

- * Spores of only one kind; prothallus bearing antheridia and archegonia.
130. **Equisetaceæ** (p. 675). Cylindric jointed hollow-stemmed plants, with toothed sheaths. Fructification in a terminal spike.
131. **Filices** (p. 678). Ferns, with fronds circinate in veneration, bearing the fructification on the under surface or beneath the margin.
132. **Ophioglossaceæ** (p. 693). Fronds often fern-like, erect in veneration. Sporangia globose, coriaceous, 2-valved, in special spikes or panicles.
133. **Lycopodiaceæ** (p. 695). Low moss-like plants with elongated stems and small persistent entire several-ranked leaves. Sporangia solitary, axillary, 1-3-celled, 2-3-valved.
- * * Spores of two kinds, the *macrospore* producing a prothallus with archegonia, the *microspore* smaller and developing antheridia.
134. **Selaginellaceæ** (p. 697). Low leafy moss-like or marsh plants, with branching stems, and small 4-6-ranked leaves, or with a corn-like stem and basal linear-subulate leaves, the two kinds of spores in distinct solitary axillary 1-celled sporangia.
135. **Marsiliaceæ** (p. 700). The two kinds of spores in the same or different sporangia which are borne in a coriaceous peduncled sporocarp arising from a slender creeping rhizome. Fronds digitately 4-foliate or filiform.
136. **Salviniaceæ** (p. 701). The two kinds of spores in separate thin-walled 1-celled sporocarps or conceptacles clustered beneath the small floating fronds; macrospores solitary.

SUBCLASS II. CELLULAR ACROGENS, OR BRYOPHYTES.
Plants with cellular tissue only; both antheridia and archegonia borne upon the plant itself. — Including the **MUSCI**, or Mosses (which are not treated of here), never thallose, and bearing capsules which usually dehisce by a lid and contain spores only, and the **HEPATICÆ**, which bear capsules which dehisce by valves or irregularly and usually have elaters mingled with the spores. The latter division comprises the following Orders.

- * Capsule 4-valved; plant a leafy axis or sometimes a branching thallus.
137. **Jungermanniaceæ** (p. 702). Leaves, when present, without a midrib, 2-ranked, with often a third row beneath; pedicels slender.
- * * Capsule 2-valved, or dehiscent irregularly, or indehiscent; plant a thallus or thalloid stem.
138. **Anthocerotaceæ** (p. 726). Thallus without epidermis, irregularly branching; pedicels stout or none. Capsule with a columella. Elaters mostly without fibres.
139. **Marchantiaceæ** (p. 727). Thallus radiate or dichotomous, the epidermis usually porose. Capsules borne on the under side of a pedunculate receptacle, irregularly dehiscent. Elaters 2-spiral.
140. **Ricciaceæ** (p. 730). Thallus radiate or dichotomous, the epidermis eporose. Capsules immersed in the thallus or sessile upon it, indehiscent. Elaters none.

ANALYTICAL KEY TO THE ORDERS.

CLASS I. DICOTYLEDONOUS PLANTS. (See p. 5.)

SUBCLASS I. ANGIOSPERME. Pistil consisting of a closed ovary.
Cotyledons only two.

DIVISION I. POLYPETALOUS: the calyx and corolla both present:
the latter of *separate* petals.

A. Stamens numerous, at least more than 10, and more than twice the sepals or lobes of the calyx.

1. Calyx entirely free and separate from the pistil or pistils.

- Pistils numerous but cohering over each other in a solid mass on an elongated receptacle. **MAGNOLIACEÆ, 49**
- Pistils numerous, separate, but concealed in a hollow receptacle.
- Leaves opposite, entire; no stipules. **CALYCANTHACEÆ, 167**
- Leaves alternate, with stipules. **Rosa, in ROSACEÆ, 162**
- Pistils several, immersed in hollows of the upper surface of a large top-shaped receptacle. **Nelumbo, in NYMPHÆACEÆ, 55**
- Pistils more than one, separate, not enclosed in the receptacle.
- Stamens inserted on the calyx, distinct. **ROSACEÆ, 150**
- Stamens united with the base of the petals, monadelphous. **MALVACEÆ, 96**
- Stamens inserted on the receptacle.
- Filaments much shorter than the anther; trees. **ANONACEÆ, 50**
- Filaments longer than the anther.
- Flowers dioecious; twiners with alternate leaves. **MENISPERMACEÆ, 51**
- Flowers perfect; if climbers, the leaves opposite.
- Leaves not peltate; petals deciduous. **RANUNCULACEÆ, 34**
- Leaves peltate; petals persistent. **Brasenia, in NYMPHÆACEÆ, 55**
- Pistils several-lobed, the ovaries united below the middle. **RESEDACEÆ, 75**
- Pistils several, their ovaries cohering in a ring around an axis. **MALVACEÆ, 96**
- Pistils strictly one as to the ovary; the styles or stigmas may be several.
- Leaves punctate under a lens with transparent dots. **HYPERICACEÆ, 92**
- Leaves not punctate with transparent dots.
- Ovary simple, 1-celled, 2-ovuled. **ROSACEÆ, 150**
- Ovary simple, 1-celled, with one parietal many-ovuled placenta.
- Leaves 2-3-ternately compound or dissected. **RANUNCULACEÆ, 34**
- Leaves peltate, simply lobed. **Podophyllum, in BERBERIDACEÆ, 52**
- Ovary compound, 1-celled, with a central placenta. **PORTULACACEÆ, 90**

Ovary compound, 1-celled, with two or more parietal placentæ.

Calyx caducous; juice milky or colored. PAPAVERACEÆ, 57

Calyx deciduous, of 4 sepals. CAPPARIDACEÆ, 74

Calyx persistent, of 3 or 5 sepals. CISTACEÆ, 76

Ovary compound, several-celled.

Calyx valvate in the bud, and

Persistent; stamens monadelphous; anthers 1-celled. MALVACEÆ, 96

Deciduous; anthers 2-celled. TILIACEÆ, 101

Calyx imbricated in the bud, persistent.

Shrubs; stamens on the base of the petals. TERNSTRÆMIACEÆ, 95

Aquatic or marsh herbs; ovaries many,

On 5 placentæ in the axis. SARRACENIACEÆ, 57

On the 8-30 partitions. NYMPHÆACEÆ, 54

2. Calyx more or less coherent with the surface of the (compound) ovary.

Ovary 8-30-celled; ovules many, on the partitions; aquatic. NYMPHÆACEÆ, 54

Ovary 10-celled; cells 1-ovuled. Amelanchier, in ROSACEÆ, 166

Ovary 2-5-celled.

Leaves alternate, with stipules. Pomeæ, in ROSACEÆ, 151

Leaves opposite, without stipules. Some SAXIFRAGACEÆ, 168

Leaves alternate, without stipules. STYRACACEÆ, 333

Ovary 1-celled, with the ovules parietal.

Fleshy plants with no true foliage; petals many. CACTACEÆ, 186

Rough-leaved plants; petals 5 or 10. LOASACEÆ, 193

Ovary one-celled, with the ovules rising from the base. PORTULACACEÆ, 90

B. Stamens of the same number as the petals and opposite them.

Pistils 3-6, separate; flowers diœcious; woody vines. MENISPERMACEÆ, 51

Pistil only one.

Ovary one-celled; anthers opening by uplifted valves. BERBERIDACEÆ, 52

Ovary one-celled; anthers not opening by uplifted valves.

Style and stigma one; ovules more than one. PRIMULACEÆ, 328

Style 1; stigmas 3; sepals 2; ovules several. PORTULACACEÆ, 90

Style twice or thrice forked; flowers monœcious.

Crotonopsis, in EUPHORBIACEÆ, 458

Styles 5; ovule and seed only one. PLUMBAGINACEÆ, 327

Ovary 2-4-celled.

Calyx-lobes minute or obsolete; petals valvate. VITACEÆ, 112

Calyx 4-5-cleft, valvate in the bud; petals involute. RHAMNACEÆ, 111

C. Stamens not more than twice as many as the petals, when of just the number of the petals then alternate with them.

1. Calyx free from the ovary, i. e. the ovary wholly superior.

* Ovaries 2 or more, separate.

Stamens united with each other and with a large and thick

stigma common to the two ovaries. ASCLEPIADACEÆ, 338

Stamens unconnected, on the receptacle, free from the calyx.

Leaves punctate with pellucid dots. RUTACEÆ, 106

Leaves not pellucid-punctate.

Tree, with pinnate leaves. Ailanthus, in SIMARUBACEÆ, 107

Low shrub, with pinnate leaves. Xanthorrhiza, in RANUNCULACEÆ, 48

Herbs, not fleshy. RANUNCULACEÆ, 34

Herbs, with thick fleshy leaves. CRASSULACEÆ, 176

Stamens unconnected, inserted on the calyx.

Just twice as many as the pistils (flower symmetrical). CRASSULACEÆ, 176

Not just the number or twice the number of the pistils.

Leaves without stipules. SAXIFRAGACEÆ, 168

Leaves with stipules. ROSACEÆ, 150

* * Ovaries 2-5, somewhat united at the base, separate above.

Leaves punctate with pellucid dots. RUTACEÆ, 106

Leaves not pellucid-punctate.

Shrubs or trees with opposite leaves. SAPINDACEÆ, 115

Terrestrial herbs; the carpels fewer than the petals. SAXIFRAGACEÆ, 168

* * * Ovaries or lobes of ovary 3 to 5, with a common style. GERANIACEÆ, 102

* * * * Ovary only one, and

+ Simple, with one parietal placenta. LEGUMINOSÆ, 122

+ Compound, as shown by the number of cells, placenta, styles, or stigmas.

Ovary one-celled.

Corolla irregular; petals 4; stamens 6. FUMARIACEÆ, 59

Corolla irregular; petals and stamens 5. VIOLACEÆ, 78

Corolla regular or nearly so.

Ovule solitary; shrubs or trees; stigmas 3. ANACARDIACEÆ, 118

Ovules solitary or few; herbs. Some anomalous CRUCIFERÆ, 61

Ovules more than one, in the centre or bottom of the cell.

Petals not inserted on the calyx. CARYOPHYLLACEÆ, 82

Petals on the throat of a bell-shaped or tubular calyx. LYTHRACEÆ, 184

Ovules several or many, on two or more parietal placentæ.

Leaves punctate with pellucid and dark dots. HYPERICACEÆ, 92

Leaves beset with reddish gland-tipped bristles. DROSERACEÆ, 178

Leaves neither punctate nor bristly-glandular.

Sepals 5, very unequal or only 3. CISTACEÆ, 76

Sepals and petals 4; stamens 6. Anomalous CRUCIFERÆ, 61

Sepals and petals 5; stamens 5 or 10.

Ovary and stamens raised on a stalk. PASSIFLORACEÆ, 194

Ovary sessile. SAXIFRAGACEÆ, 168

Ovary 2-several-celled.

Flowers irregular.

Anthers opening at the top,

Six or eight and 1-celled; ovary 2-celled, 2-ovuled. POLYGALACEÆ, 120

Ten and 2-celled; ovary 5-celled. Rhododendron, in ERICACEÆ, 286

Anthers opening lengthwise.

Stamens 12 and petals 6 on the throat of a tubular inflated

or gibbous calyx. Cuphea, in LYTHRACEÆ, 186

- Stamens 5-8 or 10, and petals hypogynous, or nearly so.
 Ovary 3-celled. SAPINDACEÆ, 115
 Ovary 5-celled. Impatiens, &c., in GERANIACEÆ, 105
 Flowers regular or nearly so.
 Stamens neither just as many nor twice as many as the petals,
 Triadelphous; petals 5. HYPERICACEÆ, 92
 Tetradynamous (or rarely only 2 or 4); petals 4; pun-
 gent herbs. CRUCIFERÆ, 61
 Distinct and fewer than the 4 petals. OLEACEÆ, 335
 Distinct and more numerous than the petals. SAPINDACEÆ, 115
 Stamens just as many or twice as many as the petals.
 Ovules and seeds only 1 or 2 in each cell.
 Herbs; flowers monœcious or diœcious. EUPHORBACEÆ, 451
 Herbs; flowers perfect and symmetrical.
 Cells of the ovary as many as the sepals, &c. GERANIACEÆ, 102
 Cells of the (divided) ovary twice as many as
 the styles, sepals, &c. LINACEÆ, 101
 Shrubs or trees.
 Leaves 3-foliolate, pellucid-punctate. Ptelea, in RUTACEÆ, 107
 Leaves palmately veined and fruit 2-winged, or
 pinnate and fruit a berry. SAPINDACEÆ, 115
 Leaves pinnately veined, simple, not punctate.
 Calyx not minute; pod colored, dehiscent;
 seeds enclosed in a pulpy aril. CELASTRACEÆ, 109
 Calyx minute; fruit a berry-like drupe. ILICINEÆ, 107
 Ovules (and usually seeds) several or many in each cell.
 Stipules between the opposite and simple leaves. ELATINACEÆ, 91
 Stipules between the opposite and compound leaves
 (but they are caducous). Staphylea, in SAPINDACEÆ, 118
 Stipules none when the leaves are opposite.
 Stamens 5, monadelphous in a 10-toothed tube or cup;
 leaves simple, all radical. Galax, in DIAPENSIACEÆ, 326
 Stamens 10, monadelphous at the base. Leaflets 3,
 inversely heart-shaped. Oxalis, in GERANIACEÆ, 105
 Stamens distinct, free from the calyx.
 Style 1, undivided. ERICACEÆ, 309
 Styles 2-5, separate. CARYOPHYLLACEÆ, 82
 Stamens distinct, inserted on the calyx.
 Styles 2 (or 3), or splitting into 2 in fruit. SAXIFRAGACEÆ, 168
 Style 1; pod in the calyx, 1-celled. LYTHRACEÆ, 184
 2. Calyx-tube adherent to the ovary, at least to its lower half.
 Tendril-bearing and often succulent herbs. CUCURBITACEÆ, 194
 Not tendril-bearing.
 Ovules and seeds more than one in each cell.
 Ovary 1-celled, many-ovuled from the base. PORTULACACEÆ, 90
 Ovary 1-celled, with 2 or 3 parietal placentæ. SAXIFRAGACEÆ, 168
 Ovary 2-several-celled.
 Anthers opening by pores at the apex; style 1. MELASTOMACEÆ, 183

- Anthers not opening by pores.
 Stamens on a flat disk which covers the ovary. CELASTRACEÆ, 109
 Stamens inserted on the calyx.
 Eight or four (rarely five); style 1. ONAGRACEÆ, 186
 Five or ten; styles 2-3, distinct. SAXIFRAGACEÆ, 168
 Ovules and seeds only one in each cell.
 Stamens 10 or 5 (instead of many), — rarely in Cratægus, in ROSACEÆ, 165
 Stamens 2 or 8; style 1; stigma 2-4-lobed; herbs. ONAGRACEÆ, 186
 Stamens 4 or 8; aquatics; styles or sessile stigmas 4. HALORAGACEÆ, 180
 Perfect stamens 4; styles 2; shrub. HAMAMELIDEÆ, 179
 Stamens 4; style and stigma 1; chiefly shrubs. CORNACEÆ, 213
 Stamens 5; flowers in umbels, or rarely in heads.
 Fruit dry, splitting in two at maturity; styles 2. UMBELLIFERÆ, 193
 Fruit berry-like; styles 2-5, separate or united. ARALIACEÆ, 212
 DIVISION II. GAMOPETALOUS calyx and corolla both present;
 the latter with its petals united more or less into one piece.
 A. Stamens more numerous than the lobes of the corolla.
 Ovary 1-celled with one parietal placenta. LEGUMINOSÆ, 122
 Ovary 1-celled with two parietal placentæ. Adlumia, &c., in FUMARIACEÆ, 60
 Ovary 1-celled with the ovules at the centre or base. STYRACACEÆ, 333
 Ovary 2-celled with a single ovule in each cell. POLYGALACEÆ, 120
 Ovary 3-many-celled.
 Stamens free or nearly free from the corolla; style single. ERICACEÆ, 309
 Stamens free from the corolla; styles 5. Oxalis, in GERANIACEÆ, 105
 Stamens inserted on the base or tube of the corolla.
 Filaments monadelphous; anthers 1-celled, kidney-shaped. MALVACEÆ, 96
 Filaments 1-5-adelphous at base; anthers 2-celled.
 Calyx free from the ovary. TERNSTREMIACEÆ, 95
 Calyx coherent with the ovary or with its base. STYRACACEÆ, 333
 Filaments wholly distinct; calyx free, persistent. EBENACEÆ, 333
 Filaments in pairs at each sinus; anthers 1-celled. CAPRIFOLIACEÆ, 216
 B. Stamens (fertile ones) as many as the lobes of the corolla and opposite them.
 Ovary 5-celled; corolla appendaged with scales inside. SAPOTACEÆ, 332
 Ovary 1-celled; pod several-many-seeded; style 1. PRIMULACEÆ, 328
 Ovary 1-celled; utricle 1-seeded; styles 5. PLUMBAGINACEÆ, 327
 C. Stamens as many as the lobes of the corolla and alternate with them, or fewer.
 1. Ovary adherent to the calyx-tube (inferior).
 Tendril-bearing herbs; anthers often united. CUCURBITACEÆ, 194
 Tendrils none.
 Stamens united by their anthers into a ring or tube.
 Flowers in an involucre head. COMPOSITEÆ, 230
 Flowers separate, not involucre; corolla irregular. LOBELIACEÆ, 305
 Stamens separate, free from the corolla or nearly so, as
 many as its lobes: stipules none: juice milky. CAMPANULACEÆ, 307

Ovary and pod superior, i. e. free from the calyx.

Five-celled and 5-beaked, opening across the beaks, which fall off at maturity; stamens 10. Penthorum, in CRASSULACEÆ, 176
Three-celled and 3-valved, or 3-5-celled and circumscissile. FICOIDEÆ, 198
Two-celled or one-celled; placenta central.

Stamens inserted on the throat or tube of the calyx. LYTHRACEÆ, 184

Stamens inserted on the receptacle or the base of the calyx,

Alternate with the 5 sepals. Glaux, in PRIMULACEÆ, 331

Opposite the sepals when of the same number. CARYOPHYLLACEÆ, 82

One-celled, with one parietal placenta. }
Ovaries 2 or more, separate, simple. } RANUNCULACEÆ, 34

2. Ovary or its cells containing only 1 or 2, rarely 3 or 4, ovules.

* Pistils more than one, and distinct or nearly so.

Stamens inserted on the calyx; leaves with stipules. ROSACEÆ, 150

Stamens inserted on the receptacle.

Leaves punctate with pellucid dots. Xanthoxylum, in RUTACEÆ, 106

Leaves not dotted.

Calyx present, and usually colored or petal-like. RANUNCULACEÆ, 34

Calyx absent; flowers entirely naked, perfect, spiked. PIPERACEÆ, 446

* * Pistil one, either simple or compound.

Ovary partly inferior, the calyx coherent to its lower half,

2-celled; styles 2; stamens many. HAMAMELIDEÆ, 179

Ovary wholly inferior (in perfect or pistillate flowers).

Aquatic herbs; ovary 3-4-celled, or (Hippuris) 1-celled. HALORAGACEÆ, 180

Mostly woody plants; style or stigma one, entire; ovary 1-celled.

Stigma running down one side of the style. Nyssa, in CORNACEÆ, 215

Stigma terminal, with or without a style.

Parasitic on the branches of trees; anthers sessile. LORANTHACEÆ, 449

Not parasitic above ground; anthers on filaments. SANTALACEÆ, 450

Ovary really free from the calyx, but permanently invested by its tube, or the base of it, so as to seem inferior.

Shrubs, with scurfy leaves; flowers mostly diœcious. ELEAGNACEÆ, 448

Herbs, with the calyx colored like a corolla.

Leaves opposite, simple. NYCTAGINACEÆ, 425

Leaves alternate, pinnate. Poterium, in ROSACEÆ, 161

Ovary plainly free from the calyx, which is sometimes wanting.

Stipules (ocrea) sheathing the stem at the nodes.

Tree; calyx none; flowers monœcious, in heads. PLATANACEÆ, 466

Herbs; calyx present and commonly petal-like. POLYGONACEÆ, 436

Stipules not sheathing the stem, or none.

Aquatic herbs, submerged or nearly so.

Leaves whorled and dissected; style single. CERATOPHYLLACEÆ, 488

Leaves opposite, entire; styles 2; ovary 4-celled. HALORAGACEÆ, 180

Not aquatics, herbs.

Ovary 10-celled; berry 10-seeded. PHYTOLACCACEÆ, 435

Ovary 3- (rarely 1-2-) celled; juice usually milky. EUPHORBIACEÆ, 451

Ovary 1-celled; juice not milky.

Style, if any, and stigma only one; leaves simple; no scarious bracts around the flowers. URTICACEÆ, 461

Styles 3; embryo straight; flowers involucrate.

Eriogonum, in POLYGONACEÆ, 436

Style or stigmas 2 or 3; embryo coiled or curved.

Stipules not scarious, leaves palmately cleft or

palmately compound. Cannabineæ, in URTICACEÆ, 461

Stipules scarious (or none); leaves opposite. ILLECEBRACEÆ, 426

Stipules none; but flowers with scarious bracts. AMARANTACEÆ, 427

Stipules and scarious bracts none. CHENOPODIACEÆ, 430

Shrubs or trees.

Ovules a pair in each cell of the ovary.

Fruit 2-celled, a double samara. Acerineæ, in SAPINDACEÆ, 115

Fruit a 1-celled and 1-seeded samara or a drupe. OLEACEÆ, 335

Ovules single in each cell of the

Three-nine-celled ovary; leaves heath-like. EMPETRACEÆ, 487

Three-celled ovary; leaves broad. RHAMNACEÆ, 111

One-two-celled ovary; styles or stigmas 2-cleft. URTICACEÆ, 461

One-celled ovary; style and stigma single and entire.

Anthers opening longitudinally. THYMELEACEÆ, 448

Anthers opening by uplifted valves. LAURACEÆ, 446

B. Flowers monœcious or diœcious, one or both sorts in catkins.

1. Only one sort of flowers in catkins or catkin-like heads.

Fertile flowers in a short catkin, head, or strobile. URTICACEÆ, 461

Fertile flowers single or clustered; sterile in slender catkins (except in Fagus).

Leaves pinnate; fertile flowers and fruit naked. JUGLANDACEÆ, 467

Leaves simple; fertile flowers 1-3 in an involucre or cup. CUPULIFEREÆ, 470

2. Both sterile and fertile flowers in catkins or catkin-like heads.

Ovary and pod 2-celled, many-seeded. Liquidambar, in HAMAMELIDEÆ, 180

Ovary and pod 1-celled, many-seeded; seeds furnished with

a downy tuft at one end. SALICACEÆ, 480

Ovary 1-2-celled, only one ovule in each cell; fruit 1-seeded.

Parasitic on trees; fruit a berry. LORANTHACEÆ, 449

Trees or shrubs, not parasitic.

Calyx regular, in the fertile flower succulent in fruit. URTICACEÆ, 461

Calyx none, or rudimentary and scale-like.

Style and stigma one, simple; the flowers in heads. PLATANACEÆ, 466

Styles or long stigmas 2.

Fertile flowers 2 or 3 at each scale of the catkin. CUPULIFEREÆ, 470

Fertile flowers single under each scale; nutlets

naked, waxy-coated or drupe-like. MYRICACEÆ, 469

SUBCLASS II. GYMNOSPERMÆ. Pistil an open scale or altered leaf, bearing naked ovules on its margin or its upper surface, or in Taxus entirely wanting. Flowers monœcious or diœcious. CONIFEREÆ, 489

CLASS II. MONOCOTYLEDONOUS PLANTS. (See p. 15.)

A. SPADICEOUS DIVISION. *Flowers aggregated on a spadix or fleshy axis, or sometimes scattered, destitute of calyx and corolla (excepting some Araceæ and Naiadaceæ, where, however, they are on a spadix), and also without glumes (hustly scales). Leaves sometimes with netted veins.*

Little floating aquatics, with no distinction of stem and foliage. LEMNACEÆ, 551
Immersed aquatics, branching and leafy. NAIADACEÆ, 557

Reed-like or Flag-like marsh herbs, with linear and sessile
nerved leaves; flowers in spikes or heads.

Flowers monœcious, and quite destitute of floral envelopes. TYPHACEÆ, 547

Flowers perfect, on a lateral spadix; sepals 6. ACORUS, in ARACEÆ, 550

Terrestrial or marsh plants; leaves mostly with a distinct
netted-veined blade, petioled. ARACEÆ, 548

B. PETALOIDEOUS DIVISION. *Flowers not collected on a spadix, furnished with floral envelopes (perianth) answering to calyx or to both calyx and corolla, either herbaceous or colored and petal-like (wholly glumaceous in Juncaceæ).*

1. *Perianth adherent to the whole surface of the ovary.*

Flowers dioecious (or rarely perfect), regular.

Aquatics; ovules and seeds several or numerous. HYDROCHARIDACEÆ, 495

Twining; ovules and seeds one or two in each cell. DIOSCOREACEÆ, 517

Flowers perfect; ovules and seeds usually numerous.

Stamens only one or two; flower irregular, gynandrous. ORCHIDACEÆ, 497

Stamens three.

Anthers introrse, opening transversely. BURMANNIACEÆ, 496

Anthers introrse or versatile, opening lengthwise. HEMODORACEÆ, 512

Anthers extrorse, opening lengthwise. IRIDACEÆ, 513

Stamens 6; flowers usually on a scape from a bulb. AMARYLLIDACEÆ, 515

2. *Perianth adherent only to the base or lower half of the ovary.*

Perianth woolly or roughish-mealy; leaves often equitant. HEMODORACEÆ, 512

Perianth smooth; the leaves grass-like. Stenanthium, etc., in LILIACEÆ, 517

3. *Perianth wholly free from the ovary.*

Pistils numerous or few in a head or ring. ALISMACEÆ, 553

Pistil one, compound (cells or placenta mostly 3).

Perianth not glumaceous or chaffy; flowers not in dense heads.

Stamens 6 (in Maianthemum 4), similar and perfect.

Scurfy-leaved epiphyte; seeds hairy-tufted. BROMELIACEÆ, 511

Marsh herbs; carpels nearly distinct or separating closed from

the axis; seed without albumen. Juncagineæ, in NAIADACEÆ, 557

Terrestrial, not rush-like; seeds with albumen.

Perianth of similar divisions or lobes, mostly colored. } LILIACEÆ, 517

Perianth of 3 foliaceous and green sepals and 3 colored withering-persistent petals. Trillium in } LILIACEÆ, 517

Perianth of 3 persistent green sepals, and 3 ephemeral deliquescent petals. COMMELINACEÆ, 538

Stamens 6, dissimilar, or only three with perfect anthers.

Sepals 3, herbaceous; ephemeral petals 3, unequal. COMMELINACEÆ, 538

Perianth tubular, 6-lobed. PONTEDERIACEÆ, 535

Stamens 3, similar. Moss-like aquatic. MAYACEÆ, 537

Perianth wholly glumaceous, of 6 similar divisions. JUNCACEÆ, 539

Perianth partly glumaceous or chaff-like; flowers in very dense heads. Rush-like or aquatic.

Flowers perfect; inner perianth of three yellow petals; perfect stamens and plumose sterile filaments each 3; pod 1-celled, many-seeded on 3 parietal placentæ. XYRIDACEÆ, 536

Flowers monœcious or dioecious, whitish-bearded; stamens 4 or 3; pod 2-3-celled, 2-3-seeded. ERIOCAULEÆ, 566

C. GLUMACEOUS DIVISION. *Flowers destitute of proper perianth, except sometimes small scales or bristles, but covered by scale-like bracts or glumes.*

Glume a single scale-like bract with a flower in its axil. CYPERACEÆ, 567

Glumes in pairs, of two sorts. GRAMINEÆ, 623

Stamens 6, dissimilar, or only three with perfect anthers.

Sepals 3, herbaceous; ephemeral petals 3, unequal.

Perianth tubular, 6-lobed. COMMELINACEÆ, 538

Stamens 3, similar. Moss-like aquatic. MAYACEÆ, 537

Perianth wholly glumaceous, of 6 similar divisions. JUNCACEÆ, 539

Perianth partly glumaceous or chaff-like; flowers in very dense heads. Rush-like or aquatic.

Flowers perfect; inner perianth of three yellow petals; perfect stamens and plumose sterile filaments each 3; pod 1-celled, many-seeded on 3 parietal placentæ. XYRIDACEÆ, 536

Flowers monœcious or dioecious, whitish-bearded; stamens 4 or 3; pod 2-3-celled, 2-3-seeded. ERIOCAULEÆ, 566

C. GLUMACEOUS DIVISION. *Flowers destitute of proper perianth, except sometimes small scales or bristles, but covered by scale-like bracts or glumes.*

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