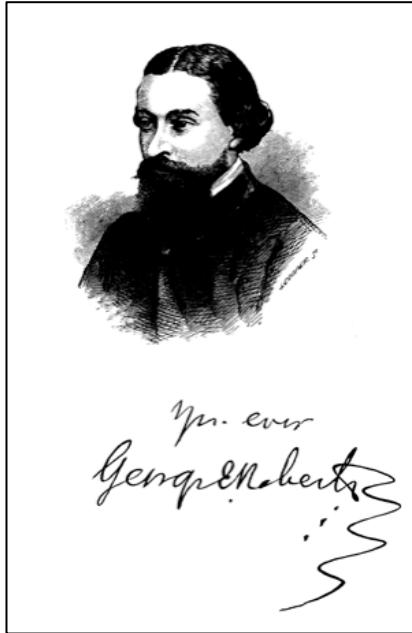


A botanical notebook produced by
George Edward Roberts
1834-1868



This notebook contains a list of plants in alphabetical order. Classifications and other observations are given for many plant species and varieties; some more than others.

Transcribed by G R (Bob) Millward
2016

Transcription notes for the Botanical records of
George Edward Roberts

George Edward Roberts (1831-1864) was part of a Kidderminster family which ran a drapery a shop in the Bull Ring. He was also keenly interested in the natural sciences and in 1860 he left Kidderminster to become Clerk to the Geological Society in London.

His botanical notebook survived more or less intact through the Roberts' family and was passed on to the Kidderminster & District Archaeological Historical Society by Margaret Earnshaw of Darwin, Australia, a descendant of his brother Frederick.

The grammar and spelling used by Roberts has been adhered to in this transcription (such as the use of 'color' instead of 'colour'). Suggested modern spellings for botanical terms have been added added in *italics and initialled GRM*.

The note book contains a number of pressed flowers and leaves. Not all of have survived but have sometimes left impressions. It is not always clear if the pressings are still in the original location near the plant notes but the images of the pressings have been recorded where they were found. My botanical knowledge is insufficient to be too sure of connecting the pressings with the plant descriptions.

The notebook appears to be for personal development and a 'work in progress'. It most likely dates from before Roberts moved to London.

If the notebook is reversed and read from the back Roberts has included some rough and disorganised notes. These rough notes are not included in this transcription.

Bob Millward October 2016

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The Index is incomplete and goes no further than this.

Pages 8 to 24 are blank

Sunflower Artichoke

B. Name - Cynara Scolymus

N. O. Compositæ

(1) What part is eaten? The fleshy receptacle.

Jerusalem Artichoke

B. Name - Helianthus Tuberosus

N. O. Compositæ

What part is eaten? The tubers

Is it a root or stem? Stem

How do you know? Because it has buds

What is the composition? Inulin & Water

[N.B. 'comosition' should clearly be 'composition GRM']

What is Inulin? An Isomer of Starch

What are isomeric bodies? Bodies which have the same composition but dissimilar in properties.

AbutilonB. N.N. O. MalvaceæAstivation of Calyx? ValvateAstivation of Corolla? SpiralWhat kind of Stamens? Monodelphous

What is the difference between Monadelphous and Syngenesious? Monadelphous means filaments united into one tube enclosing the pistil. Syngenesious means Anthers united.

What is the difference between an androphors and Gynostemium? An Androphors is a tube formed by the stamens only and a Gynostemium is a solid column formed by the union of the Pistil & Stamens.

Azalia

B. N.

N. O. Ericaceæ

Which are the leaves & which are the bracts? The green ones are the leaves & brown the bracts.

What is there peculiar about the position of the Stamens?
They are Hypogenuous instead of Epipetalous i.e. on the thalamus when gamopetalous.

Name an official drug under the same order? Uva Ursi

What is there peculiar about the filaments? They are petaloid

Amaryllus LillyB. N.N. O. AmaryllidaceæWhat is there peculiar about the position of the Stamens?

They are declinate

What is the position of the anthers? VersatileIs it exogen or endogen? EndogenWhat name is given to the parts of a perianth? Segments

Look for Spathaceous bract

Inferior of Superior? Inferior

AcaciaB. N.N. O. LeguminosæSub order? MimosæWhat are these? PhyllodesDo Phyllodes occur in Endogens? NoWhat kind of Inflorescence? A spikeDo they fill the function of a leaf? YesHow do they differ from a leaf?1st they are placed edgewise towards the stem2^{ndly} they have both surfaces alike3^{rdly} Parallell venation

Anthurium

B. N.

N. O. Orontiaceæ

What kind of Inflorescence? A Spadix

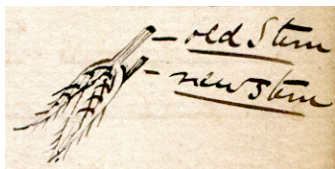
What is this? A Spike

What is this? A Spathe

What is a spike? An inflorescence in which the floral axis is elongated and bears sessile (*sic*) flowers

What is a spadix? A spike with a succulent axis in which the individual flowers have no special bracts, but the whole inflorescence is enclosed in a large bract called the Spathe.

[N.B. sessile = sessile GRM]

AconiteB. N. Aconitum NapellusN. O. RamunculaceæHas it a true or adventitious Roots? TrueHow do you know? Because it is a direct prolongation of the radicleIs it an exogen or endogen? ExogenFor what is the root official for? For making a Tincture or LinimentWhat is this? A young stemWhat kind of a Fruit? A follicleDefine a follicle? A Superior one celled one seeded or few seeded dry indehiscent fruitWhat is the difference between a follicle and a legume?

Follicles dehisces by one Suture only and a legume by two (both ventral & dorsal)

Aloes (rare major)B. N.N. O. Liliaceæ**Auricula**B. N.N. O. Primulaceæ

Anemonies

Anenome

B. N. Anenome Coronaria

N. O. Ranunculaceæ

Show Calyx & Corolla? It has no corolla

What is there peculiar about the Calyx? It is a petaloid

What are these? Bracts

Wood Anenome

B. N. Anenome nemorosa

N. O. Ranunculaceæ

Allyssum Small Yellow flower

B. N.

N. O. Cruciferæ

Ageratum

B. N.

N. O. Compositæ

Aconite Flowers

Inflorescence ? A Raceme or Famille

Is it definite or indefinite? Indefinite



The Calyx is petaloid and hooded
The Corolla is compound of 2 large
hammer shape petals and a few very
minute petals under the Stamens.

What is the fruit? A follicle

Achillæa

B. N. Achillæa }
 }
N. O. Compositæ }

See page 40

Asparagus

B. N.

N. O. Liliaceæ

Sub: ord: asparigaseæ

Is it exogen or Endogen? Endogen

What is there peculiar about it? It branches

Astrantia

B. N. Astrantia Major

N. O. Umbelliferæ

What is this? Involucre.



Broad Bean

B. N. Faba Vulgaris

N. O. Leguminosæ

Ash

B. N. Fraxinus excelsior

N. O. Oleaceæ

It had no corolla.

Arabis or Rock Cress

B. N. Arabis Alpina (**Garden**) Arabis Thaliana (**Field**)

N. O. Cruciferæ

How distinguish from Candy Tuft? Candy Tuft has an irregular corolla two long and two short



The Arabis has a regular corolla



Almond Blossom

B. N. Amygdalus Communis

N. O. Rosaciæ

AndromedaB. N.N. O. Ericaciæ**Aspen**B. N. Populus TremuluaN. O. Salicaeæ

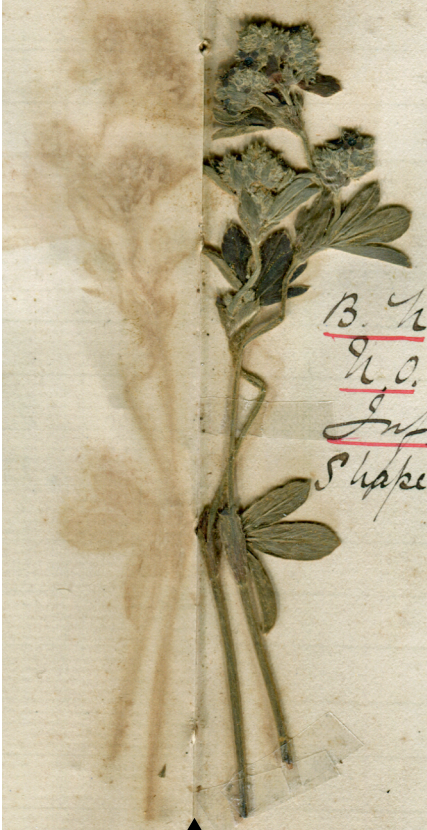
Achillea

Rare

B. N. Achillea MillefoliumN. O. composita**Alchemilla**

Rare

B. N. Alchemilla ArvensisN. O. Calycanthaceæ

ArchangelicaB. N. Archangelica OfficinalisN. O. UmbelliferaAnchusaB. N. Anchusa ItalicaN. O. BoraginaceæInflorescence? A Scorpid
CymeShape of Corolla? Funnel
shape

↑
p40/41 boundary

Aristolochia (yellow)

B. N. Aristolochia Clematitis

N. O. Aristolochiaceæ

Aubretia (rare)

B. N.

N. O. Cruciferæ

Agrimony

B. N. Agrimonia Eupatorium

N. O. Rosaceæ

O.E. Centripetal

Inflorescence? Indefinite

Allium or Garlic

B. N. Allium Sativum

N. O. Liliaceæ

Inflorescence? Umbel

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Box

B. N. Buxus Sempervirens

N. O. Euphorbiaceæ

What is there peculiar about the flower? It has a corolla

What is the difference between Box and Uva Ursi?

Box is not bitter. Uva Ursi is

Box has Emarginate Apex Uva Ursi has not

True Broom

B. N. Sarothaminus Scoparius

N. O. Leguminosæ

How distinguish from false Broom?

The true has angular stems and the false round

Butchers Broom

B.N. Ruscus Aculeatus

N.O. Liliaceæ

Sub:ord: Asparagaceæ

Where are the leaves?

below the Phylloid & peduncles

What are these?

Phylloid & peduncles

Why Phylloids?

because they resemble Phyllodes

Why called peduncles?

because they are flours & stalks

Name 4 plants under Sub ord Asparagaceæ?

But Broom, Lily of Valley, Asparagus and Solomons Seal

Why are these under that Sub Ord?

because they have succulent fruits and non bulbous stems

Yellow Sweet FlagB.N. Acorus CalamusN.O. AcoraceæDistinguish from Iris both has sword shape leaves
(hensiform) (*ensiform GRM*)BegoniaB.N.N.O. BegoiaceæShow calyx & corolla? Corolla absentWhat is there peculiar about Calyx? petaloidWhat peculiar about ovary & pericarp?
ovary & pericarp wingedTo what class does it belong? MonochlamydeæWhat is there peculiar about the plant? Monœcious

Bulbs

Define a bulb? A flat disc or growing points surrounded by a lot of scaly leaves and giving off rootlets from its lowest surface

Is it a root or stem? Stem

Do they occur in Exogens? No

What are these? Rootlets

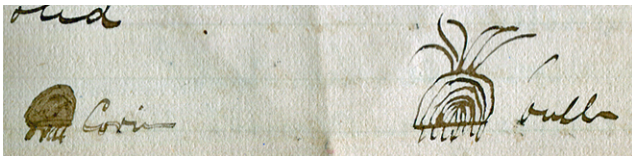
What are these? Bubils

How are these propagated? By means of bubils

Where is the ovary? has none

What is the use of the scales? for nourishment

What is the difference in a bulb and a Corm? A bulb is scaly and a Corm is solid



BouvardiaB.N.N.O. CinchonaceæHow many classes in Exogens? Four. Name themThalamifloræ Clycyfloræ (*Calycifloræ GRM*)Corollifloræ MonochlamydæSub Class of Bouvardia? Corollifloræ (*Corollifloræ GRM*)**Beet Root**B.N. Beta VulgarisN.O. ChenipodiaceæIs it Exo or endogen? ExogenWhat are these? Concentric ringsWhat is it used for? Manufacturing sugarDo the rings indicate annual growth? NoIs the red or white root used? WhiteWhy not use the red? Because you cannot get rid of the coloring (*sic*) matter.**(For continuations of B's See page 71)**

Catkins**Hazel**B.N.N.O. CupuliferæWhat is the flower? Monæcious**Willow**B.N.N.O. Salycaceæ (*Salicaceæ GRM*)**Acer**B.N. AceracæN.O.

PoplarB.N.N.O. Salicaceæ**Camelia**B.N.N.O. CamiliaceæWhere are the stamens? Transformed into petalsWhat kind of æstivation? Imbricate

Recognise a single Camelia



Cyclamen
or
(Sow bred) (*bread GRM*)

B.N.

N.O. primulaceæ

Where is the Calyx? Beneath the corolla

What is there peculiar about the corolla? It is reflexed with contorted limbs

What is the shape of the anthers? Saggitate

What is the Inflorescence? A nodding Scape

Canna Edulis

Is it exogen or endogen? Endogen

What kind of venations? parallel

Castor Oil Leaf

B.N. Ricinus Communis

N.O. Euphorbiaceæ

What is shape of fruit has it? peltate palmate parlite

What kind of fruit has it? Regma

What is a Regma? A superior 3 celled 3 seeded dry indehiscent fruit the carpels separating by elasticity

Name 4 plants under same order

Castor Croton Kamala & Cascurilla

Cone

Define a cone - A dense spike of female flowers enclosed in a hard woody bract

How does it differ from a strobill? It has hard tissue instead of soft and membranous

Are there any male cones? No

Are there any male inflorescences? Yes called catkins

Describe the cone as a fruit? pseudocarp

What is a pseudocarp? A fruit formed from the ovary and some other part of the flower

Difference in Cone & Strobill

Cone the ovules are naked

Strobill the ovules inclosed

Carrot

B.N. Daucus Carota

N.O. Umbelliferæ

Is it a root or a stem? A root

What's its shape? Conical or tap shape

What is the structure of the ~~shape~~ root generally?

A central position which is vascular called the medifullium

The outer portion which is cellular

Cineraria

B.N.

N.O. Compositæ

Christmas Rose

B.N. Helliborus Niger

N.O. Ramunculaceæ

What is this? the calyx

Where is the corolla? Under the stamens

Give the diagnostic Characters of the Ramunculaceæ

Stamens numerous & hypogynous Carpels distinct

Capsicum

B.N. Capsicum Annuum

N.O. Solanaceæ

What kind of fruit? Capsular

What is made from it? Cayenne pepper

Name the fruits of Solanaceæ? Capsular when dry Baccate when pulpy

Capsules

Define a Capsule? A superior one celled many seeded dry dehiscent fruit

What is the difference between a capsule & a capsular fruit?
a capsular is two or more celled

Describe the parts of a poppy capsule

The radiating portion on the top is

the sessile Styma

the bulb the ovary

the stalk supporting it a Gynophore

Cyperus

B.N.

N.O. Cyperaceæ

What kind of Inflorescence? a spikelet

What is the difference between Graminaceæ and

Cyperaceæ

Stem angular, solid,

not jointed, not split

Anthers entire

|
|
|
|

Graminaceæ

Stem round, Hollow

jointed, Sheath split

Anthers not entire

Crocus

B.N. Crocus Vernus

N.O. Iridaceæ

How distinguish it from Colchicum?

Colchicum has six stamens

Crocus has three stamens

What is this? a spathaceous bract

What is this transparent portion?

It is the Epidermis

Chrysanthemum

B.N.

N.O.

Cinnamon Leaf

B.N. Cinnamomum Zelanicum (*Zeylanicum GRM*)

N.O. Lauraceæ

What name to leaf with 3 ribs? Tricostate

Do not call it Endogen for it is Exogen & be sure to recognise it

Crow Foot rare

B.N.

N.O. Ranunculaceæ

Candy Tuft

B.N. Ibre Umbellata
N.O. Cruciferæ

Peculiarity of corolla? Irregular

How distinguish from Rock Crest? By its irregular corolla

Colts Foot

B.N. Tussilago Farfara
N.O. Compositæ

What are these? True leaves

What is this? pappus calyx

How distinguish between Dandelion? Dandelions has a smooth stem

CauliflowerB.N.N.O. CruciferæInflorescence? A Corymb when it runs to Flower a Baceme**Corn Centaury Blue flower**B.N. Centaurea CyanusN.O. Compositæ

What is peculiar about the florets of the ray? They are neuter & the black portion in the centre of the flower are the Syngenesious Anthers. portion coming through is the pistil (white)

ComfreyB.N.N.O. BoraginaceæInflorescence? a Scorpid Cyme**Calnatis or Clematis**B.N.N.O. RanunculaceæWhat is the peculiarity of the pistil? It is Apocarpus**Currant Flowering**B.N. Rubes (*Ribes GRM*) Sanguaneum (*Sanguineum GRM*)N.O. Saxifragaceæ

Caryopsis RareB.N.N.O.

Define caryopsis an achenium with an inseparable pericarp

Calthapalustrus (*Caltha palustris GRM*)B.N.N.O.

Cow Slip

B.N. Primula Veris

N.O. Primulaceæ

Inflorescence? An umbel

Chickweed

B.N. Stellaria

N.O. Caryophyllacæ

Sub order? Alsinea



Calcilaria (*Calceolaria GRM*)

B.N.

N.O. Scrophulariaceæ

Shape of the corolla? Calceolate or slipper shape

How many Stamens? Two only

Give another with only Two under the same order?
berrinea (? GRM)

Chorozema

B.N.

N.O. Leguminosæ

Cock's CombB.N. Celosia CristataN.O. AmaranthaceæSub Class -
MonochlamydeæWhat is this red portion?
The calyxWhere is the corolla?
AbsentCuckoo FlowerB.N. Cardamine PratensisN.O. CrucifereæColumbineB.N. AquilegiaN.O. Ranunculaceæ

CampanulaB.N.N.O. Camapnulaceæ**Charity**B.N.N.O.

Cactus or
Epiphyllum

B.N.

N.O. Cactaceæ

Is it Exogen or Endogen? Exogen

What are these? Flat branches

Where are the leaves? The plant is leafless, flowers sessile, sepals and petals numerous scarcely distinguishable from each other hence the term irregular perianth.

Stamens numerous & exerted filaments long anthers versatile

Eupatorium

B.N.

N.O. Compositæ

Cranes BillB.N.N.O. Gerianaceæ (*geraniaceæ GRM*)Crow Foot

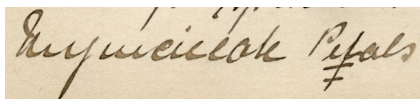
Rare

B.N.N.O. RamunculaceæCampion or SilenaB.N.N.O. CaryophyllaceæCalyx? GibbonCaryophyllaceæ

Corolla polypetalous

Rosaceæ

Corolla Sessile



Inyucicicok Pifals
f

(???? GRM)

Bearberry

B.N. Berberia

N.O. Berberiaciæ

Blue Bell

B.N.

N.O. Liliaceæ

Calcilaria

(*Calceolaria GRM*)

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Butter Cup

B.N. Ranunculus Bulbosus

N.O. Ranunculaceæ

What kind of fruit? achenium

Banksia

Rare

B.N.

N.O. Proteaceæ

Barosma

Rare

B.N.

N.O. Rutaceæ

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DigitalisB.N. Digitalis PurpureaN.O. ScrophulariaceæInflorescence? Indefinite RacemeO.E. CentripetalShape of corolla? Digitaliform

Distinguish from Verbascum and Comfrey

Scroph**Labiatae****Delphinium**B.N.N.O. Ranunculaceæ

How distinguish from Aconite? It is calcarate or spurred
 aconite is not. Calyx petaloid & corolla spurred
 Show each.

Dog Rose

N.B. Rosa Canina

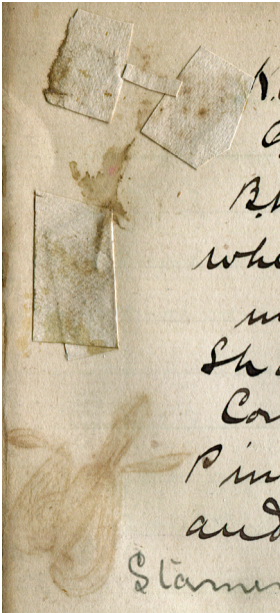
N.O. Rosaceæ

N.O. **Fumariaceæ****Dialytra or Lyre Flower**B.N. *Dialytra Spectabilis*

Where is the calyx?
usually (*sic*) caducuous

Show corolla?
Composed of 4 2 large
Pink & Saceace 4 2 small

Pink & Saceace 4 2 Small
and articulate jointed
Stamens diadelphus (*diadelphous GRM*)



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Eucalyptus

B.N. Eucalyptus Globulus

N.O. Myrtaceæ

What is white stuff on the leaves? Pruina

What is the meaning of glaucous? Sea Green

What name is given to plants with two shapes of leaves?
Heterophyllus

What name to leaf when polished? Glossy

Leaves are decussate

Elder Flower

B.N. Sambucus Niger (*Nigra GRM*)

N.O. Caprifoliaceæ

Inflorescence? a corymbose Cyme (or umbellate)

What is it official for? Aq: Sambuci

Kind of fruit? a berry

Ecballium

B.N. Ecballium officinarum

N.O. Cucurbitaceæ

What is the fruit? A Pepo

What is the peculiarity of fruit when ripe? It dehisces and expells (*sic*) the seeds with force

What is the cause of the leaves being rough? due to the presence of Silica

Eschscholzia

B.N.

N.O. Papaveraceæ

What peculiar about calyx? It is caducuous

Æstivation of corolla? spiral

What is this? the ring of the calyx

What is the peculiarity of the thalamus? It is cup shape

What kind of fruit is it? A Siliquose Capsule

Euphorbia

B.N.

N.O. Euphorbiaceæ

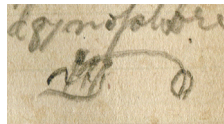
Show the Calyx and Corolla?

the both are absent

What is there peculiar about the plant? It is monœcious

What is this like corolla? the involucre

Each Stamen & Pistil is a separate flower Peculiarity of pistil lifted out on the stalk called gynophore



Echevaria

B.N.

N.O. Crassulaceæ

What is the Inflorescence? A raceme or Scorpid Cyme

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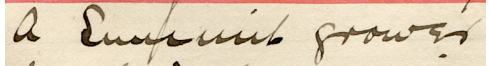
Fern

What is this? a frond

What is the difference between Frond & Leaves? A frond has furcate venation and bears fructification on under surface. A leaf has parallel or reticulated venation

It is an Acrogen

What do you mean by acrogen? A ??????? grower



What kind of venation? Furcate

What kind of vernation? Circinate

How are they produced? By means of spores

What are these? Sori or heaps of capsules

What is the difference between

<u>Spore</u>	and	<u>Seed</u>
No visible embryo		has a visible Embryo
Cannot be kept		cab be kept
Spore are reproductive organs of Acrogens and seeds of Exogens		

Fuschia or FucheaB.N.N.O. OnograceæEastivation. (Æstivation? GRM) of Calyx? ValvateEastivation. (Æstivation? GRM) of Corolla? SpiralCorolla or Calyx what term? Periginous (*Perigynus GRM*)What subclass? Calicyfloræ (*Calcifloræ GRM*)

Stamens longer than pistil what name. Exserted

Forget-me-notB.N. *Myostis palustris*N.O. BoraginaceæInf? A scorpoid CymeSubord? Ehretiacea

Furze

B.N. Ulex Europeæ (*Europæus GRM*)

N.O. Leguminosæ

Shape or corolla? Papilionaceous

Are the Spines Cellular or Vascular? Vascular

Fool Parsley

B.N. Æthusa Cynapium

N.O. Umbelliferæ

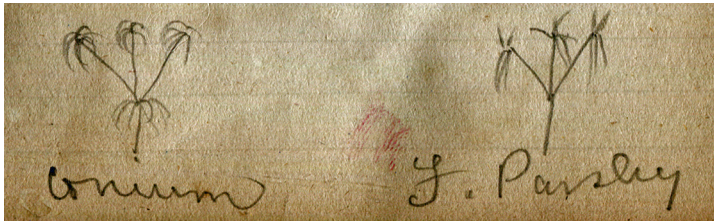
How distinguish from Conium.

Conium has a general involuere

Fools parsley has not

Conium has also a regular partial involuere

Fool's parsley has a unilateral involuere



Fever Few

B.N. Pyrethrum Parthenium

N.O. Compositæ

Gladiolus

B.N.

N.O. Iridaceæ

Inf? A spike it looks like a raceme

Indefinite

Endogen

Whats this? A Spathaceous bract

Gelder Rose (*Alternative spelling: Guelder Rose GRM*)B.N.N.O. Caprifoliaceae (*now Adoxaceae GRM*)

Inf: Corymbose Cyme

GeraniumB.N.N.O. GeraniaceaeWhat is this? InvoluereWhat peculiar about its fruit? It contains a carpophore up which the carpels roll when ripeWhat is the difference between a Carpophore and a Gynophore? Carpophore is a prolongation of the thalamus going through the ovaryA Gynophore is a prolongation supporting the ovary

What is there peculiar about one of the Sepals? It is spurred the Spur being attached to the flower stalk like a tube

What are these? Caulinary (*Caulinary GRM*) stipules they are on the Stem

What is the difference between bracts and stipules

A bract is a leafy appendage on a flower stalk

A Stipule is on the leaf stalk

Groundsel

B.N. Senecea vulgaris

N.O. Compositæ

What is there peculiar about the Capitula? It has no florets of the ray

Gloxinia

B.N.

N.O. Gesneriaceæ

Sub Class? Corollifloræ

Anthers Syngenesious

Geum

B.N.

N.O. Rosaceæ

Give diagnostic Characteristics of Rosaceæ? Stamens numerous periginous (*perigynous GRM*) and persistent



Gardinia

Heath

B.N.

N.O. Ericaceæ

Is it def or indef? Indefinite

Show the Calyx?

It is very minute and close to the Corolla

What is the shape of Corolla? Urceolate

Hyoscyamus

B.N. Hyoscyami Niger

N.O. Atropaceæ

What kind of a fruit has it? a pixis (*Pyxis GRM*)

Describe a pixis? A Capsule with transverse dehiscence

What is this? a persistent Calyx

Inf? A Scorpid Cyme

Fruit hairy what term? Pubescent

Leaves clammy what term? Hispid

Hydrangia (*Hydrangea GRM*)

B.N.

N.O. Caprifoliaceæ

Inf? A Corymbose Cyme

Hypanthodium

Define one? A fleshy concave thalamus enclosing a number of sessile flowers

What is the difference between a hypanthodium and a Cynnarhodium

The panthodium enclose the flowers
Cynnarhodium only enclose the fruit

Helliotrope (*Heliotrope GRM*)

B.N.

N.O. Ehretiaceæ

What is shape of leaf? Hensiform (*Ensiform GRM*)

Inflorescence? Scorpid Cyme

Helleborus Fætidus

B.N.

N.O. Ranunculaceæ

Flowers numerous never fully expanded sepals tipped with brown

Corolla the same as Xmas Rose

Honesty

B.N. Luniaria (*Lunaria GRM*)

N.O. Cruciferæ (*Cruciferæ GRM*)

Fruit is silicula, the transparent portion is the septum

A Siliqua long & narrow

A Silicula short and broad

Honeysuckle

B.N.

N.O. Caprifoliaceæ

Sub class Corrollifloræ (*Corollifloræ GRM*)

Show Calyx & Corolla

Houseleek

B.N.

N.O. Crassulaceæ

What is this? An offset

Hollyhock

B.N. Althæa Rosæ (*Rosea GRM*)

N.O. Malvaceæ

questions same as Abutilon

Hypericum

B.N.

N.O. Hypericaceæ

What order does it resemble?

Ranunculaceæ

How distinguish the two? the Carpels are not distinct

Horehound

B.N. Morrhubinum Vulgare (*Marrubium GRM*)

N.O. Labiateæ

Give diagnostic characters of Labiatæ? Square stem.
decussate leaves, labiate corolla, didymimus stamens
(*didymamus GRM*)

Hawthorn

B.N. *Crateagus* (*Crataegus* GRM)

N.O. Rosaceæ

the Fruit is a pome

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- Blank Page -

Ixia

B.N.

N.O. Iridaceæ

Inflorescence a Spike

Endogen and also Indefinite

Stamens 6 ovary inferior

Iris

B.N.

N.O. Iridaceæ

define a rhizome a thick procumbent stem running along underground giving off buds from its upper surface & rootlets from its lower

Vernation equitant vernation parallel. Show the 4 parts of the flower 3 of the segments fringed style petaloid 3 cleft. Stigma bifid

Ivy

B.N. Hedra helix

N.O. Aurilaceæ (*Araliaceæ* GRM)

Distinguish from the Umbelliferæ by the fruits having three or more seeds & not separated.

Inflorescence? An Umbel

What are these? Aerial roots

do they absorb nourishment? No

What is their use? Support

Impatiens (*Impatiens* GRM)

B.N.

N.O. Balsaminaceæ

Jasmine

B.N.

N.O. Jasminaceæ

Peculiarity of pith? Discoid

Name another plant with discoid pith? Walnut

Japonica

B.N. *Pieris Japonica* (*Pieris GRM*)

N.O. Rosaceæ

Flowers red

Lilac

B.N. *Syringa Vulgaris*

N.O. Oleaceæ

Inf: a Thyrse (*Thyrse GRM*)

What is a Thyrse A dense pannicle (*panicle GRM*)

Lily of the Valley

B.N. Convalaria (*Convallaria GRM*) majalis

N.O. Liliaceæ

S.O. Asparigaceæ (*Asparagaceæ GRM*)

Inf. A Raceme

Shape of leaf? Linear lancolate (*lanceolate GRM*)

Shape of corolla? Campanulate

Inf. Idefinite

Lily of the Nile

B.N.

N.O. Araceæ

What is this? A Spathe

What is this? A Spike

Inf.? A Spadix

Show male & female

Upper male lower female

What is this? pollen

Lupin

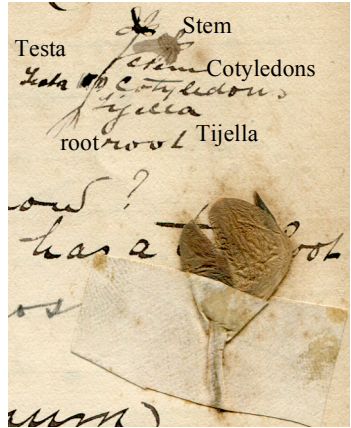
Show parts

Exogen or Endogen
Exogen

How do you know?
because it has a true root

N.O. Leguminos

Inf. Raceme



Laburnum

B.N. Cytisus Laburnum (*Cytisus GRM*)

N.O. Leguminosæ

S.O. Papilionæ

Laurel Leaves

B.N. Prunus Laurocerasus

N.O. Rosaceæ

How distinguish from bay leaf
by the glands on the surface of the leaf



Name 8 drugs under Rosaceæ 3 Roses 2 almonds Cusso
Laurel and Tormentilla

What is the active principle of Laurel leaves? not positively
known

supposed to be something analagous to Amygdalin & Emulsin
because when distilled with water it yields essential oil of
almonds & Prussic acid

Lavender

B.N.

N.O. Labiateæ

Inf? A Spike

Lobelia

B.N.

N.O. Lobeliaceæ

Lime

B.N. Tilia Eurpoea

N.O. Tiliaceæ

Peculiarity of flower stalk?

Phylloid peduncle

Name another plant with phylloid peduncles But Broom

Linum small blue

B.N.

N.O. Lilaceæ (*Linaceæ?* GRM)**Lychnis**

B.N.

N.O. Caryophyllaceæ

Mignonette

B.N.

N.O. Residaceæ

What kind of inflorescence? Indefinite

O.E. Centripetal

Show petals? White portion

What is this green appendage? a disc

What is there peculiar about the ovules
they are se (or partly enclosed

Calyx green

Anthers brown

look for unilateral hypogenous disc (*hypogynous GRM*)

Name 2 other kinds

Resida Lutea (*Reseda GRM*)

Resida Alba

Mezereon (*Mezereum GRM*)

B.N.

N.O. Thymelaceæ

How many kinds are there & name them

Four Daphne, Laureola, Odora and Japonica

Show corolla? absent

Sub class? Monochlamydæ

how distinguish between the following

Daphne Laureola	and	Daphne Mezereon
Leaves light in color & glossy		Leaves green & dull
Leaves larger		Leaves small
Flowers green		Flowers pink

MarigoldB.N. *Calendula officinalis*N.O. *Compositæ*

What kind of fruit?

A Cypsilæ (*Cypselæ GRM*)What is a _____ (*not completed GRM*)**Mustard**B.N. *Sinapis Nig et Alb*N.O. *Cruciferæ*

How distinguish

White

Black

Fruit large
at right angles

Fruit hairy

Fruit beaked

bracts split

| Fruit small
| adpressed to stem
| Fruit on (*not? GRM*) hairy
| Fruit not beaked
| bracts entire

Mallow

B.N. Malva Sylvestris

N.O. Malvaceæ

Stamens? Monodelphous (*Monadelphous GRM*)

What is the fruit? A Carcerula

Describe a carcelura :- a number of Achæmium situated around a central axis.

Peppermints

B.N.

N.O. Labiateæ

Distinguishing characters are

Pip	Vir	Pulegii
Leaves stalked	Leave sessile	Leaves small
Darker in color	Lighter in color	never form a
Blunt spike	tapering spike	terminal Spike
Verticellaster	Verticellaster	Verticellaster

Musk

B.N. *Mimulus moschatus*

N.O. Scrophulariaceæ

Medler * (*Medlar GRM*)

B.N.

N.O. Roseaceæ

Medicago Lupulina * (*Lupulina GRM*)

B.N.

N.O. Leguminosæ

Nasturtion (*Nasturtium GRM*)

B.N. Tropæoleum

N.O. Tropæolaceæ

Calyx petaloid & calcarate

Corolla partly fringed

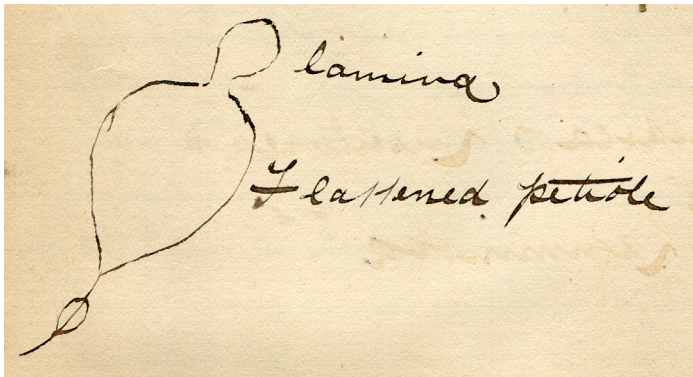
Nepenthe (*Nepthes GRM*) or Pitcher Plant

B.N.

N.O. Nepenthaceæ

Why call it pitcher plant?

because it resembles a pitcher



Nigella (devil in bush)

B.N.

N.O. Ranunculaceæ

Shew parts (? GRM)

What is there peculiar about the pistil it is Syncarpous

Orange Leaf

B.N.

N.O. Aurantiaceæ

Is it a simple or compound leaf? Compound

Why? Because it has two articulations



Oenothera

B.N.

N.O. Onagraceæ

Peculiarity of calyx?

it is petaloid and reflexed

Orchid

B.N.

N.O. Orchidaceæ

Is it exogen or endogen? Endogen

Name the parts of a perianth? Segments

Name this? Labellum or lip

What is there peculiar about stamens? Gynandrous (or attached to pistil) forming a Gynostemium

What is there peculiar about the pollen grain?

Agglutinated in two masses called pollinia

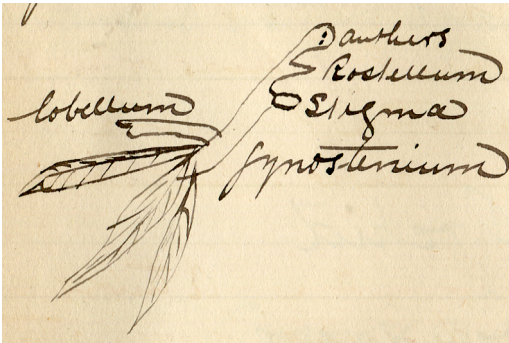
What is this? Rostellum

What is this? Stigma

How are they fertilized? in Two ways

By the wind? Called Anemophilous (*Anemophilous GRM*)

By insects? Called Entomophilous (*Entomophilous GRM*)



Oxalis

B.N.

N.O. oxalidaceæ



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Potato

B.N. Solanum Tuberosum

N.O. Solanaceæ

Give the composition?

Starch 20 p.c.

Water 80 p.c.

What are these? Buds or Eyes

Is it a root or a stem? Stem

How do you know? By its having buds

What kind of stem? A tuber

What is the difference between a tuber and tubercule (*tubercle GRM*)

Tuber is a thickened underground stem whilst a tubercule is a thickened portion of a root.

What is the cause of it going soft after a frost?

It is due to the water in the cells expanding and bursting the cells when thaw comes it evaporates.

What is it official for?

To detect Gupiacum Resin in

Scammony or other resins

Where does the starch come from before it gets into the potato? From the leaves

Pink

B.N.

N.O. Caryophyllaceæ

Show epicalyx?

Below ordinary calyx



What is a cyme?

a term applied to all definite inflorescence

|
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What is a Dicotymous cyme? (*Dichotomous GRM*)

A cyme branching into two like a fork

Plantain

B.N. Plantago Lanceolata shorter
 and also Plantago Major (*Major GRM*) long
 N.O. Plantaginaceæ

Poppy

B.N.
 N.O. Papaveraceæ

Peculiarity of Calyx?
 Caducous

Estivation of corolla? (*Æstivation GRM*)
 Crumpled

Privet

B.N.
 N.O. Oleaceæ

Fruit a baccate

Pansy

B.N. Viola Tricolor

N.O. violacea

What is there peculiar about the calyx?

What is there peculiar about the corolla?

Spurred or Calcarate

Stamens Sessile & Apendiculate (*Appendiculate GRM*)

Pistil Bent Style & hooded Stigma

Pelargonium

B.N.

N.O. Geraniaceæ

What is this? an involucre

What is there peculiar about its fruit? Contains a carpophore upon which the carpels run when ripe

What is the difference between a carpophore (*carpophore GRM*) & a gynophore? A carpophore is a prolongation of the thalamus going through the ovary A gynophore is a prolongation of the thalamus supporting the ovary

What is there peculiar about one of the sepals? Spurred the spur being attached to the flower stalk like a tube

What are these? Caulinary stipules because they are on the stem

bract is a leafy appendage on the leaf stalk

Proliferous Leaf

What are these?

Adventitious buds on the Viargin (???? GRM)



Phu

B.N. Valerian Phu

N.O. Valerianaceæ

How distinguish from Valerian?

(See leaf)



Pea

B.N. Lathera odorata
 N.O. Leguminosæ
 S.O. Papilionæ



Describe the flower?

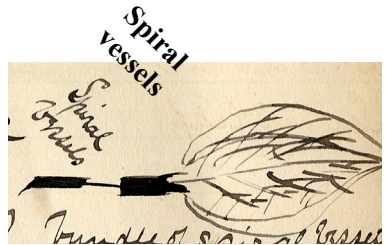
vexillum (*vexillum GRM*) , 2 alæ & Rarina or Keel

Stamens diadelphous fruit a legume

Primula

B.N.
 N.O. Primulaceæ

Break a petiole



What is this string? bundle of spiral vessels

What is there peculiar about calyx? pubescent or hairy

Swollen or Saccate & persistent or remains on after corolla

What kind of inflorescence? An Umbel

A whorl of leaves under the umbel? is the involucre

Placentation? Free central

**Potentilla**

B.N.

N.O. Rosaceæ

(Yellow flower)

Penstemon

B.N.

N.O. Scrophulaceæ (*Scrophulariaceæ GRM*)

(much like the digitalis see difference)

Rhododendron

B.N.

N.O. Ericaceæ

like Azalia only flowers grow in larger clusters

Pæony

B.N.

N.O. Ranunculaceæ

Where are the stamens?

Transformed into petals

What is there peculiar about the pistil? Apocarpous carpels
large 2 or more follicles sometimes transformed into petals

Petunia

B.N.

N.O. Solonaceæ

Sub Class Corrollifloræ (*Corollifloræ GRM*)

Name 2 kinds of fruit of Solonaceæ?

Capsular & Baccate

Potentilla

B.N.

N.O. Rosaceæ

Give Diagnostic characters of Rosaceæ:-

Stamens numerous & perigynous calyx
persistent calycifloræ (*calycifloræ GRM*)

(Flowers yellow)

Penstemon

B.N.

N.O. Scrophulaceæ (*Scrophulariaceæ GRM*)

compare with

(there was no further script here but see also page 128, GRM)

Rose

B.N.

N.O. Rosaceæ

What are leafy appendages on the leaf stem? Stipules

What kind of stipules? Adnate

Name five kinds of fruit found in Rosaceæ

Pome	Drupe	Æteris
Achenium	and	Cynarrhodum (<i>Cynarrhodium GRM</i>)

Rosemary

B.N.

N.O. Labiateæ

Give characteristics of Labiateæ:-

Square stem decussate leaves Verticillate flowers Labiateæ
 corolla didynamous stamens forked style ovary 4 celled
 4 seeded

X**Radish**B.N. Raphalis Sativa (*Raphanus sativus GRM*)

N.O. Cruciferæ

Kind of fruit?

Indehiscent Siliqua

Rhubarb

N.O. Polygonaceæ

Shape of leaf Cordate

Venation palmately reticulated

Vernation plicate

Part Eaten petiole

Part removed from petiole Epidermis

Cause of it going stringy thought cellular tissue is transformed into vascular

What is this (red leaf at base) ochreate stipule

Rumex

B.N.

N.O. Polygalaceæ

Fruit a triangular capsule with winged pericarp

**Rue**

B.N.

N.O. Rutaceæ

Fruit a capsular 3 or 4 lobed
 Syncarpus (*Syncarpous GRM*)
 look for discs

Rock CrestN.O. Cruciferæ (*Cruciferae GRM*)

it has a regular corolla

Rondeletia

N.O. Cinchonaceæ

(looks like Euphorbia Splendens)

Rhododendron

N.O. Ericaceæ

How distinguish from Azalia? it grows in clusters & larger flowers.

(see also page 128 GRM)

Solomans Seal (*Solomons Seal GRM*)

B.N.

N.O. Liliaceæ

Sub.O. Asparigaceæ

Inf. A panicle or raceme Indefinite

Sweet William

B.N. Dianthus Barbatus

N.O. Caryophulaceæ (*caryophyllaceae GRM*)

Inflor: Corymbose Cyme

Stepanotis (*Stephanotis GRM*)N.O. Aclepiadaceæ (*Asclepiadaceae GRM*)S.C. Corrollifloræ (*Corollifloræ GRM*)**Sea Holly**Euryngium Campestre (*Eryngium GRM*)

N.O. Umbelliferæ

StockB.N. *Mathiola* (*Matthiola GRM*)

N.O. Cruciferæ

What kind of fruit? A siliqua

Stamens Tetradynamous

Shepherds PurseB.N. *Capsela Bursa Pastoris* (*Capsella GRM*)

N.O. Cruciferæ

Kid of fruit A Silicula

Difference between a Silicula & Siliqua

Silicula		Siliqua
Short & Broad		Long & Narrow
~~~~~		~~~~~

**Spiræa**

B.N.

N.O. Rosaceæ

Inflor: A panicle

**Silene**

B.N.

N.O. Caryophyllaceæ

Calyx saccate    petals five unguiculate

**Sedum**

Common name Stonecrop

B.N. Sedum Acre

N.O. Crassulaceæ

(yellow flowers on walls)

**Sweet Sicily**

B.N.

N.O. Umbelliferæ

Smells like aniseed when crushed

**Sarsaparilla**

it is Endogen with Reticulated leaves

**Saponaria**

B.N.

N.O. Caryophyllaceae

**Snap Dragon**B.N. Antirrhinum Majus (*Antirrhinum GRM*)

N.O. Scrophulariaceae

Corolla personate corollifloræ**Solanum Guineense**

Fruit Baccate resembling Belladonna only the fruits are in clusters

## Sanguisorba

B.N. Sanguisorba officinale

N.O. Sanguisorbaceæ

(common burnet & Ladies mantle)

purple flowers

Closely allied to Rosaceæ

## Strawberry

B.N.

N.O. Rosaceæ

Fruit an Æteris

Define Æteris? A number of achenia situated on fleshy convex Thalamus

What is this on internode of Runner A Rudimentary leaves

Define a runner - A thin procumbent stem giving off rootlets at nodes from under surface & leaves on upper surface.

## **Scrophularia**

B.N. Scrophularia aceæ

N.O.

Stamens five one abortive forming a staminode (which look for)

What is a staminode? it is a stamen without an Anther

## **St Johns Wort**

B.N.

N.O. Hypericaceæ

Resembles Ranunculaceæ but has a syncarpous ovary

Flowers small & yellow

B.N. Datura Stramonium

N.O. Atropaceæ

Kind of fruit? a Capsule Pericarps spiny

Name & show the three parts

Epi- meso- & Endocarp

Define a capsule:-

A superior 2 celled spuriously 4 celled, many seeded dry dehiscent fruit

Kind of dehiscent :- Septifragal

A spurious dissipation (*dissepiment GRM*) is a growth in the ovary not growing from the ventral suture

Show genuine & spurious

the two Spurious situate where it has dehisced

Show Spurious they are two thick ones opposite to where it has been dehisced

Datura Satula has purple stems

**Sage**

B.N. *Salvia officinalis* (*Salvia GRM*)  
N.O. Labiateæ

**Scorzonera**

B.N.  
N.O. Compositæ

**Solanum Dulcamara**

B.N.  
N.O. Solonaceæ

Woody nightshade



**Senesia** (*Senecio GRM*)

N.O. Compositæ

Flowers yellow

**Solidago**

N.O. Compositæ

Flowers in Small Capitulum

**Sunflower**

Fruit a Cypsela

**Snowdrop**N.O. Amarillidaceæ (*Amaryllidaceæ GRM*)

Endogen

Show Calyx & Corolla they  
 outer ones Caly Inner Corolla

position of stamens Epygnous (*Epigynous GRM*)

**Trollius**

B.N.

N.O. Ranunculaceæ

**Tobacco** Fruit a capsular  
Syrian tobacco yellow flowers

**Thalactium** (small) (*Thalictrum GRM*)

B.N.

N.O. Ranunculaceæ

**Trogopogum** (*Tragopogon GRM*)

B.N.

N.O. Compositæ

**Tares**

B.N. Ervium

N.O. Leguminosæ

**Tanacetum Vulgare**

(Common name Tansy)

N.O. Compositæ

**Thyme**

B.N. Thymus Vulgaris

N.O. Thymelaceæ

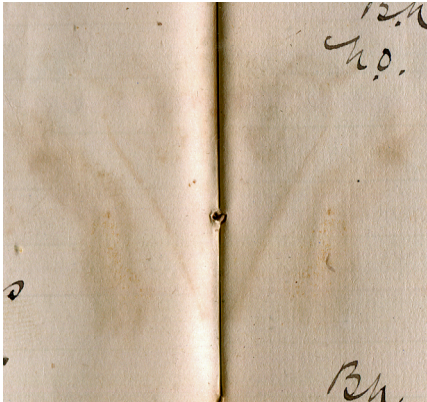
**Tulip**

N.O. Liliaceæ

Show Calyx & Corolla    outer & inner

**Tradescantia**B.N. Tradescantia Virginica (*Virginiana GRM*)N.O. Commelynaceae (*Commelinaceae GRM*)

Show Calyx & Corolla  
both readily distinguished



Page 146

Page 147

**Thrift**

B.N.

N.O. Plumbaginaceæ

**Tetragonia** (Difficult)

B.N.

N.O. Tetragoniaceæ

**Tritonia**

Liliaceæ Red Hot Poker

Inf - Raceme Indef

## **Verbascum**

B.N.

N.O. Scrophulariaceæ

What is the difference between digitalis & Verbascum leaves  
verbascum are thick and downy on both surfaces

**Verbena**

B.N.

N.O. Verbenaceæ

**Veronica**

B.N.

N.O. Scrophulariaceæ

What are peculiarity of Stamens

It has only two

Name another in same order with two stamens  
onlyCalcilaria (*Calceolaria GRM*)

~~Wegelia~~  
**Wall Flower**

B.N. Cheiranthus Cheiri

N.O. Cruciferæ

Stamens tetradynamous

Kind of fruit has it? A Siliqua

Siliqua versus Silicula



**Woad**

B.N. Isatis Tinctoriæ

N.O. Cruciferæ

What is peculiar about Siliqua

Has no replum

(on houses)

**Wysteria** (*Wisteria GRM*)

B.N.

N.O. Leguminosæ

**Wyelia**  
(*Weigela GRM*)

B.N.

N.O. Caprifoliaceæ

**Wood Ruff**

B.N.

N.O. Cinchonaceæ



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**Yew**

B.N. *Taxus Baccata*

N.O. *Coniferae*

S.O. *Taxaceae*

What is there peculiar about the leaves

They are non articulate & veinless

Name another exogen whose leaves are non-articulated

The oak

Peculiarity of wood?

has disc bearing cells

- Blank Page -

**Ginister** (*Genistea* GRM)

- Blank Page -

	Lu	Irid	Mela	Amary
(		????? GRM		)
S.O.	6	3	6	6
<u>ovary</u>	Sup	Inf	Sup	Inf
<u>anth</u>	Introse	Extrose	Extrose	Introse

**Teasel**      Dypsocaceæ (*Dipsacaceæ GRM*)

What is this? Involucre  
 What are these? Floral bracts  
 Flowers fallen off  
 Inf a glomerule

**Tiger Lily**      Liliaceæ

**Toad Flax**      Scrophularia

Inf Racem Indef  
 Corolla calcarate & Spurred

**Tomata** N.O. Solanaceæ

Fruit a baccate

**Fur** (*Two ?? GRM*) & **False Winter Cherry**

True a red persistent Calyx around the fruit

**Water Lily**

N.O. Nymphaeæ

What is there peculiar about the flower  
you cannot tell where the whorl leaves off or commence

Cause of leaf curling up when exposed to the air due to the  
contraction of cells on upper surface

**Lynum Triginium** (*Linum Trigynum GRM*)

Linaceæ

**Snow Ball Tree**

Viburnum Opiculus (*Viburnum Opulus GRM*)

Caprifoliaceæ (*now Adoxaceae GRM*)

**Bourgainvillia** (*Bourgainvillea GRM*)

Myctaginaceæ (*Nyctaginaceæ GRM*)

**Delphinium**

Ranunculaceæ

**Gaultheria Procumbens**



**Hybiscus**

Malvaceæ

**India Plant**



**Sanguaisbia** (*Sanguisorba* GRM)

## **Blank Pages**

from now on until we meet  
rough notes entered from the back  
of the reversed notebook.

These rough notes have not been  
transcribed.