cm in April with an annual mean of 130 cm. (U. S. Department of Commerce 1950-1983).

MAJOR HABITATS

Habitats in the county were classified into seven types: upland forest, bottomland forest, cypress-gum swamp, beaver marsh, old field, wet field, and disturbed (Lewis 1984). Each habitat type has been described with several characteristic species (the abbreviation "intr." designates introduced species) in the following discussion.

Upland Hardwood Forest

Upland hardwood forests occur on well-drained slopes on bluffs along the Hatchie River and hilly areas in the northwest and southeast parts of Haywood county. Typical canopy species are *Acer saccharum*, *Carya tomentosa*, *Nyssa sylvatica*, *Quercus alba*, *Q. marilandica*, *Q. velutina*, *Q. stellata*, and *Q. pagoda*. Subcanopy species include *Aesculus pavia*, *Cornus florida*, *Ostrya virginiana*, *Ulmus alata*, and *Vaccinium arboreum*. Herbaceous species include *Antennaria plantaginifolia*, *Chasmanthium sessiliflorum*, *Danthonia spicata*, *Luzula bulbosa*, *Phryma leptostachya*, and *Tipularia discolor*.

Bottomland Hardwood Forest

Bottomland hardwood forests occur on level, poorly-drained flood plains of the Hatchie and the South Fork of the Forked Deer Rivers and their major tributaries. Characteristic canopy trees are *Acer saccharinum*, *Carya aquatica*, *Diospyros virginiana*, *Liquidambar styraciflua*, *Quercus lyrata*, *Q. michauxii*, and *Q. nigra*. The riverbanks are dominated by *Acer saccharinum*, *Betula nigra*, *Quercus phellos*, and *Salix nigra*. Typical subcanopy species are *Carpinus caroliniana*, *Cornus foemina*, and *Ilex decidua*. Species most commonly inhabiting the forest floor are *Arundinaria gigantea*, *Asclepias perennis*, *Campsis radicans*, *Toxicodendron radicans*, *Onoclea sensibilis*, and *Smilax glauca*.

Cypress-Gum Swamp

Cypress-Gum Swamp Forests are characteristically flooded most of the year and have a canopy of *Taxodium distichum* and *Nyssa aquatica*. In Haywood County, some of the *Taxodium* dominated wetlands appear to have arisen after inundation due to beaver activity destroyed the original forest. Subcanopy trees include *Alnus serrulata* and *Itea virginica* and herbaceous species include *Peltandra virginica*, *Sagittaria latifolia*, and *Saururus cernuus*.

Beaver Marsh

Beaver marshes are open, lush, nearly treeless areas with standing water created by the damming of streams by beaver and characterized by dead, standing or toppled trunks of trees killed by the inundation. Woody species include *Taxodium distichum* and *Cephalanthus occidentalis*. Typical herbaceous growth consists of *Bidens frondosa*, *Ceratophyllum demersum*, *Echino-*

dorus cordifolius, *Eclipta prostrata*, *Polygonum hydropiperoides*, *Scirpus cyperinus*, *Sparganium americanum*, *Spirodela punctata*, and *Typha latifolia*.

Old Field

Old fields are totally or nearly treeless areas that are dry most of the year and typically covered with grasses and sedges. These disturbed areas have been created through the destruction of upland forests. *Andropogon virginicus*, *Conyza canadensis*, *Dichanthelium scoparium*, *Festuca elatior* (intr.), *Lespedeza cuneata* (intr.), *Panicum anceps*, *P. rigidulum*, *Schizachyrium scoparium*, and *Solidago canadensis* var. *scabra* are common herbaceous species of old fields.

Wet Field

Wet fields, low-lying areas that are totally or nearly treeless and soggy for most of the year, represent disturbed areas created by the destruction of bottomland forests. Representative species include *Commelina virginica*, *Cyperus ovularis*, *Helenium flexuosum*, *Juncus tenuis* and other species of *Juncus*, *Phyla lanceolata*, *Rhexia virginica*, *Spilanthes americana* var. *repens*, and *Xanthium strumarium* (intr.).

Disturbed Areas

Disturbed areas not represented in the habitat types above include roadsides, railroads, cultivated fields, and lawns. Conspicuous weeds in these habitats include *Ambrosia artemisiifolia*, *Chaerophyllum tainturieri*, *Erigeron annuus*, *E. philadelphicus*, *Geranium carolinianum*, *Hypericum punctatum*, *Lactuca canadensis*, *Sorghum halepense* (intr.), and *Viola rafinesquii* (intr.).

RESULTS

The checklist of the vascular plants of Haywood County, Tennessee, consists of 734 vascular plant taxa in 113 families, encompassing 383 genera and 710 species. Of the 734 taxa collected during this study, 552 were judged new county records since no specimens of these taxa were housed in either the Herbarium of the University of Tennessee at Knoxville [TENN] or the Raymond Athey Herbarium at Memphis [MEM], and 130 are not native to the central and eastern United States. The five largest families of vascular plants in Haywood County are the Poaceae (95 species), Asteraceae (73 species), Fabaceae (51 species), Cyperaceae (39 species) and Rosaceae (24 species). The largest genera are *Carex* (22 species), *Quercus* (15 species), *Dichanthelium* (14 species), *Carya* (10 species) and *Juncus* and *Cyperus* (9 species each).

According to Ayensu and DeFilippis (1978) and the Committee for Tennessee Rare Plants (1978), none of the species collected for this study were considered endangered, threatened, or possibly extirpated in Tennessee; however, three taxa, *Spilanthes americana* var. *repens*, *Quercus nuttallii*, and *Elodea nuttallii* were placed in the category "Special Concern" for Tennessee (Committee for Tennessee Rare Plants 1978).

Several species and varieties collected by the first author (*Agalinis heterophylla*, *Antennaria plantaginifolia* var. *arnoglossa*, *Aster simplex*, *Bothriochloa saccharoides*, *Carex complanata* var. *hirsuta*, *Carya glabra* var. *hirsuta*, *Cucurbita pepo* var. *pepo*, *Erythronium umbilicatum*, *Festuca versuta*, *Glechoma hederacea* var. *hederacea*, *Glyceria arkansana*, *Linum floridanum*, *Ludwigia polycarpa*, *Tridens albescens*, *Xanthium strumar-*

ium var. *strumarium*) or by others (*Micranthemum umbrosum*) do not appear in the preliminary checklist of the dicots of Tennessee issued by Sharp et al. (1960). These species are also not listed as occurring in western Tennessee in the recent checklist of the flora of the middle Mississippi River valley compiled by Heineke (1987). Other references checked include Wofford and Evans (1979a, 1979b), Wofford (1980) and Kral (1973, 1976). The collections of these species made during the course of this study are thus considered new state records and should be reviewed for inclusion in the next revision of the Tennessee Department of Conservation's Rare Plant List of Tennessee. *Lathyrus pusillus* is also rare, being known from only one other county in western Tennessee (Chester County, specimen in TENN, Heineke 1987). In addition to the species above, the following species are additions to the flora of the Middle Mississippi River Valley: *Sagittaria australis*, *Aster simplex*, *Eupatorium capillifolium*, *Weigela floribunda*, *Dioclea multiflora*, *Galactia volubilis*, *Erythronium umbilicatum*, *Linum floridanum*, *Plantago major* and *Lysimachia tonsa*.

CHECKLIST

The list of the vascular plants of Haywood County, Tennessee, which begins on page 40, is arranged alphabetically by family and taxon. Nomenclature follows Kartesz and Kartesz (1980); however, synonymy is indicated where the name used in that work differs from the one used by Fernald (1950). For taxa not included by Fernald (1950), the following manuals were used for the purpose of synonymy: Radford, Ahles and Bell (1968); Steyermark (1963); Gleason (1952); Hitchcock (1950); or Parks and Hardin (1963; for *Erythronium* only). Identifications were made by the authors using "Manual of the Vascular Flora of the Carolinas" (Radford et al. 1968) and "Flora of Missouri" (Steyermark 1981) and problem specimens were sent to specialists (see Acknowledgements) to have identifications checked. An asterisk (*) beside the name of a taxon in the list indicates that the taxon was never collected in Haywood County before this study (i.e., a county record). A plus sign (+) beside the name of a taxon indicates that the occurrence of that taxon in Haywood County was documented either from the literature or from herbarium specimens not collected by the authors. We relied on Heineke (1987) and the knowledge of one of us (ETB) of the flora of western Tennessee to determine whether each taxon was native or introduced. Introduced taxa are followed by the abbreviation "intr." in the list below.

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