Bryophytes of Huckleberry Botanic Regional Preserve

HORNWORTS

By order:

ANTHOCEROTALES:

Thallus cavernous with mucilage-filled cavities. Spores dark brown-blackish.

Anthocerotaceae
Anthoceros
in seeps; on soil
A. fusiformis

- On summer-dry soil, usually
- Spore characters used to distinguish from other *Anthoceros*

Hornwort species checklist:

Anthoceros fusiformis

LIVERWORTS

By order:

SIMPLE THALLOID LIVERWORTS

METZGERIALES:

Thalloids thin, linear, winged, with a distinct midrib and dichotomous branching. Some have oil bodies. Gametangia on short branches arising from midrib or reduced lateral branches.

Fossombroniaceae
Fossombronia
on soil

LEAFY LIVERWORTS

PORELLALES:

Leafy liverwort. Leaves usually unevenly 2- or 3- lobed. Lobules often inflated water sacs. Gemmae rare.

Frullaniaceae
Frullania
on bark
F. bolanderi

- Lobule about as long as wide
- Underleaf commonly with a lateral tooth on each side
- Lobules always inflated

Porellaceae
Porella
on soil; on bark
P. cordaeana

COMPLEX THALLOID LIVERWORTS

MARCHANTIALES:

Complex thallus differentiated with air chambers and pores (usually). Storage parenchyma. Ventral scales. Antheridiophores and archegoniophores. Seta short. Gemmae common. Occasionally has tubers.

Aytoniaceae
Asterella
on soil
A. bolanderi

Lunulariaceae
Lunularia

on soil
L. cruciata

- Half-moon shaped gemma cups
- “Cross”-shaped archegoniophore top

Ricciaceae
Riccia
on soil
R. sorocarpa

Targioniaceae
Targionia
on soil
T. hypophylla

<u>Liverwort species checklist:</u>

Asterella bolanderi
Frullania bolanderi
Lunularia cruciata
Porella cordaeana
Riccia sorocarpa
Targionia hypophylla

MOSSES

By order:

ACROCARPS

POLYTRICHALES:

Subterranean root-like “rhizome.” Hydroids and leptoids in central strand. Complex costa. Dioicous. Perigonia often conspicuous (splash cups). Rounded or angled capsule. Peristome of 32 or 64 teeth or as bunch of bristles. Epiphragm (membrane between teeth) common. Calyptra often hairy or glabrous and covering capsule. Largest terrestrial mosses.

Polytrichaceae
Atrichum
on soil bank
A. selwynii

- Solitary to loosely tufted, erect, unbranched
- On soil
- Leaf oblong to ligulate, oblong and toothed on upper
- Lamellae along costa
- Bistratose border 2–3 cells wide
- Margin toothed in pairs
- Capsule cylindric and smooth

Polytrichum
on soil
P. piliferum

- Reddish, erect, unbranched
- Exposed rocky soil, full sun
- Leaf lanceolate with ovate clasping base
- Tall lamellae
- Red-based hyaline hair-point
- Serrulate margin, abruptly inflated nearly meeting in middle
- Capsule hairy

GRIMMIALES:

Protonema short-lived. Leaf cells often incrassate (thick-walled). Leaves are often sinuous and glass hairs (awns) common. Some taxa have alar cells. Most are saxicolous (on rock).

Grimmiaceae
Grimmia
on rock
G. pulvinata
G. trichophylla

DICRANALES:

Cells usually quadrate or rectangular. Alar cells often differentiated. Some lack peristome.

Dicranaceae
Dicranoweisia
on logs
D. cirrata

Ditrichaceae
Ceratodon
on disturbed soil
C. purpureus

- Erect, unbranched stems, in dense cushions
- Soil and rock, disturbed sites
- Leaf ovate-lanceolate to oblong-lanceolate
- Nerve to end of leaf or shortly excurrent
- Margins revolute to just below the apex
- Seta reddish, capsules common

Ditrichum
on soil
D. ambiguum
D. schimperi

Pleuridium
on soil
P. subulatum

Fissidentaceae
Fissidens
on soil bank in small caves or under overhangs
F. crispus
F. curvatus

POTTIALES:

Papillae and glass hair points (awns) common. Costa usually present, sometimes reduced. Peristome distinct (pottioid type) or absent. Many xerophytic (dry habitat).

Pottiaceae
Acaulon
on soil
A. rufescens

Syntrichia
on bark or disturbed soil, sometimes on rock
S. laevipila

S. princeps

- Stems in dense cushion, green above, brown below
- Leaf basal cells hyaline
- Hyaline hair point, reddish at base
- Margin entire and recurved 2/3 up leaf blade
- Costal hydroids needed to separate from *S. ruralis*
- Sporophytes common

S. ruralis

- Stems in dense cushion, green above, brown below
- Leaf basal cells hyaline
- Hyaline hair point, reddish at base
- Margin entire and recurved 2/3 up leaf blade
- Absence of costal hydroids needed to separate from *S. princeps*
- Dioicous; sporophytes rare

Tortula
on soil or rock
T. muralis

- On rock, concrete, walls
- Long hyaline awn
- Leaf border of 1–23 rows of yellow cells

Weissia
on soil
W. controversa

Timmiellaceae
Timmiella
on soil
T. anomala

BRYALES:

Rhombic or hexagonal cells. Capsule often pendulous and pyriform (“pear mosses”). Asexual reproduction common by bulbils, threadlike gemmae, and rhizoid tubers.

Bryaceae
Bryum
on soil
B. argenteum

- Whitish or silver-green
- Erect, julaceous
- Soil, rock, gravel, disturbed sites
- Leaf ovate with upper third hyaline
- Costa disappearing below apex

B. pallescens

Epipterygium
on soil bank
E. biauritum

PLEUROCARPS

ORTHOTRICHALES:

Cells on upper leaves rounded, sometimes elongate, thick-walled, and usually papillose. Capsule immersed or sticking out on short seta. Capsule is sometimes ribbed. Peristome distinct (Orthotrichum type) or reduced. Operculum present. Calyptra often hairy. May have gemmae. Grows on rocks or bark.

Orthotrichaceae
Pulvigera
on bark; on logs
P. lyellii

- Prostrate stems with ascending branches
- On tree trunks and branches, occasionally on rock walls
- Leaf ovate-lanceolate to lanceolate
- Margin papillose-crenate, recurved below
- Seta short; capsule immersed
- Usually has abundant gemmae

P. papillosa

HYPNALES:

Alar cells (large cells at basal corners of leaves) common. Cayptra conic and split up one side, like a monk's hood (cucullate). Large and diverse group (more than 4000 species; approximately 1/3 of all mosses)

Brachytheciaceae
Brachythecium
on soil
B. albicans
B. asperrimum

Homalothecium
on bark
H. nuttallii

Kindbergia
on soil bank
K. oregana
K. praelonga

- Forms greenish mats of slender, straggly, pinnately branched stems
- Moist soil or rock near streams and springs
- Stem leaves triangular-cordate
- Costa ends above midleaf
- Toothed margin

Scleropodium
on logs
S. cespitans

- Aquatic and seasonally submerged
- Leaf rounded to obtuse
- Nerve 3/4 up blade
- Alar cells inflated and hyaline
- Margin entire or faintly serrulate near apex

S. colpophyllum
S. touretii

Cryphaeaceae
Dendroalsia
on bark
D. abietina

- Endemic to the Pacific coast NW North America
- Monospecific genus
- Plumose-dendroid 1–2 pinnately branched stems with 5-ranked leaves

- On bark and rock walls
- Leaf ovate-lanceolate
- Costa ends before the apex
- Serrate at the apex
- Capsule ovoid-cylindric, reddish-brown
- When dry branches fold inward characteristically and conceal sporophytes

Fabroniaceae
Fabronia
on logs
F. pusilla

Hypnaceae
Isopterygium
on soil bank
I. elegans

Leskeaceae
Claopodium
on soil bank
C. whippleanum

Lembophyllaceae
Isothecium
on tree branches
I. cristatum

- Endemic to Pacific coast of North America
- Mats of prostrate stems with slender, curved, julaceous branches
- Leaf margin coarsely serrate in upper third
- Glossy surface

I. myosuroides
I. spiculiferum
I. stoloniferum

Leucodontaceae
Alsia
on bark
A. californica

- Endemic to NW North America
- Monospecific genus
- Mats of prostrate stems with ascending slender branchlets
- On bark and rock close to the coast
- Leaf ovate to ovate-lanceolate

- Usually short costa, double or single
- Alar cells rounded to elongate
- Margin entire to serrulate
- Capsule oblong, brown; sporophytes frequent
- Variable, though shoots generally erect, branched, and julaceous

Antitrichia
on bark, wood, or rock
A. californica

- Julaceous and pinnately branched
- Leaf ovate to elliptic and concave
- Large alar region of thick-walled irregular cells

Plagiotheciaceae
Pseudotaxiphyllum
on soil bank
P. elegans

Pterogoniaceae
Pterogonium
on bark
P. gracile

Moss species checklist:

Acaulon rufescens
Alsia californica
Antitrichia californica
Atrichum selwynii
Brachythecium albicans
Brachythecium asperrimum
Bryum argenteum
Bryum pallescens
Ceratodon purpureus
Claopodium whippleanum
Dendroalsia abietina
Dicranoweisia cirrata
Ditrichum ambiguum
Ditrichum schimperi
Epipterygium biauritum
Fabronia pusilla

Fissidens crispus
Fissidens curvatus
Grimmia pulvinata
Grimmia trichophylla
Homalothecium nuttallii
Isopterygium elegans
Isothecium cristatum
Isothecium myosuroides
Isothecium spiculiferum
Isothecium stoloniferum
Kindbergia oregana
Kindbergia praelonga
Pleuridium subulatum
Polytrichum piliferum
Pseudotaxiphyllum elegans
Pterogonium gracile
Pulvigera lyellii
Pulvigera papillosa
Scleropodium cespitans
Scleropodium colpophyllum
Scleropodium touretii
Syntrichia laevipila
Syntrichia princeps
Syntrichia ruralis
Timmiella anomala
Tortula muralis
Weissia controversa