# Schema for Apiaceae

[ Perennial | Annual ] herb

\_\_\_\_ cm. to \_\_\_\_ cm.

Root

[ globose | woody taproot | … ]

Leaves

[ simple | compound ]

\_\_\_\_ mm. × \_\_\_\_ mm. wide

 [ … | palmate | pinnate | … ]

ultimate leaf division ≤ \_\_\_\_ mm, ≤ \_\_\_\_ mm. wide

[ … | villous | … ]

tips [ … | obtuse | … ]

[ … | (very small) spiny | … ]

Inflorescence

[ … | compound umbel | … ]

involucel bractlets [ … | glabrous | … ]

Flowers

[ … | white | … ]

Anthers

[ … | red | … ]

Ovary

stylopodium [ absent | present ]

[ … | glabrous | … ]

Fruit

\_\_\_\_ mm. × \_\_\_\_ mm. wide

[ … | ovate | … ]

[ … | glabrous | … ]

compressed [ … | dorsally | laterally | … ]

dorsal rib [ (not)winged ]

# Schema for Asteraceae

[ Perennial | Annual ]

[ herb | shrub ]

height \_\_\_ [ cm. | m. ]

sap [not] milky

caudex [ taprooted | rhizomatous | button-like ]

Stem

young stem …

proximal stem …

distal stem …

[ white | dull white | light gray | green | … ]

[ arachnose | glabrous | glandular | [soft] hairy | peeling | tomentose | resinous | bristles | … ]

[… in axils ]

[… extends to the involucres]

Leaves

[ basal | [and] | cauline ]

 [ alternate | opposite ]

petiole \_\_\_\_ mm.

blade \_\_\_ cm. x \_\_\_ mm. wide,

[ equal-size | reduced distally

[ thread-like | linear | ovate | oblong | oblanceolate ]

[ entire | lyrate | pinnately lobed | … ]

[ (nearly) to mid-rib ]

segments [ … | linear | lance-linear | deltoid | … ]

[ glandular | eglandular ]

[ glabrous | { upper | lower | mid-vein } tomentose | …

margins [ entire | crenate | crenulate | repand | sinuate | wavy | … ] [ … | ciliate | … ] [tips of teeth [ denticles | … ] ]

tendrils [ 0 | … ]

tips [ round | 3-toothed | [not] spine-tipped ]

Inflorescence

head enclosed by involucre

heads #\_\_\_\_ per stem

heads [not] showy

[ flat-topped | triangular ]

[ not | overtopped ] by leaves;

[ heads with gummy exudate ]

involucre

Peduncles

\_\_\_\_ mm.

Involucre

\_\_\_\_ mm. ×\_\_\_\_ mm. wide

[ … | cylindric | [narrowly] ovoid | ellipsoid | spheric | urn-shaped | … ]

[ … | glabrous | tomentose | resinous | … ]

Phyllaries

[ equal | unequal ]

in [ 1 | 2 | 3± | 5± ] [ distinct vertical ranks | series ]

\_\_\_\_ mm. × \_\_\_\_ mm. wide,

lower [ … | << | … ] rest of involucre

[ green | chartaceous | scarious | purplish-red | … ]

[ eglandular | glandular | gland-dotted | gland-tipped bristles ] [proximally | evenly distributed | distally ]

margins

[ ±flat | ±folded ]

[ not ] clasping or enclosing ray ovaries

[ scarious | … ]

tips [ acuminate | acute | obtuse | rounded ]

coiled [ 360° ]

Receptacle

[ epaleate | … ]

Palea

\_\_\_\_ mm. ×\_\_\_\_ mm. wide,

Perianth

[ single | 2 or more ] whorl(s)

parts [ … | 5 ] per whorl

Flowers,

of [ 1 | 2 ] kind(s)

Ray flowers [ ligules ]

 [ … | 6 | many … ]

tube \_\_\_\_ mm. + blade \_\_\_\_ mm. ×\_\_\_\_ mm. wide

[ white | yellow | blue | lavender | …

[ fertile | sterile ]

Disk flowers,

[ 0 | 3 | many ]

tube \_\_\_\_ mm. + lobes \_\_\_\_ mm.,

throat [ expanding gradually | … ] above tube,

[ yellow | white | red | … ]

open,

bisexual

Pappus

[ 0 | few | many ]

 [ … | well-developed ]

 [ awns | bristles | scales ]

\_\_\_\_ mm.

[ ±equal | unequal ]

[ barbed | plumose | smooth ]

Stamens

[ equal | … ] in number to corolla lobes;

Ovary

[ inferior | … ]

Pistil

[ 1 | … ] per flower

Style

1

2-branched

tips [ truncate | ±brush-like appendages ]

Stigma

 [ < | ±= | > ] style appendages

Fruit (Cypsela)

\_\_\_\_ mm x \_\_\_\_ mm wide

[ compressed [ front to back | side to side ] | 3-angled | round | pie-shaped ] in x-section

color [ … | black | brown | green | … ]

[ glabrous | hairy | … ]

beak [-less]

# Schema for Brassicaceae

[ Annual | Perennial ]

[ … | herb | … ]

[ aquatic | terrestrial ]

\_\_\_\_ cm. to \_\_\_\_ cm. tall

Hairs [ 0 | simple | (some) branched | dolabriform | forked | stellate ] [ proximally | throughout | distally ]

Caudex [ 0 | … ]

Roots [ tap |fibrous | rooting from proximal nodes | …]

Stem

[ … | decumbent | erect |… ]

[ leafy | scapose ]

Proximal [ simple | malpigian | branched ] hairs

Distal [ glabrous | simple | branched ] hairs

Leaves

[ Basal | Cauline ]

Basal

[ compound | simple ]

petiole \_\_\_\_ mm.

blade \_\_\_\_ mm. × \_\_\_\_ mm. wide

[ … | rhomboid | oblanceolate | obovate | …]

Margin [ … | entire | pinnately toothed | pinnately divided | dissected ]

hairs … [ … ciliate … ]

tip [ … | acute | acuminate | …]

Cauline

[ [ nearly ] sessile | petioled | basally lobed | clasping ]

[ … | linear | lanceolate | … ] …

 [ pinnately divided | dissected ]

margin [ entire | (coarsely) dentate | … ]

Inflorescence

[ … | raceme | … ]

\_\_\_\_ mm. × \_\_\_\_ mm. wide

[ not ] bracted throughout

[ not ] one-sided

Flowers [ bilateral | radial ]

Sepals

# \_\_\_\_

Rows [1 | 2 ]

\_\_\_\_\_ mm. × \_\_\_\_ mm. wide

[ … | ovate | obovate | elliptic | … ]

tip [ small hood-shaped appendage ]

Color [ green| … ] [ turning yellow ]

[abaxial ] [glabrous | hairy ] [ wavy]

Petals

claw \_\_\_\_ mm.

\_\_\_\_\_ mm. × \_\_\_\_ mm. wide

[ … |obovate | spoon-shaped | … ]

margin [ … | entire | … ]

color [ … | white | yellow | orange | pink | lavender | … ]

Stamens [ 2 | 4 | 6 ]

[ tetradynamous[[1]](#footnote-1) ]

\_\_\_\_ mm.

Filaments

\_\_\_\_ mm.

[ appendaged | dentate | plain | winged ]

Anthers

\_\_\_\_ mm.

[ … | linear | lanceolate | ovate | … ]

base [ … | saggitate | …]

Ovary

\_\_\_\_ mm. × \_\_\_\_ mm. wide

Style

[ \_\_\_\_ mm. | short ]

 [ [ not ] elongating in fruit ]

Stigma

[ capitate | 2-lobed ]

Fruit

Pedicels,

\_\_\_\_ mm.

[ ascending | sigmoid ]

[ glabrous | puberulent | … ]

young

[ … | linear | … ]

mature

[ … | didymous | … ]

\_\_\_\_ mm. x \_\_\_\_ mm. wide

notched \_\_\_\_ mm.

basal sinus [ < | = | > ] apical sinus

[ appressed | ascending | spreading | descending | pendant | reflexed | … ]

[ [ not | slightly ] inflated ]

[ firm | coriaceous | papery ]

[ glabrous | pubescent | appressed | hairy as above |… ]

Ovules (seeds)

[ uniseriate | biseriate ]

[ 1 | 2 | 4 | many ]

# Schema for Fabaceae

[ Annual | Perennial ]

[ herb | shrub | tree ]

to \_\_\_\_ [ cm. | m. ]

[ caulescent | acaulescent ]

[ erect | decumbent | sprawling ]

**Stem**,

[ (not) winged ]

hairs [ basifixed | dolabriform ]

**Leaves**

[ simple | compound ]

stipules

[ free | connate ]

\_\_\_\_ mm.

petiole

\_\_\_ mm.,

blade

\_\_\_\_ mm. × \_\_\_\_ mm. wide,

leaflets

#\_\_\_

\_\_\_\_ mm. × \_\_\_\_ mm. wide,

terminal leaflet [not ] a tendril, (not) forked

mid-rib [ extended] [ mucro ]

 [ petiole | rachis | leaflets ] with [.appressed ] [ stiff ] [ …. dolabriform | straight ] hairs;

**Inflorescence**,

[ raceme | [ not ] umbel ]

\_\_\_ # flowers

pedicels, \_\_\_\_ mm.

**Calyx**,

[ asymmetric | symmetric ]

tube \_\_\_\_ mm. + lobes \_\_\_\_ mm.,

(a)symmetric

hairs [ glabrous | simple | dolabriform ]

**Flower**,

[ radial | zygomorphic ],

banner

\_\_\_\_ mm.

color [ blue] [ yellow spot ]

reflexed at [ … | middle | …]

[ closed| [ shallowly | widely ] gaping ] appearance

back [ glabrous | (sparsely) hairy ]

wings [ absent ]

claw \_\_\_\_ mm.

[ + ] blade \_\_\_\_ mm.

clawed,

keel [ absent ]

\_\_\_\_mm.,

tip [ obtuse | (prominent) (ascending) beak ]

[ glabrous | ciliate [ top | bottom ] [ proximally | distally ]

Ovary,

\_\_\_\_ mm. × \_\_\_\_ mm. wide,

[ glabrous | hairy ]

Style

[ dehiscent | persistent ]

Stigma,

[ … | flattened | round | …]

hairs [ … | ring around | one side | … ]

Fruit

\_\_\_\_ mm. × \_\_\_\_ mm. wide,

[ … | falcate | spherical | …]

hairs

[ appressed ] [ stiff ] [ … | basifixed | dolabriform | …] [ straight ]

# Schema for Rosaceae

[Annual | Perennial ]

[ … herb | shrub | tree | … ]

\_\_\_\_ [ cm. | m. ] to \_\_\_\_ [ cm. | m. ]

[ … caespitose | erect … ]

[not] stoloniferous

hairs

[ … | short \_\_\_ mm. | long \_\_\_\_ mm. … ]

[ … eglandular | glandular | …

[ … | ±spreading | … ]

[ … stiff | soft … ]

glands

[ … sparse | obscure … ]

partially leafed out while in bloom;

Stems,

bark [ shreddy ]

epidermis [ peeling ] [ white ] [ dotted ]

thorns [ 0 | … | many ]

prickles [ 0 | … | many ]

 [ curved | straight ]

[ equal | unequal ]

[ absent | present ] on new growth

Leaves,

 [ basal | cauline | stem ]

Basal,

\_\_\_\_ mm. × \_\_\_\_ mm. wide,

[ Simple | compound [ palmate | pinnate ] ]

Leaflets,

#\_\_\_\_

Cauline,

# \_\_\_\_ per stem,

 [ alternate ]

[ reduced in size | ]

Compound [ palmate | pinnate | ternate ]

Stipules

[ small | large ]

\_\_\_\_ mm. × \_\_\_\_ mm. wide

 [ lanceolate ]

[ … | entire | toothed | … ]

Petiole,

\_\_\_\_ mm.,

Blade,

\_\_\_\_ mm. × \_\_\_\_ mm. wide,

Leaflets,

# \_\_\_\_,

\_\_\_\_ mm. × \_\_\_\_ mm. wide,

lobed [ ½ | mid-rib ]

margin [ serrate ]

teeth [ … |dark-tipped | … ]

Stem (neither basal nor cauline )

 [ alternate | opposite ]

±evenly distributed on branches

 [ simple | compound ]

[ leathery | soft ]

Petiole

\_\_\_\_ mm.,

[ glabrous | sparsely hairy ]

Blade

[ Basal glands ]

\_\_\_\_ mm. ×\_\_\_\_ mm. wide ,

 [ ovate | elliptic | lanceolate ]

Bases [ equal ]

Veins [ palmate | pinnate ]

adaxially [ glabrous | (sparsely) hairy ]

Abaxially [ glabrous | sparsely to moderately hairy] [ on veins ]

Hairs [ simple | stellate ]

Margin

 [ entire | hairy | serrate | crenate | doubly crenate ]

 Distally [ toothed |hairy ]

 Teeth [ eglandular | glandular ]

Inflorescence,

 [ … borne singly | solitary | congested cyme | umbellate corymb | clusters | …

 # \_\_\_\_\_ flowers

Pedicels

\_\_\_\_ mm.;

hairy below, thining above

Hypanthium / Calyx / Sepals,

\_\_\_\_ mm. × \_\_\_\_ mm. wide,

lobes, #\_\_\_\_5,

\_\_\_\_ mm. × \_\_\_\_ mm. wide,

color [ … | green | … ]

 [ flattened at base ]

fused at base, , fused >½;

adaxial, glandular hairy

abaxial, stalked glandular

glabrous, few (2) glands on margins;

 [ reflexed ]

epicalyx bractlets, \_\_\_\_ mm. × \_\_\_\_ mm. wide;

Flowers,

limb,

\_\_\_\_ mm.,

Petals,

# \_\_\_\_

\_\_\_\_ mm. × \_\_\_\_ mm. wide,

 [ obovate ]

color [ … | cream | yellow | … ]

Receptacle, hairy,

\_\_\_\_ mm.

[ glabrous | hairy ]

Stamens,

[ 8 | 12-25 | many ]

Anthers

\_\_\_\_ mm. × \_\_\_\_ mm. wide

Ovary

# [ 1 | many ]

[ inferior | superior ]

[ glabrous ]

Tip

[ glabrous | hairy ]

Styles

 [ 1 | 2 | 3 | (4)5 ]

\_\_\_\_ mm.,

 [ attached laterally below top of ovary | emerges from top of ovary ]

[ thickest at base | widest at middle ]

[ tapered throughout ]

[ warty | not warty ]

Stigma

# \_\_\_\_

Fruit,

 [ drupe | drupelets | pome | receptacle | unknown ]

Achenes,

\_\_\_\_ mm.,

attachment [ lateral ]

[ … | tan | … ]

[ … | glabrous | … ]

reticulate in color, but not texture

 [ minutely papillate | reticulate ]

# Schema for Cyperaceae

[ Annual | Perennial ] sedge,

Habit:

[ (densely) caespitose | rhizomatous | …]

Culms:

to \_\_\_\_ cm.,

[ … | lightly scabrous below head | …]

Leaves:

\_\_\_\_ mm. wide,

green,

Sheaths,

 [ white-hyaline | … ]

ventrally [ … | smooth | cross-rugulose | … ]

Inflorescence:

\_\_\_\_ mm. × \_\_\_\_ mm. wide,

# \_\_\_\_ spikes,

[ (closely | loosely) clustered | separated | … ]

Spikes:

[ identical (appearing) | differentiated ]

terminal [ staminate | androgynous | gynecandrous | … ]

lateral [ androgynous | gynecandrous | pistillate | … ]

proximal [ pistillate | … ]

brown (but not reddish),

\_\_\_\_ mm. × \_\_\_\_ mm. wide

Bracts:

\_\_\_\_ mm. | short | long

proximal,

\_\_\_\_ mm.

[ < | = | > ] inflorescence

[ setaceous (bristle-like) | leaf-like ]

Pistillate scales,

\_\_\_\_ mm.,

[ < | = | > ] perigynia,

green mid-vein, brown laterally, hyaline margin

[ margin folded over perigynum ]

[ awn [ 0 | short | \_\_\_\_ mm. ]

Perigynia,

[ #\_\_\_\_ | many ] per spike,

\_\_\_\_ mm. × \_\_\_\_ mm. wide,

 [ wingless | (some) (weakly) winged | … ]

faces [ adaxial | abaxial ] [ veined | vein-less ]

[ glabrous | papillate | pubescent ]

beak

\_\_\_\_ mm.

[ flattish ]

[ ± sloping to tip ]

[ serrulate ]

achene to beak tip, \_\_\_\_ mm.;

Achene,

\_\_\_\_ mm. × \_\_\_\_ mm. wide,

biconvex,

obovate;

Stigma,

# [ 2 | 3 ]

Anthers

\_\_\_\_ mm.

Habitat

# Schema for Poaceae

Annual / Perennial

Height \_\_\_\_ cm

[ clumped | tufted | (not) rhizomatous ]

[ bulbous bases ]

Roots

[ fibrous | \_\_\_\_ ]

Stem

herbaceous

Internodes

Basal swollen

[ hollow | solid ]

[ hairy | glabrous ]

Leaf blades

Blade and sheath differentiated

[ stiff | soft ]

Sheath

\_\_\_\_\_ mm.

[ open | closed (below ligule) ]

[ minutely ] [ … | glabrous | scabrous | … ]

Ligule type

[ absent | ciliate | membranous ]

Length \_\_\_\_ mm

Auricles [ absent | minimal | \_\_\_ mm. ]

Blade

\_\_\_\_ mm. × \_\_\_\_ mm. wide

[ flat | involute | revolute ]

[ glabrous | hairy | scabrous ] [ inside ]

mid-rib

margins [ glabrous | (sparsely) hairy | scabrous ]

tip [ … | prow-shaped | … ]

Inflorescence

[ 1-2 | 3-many ] per culm

[ < | = | > ] leaves

Type [ panicle | raceme | spike ]

\_\_\_\_ mm. × \_\_\_\_ mm. wide

\_\_\_\_ # branches, \_\_\_\_\_ mm.

Rachis / Axis (of the inflorescence)

[ extended | not extended ] beyond upper spikelet

 [ glabrous | hairy | scabrous | bristles ] on \_\_\_\_ side(s)

Spikelets

[ few | many | #\_\_\_ ]

\_\_\_\_ mm. × \_\_\_\_ mm. wide

 [ similar | markedly dissimilar ]

[ borne singly | paired ]

[1 / node | 2-8 / node ]

[ stalked | sessile | 1° or 2° branches ]

Pedicels \_\_\_\_ mm.

[ enclosed in burs ] [ capitate clusters ]

[ subtended by bristles or long silky hairs ]

Compression type

[ lateral | dorsal |unremarkable ]

Disarticulation type

[ … | below the glumes | above the glumes | between florets | … ]

Florets falling [ separately | as a unit ]

Glumes

[ upper | lower ] present

lower,

\_\_\_\_ mm.

veins [ 0 | 1 | 3 | 5 | … ]

bases [ flat | terete ]

upper,

\_\_\_\_ mm.

[ < | = | > ] lowest floret

veins [ 0 | 1 | 3| 5 | … ] [ ± parallel ]

[ keeled | rounded ]

[ membranous | tough ]

 [ relative length | ±equal ]

Awns [ 0 | 1 | 3 | many ]

margins [ … | ciliate | hairy | … ]

Florets

[ forming bulblets ]

\_\_\_\_\_ per Spikelet

Number of fertile florets

[ … | bisexual |pistillate | staminate | … ]

Axis (within the spikelet)

[ sparsely ] [ glabrous | hairy | scabrous ] on \_\_\_\_ side

[ extended | not extended ] beyond upper floret

nodes [ … | enlarged | color | … ]

Callus

[ … | sharp | … ]

[ cobwebby | straight ] hairs [ white | tan| brown ]

Position of sterile florets

Lemma

Length \_\_\_\_\_ mm.

(body) [ < | = | > ] glumes (body)

 [ … | ovate | lanceolate | obovate | …]

 [ membranous | indurate ]

[ rolled | keeled ] [ throughout | proximal ½ | … ] to …

[ proximally ] [ glabrous | scabrous | [ straight | wavy | cobwebby] hairy ] [ length \_\_ mm. ] [ color \_\_\_ ]

[ distally ] [ glabrous | scabrous | hairy ]

keel [ glabrous | hairy ]

color [ … | green | tan | brown | … ]

veins [ ≤3 | ≥ 5 ], [ glabrous | hairy ], [ parallel | convergent ]

margins [ … | hairy | scarious | … ]

tip [ entire | 2-forked ] [ acute | obtuse ]

[ (not) withering ]

marked by [ … | line of hairs | … ]

awns \_\_\_, \_\_\_\_ cm [ straight | bent | curving ] [ (not) twisted ]

attached [ middle |end | … ]

Palea

\_\_\_\_ mm.

[ < | ±= | > ] lemma

[ … | membraneous | unicellular | … ]

[ … | glabrous | … ]

keel [ glabrous | hairy | ciliate | scabrous | serrate ]

veins [ colorless | green | … ]

margin [ glabrous | ciliate ]

tip [ entire | bifid ]

color [ base | margin ]

Stamens

Anthers

\_\_\_\_ mm.

Ovary

[ glabrous | hairy ]

Stigma

[ … | feathery | … ]

Achene

\_\_\_\_ mm.

[ … brown | yellow | green | … ]

1. 2 short, 4 long [↑](#footnote-ref-1)