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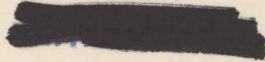
C. A. McCUE

THESIS

Of Trees upon the
M.A.C. Campus
Spring Activity

C. A. Mc Cue.
1901

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THE S I S .

STUDY OF TREES
UPON THE
M. A. C. CAMPUS
AS REGARDS
THEIR SPRING ACTIVITY
FOR
1900.

BY

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June, 1901.

The activity which Nature show every spring in hastening to clothe the trees in verdant green and in putting forth the myriads of flowers in order to perpetuate the species is one of interest to every lover of Nature and her ways. More particularly does it interest the Botanist and those intimately acquainted with that Science. The table which comprises the main part of this thesis contains the dates for the spring of 1900, as near correct as possible, of the leaving and flowering of the principal species of forest trees found upon the M. A. C. Campus.

The spring of 1900 opened up rather late, the weather being cold and stormy until near the middle of April, and consequently the dates of spring activity are a little later than the average. The trees which grew upon the rich, flat, bottom lands along the River were several days in advance of the individuals of the same species which grew upon the higher ground of the College Campus proper. This was particularly noticable in the case of the White Oaks and Silver Maples.

The spring of the present year, 1901, bid

fair to open up at least a week or ten days earlier than that of 1900, but a cold wave suddenly swept over this portion of the continent during the latter part of April and gave vegetation such a severe check that the dates of activity are only a few days earlier than the corresponding ones for 1900. The results of this cold wave were best observed in those plants whose buds had already partially opened. They had reached such a stage that it seemed evident that another twenty-four hours of warm weather would open them fully; but the cold wave came on and for several days no change could be observed in their condition; but when the warm winds and the sun once more had full sway the bud scales were burst open in a surprisingly rapid manner as if Nature had suddenly given vent to all the pent up energies of the few days before. This was particularly to be noticed in the case of a Carolina Poplar near the Women's Building, which put forth its staminate flowers, shed its pollen, and dropped its catkins all within twenty-four hours' time.

In the following table all the species named grow to the size of trees in this latitude with the

exception of *Dirca palustris*, Linn., and several of the willows. No particular attention having been shown by the author to the numerous species of shrubs which are to be found upon the Campus.

The table is arranged by families according to the classification given by Engler and Prantl, beginning with the highest family, the Conifers, and grading down to the lowest, Caprifoliaceae. The genera are taken in order, under their respective families, given by Gray in his *School and Field Botany*. The authority for names of species is, in most cases, Gray. The date of flowering was taken when the flowers first made their appearance and not at time of shedding pollen, as is customary with many Botanists.

Botanical Name.	Common Name.	Date of first leaves.	Date of first flowers.	Location of Tree.
Coniferae.				
<i>Pinus Strobus</i> Linn.	White Pine.	June 2	- - -	West of President's House.
" <i>Cembra</i> , Linn.	Swiss Stone	June 4	- - -	N.W. Cor. of College Hall.
" <i>sylvestris</i> , Linn.	Scotch Pine.	- - -	- - -	Near entrance of Campus.
" <i>resinosa</i> , Ait.	Norway Pine.	- - -	May 25	North of U.L.S. Hall.
" <i>Austrica</i> , Hoss.	Austrian Pine.	- - -	May 25	West of Well's Hall.
<i>Picea excelsa</i> , Link.	Norway Spruce.	May 13	- - -	Near St. railway Station.
<i>Tsuga Canadensis</i> , Carr.	Hemlock.	Apr. 27	May 11	Front of Howard Terrace.
<i>Abies balsamea</i> , Miller.	Common Balsam.	May 12	- - -	N.W. of U.L.S. Hall.
<i>Larix europea</i> , D.C.	European Larch.	Apr. 23	May 2	Arboretum.
<i>Larix americana</i> , Michx.	Tamarack.	Apr. 24	Apr. 27	N.W. of College Hall.
<i>Ginko biloba</i> , Linn.	Maidenhair Tree.	May 13	- - -	N.W. of College Hall.
<i>Taxodium distichum</i> , Richard.	American Bald Cypress.	May 9	- - -	N.W. of College Hall.
<i>Juniperus virgin-</i> <i>iana</i> , Linn.	Red Cedar.	Apr. 27 May 1	- - -	West of President's House.

Botanical Name.	Common Name.	Date of first leaves.	Date of first flowers.	Location of Tree.
Salicaceae.				
Salix discolor, Muhl.	Glaucus Willow.	May 2	Apr.20	Botanic Garden.
" glaucophylla, Bebb.	- - - - -	Apr.29	- - -	Botanic Garden.
" palmifolia,	- - - - -	May 9	Apr.20	Botanic Garden.
" purpurea, Linn.	Purple Willow.	Apr.25	Apr.25	Near Rustic Bridge, River Road.
" humilis, Marsh.	Prairie Willow.	- - -	Apr.29	Botanic Garden.
" Babylonica annularis, Tourn.	Hoop Willow.	Apr.30	May 2	
" Babylonica, Linn.	Weeping Willow.	Apr.22	Apr.26	Prof.Taft's Border.
" rostrata, Richard.	Long beaked Willow.	- - -	Apr.29	Botanic Garden.
" cordata, Muhl.	Heart leaved Willow.	May 2	Apr.29	Botanic Garden.
" lucida, Muhl.	American Bay Willow.	Apr.27	Apr.30	Botanic Garden.
" amygaloides, Anderson.	Peach Willow.	Apr.29	- - -	Botanic Garden.
" sericea, Marsh.	Silky Willow.	Apr.29	- - -	Botanic Garden.
" Alba, Linn.	White Willow.	Apr.28	Apr.30	East of Abbot Hall.

Botanical Name.	Common Name.	Date of first leaves.	Date of first flowers.	Location of Tree.
<i>Salix candida</i> , Willd.	Sage Willow.	Apr.30	Apr.30	- - - -
" <i>nigra</i> , Marsh.	Black Willow.	May 2	May 4	- - - - -
<i>Populus balsami-</i> <i>fera candicans</i> , Gray.	Balm of Gilead.	Apr.30	Apr.23	Prof.Taft's Border.
<i>Populus tremuloi-</i> <i>des</i> , Michx.	American Aspen.	May 7	Apr.6	Near Ice House.
<i>Populus grandiden-</i> <i>tata</i> , Michx.	Large American Aspen.	May 9	Apr.10	Front of President's House.
" <i>alba</i> , Linn.	White Poplar,	May 5	Apr.25	East of Chem.Lab.
" <i>deltoides</i> ,	Cottonwood.	May 9	Apr.30	East of Abbot Hall.
" <i>nigra-italica</i> , DuRoi.	Lombardy Pop- lar.	Apr.30	Apr.23	South of Prof. Taft's Barn.
Order Juglandaceae.				
<i>Juglans nigra</i> , Linn.	Black Walnut.	May 12	May 12	South of Side Hill Forcing House.
<i>Hicoria minima</i> ,	Swamp Hickory.	Apr.30	Apr.30	Near Prof. Barrow's House.
" <i>ovata</i> ,	Shagbark Hickory.	May 11	May 11	In Deer Park.

Botanical Name.	Common Name.	Date of first leaves.	Date of first flowers.	Location of Tree.
Order Cupulifera.				
<i>Betula papyrifera</i> , Marsh.	Canada Birch.	May 7	Apr. 19	S.W. of Chem. Lab.
<i>Alnus glutinosa</i> , Willd.	Cutleaved Alder.	Apr. 30	Apr. 19	S.W. of Chem. Lab.
<i>Alnus serrulata</i> , Ait.	Smooth Alder.	Apr. 30	Apr. 20	S.W. of Parade Ground.
<i>Corylus Americana</i> , Wall.	American Hazel.	Apr. 30	- - -	Along River Banks.
<i>Ostrya Virginiana</i> , Willd.	Ironwood.	Apr. 28	Apr. 23	N.W. of Chm. Lab.
<i>Carpinus Carolin-</i> <i>iana</i> , Wall.	Blue Beech.	Apr. 29	- - -	Along River Banks.
<i>Quercus Alba</i> , Linn.	White Oak.	May 12	May 12	Front of Williams Hall.
" <i>Muhlenbergii</i> , Englm.	Chestnut Oak.	May 7	- - -	Botanic Garden.
" <i>Coccinea</i> , Wang.	Scarlet Oak.	May 1	May 2	N.E. of William's Hall.
" <i>stellata</i> , Wang.	Post Oak.	May 14	May 14	Prof. Taft's Border.
" <i>platinoides</i> , Sarg.	Swamp White Oak.	Apr. 30	- - -	Arboretum.
" <i>Catesbaei</i> , Michx.	Turkey Oak.	May 16	May 16	Prof. Taft's Border.

Botanical Name.	Common Name.	Date of first leaves.	Date of first flowers.	Location of Tree.
<i>Quercus macrocarpa</i> , Michx.	Burr Oak.	May 7	May 10	On River Bank.
" <i>palustris</i> , DuRoi.	Pin Oak.	May 7	May 12	Prof. Taft's Border.
" <i>rubra</i> , Linn.	Red Oak.	May 1	May 7	West of Chem. Lab.
" <i>ilicifolia</i> , Wang.	Black Scrub Oak.	May 14	May 17	Prof. Taft's Border.
" <i>tinctoria</i> , Gray.	Black Oak.	May 2	May 2	North of College Hall.
<i>Fagus Americana</i> , Ait.	American Beech.	May 7	- - -	South of Hospital.
Order Urticaceae.				
<i>Ulmus Americana</i> , Linn.	White Elm.	Apr. 15	May 2	Along North Side of Campus.
" <i>fulva</i> , Michx.	Slippery Elm.	Apr. 21	May 7	Entrance to River Drive.
" <i>racemosa</i> , Thomas.	Cork or Rock Elm.	Apr. 23	May 2	East of U.L.S. Hall.
" <i>campestris</i> , Linn.	English Elm.	Apr. 24	May 5	S.E. of President's House.
<i>Celtis occidentalis</i> , Linn.	Hackberry.	May 2	May 2	Along River Drive.

Botanical Name.	Common Name.	Date of first leaves.	Date of first flowers.	Location of Tree.
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Order of Magnoliaceae.

<i>Liriodendron tulipifera</i> , Linn.	White Wood.	Apr. 29	May 28	West of Dr. Edwards' House.
<i>Magnolia acuminata</i> , Linn.	Cucumber Tree.	May 15	- - -	East of Chem. Lab.

Order Lauraceae.

<i>Sassafras officinale</i> , Nees.	Sassafras.	May 15	May 11	Near St. Car Station.
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Order Hamamelidiae.

<i>Hamamelis Virginiana</i> , Linn.	Witch Hazel.	May 7	Late in '99.	South of President's House.
<i>Liquidambar styraciflua</i> , Linn.	Sweet Gum Tree.	May 14	May 14	Prof. Taft's Border.

Order Platanaceae.

<i>Platanus occidentalis</i> , Linn.	Sycamore.	May 12	- - - -	West of Parade Ground.
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Order Rosaceae.

<i>Amelanchier canadensis</i> , Torr and Gray.	Service Berry.	Apr. 29	Apr. 29	West of Parade Grounds.
<i>Pyrus Aucuparia</i> , Gaertn.	European Rowan.	Apr. 27	- - -	South of Dr. Kedzie's House.

Botanical Name.	Common Name.	Date of first leaves.	Date of first flowers.	Location of Tree.
<i>Cratagus tomentosa</i> , Linn.	Black Thorn.	May 16	- - -	Botanic Garden.
<i>Prunus Scrotina</i> , Ehah.	Wild Black Cherry.	Apr.25	- - -	East of Chem.Lab.

Order Leguminosae.

<i>Cladrastis tinct-</i> <i>oria</i> , Rof.	Yellow Wood.	May 1	Did not bloom.	North of U.L.S.Hall.
<i>Robina Pseudo-</i> <i>acacia</i> , Linn.	Common Locust.	May 12	- - -	West of Boiler House.
<i>Cercis Canadensis</i> , Linn.	Judas Tree or Redbud.	May 16	May 12	Arboretum.
<i>Gledistscha trican-</i> <i>thos</i> , Linn.	Honey Locust.	May 9	May 9	East of Prof.Dean's.
<i>Gymnocladus Canaden-</i> <i>sis</i> , Lam.	Kentucky Cof- fee Tree.	May 1	- - -	S.W. of Par- ade Grounds.

Order Sapindaceae.

<i>Aesculus Hippo-</i> <i>castanum</i> , Linn.	Horse Chestnut.	Apr.29	Racerne, Apr.29	N.W. of Well's Hall.
<i>Aesculus glabra</i> , Willd.	Ohio Buckeye.	Apr.25	Apr.25	S.W. of Par- ade Grounds.
<i>Aesculus flava</i> , Ait.	Sweet Buckeye.	Apr.26	- - -	Near Prof. Taft's Border.
<i>Acer spicatum</i> , Lam.	Mountain Maple.	Apr.27	- - -	Arboretum.

Botanical Name.	Common Name.	Date of first leaves.	Date of first flowers.	Location of Tree.
<i>Acer Pseudo-Platanus</i> , Linn.	Sycamore Maple.	Apr.30	- - -	West of Mech.Lab.
<i>Acer Pennsylvanicum</i> , Linn.	Striped Maple.	May 12	May 2	Arboretum.
<i>Acer saccharinum</i> , Wang.	Sugar Maple.	May 9	Apr.30	Faculty Row.
<i>Acer saccharinum</i> , <i>nigrum</i> , Torr and Gray.	Black Sugar Maple.	May 7	Apr.27	Front of Mech.Lab.
<i>Acer dasycarpum</i> , Ehrh.	Silver Maple.	Apr.12	Apr.6	River flats.
<i>Acer rubrum</i> , Linn.	Red or Swamp Maple.	Apr.26	Apr.21	Front of President's House.
<i>Acer negundo</i> ,	Box Elder.	Apr.23	Apr.23	Back of Library.
<i>Acer platanoides</i> , Linn.	Norway Maple.	Apr.27	Apr.27	East of Chem.Lab.
<i>Acer cordata</i> , Thumb.	- - - - -	Apr.27	- - -	S.W. of Parade Grounds.
Order Tiliaceae.				
<i>Tilia Americana</i> , Linn.	Bass Wood.	May 3	July 1	South of Dr.Barrows' House.
<i>Tilia europaea</i> , Linn.	European Bass- wood.	- - -	May 28	West of Parade Grounds.

Botanical Name.	Common Name.	Date of first leaves.	Date of first flowers.	Location of Tree.
Order Thymelaiceae.				
<i>Drica palustris</i> , Linn.	Leatherwood.	Apr.28	Apr.24	S. W. of Par- ade Grounds.
Order Cornaceae.				
<i>Cornus Mas</i> , Linn.	Cornelian Cherry.	- -	Apr.20	Prof.Taft's Border.
" <i>stolonifera</i> , Michx.	Wild Red Osier.	May 1	- - -	Botanic Garden.
" <i>Florida</i> , Linn.	Flowering Dog- wood.	May 2	May 6	N.W. of Greenhouse.
<i>Nyssa Sylvatica</i> , Marsh.	Pepperidge.	May 4	May 4	Botanic Garden.
Order Oleaceae.				
<i>Fraxinus sambri- cifolia</i> , Lam.	Black Ash.	May 9	Apr.26	S.W. of Greenhouse.
" <i>viridis</i> , Michx.	Green Ash.	May 1	- - -	Along River Banks.
" <i>Americana</i> , Linn.	White Ash.	May 1	May 1	South of Williams' Hall.
" <i>pubescens</i> , Linn.	Red Ash.	Apr.26	- - -	Botanic Gar- den. (Cut down summer 1900)
Order Bignoniaceae.				
<i>Catalpa bignonioides</i> , Wald.	Common Catalpa.	May 13	- - -	Arboretum.
<i>Catalpa speciosa</i> , Warder.	HardyCatalpa.	May 13	June 17	South of Library.
Order Caprifoliaceae.				
<i>Sambucus Canadensis</i> , Linn.	Common Elder.	Apr.30	- - -	S.W. of Botanic Garden.

The object of this thesis was not to impart any great amount of knowledge, but was taken up by the author rather from the standpoint of knowledge to be gained in the collection of the dates recorded above. By this means a knowledge of trees, their habits and characteristics, was obtained that has amply repaid for all work done. The different species required constant watching in order to observe the first flower and bit of green foliage that appeared upon the branches, thus cultivating the powers of observation and enlarging the knowledge of species studied.

The M. A.C. Campus is an exceptionally good place for carrying on such investigations as upon it are found a large majority of the American species of trees and many foreign ones. There are recorded in the table 130 species, occurring under 18 different families, representing a wide range of vegetation. The Herbarium accompanying this thesis will be found on deposit in the College Herbarium.

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