A. MCCUE

THESIS

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

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STUDY OF TREES

UPONTHE

M. A. C. CAMPUS

ASREGARDS

THEIR SPRING ACTIVITY

F O R

1900.

By Charles McCue.

Michigan Agricultural College.

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 twentyfour 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.

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 Date of of first first leaves. flowers.	Location of Tree.
Coniferae.			
Pinus Strobus Linn.	White Pine.	June 2	-West of President's House.
" cembra, Linn.	Swiss Stone	June 4	
" sylvestris, Linn.	Scotch Pine.		Near entrance of Campus.
" resinosa, Ait.	Norway Pine.	May 25	North of U.L.S.Hall.
" Austrica, Hoss.	Austriah Pine.	May 25	West of Well's Hall.
Picea excelsa, Link.	Norway Spruce.	May 13	Near St. railway Station.
Tsuga Canadensis,	Hemlock.	Apr.27 May 11	Front of Howard Terrace.
Abies balsamea, Miller.	Common Balsam.	May 12	N.W. of U.L.S.Hall.
Larix europea, D.C.	European Larch	. Apr.23 May 2	Arboretum.
Larix americana, Michx.	Tamarack.	Apr.24 Apr.27	N.W. of college Hall.
Ginko biloba, Linn.	Maidenhair Tre	ee. May 13	N.W. of college Hall.
Taxodium distichu Richard	m, American Bal		N.W. of college Hall.
Juniperus virgin- iana, Linn.		Apr.27 May 1	West of President's House.

Bota	anical Name. Common Name.	of first	Date of first flowers.	Location of Tree.
Sa	alicaceae.			
Saliz	x discolor, Glaucus Willow. Muhl.	. May 2	Apr.20	Botanic Garden.
11 8	glaucophylla, Bebb.	Apr.29		Botanic Garden.
11	palmifolia,	May 9	Apr.20	Botanic Garden.
11	purpurea, Purple Willow.	Apr.25	Apr.25	Near Rustic Bridge, River Road.
n	humilis, Prairie Willow. Marsh.		Apr.29	Botanic Garden.
11	Babylonica Hoop Willow. annularis, Tourn.	Apr.30	May 2	
11	Babylonica, Weeping Willow	. Apr.22	Apr.26	Prof.Taft's Border.
11	rostrata, Long beaked Richard. Willow.		Apr.29	Botanic Garden.
u	cordata, Heart leaved Willow.	May 2	Apr.29	Botanic Garden.
11	lucida, American Bay Muhl. Willow.	Apr.27	Apr.30	Botanic Garden.
11	amygaloides, Peach Willow. Anderson.	Apr.29		Botanic Garden.
1	gilky Willow.	Apr.29		Botanic Garden.
	Marsh. White Willow Linn.	. Apr.28	Apr.30	East of Abbot Hall.

Botanical Name.	Common Name.	oí firs	e of	e Location of t Tree. rs.
Salix candida, Willd.	Sage Willow.	Apr.30	Apr.30	
" nigra, Marsh.				
Populus balsami- fera candicans, Gray.	Balm of Gilead	. Apr.30	Apr.23	Prof.Taft's Border.
Populus tremuloide Michx.	s, American Asp	en. May 7	Apr.6	Near Ice House.
Populus grandiden- tata, Michx.	Large Americar	n May 9	Apr.10	Front of President's House.
" alba,	White Poplar,	May 5	Apr.25	East of Chem. Lab.
" deltoides,	cottonwood.	May 9	Apr.30	East of Abbot Hall.
"nigra-italica,	Lombardy Pop- lar.	Apr.30	Apr.23	south of Prof. Taft's Barn.
Order Juglandaceae.				
Juglans nigra, Linn.	Black Walnut.	May 12	May 12	South of Side Hill Forcing House.
Hicoria minima,	swamp Hickory	. Apr.30	Apr.30	Near Prof. Barrow's House.
" ovata,	Shagbark Hickory.	May 11	May 11	In Deer Park.

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

Michx.

Botanical Name.	Common Name.	of first	of	Location of Tree.
Quercus macrocarpa,	Burr Oak.	May 7	May 10	On River Bank.
" palustrus, DuRoi.	Pin Oak.	May 7	May 12	Prof.Taft's Border.
" rubra,	Red Oak.	May 1	May 7	West of Chem.Lab.
" ilicifolia, Wang.	Black Scrub	May 14	May 17	Prof.Taft's Border.
" tinctoria, Gray.	Black Oak.	May 2	May 2	North of Gollege Hall.
	American Bee	ch. May 7		South of Hospital.
Order Urticaceae	ð.			
	White Elm.	Apr.15	May 2	Along North Side of Campus.
" fulva,	slippery Elm	m. Apr.21	May 7	Entrance to River Drive.
" racemosa,	Cork or Roc	k Apr.23	May 2	East of U.L.S.Hall.
" campestris,	English Elm	. Apr.24	May 5	S.E. of President's House.
Linn. Celtis occidentalis, Linn.	- Hackberry.	May 2	May 2	Along River Drive.

Location Date Botanical Name. common Name. Date of of of Tree. first first leaves. flowers.

Order of Magnoliaceae.

Liriodendron Tulip- White Wood. Apr. 29 May 28 - West of Dr. Edwards Linn. House.

East of Magnolia acuminata, Cucumber Tree. May 15 - - -Chem.Lab. Linn.

Order Lauraceae.

Near St. Sassafrass officin- Sassafras. May 15 May 11 car Station. ale. Nees.

Order Hamamelidiae.

Hamamelis Virgin- Witch Hazel. May 7 Late in South of President's House. ana, Linn.

Liquidamber styra- Sweet Gum May 14 May 14 Prof. Taft's Tree. ciflua, Linn.

Order Platanaceae.

Linn.

West of Platanus occidental- Sycamore. May 12 ----Parade Ground. is,

Order Rosaceae.

West of Par-Amelanchier canaden- Service Apr.29 Apr.29 ade Grounds. Berry. Torr and Gray.

South of Pyrus Ancuparia, European Apr. 27 - - -Dr.Kedzie's House. Gaertn.

Botanical Name. Common Name. Date Location Date of of of first first Tree. leaves. flowers. May 16 -- - Botanic Garden. Cratagus tomentosa. Black Thorn. Linn. East of Prunus Scrotina, Wild Black Apr.25 chem.Lab. Cherry. Ehah. Order Leguminosae. Did not North of Cladrastis tinct- Yellow Wood. May 1 U.L.S.Hall. bloom. oria. Rof. West of Common Locust. May 12 Robina Pesudo-Boiler House. acacia. Linn. Cercis Canadensis, Judas Tree May 16 May 12 Arboretum. or Linn. Redbud. East of Gledistscha trican- Honey Locust. May 9 May 9 Prof. Dean's. thos. Linn. S.W. of Par-Gymnocladus Canaden- Kentucky Cof- May 1 - - ade Grounds. fee Tree. sis. Lam. Order Sapindaceae. Racerne, N.W. of Horse Chestnut.Apr.29 Well's Hall. Aesculus Hippo-Apr. 29 castanum, Linn. S.W. of Par-Ohio Buckeye. Apr.25 Apr.25 ade Grounds. Aesculus glabra, Willd. Near Prof. Sweet Buckeye. Apr.26 Taft's Border. Aesculus flava, Mountain Maple.Apr.27 --- Arboretum. Ait.

Acer spicatum,

Lam.

Botanical Name.	common Name.	Date of first leaves.	of	
Acer Pseudo-Plat- nus, Linn.	Sycamore Maple.	Apr.30		West of Mech.Lab.
Acer Pennsylvani- cum, Linn.	striped Maple.	May 12	May 2	Arboretum.
Acer saccharin- um, Wang.	Sugar Maple.	May 9	Apr.30	Faculty Row.
Acer saccharinum, nigrum, Torr and		.May 7	Apr.27	Front of Mech.Lab.
Acer dasycarpum, Ehrh.	Silver Maple.	Apr.12	Apr.6	River flats.
Acer rubrum,	Red or Swamp Maple.	Apr.26	Apr.21	Front of President's House.
Acer negundo,	Box Elder.	Apr.23	Apr.23	Back of Library.
Acer platanoides,	NorwayMaple.	Apr.27	Apr.27	East of Chem. Lab.
Acer cordata, Thumb.		Apr.27		S.W. of Parade Grounds.
Order Tiliaceae.				
Tilia Americana,	Bass Wood.	May 3	July 1	Dr.Barrows'
Tilia europaea,	European Bass- wood.		May 28	West of Parade Grounds.

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

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 forcarrying 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.

