

UNIVERSITY OF TENNESSEE

33

Upon the request of the Committee on Graduate Study

the under-signed have examined a thesis entitled

A Check List of the Trees and Shrubs
of Eastern Tennessee

of Eastern Tennessee

presented by

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Oct 5

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is worthy of acceptance.

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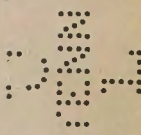
Examiners.

CHECK LIST
of the
TREES AND SHRUBS OF EASTERN TENNESSEE

A THESIS
Submitted to the Graduate Committee
of the
University of Tennessee
in
Partial Fulfilment of the Requirements
for the Degree of
Master of Arts

WILLA LOVE GALYON

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CHECK LIST

of the

TREES AND SHRUBS OF EASTERN TENNESSEE

INTRODUCTION

The flora of East Tennessee is exceedingly rich both in numbers of species and individuals. Along the eastern border of the state we have the largest untouched remnants of the original hardwood forests of Eastern North America. The indigenous broad-leaved tree species outnumber those of any other equivalent area in this country, yet surprisingly little mention has been made of them in literature.

Object

The need for a permanent record of the plants growing in a region so productive of plant life is obvious. The botanical and the lay public alike lack information, as well as the source of it,- a situation which has long needed attention. Published floras covering large areas are noticeably void of reference to the occurrence of given species in Eastern Tennessee. While many of America's outstanding botanists have collected extensively in certain Southern Appalachian localities, few of them have worked in Tennessee. With casual knowledge that the flora here is profuse, but lacking more exact information, taxonomists have inferred

the occurrence of certain species from knowledge of their existence in the adjacent areas of Western North Carolina, Virginia and Alabama.

The object of the present investigation, then is to observe and record the occurrence of the most conspicuous aspect of our flora,- namely, the trees and shrubs. It has not been practicable to make excursions into some parts of East Tennessee and to obtain data on all trees and shrubs, So it is admitted that the list herewith does not include all the indigenous trees and shrubs of the region, but those which are listed are definitely known to occur here.

The list is based on the author's observations and studies made during the past four years. Collections and field studies have been made during all seasons of the year, and in the mountainous parts as well as in the valley regions. Naturally it has been our policy, as in all work of this kind, to make extensive use of the herbarium. The one consulted is that of the University of Tennessee, comprising some 14,000 sheets of higher plants. The value of such a practice cannot be overestimated. Collections in our herbarium date from the sixties. They have been made by keen amateurs and professionals, and in most cases the determinations were confirmed by authorities. Thus, the observations of the writer are greatly enhanced by herbarium records.

The author has also made free use of Gattinger's "Flora of Tennessee and Philosophy of Botany" (7), since this list is based on carefully determined specimens and is generally accepted as authoritative. In some instances species are credited to our area by authors other than Gattinger, but unless specimens are on hand, or unless the writer has actually observed the species in question, the record has been ignored. Unless and until such vague records have been positively verified by the writer it would seem more consistent to omit such forms, even though they occur here, than to fall into the error of including species which do not exist in East Tennessee. All supposition, in compiling the list, has been avoided.

The present check list is preliminary. In making any census, and especially of plants, it is obvious that a few species may be overlooked. A period of four years devoted to observation and records, however, gives one a good beginning for the more complete list to come later. It is hoped that the region can be worked more intensively, and that the borders of the area under observation may be extended. Studies of the trees and shrubs of the Appalachian region offer urgent invitation.

Plants Listed

The term "tree" is used to include all woody plants exhibiting main trunk and crown, at least eight feet in

height and two inches in diameter. The term "shrub" includes all woody plants which develop more than one stem. Shrubs do not attain the size of trees, as outlined above, although they are usually more than one foot in height. Obviously a given species may at one time grow as a tree and at another as a shrub. Perhaps the difficulty with our definitions is that they are popular definitions, it is usually difficult, if not dangerous, to attempt to attach a scientific meaning to a lay term. However, these definitions seem to fit very well the popular as well as the scientific concept of the terms in question.

Not all ligneous plants are included in the list. For instance, the "vines" have been excluded, although they may be considered as climbing or twining shrubs. Plants such as Epigea repens Linnaeus and Gaultheria procumbens Linnaeus have been omitted, these forms possess woody stems but hardly fall into the class of shrubs as defined.

With few exceptions the trees and shrubs appearing in this catalog are indigenous to Eastern Tennessee. A few exotics, such as Paulownia tomentosa, (Thunberg) Steudel are listed because they have become firmly established. Some cultivated plants which have escaped are also listed.

Arrangement of the List

In order to show something of the relationship of the plants treated, a natural sequence and arrangement, based on the work of Engler and Prantl has been adopted. It is pertinent to observe that Gray in his Manual (8) follows the Engler-Prantl system. While newer and perhaps better systems of classifying plants have been put forth within recent years, they are not as well established and not as widely known. The families and genera are arranged phylogenetically, but the species are arranged alphabetically in order to increase the usefulness of the list.

Plant Names

In general the botanical names used follow those in the seventh edition of Gray's New Manual of Botany (8). However, Sudworth's Check List (21) is accepted as the final authority in naming the trees. Sudworth's terminology is undoubtedly more up-to-date than the seventh edition of Gray's Manual. Synonyms are presented in many instances with the purpose of extending the usefulness of the catalog.

In selecting the common name for a species, the most generally accepted one is given, even though the tree or shrub may be better known locally by another name. In so doing it is hoped that some contribution will have been made toward standardizing plant names. No attempt is made to record a common name of all the species listed. Trees

are better known than shrubs; they have been given common names by foresters and lumbermen. Some few shrubs are of so little importance that they have not received common names. Often the common name applies to the genus rather than to the species. For example, "oak" is the common name for the genus Quercus, whereas "post oak" is the common name for the species stellata. Frequent use has been made of Glute's Common Names of Plants (4).

Occurrence

The occurrence of each species listed is given as accurately as it is known. Observations have not been completed for all species, and the distribution given for some is purposely made general. For example, there is one specimen of Vaccinium corymbosum Linnaeus in the University of Tennessee herbarium whose range is given as "gravely hills near Harriman". The distribution of this species is given in Gattinger's Flora (7) as "over the state". Since it is obvious that the plant occurs in places other than near Harriman, its occurrence in the present list is given as "gravely hills". Where a tree or shrub has been reported from but one station, the single location is recorded, rather than to speculate as to its probable range.

The word "occurrence" is here used to denote more than geographical range. The geological formations, where they are

important, are given. The habitat is also given, whether the river banks, the thicket, the open woods, or the dense woods. The territory covered by this check list is so small that a tree or shrub occurring at one place very probably occurs throughout the range. This is true of such trees as eastern red cedar and sycamore which may be found throughout the region except on the high mountains. Some trees and shrubs are restricted as to distribution such as southern balsam fir and red spruce which are found only on the high mountains near the eastern border of the state.

Geographical Features

East Tennessee occupies an interesting geographical position. On the one hand it is far enough south so that plants of southern range, such as magnolia and sweet gum, occur throughout the lower valleys. The highest mountains, those attaining an altitude of 6,500 feet and more, are sufficiently high and cold that plants of northern range, such as black spruce and mountain ash, are found on their summits. Due to a range in altitude from 800 to 6,660 feet there are three floral zones in East Tennessee; Canadian, Transitional, and Upper Austral.

The annual rainfall ranges from fifty inches on the valleys to eighty three inches on the higher mountains. The temperatures for the region range from a mean minimum of 67.6° F. to a mean maximum 85.8° F. in summer, and from

a mean minimum of 30.8° F. to a mean maximum of 47.4° F. in winter. In order better to understand the region which this check list covers, a map of Tennessee is attached. The principal mountain ranges and rivers of East Tennessee have been indicated.

Illustrations

Most of the photographs used were made from living specimens, a very few, however, were made from herbarium mounts. The leaf diagrams were made from representative leaves of mature plants. Special care was taken to avoid using abnormal or immature leaves. The photographs are the property of the Department of Botany of the University of Tennessee, and for the most part were made by the writer. Figures 2, 7, 17, 42, and 52 were made by Dr. H. M. Jennison of the University of Tennessee Botany Department.

Historical.

The first botanist to view the rich flora of this region was probably William Bartram who, in 1776, made a tour of the Southern Appalachian Mountains. Bartram only touched Tennessee in his travels and apparently confined his observations and writings to certain of the flowering shrubs, such as Rhododendron catawbiense Michaux,

Rhododendron calendulaceum (Michaux) Torrey, and Stewartia pentagyna L'Heritier.

The elder Michaux, that most intense of all botanists, spent many months collecting and naming plants in Western North Carolina but only passed through East Tennessee on a hurried trip across the state.

Gray and Small made trips into Eastern Tennessee and North Carolina sufficient only to satisfy themselves as to the general similarity of the flora of the two regions. Their activities centered around Roan Mountain in North Carolina.

Agustin Gattinger, Tennessee's pioneer botanist, made extensive collections especially in the middle part of the state. In 1901 Gattinger published his *Flora of Tennessee and Philosophy of Botany* (7). This is the only published list of plants occurring in Tennessee.

Samuel M. Bain, former botanist at the University of Tennessee, made extensive studies of the flowering plants of the state. Professor Bain was one of America's first color photographers. His collection of color plates of flowers constitutes one of the most valuable ones in this country.

T. H. Kearney during the years 1890-1893 made extensive collections of the trees and shrubs of Eastern Tennessee. Some of his collections are filed in the herbarium of the

University of Tennessee. As far as we know, there is no published paper showing the results of his works.

Observations and critical studies on the flora of Tennessee are at present being carried on by members of the staff of the Department of Botany. It is hoped that check lists of the flowering plants as well as ferns, mosses, and fungi can be published in the near future.

ANNOTATED CHECK LIST
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TREES AND SHRUBS OF EASTERN TENNESSEE

GYMNOSPERMAE

Family PINACEAE

PINUS DuRoi.

- PINUS ECHINATA Miller. Shortleaf Pine.
 Synonym.- Pinus mitis Michaux.
 Occurrence.- Mountain slopes and dry sandy ridges.
- PINUS PUNGENS Lambert. Mountain Pine.
 Occurrence.- Mountains.
- PINUS RIGIDA Miller. Pitch Pine.
 Occurrence.- Common on mountain slopes and dry
 sandy ridges
- PINUS STROBUS Linnaeus. Northern White Pine.
 Occurrence.- Woods and fields.
- PINUS TAEDA Linnaeus. Loblolly Pine.
 Occurrence.- High ridges, southeastern corner of
 state.
- PINUS VIRGINIANA Miller. Virginia Pine, Scrub Pine.
 Synonym.- Pinus inops Solander.
 Occurrence.- Common in fields and woods.

PICEA Link.

PICEA MARIANA (Miller) Britton, Sterns, and Poggenberg.
Black Spruce.

Synonym.- Picea nigra (Aiton) Link.

Occurrence.- Tops of high mountains near eastern border of state.

PICEA RUBRA Link. Red Spruce.

Synonym.- Picea rubens Sargent.

Occurrence.- Associated with Picea mariana on tops of high mountains.

ABIES Miller.

ABIES FRASERI (Pursh) Poiret. Southern Balsam Fir.

Occurrence.- Tops of high mountains, at altitudes above 5,000 feet.

TSUGA Carriere.

TSUGA CANADENSIS (Linnaeus) Carriere. Eastern Hemlock.

Occurrence.- Borders of mountain streams.

TSUGA CAROLINIANA Engelmann. Carolina Hemlock.

Occurrence.- High mountains on the border of North Carolina. Rare.

TAXODIUM Richard.

TAXODIUM DISTICHUM (Linnaeus) Richard. Southern Cypress.

Note.- One specimen in cultivation in hotel yard at Montvale Springs, Blount Co.

LIBOCEDRUS RECURRENS Torrey.

Incense Cedar.

Note.- One specimen in cultivation in the hotel
yard at Montvale Springs, Blount County,
Tennessee.

THUJA Linnaeus.

THUJA OCCIDENTALIS Linnaeus.

Northern White Cedar.

Occurrence.- Region of the Holston River. Uncommon.

JUNIPERUS Linnaeus.

JUNIPERUS VIRGINIANA Linnaeus.

Eastern Red Cedar.

Occurrence.- Common in fields and along roadsides.

ANGIOSPERMAE

DICOTYLEDONS

Family SALICACEAE

SALIX (Tournefort) Linnaeus.

SALIX BABYLONICA Linnaeus.

Babylon Weeping Willow.

Occurrence.- Common along streams tributary to
Tennessee River.

SALIX DISCOLOR Muhlenberg.

Pussy Willow.

Occurrence.- Commonly cultivated, occasionally escaping.

SALIX HUMULUS Marshall.

Prairie Willow.

Occurrence.- Summit of Big Frog Mountain.

SALIX LUCIDA Muhlenberg.

Shiny Willow.

Occurrence.- Banks of streams, mountains of East Tennessee.

SALIX NIGRA Marshall.

Black Willow.

Occurrence.- Very common along streams.

SALIX PURPUREA Linnaeus.

Purple Willow.

Occurrence.- Low grounds.

SALIX SERICEA Marshall.

Silky Willow.

Occurrence.- Banks of streams.

SALIX TRISTIS Aiton.

Dwarf Gray Willow.

Occurrence.- Sparingly found near streams.

POPULUS (Tournefort) Linnaeus.

POPULUS BALSAMIFERA CANDICANS (Aiton) Gray. Balm-of-Gilead.

Synonym.- *Populus candicans* Aiton.

Occurrence.- Commonly cultivated as a shade tree and sometimes escaping.

POPULUS DELTOIDES Marshall.

Eastern Cottonwood.

Synonym.- *Populus monilifera* Aiton.

Occurrence.- Commonly cultivated, escaping.

POPULUS GRANDIDENTATA Michaux.

Large-toothed Aspen.

Occurrence.- Borders of streams, mountains of East Tennessee.

POPULUS NIGRA ITALICA Du Roi. Lombardy Poplar.

Occurrence.- Commonly cultivated, escaping.

Family JUGLANDACEAE

JUGLANS Linnaeus.

JUGLANS CINEREA Linnaeus. Butternut.

Occurrence.- Woods and fields.

JUGLANS NIGRA Linnaeus. Black Walnut.

Occurrence.- Fields, often associated with
Juniperus virginiana.

HICKORIA Rafinesque.

HICKORIA ALBA (Linnaeus) Britton. Mockernut Hickory.

Synonym.- Carya tomentosa Nuttall.

Occurrence.- Woods, throughout the range.

HICKORIA CAROLINAE - SEPTENTRIONALIS Ashe. Southern
Shagbark Hickory.

Occurrence.- Woods.

HICKORIA GLABRA (Miller) Sweet. Pignut Hickory.

Synonym.- Carya porcina Nuttall.

Occurrence.- Woods; frequent in Cumberland Plateau.

HICKORIA LACINIOSA (Michaux fils) Sargent. Bigleaf
Shagbark Hickory.

Occurrence.- Rich soil.

HICORIA OVATA (Miller) Britton. Shagbark Hickory.

Synonym.- Carya alba Nuttall.

Occurrence.- Woods; throughout the range.

HICORIA OVATA NUTTALLII (Sargent) Sudworth.
 Little nut Shagbark Hickory.

Synonyms.- Hicoria microcarpa (Nuttall) Britton.

Occurrence.- Lookout Mountain.

Family BETULACEAE

CORYLUS (Tournefort) Linnaeus.

CORYLUS AMERICANA Walter. Hazelnut. ✓

Occurrence.- Thickets and along fences.

CORYLUS ROSTRATA Aiton. Beaked Hazelnut.

Occurrence.- White Cliff Springs.

OSTRYA (Michaux) Scopoli.

OSTRYA VIRGINIANA (Miller) Koch. Hop-hornbeam.

Synonym.- Ostrya virginica Willdenow.

Occurrence.- Frequent near streams.

CARPINUS (Tournefort) Linnaeus.

CARPINUS CAROLINIANA Walter. Blue Beech.

Occurrence.- Common along streams.

BETULA (Tournefort) Linnaeus.

BETULA LENTA Linnaeus.

Sweet Birch.

Occurrence.- Mountains of East Tennessee.

BETULA LUTEA Michaux.

Yellow Birch.

Occurrence.- Mountains of East Tennessee;
especially along streams.

BETULA NIGRA Linnaeus.

River Birch.

Occurrence.- Along streams.

BETULA POPULIFOLIA Marshall.

Gray Birch.

Note;- Specimen on University of Tennessee
campus. Often cultivated, sometimes
escaping.

ALNUS (Tournefort) Linnaeus.

ALNUS CRISPA (Aiton) Pursh.

Mountain Alder. ✓

Synonyms- *Alnus alnobetula* (Ehrhart) K. Hock.

Alnus viridis de Candolle.

Occurrence.- Damp places, uplands of East Tennessee.

ALNUS MOLLIS Fernald.

Downy Green Alder.

Occurrence.- Roan Mountain, Carter County

ALNUS RUGOSA (Du Roi) Sprengel.

Smooth Alder. ✓

Synonym.- *Alnus serrulata* Willdenow.

Occurrence.- Common along streams throughout the
range.

Family FAGACEAE

FAGUS (TOURNEFORT) Linnaeus.

FAGUS GRANDIFOLIA Ehrhart. Beech.

Synonyms.- Fagus ferruginea Aiton.Fagus americana Sweet.

Occurrence.- Rich woods.

CASTANEA Adanson.

CASTANEA DENTATA (Marshall) Borkhausen. Chestnut.

Synonym.- Castanea sativa var. american Sargent.

Occurrence.- Woods and hillsides.

CASTANEA PUMILA (Linnaeus) Miller. Chinquapin.

Occurrence.- Woods and thickets.

QUERCUS (Tournefort) Linnaeus.

QUERCUS ALBA Linnaeus. White Oak.

Occurrence.- Common throughout the range.

QUERCUS CATESBAEI Michaux. Turkey Oak.

Note.- Single specimen on Knoxville lawn.

QUERCUS COCCINEA Muenchhausen. Scarlet Oak.

Occurrence.- Common throughout the range.

QUERCUS ILICIFOLIA Wangenheim. Bear Oak.

Synonyms.- Quercus pumila (Marshall) Sudworth.

Quercus nana Sargent.

Occurrence.- Sandy ridges, mountains of East Tennessee.

QUERCUS MACROCARPA Michaux. Bur Oak.

Occurrence.- Rich bottom lands.

QUERCUS MARILIANDICA Muenchhausen. Blackjack Oak.

Synonym.- Quercus nigra not of Linnaeus.

Occurrence.- Throughout the range.

QUERCUS MUEHLENGERII Engelman. Chinquapin Oak.

Synonym.- Quercus acuminata (Michaux) Houba.

Occurrence.- Dry hillsides.

QUERCUS NIGRA Linnaeus. Water Oak.

Synonym.- Quercus aquatica Walter.

Occurrence.- Banks of streams; southeastern corner of the state.

QUERCUS PALUSTRIS Muenchhausen. Pin Oak.

Occurrence.- Common in fields in woods.

QUERCUS PHOLIOS Linnaeus. Willow Oak.

Occurrence.- Cleveland.

QUERCUS PRINOIDES Willdenow. Dwarf Chinquapin Oak.

Occurrence.- Dry ridges.

QUERCUS PRINUS Linnaeus. Swamp Chestnut Oak.

Synonym.- Quercus Michauxii Nuttall.

Occurrence.- Common on wooded hillsides.

QUERCUS RUBRA Linnaeus. Southern Red Oak.

Synonyms.- Quercus falcata Michaux.

Quercus digitata (Marshall) Sudworth.

Occurrence.- Common in woods.

QUERCUS RUBRA PAGODAEFOLIA (Elliott) Ashe. Swamp Red Oak.

Synonym.- Quercus pagodaeifolia (Elliott) Ashe.

Occurrence.- Common in woods and fields.

QUERCUS STELLATA Wangenheim. Post Oak.

Synonym.- Quercus minor (Marshall) Sargent.

Occurrence.- Common in woods.

QUERCUS TEXANA Buckley. Texas Red Oak.

Occurrence.- Western part of the range.

QUERCUS VELUTINA La Marek. Black Oak.

Occurrence.- Common in woods and fields.

Family URTICACEAE

ULMUS (Tournefort) Linnaeus.

ULMUS ALATA Michaux. Winged Elk.

Occurrence.- Along fences and roadsides.

ULMUS AMERICANA Linnaeus. American Elm.

Occurrence.- Common in fields and along roadsides.

ULMUS FULVA Michaux. Slippery Elm.

Synonym.- Ulmus pubescens Walter.

Occurrence.- Sparse woods.

ULMUS RACEMOSA Thomas. Rock Elm.

Synonym.- Ulmus thomasi Sargent.

Occurrence.- Fields, commonly near streams.

CELTIS (Tournefort) Linnaeus.

CELTIS LAEVIGATA Willdenow. Sugarberry.

Synonym.- Celtis mississippiensis Bosc.

Occurrence.- University of Tennessee campus.
Infrequent in our range.

CELTIS OCCIDENTALIS Linnaeus. Hackberry. ✓

Occurrence.- Common in fields and woods.

CELTIS OCCIDENTALIS CRASSIFOLIA (La Marek) Gray.
Hackberry.

Synonym.- Celtis crassifolia La Marek.

Occurrence.- Cherokee Bluffs near Knoxville.

TOXYLON Rafinesque.

TOXYLON POMIFERA Rafinesque. Osage-Orange.

Synonyms.- Malcura pomifera Schneider.Malcura aurantiaca Nuttall.Occurrence.- Common in fields, along roadsides
and fences.

MORUS (Tournefort) Linnaeus.

MORUS ALBA Linnaeus. White Mulberry

Note.- In cultivation on lawn in Knoxville.

MORUS RUBRA Linnaeus. Red Mulberry.

Occurrence.- Common in fields and woods.

Family SANTALACEAE

BUCKLEYA Torrey.

BUCKLEYA DISTICHOPHYLLA (Nuttall) Torrey.

Occurrence.- Along mountain streams. Rare.

PYRULARIA Michaux.

PYRULARIA PUBERA Michaux. Oil Nut.

Occurrence.- Smoky Mountains and surrounding foothills.

Family MAGNOLIACEAE

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MAGNOLIA Linnaeus.

MAGNOLIA ACCUMINATA Linnaeus. Cucumber Tree.

Occurrence.- Mountains and ridges.

MAGNOLIA FRASERI Walter. Mountain Magnolia.

Occurrence.- Along streams in Smoky Mountains.

MAGNOLIA MACROPHYLLA Michaux. Bigleaf Magnolia.

Occurrence.- Alleghany and Cumberland Mountains. Rare.

MAGNOLIA TRIPETALA Linnaeus. Umbrella Magnolia.

Synonym.- Magnolia umbrella La Marek.

Occurrence.- Mountains.

LIRIODENDRON Linnaeus.

LIRIODENDRON TULIPIFERA Linnaeus. Tuliptree, Yellow Poplar.

Occurrence.- Common in fields and woods. Sometimes attaining a diameter of ten feet. The "Big Tree" of the Smokies.

Family CALYCANTHACEAE

CALYCANTHUS Linnaeus.

CALYCANTHUS FERTILIS Walter. Carolina Allspice.

Synonyms.- Calycanthus glaucus Willdenow.

Calycanthus laevigatus Willdenow.

Butneria fertilis Britton.

Occurrence.- Smoky Mountains and surrounding foothills.

CALYCANTHUS FLORIDUS Linnaeus.

Sweet Shrub.

Synonym.- Butneria floridus Britton.

Occurrence.- Common in Smoky Mountainous and surrounding foothills.

Family ANONACEAE

ASIMINA Adanson.

ASIMINA TRILOBA Dunol.

Papaw.

Occurrence.- Banks of streams.

Family BERBERIDACEAE

BERBERIS (Tournefort) Linnaeus.

BERBERIS CANADENSIS Miller.

American Barberry.

Occurrence.- Valley of the Holston River and its tributaries.

Family LAURACEAE

SASSAFRAS Nees von Esenbeck.

SASSAFRAS VARIIFOLIUM (Salisbury) Kuntze. Sassafras.

Synonyms.- Sassafras officinale Nees and Ebermaier.

Sassafras sassafras Karsten.

Occurrence.- Common in thickets, fields and along fences.

BENZOIN Fabric.

BENZOIN AESTIVALE (Linnaeus) Nees. Spice Bush. ✓

Synonym.- Lindera Benzoin Blume.

Benzoin bensoin Coulter.

Occurrence.- Along streams and in damp woods.

Family SAXIFRAGACEAE

PHILADELPHUS Linnaeus.

PHILADELPHUS CORONARIUS Linnaeus. Mock Orange.

Occurrence.- Escaped around farm houses.

PHILADELPHUS GRANDIFLORUS Willdenow. ✓

Occurrence.- Rocky ledges, and along streams.

PHILADELPHUS HIRSUTUS Nuttall. ✓

Occurrence.- Mountains of East Tennessee.

PHILADELPHUS INODORUS Linnaeus. ✓

Occurrence.- Mountains.

DECUMARIA Linnaeus. ✓

DECUMARIA BARBARA Linnaeus.

Occurrence.- Along mountain streams.

HYDRANDEA (Gronovius) Linnaeus.

HYDRANGAEA ARBORESCENS Linnaeus. Wild Hydrangea. ✓

Occurrence.- Damp woods.

HYDRANGAEA CINEREA Small.

Synonym.- Hydrangea radiata Man. ed. 6, not Walter. ✓

Occurrence.- Abundant in East Tennessee.

ITEA (Gronovius) Linnaeus.

ITEA VIRGINICA Linnaeus. ✓

Occurrence.- Mountains.

RIBES Linnaeus.

RIBES CYNOSBATI Linnaeus. Prickly Gooseberry. ✓

Occurrence.- Hills and mountains throughout the range.

RIBES PROSTRATUM L'Heritier. Skunk Current.

Occurrence.- Roan Mountain.

RIBES ROTUNDIFOLIUM Michaux. Round-leaved Gooseberry. ✓

Occurrence.- Alleghanyes.

Family HAMAMELIDACEAE.

HAMAMELIS Linnaeus.

HAMAMELIS VIRGINIANA Linnaeus. Witch-hazel. ✓

Occurrence.- Common in damp woods.

FOTHERGILLA Murray.

FOTHERGILLA GARDENI Murray.

Synonym.- Fothergilla carolina Britton.

Note.- One specimen among some wild flowers on Knoxville market; its place of collection not known.

LIQUIDAMBAR Linnaeus.

LIQUIDAMBAR STYRACIFLUA Linnaeus. Sweet Gum.

Occurrence.- Common throughout the range, especially abundant near streams and in meadows.

Family PLANTANACEAE

PLANTANUS (Tournefort) Linnaeus.

PLANTANUS OCCIDENTALIS Linnaeus. Sycamore.

Occurrence.- Common near streams.

PHYSOCARPUS Maximowicz.

PHYSOCARPUS OPULIFOLIUS (Linnaeus) Maximowicz. Nine-bark. ✓

Synonyms.- Spiraea Linnaeus.

Opulaster Kuntze.

Occurrence.- Sparingly throughout the range.

SPIRAEA (Tournefort) Linnaeus.

SPIRAEA SALICIFOLIA Linnaeus.

Meadow Sweet. ✓

Occurrence.- Mountains.

SPIRAEA VIRGINIANA Britton.

Occurrence.- Chilhowee Gap, Blount Count.

MALUS Miller.

MALUS ANGUSTIFOLIA (Aiton) Michaux. Narrowleaf Crab Apple.

Synonym.- Pyrus angustifolia Aiton.

Occurrence.- River Bank at Harriman.

MALUS CORONARIA (Linnaeus) Miller. Sweet Crab Apple.

Synonym.- Pyrus coronaria Linnaeus.

Occurrence.- Banks of Holston and French Broad Rivers.

PYRUS ARBUTIFOLIA Linnaeus fils.

PYRUS ARBUTIFOLIA var. erythrocarpa Gray.

Note.- Specimens bearing the above three determinations and collected in East Tennessee are in the University of Tennessee herbarium.

SORBUS Linnaeus.

SORBUS AMERICANA Marshall.

Mountain-ash.

Synonym.- Pyrus americana (Marshall) de Candole,

Occurrence.- At high altitudes in Appalachian Mountains.

AMELANCHIER Medicus

AMELANCHIER CANADENSIS (Linnaeus) Medicus. Serviceberry.

Synonym.- Amelanchier canadensis tomentula Sargent.

Occurrence.- Woods, abundant in the mountains. Many large trees occur in the range, sometimes reaching a diameter of three feet.

AMELANCHIER OBLONGIFOLIA ROEMER

Synonym.- Amelanchier canadensis var. oblongifolia Torrey and Gray.

Note.- Cultivated, sometimes escaping.

CRATAEGUS Linnaeus.

CRATAEGUS AUSTRO-MONTANA Beadle.

Hawthorn.

Occurrence.- Cumberland Mountains.

CRATAEGUS BILTMOREANA Beadle.

Occurrence.- East Tennessee.

CRATAEGUS BOYTONI Beadle.

Occurrence.- East Tennessee.

CRATAEGUS BUCKLEYI Beadle.

Occurrence.- East Tennessee.

CRATAEGUS CRUS-GALI Linnaeus. Cockspurthorn.

Occurrence.- Throughout the range.

CRATAEGUS MACROSPERMA Ashe.

Occurrence.- Lookout Mountain.

CRATAEGUS PHAENOPYRUM (Linnaeus fils) Medicus.
Washington Thorn.

Occurrence.- Bluffs near Knoxville.

CRATAEGUS PUNCTATA Jacquin. Dotted Thorn -15

Occurrence.- East Tennessee.

CRATAEGUS ROTUNDIFOLIA Borkhausen.

Occurrence.- East Tennessee.

CRATAEGUS RUBELLA Beadle.

Occurrence.- Lookout Mountain.

CRATAEGUS SARGENTI Beadle.

Occurrence.- Southeastern Tennessee.

CRATAEGUS STRAMINEA Beadle.

Occurrence.- Lookout Mountain, and adjacent valley of
East Tennessee.

CRATAEGUS TOMENTOSA Linnaeus.

Pear Haw.

Synonyms.- Crataegus uniflora Muenchhausen.

Crataegus parvifolia Aiton.

Occurrence.- East Tennessee.

CRATAEGUS VALILLIAE Britton.

Occurrence.- Wolf Creek, Cocke County.

AMYGDALUS Linnaeus.

Prunus
~~AMYGDALUS~~ PERSICA Linnaeus.

Peach. ✓

Synonym.- Prunus persica (Linnaeus) Stokes.

Occurrence.- Thickets and roadsides, escaped.

RUBUS (Tournefort) Linnaeus.

RUBUS ALLEGHENIENSIS Porter. ✓

Synonyms.- Rubus villosus var. montanus Porter.

Rubus montanus Porter.

Rubus nigrobaccus Bailey.

Rubus nigrobaccatus Focke.

Rubus Villosus var. sativus Bailey.

Rubus nigrobaccus var. sativa Bailey.

Rubus sativus Brainerd.

Occurrence.- Throughout the range.

RUBUS ANDREWSIANUS Blanchard.

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Occurrence.- Common throughout the range.

RUBUS CANADENSIS Linnaeus.

Synonyms.- Rubus millsapaughii Britton.

Rubus canadensis var. millsapaughii Blanchard.

Occurrence.- Tops of the high mountains on the eastern border of the state.

RUBUS CUNEIFOLIUS Pursh.

Synonym.- Rubus parvifolius Walter.

Occurrence.- Sandy hills.

RUBUS HISPIDUS Linnaeus.

Occurrence.- Sandy hills, and low lands.

RUBUS INDAEUS var. ACULEATISSIMUS (C. A. Meyer)

Regel and Tiling. Wild Red Raspberry.

Synonym.- Rubus strigosus Michaux.

Occurrence.- Woods and copses.

RUBUS OCCIDENTALIS Linnaeus. Black Raspberry.

Occurrence.- Thickets and along fences.

RUBUS ODORATUS Linnaeus. Purple Flowering Raspberry.

Synonym.- Rubus columbianus Rydberg.

Occurrence.- Hills and Mountains of East Tennessee.

RUBUS PLICATIFOLIUS Blanchard. Dewberry.

Synonym.- Rubus villosus Aiton.

Occurrence.- Sandy Hillsides.

RUBUS TRIVIALIS Michaux.

Occurrence.- Sandy soils, frequent.

ROSA (Tournefort) Linnaeus.

ROSA CANINA Linnaeus. Dog Rose.

Occurrence.- East Tennessee.

ROSA CAROLINA Linnaeus. Swamp Rose.

Occurrence.- Low grounds and banks of streams.

ROSA HUMILIS Marshall.

Occurrence.- Rocky woods.

ROSA HUMILIS LUCIDA Ehrhart.

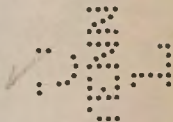
Occurrence.- Knoxville.

ROSA RUBIGINOSA Linnaeus. Eglantine.

Occurrence.- Rocky Ground.

ROSA SETIGERA Michaux. Climbing Rose.

Occurrence.- East Tennessee.



ROSA SETIGERA TOMENTOSA Gray.

Occurrence.- East Tennessee.

PRUNUS Bentham and Hooker.

PRUNUS ALLEGHANIENSIS Porter. Allegheny Sloe.

Occurrence.- Smoky Mountains, at high altitudes.

PRUNUS AMERICANA Marshall. Wild Plum.

Occurrence.- Common in thickets and along roadsides.

PRUNUS ANGUSTIFOLIA Marshall. Chickasaw Plum.

Occurrence.- Knoxville.

PRUNUS HORTULANA Bailey. Wild Goose-plum.

Occurrence.- East Tennessee.

PRUNUS PENNSYLVANICA Linnaeus filis. Pin Cherry.

Occurrence.- Smoky Mountains.

PRUNUS SEROTINA Ehrhart. Black Cherry.

Occurrence.- Common in fields and along roadsides.

PRUNUS VIRGINIANA Linnaeus. Choke Cherry.

Occurrence.- Cumberland and Alleghany Mountains.

Family LEGUMINOSAE

GYMNOCLADUS Lambert.

GYMNOCLADUS DIOICA (Linnaeus) Koch. Coffee-tree.

Synonym.- Gymnocladus canadensis La Marck.

Occurrence.- Sparingly throughout the range.

GLEDITSIA Linnaeus.

GLEDITSIA TRIACANTHOS Linnaeus. Honey Locust.

Occurrence.- Common in Limestone regions.

CASSIA (Tournefort) Linnaeus.

CASSIA MARILANDICA Linnaeus. Wild Senna. ✓

Occurrence.- Sandy soil throughout the range.

CERCIS Linnaeus.

CERCIS CANADENSIS Linnaeus. Redbud.

Occurrence.- Common in woods and thickets.

CLADRASTIS Rafinesque.

CLADRASTIS LUTEA (Michaux fils) Koch. Yellow Wood.

Synonym.- Cladrastis tinctoria Rafinesque.

Occurrence.- Bordering mountain streams near eastern border of state. Rare.

ROBINIA Linnaeus

ROBINIA HISPIDA Linnaeus. Rose Acacia.

Occurrence.- Dry, sandy mountains.

ROBINIA PUSEDQ-ACACIA Linnaeus. Black Locust.

Occurrence.- Common in thickets and along roadsides.

ROBINIA VISCOSA Ventenat. Clammy Locust.

Note.- Cultivated; sometimes escaping.

Family RUTACEAE.

PTELEA Linnaeus.

PTELEA TRIPOLIATA Linnaeus. Hop Tree.

Occurrence.- Limestone regions.

Family SIMARUBACEAE

AILANTHUS Desfontaines.

AILANTHUS ALTISSIMA (Miller) Swingle. Ailanthus.

Synonym.- Ailanthus glandulosa Desfontaines.

Occurrence.- Common in fields and thickets.

Family MELIACEAE

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MELIA Linnaeus.

MELIA AZEDORACH Linnaeus.

Chinaberry.

Note.- Cultivated, and occasionally escaping. A specimen in cultivation in hotel yard at Kinzel Springs.

Family ANACARDIACEAE

RHUS Linnaeus.

RHUS CANADENSIS Marshall.

Sweet-scented Sumach.

Synonym.- Rhus aromatica Aiton.

Occurrence.- Rocky bluffs.

RHUS COTINOIDES Nuttall.

Smoke-tree.

Synonym.- Rhus cotinus Linnaeus.

Note.- Cultivated, and sometimes escaping.

RHUS COPALLINA Linnaeus.

Dwarf Sumach.

Occurrence.- Common in fields, and along fences and roadsides.

RHUS GLABRA Linnaeus.

Smooth Sumach.

Occurrence.- Old fields.

RHUS HIRTA (Linnaeus) Sudworth.

Staghorn Sumach.

Synonym.- Rhus typhina Linnaeus.

Occurrence.- Common in dry soils.

RHUS QUERCIFOLIA (Michaux) Steudel. Poison Oak.

Occurrence.- Common in woods and waste places.

RHUS TOXICODENDRON Linnaeus. Poison Ivy.

Synonym.- Rhus rydbergi Small.

Occurrence.- Common in woods, thickets and along fences.

RHUS VERNIX Linnaeus. Poison Sumach.

Synonym.- Rhus venenata de Candolle.

Occurrence.- Sewanee.

Family AQUIFOLIACEAE

ILEX Linnaeus.

ILEX MONTANA Torrey and Gray. Mountain Holly.

Synonym.- Ilex monticola Gray.

Occurrence.- Smoky Mountains.

ILEX MONTICOLA var. MOLLIS (Gray) Britton. Downy-leaved Holly.

Synonym.- Ilex mollis Gray.

Occurrence.- Mountains.

ILEX OPACA Aiton. Holly.

Occurrence.- Mountains.

Family CELASTRACEAE

EVONYMUS (Tournefort) Linnaeus.

EVONYMUS AMERICANA Linnaeus. Strawberry Bush.

Occurrence.- Common, banks of wooded streams.

EVONYMUS ATROPURPUREUS Jacquin. Burning Bush.

Occurrence.- Near Streams; rare. Sometimes cultivated.

CELASTRUS Linnaeus.

CELASTRUS SCANDENS Linnaeus. Climbing Bitter Sweet.

Occurrence.- Thickets and sparse woods.

Family STAPHYLEACEAE

STAPHYLEA Linnaeus.

STAPHYLEA TRIFOLIA Linnaeus. American Bladder Nut.

Occurrence.- Common in damp woods, and near streams.

Family ACERACEAE

ACER (Tournefort) Linnaeus.

ACER LEUCODERM Small. Whitebark Maple.

Occurrence.- Banks of Ocoee River.

ACER NEGUNDO Linnaeus.

Box Elder.

Synonym.-

Negundo aceroides Moench.

Occurrence.-

Common near streams at low altitudes.

ACER NIGRUM Michaux.

Black Maple.

Synonyms.-

Acer saccharum nigrum (Michaux fils)
Britton.Acer barbatum var. nigrum Sargent.

Occurrence.-

Sparingly throughout the range.

ACER PENNSYLVANICUM Linnaeus.

Striped Maple.

Occurrence.-

Appalachian Mountains and surrounding
foothills.

ACER RUBRUM Linnaeus.

Red Maple.

Occurrence.-

Common throughout the range.

ACER SACCHARINUM Linnaeus.

Silver Maple.

Synonym.-

Acer dasycarpum Ehrhart.

Occurrence.-

Along streams. Commonly cultivated.

ACER SACCHARUM Marshall.

Sugar Maple.

Occurrence.-

Rich woods.

ACER SPICATUM La Mark.

Mountain Maple.

Occurrence.-

High mountains on eastern border of
state.

Family SAPINDACEAE

AESCULUS Linnaeus.

AESCULUS DISCOLOR MILLIS (Rafinesque) Sargent.
Scarlet Buckeye.

Synonyms.- Aesculus flava var. purpurascens Gray.

Aesculus octandra hybrida (de Candolle)
Sargent.

Occurrence.- Cleveland, Cave Spring.

AESCULUS GLABRA Willdenow. Ohio Buckeye.

Occurrence.- Rich woods, near streams.

AESCULUS OCTANDRA Marshall. Yellow Buckeye.

Synonym.- Aesculus flava Aiton.

Occurrence.- Near streams, common in the mountains.

AESCULUS PAVIA Linnaeus. Red Buckeye.

Occurrence.- Sparingly throughout the range.

Family RHAMNACEAE

RHAMNUS (Tournefort) Linnaeus.

RHAMNUS CAROLINIANA Walter. Carolina Buckthorn.

Occurrence.- Thickets and sparse woods.

CEANOTHUS Linnaeus.

CEANOTHUS AMERICANUS Linnaeus. New Jersey Tea.

Occurrence.- Common in dry woodlands.

Family TILIACEAE

TILIA (Tournefort) Linnaeus.

TILIA HETEROPHYLLA Centenat. White Basswood.

Occurrence.- Bottomlands and along mountain streams
at low altitudes.

Note.- Other species of Tilia occur in East
Tennessee of which satisfactory determina-
tions have not been made. See study of
Tilia by C. S. Sargent, Botanical Gazette,
LXVI, 421-438; 494-511, 1918.

Family TERNSTROEMACEAE

STEWARTIA Linnaeus.

STEWARTIA MALACHODENDRON Linnaeus.

Synonym.- Stewartia virginica Cavanilles.

Occurrence.- Coal Creek.

STEWARTIA PENTAGYNA L'Heritier.

Occurrence.- Region of Cumberland and Alleghany
Mountains.

Family THYMELAEACEAE

DIRCA Linnaeus.

DIRCA PALUSTRIS Linnaeus. Leatherwood.

Occurrence.- Sparingly throughout the range in moist woods.

Family ARALIACEAE

ARALIA (Tournefort) Linnaeus.

ARALIA SPINOSA Linnaeus. Hercules' Club.

Occurrence.- Frequent on moist hills.

Family CORNACEAE

CORNUS (Tournefort) Linnaeus.

CORNUS ALTERNIFOLIA Linnaeus fils.

Occurrence.- Copses and hillsides.

CORNUS AMONUM Miller. Silky Cornel; Kinnikinnik.

Synonyms.- Cornus sericea Linnaeus.

Cornus purpusi Koehne.

Occurrence.- Moist grounds.

CORNUS ASPERIFOLIA Michaux.

Occurrence.- Banks of streams.

CORNUS FLORIDA Linnaeus.

Dogwood.

Occurrence.- Common in thickets and open woods.

CORNUS PANICULATA L'Heritier.

Synonym.- Cornus candidissima Marshall.

Occurrence.- Borders of marshes.

CORNUS STOLONIFERA Michaux.

Red-osier Dogwood.

Occurrence.- Banks of streams.

NYSSA Linnaeus.

NYSSA AQUATICA Linnaeus.

Tupelo Gum.

Synonym.- Nyssa uniflora Wangerheim.

Occurrence.- River banks.

NYSSA BIFLORA Walter.

Swamp Black Gum.

Synonyms.- Nyssa sylvatica var. biflora (Walter) Sargent.

Nyssa caroliniana Poiret.

Occurrence.- Along mountain streams.

NYSSA SYLVATICA Marshall.

Black Gum.

Synonym.- Nyssa multiflora Wangerheim.

Occurrence.- Common, especially on hills and mountains.

Family ERICACEAE

CLETHRA (Gronovius) Linnaeus.

CLETHRA ACUMINATA Michaux. White Alder.

Occurrence.- Alleghanies.

RHODODENDRON Linnaeus.

RHODODENDRON ARBORESCENS (Pursh) Torrey. Smooth Azalea.

Synonym.- Azalea arborescens Pursh.

Occurrence.- Cumberland Mountains.

RHODODENDRON CALENDULACEUM (Michaux) Torrey. Flame Azalea.

Synonyms.- Azalea calendulaceum Michaux.

Azalea lutea Linnaeus.

Occurrence.- Common on the mountains of the eastern border of the state.

RHODODENDRON CATAWBIENSE Michaux. Mountain Rose Bay.

Occurrence.- Clinch and Great Smoky Mountains.

RHODODENDRON MAXIMUM Linnaeus. Great Laurel. Rhododendron.

Occurrence.- Borders of mountain streams.

RHODODENDRON NUDIFLORUM (Linnaeus) Torrey. Pinxter Flower.

Synonym.- Azalea nudiflorum Linnaeus.

Occurrence.- Common on dry sandy hills.

RHODODENDRON PUNCTATUM Andrews.

Occurrence.- Exposed mountain summits, high altitudes
in the Great Smoky Mountains.

RHODODENDRON VISCOSUM (Linnaeus) Torrey. Clammy Azalea.

Synonym.- Azalea viscosum Linnaeus.

Occurrence.- Along mountain streams in the Alleghanies.

LEIOPHYLLUM Persoon.

LEIOPHYLLUM PROSTRATUM Leud. Allegheny Sand Myrtle.

Occurrence.- Exposed, rocky summits; in the high
Smokies.

KALMIA Linnaeus.

KALMIA LATIFOLIA Linnaeus. Mountain Laurel.

Occurrence.- Hills and mountains.

LEUCOTHOE D. Don.

LEUCOTHOE CATESBAEI (Walter) Gray. Fetter Bush.

Occurrence. Banks of mountain streams.

LEUCOTHOE RACEMOSA (Linnaeus) Gray.

Occurrence.- Moist woods in the Alleghany
Mountains.

LEUCOTHOE RECURVA (Buckley) Gray.

Occurrence.- Mountains; sometimes associated with
Leucothoe catesbaei.

ANDROMEDA Linnaeus.

ANDROMEDA FLORIBUNDA Pursh. Andromeda.

Synonym.- Pieris Benthams and Hooker.

Occurrence.- Rocky Prominences; Alleghanies.

ANDROMEDA LIGUSTRINA Muhlenberg.

Occurrence.- Dry Mountain slopes; Alleghanies.

LYONIA Nuttall.

LYONIA MARIANA (Linnaeus) D. Don. Stagger Bush.

Synonyms.- Andromeda Linnaeus.

Pieris Benthams and Hooker.

Occurrence.- Elkmont.

OXYDENDRUM de Candolle.

OXYDENDRUM ARBOREUM (Linnaeus) de Candolle. Sour-wood.

Occurrence.- Common in fields and woods.

GAYLUSSACIA (Humboldt) Bonpland, and Kunth.

GAYLUSSACIA BACCATA (Wangenheim) C. Koch.

Synonym.- Gaylussacia resinosa Torrey and Gray.

Occurrence.- Cleveland.

GAYLUSSACIA BRACHYGERA (Michaux) Gray. Box Huckelberry.

Occurrence.- Slopes of the Alleghanies.

GAYLUSSACIA FRONDOSA (Linnaeus) Torrey and Gray.
Dangleberry.

Occurrence.- Mountains of East Tennessee.

VACCINIUM Linnaeus.

VACCINIUM ARBOREUM Marshall. Tree Huckelberry.

Synonym.- Batodendron andrachneforme Small.

Occurrence.- Dry sandy ridges.

VACCINIUM CORYMBOSUM Linnaeus. High Blueberry.

Occurrence.- Gravelly hills.

VACCINIUM CORYMBOSUM var. PALLIDUM (Aiton) Gray.

Synonym.- Vaccinium pallidum Aiton.

Occurrence.- Lookout Mountain.

VACCINIUM ERYTHROCARPUM Michaux. Southern Mountain Cranberry.

Synonym.- Oxycoccus Pers. n.

Occurrence.- High altitudes in the Smoky Mountains.

VACCINIUM HIRSUTUM Buckley.

Occurrence.- Cleveland.

VACCINIUM MELANOCARPUM Mohr.

Southern Gooseberry.

Synonym.- Polycodium Small

Occurrence.- Bluff Mountain, Cocke County.

VACCINIUM PENNSYLVANICUM Lambert.

Low Sweet Blueberry.

Occurrence.- Mountains.

VACCINIUM STAMINEUM Linnaeus.

Deerberry.

Synonym.- Polycodium candicans Small.

Occurrence.- Common on dry sandy hills.

VACCINIUM VIRGATUM Aiton.

Occurrence.- Mountains.

VACCINIUM VIRGATUM TENELLUM (Aiton) Gray.

Occurrence.- Sandy Soil.

Family SAPOTACEAE

BUMELIA Swartz.

BUMELIA LYCIOIDES (Linnaeus) Gartner fils. Southern Buckthorn.

Occurrence.- Rich, moist soil in southern part of range.

Family EBENACEAE

DIOSPYROS Linnaeus.

DIOSPYROS VIRGINIANA Linnaeus. Persimmon.

Occurrence.- Common in fields and along roadsides.

Family STYRACACEAE

HALESIA Ellis.

HALESIA CAROLINIA^{pl} Linnaeus. Silverbell.Synonyms.- Halesia tetraptera Ellis.Mohrodendron carolinum (Linnaeus) Britton.

Occurrence.- Banks of mountain streams. Sometimes cultivated.

Family OLEACEAE

FRAXINUS (Tournefort) Linnaeus.

FRAXINUS AMERICANA Linnaeus. White Ash.

Occurrence.- Moist woods throughout the range.

FRAXINUS PENNSYLVANICA Marshall. Red Ash.

Synonyms.- Fraxinus pubescens Lambert.Fraxinus darlingtonii Britton.

Occurrence.- Low Grounds.

FRAXINUS QUADRANGULATA Michaux

Blue Ash.

Occurrent.- Rich woods.

CHIONANTHUS Linnaeus.

CHIONANTHUS VIRGINICA Linnaeus.

Fringe Tree.

Occurrent.- Along streams. Commonly cultivated;
sometimes escaping.

Family SCROPHULARIACEAE

PAULOWNIA Siebold and Zuccarini.

PAULOWNIA TOMENTOSA (Thunberg) Steudel. Royal Paulownia.

Synonym.- *Paulownia imperialis* Siebold and Zuccarini.

Occurrent.- Sparingly throughout the range.
Commonly cultivated.

Family BIGNONIACEAE

CATALPA Scopoli.

CATALPA SPECIOSA Warder.

Hardy Catalpa.

Occurrence.- Fields, near streams.

Family RUBIACEAE

CEPHALANTHUS Linnaeus.

CEPHALANTHUS OCCIDENTALIS Linnaeus. Buttonbush. ✓

Occurrence.- Meadows, swamps and along streams.

Family CAPRIFOLIACEAE

DIERVILLA (Tournefort) Miller.

DIERVILLA LONICERA Miller. Bush Honeysuckle. ✓

Synonyms.- Diervilla trifida Moench.

Diervilla diervilla MacMillan.

Occurrence.- Cumberland Mountains.

DIERVILLA RIVULARIS Gattinger.

Occurrence.- Near Lookout Mountain.

SYMPHORICARPOS (Dillenius) Ludwig. ✓

SYMPHORICARPOS ORBICULATUS Moench. Coral-berry.

Synonym.- Symphoricarpos symphoricarpos MacMillan

Occurrence.- Common on rocky hillsides, and along roads.

VIBURNUM (Tournefort) Linnaeus.

VIBURNUM ACERIFOLIUM Linnaeus. Arrow-wood. ✓

Occurrence.- Common in rich woods.

VIBURNUM ALNIFOLIUM Marshall. Hobble-bush. ✓

Synonym.- Viburnum lantonoides Michaux.

Occurrence.- High Mountains on the eastern border of
state.

VIBURNUM CASSINOIDES Linnaeus.

Occurrence.- Cumberland Mountains.

VIBURNUM DENTATUM Linnaeus. Arrow-wood. ✓

Occurrence.- Borders of streams.

VIBURNUM NUDUM Linnaeus. ✓

Occurrence.- Swampy lands, and near streams.

VIBURNUM PRUNIFOLIUM Linnaeus. Black Haw. ✓

Occurrence.- Common in rich open woods.

VIBURNUM RUFIDULUM Rafinesque.

Occurrence.- Harriman.

SAMBUCUS (Tournefort) Linnaeus.

SAMBUCUS CANADENSIS Linnaeus. Common Elder. ✓

Occurrence.- Moist woods and along streams.

SAMBUCUS RACEMOSA Linnaeus.

Red-berried Elder.

Synonym.- Sambucus pubens Michaux.

Occurrence.- Alleghany Mountains.

1. AYERS, H. N., and ASHE, W. W. The Southern Appalachian Forests. (House Document No. 409.) United States Geological Survey. Professional Paper No. 37: Washington, Government Printing Office, 1905. p. 1-291.
2. BRITTON, NATHANIEL LORD, and BROWN, HON. ADDISON. Illustrated Flora of the Northern States and Canada and the British Possessions. Second Edition. New York, Charles Scribner's Sons, 1913. Vols. I, II, and III.
3. CHAPMAN, A. W. Flora of the Southern United States. Third Edition. New York, American Book Co., 1897.
4. CLUTE, WILLARD N. American Plant Names. Joliet, Ill. Willard N. Clute & Co., 1923.
5. CURTIS, CARLTON C. A Guide to the Trees. New York, Greenberg, Publisher, Inc., 1925.
6. DEAM, CHARLES C. Shrubs of Indiana. The Department of Conservation State of Indiana. Publication No. 44. Indianapolis, Wm. B. Burford, Contractor for the State Printing and Binding. 1924.
7. GATTINGER, AGUSTIN. Flora of Tennessee and Philosophy of Botany. Nashville, Tennessee, Press of Gospel Advocate Publishing Company, 1901, p. 1-184.
8. GRAY, ASA. New Manual of Botany. Seventh Edition, as revised by B. L. Robinson and M. L. Fernald, New York, American Book Co., 1908.
9. HOUGH, ROMEYN BECK. Handbook of the Trees of the Northern States and Canada East of the Rocky Mountains. Third and Revised Edition. Lowville, New York, 1924.
10. KEELER, HARRIET L. Our Native Trees. Seventh Edition. New York, Charles Scribner's Sons, 1910.
11. LOUNSBERRY, ALICE, and ROWAN, MRS. ELLIS. Southern Wild Flowers and Trees. New York, Fredrick A. Stokes Co., 1901.

12. MADDOX, R. S. Common Forest Trees of Tennessee.
Second Edition. Bureau of Forestry.
Nashville, Tennessee, 1926.
13. MUENSCHER, W. C. Keys to Woody Plants. Second Edition.
Ithaca, N. Y., Published by the Author, 1926.
14. OTIS, CHARLES HERBERT. Michigan Trees. University of
Michigan Bulletin New Series, Vol. XVII, No. 10
Ann Arbor, Published by the Regents, 1915.
15. ROMAINE, R. E. Plant Names. Detroit, Mich., J. S.
Gagnier Printer, 1926.
16. SARGENT, CHARLES SPRAGUE. Manual of Trees of North
America. Boston and New York, Houghton Mifflin
Company. The Riverside Press, Cambridge, 1905.
17. SARGENT, CHARLES SPRAGUE. Notes on North American
Trees. III. Tilia. I, II. Botanical Gazette Vol.
LXVI. Chicago, Ill., The University of Chicago
Press, 1918. p. 421-438, 494-511.
18. SARGENT, CHARLES SPRAGUE. The Silva of North America.
Boston and New York, Houghton Mifflin Company.,
1891-1902.
19. SCHAFFNER, JOHN H. Field Manual of Trees. Second
Edition. Columbus, R. G. Adams & Co., 1922.
20. SMALL, JOHN KUNKEL. Flora of the Southeastern United
States. New York, Published by the Author, 1903.
21. SUDWORTH, GEORGE B. Check List of the Forest Trees of
the United States. U. S. Department of Agricul-
ture Miscellaneous Circular 92. Washington, D. C.,
U. S. Government Printing Office, 1927.
22. TRELEASE, WILLIAM. The American Oaks. Memoirs of the
National Academy of Sciences, Vol. XX. Washington,
D. C., U. S. Government Printing Office, 1924.

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Plate 1

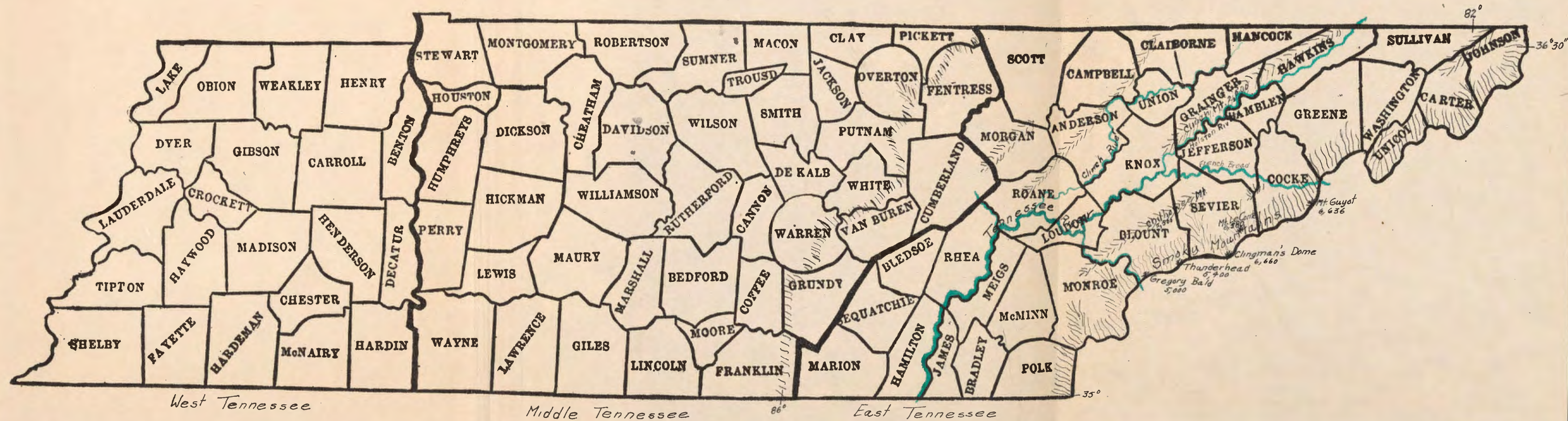


Fig. 1 Map of Tennessee

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<u>pallidum</u>	48
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Fig. 2 *Pinus echinata* Miller. Shortleaf Pine.



Fig. 3 *Pinus pungens* Lambert. Mountain Pine.



Figs. 4 and 5 *Pinus rigida* Miller. Pitch Pine.



Fig. 6 *Pinus strobus* Linnaeus. Northern White Pine.



Fig. 7 *Pinus virginiana* Miller. Virginia Pine; Scrub Pine.



Fig. 8 *Picea mariana* (Miller) Britton, Sterns, and
Poggenberg. Black Spruce.



Fig. 9 *Picea rubra* Link. Red Spruce.



Fig. 10 *Abies fraseri* (Pursh) Poiret. Southern
Balsam Fir.



Fig. 11 *Juniperus virginiana* Linnaeus. Eastern
Red Cedar.



Fig. 12 *Salix discolor* Muhlenberg. Pussy Willow.



Fig. 13 *Populus balsamifera candicans* (Aiton)
Gray. Balm-of-Gilead.

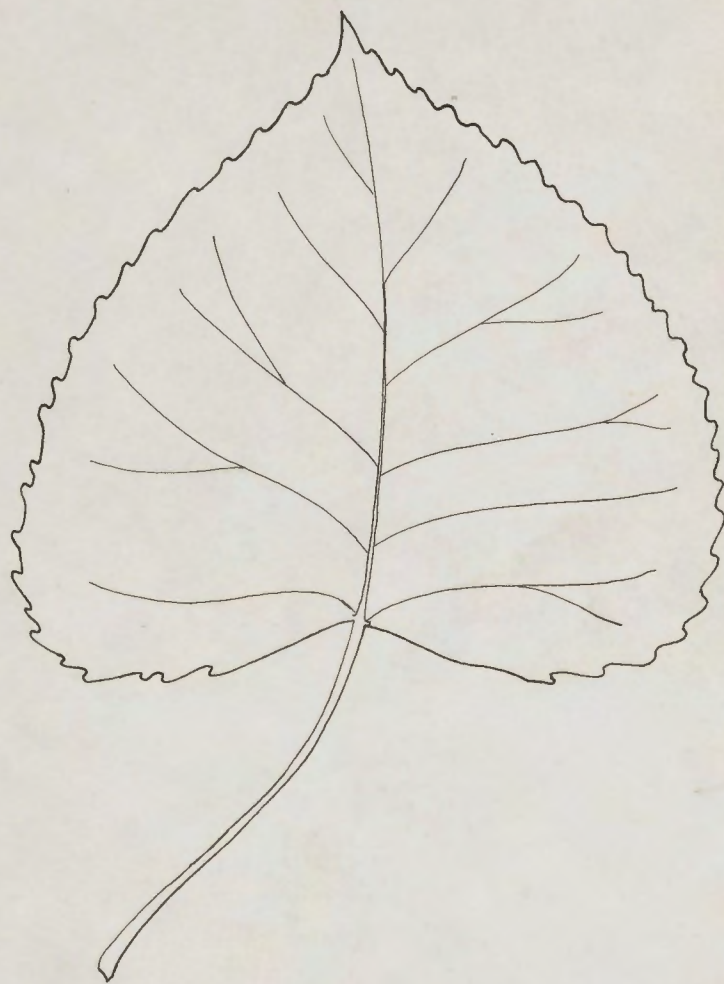


Fig. 14 *Populus deltoides* Marshall.
Eastern Cottonwood.



Fig. 15 *Populus grandidentata* Michaux.
Large-toothed Aspen.

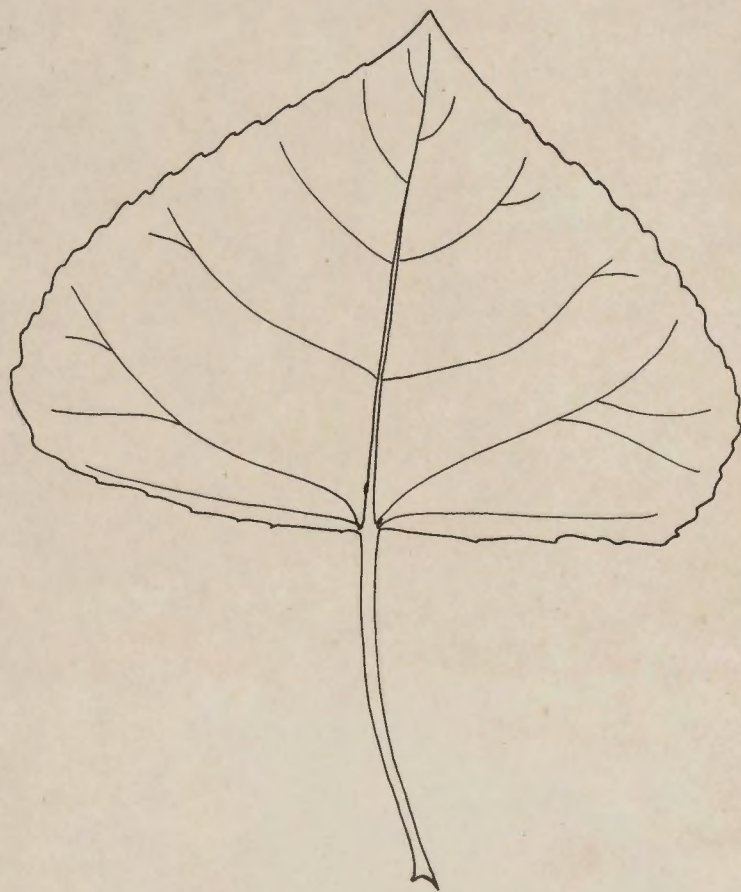


Fig. 16 *Populus nigra italica* Du Roi.
Lombardy Poplar.



Fig. 17 *Hicoria ovata* (Miller) Britton. Shagbark
Hickory.



Fig. 18 *Fagus grandifolia* Ehrhart. Beech.

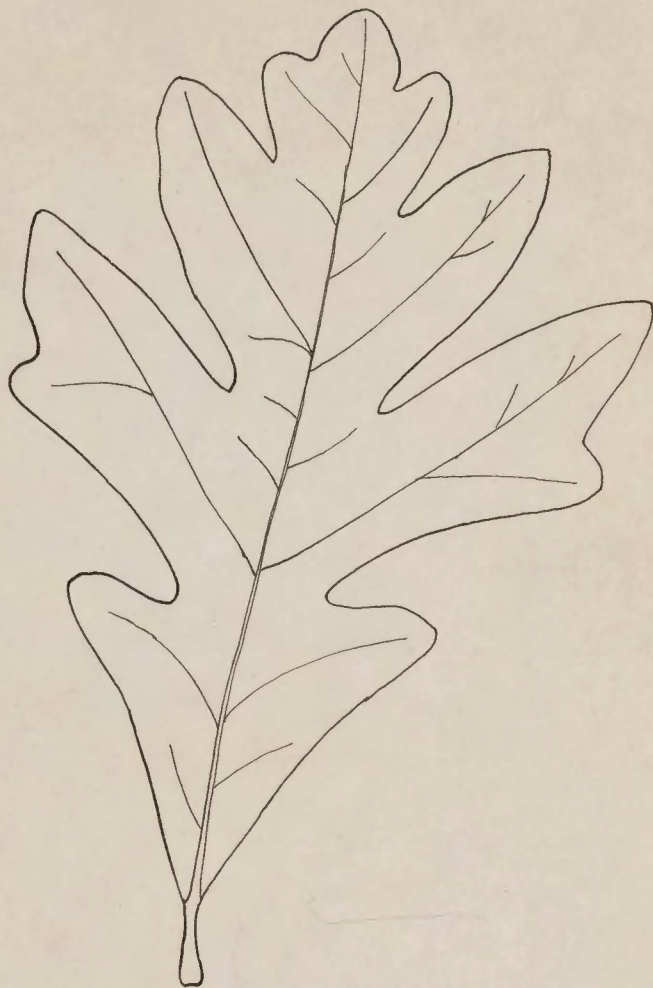


Fig. 19 *Quercus alba* Linnaeus. White Oak.

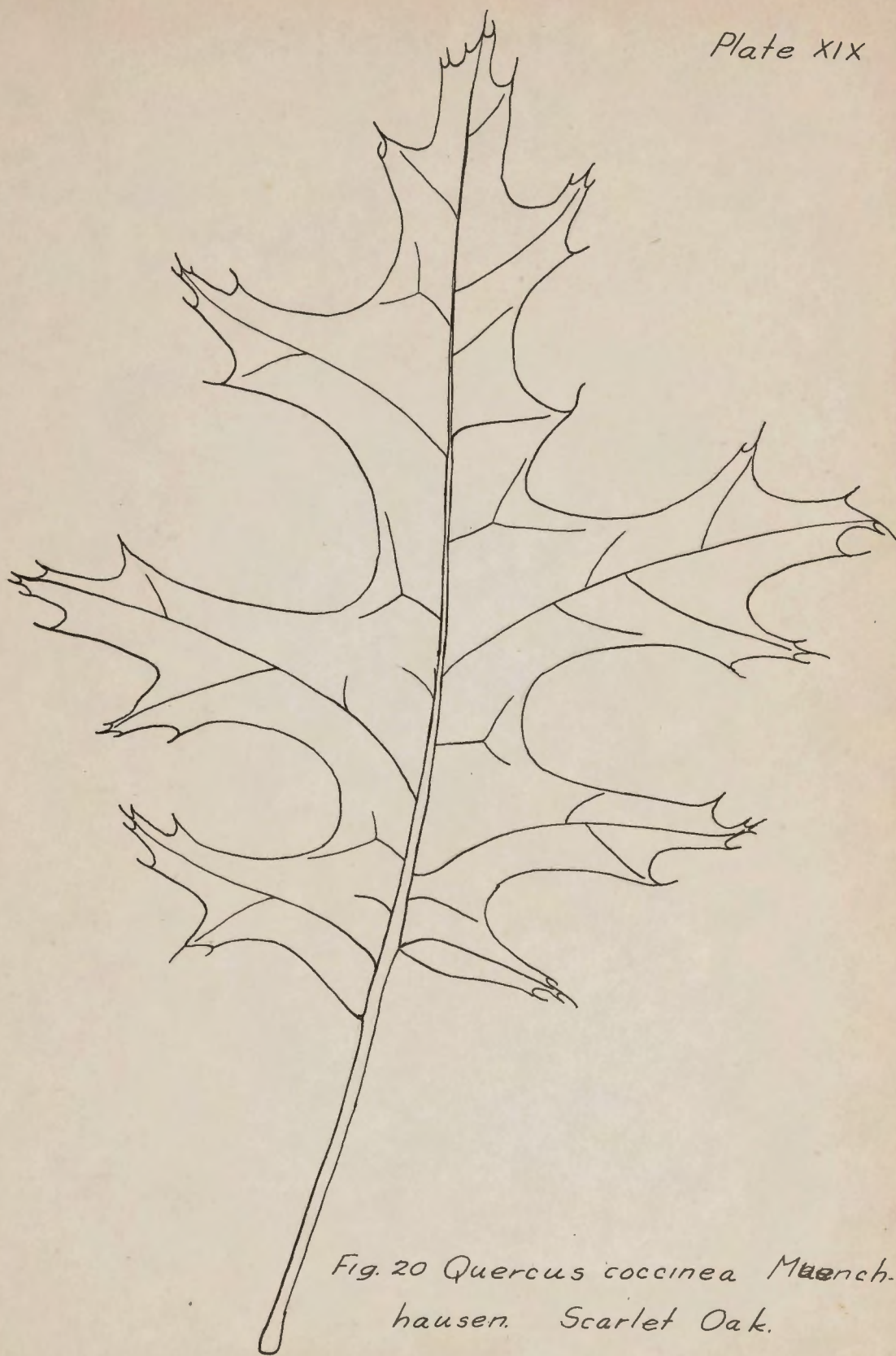


Fig. 20 *Quercus coccinea* M~~u~~erch-
hausen. Scarlet Oak.

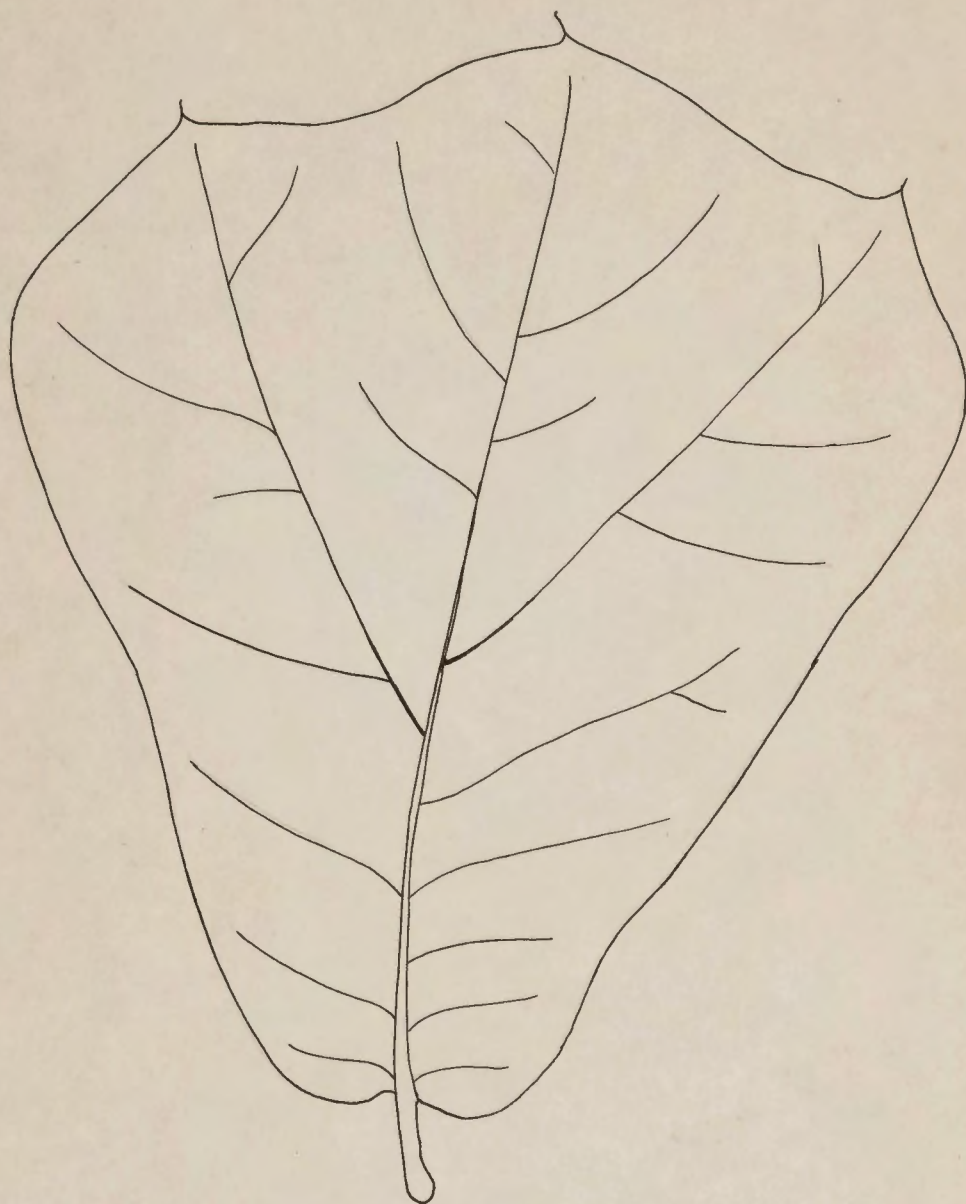


Fig. 21 *Quercus marilandica* Muenchhausen.
Blackjack Oak.

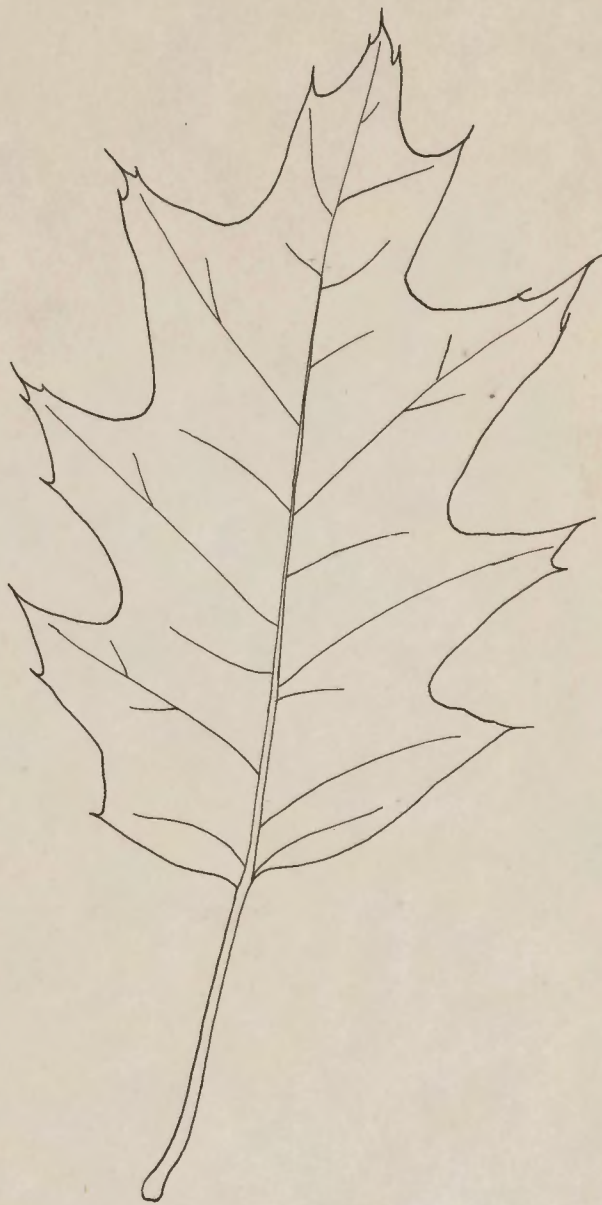


Fig. 22 *Quercus rubra* Linnaeus. Southern
Red Oak.



Fig. 23 *Quercus rubra pagodaefolia* (Elliott) Ashe.
Swamp Red Oak.

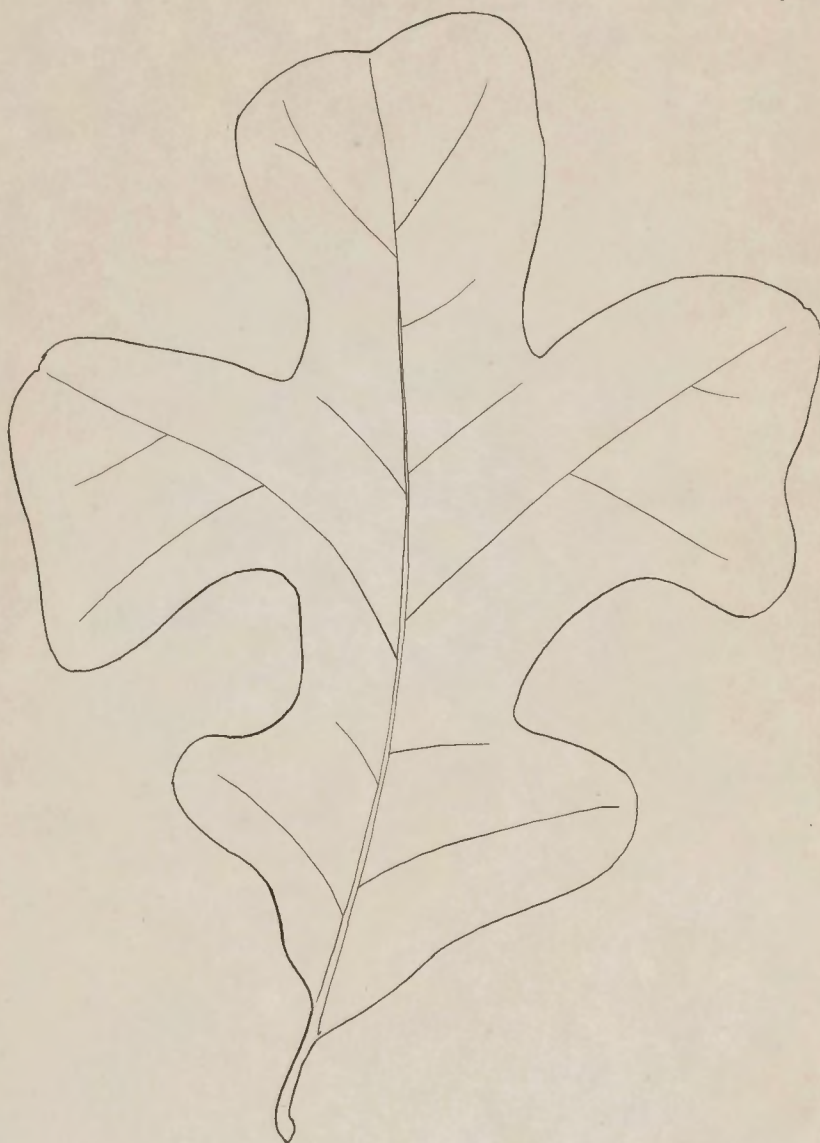


Fig. 24 *Quercus stellata* Wangenheim.
Post Oak.

Plate XXIV

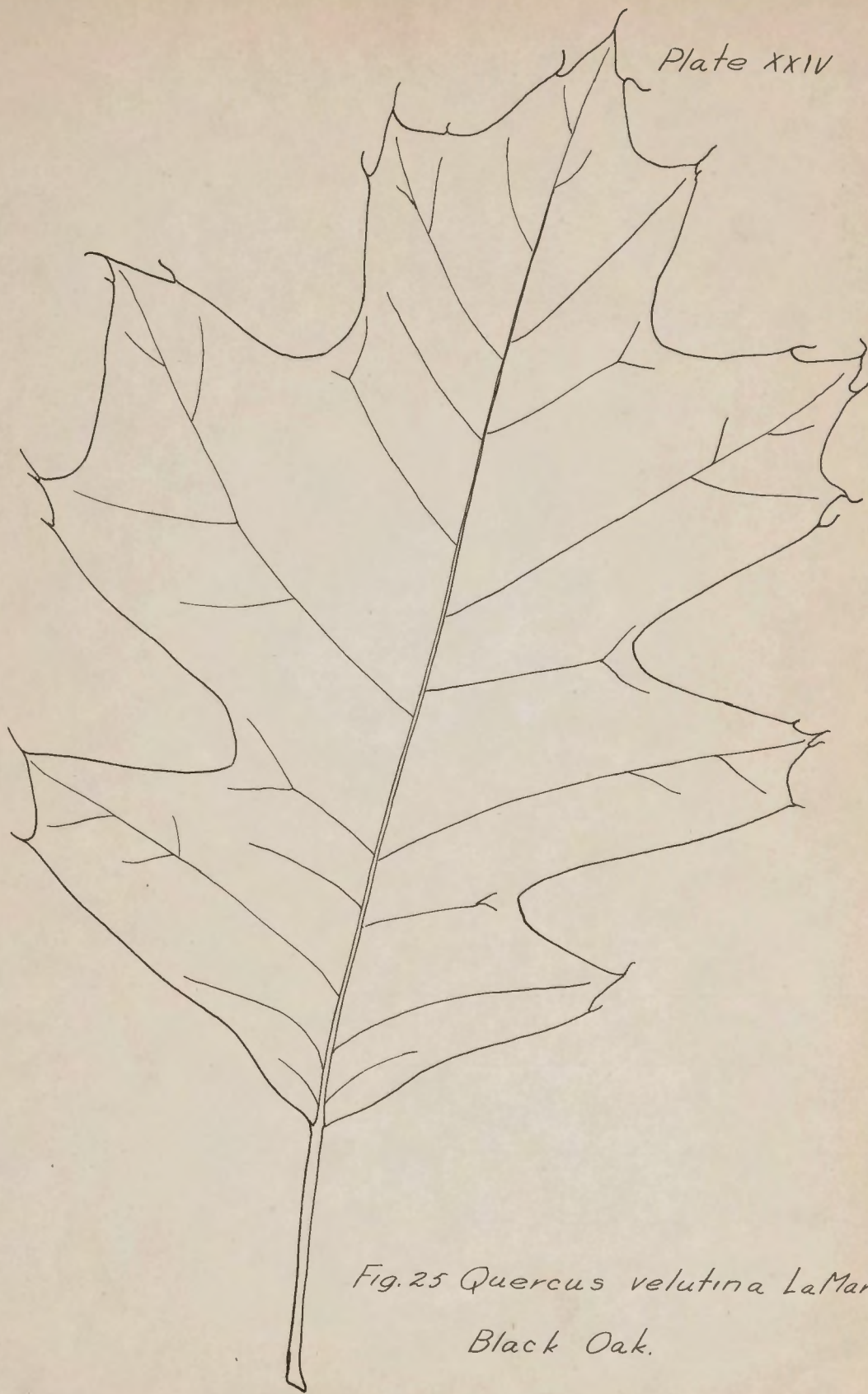


Fig. 25 *Quercus velutina* LaMark.

Black Oak.



Fig. 26 *Ulmus alata* Michaux. Winged Elm.



Fig. 27 *Ulmus americana* Linnaeus. American Elm.



Fig. 28 *Ulmus fulva* Michaux. Slippery Elm.



Figs. 29 and 30 *Magnolia acuminata* Linnaeus.
Cucumber Tree.



Fig. 31 *Liriodendron tulipifera* Linnaeus. Tuliptree.



Fig. 32 *Asimina triloba* Dunol. Papaw.

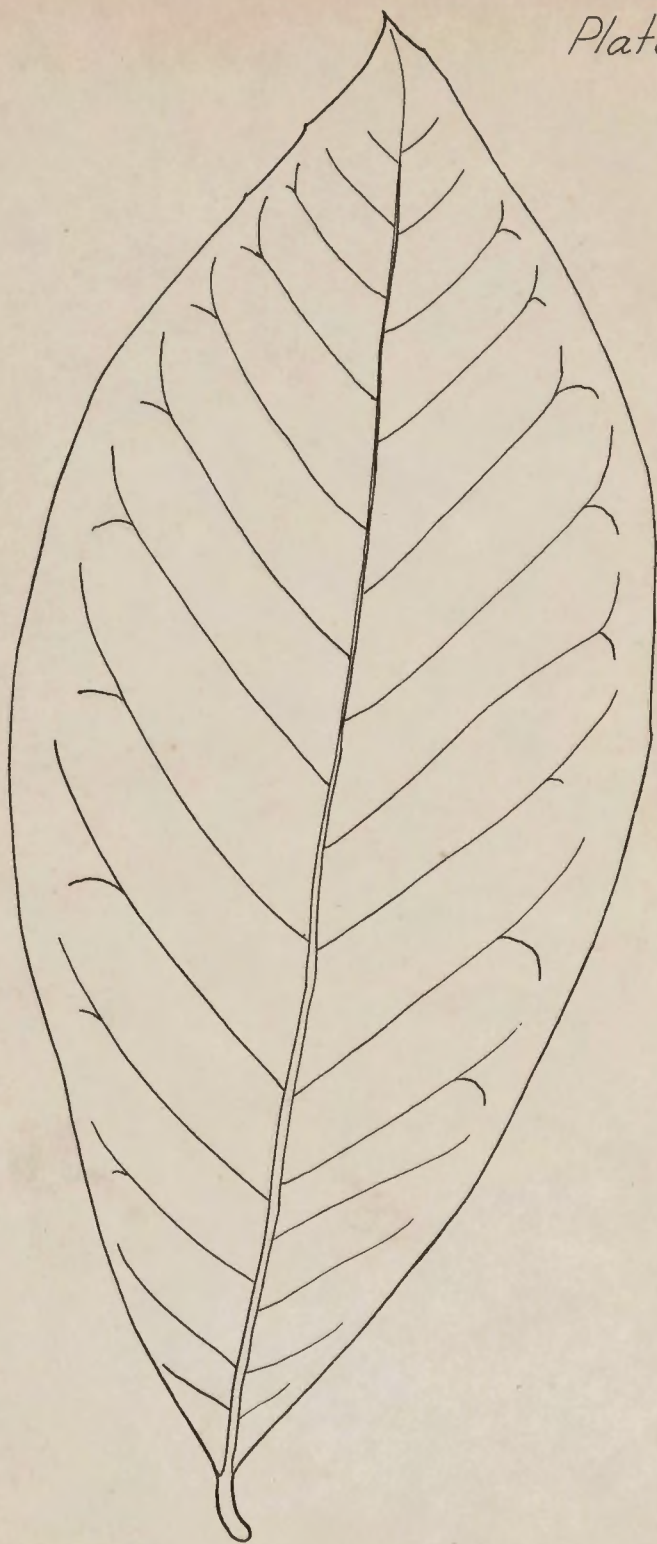


Fig. 33 *Asimina triloba* DuRoi. Papaw.

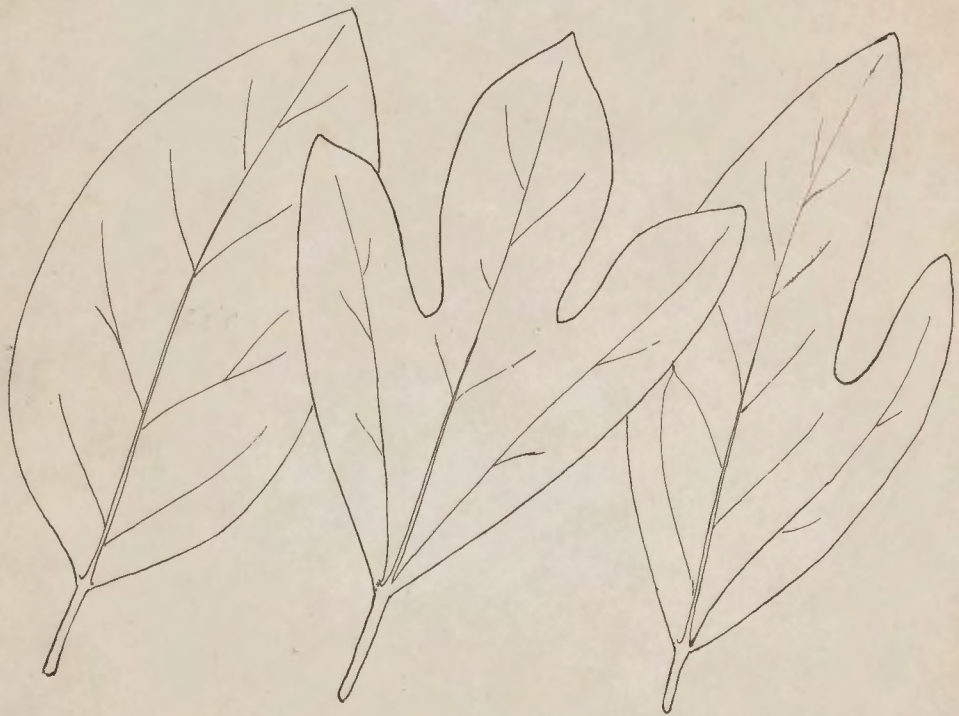


Fig. 34 *Sassafras verifolium* (Salisbury) Kuntze. *Sassafras*.



Fig. 35 *Liquidambar styraciflua* Linnaeus. Sweet Gum.



Fig. 36 *Amelanchier canadensis* (Linnaeus) Medicus.
Serviceberry.



Fig. 37 *Prunus americana* Marshall. Wild Plum.



Fig. 38 *Prunus serotina* Ehrhart. Black Cherry.



Figs. 39 and 40 *Cercis canadensis* Linnaeus. Redbud.



Fig. 41 *Cladrastis lutea* (Michaux fils) Koch.
Yellow Wood.



Figs. 42 and 43 *Ailanthus altissima* (Miller) Swingle,
Ailanthus.



Fig. 44 *Ailanthus altissima* (Miller) Swingle. *Ailanthus*.



Fig. 45 *Rhus canadensis* Marshall. Sweet-scented Sumach.



Fig. 46 *Ilex opaca* Aiton. Holly.



Fig. 47 *Acer pennsylvanicum* Linnaeus.
Striped Maple.



Fig. 48 *Acer rubrum* Linnaeus. Red Maple.



Fig. 49 *Aesculus glabra* Willdenow.
Ohio Buckeye.



Fig. 50 *Aesculus octandra* Marshall.
Yellow Buckeye.



Fig. 51 *Cornus florida* Linnaeus. Dogwood.



Fig. 52 *Nyssa sylvatica* Marshall. Black Gum.



Fig. 53 *Leucothoe racemosa* (Linnaeus) Gray.



Fig. 54 *Fraxinus americana* Linnaeus. White Ash.



Fig. 55 *Chionanthus virginica* Linnaeus. Fringe Tree.



Fig. 56 *Paulownia tomentosa* (Thunberg) Steudel.
Royal Paulownia.



Fig. 57 *Viburnum prunifolium* (Thunberg) Steudel.
Black Haw.