

PLANTS SEEN ON BIOS. 527 FIELD TRIPS
FALL, 1989

ACERACEAE

- ✓ *Acer rubrum* L. Red Maple
- ✓ *Acer negundo* L. Boxelder
- ✓ *Acer palmatum* Thunb. Japanese Maple
- ✓ *Acer platanoides* L. Norway Maple
- Acer platanoides* L. var. *schwealerei* Nichols. Schwealer Maple
- ✓ *Acer saccharinum* L. Silver Maple
- ✓ *Acer saccharum* Marsh. Sugar Maple

AIZOACEAE

- Mollugo verticillata* L. Carpetweed

ANACARDIACEAE

- ✓ *Toxicodendron radicans* (L.) Kuntze. Poison Ivy
- Rhus typhina* L. Staghorn Sumac
- ✓ *Toxicodendron vernis* (L.) Kuntze. Poison Sumac

APIACEAE UMBELIFERAE

- Daucus carota* L. Queen Anne's Lace
- ✓ *Oxypolis rigidior* (L.) Raf. Cowbane

APOCYNACEAE

- ✓ *Vinca major* L. var. *variegata* Loud. Variegated Periwinkle
- ✓ *Vinca minor* L. Small Periwinkle
- Apocynum cannabinum* L. Indian Hemp

AQUIFOLIACEAE

- Ilex verticillata* (L.) Gray. Michigan Holly
- Ilex crenata* Thunb. var. *convexa* Mak. Japanese Holly

ARACEAE

- ✓ *Arisaema triphyllum* (L.) Schott. Jack-in-the-pulpit
- Peltandra virginica* (L.) Kunth. Arrow Arum

ARALIACEAE

- Hedera helix* L. English Ivy

ASCLEPIADACEAE

- Asclepias incarnata* L. Swamp Milkweed

ASPIDIACEAE

- Athyrium* sp. Lady Fern
- Onoclea sensibilis* L. Sensitive Fern

ASPLENIACEAE

- Asplenium platyneuron* (L.) Oakes. Ebony Spleenwort
- Polystichum acrostichoides* (Michx.) Schott. Christmas Fern

ASTERACEAE COMPOSITAE

- ✓ *Achillea millefolium* L. Yarrow
- Ambrosia artemisiifolia* L. Ragweed
- Centaurea maculosa* Lam. Star Thistle
- ✓ *Eupatorium perfoliatum* L. Boneset
- Rudbeckia hirta* L. Black-eyed Susan
- ✓ *Solidago* spp. Goldenrod
- ✓ *Vernonia missurica* Raf. Ironweed
- Aster umbellatus* Mill. Umbellate Aster
- Eupatorium maculatum* L. Joe-Pye-Weed
- ✓ *Rudbeckia* sp. Black-eyed Susan
- Solidago graminifolia* (L.) Salisb. ^{Grass-leaved} Goldenrod
- Anaphalis margaritacea* (L.) Benth. & Hook. Pearly Everlasting
- Bidens aristosa* (Michx.) Britt. Beggar's Ticks
- Bidens coronata* (L.) Britt.
- ✓ *Taraxacum officinale* Weber. Dandelion
- Xanthium strumarium* L. Cocklebur

ASTERACEAE (continued)

- Aster macrophyllus* L. Large-leaved Woodland Aster
- Aster* spp. Aster
- Cirsium arvense* (L.) Scop. Canada Thistle
- Centaurea* sp. Star Thistle
- Aster laevis* L. Smooth Aster
- Aster puniceus* L.
- Solidago caesia* L. Blue-stem Goldenrod
- Coreopsis tripteris* L.
- Helianthus hirsutus* Raf. Sunflower

BALSAMINACEAE

- Impatiens biflora* Walt. Jewel Weed

BERBERIDACEAE

- Berberis thunbergii* DC. Barberry
- Mahonia aquifolium* (Pursh.) Nutt. Oregon Holly-grape
- ✓ *Pedophyllum peltatum* L. May Apple

BETULACEAE

- Betula pumila* L. Swamp Birch
- Corylus americana* Walt. Hazel Nut
- Ostrya virginiana* (Mill.) K. Koch. Hop Hornbeam

BRASSICACEAE

- Lepidium virginicum* L. Pepper Grass

BUXACEAE

- Pachysandra terminalis* Sieb. + Zucc. Pachysandra

CAMPANULACEAE

- Lobelia* sp. Lobelia

CAPRIFOLIACEAE

- Lonicera tartarica* L. Tartarian Honeysuckle

CARYOPHYLLACEAE

- Saponaria officinalis* L. Soapwort, Bouncing Bet
- ✓ *Dianthus armeria* L. Deptford Pink

CELASTRACEAE

- Euonymus alata* (Thunb.) Sieb. Winged Euonymus
- Euonymus fortunei* (Turcz.) Hand.-Mazz. Climbing Euonymus

CHENOPODIACEAE

- Chenopodium album* L. Lamb's Quarters

CONVOLVULACEAE

- Cuscuta* sp. Dodder

CORNACEAE

- ✓ *Cornus florida* L. Flowering Dogwood
- ✓ *Cornus racemosa* Lam. Gray Dogwood
- Cornus* sp. Dogwood

CUPRESSACEAE

- ✓ *Juniperus chinensis* L. var. *pfitzeriana* Spaeth. Pfitzer Juniper
- ✓ *Juniperus communis* L. Common Juniper, Red Cedar
- Thuja occidentalis* L. Arbor Vitae

CYPERACEAE

- Carex* spp. Sedge
- Cyperus strigosus* sp. Nut Grass
- Dulichium arundinaceum* (L.) Britt. Three-way Sedge
- Eleocharis* sp. Spike Rush
- Eriophorum virginicum* L. Cotton Grass
- Rhynchospora alba* (L.) Vahl. White Beak Rush

CYPERACEAE (continued)

- Scirpus cyperinus* (L.) Kunth. Wool Grass
- Scirpus acutus* Muhl. Bull Rush

DENNSTAEDTIACEAE

- Pteridium aquilinum* (L.) Kuhn. Bracken Fern

DROSERACEAE

- Drosera intermedia* Hayne Sundew

EQUISETACEAE

- Equisetum hyemale* (L.) Scouring Rush

ERICACEAE

- Monotropa uniflora* L. Indian Pipe
- Gaultheria procumbens* L. Wintergreen
- Chamaedaphne calyculata* (L.) Moench. Leather Leaf

- ✓ *Vaccinium macrocarpon* Ait. Cranberry
- ✓ *Vaccinium angustifolium* Ait. Low Bush Blueberry
- ✓ *Vaccinium corymbosum* L. High Bush Blueberry
- Rhododendron* sp. Rhododendron

FABACEAE LEGUMINOSAE

- Desmodium* sp. Tick Trefoil
- Medicago lupulina* L. Black Medick
- ✓ *Trifolium* spp. Clover
- Robinia pseudoacacia* L. Black Locust
- ✓ *Melilotus alba* Desr. White Sweet Clover
- Cercis canadensis* L. Redbud
- ✓ *Trifolium pratense* L. Red Clover
- ✓ *Lespedeza hirta* (L.) Hornem. Bush Clover

FAGACEAE

- ✓ *Fagus grandifolia* Ehrh. American Beech
- ✓ *Quercus borealis* Michx. f. *sensu lato* Red Oak
- ✓ *Quercus alba* L. White Oak
- ✓ *Fagus sylvatica* L. var. *atropunicea* West. European Copper Beech
- ✓ *Quercus imbricaria* Michx. Shingle Oak
- ✓ *Quercus palustris* Muench. Pin Oak
- ✓ *Quercus robur* L. English Oak
- ✓ *Quercus prinus* Willd. (Chinquapin Oak) - hybrid with *Q. muhlenbergii*

GENTIANACEAE

- ✓ *Gentiana andrewsii* Griseb. Bottle Gentian
- ✓ *Gentiana crinita* Froel. Fringed Gentian

GINGKOACEAE

- ✓ *Ginkgo biloba* L. Maidenhair Tree, Ginkgo

HALORAGACEAE

- Myriophyllum spicatum* L. Water-milfoil

HAMAMELIDACEAE

- Liquidambar styraciflua* L. Sweet Gum

HIPPOCASTANACEAE

- ✓ *Aesculus hippocastanum* L. Horse Chestnut

HYPERICACEAE

- ✓ *Triandenum virginicum* (L.) Raf. Marsh St. John's-wort.

IRIDACEAE

- Iris versicolor* L. Blueflag

JUGLANDACEAE

- ✓ *Carva* sp. Hickory
- ✓ *Juglans nigra* L. Black Walnut

JUNCACEAE

- Juncus* spp. Rush

LAMIACEAE LABIATAE

- Monarda* sp. Horsemint
- Leonurus cardiaca* L. Motherwort

LAURACEAE

- Sassafras albidum* (Nutt.) Nees. Sassafras
- Lindera benzoin* (L.) Blume. Spice Bush

LEMNACEAE

- Lemna minor* L. Duckweed

LENTIBULARIACEAE

- Utricularia vulgaris* L. Bladderwort
- Utricularia* sp. Bladderwort

LILIACEAE

- ✓ *Medeola virginiana* L. Indian Cucumber Root
- ✓ *Smilax rotundifolia* L. Common Greenbriar
- Asparagus* sp. Asparagus

- ✓ *Smilacina racemosa* (L.) Desf. False Solomon's Seal

LYCOPODIACEAE

- Lycopodium digitatum* L. Running Cedar
- Lycopodium lucidulum* Michx. Shining Club Moss
- Lycopodium obscurum* L. Ground Pine

LYTHRACEAE

- Lythrum salicaria* L. Purple Loosestrife

MAGNOLIACEAE

- ✓ *Magnolia glauca* L. Magnolia

MORACEAE

- ✓ *Morus rubra* L. Mulberry

MYRICACEAE

- ✓ *Myrica gale* L. Bayberry

NAJADACEAE

- Potamogeton cokesianus* Robbins. Pondweed

NYMPHAEACEAE

- Nuphar advena* Ait. Yellow Pond-lily
- Nymphaea odorata* Ait. Fragrant Water-lily

OLEACEAE

- ✓ *Forsythia vicidissima* Lindl. Forsythia
- ✓ *Syringa vulgaris* L. Lilac
- ✓ *Fraxinus americana* L. White Ash

ORCHIDACEAE

- Cypripedium acaule* Ait. Pink Moccasin Flower
- Spiranthes cernua* (L.) Rich. Ladies Tresses

OROBANCHACEAE

- Epitagus virginiana* (L.) Bart. Beech Drops

OSMUNDACEAE

- Osmunda claytoniana* L. Interrupted Fern
- Osmunda cinnamomea* L. Cinnamon Fern
- Osmunda regalis* L. Royal Fern

PHYTOLACCACEAE

- Phytolacca americana* L. Pokeweed

PINACEAE

- ✓ *Pinus resinosa* Ait. Red Pine
- ✓ *Abies balsamea* Mill. Balsam Fir
- Abies nordmanniana* (Steph.) Spach. Nordmann Fir
- ✓ *Picea abies* (L.) Karst. Norway Spruce
- ✓ *Picea glauca* (Moench.) Voss. White Spruce
- ✓ *Picea pungens* Engelm. var. *glauca* Reg. Colorado Blue Spr.
- ✓ *Pinus mugo* Turra Mountain Pine

PINACEAE (continued)

- ✓ *Pinus nigra* Arnold var. *austriaca* (Hoess) Anshers. Austrian Black Pine
- ✓ *Pinus strobus* L. White Pine
- ✓ *Pinus sylvestris* L. Scotch Pine
- ✓ *Pseudotsuga taxifolia* (Poir.) Britt. Douglas Fir
- ✓ *Tsuga canadensis* (L.) Carr. Hemlock
- ✓ *Larix laricina* (DuRoi) K. Koch. Tamarack, Larch
- ✓ *Pinus banksiana* Lamb. Jack Pine

PLANTAGINACEAE

- Plantago rugelii* Decne. Broad-leaved Plantain
- Plantago lanceolata* L. English Plantain

PLATANACEAE

- Platanus occidentalis* L. Sycamore

POACEAE GRAMINEAE

- Panicum* sp. Panic Grass
- Hystrix patula* Moench. Bottle Brush Grass
- Echinochloa crusgalli* (L.) Beauv. Cockspur grass
- Phleum pratense* L. Timothy
- Setaria glauca* (L.) Beauv. Foxtail Grass
- Setaria* spp.
- Setaria italica* (L.) Beauv. Italian Millet
- Andropogon scoparius* Michx. Little Bluestem
- Panicum oligosanthos* Schult. Panic Grass

POLYGONACEAE

- Polygonum pensylvanicum* L. Pinkweed
- Polygonum aviculare* L. Knotweed
- Polygonum hydropiper* L.
- Polygonum sagittatum* L. Tearthumb

POLYGONACEAE (continued)

- Rumex crispus* L.
- Polygonum persicaria* L.

RANUNCULACEAE

- Thalictrum dasycarpum* Fisch + Ave-Lull. Meadow Rue

ROSACEAE

- ✓ *Prunus serotina* Ehrh. Wild Cherry
- ✓ *Rubus hispida* L. *sensu lato* Dewberry
- Spiraea tomentosa* L. Hardhack
- Cotoneaster* sp. Cotoneaster
- ✓ *Crataegus* spp. Crabapple, Hawthorne
- Prunus subhirtella* Miq. var. *pendula* Tanaka Weeping C.
- Pyracantha coccinea* Roem. Firey Thorn
- ✓ *Sorbus aucuparia* L. Mountain Ash
- Agrimonia* sp. Agrimonia
- Agrimonia gryposepala* Wallr. ↵
- ✓ *Geum canadense* Jacq. Avens
- Potentilla fruticosa* L. Shubby Cinquefoil
- Rosa multiflora* Thunb. Wild Rose
- ✓ *Aronia prunifolia* (Marsh.) Rehder Choke Cherry
- ✓ *Rosa carolina* L. Wild Rose

RUBIACEAE

- ✓ *Galium pilosum* Ait. Bedstraw
- Galium* sp.
- Mitchella repens* L. Partridge Berry

SALICACEAE

- ✓ *Populus tremuloides* Michx. Quaking Aspen
- ✓ *Populus grandidentata* Michx. Big-toothed Aspen

SALICACEAE (continued)

✓ *Salix babylonica* L. Weeping Willow

SAPINDACEAE

Koelreuteria paniculata Laxm. Golden Rain Tree

SARRACENIACEAE

Sarracenia purpurea L. Pitcher Plant

SCROPHULARIACEAE

Verbascum thapsus L. Moth Mullein

TAXACEAE

Taxus cuspidata Sieb. + Zucc. Japanese Yew

TAXODIACEAE

Metasequoia glyptostroboides Hu + Cheng Dawn Redwood

TILIACEAE

Tilia cordata Mill. European Linden

THELYPTERIDACEAE

Thelypteris novaboracensis (L.) Nieuwl. New York Fern

Thelypteris palustris Schott. Marsh Fern

TYPHACEAE

Typha latifolia L. Cat-tail

VITACEAE

Parthenocissus tricuspidata (Sieb. + Zucc.) Planch. Boston Ivy

✓ *Parthenocissus quinquefolia* (L.) Planch. Virginia Creeper

✓ *Vitis* sp. Grape

<u>TOTAL</u> :	76 Families
	154 Genera
	216 Species

Wednesday 1:30

** floral formula on final

PLANTS STUDIED IN 527 LABS

LOWER VASCULAR PLANTS (12) ... (6 ARE +)

+ PSILOTUM	+ EQUISETUM	+ PLATYGERIUM
TRUESIPTERIS	+ OSMUNDA	DAVALLIA
+ LYCOPODIUM	+ ASPLENIUM	
SELAGINELLA	POLYSTICHUM	
ISORTES	CYRTOMIUM	

Gymnosperms (19) ... (10 ARE +)

+ ARAUARIA	WELWITSCHIA	METASEQUOIA
+ PODOCARPUS	+ GINKGO	+ TAXUS
+ DICOON	+ PINUS	JUNIPERUS
+ ZAMIA	+ PICEA	+ LARIX
CYCAS	PSEUDOTSUGA	THUJA
GNETUM	TSUGA	
EPHEDRA	+ ABIES	

MAGNOLIIDAE (* = FLORAL FORMULA) (6) ... (2 ARE +)

+ * * CALTHA	SANGUINARIA
+ * LIRIODENDRON	NYMPHAEA
HEPATICA	
SASSAFRUS	

HAMAMELIDAE (5) ... (3 ARE +)

+ * QUERCUS	+ BETULA
HAMAMELIS	CARYLUS
+ FAGUS	

CARYOPHYLLIDAE (7) (4 ARE +)

- + * CLAYTONIA POLYGONUM
- + OPUNTIA + SAPENARIA
- CHENOPODIUM + DIANTHUS
- RUMEX

ASTERIDAE (25) (11 ARE +)

- + ** ASCLEPIAS + ACHILLEA
- + ** PETUNIA CEUTAUREA
- + ** ASTER CHRYSANTHEMUM
- + * CICHORIUM CIRSIUM
- CEPHALANTHUS + EUPATORIUM
- CONVOLVULUS + HELIANTHUS
- + GENTIANA HIERACIUM
- LINARIA LIATRIS
- + MENTHA SENECIO
- MITCHELLA + SOLIDAGO
- MONARDA + TARAXACUM
- PEDICULARIS VERNONIA
- SOLANUM

DILLENIIDAE (14) (9 ARE +)

- + ** CARDAMINE ECHINOXYSTIS
- + * VIOLA + YUCCINUM
- + * HIBISCUS CHAMAEDAPHNE
- + * SALIX GAULTHERIA
- + DIGNAEA PYROLA
- + DRACERA + MANDROPA
- + SARRACENIA
- DENTARIA

ALISMATIDAE (1) (1 IS +)

- + ** SAGITTARIA

RASIIDAE (16) (12 ARE +)

- + ** CRATAEGUS GERANIUM
- + * LATHYRUS EUPHORBIA
- + * ACER ANGELICA
- + * PELARGONIUM + DAUCUS
- + FRAGRARIA
- + POTENTILLA
- + PRUNUS
- + RASA
- MELILOTUS
- + RABINIA
- + LUPINUS
- + TRIFOLIUM

ARELIDAE (3) (0 ARE +)

- COCOS
- CHAMAEDORA
- AGLACNEMA

ZINGIBERIDAE (2) (0 ARE +)

- BILLBERGIA
- AECHMEA

COMENINIDAE (11) (6 ARE +)

- + * * TRIDENANTIA ERIOPHORUM
- * RHODOD RHYNCHOSPORA
- + * * JUNCUS + SCIRPUS
- + CAREX + AVENA
- + CYPERUS
- DULICHIMUM
- ELEOCHARIS

LILIIDAE (17) (9 ARE +)

- + * * HYACINTHUS POLYGONATUM
- + * GLADIOLUS SMILACINA
- + * * IRIS + TRILLIUM
- + * * DENDROBIUM + CATTLEYA
- + ERYTHRANIMUM PHALANOPSIS
- HEMEROCALLIS CALAPOGON
- + LILIUM + CYPRIPEDIUM
- MAIANTHEMUM HABENARIA
- SPIRANTHES

Summary

29 FLORAL FORMULAE (12 ARE * *)

ALSO SEEN ON FIELD TRIPS

LOWER VASCULAR PLANTS	12	GENERA
GYMNOSPERMS	19	"
DICOTS	73	"
MONOCOTS	34	"
	<u>138</u>	"

5
11
38
<u>10</u>
64

FIELD TRIP GENERA	154	(73 ARE +)
LAB GENERA	<u>74</u>	(NOT SEEN ON FIELD TRIPS)
	228	

FINAL EXAM - PART I (100 POINTS) - CH 7, 8, 9 + LABS (RUBIACEAE TO LILIACEAE)

1. COMPARE & CONTRAST SUBCLASSES (4 OF 7 WILL BE USED) 20 pts.
2. MATCHING 20 GENERA w/ SUBCLASSES "
3. ^{Matching} ~~FILL IN THE BLANK~~ WITH GENERIC NAME ON BASIS OF DESCRIPTIONS
(+ on Rubiaceae to Liliaceae) "
- GIVEN (INCL. FLORAL FORMULAS) "
4. TERMINOLOGY - STRUCTURES (10) } mainly chapter 7 "
5. TERMINOLOGY - PROCESSES & IDEAS (10) } also some Chap. 8 & 9 "

FINAL EXAM - PART II (100 POINTS) - COMPREHENSIVE

1. EVOLUTIONARY TRENDS IN FLOWERING PLANTS 20 PTS.
2. NOMENCLATURE "
3. HISTORY OF SYSTEMATICS "
4. A, B, Y TAXONOMISTS "
5. COMPARING ENGLER, BESSEY & CRONQUIST SYSTEMS "