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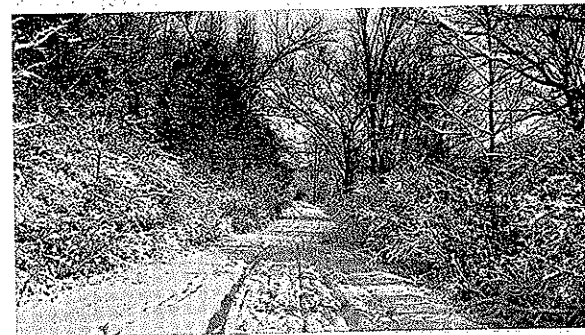
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BULLETIN OF
THE NICHOLS ARBORETUM

Trees and Shrubs

Hardy in Southern Michigan
and Surrounding Territory



CORRECTIONS — ADDITIONS
NATIVE PLANTS.

ANN ARBOR, MICHIGAN
PUBLISHED BY THE UNIVERSITY

DEPARTMENT OF LANDSCAPE DESIGN AND THE NICHOLS ARBORETUM

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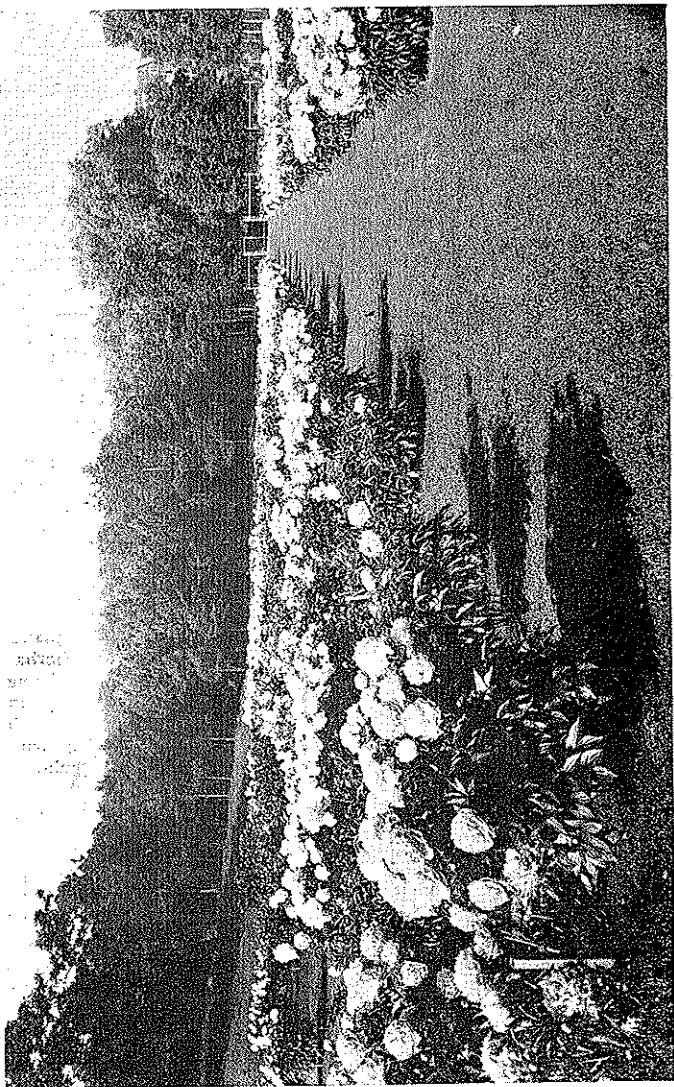
THE NICHOLS ARBORETUM

THE NICHOLS ARBORETUM had its inception in a gift of land from Walter H. Nichols, B.S.(Chem.), '91, and Mrs. Esther B. Nichols, B.S., '94. This land, with later gifts and the addition of a tract of land owned by the city of Ann Arbor to be developed conjointly with the University property, comprises about ninety acres within the eastern boundary of Ann Arbor and is fifteen minutes' walk from the campus. It has a frontage of more than half a mile on the Huron River and includes the well-known School Girls' Glen and Glen Drive, which winds down from Geddes Avenue to the river. The topography is exceedingly varied, the highest point being one hundred and eighty-five feet above the river. A variety of soils ranging from heavy clay and muck to light loam and sand is found on the property.

The area was developed following plans prepared by O. C. Simonds and Company in 1907, and beginning with 1916 the work was carried on under the direction of Aubrey Tealdi, who remained in charge until 1934 and who must be given credit for the present character of the area and the quality of the collections.

The Nichols Arboretum forms an integral part of the Department of Landscape Design and is under its management. The City coöperates with the University in the maintenance of the area. The plan for it includes three distinct features: the development of the natural beauty of the tract as a public park; a collection of woody plants native to Michigan; and a collection of trees, shrubs, and herbaceous plants that are used in landscape design. The plan is being developed in such a way that the student will be able to study in detail not only the individual plants, both native and exotic, which are used in landscape practice, but also grouping and arrangement. The equipment of the Arboretum includes an adequate greenhouse and a heating plant. Students in the Department of Landscape Design are enabled to acquire in the Arboretum experience in the propagation and handling of plant materials.

In addition to the general assemblage of trees and shrubs, notable collections are being made of special groups of plants such as the French hybrid lilacs, Asiatic flowering crabapples, and in "Heathdale," a wooded valley facing eastward, rhododendrons, azaleas, and other broad-leaved evergreens. Plans are under way for the development of a collection of woody vines, honeysuckles, and other special types, and for the formation of replicas of typical native habitats such as a Colorado mountain hillside. The peony garden, started a number of years ago, has now about 360 varieties of peonies in its plantings and is annually visited by many thousands of people. This was made possible by the co-operation of a number of notable peony growers in this country and in Europe.



THE PEONY GARDEN IN NICHOLS ARBORETUM

TREES AND SHRUBS HARDY IN SOUTHERN MICHIGAN AND SURROUNDING TERRITORY

THIS paper lists the woody plants, trees, shrubs, and climbers which have been found to be hardy and usable in Southern Michigan. The list is based upon twenty-one years of observation in the Nichols Arboretum and elsewhere in Southern Michigan, supplemented with studies in New England, New York, Ontario, and the Rocky Mountain states, all of which are comparable in climate to this region.

It should be clearly understood that the list is not complete. There are undoubtedly many hundred more kinds of woody plants that will prove to be hardy in our region, but which have not been thoroughly tested as yet. People who know of such plants are invited to correspond with the Nichols Arboretum with regard to them.

For the purpose of this report Southern Michigan is taken to belong roughly to the "Upper Austral" life zone, the upper portion of the great oak-hickory-hardwood belt of the central United States. Because of the Great Lakes, the upper limit of this zone extends irregularly into Michigan. It goes far north along the east side of Lake Michigan to about Manistee, then drops down in the central section to the north line of Jackson County, and then extends northeast along Lake Saint Clair to about the town of Saint Clair on the Saint Clair River. North of this curving line is the "Transition Zone" extending to the "Canadian Zone," which begins on a line extending from Traverse City across to Tawas Bay on Lake Huron.

Many plants mentioned here are definitely not usable north of the line of the "Upper Austral" without expensive protection, but, of course, the majority can be used.

HARDINESS

Scientific hardiness means merely ability to withstand low temperatures, but hardiness in common language means ability to live over the winter, which is a different matter. There are hundreds of plants that withstand quite low temperatures and that will not survive the winter for the following reasons:

A. Breakage by winter wind when frozen.

B. Desiccation, or drying out, when the roots are frozen. In zero weather all the air moisture is crystallized, and the air itself is therefore extremely dry in effect, so much so that evaporation takes place directly from ice without apparent melting (as at Mount Rainier, Washington). Consequently evergreen leaves and twigs and their bark may lose moisture on cold days without replacement from the roots, and the cells die of "thirst."

C. Desiccation due to intense winter sunlight plus snow reflection.

The frozen sap in leaves and bark is melted even on zero days in such a case, and the melted sap is evaporated without being replaced from the frozen roots and stems, whence we have what is known as winter sunscald on red maple, red oaks, hawthorns, and in evergreens such as hemlocks, arbor-vitae, yew, and oriental spruce. These same trees in the shade would be perfectly "hardy."

D. Lack of moisture in the ground when winter sets in after a dry summer and autumn. This makes the plant especially susceptible to conditions "B" and "C" mentioned above.

E. Lack of established feeding roots caused by late fall planting, with the same result as in "B" and "C."

F. Weakened condition of plant due to attacks of fungous disease or insects.

G. Undue stimulation of sap activity due to warmth in the sub-soil or to unusually warm weather in late winter. The cells are filled with water, and if a bitter freeze follows suddenly the cell walls may be burst by overexpansion. This may account for frequent spring killing of buds on fruit trees but usually does not kill the plant as a whole.

The answer of the gardener to the above difficulties is to protect the plant against the causative condition as follows:

1. Protect from winter winds or cover with burlap.
2. Protect from winter winds and grow in a sheltered moist valley, or set up artificial windbreaks in winter.
3. Plant on shady side of hill or woods or behind shrubbery, or wrap the bark of trees with muslin.
4. Water all plants well before ground freezes.
5. Plant before October 15 if possible, or mulch ground to retard freezing, letting the roots develop.
6. Insect and disease eradication if possible.
7. Plant on northeast slopes, or shady side of buildings or woods, or mulch well *after* the ground is frozen over in late winter.

For convenience of reference, the order of arrangement and the nomenclature closely follow that of the *Manual of Cultivated Trees and Shrubs*, by Alfred Rehder. Thus one can follow through and check against the descriptions in case of doubt as to what is meant. The common names usually follow those in *Standardized Plant Names* (published by the Joint Committee on Horticultural Nomenclature, Salem, Massachusetts, 1923).

LIST OF TREES AND SHRUBS HARDY IN SOUTHERN MICHIGAN AND SURROUNDING TERRITORY

I. GINKGOACEAE—*Ginkgo Family*

- (1) *Ginkgo*
1. *biloba* Ginkgo or Maidenhair Tree

II. TAXACEAE—*Yew Family*

- (1) *Taxus*
1. *baccata* (not hardy) Yew
" *var. repandens* (hardy) English Yew
Spreading English Yew
2. *cuspidata* Japanese Yew
" *var. nana* Dwarf Japanese Yew
3. *media* Intermediate Yew
" *var. Hicksii* Hick's Yew
4. *canadensis* Canada Yew

III. PINACEAE—*Pine Family*

- (1) *Juniperus*
1. *communis* Juniper
Common Juniper
" *var. aurea* Golden Juniper
" *var. suecica* Swedish Juniper
" *var. hibernica* Irish Juniper
" *var. depressa* (and vars.) Canada Juniper
" *var. montana* Mountain Juniper
2. *squamata* Meyer Juniper
" *var. Meyeri* Meyer Juniper
3. *procumbens* Trailing Juniper
4. *excelsa stricta* Spiny Greek Juniper
5. *chinensis* Chinese Juniper
" *var. variegata* Whiteleaf Chinese Juniper
" *var. mas* Male Juniper
" *var. pyramidalis* Column Chinese Juniper
" *var. Pfitzeriana* Pfitzer Juniper
" *var. japonica* Japanese Juniper
" *var. sargentii* Sargent Juniper
6. *virginiana* Red Cedar
" *var. glauca* Blue Cedar
" *var. elegantissima* Gold-tip Red Cedar
" *var. pyramidalis* Pyramidal Red Cedar
" *var. Schottii* Schott Red Cedar
" *var. pyramidiformis* Hill's Pyramidal Red Cedar
" *var. Canaertii* Cannart Red Cedar
" *var. Keteleeri* Keteleer Red Cedar
" *var. venusta* Column Red Cedar
" *var. Kosteri* Koster Red Cedar

7. scopulorum (and varieties) Colorado Juniper
 8. Sabina Savin Juniper
 " var. tamariscifolia Tamarisk Savin
 9. horizontalis Creeping Juniper
 " var. Douglasii Waukegan Juniper
 " var. plumosa Plumy Creeping Juniper
 (2) Chamaecyparis Cypress or Retinospora
 1. obtusa Hinoki Cypress
 " var. gracilis Slender Hinoki Cypress
 " var. compacta Football Cypress
 2. pisifera Sawara Cypress or Retinospora
 " var. aurea Golden Sawara Cypress
 " var. filifera Thread-branched Cypress
 " var. plumosa Plumy Sawara Cypress
 " var. "plumosa argentea" Silverplume Sawara Cypress
 " var. "plumosa aurea" Goldenplume Sawara Cypress
 (3) Thuja Arbor-vitae
 1. occidentalis Common Arbor-vitae
 " var. Columbia Columbia Arbor-vitae
 " var. Vervaeneana Vervaene Arbor-vitae
 " var. lutescens Light-golden Arbor-vitae
 " var. aurea American Golden Arbor-vitae
 " var. lutea George Peabody Arbor-vitae
 " var. robusta (Wareana) Ware Arbor-vitae
 " var. Riversii Rivers Arbor-vitae
 " var. Rosenthalii Rosenthal Arbor-vitae
 " var. Douglasii Douglas Pyramidal Arbor-vitae
 pyramidalis Spiral Arbor-vitae
 " var. spiralis Parson's Arbor-vitae
 " var. compacta Parson's Arbor-vitae
 " var. fastigiata American Pyramidal Arbor-vitae
 (pyramidalis) vitae
 " var. plicata Moss Arbor-vitae
 " var. globosa American Globe Arbor-vitae
 " var. Woodwardii Woodward Arbor-vitae
 " var. Hoveyi Hovey Arbor-vitae
 " var. pumila Dwarf Arbor-vitae
 " var. Ohlendorffii Ohlendorff Arbor-vitae
 " var. Ellwangeriana Tom Thumb Arbor-vitae
 2. orientalis Oriental Arbor-vitae
 " var. conspicua Berckman's Golden Arbor-vitae
 " var. semperaurescens Evergolden Arbor-vitae
 " var. stricta Oriental Pyramidal Arbor-vitae
 3. Standishii Standish (or Japanese) Arbor-vitae

- (4) Taxodium
 1. distichum Bald or Swamp Cypress
 (5) Cryptomeria
 1. japonica (doubtful) Common Cryptomeria
 " var. Lobbii (hardy) Lobb Cryptomeria
 (6) Sciadopitys
 1. verticillata Umbrella-Pine
 (7) Abies Fir
 1. Veitchii Veitch Fir
 2. homolepis Nikko Fir
 3. Nordmanniana Nordmann Fir
 4. alba (pectinata) Silver Fir
 5. balsamea Balsam Fir
 6. concolor and vars. White Fir
 (8) Pseudotsuga
 1. taxifolia (Rocky Mountain form) Douglas Fir
 " var. pendula Weeping Douglas Fir
 " var. glauca Blue Douglas Fir
 (9) Tsuga Hemlock-Spruce
 1. Sieboldii (doubtful) Siebold Hemlock
 2. caroliniana Carolina Hemlock
 3. canadensis Canada Hemlock
 " var. pendula Sargent Weeping Hemlock
 (10) Picea Spruce
 1. polita Tiger-tail Spruce
 2. abies (excelsa) and vars. Norway Spruce
 " var. pendula Weeping Norway Spruce
 3. obovata (tests not complete) Siberian Spruce
 4. orientalis (protect from winter sun) Oriental Spruce
 5. Koyamai Koyama Spruce
 6. rubra Red Spruce
 7. mariana Black Spruce
 8. glauca White Spruce, Canada Spruce
 " var. coerulea Silver White Spruce
 " var. albertiana Alberta or Black-Hill Spruce
 " var. conica Dwarf Alberta Spruce
 9. Engelmannii Engelmann Spruce
 " var. glauca Blue Engelmann Spruce
 10. pungens Colorado Spruce
 " var. viridis Green Colorado Spruce
 " var. glauca Colorado Blue Spruce
 " var. Kosteriana Koster Blue Spruce
 11. omorika Serbian Spruce
 12. Breweriana Brewer Weeping Spruce
 (11) Larix Larch
 1. Kaempferi Japanese Larch

- | | |
|---------------------------|----------------------------|
| 2. decidua | European Larch |
| 3. dahurica | Dahurian Larch |
| 4. laricina | Tamarack |
| (12) Pinus | Pine |
| 1. Koraiensis | Korean Pine |
| 2. Cembra | Swiss Stone Pine |
| 3. flexilis | Limber Pine |
| 4. excelsa | Himalayan Pine |
| 5. strobus | White Pine |
| 6. cembroides (not hardy) | Mexican Stone Pine |
| " var. edulis (hardy) | Nut Pine |
| 7. Bungeana | Lace-bark Pine |
| 8. resinosa | Red or Norway Pine |
| 9. densiflora | Japanese Red Pine |
| " var. umbraculifera | Japanese Umbrella Pine |
| 10. sylvestris | Scotch Pine |
| " var. Watereri | Waterer Scotch Pine |
| " var. nana | Dwarf Scotch Pine |
| " var. rigensis | Riga Pine |
| " var. argentea | Blue Scotch Pine |
| 11. mugo | Swiss Mountain Pine |
| " var. mughus | Mugho Pine |
| " var. pumilio | Shrubby Swiss Pine |
| 12. nigra | Austrian Pine |
| " var. austriaca | Austrian Pine |
| 13. Thunbergii | Japanese Black Pine |
| 14. ponderosa | Western Yellow Pine |
| " var. scopulorum | Rocky Mountain Yellow Pine |
| 15. Jeffreyi | Jeffrey Pine |
| 16. virginiana | Scrub Pine |
| 17. rigida | Pitch Pine |
| 18. banksiana | Gray or Jack Pine |

IV. LILIACEAE—*Lily Family*

- | | |
|-------------------------------|-----------------------|
| (1) Yucca | Yucca |
| 1. filamentosa | Common Yucca |
| 2. flaccida | Weak-leaf Yucca |
| 3. glauca (in sand or gravel) | Soapweed Yucca |
| (2) Smilax | Green-brier |
| 1. hispida | Bristly Green-brier |
| 2. rotundifolia | Roundleaf Green-brier |

V. SALICACEAE—*Willow Family*

- | | |
|--------------------|------------------------|
| (1) Populus | Poplar |
| 1. alba | White or Silver Poplar |
| " var. nivea | Silver Poplar |
| " var. pyramidalis | |
| (Bolleana) | Bolleana Poplar |

- | | |
|---------------------------------------|--------------------------|
| 2. grandidentata | Large-toothed Aspen |
| 3. tremuloides | Quaking Aspen |
| 4. Simonii and vars. | Simon Poplar |
| 5. suaveolens | Mongolian Poplar |
| 6. candicans | Balm of Gilead Poplar |
| 7. tacamahaca (balsamifera) | Balsam Poplar |
| 8. berolinensis | Sudden-sawlog Poplar |
| 9. nigra | Black Poplar |
| " var. italica | Lombardy Poplar |
| 10. canadensis | Southern Cottonwood |
| " var. Eugenei | Carolina Poplar |
| 11. balsamifera (monilifera) | Northern Cottonwood |
| 12. Sargentii | Great Plains Cottonwood |
| (2) Salix | Willow |
| 1. nigra | Black Willow |
| 2. pentandra | Laurel Willow |
| 3. lucida | Shining Willow |
| 4. amygdalina | Almond Willow |
| 5. amygdaloides | Peach-leaf Willow |
| 6. fragilis | Brittle or Crack Willow |
| 7. Matsudana | Hankow Willow |
| 8. elegantissima | Thurlo Weeping Willow |
| 9. alba and vars. | White Willow |
| 10. babylonica (protect by buildings) | Babylon Weeping Willow |
| 11. sepulcralis | Salamon Weeping Willow |
| 12. blanda | Wisconsin Weeping Willow |
| 13. longifolia | Sandbar Willow |
| 14. discolor | Pussy Willow |
| 15. caprea and vars. | Goat Willow |
| " var. pendula | Kilmarnock Willow |
| 16. petiolaris | Petioled Willow |
| 17. sericea | Silky Willow |
| 18. humilis | Prairie Willow |
| 19. Bebbiana | Beak Willow |
| 20. pedicellaris | Bog Willow |
| 21. candida | Hoary Willow |
| 22. adenophylla | Furry Willow |
| 23. irrorata | Blue-stem Willow |
| 24. viminalis | Common Osier |
| 25. incana | Rosemary Willow |
| 26. purpurea | Purple Osier |

VI. MYRICACEAE—*Sweetgale Family*

- | | |
|------------------|-------------------|
| (1) Myrica | |
| 1. caroliniensis | Northern Bayberry |
| 2. Gale | Sweetgale |
| (2) Comptonia | |
| 1. aspleniifolia | Sweet Fern |

S. glaucophylla
" angustifolia
" brevifolia
~~*reticulata*~~

VII. JUGLANDACEAE—Walnut Family

- | | |
|-------------------------|----------------------------------|
| (1) Juglans | |
| 1. regia (hardy types) | English Walnut |
| 2. nigra | Black Walnut |
| 3. cinerea | Butternut |
| 4. Sieboldiana | Japanese Walnut |
| (2) Carya | Hickory |
| 1. pecan (hardy types) | Pecan |
| 2. cordiformis (minima) | Bitternut |
| 3. glabra | Smooth-bark or Pignut
Hickory |
| 4. alba | Mockernut |
| 5. ovata | Shagbark Hickory |

VIII. BETULACEAE—Birch Family

- | | |
|---|---|
| (1) Betula | |
| 1. lenta | Sweet Birch |
| 2. lutea | Yellow Birch |
| 3. nigra | Red or River Birch |
| 4. populifolia | Gray or Old-field Birch |
| 5. pendula and vars.
" var. gracilis | European Weeping Birch
Cutleaf Weeping Birch |
| 6. japonica var. mandshurica | Manchurian Birch |
| 7. papyrifera | Canoe Birch |
| 8. pubescens | European or Scotch Birch |
| 9. pumila | Dwarf Birch |
| 10. glandulosa | Bog Birch |
| (2) Alnus | |
| 1. crispa | American Green Alder |
| 2. rugosa | Hazel Alder |
| 3. glutinosa and vars. | European Black Alder |
| 4. rubra | Red Alder, Oregon Alder |
| 5. incana
" var. americana | Speckled Alder
American Speckled Alder |
| (3) Carpinus | |
| 1. caroliniana | Blue Beech or Hornbeam |
| 2. betulus | European Hornbeam |
| (4) Ostrya | |
| 1. virginiana | Hop Hornbeam or Ironwood |
| (5) Corylus | |
| 1. colurna | Tree or Turkish Hazelnut |
| 2. Avellana | Filbert or European Hazelnut |
| 3. americana | Hazelnut |
| 4. maxima | Giant Filbert |
| " var. purpurea | Giant Purple Filbert |
| 5. cornuta (rostrata) | Beaked Hazelnut |

IX. FAGACEAE—Beech Family

- | | |
|-------------------------------|----------------------|
| (1) Fagus | |
| 1. grandifolia | American Beech |
| 2. sylvatica | European Beech |
| " var. atropunicea | Purple Beech |
| " var. laciniata | Cutleaf Beech |
| " var. asplenifolia | Fernleaf Beech |
| " var. pendula | Weeping Beech |
| (2) Castanea | |
| 1. dentata | Chestnut |
| 2. mollissima | Chinese Chestnut |
| (3) Quercus | |
| 1. phellos | Willow Oak |
| 2. imbricaria and hybrids | Shingle Oak |
| 3. marylandica | Black Jack Oak |
| 4. velutina | Black Oak |
| 5. ellipsoidalis | Northern Pin Oak |
| 6. Shumardii | Shumard Oak |
| 7. coccinea | Scarlet Oak |
| 8. palustris | Pin Oak |
| 9. borealis | Northern Red Oak |
| 10. alba and hybrids | White Oak |
| 11. stellata | Post Oak |
| 12. robur (protect from wind) | English Oak |
| 13. macrocarpa and hybrids | Burr Oak |
| 14. bicolor and hybrids | Swamp White Oak |
| 15. montana (prinus) | Chestnut Oak |
| 16. prinoides | Dwarf Chinquapin Oak |
| 17. Muhlenbergii | Chinquapin Oak |

X. ULMACEAE—Elm Family

- | | |
|-------------------------|----------------------------------|
| (1) Ulmus | |
| 1. americana | American Elm |
| " var. columnaris | Moline Elm |
| " var. pendula | Weeping Elm |
| 2. racemosa | Rock Elm |
| 3. fulva | Slippery Elm |
| 4. glabra | Scotch Elm |
| " var. purpurea | Purple Scotch Elm |
| " var. camperdownii | Camperdown Elm |
| 5. procera (campestris) | English Elm |
| " var. purpurea | Purple English Elm |
| 6. hollandica | Holland Elm |
| 7. foliacea | Smoothleaf Elm |
| 8. pumila | Dwarf Asiatic Elm (Siberian Elm) |
| (2) Celtis | |
| 1. reticulata | Paloblanco |

2. pumila Dwarf Hackberry
3. occidentalis Hackberry

XI. MORACEAE—*Mulberry Family*

- (1) Morus Mulberry
1. alba Chinese Mulberry
“ var. tatarica Russian Mulberry
2. rubra Red Mulberry
(2) Maclura
1. pomifera Osage Orange

XII. ARISTOLOCHACEAE—*Birthwort Family*

- (1) Aristolochia Dutchman's Pipe
1. durior

XIII. POLYGONACEAE—*Buckwheat Family*

- (1) Polygonum Buckwheat
1. baldschuanicum Silver Fleecevine
2. Aubertii China Fleecevine

XIV. CERCIDIPHYLLACEAE—*Katsura-Tree Family*

- (1) Cercidiphyllum Katsura Tree
1. japonicum

XV. RANUNCULACEAE—*Crowfoot Family*

- (1) Paeonia Tree Peony
1. suffruticosa and varieties
(2) Zanthorhiza Shrub Yellowroot
1. apiifolia
(3) Clematis Tube Clematis
1. heracleifolia Fragrant Tube Clematis
“ var. Davidiana Italian Clematis
2. viticella
3. Jackmani (grown as a perennial) Jackman Clematis
4. montana Anemone Clematis
5. paniculata Japanese Clematis
6. virginiana Virgin's-bower
7. ligusticifolia Western Virgin's-bower
8. tanacetica Golden Clematis

XVI. LARDIZABALACEAE—*Lardizabala Family*

- (1) Akebia Five-leaved Akebia
1. quinata

XVII. BERBERIDACEAE—*Barberry Family*

- (1) Mahonia Creeping Hollygrape
1. repens

2. aquifolium (protect from winter sun) Oregon Hollygrape
(2) Mahoberberis
1. Neuberti Neubert Barberry
(3) Berberis
1. Julianae (protect from winter sun) Wintergreen Barberry
2. Thunbergii Thunberg Barberry
“ var. minor Box Barberry
“ var. pluriflora Many-leaved Barberry
“ var. purpurea Purple-leaf Barberry
3. canadensis Allegheny Barberry
4. vulgaris Common Barberry
“ var. atropurpurea Purple Barberry

XVIII. MENISPERMACEAE—*Moonseed Family*

- (1) Menispermum Moonseed Vine
1. canadense

XIX. MAGNOLIACEAE—*Magnolia Family*

- (1) Magnolia Cucumber Magnolia
1. acuminata Umbrella Magnolia
2. tripetala Sweetbay
3. virginiana (glauca) Kobus Magnolia
4. kobus Northern Kobus Magnolia
“ var. borealis Lily Magnolia
5. liliflora (not hardy) Purple Lily Magnolia
“ var. nigra (hardy) Soulange or Saucer Magnolia
6. Soulangeana Lenne Magnolia
“ var. Lennei Star Magnolia
7. stellata
(2) Liriodendron Tulip Tree
1. Tulipifera

XX. CALYCANTHACEAE—*Calycanthus Family*

- (1) Calycanthus Carolina Allspice or Strawberry Shrub
1. floridus

XXI. ANNONACEAE—*Custard-apple Family*

- (1) Asimina Pawpaw
1. triloba

XXII. LAURACEAE—*Laurel Family*

- (1) Sassafras Sassafras
1. officinale
(2) Benzoin Benzoin
1. aestivale

XXIII. CRUCIFERAE—*Mustard Family*

- | | |
|-----------------|---------------------|
| (1) Iberis | |
| 1. sempervirens | Evergreen Candytuft |
| (2) Alyssum | |
| 1. saxatile | Goldentuft |

XXIV. SAXIFRAGACEAE—*Saxifrage Family*

- | | |
|---------------------------|----------------------------|
| (1) Philadelphus | |
| 1. Lewisii | Lewis Mock-Orange |
| 2. Gordonianus | Gordon Mock-Orange |
| 3. pubescens | Hoary Mock-Orange |
| 4. verrucosus | Warty Mock-Orange |
| 5. nivalis | Snowbank Mock-Orange |
| 6. Schrenkii | Schrenk Mock-Orange |
| " var. Jackii | Jack Mock-Orange |
| 7. coronarius | Sweet Mock-Orange |
| " var. aureus | Golden Mock-Orange |
| 8. Zeyheri | Zeyher Mock-Orange |
| 9. Falconeri | Star Mock-Orange |
| 10. laxus | Drooping Mock-Orange |
| 11. grandiflorus | Large-flowered Mock-Orange |
| 12. Lemoinei and vars. | Lemoine Mock-Orange |
| 13. cymosus and vars. | "Conquête" Mock-Orange |
| 14. virginialis and vars. | "Virginal" Mock-Orange |
| (2) Jamesia | |
| 1. americana | Jamesia |
| (3) Deutzia | |
| 1. gracilis | Slender Deutzia |
| 2. rosea | Pink Deutzia |
| " var. campanulata | Bell-flower Deutzia |
| " var. venusta | White Panicle Deutzia |
| 3. scabra | Fuzzy Deutzia |
| " var. Watereri | Waterer Deutzia |
| " var. plena | Double Rose Deutzia |
| " var. candidissima | Snowflake Deutzia |
| 4. purpurascens | Redbud Deutzia |
| 5. Lemoinei | Lemoine Deutzia |
| (4) Hydrangea | |
| 1. arborescens | Smooth Hydrangea |
| " var. grandiflora | Snowhill Hydrangea |
| 2. radiata | Silverleaf Hydrangea |
| 3. quercifolia (protect) | Oakleaf Hydrangea |
| 4. paniculata | Panicle Hydrangea |
| " var. grandiflora | Peegee Hydrangea |
| 5. Bretschneideri | Shaggy Hydrangea |
| 6. petiolaris | Climbing Hydrangea |
| (5) Ribes | |
| 1. alpinum | Swiss Mountain Currant |
| 2. tascicuatum | Winterberry Currant |

- | | |
|-----------------|--------------------------------|
| 3. aureum | Slender Golden Currant |
| 4. odoratum | Golden Currant (or Buffalo C.) |
| 5. cereum | Red Wax Currant |
| 6. americanum | Wild Black Currant |
| 7. rubrum | Northern Red Currant |
| 8. nigrum | Garden Black Currant |
| 9. sativum | Garden Red Currant |
| 10. triste | Swamp Red Currant |
| 11. lacustre | Beach Gooseberry |
| 12. Grossularia | European Gooseberry |
| 13. cynosbati | Pasture Gooseberry |

XXV. HAMAMELIDACEAE—*Witch-hazel Family*

- | | |
|-----------------|--------------------------|
| (1) Liquidambar | |
| 1. Styraciflua | Liquidambar or Sweet Gum |
| (2) Hamamelis | |
| 1. virginiana | Witch-hazel |

XXVI. PLATANACEAE—*Plane-tree Family*

- | | |
|-----------------|-------------------------------------|
| (1) Platanus | |
| 1. acerifolia | London Plane-tree |
| 2. occidentalis | Western Plane-tree or
Buttonwood |

XXVII. ROSACEAE—*Rose Family*

- | | |
|------------------------------|------------------------|
| (1) Physocarpus | |
| 1. opulifolius | Ninebark |
| 2. monogynus | One-seeded Ninebark |
| (2) Neillia | |
| 1. sinensis | Tube Neillia |
| (3) Stephanandra | |
| 1. incisa | Cutleaf Stephanandra |
| (4) Spiraea | |
| 1. prunifolia | Bridalwreath Spirea |
| 2. thunbergii | Thunberg Spirea |
| 3. arguta | Hybrid Snow-garland |
| 4. nipponica | Nippon Spirea |
| " var. rotundifolia | Big Nippon Spirea |
| 5. cantoniensis (Reevesiana) | Reeves Spirea |
| 6. trichocarpa | Korean Spirea |
| 7. Vanhouttei | Van Houtte Spirea |
| 8. japonica | Japanese Spirea |
| " var. Fortunei | Fortune Spirea |
| 9. bumalda | Bumald Spirea |
| " var. Froebeli | Froebel Spirea |
| " var. "Anthony Waterer" | Anthony Waterer Spirea |
| 10. Margaritae | Margarita Spirea |
| 11. albiflora | Dwarf White Spirea |

12. salicifolia Meadow-sweet
 13. alba White Meadow-sweet
 14. latifolia Pink Meadow Spirea
 15. Billiardii Billiard Spirea
 16. Douglasii Douglas Spirea
 17. tomentosa Hard-back
- (5) Sorbaria
 1. sorbifolia False-spirea
 " var. stellipita Starry False-spirea
 2. arborea Tree-spirea
- (6) Exochorda
 1. racemosa (grandiflora) Pearlbush
 2. Giraldii Redbud Pearlbush
 " var. Wilsonii Wilson Pearlbush
- (7) Cotoneaster
 1. adpressa Creeping Cotoneaster
 2. horizontalis Rock Cotoneaster
 3. apiculata Apiculate Cotoneaster
 4. Simonsii (protect) Simon's Cotoneaster
 5. divaricata Spreading Cotoneaster
 6. nitens
 7. tomentosa Woolly Cotoneaster
 8. Zabeli Zabel Cotoneaster
 9. Dielsiana (protect) Diel's Cotoneaster
 10. acuminata Acuminate-leaved Cotoneaster
 11. foveolata
 12. acutifolia Peking Cotoneaster
 13. lucida Altai Cotoneaster
 14. hupehensis Hupeh Cotoneaster
 15. racemiflora
 " var. songarica Soongari Cotoneaster
 16. salicifolia floccosa (protect) Willowleaf Cotoneaster
 17. microphylla Rockspray Cotoneaster
- (8) Pyracantha
 1. coccinea (protect) Firethorn
 " var. Lalandii (protect) Laland Firethorn
- (9) Crataegus
 1. mollis Red Haw
 2. submollis Lesser Red Haw or Quebec Hawthorn
 " var. Ellwangeriana Ellwanger Thorn
 3. Ellwangeriana
 4. pedicellata Flabby-leaved Thorn
 5. flabellata Large-fruited Thorn
 6. macrosperma Round-leaved Thorn
 7. rotundifolia Frosted Thorn
 8. pruinosa Green Thorn
 9. viridis
 10. nitida Glossy Hawthorn

11. crus-galli Cockspur Thorn
 " var. splendens Showy-fruited Cockspur Thorn
 12. Lavalley (Carrierei) Lavelle Thorn
 13. punctata Dotted Haw
 14. phaenopyrum (cordata) Washington Thorn
 15. tomentosa Pear Thorn
 16. succulenta Succulent Thorn
 17. macracantha Spike Thorn
 18. Douglasii Black Thorn
 19. Oxyacantha English Maythorn
 " var. rosea Pink-flowered Maythorn
 " var. punicea Red-flowered Maythorn
 " var. Paulii Paul's Scarlet Maythorn
 " var. plena Double White Maythorn
 20. monogyna One-seeded Maythorn
- (10) Sorbus
 1. americana American Mountain-Ash
 2. decora Showy Mountain-Ash
 3. Aucuparia and varieties Rowan Tree
 4. hybrida Hybrid Rowan Tree
 5. latifolia Hybrid White Beam-tree
- (11) Aronia
 1. arbutifolia Red Chokeberry
 2. floribunda Purple Chokeberry
 3. melanocarpa Black Chokeberry
- (12) Photinia
 1. villosa Hairy Photinia
- (13) Amelanchier
 1. ovalis (vulgaris) Serviceberry
 2. sanguinea (rotundifolia) Roundleaf Shadblow
 3. alnifolia (florida) Saskatoon
 4. humilis Low Shadblow
 5. canadensis Canada Shadblow
 6. laevis Allegheny Shadblow
- (14) Malus
 1. pumila Apple
 " var. niedzwetzkyana Purple or Redvein Crab
 2. purpurea Purple Crab
 " var. Eleyi Eley Crab
 3. prunifolia Pearleaf Crab
 " var. rinki Chinese Apple
 4. spectabilis and varieties Chinese Flowering Crab
 5. micromalus Midget Crab
 6. baccata Siberian Crab
 " var. fructo-lutea Yellow-fruited Siberian Crab
 7. robusta Cherry Crab
 " var. persicifolia Peach Leaf Crab
 8. adstringens (crabapples) Garden Crabapples

9. theifera
Tea Crab
10. Halliana
Hall Crab
- " var. Parkmanii
Parkman Crab
11. atrosanguinea
Carmine Crab
12. floribunda
Japanese Flowering Crab
- " var. "Peachblow"
13. arnoldiana
Arnold Crab
14. Scheideckeri
Scheidecker Crab
15. brevipes
16. Zumi
Zumi Crab
- " var. Calocarpa
17. Sieboldii
Toringo Crab
- " var. arborescens
18. Sargenti
Sargent Crab
19. coronaria
Wild Sweet Crab
20. ioensis
Western Crab
- " var. plena
Bechtel Crab
- (15) Chaenomeles
1. lagenaria (japonica) and
 varieties
Japanese Quince
2. japonica (maulei)
Orange-flowered Jap Quince
- (16) Cydonia
1. oblonga
Garden Quince
- (17) Pyrus
1. salicifolia
Willowleaf Pear
2. communis and varieties
Common Pear
3. ussuriensis
Ussurian Pear
4. serotina
Late or Chinese Sand Pear
5. betulaeifolia
Birchleaf Pear
- (18) Kerria
1. japonica
Japanese Kerria
- " var. pleniflora
Japanese Globeflower
- (19) Rhodotypos
1. scandens (kerrioides)
White Kerria or Jetbead
- (20) Rubus
1. odoratus
Flowering Raspberry
2. parviflorus
White-flowering Raspberry
3. occidentalis
Blackcap Raspberry
- " var. pallidus
Pale Thimble Raspberry
4. idaeus
European Red Raspberry
- " var. aculeatissimus
Wild Red Raspberry
- " var. strigosus
Common Red Raspberry
5. allegheniensis
Allegheny Blackberry
6. hispidus
Swamp Dewberry
7. flagellaris (procumbens)
Northern Dewberry
- (21) Potentilla
1. fruticosa and varieties
Shrubby Cinquefoil
2. tridentata
Wine-leaf Cinquefoil

R. villosus
R. triflorus

- (22) Rosa
1. multiflora and hybrids
Japanese Rose
- " var. cathayensis
Pink Japanese Rose
2. setigera
Prairie Rose
3. Wichuraiana and hybrids
Wichurian Rose
4. centifolia
Cabbage Rose
5. bouboniana and "hybrid
perpetuals"
Bourbon Rose
6. damascena
Damask Rose
7. alba
White Rose
8. eglanteria and hybrids
Sweetbrier Rose
9. canina
Dog Rose
10. rubrifolia
Redleaf Rose
11. palustris
Swamp Rose
12. virginiana (lucida)
Virginia Rose
13. Lyonii
Lyon Rose
14. carolina (humilis)
Pasture Rose
15. nitida
Bristly Rose
16. rugosa and hybrids
Wrinkleleaf Rose
17. acicularis
Prickly Rose
18. blanda
Meadow Rose
19. spinosissima and vars.
Scotch Brier Rose
20. Hugonis
Father Hugo Rose
21. xanthina
Korean Rose
22. foetida
Austrian Brier Rose
- " var. bicolor
Austrian Copper Rose
- " var. persiana
Persian Yellow Rose
- " var. Harisonii
Harison Yellow Rose
23. "hybrid perpetuals"
Hybrid Perpetual Rose
- (23) Prunus
1. spinosa
Plum or Cherry
2. domestica
Black Thorn
3. cerasifera
Garden Plum
- " var. Pissarti
Myrobalan Plum
4. maritima
Purple Leaf Plum
5. americana
Beach Plum
6. nigra
American Wild Plum
7. Armeniaca
Canada Plum
8. Persica and vars.
Apricot
9. Davidiana
Peach
10. triloba
Chinese Wild Peach
- " var. plena
Flowering Almond
11. nana
Double Flowering Almond
- " var. georgica
Russian Almond
12. tomentosa
Georgian Almond
13. glandulosa
Nanking Cherry
- " var. albo-plena
Dwarf Flowering Almond
- " var. sinensis
Dwarf White Flowering
Almond
- " var. sinensis
Dwarf Pink Flowering Almond

14. *pumila* Sand Cherry
 15. *cistena* Cistena Sand Cherry
 16. *Besseyi* Nebraska Sand Cherry
 17. *subhirtella* Higan Cherry
 " *var. ascendens* Shiro-higan Cherry
 " *var. pendula* "Shidare Higan Zakura"
 " *var. autumnalis* Autumnal Higan Cherry
 18. *Lannesiana* Hitoye Cherry
 " *var. erecta* Amanogawa Cherry
 " *var. mouton* "Botan-zakura"
 " *var. gioiko* Gyoiko Cherry
 " *var. hosokawa-beni* Hosokawa-beni Cherry
 " *var. mikurumakaisi* Mikurumagaeshi Cherry
 " *var. miyako* Miyako Cherry
 " *var. ojochin* Ōjochin Cherry
 19. *serrulata* Oriental Cherry
 " *var. rosea* (fl. pl.) "Shidare-sakura"
 " *var. rosea hollandi*
 " *var. fugenzo* (kofugen) Fugenzō (James H. Veitch)
 Cherry
 " *var. hisakura* Ichiyō Cherry
 " *var. sachalinensis* Yama Cherry
 " *var. " sekiyama* Kwanzan (Sekizon) Cherry
 " *var. " albo rosea* Shirofugen Cherry
 " *var. " horinji* Hōrinji Cherry
 20. *yedoensis* Yoshino Cherry
 " *var. taizonfukun* Taizan-fukun Cherry
 21. *Sieboldi* Naden (Siebold) Cherry
 22. *avium* and vars. Mazzard Cherry
 23. *Cerasus* and vars. Sour Cherry
 24. *pennsylvanica* Pin Cherry
 25. *Serotina* Black Cherry
 26. *Padus* Bird Cherry
 " *var. commutata* Mayday Tree or Harbinger
 Bird Cherry
 27. *virginiana* Chokecherry

XXVIII. LEGUMINOSAE—*Pea Family*

- (1) *Cercis*
 1. *canadensis* Redbud
 (2) *Gleditsia*
 1. *triacanthos* Honey-Locust
 " *var. inermis* Thornless Honey-Locust
 (3) *Gymnocladus*
 1. *dioeca* Kentucky Coffee-tree
 (4) *Cladrastis*
 1. *lutea* Yellowwood Tree

- (5) *Sophora*
 1. *japonica* Japanese Pagoda-tree
 (6) *Genista*
 1. *tinctoria* Dyer's Greenweed
 (7) *Laburnum*
 1. *anagyroides* (vulgare) Golden-chain
 2. *alpinum* Scotch Golden-chain
 (8) *Cytisus*
 1. *scoparius* (protect) Scotch Broom
 (9) *Indigofera*
 1. *Kirilowi* Kirilow Indigo
 (10) *Amorpha*
 1. *canescens* Lead Plant
 2. *microphylla* Dwarf Indigo
 3. *fruticosa* Indigo Bush
 (11) *Wistaria*
 1. *floribunda* Japanese Wistaria
 " *var. macrobotrys* Longcluster Wistaria
 2. *sinensis* Chinese Wistaria
 3. *venusta* Silky Wistaria
 (12) *Robinia*
 1. *pseudoacacia* and vars. Black Locust
 2. *hispidia* Rose-acacia
 3. *Kelseyi* Kelsey Locust
 4. *luxuriana* (Neo-Mexicana) New Mexican Locust
 5. *viscosa* Clammy Locust
 (13) *Colutea*
 1. *arborescens* Bladder Senna
 (14) *Halimodendron*
 1. *halodendron* (argenteum) Salt-tree
 (15) *Caragana*
 1. *arborescens* Pea-tree
 2. *chamlagu* Mongolian Pea-shrub
 (16) *Lespedeza*
 1. *bicolor* Shrub Bush-clover
 2. *formosa* (as perennial) Purple Bush-clover
 (17) *Pueraria*
 1. *thunbergiana* (as perennial) Kudzu-Bean
 "Jack-and-the-Bean-Stalk
 Vine"

XXIX. RUTACEAE—*Rue Family*

- (1) *Zanthoxylum*
 1. *americanum* Prickly Ash (Toothache-tree)
 (2) *Ptelea*
 1. *trifoliata* Wafer-ash (Top-tree)
 (3) *Phellodendron*
 1. *amurense* Amur Cork-tree
 2. *sachalinense* Sakhalin Cork-tree

XXX. SIMAROUBACEAE—*Quassia Family*

- (1) *Ailanthus*
1. *altissima* (*glandulosa*) Chinese Tree of Heaven

XXXI. BUXACEAE—*Boxwood Family*

- (1) *Pachysandra*
1. *terminalis* Japanese Spurge
- (2) *Buxus*
1. *sempervirens* Boxwood
“ *var. arborescens* Tree Box
“ *var. suffruticosa* Dwarf Box
2. *microphylla* Japanese Box
“ *var. Koreana* Korean Box

XXXII. IMPETRACEAE—*Crowberry Family*

- (1) *Empetrum*
1. *nigrum* Crowberry

XXXIII. ANACARDIACEAE—*Cashew Family*

- (1) *Cotinus*
1. *coggyria* Smoke-tree or Purple-fringe
- (2) *Rhus*
1. *glabra* Smooth Sumac
“ *var. cismontana* Yellow Sumac
2. *typhina* Staghorn Sumac
“ *var. laciniata* Cut-leaved Sumac
3. *copallina* Shining or Mountain Sumac
4. *vernix* Poison Sumac
5. *Toxicodendron* Poison Ivy or Poison Oak
“ *var. radicans* Climbing Poison Ivy
6. *canadensis* Fragrant Sumac
7. *trilobata* Lemonade Sumac

XXXIV. AQUIFOLIACEAE—*Holly Family*

- (1) *Ilex*
1. *opaca* (protect) American Holly
2. *glabra* Inkberry
3. *verticillata* Winterberry
- (2) *Nemopanthus*
1. *nucronata* Mountain Holly

XXXV. CELASTRACEAE—*Staff-tree Family*

- (1) *Euonymus*
1. *alata* Winged Burningbush
2. *americana* Brook Euonymus
3. *obovata* Running Euonymus
4. *europaea* European Spindle-tree
“ *var. atrorubens* Red-fruited Spindle-tree

- “ *var. nana* Dwarf Spindle-tree
5. *atropurpurea* Wahoo
6. *Maackii* Maack Euonymus
7. *yedoensis* Yeddo Burning-bush
“ *var. calocarpa* Winterberry
8. *Bungeana* Euonymus
“ *var. semipersistens* Midwinter Euonymus
9. *patens* (protect) Spreading Euonymus
10. *japonica* (protect) Evergreen Euonymus
11. *radicans* Wintercreeper
“ *var. minima* Baby Wintercreeper
“ *var. Carrierei* Glossy Wintercreeper
“ *var. vegeta* Bigleaf Wintercreeper
“ *var. colorata* Wintercolor Wintercreeper

- (2) *Celastrus*
1. *scandens* Native Bittersweet
2. *articulata* Japanese Bittersweet
- (3) *Pachistima*
1. *Canbyi* Canby Pachistima

XXXVI. STAPHYLEACEAE—*Bladdernut Family*

- (1) *Staphylea*
1. *trifolia* Bladdernut
2. *bumalda* Bumalda Bladdernut
3. *pinnata* European Bladdernut

XXXVII. ACERACEAE—*Maple Family*

- (1) *Acer*
1. *platanoides* Norway Maple
“ *var. Schwedleri* Schwedler Maple
2. *truncatum* Chinese Maple
3. *campestre* English Hedge Maple
4. *saccharum* and vars. Sugar Maple
5. *nigrum* Black Maple
6. *pseudoplatanus* Sycamore Maple
“ *var. purpureum* Purpleleaf Sycamore Maple
7. *ginnala* Siberian Maple
8. *tataricum* Tatarian Maple
9. *spicatum* Mountain Maple
10. *palmatum* Japanese Maple
“ *var. atropurpureum* Purpleleaf Japanese Maple
“ *var. sanguineum* Bloodleaf Japanese Maple
“ *var. septemlobum* Seven-lobed Japanese Maple
“ *var. linariolobum* Cutleaved Japanese Maple
“ *var. artoleoneum* Purple Cutleaved Japanese Maple
11. *japonicum* Fullmoon Maple
“ *var. aureum* Goldenmoon Maple

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|---------------------------|--------------|
| 12. pennsylvanicum | Moosewood |
| 13. rubrum | Red Maple |
| 14. saccharinum and vars. | Silver Maple |
| 15. Negundo and vars. | Box Elder |

XXXVIII. HIPPOCASTANACEAE—*Horse-chestnut Family*

- | | |
|------------------|----------------------|
| (1) Aesculus | |
| 1. Hippocastanum | Horse-chestnut |
| 2. carnea | Red Horse-chestnut |
| 3. glabra | Ohio Buckeye |
| 4. Octandra | Yellow Buckeye |
| 5. Pavia | Red Buckeye |
| 6. parviflora | Bottle-brush Buckeye |

XXXIX. SAPINDACEAE—*Soapberry Family*

- | | |
|------------------|-----------------|
| (1) Koelreuteria | |
| 1. paniculata | Goldenrain-tree |

XL. RHAMNACEAE—*Buckthorn Family*

- | | |
|----------------|-------------------------------------|
| (1) Rhamnus | |
| 1. cathartica | Common Buckthorn |
| 2. davurica | Davurian Buckthorn |
| 3. alnifolia | Alder Buckthorn |
| 4. frangula | Glossy Buckthorn |
| 5. caroliniana | Carolina Buckthorn or Indian Cherry |
| (2) Ceanothus | |
| 1. americanus | New Jersey Tea |
| 2. ovatus | Inland New Jersey Tea |

XLI. VITACEAE—*Grape Family*

- | | |
|--|------------------------|
| (1) Vitis | |
| 1. rubra | Cat Grape |
| 2. vulpina | Riverbank Grape |
| 3. labrusca | Fox Grape |
| (2) Ampelopsis | |
| 1. aconitifolia | Monkshood Vine |
| 2. brevipedunculata
var. Maximowiczii | Porcelain Ampelopsis |
| (3) Parthenocissus (Ampelopsis) | |
| 1. vitacea | Thicket Creeper |
| 2. quinquefolia | Virginia Creeper |
| “ var. Engelmannii | Engelmann Creeper |
| “ var. murorum | Wall Creeper |
| 3. tricuspidata and vars. | Boston or Japanese Ivy |
| “ var. Veitchii | Juvenile Japanese Ivy |
| “ var. Lowii (protect) | Geranium Creeper |

XLII. TILIACEAE—*Linden Family*

- | | |
|-----------------------|----------------------------|
| (1) Tilia | |
| 1. platyphyllos | Big-leaf European Linden |
| 2. euchlora | Crimean Linden |
| 3. vulgaris | Common Linden |
| 4. cordata | Littleleaf European Linden |
| 5. glabra (americana) | American Linden |
| 6. heterophylla | Beetree Linden |
| 7. tomentosa | Silver Linden |

XLIII. MALVACEAE—*Mallow Family*

- | | |
|-----------------------|----------------|
| (1) Hibiscus | |
| 1. syriacus and vars. | Rose-of-Sharon |

XLIV. DILLENIACEAE—*Dillenia Family*

- | | |
|---------------|-------------|
| (1) Actinidia | |
| 1. arguta | Silver Vine |

XLV. GUTTIFERAE—*Garcinia Family*

- | | |
|---------------|--------------------------|
| (1) Hypericum | |
| 1. lobocarpum | Gattinger Hypericum |
| 2. Kalmianum | Kalm Hypericum |
| 3. galioides | Bedstraw St. John's-wort |
| 4. prolificum | Shrubby St. John's-wort |
| 5. aureum | Golden St. John's-wort |

XLVI. TAMARICACEAE—*Tamarisk Family*

- | | |
|---------------|----------------------|
| (1) Tamarix | |
| 1. parviflora | Algerian Tamarisk |
| 2. pentandra | Five-stamen Tamarisk |
| 3. odessana | Odessa Tamarisk |

XLVII. CISTACEAE—*Rock Rose Family*

- | | |
|--------------|-----------------|
| (1) Hudsonia | |
| 1. tomentosa | Woolly Hudsonia |

XLVIII. CACTACEAE—*Cactus Family*

- | | |
|------------------------|---------------------------|
| (1) Opuntia | |
| 1. humifusa (vulgaris) | Prickly Pear |
| 2. polyacantha | Many-thorned Prickly Pear |

XLIX. THYMELACEACEAE—*Mezereum Family*

- | | |
|--------------------------------------|-----------------|
| (1) Daphne | |
| 1. Mezereum | February Daphne |
| 2. Cneorum (protect from winter sun) | Rose Daphne |
| (2) Dirca | |
| 1. palustris | Leatherwood |

V. riparia

L. ELAEAGNACEAE—*Oleaster Family*

- (1) Hippophae
1. rhamnoides Sea Buckthorn
- (2) Shepherdia
1. canadensis Buffaloberry
2. argentea Silver Buffaloberry
- (3) Elaeagnus
1. angustifolia Russian Olive
2. argentea Silverberry
3. umbellata Oleaster
4. multiflora (longipes) Cherry Oleaster

LI. NYSSACEAE—*Tupelo Family*

- (1) Nyssa
1. sylvatica Pepperidge, Sour Gum, Tupelo

LII. ARALIACEAE—*Ginseng Family*

- (1) Hedera
1. helix (protect from winter sun) English Ivy
" var. baltica Baltic Ivy
- (2) Acanthopanax
1. Sieboldianus (pentaphyllus) Five-leaved Aralia
2. ricinifolius Castor Aralia
- (3) Aralia
1. spinosa Devil's Walking-stick
2. chinensis Chinese Angelica-tree
3. hispida Bristly Aralia
4. nudicaulis Wild Sarsaparilla

LIII. CORNACEAE—*Dogwood Family*

- C. asperifolia* (1) Cornus
1. alternifolia Pagoda Dogwood
2. alba Siberian Red-osier
3. stolonifera and vars. Red-osier
4. Baileyi Bailey Dogwood
5. rugosa Roundleaf Dogwood
6. Amomum Silky Dogwood
7. racemosa (paniculata) Gray Dogwood
8. sanguinea and vars. Blood-twig Dogwood
9. mas and vars. Cornelian Cherry
10. florida and vars. Flowering Dogwood
11. canadensis Dwarf Cornel

LIV. CLETHRACEAE—*White Alder Family*

- (1) Clethra
1. alnifolia Sweet Pepper Bush

LV. PYROLACEAE—*Shinleaf Family*

- (1) Chimaphila
1. umbellata Common Pipsissiwa

LVI. ERICACEAE—*Heath Family*

- (1) Ledum
1. groenlandicum Labrador Tea
- (2) Rhododendron (protect from sun and wind)
1. catawbiense Catawba Rhododendron
2. " hybrids (20 varieties)
3. maximum Great Laurel
4. carolinianum Carolina Rhododendron
5. minus (punctatum) Piedmont Rhododendron
6. dauricum Dahurian Azalea
" var. mucronulatum
7. obtusum var. Kaempferi Torch Azalea
8. yedoense (Azalea yodogawa) Yodogawa Azalea
" var. poukhanense Korean Azalea
9. Schlippenbachii Royal Azalea
10. vaseyi Pink-shell Azalea
11. canadense (Rhodora) Rhodora
12. japonicum Japanese Azalea
13. molle Chinese Azalea
14. gandavense and vars. Ghent Azaleas
15. calendulaceum Flame Azalea
16. nudiflorum Pinxterbloom
17. viscosum Swamp Azalea
18. arborescens Sweet Azalea
- (3) Leiophyllum (Dendrium)
1. buxifolium var. prostratum Sand Myrtle
Allegheny Sand Myrtle
- (4) Kalmia
1. latifolia Mountain Laurel
2. polifolia Swamp Laurel
3. angustifolia Sheep Laurel
- (5) Enkianthus
1. campanulatus Red-vein Enkianthus
- (6) Andromeda
1. Polifolia Bog-rosemary
2. glaucophylla Downy Bog-rosemary
- (7) Pieris
1. floribunda Mountain Andromeda
- (8) Chamaedaphne
1. calyculata Leatherleaf
- (9) Oxydendron
1. arboreum Sourwood
- (10) Leucothoë
1. Catesbaei Drooping Leucothoe
- (11) Epigaea
1. repens Trailing Arbutus
- (12) Gaultheria
1. procumbens Wintergreen

- (13) *Arctostaphylos*
1. *uva-ursi* Bearberry
- (14) *Erica*
1. *carnea* (protect; doubtful) Spring Heath
- (15) *Chiogenes*
1. *hispidula* Creeping Snowberry
- (16) *Gaylussacia*
1. *baccata* Crackleberry
- (17) *Vaccinium*
1. *canadense* Canada Blueberry
2. *corymbosum* Highbush Blueberry
3. *vacillans* Late Blueberry
4. *pennsylvanicum* and vars. Lowbush Blueberry
5. *Oxycoccus* Small Cranberry
6. *macrocarpon* Cranberry

LVII. EBENACEAE—*Ebony Family*

- (1) *Diospyros*
1. *virginiana* Persimmon

LVIII. STYRACACEAE—*Storax Family*

- (1) *Halesia*
1. *carolina* Silverbell

LIX. OLEACEAE—*Olive Family*

- (1) *Fontanesia*
1. *Fortunei* Fortune Fontanesia
- (2) *Fraxinus*
1. *americana* White Ash
2. *pennsylvanica* Red Ash
“ var. *lanceolata* Green Ash
3. *oregona* (protected place) Oregon Ash
4. *quadrangulata* Blue Ash
5. *nigra* Black Ash
6. *mandschurica* Manchurian Ash
7. *excelsior* and vars. European Ash
- (3) *Forsythia*
1. *suspensa* Weeping Goldenbell
“ var. *Fortunei* Fortune Goldenbell
2. *intermedia* Hybrid Goldenbell
3. *viridissima* Greenstem Goldenbell
- (4) *Syringa*
1. *emodi* Himalayan Lilac
2. *Yunnanensis* Yunnan Lilac
3. *Josikaea* Hungarian Lilac
4. *Wolfi* Wolf Lilac
5. *Swegenzowi* Chengtu Lilac
6. *villosa* Late Lilac
7. *Henryi* var. *Lutece* Lilac “Lutece”

8. *nanceana* var. *Floreal* Lilac “Floreal”
9. *tomentella* Felty Lilac
10. *reflexa* Nodding Lilac
11. *Komarowi* var. *Sargentiana* Sargent Lilac
12. *Julianae* (doubtful) Julian Lilac
13. *velutina* and vars. Korean Lilac
14. *microphylla* Littleleaf Lilac
15. *pubescens* Hairy Lilac
16. *oblata* Broadleaf Lilac
“ var. *Giraldi* Gerald Lilac
“ var. *dilatata* Dilate Lilac
17. *hyacinthiflora* “Lamartine” Lilac Lamartine
18. *vulgaris* and var. Common Lilac
“ “French Hybrids” (Over 250 named varieties)
19. *chinensis* and varieties Rouen Lilac
20. *persica* and varieties Persian Lilac
21. *pinnatifolia* Pinnate Lilac
22. *pekinensis* Peking Lilac
23. *amurensis* Manchurian Lilac
24. *japonica* Japanese Lilac
- (5) *Forestiera*
1. *neo-mexicana* (protect) New Mexican Adelia
- (6) *Chionanthus*
1. *virginica* White Fringe
- (7) *Ligustrum*
1. *vulgare* Common Privet, Polish Privet
“ var. “Lodense” Lodense Privet
“ var. *chlorocarpum* Green-fruited Privet
2. *Quihoui* Quihou Privet
3. *ovalifolium* (to 10° below zero) California Privet
4. *ibolium* Ibolium Privet
5. *acuminatum* Acuminate-leaved Privet
6. *amurense* Amur Privet
7. *obtusifolium* (ibota) Ibota Privet
“ var. *Regelianum* Regel Privet

LX. APOCYNACEAE

- (1) *Vinca*
1. *minor* Creeping Myrtle, Periwinkle

LXI. ASCLEPIADACEAE—*Milkweed Family*

- (1) *Periploca*
1. *sepium* Chinese Silk Vine

LXII. POLEMONIACEAE—*Phlox Family*

- (1) *Phlox*
1. *subulata* Creeping Phlox

LXIII. VERBENACEAE—*Vervain Family*

- (1) *Callicarpa*
1. *dichotoma* (purpurea) Chinese Beautyberry
- (2) *Vitex*
1. *agnus-castus* (as perennial—protect) Lilac Chaste Tree
- (3) *Caryopteris*
1. *incanna* (as perennial—protect) Blue Spirea

LXIV. LABIATAE—*Mint Family*

- (1) *Thymus*
1. *vulgaris* Common Thyme
2. *Serpyphyllum* Mother-of-Thyme
- (2) *Elsholtzia*
1. *Stauntoni* Staunton Elsholtzia

LXV. SOLANACEAE—*Nightshade Family*

- (1) *Solanum*
1. *Dulcamara* Bitter Nightshade
- (2) *Lycium*
1. Chinese Chinese Matrimony-vine
2. *halimifolium* Matrimony-vine

LXVI. BIGNONIACEAE—*Bignonia Family*

- (1) *Campsis*
1. *radicans* Trumpet-creeper
- (2) *Catalpa*
1. *ovata* (kaempferi) Japanese Catalpa
2. *bignonioides* Southern Catalpa
" var. *nana* Umbrella Catalpa
3. *hybrida* Tea's Catalpa
4. *speciosa* Western Catalpa

LXVII. RUBIACEAE

- (1) *Cephalanthus*
1. *occidentalis* Button-bush
- (2) *Mitchella*
1. *repens* Partridge berry

LXVIII. CAPRIFOLIACEAE

- (1) *Sambucus*
1. *nigra* and vars. European Elderberry
2. *canadensis* and vars. Common Elderberry
3. *racemosa* European Red-berried Elder
4. *pubens* Red-berried Elder
- (2) *Viburnum*
1. *Sieboldii* Siebold Viburnum
2. *Carlesii* Fragrant Viburnum
3. *Lantana* Wayfaring-tree

4. *rhytidophyllum* (protect) Leatherleaf Viburnum
5. *alnifolium* (protect) Hobblebush
6. *tomentosum* Double-file Viburnum
" var. *sterile* Japanese Snowball
7. *cassinoides* Withe Rod
8. *Lentago* Nannyberry
9. *prunifolium* Black-haw
10. *dilatatum* Linden Viburnum
11. *Wrighti* Wright Viburnum
12. *dentatum* Arrowwood
13. *pubescens* (venosum) Veiny Arrowwood
" var. *Canbyi* Canby Arrowwood
14. *affine* (pubescens) Downy Arrowwood
" var. *hypomalacum*
15. *molle* Kentucky Viburnum
16. *acerifolium* Dockmackie
17. *trilobum* (americanum) Highbush Cranberry
18. *opulus* European Highbush Cranberry
" var. *nanum* Dwarf Cranberry Bush
19. *Sargentii* Sargent Cranberry Bush
- (3) *Symphoricarpos*
1. *occidentalis* Western Snowberry,
Wolfberry
2. *albus* (racemosus) Snowberry
" var. *laevigatus* Garden Snowberry
3. *mollis* Spreading Snowberry
4. *Chenaultii* Hybrid Snowberry
5. *orbiculatus* (vulgaris) Indian Currant
- (4) *Abelia*
1. *grandiflora* (protect) Glossy Abelia
- (5) *Linnaea*
1. *borealis* Twin Flower
- (6) *Kolkwitzia*
1. *amabilis* Beauty-bush
- (7) *Diervilla*
1. *Lonicera* Dwarf Bush Honeysuckle
2. *sessilifolia* Southern Bush Honeysuckle
3. *rivularis* Georgia Bush Honeysuckle
4. *florida* (rosea) Pink Weigelia
5. *floribunda* Crimson Weigelia
6. *florida* hybrids (twig ends winterkilled) Hybrid Weigelia
(*Candida*, *Abel Carriers*, etc.)
7. *coraensis* and hybrids (twig ends winterkilled) Korean Weigelia Hybrids
(*E. Andre*, *Eva Rothke*, etc.)
- (8) *Lonicera*
1. *syringantha* Lilac Honeysuckle

S. albus
var. *pauciflorus*

2. thibetica	Tibetan Honeysuckle
3. spinosa (not cultivated)	Thorn Honeysuckle
" var. Alberti (protect)	Albert Honeysuckle
4. canadensis	American Fly-Honeysuckle
5. gracilipes	Spangle Honeysuckle
6. coerulea	Sweetberry Honeysuckle
7. Ferdinandii	Ferdinand's Honeysuckle
8. Standishii (protect)	Standish Honeysuckle
9. fragrantissima	Winter Honeysuckle
10. Ledebourii	Ledebour Honeysuckle
11. oblongifolia	Swamp Fly-Honeysuckle
12. involucrata	Bearberry Honeysuckle
13. orientalis	Buckthorn Honeysuckle
14. Korolkowii	Blueleaf Honeysuckle
15. tatarica and all vars.	Tatarian Honeysuckle
16. Xylosteum	European Fly-Honeysuckle
17. chrysantha	Coralline Honeysuckle
18. Morrowii	Morrow Honeysuckle
" var. xanthocarpa	Yellowfruited Honeysuckle
19. muscaviensis	Moscow Honeysuckle
20. bella	Belle Honeysuckle
21. muendeniensis	Muenden Honeysuckle
22. minutiflora	Bunchberry Honeysuckle
23. Ruprechtiana	Manchurian Honeysuckle
24. Maackii	Amur Honeysuckle
" var. podocarpa	Late Honeysuckle
25. japonica	Japanese Honeysuckle
" var. Halleana	Hall's Japanese Honeysuckle
26. sempervirens and vars	Scarlet Trumpet Honeysuckle
27. hirsuta	Hairy Honeysuckle
28. dioeca	Limber Honeysuckle
29. prolifera (sullivanti)	Grape Honeysuckle
30. Caprifolium	Sweet Honeysuckle
31. Periclymenum	Woodbine
" var. belgica	Dutch Woodbine

LXIX. COMPOSITAE—*Composite Family*

- (1) Baccharis
 1. halimifolia Groundselbush

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INDEX OF GENERA

- | | |
|--------------------|-----------------|
| Abelia, 33 | Chimaphila, 28 |
| Abies, 9 | Chiogenes, 30 |
| Acanthopanax, 28 | Chionanthus, 31 |
| Acer, 25 | Cladrastis, 22 |
| Actinidia, 27 | Clematis, 14 |
| Aesculus, 26 | Clethra, 28 |
| Ailanthus, 24 | Colutea, 23 |
| Akebia, 14 | Comptonia, 11 |
| Alnus, 12 | Cornus, 28 |
| Alyssum, 16 | Corylus, 12 |
| Amelanchier, 19 | Cotinus, 24 |
| Amelopsis, 26 | Cotoneaster, 18 |
| Amorpha, 23 | Crataegus, 18 |
| Andromeda, 29 | Cryptomeria, 9 |
| Aralia, 28 | Cydonia, 20 |
| Arctostaphylos, 30 | Cytisus, 23 |
| Aristolochia, 14 | |
| Aronia, 19 | Daphne, 27 |
| Asimina, 15 | Deutzia, 16 |
| | Diervilla, 33 |
| Baccharis, 34 | Diospyros, 30 |
| Benzoin, 15 | Dirca, 27 |
| Berberis, 15 | |
| Betula, 12 | Elaeagnus, 28 |
| Buxus, 24 | Elsholtzia, 32 |
| | Empetrum, 24 |
| Callicarpa, 32 | Enkianthus, 29 |
| Calycanthus, 15 | Epigaea, 29 |
| Campsis, 32 | Erica, 30 |
| Caragana, 23 | Euonymus, 24 |
| Carpinus, 12 | Exochorda, 18 |
| Carya, 12 | |
| Caryopteris, 32 | Fagus, 13 |
| Castanea, 13 | Fontanesia, 30 |
| Catalpa, 32 | Forestiera, 31 |
| Ceanothus, 26 | Forsythia, 30 |
| Celastrus, 25 | Fraxinus, 30 |
| Celtis, 13 | |
| Cephalanthus, 32 | Gaultheria, 29 |
| Cercidiphyllum, 14 | Gaylussacia, 30 |
| Cercis, 22 | Genista, 23 |
| Chaenomeles, 20 | Ginkgo, 7 |
| Chamaecyparis, 8 | Gleditsia, 22 |
| Chamaedaphne, 29 | Gymnocladus, 22 |

Halesia, 30
Halimodendron, 23
Hamamelis, 17
Hedera, 28
Hibiscus, 27
Hippophae, 28
Hudsonia, 27
Hydrangea, 16
Hypericum, 27

Iberis, 16
Ilex, 24
Indigofera, 23

Jamesia, 16
Juglans, 12
Juniperus, 7
Kalmia, 29
Kerria, 20
Koeleruteria, 26
Kolkwitzia, 33
Laburnum, 23
Larix, 9
Ledum, 29
Leiophyllum, 29
Lespedeza, 23
Leucothoë, 29
Ligustrum, 31
Linnaea, 33
Liquidambar, 17
Liriodendron, 15
Lonicera, 33
Lycium, 32

Maclura, 14
Magnolia, 15
Mahoberberis, 15
Mahonia, 14
Malus, 19
Menispermum, 15
Mitchella, 32
Morus, 14
Myrica, 11

Neillia, 17
Nemopanthus, 24
Nyssa, 28

Opuntia, 27
Ostrya, 12
Oxydendron, 29

Pachistima, 25
Pachysandra, 24
Paeonia, 14
Parthenocissus, 26
Periploca, 31
Phellodendron, 23
Philadelphus, 16
Phlox, 31
Photinia, 19
Physocarpus, 17
Picea, 9
Pieris, 29
Pinus, 10
Platanus, 17
Polygonum, 14
Populus, 10
Potentilla, 20
Prunus, 21
Pseudotsuga, 9
Ptelea, 23
Pueraria, 23
Pyracantha, 18
Pyrus, 20

Quercus, 13

Rhamnus, 26
Rhododendron, 29
Rhodotyphus, 20
Rhus, 24
Ribes, 16
Robinia, 23
Rosa, 21
Rubus, 20

Salix, 11
Sambucus, 32
Sassafras, 15
Sciadopitys, 9
Shepherdia, 28
Smilax, 10
Solanum, 32
Sophora, 23
Sorbaria, 18

Sorbus, 19
Spiraea, 17
Staphylea, 25
Stephanandra, 17
Symphoricarpus, 33
Syringa, 30

Tamarix, 27
Taxodium, 9
Taxus, 7
Thuja, 8
Thymus, 32
Tilia, 27
Tsuga, 9

Ulmus, 13

Vaccinium, 30
Viburnum, 32
Vinca, 31
Vitex, 32
Vitis, 26

Wistaria, 23

Yucca, 10

Zanthorhiza, 14
Zanthoxylum, 23