

Portland State University

PDXScholar

Institute for Natural Resources Publications

Institute for Natural Resources - Portland

Winter 12-23-2022

Checklist of Mosses of Oregon, 2022

John Christy

Portland State University, john.christy@pdx.edu

David H. Wagner

davidwagner@mac.com

David Kofranek

davekofranek@gmail.com

Follow this and additional works at: https://pdxscholar.library.pdx.edu/naturalresources_pub



Part of the [Biodiversity Commons](#), and the [Bryology Commons](#)

Let us know how access to this document benefits you.

Citation Details

Christy J.A., Wagner D.H., Kofranek D. 2022. Checklist of Mosses of Oregon. Revised December 2022. Institute for Natural Resources, Portland, Oregon. 43 pp.

This Report is brought to you for free and open access. It has been accepted for inclusion in Institute for Natural Resources Publications by an authorized administrator of PDXScholar. Please contact us if we can make this document more accessible: pdxscholar@pdx.edu.

CHECKLIST OF MOSSES OF OREGON

John A. Christy
Portland State University Herbarium

David H. Wagner¹
Northwest Botanical Institute

David Kofranek²
David Kofranek Botany, LLC
<https://davidkofranekbotany.weebly.com>

December 2022

¹ Author for correspondence: *David H. Wagner*, davidwagner@mac.com

² Author for correspondence: *David Kofranek*, davekofranek@gmail.com

This list is based on Christy et al. (1982) and supersedes any online versions posted prior to the date shown above. Additions to the flora since 1982 are marked by asterisks, with the earliest known verified sources noted in square brackets.

Unless noted otherwise, nomenclature conforms to Flora of North America Volumes 27 and 28. Most family placements follow [Goffinet et al. 2014](#). For convenience, synonyms used by Lawton (1971) and more recent works are provided in square brackets. In general, sources for nomenclatural changes can be found in the [TROPICOS database](#).

The checklist is followed by annotated lists of taxa excluded from the flora, and taxa expected to occur in Oregon that have been reported from neighboring states. A growing amount of specimen label data are now accessible online from the the [Consortium of Pacific Northwest Herbaria](#) and the [Consortium of North American Bryophyte Herbaria](#), but these records have not necessarily been verified recently. Increasingly, it is possible to identify the original specimens upon which historical reports were based (Christy et al. 1982; Christy 1983), but all old material needs to be reconfirmed by critical study.

Acknowledgments. Keeping this list current is a group effort, and wouldn't be possible without the help of many: Jason Brooks, Clint Emerson, Ron Exeter, Phil Gaddis, Doug Goldenberg, Amanda Hardman, Judith Harpel, Richard Helliwell, Jenny Lippert, Scot Loring, Cheshire Mayrsohn, Kathy Merrifield, Bruce Newhouse, Kelli Van Norman, Dan Norris, Darci Rivers-Pankratz, Wayne Rolle, Jim Shevock, Daphne Stone, Duncan Thomas, Chris Wagner, and Rob Weiss.

Acaulon [Pottiaceae]

muticum var. *rufescens* (A. Jaeger) H.A. Crum

Aloina [Pottiaceae]

[*pilifera* (De Notaris) H.A. Crum & W.C. Steere = *Aloina bifrons*]

bifrons (De Notaris) Delgadillo

Alsia [Leptodontaceae]

californica (Hooker & Arnott) Sullivant

Amblystegium [Amblystegiaceae]

[*juratzkanum* Schimper = *Amblystegium serpens*]

[*polygamum* Schimper in P. Bruch and W.P. Schimper = *Drepanocladus polygamus*]

[*riparium* (Hedwig) Schimper = *Leptodictyum riparium*]

[*saxatile* Schimper = *Pseudocampylium radicale*]

serpens (Hedwig) Schimper in P. Bruch & W.P. Schimper

[*serpens* var. *juratzkanum* (Schimper) Rau & Hervey = *Amblystegium serpens*]

[*tenax* (Hedwig) C.E.O. Jensen = *Hygroamblystegium varium* var. *varium*]

[*trichopodium* (Schultz) Hartmann = *Hygroamblystegium varium* var. *varium*]

Amphidium [Rhabdoweisiaceae, *fide* Goffinet at al. 2014]

californicum (Hampe ex Müller Hal.) Brotherus in H.G.A. Engler & K. Prantl

lapponicum (Hedwig) Schimper

mougeotii (Bruch & Schimper) Schimper

Anacolia [Bartramiaceae]

[*baueri* Hampe = *Anacolia menziesii*]

menziesii (Turner) Paris

[*menziesii* var. *baueri* (Hampe) Paris = *Anacolia menziesii*]

Andreaea [Andreaeaceae]

blyttii Schimper

**heinemannii* Hampe & Müller Hal. [Zander 2007a; *Weber B-35135*, COLO, ver. B.M. Murray; *Norris 83547*, UC]

nivalis Hooker

rothii F. Weber & D. Mohr

rupestris Hedwig

Anoetangium [Pottiaceae]

**aestivum* (Hedwig) Mitten [*Loring 3531B*, ver. D.H. Norris]

Anomobryum [Bryaceae]

[*filiforme* (Dickson) Solms = *Anomobryum julaceum*]

julaceum (Schrader ex P. Gaertner, B. Meyer & Scherbius) Schimper

Antitrichia [Leucodontaceae]

californica Sullivant ex Lesquereux

curtipendula (Hedwig) Bridel

[*curtipendula* var. *gigantea* Sullivant & Lesquereux = *Antitrichia curtipendula*]

[*gigantea* (Sullivant & Lesquereux) Kindberg = *Antitrichia curtipendula*]

Arctoa [Rhabdoweisiaceae, *fide* Goffinet at al. 2014]

[*blyttii* (Bruch & Schimper) Loeske = *Kiaeria blyttii*]

[*falcata* (Hedwig) Loeske = *Kiaeria falcata*]

fulvella (Dickson) Bruch & Schimper

[*starkei* (Weber & D. Mohr) Loeske = *Kiaeria starkei*]

[Atractylocarpus = Campylopodiella]
 [*flagellaceus* (Müller Hal.) Williams = *Campylopodiella flagellacea*]

Atrichum [Polytrichaceae]
selwynii Austin

Aulacomnium [Aulacomniaceae]
androgynum (Hedwig) Schwägrichen
palustre (Hedwig) Schwägrichen

Barbula [Pottiaceae]
 [*brachyphylla* Sullivant = *Didymodon brachyphyllus*]
convoluta Hedwig var. *convoluta*
convoluta var. *eustegia* (Cardot & Thériot) R.H. Zander
 [*cylindrica* (Taylor) Schimper = *Didymodon vinealis* var. *vinealis*]
 [*eustegia* Cardot & Thériot = *Barbula convoluta* var. *eustegia*]
 [*fallax* Hedwig = *Didymodon fallax*]
 [*platyneura* Macoun & Kindberg = *Pseudocrossidium obtusulum*]
 [*rubiginosa* Mitten = *Didymodon vinealis* var. *rubiginosus*]
 **unguiculata* Hedwig [*Kofranek 6180*, ver. D.H. Wagner]
 [*vinealis* Bridel = *Didymodon vinealis* var. *vinealis*]
 [*vinealis* var. *flaccida* Bruch & Schimper = *Didymodon vinealis* var. *vinealis*]

Bartramia [Bartramiaceae]
ithyphylla Bridel
pomiformis Hedwig

[Bestia = Bryolawtonia, in part]
 [*longipes* (Sullivant & Lesquereux) Brotherus, excluded]
 [*vancouveriensis* (Kindberg) Wijk & Margadant = *Bryolawtonia vancouveriensis*]

Blindia [Seligeriaceae]
acuta (Hedwig) Bruch & Schimper

Brachydontium [Seligeriaceae]
olympicum (E. Britton) T.T. McIntosh & J.R. Spence

Brachytheciastrum [Brachytheciaceae]
collinum (Schleicher ex Müller Hal.) Ignatov & Huttunen
leibergii (Grout) Ignatov & Huttunen
velutinum (Hedwig) Ignatov & Huttunen var. *velutinum*
velutinum var. *salicinum* (Schimper) Ochyra & Żarnowiec

Brachythecium [Brachytheciaceae]
albicans (Hedwig) Schimper in P. Bruch and W.P. Schimper
asperrimum (Mitten ex Müller Hal) Sullivant. Synonymized with *B. frigidum* by Crum et al. (1973) and Ireland et al. (1987), resurrected by Ignatov (2014a).
 [*bolanderi* (Lesquereux) A. Jaeger = *Koponeniella bolanderi* (Lesq.) Huttunen & Ignatov]
 [*collinum* (Schleicher ex Müller Hal.) Schimper = *Brachytheciastrum collinum*]
 [*curtum* (Lindberg) Limpricht = *Sciuro-hypnum curtum*, excluded]
erythrorrhizon Schimper in P. Bruch and W.P. Schimper var. *erythrorrhizon*
frigidum (Müller Hal.) Bescherville
 [*holzingeri* (Grout) Grout = *Sciuro-hypnum oedipodium*]

[*hylotapetum* N.L. Higenbotham & B.L. Higenbotham = *Sciuro-hypnum hylotapetum*]

[*leibergii* Grout = *Brachytheciastrum leibergii*]

[*nelsonii* Grout = *Sciuro-hypnum latifolium*]

[*oedipodium* (Mitten) A. Jaeger = *Sciuro-hypnum oedipodium*]

[*plumosum* (Hedwig) Schimper = *Sciuro-hypnum plumosum*]

[*reflexum* var. *pacificum* Renauld & Cardot = *Sciuro-hypnum reflexum*]

rivulare Schimper in P. Bruch and W.P. Schimper

rutabulum (Hedwig) Schimper in P. Bruch and W.P. Schimper. Specimens should be reexamined.

salebrosum (Hoffmann ex. F. Weber & D. Mohr) Schimper in P. Bruch and W.P. Schimper

[*starkei* var. *explanatum* (Bridel) Mönkmeyer = *Sciuro-hypnum curtum*, excluded]

[*starkei* var. *pacificum* (Renauld & Cardot) E. Lawton = *Sciuro-hypnum reflexum*]

**turgidum* (Hartman) Kindberg [*Kofranek 7670*, OSC; Kofranek 2019]

[*velutinum* (Hedwig) Schimper var. *velutinum* = *Brachytheciastrum velutinum* var. *velutinum*]

[*velutinum* var. *venustum* (De Notaris) Arcangelico = *Brachytheciastrum velutinum* var. *salicinum*]

Bruchia [Bruchiaceae]

bolanderi Lesquereux

**flexuosa* (Schwägri) Müller Hal. [Rushing and Christy 1984]

Bryoerythrophyllum [Pottiaceae]

columbianum (F.J. Hermann & E. Lawton) R.H. Zander

recurvirostrum (Hedwig) P.C. Chen

Bryolawtonia [Neckeraceae]

vancouveriensis (Kindberg) D.H. Norris & Enroth

Bryum [Bryaceae]

[*algovicum* Sendtner ex. Müller Hal. = *Ptychostomum pendulum*]

[*alpinum* Hudson ex Withering = *Imbribryum alpinum*]

[*amblyodon* Müller Hal. = *Ptychostomum inclinatum*]

[*angustirete* Kindb. = *Ptychostomum pendulum*]

argenteum Hedwig var. *argenteum*

[*barnesii* J.B. Wood ex Schimper = *Gemmabryum barnesii*]

[*bicolor* Dickson = *Gemmabryum dichotomum*]

[*caespiticium* Hedwig = *Gemmabryum caespiticium*]

**calobryoides* J.R. Spence [Spence 2014a; *Wagner 2572, 6022*, OSC]

[*canariense* Bridel = *Rosulabryum canariense*]

[*capillare* Hedwig = *Rosulabryum capillare*]

[*creberrimum* Taylor = *Ptychostomum creberrimum*]

[*cyclophyllum* (Schwägri) Bruch & Schimper = *Ptychostomum cyclophyllum*]

[*dichotomum* Hedwig = *Gemmabryum dichotomum*]

[*gemmilucens* R. Wilczek & Demaret = *Gemmabryum gemmilucens*]

[*gemmaiparum* De Notaris = *Imbribryum gemmaiparum*]

**lanatum* (P. Beauvois) Bridel [Spence 2014a; *Wagner m2676*]

[*lissae* var. *cuspidatum* (Bruch & Schimper) Margadant = *Ptychostomum creberrimum*]

[*meesioides* Kindberg = *Ptychostomum meesioides*]

[*microerythrocarpum* = *Gemmabryum subapiculatum*]
 [*miniatum* Lesquereux = *Imbribryum miniatum*]
 [*muehlenbeckii* Bruch & Schimper = *Imbribryum muehlenbeckii*]
 [*pallens* Swartz = *Ptychostomum pallens*]
 [*pallescens* Schleicher ex Schwägrichen = *Ptychostomum pallescens*]
 [*pseudotriquetrum* (Hedwig) P. Gaertner, B. Meyer & Scherbius var. *pseudotriquetrum* =
Ptychostomum pseudotriquetrum]
 [*pseudotriquetrum* var. *bimum* (Schreber) Lilj. = *Ptychostomum bimum*]
 [*pseudotriquetrum* var. *crassirameum* (Renauld & Cardot) E. Lawton = *Ptychostomum*
bimum]
 [*sandbergii* Holzinger = *Roellobryon roellii*]
 [*stenotrichum* Müller Hal. = *Ptychostomum inclinatum*]
 [*subapiculatum* Hampe = *Gemmabryum subapiculatum*]
 [*turbinatum* (Hedwig) Turner = *Ptychostomum turbinatum*]
 [*uliginosum* (Bridel) Bruch & Schimper = *Ptychostomum cernuum*]
 [*violaceum* Crundwell & Nyholm = *Gemmabryum violaceum*]
 [*weigelii* Sprengel = *Ptychostomum weigelii*]

Buckiella [Hypnaceae]

undulata (Hedwig) Ireland

[Bucklandiella = Racomitrium]

[*affinis* (F. Weber & D.Mohr) Bednarek-Ochyra & Ochyra = *Racomitrium affine*]
 [*brevipes* (Kindb.) Bednarek-Ochyra & Ochyra = *Racomitrium brevipes*]
 [*heterosticha* (Hedwig) Bednarek-Ochyra & Ochyra = *Racomitrium heterostichum* var.
heterostichum]
 [*lawtoniae* (Ireland) Bednarek-Ochyra & Ochyra = *Racomitrium lawtoniae*]
 [*macounii* ssp. *alpina* (E. Lawton) Bednarek-Ochyra & Ochyra = *Racomitrium macounii* ssp.
alpinum]
 [*macounii* (Kindberg) Bednarek-Ochyra & Ochyra ssp. *macounii* = *Racomitrium*
heterostichum var. *macounii*]
 [*microcarpa* (Hedwig) Bednarek-Ochyra & Ochyra = *Racomitrium heterostichum* var.
microcarpon]
 [*obesa* (Frisvoll) Bednarek-Ochyra & Ochyra = *Racomitrium obesum*]
 [*occidentalis* (Renauld & Cardot) Bednarek-Ochyra & Ochyra = *Racomitrium occidentale*]
 [*pacifica* (Ireland & J.R. Spence) Bednarek-Ochyra & Ochyra = *Racomitrium pacificum*]
 [*sudetica* (Funk) Bednarek-Ochyra & Ochyra = *Racomitrium sudeticum*]

Buxbaumia [Buxbaumiaceae]

aphylla Hedwig

piperi Best

viridis (de Candolle) de Candolle

Calliargon [Calliargonaceae]

cordifolium (Hedwig) Kindberg

giganteum (Schimper) Kindberg

**richardsonii* (Mitten) Kindberg [*Dewey 092707-1216*, NY, ver. N.G Miller and D.H.
 Wagner]

[*stramineum* (Dickson ex Bridel) Kindberg = *Straminergon stramineum*]

- [*trifarium* (F. Weber & D. Mohr) Loeske = *Pseudocalliergon trifarium*]
- Calliergonella** [Hypnaceae]
cuspidata (Hedwig) Loeske
- Campyliadelphus** [Amblystegiaceae]
chrysophyllus (Bridel) Kanda
- Campylium** [Amblystegiaceae]
 [*chrysophyllum* (Bridel) Lange = *Campyliadelphus chrysophyllus*]
 [*hispidulum* (Bridel) Mitten = *Campylophyllum hispidulum*, excluded]
 [*hispidulum* var. *sommerfeltii* (Myr.) Lindb. = *Campylophyllum sommerfeltii*]
 [*polygamum* (Schimper) C.E.O. Jensen = *Drepanocladus polygamus*]
 [*radicale* (P. Beauvois) Grout = *Pseudocampylium radicale*]
 [*sommerfeltii* (Myrin) Lange = *Campylophyllum sommerfeltii*]
stellatum (Hedwig) C.E.O. Jensen [*Wagner 8236*, OSC, ver. D.H. Norris; *Emerson CJE1102b*; *Kofranek 2359A*]. Old reports from Oregon (see Christy et al. 1982) have never been verified.
- [**Campylophyllopsis** = **Campylophyllum**]
 [*sommerfeltii* (Myrin) Ochyra = *Campylophyllum sommerfeltii*]
- Campylophyllum** [Amblystegiaceae]
 **sommerfeltii* (Myrin) Hedenäs [*Kofranek 9584*, OSC; Kofranek 2019]. Collections of *K. Merrifield s.n.*, OSC, from May 1 & 16, 1991 as *Campylium hispidulum* var. *sommerfeltii* are *Amblystegium serpens* det. Kofranek.
- Campylopodiella** [Leucobryaceae, *fide* Goffinet et al. 2014]
 **flagellacea* (Müller Hal.) Frahm & Isoviita [*Loring 3404B*, ver. D.H. Norris]
- Campylopus** [Leucobryaceae, *fide* Goffinet et al. 2014]
 [*aureus* Bosch & Sande La Coste = *Campylopus schmidii*]
introflexus (Hedwig) Bridel
schmidii (Müller Hal.) A. Jaeger
 **subulatus* Schimper [*Kofranek 1297*, ver. J.-P. Frahm; Frahm 2007]
- Ceratodon** [Ditrichaceae]
 **purpureus* ssp. *conicus* (Hampe) Dixon [McIntosh 2007b; *Kofranek 5381*, OSC]
purpureus (Hedwig) Bridel ssp. *purpureus*
 **purpureus* ssp. *stenocarpus* (Bruch & Schimp.) Dixon [*Brooks 2114*, CAS, ver. D.R. Toren; Brooks 2021a]
- Claopodium** [Leskeaceae]
bolanderi Best
crispifolium (Hooker) Renauld & Cardot
whippleanum (Sullivant) Renauld & Cardot
- Climacium** [Climaciaceae]
dendroides (Hedwig) F. Weber & D. Mohr in F. Weber
- [**Codriophorus** = **Racomitrium**]
 [*acicularis* (Hedwig) P. Beauvois = *Racomitrium aciculare*]
 [*depressus* (Lesquereux) Bednarek-Ochyra & Ochyra = *Racomitrium depressum*]
 [*fascicularis* (Hedwig) Bednarek-Ochyra & Ochyra = *Racomitrium fasciculare*]
 [*mollis* (Cardot) Bednarek-Ochyra & Ochyra = *Racomitrium molle*]
 [*rysardii* (Bednarek-Ochyra) Bednarek-Ochyra & Ochyra = *Racomitrium rysardii*]

- [*varius* (Mitten) Bednarek-Ochyra & Ochyra = *Racomitrium varium*]
- Conardia** [Amblystegiaceae]
compacta (Hooker) H. Robinson
- Conostomum** [Bartramiaceae]
tetragonum (Hedwig) Lindberg
- Coscinodon** [Grimmiaceae]
calyptratus (Hooker) C.E.O. Jensen
- Cratoneuron** [Amblystegiaceae]
[*commutatum* var. *falcatum* (Bridel) Mönkemeyer = *Palustriella falcata*]
filicinum (Hedwig) Spruce
- Crumia** [Pottiaceae]
**latifolia* (Kindberg) W.B. Schofield [Zander 2007g; Norris 78262, NY, UC; Wagner m0517, m0525, OSC]
- Cynodontium** [Rhabdoweisiaceae, *fide* Goffinet et al. 2014]
jeneri (Schimper) Stirton
- Dannorrisia** [Neckeraceae]
bigelovii (Sull.) Enroth [Enroth et al. 2019]
- Dendroalsia** [Cryphaeaceae]
abietina (Hooker) E. Britton in H.G.A. Engler & K. Prantl
- [Desmatodon = Hennediella, Tortula]**
[*heimii* (Hedwig) Mitten = *Hennediella heimii*]
[*latifolius* (Hedwig) Bridel = *Tortula hoppeana*]
[*obtusifolius* (Schwägrichen) Schimper = *Tortula obtusifolia*]
[*plinthobius* Sullivant & Lesquereux = *Tortula plinthobia*]
- Dichelyma** [Fontinalaceae]
**falcatum* (Hedwig) Myrin. [*Sundberg 890*, WTU]. The report by Welch (1934) was based on a specimen collected in Tillamook County in 1878 [*Summers 2211*, NY]. Two Howell specimens from 1885 and 1886 [COLO, NY] do not appear to have been annotated recently.
[*falcatum* var. *uncinatum* (Mitten) E. Lawton = *Dichelyma uncinatum*]
uncinatum Mitten
- Dichodontium** [Rhabdoweisiaceae, *fide* Goffinet et al. 2014]
**olympicum* Renauld & Cardot [*Kofranek 2335*, ver. D.H. Wagner]
pellucidum (Hedwig) Schimper
- Dicranella** [Dicranaceae]
crispa (Hedwig) Schimper
heteromalla (Hedwig) Schimper
palustris (Dickson) E.F. Warburg
rufescens (Withering) Schimper
schreberiana (Hedwig) Hilferty
**subulata* (Hedwig) Schimper [*Kofranek 8242, 8564*, OSC; Kofranek 2019]
varia (Hedwig) Schimper
- Dicranoweisia** [Rhabdoweisiaceae, *fide* Goffinet et al. 2014]
cirrata (Hedwig) Lindberg
[*crispula* (Hedwig) Lindberg = *Hymenoloma crispulum*]

[*crispula* var. *contermina* (Renauld & Cardot) Grout = *Hymenoloma crispulum*]
]

[*crispula* var. *roellii* (Kindberg) E. Lawton = *Hymenoloma crispulum*]

Dicranum [Dicranaceae]

bonjeanii De Notaris [Ireland 2007; *Kofranek 3193*, pers. herb.; 8786, OSC; Kofranek 2020].

fuscescens Turner var. *fuscescens*

howellii Renauld & Cardot [Lectotypified by Price and Maier 2013, based on material collected at Portland and Sauvie Island by Thomas Howell in 1882 and 1888.]

pallidisetum (J.W. Bailey) Ireland

polysetum Swartz

scoparium Hedwig. Close to *D. bonjeanii* and *D. howellii*, both of which over the years have been confused and synonymized with *D. scoparium*.

[*strictum* D. Mohr = *Dicranum tauricum*]

tauricum Sapjegin

Didymodon [Pottiaceae]

australasiae (Hooker & Greville) R.H. Zander

**bistratosus* Hébrard & R.B. Pierrot [*Kofranek 7478*, OSC; Kofranek 2019]

brachyphyllus (Sullivant) R.H. Zander

**californicus* Jimenez, Toren, Shevock [*Kofranek 7795*, OSC; Kofranek 2019]

[*columbianus* F.J. Hermann & E. Lawton = *Bryoerythrophyllum columbianum*]

**eckeliae* R.H. Zander [*Kofranek 916, 1651*, OSC; 6393, MO, ver. Zander]

**fallax* (Hedwig) R.H. Zander [*Wagner 9211*, DUKE, NY, OSC, UC]. An old report from Oregon (see Christy et al. 1982) has never been verified, but reportedly was sterile.

**insulanus* (De Not.) Hill [*Kofranek 7914*, MO, OSC, det. Zander; Kofranek 2019]

**nicholsonii* Culmann [Zander 1981, 2007d; *Zander & Eckel 4422*, MO; *Kofranek 7210*]

**norrisii* R.H. Zander [Zander 1999, 2007d; *Kofranek 3595*, OSC]

[*occidentalis* R.H. Zander = *Didymodon vinealis* var. *rubiginosus*]

[*recurvirostris* (Hedwig) Jenner = *Bryoerythrophyllum recurvirostrum*]

rigidulus var. *rigidulus* Hedwig

tophaceus (Bridel) Lisa

vinealis (Bridel) R.H. Zander var. *vinealis*

[*vinealis* var. *brachyphyllus* (Sullivant) R.H. Zander = *Didymodon brachyphyllus*]

[*vinealis* var. *flaccidus* (Bruch & Schimper) R.H. Zander = *Didymodon vinealis* var. *vinealis*]

[*vinealis* var. *nicholsonii* (Culmann) R.H. Zander = *Didymodon nicholsonii*]

vinealis var. *rubiginosus* (Mitten) R.H. Zander

[Dilutineuron = Racomitrium]

[*fasciculare* (Hedw.) Bednarek-Ochyra, Sawicki, Ochyra, Szczecińska & Plášek = *Racomitrium fasciculare*]

Distichium [Ditrichaceae]

capillaceum (Hedwig) Bruch & Schimper

**inclinatum* (Hedwig) Bruch & Schimper [*Wagner 8193*, det. D.R. Toren]

Ditrichum [Ditrichaceae]

ambiguum Best

[*cylindricum* (Hedwig) Grout = *Trichodon cylindricus*]

flexicaule (Schwägrichen) Hampe

- **gracile* (Mitten) Kuntze [*Wagner 8215*, det. D.R. Toren]
heteromallum (Hedwig) E. Britton
montanum Leiberg
schimperi (Lesquereux) Kuntze
- Drepanocladus** [Amblystegiaceae]
aduncus (Hedwig) Warnstorf
 [*aduncus* var. *kneiffii* (Schimper) Mönkemeyer = *Drepanocladus aduncus*]
 [*exannulatus* (Schimper) Warnstorf = *Sarmentypnum exannulatum*]
 [*fluitans* (Hedwig) Warnstorf = *Warnstorfia fluitans*]
- **longifolius* (Wilson ex Mitten) Brotherus ex Paris. [*Kofranek 6060, 7048*, OSC]. Excluded by Christy et al. (1982, as *Drepanocladus aduncus* var. *capillifolius*), but reinstated here per Hedenäs (2014a).
polygamus (Schimper) Hedenäs
- **sordidus* (Müller Hal.) Hedenäs. [*M.J. Cutler s.n.*; *Wagner 8986*, NY; *Wagner m0756*, OSC]
 [*uncinatus* (Hedwig) Warnstorf = *Sanionia uncinata*]
 [*uncinatus* var. *symmetricus* (Renauld & Cardot) Grout = *Sanionia symmetrica*]
 [*vernicosus* (Mitten) Warnstorf = *Hamatocaulis vernicosus*]
- [Dryptodon = Grimmia]**
 [*patens* (Hedwig) Bridel = *Grimmia ramondii*]
- [Elodium = Helodium]**
 [*blandowii* (F. Weber & D. Mohr) Eckel]
- Encalypta** [Encalyptaceae]
 **alpina* Smith [*Kofranek 7577*, OSC; *Kofranek 2019*]
 [*brevicolla* var. *crumiana* (D.G. Horton) H.A. Crum & L.E. Anderson = *Encalypta brevicollis*]
brevicollis (Bruch & Schimper) Åongström
brevipes Schljakov [*Schofield & Godfrey 68029*, UBC; *Saddle Mt*; *Wagner, Mt. Bolivar*]
ciliata Hedwig
 [*intermedia* Juratzka = *Encalypta rhaptocarpa*]
procera Bruch
rhaptocarpa Schwägrichen
vulgaris Hedwig
 [*vulgaris* var. *rhaptocarpa* (Schwägrichen) E. Lawton = *Encalypta rhaptocarpa*]
- Entosthodon** [Funariaceae]
californicus (Sullivant & Lesquereux) H.A. Crum & L.E. Anderson
fascicularis (Hedwig) Müller Hal.
 [*leibergii* E. Britton = *Entosthodon fascicularis*]
- Ephemerum** [Pottiaceae, *fide* Goffinet et al. 2014]
serratum (Hedwig) Hampe
spinulosum Bruch & Schimper [*Thomas 2022a*; *Christy 1291, 1383*; *Thomas*, ver. B. Goffinet]
- Epipterygium** [Mielichhoferiaceae]
tozeri (Greville) Lindberg
- Eucladium** [Pottiaceae]
 **verticillatum* (Bridel) Bruch & Schimper [*Stone, Exeter*, others]

Eurhynchiastrum [Brachytheciaceae]

pulchellum (Hedwig) Ignatov & Huttunen var. *pulchellum*

pulchellum var. *barnesii* (Renauld & Cardot) Ignatov

[Eurhynchium = Kindbergia, Eurhynchiastrum, Rhynchostegium]

[*brittoniae* Grout = *Kindbergia praelonga*]

[*oreganum* (Sullivant) A. Jaeger = *Kindbergia oregana*]

[*praelongum* (Hedwig) Schimper var. *praelongum* = *Kindbergia praelonga*]

[*praelongum* var. *stokesii* (Turner) Dixon = *Kindbergia praelonga*]

[*pulchellum* (Hedwig) Jennings var. *pulchellum* = *Eurhynchiastrum pulchellum* var. *pulchellum*]

[*pulchellum* var. *barnesii* (Renauld & Cardot) H.A. Crum, Steere & L.E. Anderson = *Eurhynchiastrum pulchellum* var. *barnesii*]

[*riparioides* (Hedwig) P.W. Richards = *Rhynchostegium aquaticum*]

Fabronia [Fabroniaceae]

ciliaris (Bridel) Bridel

pusilla Raddi

Fissidens [Fissidentaceae]

adianthoides Hedwig

**aphelotaxifolius* Pursell [Pursell 2007]

bryoides Hedwig

**crispus* Montagne [Miller & Shushan 1964, as *F. limbatus*; Pursell 2007; Norris 78033, UC; Wagner 6927. Numerous older collections as *F. limbatus* need examination.]

fontanus (Bachelot de la Pylaie) Steudel

grandifrons Bridel

[*limbatus* Sullivant = *Fissidens crispus*]

osmundioides Hedwig

pauperculus Howe

**sublimbatus* Grout [Norris]

taxifolius Hedwig

ventricosus Lesquereux

Fontinalis [Fontinalaceae]

antipyretica Hedwig

[*antipyretica* var. *mollis* (Müller Hal.) Welch = *Fontinalis antipyretica*]

[*antipyretica* var. *oregonensis* Renauld & Cardot = *Fontinalis antipyretica*]

[*antipyretica* var. *patula* (Cardot) Welch = *Fontinalis antipyretica*]

[*chrysophylla* Cardot = *Fontinalis howellii*]

howellii Renauld & Cardot

**hypnoides* Hartman [Allen 2014; Kofranek 2239. Old collections at DUKE, NY, and UBC do not appear to have been annotated recently]

[*mollis* Müller Hal. = *Fontinalis antipyretica*]

neomexicana Sullivant & Lesquereux

[*patula* Cardot = *Fontinalis antipyretica*]

[Frisvollia = Racomitrium]

[*varia* (Mitt.) Sawicki, Szczecińska, Bednarek-Ochyra & Ochyra = *Racomitrium varium*]

Funaria [Funariaceae]

hygrometrica Hedwig var. *hygrometrica*
muhlenbergii Turner

[Fuscobryum = Didymodon]

[*norrisii* (R.H. Zander) R.H. Zander = *Didymodon norrisii*]

[Geheebia = Didymodon]

[*fallax* (Hedw.) R.H. Zander = *Didymodon fallax*]

[*tophacea* (Brid.) R.H. Zander = *Didymodon fallax*]

Gemmabryum [Bryaceae]

**barnesii* (J.B. Wood ex Schimper) J.R. Spence [Vanderpoorten and Zartman 2002, as *Bryum barnesii*; Spence 2014b; *Christy* 1289, WTU; *Loring* 5489SL, ver. D.H. Wagner]

[*bicolor* (Dickson) J.R. Spence = *Gemmabryum dichotomum*]

caespiticium (Hedwig) J.R. Spence

dichotomum (Hedwig) J.R. Spence & H.P. Ramsay

**gemmilucens* (Wilczek & Demaret) J.R. Spence [*Christy* 3030, UCNW; *Loring*]

**klinggraeffii* (Schimp.) J.R. Spence & H.P. Ramsay [Thomas 2022b; *Thomas*, ver. Toren]

**radiculosum* (Bridel) J.R. Spence & H.P. Ramsay [Spence 2014b]

subapiculatum (Hampe) J.R. Spence & H.P. Ramsay [Spence 1988, as *Bryum subapiculatum*]. Old reports in Christy et al. (1982, as *Bryum microerythrocarpum*) were never verified.

**vinosum* J.R. Spence & Kellman [*Harpel* 17241, 1743, CAS, ver. Toren; *Kofranek* 1231, OSC; Spence & Kellman 2015]

**violaceum* (Crundwell & Nyholm) J.R. Spence [*Norris*]

Grimmia [Grimmiaceae]

[*affinis* Hornschuch = *Grimmia longirostris*]

[*agassizii* (Sullivant & Lesquereux) A. Jaeger & Sauerbeck = *Schistidium agassizii*]

alpestris (Weber & Mohr) Schleicher var. *alpestris*

[*alpestris* var. *holzingeri* (Cardot & Thériot) G.N. Jones = *Grimmia caespiticia*]

[*alpicola* Hedwig var. *alpicola* = *Schistidium agassizii*]

[*alpicola* var. *dupretii* (Thériot) H.A. Crum = *Schistidium dupretii*]

[*alpicola* var. *rivularis* (Bridel) Wahlenberg = *Schistidium rivulare*]

anodon Bruch & Schimper

**anomala* Hampe [Hastings and Greven 2007; *Wagner* 8350, 8394; *Christy* 8909-1]

[*apocarpa* Hedwig var. *apocarpa* = *Schistidium apocarpum*]

[*apocarpa* var. *conferta* (Funck) Sprengel = *Schistidium confertum*]

[*apocarpa* var. *stricta* (Turner) Hooker & Taylor = *Schistidium strictum*]

**attenuata* (Müller Hal. & Kindberg) Kindberg [*Brooks* 3527, CAS, ver. D.R. Toren; Brooks 2021]

[*atricha* Müller Hal. & Kindberg = *Schistidium atrichum*]

caespiticia (Bridel) Juratzka

[*calyptrata* Hooker = *Coscinodon calyptratus*]

[*cinclidodonteum* Müller Hal. = *Schistidium cinclidodonteum*]

donniana Smith

[*dupretii* Thériot = *Schistidium dupretii*]

elatior Bruch

**hamulosa* Lesquereux [Hastings and Greven 2007]

[*hartmanii* var. *anomala* (Hampe) Mönkemeyer = *Grimmia anomala*]

incurva Schwägrichen

laevigata (Bridel) Bridel

**leibergii* Paris [Hastings and Greven 2007; *Howell s.n.*, 1880, NY, det H.C. Greven]

**lisae* De Notaris [Hastings and Greven 2007; *Kofranek 2910a*, ver. D.R. Toren]

longirostris Hooker

[*maritima* Turner = *Schistidium maritimum*]

montana Bruch & Schimper

**muehlenbeckii* Schimper. Excluded by Christy et al. (1982, as *Grimmia trichophylla* var. *tenuis*), but reinstated here per Hastings and Greven (2007). Specimens (COLO, WIS) collected near Willamette Falls by A.S. Foster in 1895 do not appear to have been annotated recently, but Philip Gaddis determined a specimen with similar label data at HPSU as *G. trichophylla*.

**nevadensis* Greven [*Kofranek 7349*, OSC; Kofranek 2019]

[*occidentalis* E. Lawton = *Schistidium occidentale*]

[*olympica* E. Britton = *Brachydontium olympicum*]

ovalis (Hedwig) Lindberg

[*pacifica* E. Lawton = *Schistidium cinclidodonteum*]

plagiopodia Hedwig

pulvinata (Hedwig) Smith

ramondii (Lamarck & De Candolle) Margadant

[*raui* Austin = *Jaffuelobryum raui*, excluded]

**serrana* J. Muñoz, J. Shevock, D.R. Toren [*Brooks 3633*, CAS, Brooks 2021b]

sessitana De Notaris

[*tenerrima* Renauld & Cardot = *Grimmia sessitana*]

torquata Drummond

trichophylla Greville

Gymnostomum [Pottiaceae]

aeruginosum Smith

**calcareum* Nees & Hornschuch [*Kofranek 2089*, ver. R.H. Zander]. A specimen (NY) collected at Sahalie Falls by W.D. Reese in 1991 does not appear to have been annotated recently.

[*recurvirostrum* Hedwig = *Hymenostylium recurvirostrum*]

**viridulum* Bridel [*Wagner 7704*, MO, ver. D.R. Toren; *Loring 5487SL*, ver. D.H. Wagner]

[Habrodon = Iwatsukiella]

[*leucotrichus* (Mitten) Persson = *Iwatsukiella leucotricha*]

Hamatocaulis [Calliergonaceae]

vernicosus (Mitten) Hedenäs

Haplocladium [Leskeaceae]

microphyllum (Hedwig) Brotherus in H.G.A. Engler & K. Prantl

Hedwigia [Hedwigiaceae]

ciliata (Hedwig) P. Beauvois

**detonsa* (M. Howe) W.R. Buck & D.H. Norris [Buck and Norris 1996]

**stellata* Hedenäs [Buck and Norris 1996; Eckel 2014a; *Howell s.n.*, 1880, NY, ver. W.R. Buck]

Helodium [Helodiaceae]

blandowii (F. Weber & D. Mohr) Warnstorf

Henediella [Pottiaceae]

heimii (Hedwig) R.H. Zander var. *heimii*

Herzogiella [Plagiotheciaceae]

seligeri (Bridel) Z. Iwatsuki

Heterocladium [Pterigynandraceae]

dimorphum (Bridel) Schimper in P. Bruch & W.P. Schimper

macounii Best

procurrens (Mitten) A. Jaeger

Homalothecium [Brachytheciaceae]

aeneum (Mitten) E. Lawton.

arenarium (Lesquereux) E. Lawton

aureum (Spruce) H. Robinson

**californicum* Hedenäs, Huttunen, Shevock & D.H. Norris [Loring coll., ver J. Shevock]

fulgescens (Mitten ex Müller Hal.) A. Jaeger

megaptilum (Sullivant) H. Robinson

nevadense (Lesquereux) Renault & Cardot

[*nevadense* ssp. *aeneum* (Mitten) H. Hofmann = *H. aeneum*]

[*nitens* (Hedwig) H. Robinson = *Tomentypnum nitens*]

nuttallii (Wilson) A. Jaeger

[*pinnatifidum* (Sullivant & Lesquereux) E. Lawton = *H. aureum*]

Hookeria [Hookeriaceae]

lucens (Hedwig) Smith

Hygroamblystegium [Amblystegiaceae]

[*tenax* (Hedwig) C.E.O. Jensen = *Hygroamblystegium varium* var. *varium*]

varium (Hedwig) Mönkemeyer var. *varium*

varium var. *humile* (P. Beauvois) Vanderpoorten & Hedenäs

Hygrohypnum [Amblystegiaceae]

**alpinum* (Lindberg) Loeske [*Wagner 8460*, ver. W.B. Schofield]

bestii (Renauld & Bryhn) Holzinger

**cochleariifolium* (Venturi) Brotherus [*Weiss 20133*, ver. D. Toren, OSC; Weiss 2014]

[*dilatatum* (Wilson) Loeske = *Hygrohypnum duriusculum*]

duriusculum (De Notaris) D.W. Jamieson

luridum (Hedwig) Jennings

molle (Hedwig) Loeske

ochraceum (Turner ex Wilson) Loeske

smithii (Swartz) Brotherus

**styriacum* (Limpricht) Brotherus [*Wagner 6661*, det. D. Toren]

[Hylocomiadelphus = Rhytidiadelphus]

[*triquetrus* (Hedwig) Ochyra & Stebel = *Rhytidiadelphus triquetrus*]

Hylocomium [Hylocomiaceae]

splendens (Hedwig) Schimper in P. Bruch & W.P. Schimper

Hymenoloma [Hymenolomataceae]

crispulum (Hedw.) Ochyra

Hymenostylium [Pottiaceae]

**recurvirostrum* (Hedwig) Dixon [*Buck 37690*, NY; *Loring s.n.*]

Hypnum [Hypnaceae]

circinale Hooker

dieckii Renaud & Cardot

**lindbergii* Mitten [*Anderson 14499*, UBC; *Smith 1091*, ver. D.H. Wagner]. A specimen collected by A.S. Foster near West Linn in 1905 [NEB], originally identified by A.J. Grout and G.N. Best, does not appear to have been annotated recently.

pratense Koch ex Spruce

revolutum (Mitten) Lindberg var. *revolutum*

subimponens Lesquereux

Imbribryum [Bryaceae]

alpinum (Hudson ex Withering) N. Pedersen

gemmiparum (De Notaris) J.R. Spence

miniatum (Lesquereux) J.R. Spence

**mildeanum* (Juratzka) J.R. Spence [*Hardman AH6092*, ver. J.R. Spence; *Kofranek 6103*, OSC, ver. J.R. Spence]

muehlenbeckii (Bruch & Schimper) N. Pedersen [Spence 2014c; *Wagner 8364*, OSC; *Buck 37702*, NY] Old reports in Christy et al. (1982, as *Bryum muehlenbeckii*) have not been verified.

**toreni* J.R. Spence & Shevock [Spence & Shevock 2015; *Shevock & Kellman 31610*, CAS]

Isopterygiopsis [Plagiotheciaceae]

pulchella (Hedwig) Z. Iwatsuki

[Isopterygium = Herzogiella, Isopterygiopsis, Pseudotaxiphyllum]

[*elegans* (Bridel) Lindberg = *Pseudotaxiphyllum elegans*]

[*pulchellum* (Hedwig) A. Jaeger = *Isopterygiopsis pulchella*]

[*seligeri* (Bridel) Dixon ex C.E.O Jensen = *Herzogiella seligeri*]

Isothecium [Lembophyllaceae]

**cardotii* Kindberg [Schofield 2014b; *Kofranek 4136*, OSC]

cristatum (Hampe) H. Robinson

stoloniferum Bridel

Iwatsukiella [Pterigynandraceae]

leucotricha (Mitten) W.R. Buck & H.A. Crum

Kiaeria [Rhabdoweisiaceae, *fide* Goffinet et al. 2014]

blyttii (Bruch & Schimper) Brotherus

falcata (Hedwig) I. Hagen

starkei (Weber & D. Mohr) I. Hagen

Kindbergia [Brachytheciaceae]

oregana (Sullivant) Ochyra

praelonga (Hedwig) Ochyra

Koponeniella [Brachytheciaceae, Huttunen et al. 2015]

bolanderi (Lesquereux) Huttunen & Ignatov

Leptobryum [Meesiaceae]

pyriforme (Hedwig) Wilson

Leptodictyum [Amblystegiaceae]

[*humile* (P. Beauvois) Ochyra = *Hygroamblystegium varium* var. *humile*]
riparium (Hedwig) Warnstorf

[Lescuraea, our taxa = Pseudoleskea]

[*atricha* (Kindberg) E. Lawton = *Pseudoleskea atricha*]
[*baileyi* (Best & Grout) E. Lawton = *Pseudoleskea baileyi*]
[*incurvata* (Hedwig) E. Lawton var. *incurvata* = *Pseudoleskea incurvata* var. *incurvata*]
[*incurvata* var. *gigantea* E. Lawton = *Pseudoleskea incurvata* var. *gigantea*]
[*patens* Lindberg = *Pseudoleskea patens*]
[*radicosa* (Mitten) Mönkemeyer var. *radicosa* = *Pseudoleskea radicosa* var. *radicosa*]
[*radicosa* var. *compacta* (Best) E. Lawton = *Pseudoleskea radicosa* var. *compacta*]
[*saviana* (De Notaris) E. Lawton = *Pseudoleskea saviana*]
[*stenophylla* (Renault & Cardot) Kindberg = *Pseudoleskea stenophylla*]

Leskea [Leskeaceae]

polycarpa Hedwig

Leucolepis [Mniaceae]

acanthoneura (Schwägrichen) Lindberg
[*acanthoneuron* (Schwägrichen) Lindberg = *Leucolepis acanthoneura*]
[*menziesii* (Hooker) Steere = *Leucolepis acanthoneura*]

Lewinskya [Orthotrichaceae]

[*affinis* (Schrader ex Bridel) F. Lara, Garilleti & Goffinet in North America = *Lewinskya pseudoaffinis*]
**bolanderi* (Sullivant) F. Lara, Garilleti & Goffinet [*Kofranek 1259*, ver. D.H. Wagner]
holzingeri (Renault & Cardot) F. Lara, Garilleti & Goffinet
laevigata (J.E. Zetterstedt) F. Lara, Garilleti & Goffinet
**pacifica* Vigalondo, F. Lara & Garilleti [Vigalondo et al. 2020]
**praemorsa* (Venturi) F. Lara, Garilleti & Goffinet [*Norris 78946* and others, UC]
pseudoaffinis (Schrader ex Bridel) Vigalondo, F. Lara & Garilleti [Vigalondo et al. 2020]
**pylaisii* (Bridel) F. Lara, Garilleti & Goffinet [*Norris 23666* and others, UC]
rupestris (Schleicher ex Schwägrichen) F. Lara, Garilleti & Goffinet
**shawii* (Wilson) F. Lara, Garilleti & Goffinet [*Kofranek 7865*, OSC, ver. DH. Vitt; Kofranek 2019]
speciosa (Nees in J. Sturm et al.) F. Lara, Garilleti & Goffinet
**spjutii* (Norris & Vitt) F. Lara, Garilleti & Goffinet [*Kofranek 8317*, OSC; Kofranek 2019]
striata (Hedwig) F. Lara, Garilleti & Goffinet

Limbella [Amblystegiaceae]

fryei (R.S. Williams) Ochyra

Meesia [Meesiaceae]

**longiseta* Hedw. [*Brooks 4302*, CAS, ver. D.R. Toren; Brooks 2021a]
triquetra (Linnaeus ex Jolyclerc) Ångström
**uliginosa* Hedwig [*Wagner 6517*, OSC]

Meiotrichum [Polytrichaceae]

lyallii (Mitten) G.L. Smith

[Metaneckera = Neckera]

[*menziesii* (Drummond) W.C. Steere = *Neckera menziesii*]

Micromitrium [Micromitriaceae, *fide* Goffinet et al. 2014]

- **synoicum* (James) Austin [Bryan 2007; *Christy 8505-1*, DUKE, OSC, UBC, ver. V.S. Bryan]
- Mielichhoferia** [Mielichhoferiaceae]
- **elongata* (Hoppe & Hornschuch) Nees & Hornschuch in C.G.D. Nees et al. [*Wagner 8212a*, OSC, ver. A.J. Shaw]
- Mnium** [Mniaceae]
- **arizonicum* J.J. Amann [*Kofranek 8266*, OSC; Kofranek 2019]
 [*ambiguum* H. Müller = *Mnium lycopodioides*]
blyttii Bruch & Schimper
 [*longirostrum* Bridel = *Plagiomnium rostratum*]
lycopodioides Schwägrichen
marginatum (Dickson ex Withering) P. Beauvois
 [*orthorrhynchum* Bridel = *Mnium thomsonii*]
 [*punctatum* var. *elatum* Schimper = *Rhizomnium magnifolium*]
spinulosum Bruch & Schimper
thomsonii Schimper
- Myurella** [Pterigynandraceae]
- **julacea* (Schwägrichen) Schimper [*Kofranek 7418*, OSC; Kofranek 2019]
- Neckera** [Neckeraceae]
- douglasii* Hooker
menziesii Drummond
- **pennata* Hedwig [Sastre-De Jesús 2014a]. A number of specimens (COLO, NY, OSC, TENN, WIS, WTU) do not appear to have been verified recently.
- [Niphotrichum = Racomitrium]**
- [*canescens* ssp. *canescens* (Hedwig) Bednarek-Ochyra & Ochyra = *Racomitrium canescens*]
 [*elongatum* (Frisvoll) Bednarek-Ochyra & Ochyra = *Racomitrium elongatum*]
 [*ericoides* (Bridel) Bednarek-Ochyra & Ochyra = *Racomitrium ericoides*]
 [*pygmaeum* (Frisvoll) Bednarek-Ochyra & Ochyra = *Racomitrium pygmaeum*]
- Nogopterium** [Leucodontaceae]
- gracile* (Hedwig) Crosby & W.R. Buck
- Nyholmiella** [Orthotrichaceae]
- obtusifolia* (Bridel) Holmen & E. Warncke [Sawicki et al. 2010]
- Oligotrichum** [Polytrichaceae]
- aligerum* Mitten
hercynicum (Hedwig) Lamarck & de Candolle
- Oncophorus** [Rhabdoweisiaceae, *fide* Goffinet et al. 2014]
- virens* (Hedwig) Bridel
wahlenbergii Bridel
- [Orthodicranum = Dicranum]**
- [*tauricum* = *Dicranum tauricum*]
- Orthodontium** [Orthodontiaceae]
- gracile* (Wilson) Schwägrichen ex Bruch & Schimper
 **pellucens* (Hooker) Bruch & Schimper in J.K.A. Müller [Eckel 2014b; *Christy 9172, 9173*, NY, UBC]
- Orthotrichum** [Orthotrichaceae]
- [*affine* Schrader ex Bridel in North America = *Lewinskya pseudoaffinis* (Schrader ex Bridel.)

Vigalondo, F. Lara & Garilleti]
alpestre Hornschuch ex Bruch & Schimper
 [*bolanderi* Sullivant = *Lewinskya bolanderi*]
consimile Mitten
cupulatum Hoffmann ex Bridel
 [*cupulatum* var. *jamesianum* (James) E. Lawton = *Orthotrichum pellucidum*]
 **diaphanum* Schrader ex Bridel [*Gaddis* 2022, HPSU]
 [*epapillosum* E. Lawton & F.J. Hermann = *Orthotrichum euryphyllum*]
 **euryphyllum* Venturi [Lewinsky-Haapasaari and Norris 1998; Vitt 2014a; *Weber* 2889,
 COLO, WTU, ver. J. Lewinsky-Haapasaari & D.H. Norris]
 **hallii* Sullivant & Lesquereux in W.S. Sullivant [*Norris* 81102, UC; *Kofranek* 2062, 2100,
 ver. D.H. Wagner]
 [*holzingeri* Renauld & Cardot = *Lewinskya holzingeri*]
 [*laevigatum* J.E. Zetterstedt = *Lewinskya laevigata*]
 [*lyellii* Hooker & Taylor = *Pulvigerella lyellii*; see note under excluded taxa]
 [*lyellii* var. *papillosum* (Hampe) Sull. & Lesq. = *Pulvigerella papillosa*]
 [*lyellii* var. *pringlei* (Müll. Hal.) Macoun & Kindb. = *Pulvigerella pringlei*]
 [*obtusifolium* Bridel = *Nyholmiella obtusifolia*]
 **pallens* var. *johnseniae* [*Weiss* 20131, OSC, ver D. Toren; Weiss 2014]
 **pellucidum* Lindberg [Vitt 2014a: *Norris* 81106, UC; *Wagner* 8209]
 [*praemorsum* Venturi = *Lewinskya praemorsa*]
pulchellum Brunton
 [*pylaisii* Bridel = *Lewinskya pylaisii*]
rivulare Turner
 [*rupestre* Schleicher ex Schwägrichen = *Lewinskya rupestris*]
 [*speciosum* Nees in J. Sturm et al. = *Lewinskya speciosa*]
 [*striatum* Hedwig = *Lewinskya striata*]
Palustriella [Amblystegiaceae]
falcata (Bridel) Hedenäs
[Phascum = Tortula]
 [*cuspidatum* Hedwig = *Tortula acaulon*]
Philonotis [Bartramiaceae]
 [*americana* Dismier = *Philonotis fontana* var. *americana*]
capillaris Lindberg
fontana var. *americana* (Dismier) Flowers ex H.A. Crum
fontana (Hedwig) Bridel var. *fontana*
fontana var. *pumila* (Turner) Bridel
 **marchica* (Hedwig) Bridel [Griffin 2014; *Wagner* 7847, 8932, NY]
 **yezoana* Bescherelle & Cardot [*Loring* 5488SL, ver. D.H. Wagner]
Physcomitrella [Funariaceae]
 **readeri* (Müll. Hal.) I.G. Stone & G.A.M. Scott [Thomas 2022a; Tan 1978—*Henderson* s.n.,
 1887, NY: "could be *Physcomitrella readeri*"; *Christy* 9013; *Thomas*]
Physcomitrium [Funariaceae]
hookeri Hampe
immersum Sullivant

[*kellermanii* E. Britton = *Physcomitrium pyriforme*]
[*megalocarpum* Kindberg = *Physcomitrium pyriforme*]
pyriforme (Hedwig) Hampe

Plagiobryum [Bryaceae]

[*bimum* (Schreber) N. Pedersen = *Ptychostomum bimum*]
[*capillare* (Hedwig) N. Pedersen = *Rosulabryum capillare*]
[*meesioides* (Kindberg) N. Pedersen = *Ptychostomum meesioides*]
[*pallens* (Swartz) N. Pedersen = *Ptychostomum pallens*]
[*pallescens* (Schleicher ex Schwägrichen) N. Pedersen = *Ptychostomum pallescens*]
[*uliginosum* (Bridel) N. Pedersen = *Ptychostomum cernuum*]
zieri (Dickson ex Hedwig) Lindberg [includes "*zierii*"]

Plagiomnium [Mniaceae]

**ciliare* (Müller Hal.) T.J. Koponen [McIntosh & Newmaster 2014a]
cuspidatum (Hedwig) T.J. Koponen
drummondii (Bruch & Schimper) T.J. Koponen
ellipticum (Bridel) T.J. Koponen
insigne (Mitten) T.J. Koponen
medium (Bruch & Schimper) T.J. Koponen
rostratum (Schrader) T.J. Koponen
[*rugicum* (Laurer) T.J. Koponen = *Plagiomnium ellipticum*]
venustum (Mitten) T.J. Koponen

Plagiopus [Bartramiaceae]

[*oederi* (Bridel) Limpricht = *Plagiopus oederianus*]
oederianus (Swartz) H.A. Crum & L.E. Anderson [includes "*oederiana*"]

Plagiothecium [Plagiotheciaceae]

cavifolium (Bridel) Z. Iwatsuki
denticulatum (Hedwig) Schimper in P. Bruch & W.P. Schimper
[*laetum* Schimper in P. Bruch & W.P. Schimper on Pacific coast = *P. pacificum*]
**pacificum* T. J. Wynns [Wynns et al. 2018]
[*piliferum* (Swartz) Schimper in P. Bruch & W.P. Schimper = *Rectithecium piliferum*]
[*roeseanum* Schimper = *Plagiothecium cavifolium*]
[*undulatum* (Hedwig) Schimper = *Buckiella undulata*]

Platydictya [Plagiotheciaceae]

jungermannioides (Bridel) H.A. Crum

[Platyhypnidium = Rhynchostegium]

[*riparioides* (Hedwig) Dixon = *Rhynchostegium aquaticum*]

Pleuridium [Ditrichaceae]

**acuminatum* Lindberg [Yip 2007a; Young 432, WTU, ver. E. Lawton]
[*bolanderi* A. Jaeger = *Pleuridium acuminatum*]
subulatum (Hedwig) Rabenhorst

Pleurozium [Hylocomiaceae]

schreberi (Willdenow ex Bridel) Mitten

Pogonatum [Polytrichaceae]

[*alpinum* (Hedwig) Palisot de Beauvois var. *alpinum* = *Polytrichastrum alpinum* var. *alpinum*]

[*alpinum* var. *sylvaticum* (Menzies) Lindberg = *Polytrichastrum alpinum* var. *sylvaticum*]
contortum (Bridel) Lesquereux
dentatum (Bridel) Bridel [Smith, G. 2007] There are no records for this in CNABH.
urnigerum (Hedwig) Palisot de Beauvois

Pohlia [Mielichhoferiaceae]

annotina (Hedwig) Lindberg [Shaw 1982; *Becking* 5308755, WTU, ver. E. Lawton].
[*annotina* var. *decipiens* Loeske = *Pohlia prolifera*]
**bolanderi* (Lesquereux) Brotherus [Shaw 1982, 2014; *Foster s.n.*, 1906, WTU, ver. A.J. Shaw]
**camptotrachela* (Renauld & Cardot) Brotherus in H.G.A. Engler & K. Prantl [Shaw 1981b; *Young* 436, WTU, ver. A.J. Shaw; *Kofranek* 6378, OSC, ver. D.H. Wagner]
cardotii (Renauld) Brotherus in H.G.A. Engler & K. Prantl
cruda (Hedwig) Lindberg
drummondii (Müller Hal.) A.L. Andrews in A.J. Grout
[*drummondii* var. *gracilis* = *Pohlia filum*]
elongata Hedwig
[*filiformis* (Dickson) Andrews = *Anomobryum julaceum*]
**filum* (Schimper) Mårtensson [Shaw 1981b, 1982, 2014; *Frye s.n.*, 1921, WTU, ver. A.J. Shaw]
[*lescureana* (Sullivant) Ochi from western North America = *Pohlia pacifica*]
longibracteata Brotherus
longicolla (Hedwig) Lindberg [includes "*longicollis*"]
ludwigii (Sprengel) Brotherus [*Wagner* 8419, DUKE, ver. A.J. Shaw; *Kofranek* 9580, 9583, OSC; *Kofranek* 2019]. A specimen collected by Röhl in 1888 [WS], presumably the basis for most historical reports, does not appear to have been annotated recently. Voucher specimens for Campbell (1973, identified or verified by W.B. Schofield) have not been located, and reportedly were discarded (Campbell 2000).
nutans (Hedwig) Lindberg
**obtusifolia* (Villars ex Bridel) L.F. Koch [*Wagner* m2288, DUKE, ver. A.J. Shaw]
pacifica A.J. Shaw
prolifera (Kindberg) Lindberg ex Arnell
[*schleicheri* = *Pohlia filum*]
[*sphagnicola* (Bruch & Schimper) Lindberg & Arnell = *Pohlia nutans*]
**tundrae* A.J. Shaw [Shaw 1981a, 1981b, 2014; mixed collection with *Hermann* 18873, COLO, ver. A.J. Shaw]
wahlenbergii (F. Weber & D. Mohr) A.L. Andrews in A.J. Grout

[Polytrichadelphus = Meiotrichum]

[*lyallii* Mitten = *Meiotrichum lyallii*]

Polytrichastrum [Polytrichaceae]

alpinum (Hedwig) G.L. Smith var. *alpinum*
alpinum var. *sylvaticum* (Menzies) G.L. Smith
formosum (Hedwig) G.L. Smith. Specimens from Oregon need examination to determine their varietal status.
sexangulare (Bridel) G.L. Smith var. *sexangulare*
sexangulare var. *vulcanicum* (C.E.O. Jensen) G.L. Smith

Polytrichum [Polytrichaceae]

commune Hedwig var. *commune*

[*formosum* Hedwig = *Polytrichastrum formosum*]

juniperinum Hedwig

[*longisetum* Bridel = *Polytrichastrum longisetum*, excluded]

[*lyallii* (Mitten) Kindberg = *Meiotrichum lyallii*]

piliferum Hedwig

[*sexangulare* Bridel = *Polytrichastrum sexangulare* var. *sexangulare*]

[*sphaerothecium* (Bescherelle) Müller Hal. = *Polytrichastrum sexangulare* var. *vulcanicum*]
strictum Bridel

[Porothamnium = Dannorrhisia]

[*bigelovii* (Sullivant) Fleischer = *Dannorrhisia bigelovii*]

[Porotrichum = Dannorrhisia]

[*bigelovii* (Sullivant) Kindberg = *Dannorrhisia bigelovii*]

[*vancouveriense* (Kindberg) H.A. Crum = *Bryolawtonia vancouveriensis*]

[Pottia = Hennediella, Tortula]

[*heimii* (Hedwig) Fürnrohr = *Hennediella heimii*]

[*nevadensis* Cardot & Thériot = *Tortula nevadensis*]

[*truncata* (Hedwig) Bruch & Schimper = *Tortula truncata*]

Pseudophemerum [Dicranaceae, *fide* Goffinet et al. 2014]

**nitidum* (Hedwig) Loeske [Yip 2002, 2007b; *Christy 1593*, UBC, det. K.L. Yip]

Pseudobraunia [Hedwigiaceae]

californica (Lesquereux) Brotherus in H.G.A. Engler & K. Prantl

Pseudocalliergon [Amblystegiaceae]

**angustifolium* Hedenäs [*Brooks 4317*, CAS, ver. D.R. Toren; Brooks 2021a]

trifarium (F. Weber & D. Mohr) Loeske

Pseudocampylium [Amblystegiaceae]

radicale (P. Beauvois) Vanderpoorten & Hedenäs

Pseudocrossidium [Pottiaceae]

**hornschuchianum* (Schultz) R.H. Zander [Zander 2007e; *Wagner 9183*, MO, OSC, det. R.H. Zander; *Kofranek 7184*]

obtusulum (Lindberg) H.A. Crum & L.E. Anderson

[*revolutum* var. *obtusulum* (Lindberg) B.C. Tan = *P. obtusulum*]

Pseudoleskea [Leskeaceae]

atricha (Kindberg) Kindberg

baileyi Best & Grout in A.J. Grout

incurvata (Hedwig) Loeske var. *incurvata*

incurvata var. *gigantea* (E. Lawton) H.A. Crum, Steere & L.E. Anderson

patens (Lindberg) Kindberg

radicosa (Mitten) Macoun & Kindberg var. *radicosa*

**radicosa* var. *compacta* Best [Spence 2014f]

**saviana* (De Notaris) Latzel [*Wagner 6532*, OSC]

stenophylla Renauld & Cardot

**tribulosa* Shevock & Buck [*Kofranek 7530*, NY, OSC, ver. W.R. Buck & J.R. Spence; Kofranek 2019]

Pseudoleskeella [Leskeaceae]

**serpentinensis* P.S. Wilson & D.H. Norris [Wilson and Norris 1989, as "*serpentinense*"]

**tectorum* (Funck ex Bridel) Kindberg [Spence 2014g; Schofield & Lyford 73878, DUKE]

Pseudoscleropodium [Brachytheciaceae]

purum (Hedwig) M. Fleischer ex Brotherus in H.G.A. Engler et al.

Pseudotaxiphllum [Plagiotheciaceae]

elegans (Bridel) Z. Iwatsuki

Pterigynandrum [Pterigynandraceae]

filiforme Hedwig

[Pterogonium = Nogopterium]

[*gracile* (Hedwig) Smith = *Nogopterium gracile*]

Pterygoneurum [Pottiaceae]

ovatum (Hedwig) Dixon

subsessile var. *subsessile* (Bridel) Juratzka

Ptilium [Hypnaceae]

crista-castrensis (Hedwig) De Notaris [*Hardman 2401*, ver. D.H. Wagner]. Old reports from Oregon (e.g., Curry and Multnomah Counties [*Gabrielson & Ingram 2128*, RM; *Potter 1801*, DUKE] have never been verified. See also Christy et al. (1982).

Ptychomitrium [Ptychomitriaceae]

gardneri Lesquereux

Ptychostomum [Bryaceae]

[*angustifolium* (Bridel) J.R. Spence & H.P. Ramsay = *Gemmabryum caespiticium*]

**arcticum* (R. Brown) J.R. Spence [Spence 2014d]

bimum (Schreber) J.R. Spence

cernuum (Hedwig) Hornschuch

creberrimum (Taylor) J.R. Spence & H.P. Ramsay

**cyclophyllum* (Schwägrichen) J.R. Spence [*Jessup s.n.*, OSC, ver. D.H. Wagner; *Helliwell 6044*, det. J.A. Harpel]. An old record (*Courtney & Tschopp 23*, 1953, BRIT, NY) does not appear to have been verified recently.

[*imbricatulum* (Müller Hal.) D. T. Holyoak & N. Pedersen = *Gemmabryum caespiticium*]

inclinatum (Swartz ex Bridel) J.R. Spence [Spence 2014d; *Wagner m1885*, det. J.R. Spence].

An old report in Duvall (1938, as *Bryum stenotrichum*) has not been verified.

**lonchocaulon* (Müller Hal.) J.R. Spence [Spence 2014d]. A specimen (NY) collected by A.S. Foster at Oregon City in 1906 does not appear to have been annotated recently.

meesioides (Kindberg) J.R. Spence

**pacificum* J.R. Spence & Shevock [Spence and Shevock 2012]

**pallens* (Swartz) J.R. Spence [Spence 1988, 2014d; *Wagner 7558*, OSC]. Older records do not appear to have been annotated recently.

pallescens (Schleicher ex Schwägrichen) J.R. Spence

pendulum Hornsch.

pseudotriquetrum (Hedwig) J.R. Spence & H.P. Ramsay ex Holyoak & N. Pedersen

[*pseudotriquetrum* var. *bimum* (Schreber) Holyoak & N. Pedersen = *Ptychostomum bimum*]

**schleicheri* (Schwägrichen) J.R. Spence [Spence 2014d]

turbinatum (Hedwig) J.R. Spence [Spence 2014d; *Wagner 8259*, OSC]. Old reports in Christy et al. (1982, as *Bryum turbinatum*) have not been verified.

weigeli (Sprengel) J.R. Spence

Pulviger [Orthotrichaceae]

[*lyellii*; see note under excluded taxa]

papillosa (Hampe) F. Lara, Draper & Garilleti [Lara et al. 2020]

**pringlei* (Müll. Hal.) F. Lara, Draper & Garilleti [Lara et al. 2020]

Racomitrium [= *Rhacomitrium*, Grimmiaceae] We follow Larraín et al. (2013) in treating the genus in the traditional broad sense, but segregation of the genus is ongoing (e.g., Sawicki et al. 2015; Bednarek-Ochyra et al. 2015). It is difficult to distinguish the segregate genera in the field (Wagner 2007).

aciculare (Hedwig) Bridel [= *Codriophorus acicularis* (Hedwig) P. Beauvois]

**affine* (Schleicher) Lindberg [= *Bucklandiella affinis* (F. Weber & D.Mohr) Bednarek-Ochyra & Ochyra]. [Chapman and Sanborn 1941, as *Rhacomitrium affinis*; Frisvoll 1988; Ochyra and Bednarek-Ochyra 2007a, as *Bucklandiella affinis*; *Sheldon S.13107*, 1903, NY, ver. A.A. Frisvoll].

**brevipes* Kindberg [= *Bucklandiella brevipes* (Kindberg) Bednarek-Ochyra & Ochyra]. [Frisvoll 1988; *Howell 37*, 1880, NY, ver. A.A. Frisvoll].

canescens (Hedwig) Bridel [= *Niphotrichum canescens* ssp. *canescens* (Hedwig) Bednarek-Ochyra & Ochyra]

[*canescens* var. *ericoides* (Hedwig) Hampe = *Racomitrium ericoides*]

**depressum* Lesquereux [= *Codriophorus depressus* (Lesquereux) Bednarek-Ochyra & Ochyra]. [Bednarek-Ochyra and Ochyra 2007, as *Codriophorus depressus*; *Wagner 9933*, 1998, OSC]

**elongatum* Ehrhart [= *Niphotrichum elongatum* (Frisvoll) Bednarek-Ochyra & Ochyra]. [Frisvoll 1983; Ochyra & Bednarek-Ochyra 2007b, as *Niphotrichum elongatum*; *Thompson 4030M*, 1928, WTU, ver. A.A. Frisvoll].

ericoides (Weber) Bridel [= *Niphotrichum ericoides* (Bridel) Bednarek-Ochyra & Ochyra]. [Frisvoll 1983; Ochyra and Bednarek-Ochyra 2007b, as *Niphotrichum ericoides*].

**fasciculare* (Hedwig) Bridel [= *Codriophorus fascicularis* (Hedwig) Bednarek-Ochyra & Ochyra; *Dilutineuron fasciculare* (Hedw.) Bednarek-Ochyra, Sawicki, Ochyra, Szczecińska & Plášek]. [Chapman and Sanborn 1941, as *Rhacomitrium fasciculare*; Bednarek-Ochyra and Ochyra 2004, 2007, as *Codriophorus fascicularis*; *Schofield 72374*, 1979, DUKE; *Kofranek 8832*, ver. D. H. Wagner; Kofranek 2020]

heterostichum (Hedwig) Bridel var. *heterostichum* [= *Bucklandiella heterosticha* (Hedwig) Bednarek-Ochyra & Ochyra]

**heterostichum* var. *macounii* (Kindberg) G.N. Jones = *Bucklandiella macounii* (Kindberg) Bednarek-Ochyra & Ochyra ssp. *macounii*. [Ochyra and Bednarek-Ochyra 2007a, as *Bucklandiella macounii*].

**heterostichum* var. *microcarpon* (Hedwig) Boulay [= *Racomitrium heterostichum* var. "*microcarpum*," *Bucklandiella microcarpa* (Hedwig) Bednarek-Ochyra & Ochyra]. Excluded by Christy et al. (1982) but reinstated here per Ochyra and Bednarek-Ochyra 2007a, as *Bucklandiella microcarpa*].

[*heterostichum* var. *occidentale* Renauld & Cardot = *Racomitrium occidentale*]

[*heterostichum* var. *sudeticum* (Funck) Dixon = *Racomitrium sudeticum*]

lanuginosum (Hedwig) Bridel

**lawtoniae* Ireland [= *Racomitrium "lawtonae"*; *Bucklandiella lawtoniae* (Ireland) Bednarek-

- Ochyra & Ochyra]. [*Norris 73433*, 1988, UC].
 [*macounii* Kindberg = *Racomitrium heterostichum* var. *macounii*]
 **macounii* ssp. *alpinum* (E. Lawton) Frisvoll [= *Bucklandiella macounii* ssp. *alpina* (E. Lawton) Bednarek-Ochyra & Ochyra [Frisvoll 1988; Ochyra and Bednarek-Ochyra 2007a, as *Bucklandiella macounii* ssp. *alpina*; *Lawton 3217*, 1955, WTU, ver. A.A. Frisvoll; *Wagner 8221*, CAS, ver. D.R. Toren]
molle Cardot [= *Codriophorus mollis* (Cardot) Bednarek-Ochyra & Ochyra]
 **obesum* Frisvoll [= *Bucklandiella obesa* (Frisvoll) Bednarek-Ochyra & Ochyra]. [Frisvoll 1988; *Frye s.n.*, 1931, WTU, ver. A.A. Frisvoll].
occidentale (Renauld & Cardot) Renauld & Cardot [= *Bucklandiella occidentalis* (Renauld & Cardot) Bednarek-Ochyra & Ochyra]
 **pacificum* Ireland & J.R. Spence [= *Bucklandiella pacifica* (Ireland & J.R. Spence) Bednarek-Ochyra & Ochyra] [Ireland and Spence 1987; *Frye s.n.*, 1933, DUKE, NY, WTU, det R.R. Ireland, T. Cao, A.A. Frisvoll]
 [*patens* (Hedwig) Huebener = *Grimmia ramondii*]
 **pygmaeum* Frisvoll [*Schofield & Lyford 74075*, KRAM, UBC, det. R. Ochyra; Ellis et al. 2015]
 **ryszardii* Bednarek-Ochyra [= *Codriophorus ryszardii* (Bednarek-Ochyra) Bednarek-Ochyra & Ochyra]. [Benarek-Ochyra 2000; Bednarek-Ochyra and Ochyra 2007; *Fennell & Exeter 31*, OSC, ver. D.H. Wagner;].
sudeticum (Funck) Bruch & Schimper [= *Bucklandiella sudetica* (Funck) Bednarek-Ochyra & Ochyra]
 [*sudeticum* f. *alpinum* E. Lawton = *Racomitrium macounii* ssp. *alpinum*]
 [*sudeticum* f. *brevipes* E. Lawton = *Racomitrium brevipes*]
 [*sudeticum* f. *macounii* E. Lawton = *Racomitrium heterostichum* var. *macounii*]
 [*sudeticum* f. *sudeticum* E. Lawton = *Racomitrium sudeticum*]
varium (Mitten) A. Jaeger [= *Codriophorus varius* (Mitten) Bednarek-Ochyra & Ochyra; *Frisvollia varia* (Mitten) Sawicki, Szczecińska, Bednarek-Ochyra & Ochyra]
- Rectithecium** [Plagiotheciaceae]
piliferum (Sw.) Hedenäs & Huttunen [Huttunen et al. 2013]
- Rhizomnium** [Mniaceae]
glabrescens (Kindberg) T.J. Koponen
magnifolium (Horikawa) T.J. Koponen
nudum (R.S. Williams) T.J. Koponen
 [*perssonii* T.J. Koponen = *Rhizomnium magnifolium*]
pseudopunctatum (Bruch & Schimper) T.J. Koponen
- Rhynchostegium** [Brachytheciaceae]
aquaticum A. Jaeger
- [Rhynchostegiella = Conardia]**
 [*compacta* (Hooker) Loeske = *Conardia compacta*]
- Rhytidiadelphus** [Hylocomiaceae]
loreus (Hedwig) Warnstorf
squarrosus (Hedwig) Warnstorf
subpinnatus (Lindberg) T.J. Koponen

triquetrus (Hedwig) Warnstorf

Rhytidiopsis [Hylocomiaceae]
robusta (Hooker) Brotherus in H.G.A. Engler & K. Prantl

Rhytidium [Rhytidiaceae]
rugosum (Hedwig) Kindberg

[Roellia = Roellobryon]
[roellii (Brotherus) A.L. Andrews ex H.A. Crum = *Roellobryon roellii*]

Roellobryon [Roellobryaceae]
roellii (Brotherus) Ochyra

Rosulabryum [Bryaceae]
canariense (Bridel) Ochyra
capillare (Hedwig) J.R. Spence
**elegans* (Nees) Ochyra [Spence 2014e; *Wagner m1467*, ver. J.R. Spence; *Kofranek 3944*, ver. J.R. Spence]
**erythroloma* (Kindberg) J. R. Spence [Spence 2014e]
**flaccidum* (Brid.) J.R. Spence [*Wagner m0335*, OSC; *Brooks 4625*; Brooks 2021a]
**gemmascens* (Kindberg) J. R. Spence [Spence 2014e; *McIntosh & Kruckeberg 4924*, 1980, UBC; *Kofranek 7297*]
**laevifilum* (Syed) Ochyra [Spence 2014e]
**torquescens* (Bruch ex De Notaris) J. R. Spence [Spence 2014e]

Sanionia [Amblystegiaceae]
symmetrica (Renauld & Cardot) Wheldon
uncinata (Hedwig) Loeske
[uncinata var. *symmetrica* (Renauld & Cardot) H.A. Crum & L.E. Anderson = *Sanionia symmetrica*]

Sarmentypnum [Calliergonaceae]
exannulatum (Schimper) Hedenäs
**trichophyllum* (Warnstorf) Hedenäs [*Kofranek 7471*, OSC; *Kofranek 2019*]

Schistidium [Grimmiaceae]
agassizii Sullivant & Lesquereux
apocarpum (Hedwig) Bruch & Schimper
atrichum (Müller Hal. & Kindberg) W.A. Weber
cinclidodonteum (Müller Hal.) B. Bremer
confertum (Funck) Bruch & Schimper
dupretii (Thériot) W.A. Weber
**flaccidum* (De Notaris) Ochyra [*Kofranek*; *Stone 7935.7*]
**frigidum* H.H. Blom [McIntosh 2007a; *Schofield & Lyford 74018*, 1979, UBC]
**heterophyllum* (Kindberg) T.T. McIntosh [*Kofranek 5874*, OSC, ver. R.I. Hastings & D.R. Toren]
maritimum (Turner) Bruch & Schimper
occidentale (E. Lawton) Churchill
**papillosum* Culmann [McIntosh 2007a; *Frye 4*, 1935, WTU, ver H.H. Blom]
rivulare (Bridel) Podpěra
**splendens* T.T. McIntosh, H.H. Blom, D.R. Toren & Shevock [*Schofield & Godfrey 68189*, UBC; *Schofield 84871*, UBC Brooks 2110, CAS, ver. D.R. Toren; Brooks 2021a]

- **squarrosus* T.T. McIntosh, H.H. Blom, D.R. Toren & Shevock [*Wagner 9563*, OSC, ver. D.R. Toren; *Björk 20819*, CAS, UBC; *Björk 21573*, CAS, ver. D.R. Toren; *Kofranek 8292*, UBC, ver. T.T. McIntosh; *Kofranek 2019*]
strictum (Turner) Loeske
 **tenerum* (J.E. Zetterstedt) Nyholm [*Schofield & Lyford 73991*, 1979, DUKE]
- Schistostega** [Schistostegaceae]
 **pennata* (Hedwig) F. Weber & D. Mohr [*Harpel 2007a*; *Davis*; *Harpel 17774*, 17848]
- [Sciaromium = Limbella]**
 [*fryei* R.S. Williams = *Limbella fryei*]
 [*tricostatum* (Sullivant) Mitten from North America = *Limbella fryei*]
- Sciuro-hypnum** [Brachytheciaceae]
hylotapetum (N.L. Higinbotham & B.L. Higinbotham) Ignatov & Huttunen
 **latifolium* (Kindberg) Ignatov & Huttunen [*Kofranek 6568*, 6631, OSC, ver. D.H. Wagner]
oedipodium (Mitten) Ignatov & Huttunen
plumosum (Hedwig) Ignatov & Huttunen
reflexum (Starke) Ignatov & Huttunen
- Scleropodium** [Brachytheciaceae]
californicum (Lesquereux) Kindberg [*Bilderback DB-2010-M2*, det. B.E. Carter]
cespitans (Müller Hal.) L.F. Koch var. *cespitans*
 [*cespitans* var. *sublaeve* (Renauld & Cardot) Wijk & Margadant = *Scleropodium julaceum* [Carter 2012a]
 **julaceum* E. Lawton [*Wagner 8684*; *Bilderback DB-2009-M1*, *DB-2009-M2*, det. B.E. Carter]
obtusifolium (Mitten) Kindberg in J. Macoun
 **occidentale* B.E. Carter [Carter 2012a, 2012b]
touretii (Bridel) L.F. Koch var. *tourettii*
touretii var. *colpophyllum* (Sullivant) E. Lawton ex H.A. Crum
- [Scopelophila = Crumia]**
 [*latifolia* (Kindberg) Renauld & Cardot = *Crumia latifolia*]
- Scouleria** [Scouleriaceae]
aquatica Hooker
marginata E. Britton
 **siskiyouensis* Shevock & D. H. Norris [Shevock and Norris 2014; *Kofranek 1387*, OSC]
- Sphagnum** [Sphagnaceae]
angustifolium (C.E.O. Jensen) C.E.O. Jensen
 **bartlettianum* Warnstorf [McQueen and Andrus 2007]
capillifolium (Ehrhart) Hedwig
 **compactum* de Candolle [McQueen and Andrus 2007]
 **contortum* Schultz [*Kofranek 8798*, 8806, OSC; *Kofranek 2020*]
 **divinum* Flatberg & K. Hassel [McQueen and Andrus 2007, as *S. magellanicum*]
 [*fallax* (Klinggraf) Klinggraf from the Pacific coast = *Sphagnum pacificum*]
fimbriatum W.M. Wilson & J.D. Hooker ssp. *fimbriatum*
fuscum (Schimper) H. Klinggraf
girgensohnii Russow
 [*henryense* Warstorf = *Sphagnum palustre*]

[magellanicum Bridel from the Pacific coast = *Sphagnum divinum* (Hassel et al. 2018)]
mendocinum Sullivant & Lesquereux
miyabeanum Warnstorf
 **oregonense* Andrus [Andrus 2007; McQueen and Andrus 2007]
 **pacificum* Flatberg [Flatberg 1989]
palustre Linnaeus
papillosum Lindberg
platyphyllum (Lindberg) Sullivant
rubellum W.M. Wilson
russowii Warnstorf
squarrosus Crome
subnitens Russow & Warnstorf
[subsecundum Nees von Esenbeck from the Pacific coast = *Sphagnum miyabeanum* (Shaw et al. 2008, 2012, 2014)]
teres (Schimper) Ångstrom
warnstorffii Russow
Splachnum [Splachnaceae]
ampullaceum Hedwig
 **sphaericum* Hedwig [*Dewey rd081414-1109*, ver. D.H. Wagner]
Straminergon [Calliergonaceae]
stramineum (Dickson ex Bridel) Hedenäs
Stegonia [Pottiaceae]
 **latifolia* var. *latifolia* (Schwägrichen) Venturi [Zander 2007f]
 **latifolia* var. *pilifera* (Dickson) Brothorus [*Kofranek 8586*, OSC; Kofranek 2019]
[Stokesiella = Kindbergia]
[brittoniae (Grout) H. Robinson = *Kindbergia praelonga*]
[oregana (Sullivant) H. Robinson = *Kindbergia oregana*]
[praelonga (Hedwig) H. Robinson var. *praelonga* = *Kindbergia praelonga*]
[praelonga var. *stokesii* (Turner) H.A. Crum = *Kindbergia praelonga*]
Syntrichia [Pottiaceae]
 **bartramii* (W.C. Steere) R.H. Zander [*Zander & Eckel 4426*, 1980, MO, ver. B.D. Mishler; *Kofranek 2266*, OSC, ver, D.H. Wagner]
caninervis Mitten
 **laevipila* Bridel [Merrifield 2000, 2001; Mishler 2007]
latifolia (Bruch) Huebener
 **montana* Nees [Mishler 2007] Non-pedicellate papillose specimens need to be verified to differentiate it from *S. sucrosa*.
norvegica F. Weber
papillosissima (Coppey) Loeske
princeps (De Notaris) Mitten
ruralis (Hedwig) F. Weber & D. Mohr
 **sucrosa* Kellman [*Kofranek 5543, 9505*, OSC] Is this species concept within the range of *S. montana*?
Tayloria [Splachnaceae]
serrata (Hedwig) Bruch & Schimper

Tetraphis [Tetraphidaceae]

**geniculata* Milde. Old reports in Christy et al. (1982) were never verified, but since 1993 authentic material has been found by Davis, Harpel, and others [Harpel 2007b].

pellucida Hedwig var. *pellucida*

Tetraplodon [Splachnaceae]

**mnioides* (Hedwig) Bruch & Schimper [Marino 2014; *Schofield 81955* and many other collectons]

Thamnobryum [Neckeraceae]

neckeroides (Hooker) E. Lawton

Thuidium [Thuidiaceae]

**recognitum* (Hedwig) Lindberg [Crum 2014]. A mostly eastern and northern species but apparently present in Washington and British Columbia. A specimen from Multnomah County (*Potter 2900*, DUKE), verified by Howard Crum in 1951, needs to be reexamined.

Timmia [Timmiaceae]

austriaca Hedwig

megapolitana Hedwig [*Norris 80448*, UC].

Timmiella [Pottiaceae]

**anomala* (Bruch & Schimper) Limpricht [*Hunt s.n.*, 1913, PH; *Brenner 42-3*, MO, det. E.B. Bartram; *Norris 76449*, UC]

crassinervis (Hampe) L.F. Koch

Tomentypnum [= "Tomenthypnum"] [Brachytheciaceae]

nitens (Hedwig) Loeske

Tortella [Pottiaceae]

fragilis (Hooker & Wilson) Limpricht

**tortuosa* var. *arctica* (Arnell) Brotherus [Eckel 1998]

tortuosa var. *tortuosa* (Hedwig) Limpricht

Tortula [Pottiaceae]

acaulon (Withering) R.H. Zander

[*bistratosa* Flowers = *Syntrichia caninervis*]

bolanderi (Lesquereux & James) M. Howe

brevipes (Lesquereux) Brotherus

[*caninervis* (Mitten) Brotherus = *Syntrichia caninervis*]

hoppeana (Schultz) Ochyra

**inermis* (Bridel) Montagne [*Harpel 17337*, UBC; *Kofranek 6416, 6417*, ver. D. Toren; Kofranek 2014]

**leucostoma* (R. Brown) Hooker & Greville [*Wagner 6004*, ver. R.H. Zander; *Kofranek 9610*]

[*laevipila* var. *meridionalis* (Schimper) Wijk & Margadant = *Syntrichia laevipila*]

[*latifolia* Bruch = *Syntrichia latifolia*]

**mucronifolia* Schwägrichen [Zander and Eckel 2007; *Christy 7772*; *Norris*; *Wagner 6002a*, OSC, ver. D. Horton]

muralis Hedwig

nevadensis (Cardot & Thériot) R.H. Zander

[*norvegica* (F. Weber) Lindberg = *Syntrichia norvegica*]

obtusifolia (Schwägrichen) Mathieu

[papillosissima (Coppey) Brotherus = *Syntrichia papillosissima*]
plinthobia (Sullivant & Lesquereux) Brotherus
[princeps De Notaris = *Syntrichia princeps*]
 **protobryoides* Zander [*Kofranek 6324A*, MO, det. R.H. Zander; Kofranek 2014]
[ruraliformis (Bescherelle) W. Ingham = *Syntrichia ruralis*]
[ruralis (Hedwig) P. Gaertner, B. Meyer & Scherbius = *Syntrichia ruralis*]
[ruralis var. *hirsuta* Venturi = *Syntrichia papillosissima*]
subulata Hedwig
truncata (Hedwig) Mitten
[Trachybryum = Homalothecium]
[megaptilum (Sullivant) W.B. Schofield = *Homalothecium megaptilum*]
Trematodon [Bruchiaceae]
asanoi Tuzibe
[boasii W.B. Schofield = *Trematodon asanoi*]
Trichodon [Ditrichaceae]
cylindricus (Hedwig) Schimper
[Trichostomopsis = Didymodon]
[australasiae (Hooker & Greville) H. Robinson = *Didymodon australasiae*]
[bistratosa (Hebr. & R.B. Perrot) R.H. Zander = *Didymodon bistratosus*]
Trichostomum [Pottiaceae]
 **crispulum* Bruch [*Weiss RW08-59*, ver. R.H. Zander]
 **tenuirostre* var. *tenuirostre* (Hooker & Taylor) Lindberg [*Wagner m0610*, ver. R.H. Zander]
Tripterocladium [Lembophyllaceae]
leucocladulum (Müller Hal.) A. Jaeger
Triquetrella [Pottiaceae]
californica (Lesquereux) Grout
Ulota [Orthotrichaceae]
[crispa var. *alaskana* (Cardot & Thériot) Grout = *Ulota obtusiuscula*]
megalospora Venturi
obtusiuscula Müller Hal. & Kindberg in J. Macoun & N.C. Kindberg
phyllantha Bridel
[Vinealobryum = Didymodon]
[brachyphyllum (Sull.) R.H. Zander = *Didymodon brachyphyllus*]
[californicum (J.A. Jiménez, D.R. Toren & Shevock) R.H. Zander = *Didymodon californicus*]
[eckeliae (R.H.Zander) R.H.Zander = *Didymodon eckeliae*]
[insulanum (De Not.) R.H. Zander = *Didymodon insulanus*]
[nicholsonii (Culm.) R.H. Zander = *Didymodon nicholsonii*]
[vineale (Brid.) R.H. Zander = *Didymodon vinealis*]
[vineale var. *rubiginosum* (Mitt.) R.H. Zander = *Didymodon vinealis* var. *rubiginosus*]
Warnstorfia [Calliergonaceae]
[exannulata (Schimper) Loeske = *Sarmentypnum exannulatum*]
fluitans (Hedwig) Loeske
Weissia [Pottiaceae]
controversa Hedwig

**ligulifolia* (E.B. Bartram) Grout [*Brooks 4529*, CAS, ver. D.R. Toren; Brooks 2021a]
Zygodon [Orthotrichaceae]
viridissimus var. *rupestris* Lindberg in C.J. Hartman
[*vulgaris* (Malta) Nyholm = *Zygodon viridissimus* var. *rupestris*]

TAXA EXCLUDED FROM OREGON

The following taxa have been reported from Oregon, but are known to be either errors or cannot be found in herbarium databases currently accessible online. A number of them occur in an adjoining state (California, Idaho, or Washington) and should be sought in Oregon. See also Christy et al. (1982) for earlier exclusions.

- Andreaea schofieldiana* B.M. Murray—A previous report from Oregon was actually *A. heinemannii*.
- Aphanorrhagma serratum* (Wilson & Hooker) Sullivant—Old reports from Oregon (see Christy et al. 1982) have never been verified. This taxon does not occur in western North America and presumably was misidentified.
- Arctoa hyperborea* (Gunnerus) Bruch & Schimper—Old reports from Oregon (see Christy et al. 1982) have never been verified. Not confirmed from North America (Newmaster 2007). A specimen from Mt. Hood [*Röll 993*, 1888, WIS] does not appear to have been annotated.
- Bestia longipes* (Sullivant & Lesquereux) Brotherus in H.G.A. Engler & K. Prantl—Reports from Oregon (Chapman and Sanborn 1941; Koch 1950; *Howell*, 1882 and *Henderson 16865*, both at NY) are referable to *Isothecium cristatum* (Shevock et al. 2008).
- Bartramia rosamrosiae* Damayanti, J. Muñoz, J.-P. Frahm & D. Quandt [= *B. stricta* Bridel s.l.; Damayanti et al. 2012]—Not confirmed from Oregon. An earlier report was based on a misidentification.
- Brachythecium campestre* (Müller Hal.) Schimper in P. Bruch and W.P. Schimper—An old report in Duvall (1938) has never been verified. Apparently restricted to east of the Rocky Mountains (Ignatov 2014a).
- Brachythecium laetum* (Bridel) Schimper = *B. oxycladon* (Bridel) A. Jaeger—There are no records of this from Oregon in CNABH or *Flora of N.A.* vol. 28.
- Campylophyllum hispidulum* (Bridel) Hedenäs—An old report from Oregon (see Christy et al. 1982, as *Campylium hispidulum*) has never been verified. The closest reports are from California, Idaho, British Columbia, and Montana (Norris and Shevock 2004a, 2004b, as *Campylium hispidulum*; Hedenäs 2014b).
- Dicranodontium denudatum* (Bridel) E. Britton—An old report from Oregon (see Christy et al. 1982) has never been verified.
- Dicranum fragilifolium* Lindberg—Old reports from Oregon (see Christy et al. 1982) have never been verified. Specimens from Benton and Linn Counties (*Gilbert s.n.*, OSC; *Price 1807*, MO] need verification. Rarely found south of the Canadian border (Ireland 2007).
- Dicranum spadiceum* J.E. Zetterstedt—Old reports from Oregon (see Christy et al. 1982) have never been verified. The closest reports are from British Columbia, Montana, and Utah (Ireland 2007).

Didymodon vinealis var. *luridus* (Hornschuch) R.H. Zander, [*Didymodon luridus* Sprengel]—Reported from Oregon by McIntosh (1986, 1989), but excluded from North America by Zander (2007d). Reports from our flora are mostly referable to *D. brachyphyllus* (McIntosh 2013).

Ditrichum pusillum (Hedwig) Hampe—Old reports from Oregon (see Christy et al. 1982) have never been verified. A specimen from Grant County [*Manuel 153*, MO] needs to be verified. This taxon does not occur in western North America and presumably was misidentified.

Drepanocladus polycarpus (Blandow ex Voit) Warnst. —“...*D. polycarpus* is an environmental modification of *D. aduncus*...” (Hedenäs 2022). A recent report [*Brooks 4293*, CAS, ver. D.R. Toren; Brooks 2021a] was the basis of this inquiry. Also see Hedenäs 1996, 2008 and Smith, A.J.E. 2004 p. 781.

Drepanocladus sendtneri (Schimper ex H. Müller) Warnstorf—Excluded from North America (Hedenäs 2014a). Reports from Oregon are referable to *Drepanocladu sordidus* (Hedenäs 2009).

Ephemerum crassinervium var. *crassinervium* (Schwägri) Hampe—Previous reports from Oregon are actually *E. spinulosum* (Thomas 2022).

Grimmia donniana var. *triformis* (Crest. & De Notaris) Loeske—An old report from Oregon (see Christy et al. 1982) has never been verified. The variety is difficult to demonstrate and its status in North America is uncertain (Hastings 2011). Very rare in Europe (Muñoz 1998, as *G. triformis*).

Homalia trichomanoides (Hedwig) Schimper var. *trichomanoides*—An old report from Oregon (see Christy et al. 1982) has never been verified. The closest reports are from Washington and British Columbia (Sastre-De Jesús 2014b).

Hookeria acutifolia Hooker & Greville—An old report (Snider 1982) and a specimen at TENN have never been verified. Old reports from California were referred to *Hookeria lucens* (Norris and Shevock 2004a).

Hygrohypnum montanum (Lindberg) Brotherus in H.G.A. Engler & K. Prantl—Old reports from Oregon (see Christy et al. 1982) have never been verified. Not present in western North America (Jamieson 2014).

Hygrohypnum norvegicum (Schimper) J.J. Amann in J.J. Amann et al.—Old reports from Oregon (see Christy et al. 1982) have never been verified. The closest reports are from Washington and British Columbia (Lawton 1971; Jamieson 2014).

Hypnum cupressiforme var. *filiforme* Bridel—Reported from Oregon by Chapman and Sanborn (1941), but voucher specimens not found. This taxon is not known to occur in western North America (Schofield 2014a), and presumably the specimen was misidentified. If present in our area, it would most likely occur as a lawn weed (Norris and Shevock 2004a).

Hypnum fertile Sendtner—An old report from Oregon (see Christy et al. 1982), and a specimen from Salem (*Slavens 496*, WTU) have never been verified. *Hypnum fertile* is European, and reports from North America are referable to *H. fauriei* (Schofield 2014a), but the latter is not known to occur in western North America.

Imbribrum alpinum (Hudson ex Withering) N. Pedersen—Voucher specimens for Campbell (1973, as *Bryum alpinum*, identified or verified by W.B. Schofield) have not been located, and reportedly were discarded (Campbell 2000). *Henderson s.n.* (ORE 107585), annotated by Christy in 1981, needs confirmation.

Isothecium myosuroides Bridel—The closest authenticated records are from eastern North

America, while the identity of western material remains unclear (Schofield 2014b).

Jaffueliobryum rauii (Austin) Thériot—An old report from Oregon (see Christy et al. 1982, as *Grimmia rauii*) has never been verified. The closest reports are from California, Nevada, and Montana (Norris and Shevock 2004a, 2004b; Spence 2007).

Lewinskya elegans [= *Orthotrichum elegans* Hooker & Greville]—An old report from Oregon (see Christy et al. 1982, as *O. speciosum* var. *elegans*) may be based on a specimen (*Lyll s.n.*, 1861, FH) collected in northern Idaho during the Northwest Boundary Survey of 1857-1861, which referred to the entire Pacific Northwest as "Oregon." Unlikely to occur in Oregon (Vitt 2014a).

Micromitrium tenerum (Bruch & Schimper) Crosby—Reported in Christy and Wagner (1999), but reannotated by Virginia Bryan as *Micromitrium synoicum*. The former is present in California (Bryan 2007; Malcolm et al. 2009). A specimen from Benton County (*Merrifield 1570*, OSC) needs reexamination.

Orthotrichum anomalum Hedwig—An old report from Oregon (see Christy et al. 1982) has never been verified. Specimens from Mt. Hood (*Henderson 1502*, NY) and Mt. Jefferson (*Horton 2449*, MO, OSC) need verification. The closest reports are from Idaho, Washington, and British Columbia (Vitt 2014a).

Orthotrichum lyellii Hooker & Taylor—see *Pulviger a lyellii* below.

Orthotrichum tenellum Bruch ex Bridel—Duplicates of a specimen with this name from Hood River County (*Weber 2796*, DUKE) have been named *O. striatum* (MO, NY, WTU).

Physcomitrella patens (Hedwig) Bruch & Schimper—Material from Oregon seen to date is *Physcomitrella readeri* (Tan 1978; Thomas 2021).

Pohlia lescuriana (Sullivant) Grout—Reports from western North America (including *Christy 465*, UBC, WTU) are referable to *Pohlia pacifica* (Shaw 1982, 2014).

Polytrichastrum longisetum (Bridel) G.L. Smith—Old reports from Oregon (see Christy et al. 1982, as *Polytrichum longisetum*) and a number of specimens (DUKE, NEB, NY, OSC, UBC) do not appear to have been verified recently. Merrill (2007a) indicated that the closest occurrences are in the Rocky Mountains of British Columbia, Montana, Wyoming, and Colorado.

Polytrichum jensenii I. Hagen—Old reports from Oregon (see Christy et al. 1982, as *Polytrichum commune* var. *maximoviczii* and *Polytrichum commune* var. *jensenii*) have never been verified. An arctic and arctic-alpine species, the closest report is from Wyoming (Merrill 2007b).

Ptychostomum cernuum (Hedwig) Hornschuch—An old report from Oregon (see Lawton 1971, as *Bryum uliginosum*) has never been verified. Specimens (*Wagner 2317*, OSC, WTU) need verification. The closest reports are from Colorado and British Columbia (Spence 2014d).

Ptychostomum pendulum Hornschuch—No known valid material from Oregon. A specimen [*Kofranek 2489*] previously identified by John Spence as this species has been redetermined as *P. inclinatum* [pers. comm. Spence to David Kofranek, 2016].

Pulviger a lyellii (Hooker & Taylor) Plášek, Sawicki & Ochyra is not yet reported from Oregon. Plants are gemmiferous and distinct from *P. papillosa* and *P. pringlei*.

Racomitrium aquaticum (Bridel) Bridel [= *Codriophorus aquaticus* (Bridel) Bednarek-Ochyra and Ochyra]—Restricted to Eurasia (Bednarek-Ochyra 2000; Bednarek-Ochyra and Ochyra 2004). Records from North America are *Racomitrium ryszardii*.

Sciuro-hypnum curtum (Lindberg) Ignatov—Reports from the Pacific coast are referable to

Sciuro-hypnum oedipodium (Ignatov and Milyutina 2007; Ignatov 2014b).
Sphagnum fallax (Klinggraf) Klinggraf—Reports from the Pacific coast are referable to *Sphagnum pacificum* (Flatberg 1989).
Sphagnum majus (Russow) C.E.O. Jensen. An earlier report was based on a misidentification.
Sphagnum quinquefarium (Lindberg) Warnstorf—Old reports from Oregon (see Christy et al. 1982) have never been verified. Reported from California (Norris and Shevock 2004a, 2004b) and British Columbia (McQueen and Andrus 2007).
Sphagnum subsecundum Nees von Esenbeck—Reports from the Pacific coast are referable to *Sphagnum miyabeianum* (Shaw et al. 2008, 2012, 2014).
Sphagnum tenellum (Bridel) Bory—Old reports from Oregon (see Christy et al. 1982) have never been verified. A specimen from Curry County (*DuVall 1009*, WTU) needs reexamination. The closest report is from British Columbia (McQueen and Andrus 2007).
Tayloria hornschuchii (Greville & Arnott) Brotherus in H.G.A. Engler & K. Prant—Old reports from Oregon (see Christy et al. 1982) have never been verified. This high arctic and Rocky Mountain species is unlikely to occur in Oregon (LaFarge-England and Vitt 1985; Marino 2014).

TAXA EXPECTED TO OCCUR IN OREGON

The following taxa are reported from both California and Washington, but have not been found in Oregon. Their presence to the north and south implies a continuous distribution and they should also be expected to occur here. We do not include species reported from only one adjoining state (California, Idaho, or Washington), because distribution is less likely to be continuous. *Orthotrichum tenellum* and *Tortula truncata*, reported from California and Washington by Vitt (2014a), Norris and Shevock (2004a, 2004b), and Zander and Eckel (2007), were excluded from the California flora by Malcolm et al. (2009).

Brachythecium acutum (Mitten) Sullivant—California, Idaho, BC [Ignatov 2014a]. Similar to and possibly overlooked in the field and/or in herbaria as *B. salebrosum*.
Dicranella pacifica W.B. Schofield—California, Washington [Norris and Shevock 2004a, 2004b; Crum 2007]. Old reports from Oregon (see Christy et al. 1982) have never been verified.
Dicranum undulatum Bridel—California, Washington [Norris and Shevock 2004a, 2004b; Ireland 2007]. The occurrence in California is reportedly a weedy introduction (Norris and Shevock 2004a, 2004b).
Discelium nudum (Dickson) Bridel—California, Washington [Norris and Shevock 2004a, 2004b; Schofield 2007].
Gemmabryum tenuisetum (Limpricht) J.R. Spence & H.P. Ramsey—California, Washington [Spence 2014b].
Grimmia crinitoleucophaea Cardot—California, Washington [Hastings and Greven 2007].
Grimmia lesherae Greven—California, Washington [Hastings and Greven 2007].
Grimmia mollis Bruch & Schimper—California, Washington [Hastings and Greven 2007].
Hypnum vaucheri Lesquereux—California, Washington [Schofield 2014a].
Orthotrichum pumilum Swartz—California, Washington [Vitt 2014a].

Orthotrichum tenellum Bruch ex Bridel—Excluded from the California flora by Malcolm et al. (2009), but reported from California and Washington by Vitt (2014a).

Pohlia andalusica (Höhnelt) Brotherus in H.G.A. Engler & K. Prantl—California, Washington [Shaw 2014].

Pohlia atropurpurea (Wahlenberg) H. Lindberg—California, Washington [Shaw 2014].

Polytrichastrum alpinum var. *septentrionale* (Bridel) G.L. Smith—California, Washington [Merrill 2007a].

Polytrichastrum formosum var. *densifolium* (Mitten) Z. Iwatsuki & A. Noguchi—California, Washington [Merrill 2007a]. Specimens of *Polytrichastrum formosum* from Oregon need examination to determine their varietal status.

Pulvigerella lyellii (Hook & Taylor) Lara, Draper, Garilleti—California [Lara et al. 2020]
This gemmiferous “*Orthotrichum lyellii*” is expected along the southern Oregon border.

Rhizomnium punctatum (Hedwig) T.J. Koponen—California, Washington [McIntosh & Newmaster 2014b].

Syntrichia papillosa (Wilson) Juratzka—California, Washington [Mishler 2007].

Syntrichia virescens (De Not.) Ochyra—Washington [Kofranek 2014]. Known from the Washington side of the Columbia River [Kofranek 7151, 7163, MO, ver. R. Zander; Kofranek 2016]

Tayloria lingulata (Dickson) Lindberg—California, Washington [Marino 2014].

Tortella tortuosa var. *fragilifolia* (Juratzka) Limpricht—California, Washington (Eckel 2007).

Tortula amplexa (Lesquereux) W.C. Steere—California, Washington [Zander and Eckel 2007].
Old reports from Oregon (see Christy et al. 1982) have never been verified.

Warnstorfia pseudostraminea (Müller Hal.) Tuomikoski & T. J. Koponen—California, Washington [Malcolm et al. 2009; Hedenäs 2014c].

LITERATURE CITED

- Allen, B.A. 2014. Fontinalaceae. Flora of North America 28: 489-501. Oxford University Press, New York. 713 pp.
- Andrus, R.E. 2007. *Sphagnum oregonense* sp. nov. from western North America. Bryologist 110: 123-125.
- Bednarek-Ochyra, H. 2000. *Racomitrium ryszardii* (Musci, Grimmiaceae), a new hydrophilous species from the Pacific Northwest with comments on *Racomitrium aquaticum* in North America. Cryptogamie, Bryologie-Lichénologie 21: 275-284.
- Bednarek-Ochyra, H. & R. Ochyra. 2004. Lectotypification of *Codriophorus aquaticus* (Bryopsida, Grimmiaceae). Bryologist 107: 480-488.
- _____, & _____. 2007. *Codriophorus*. Flora of North America 27: 295-305. Oxford University Press, New York. 713 pp.
- _____, J. Sawicki, R. Ochyra, M. Szczecińska & V. Plášek. 2015. *Dilutineuron*, a new moss

genus of the subfamily Racomitrioideae (Grimmiaceae, Bryophyta). *Acta Musei Silesiae, Scientiae Naturales* 64: 163–168.

Brooks, J.R. 2021a. A flora of the mosses of the Cascade-Siskiyou National Monument in Oregon and California. *Madroño* 68: 257-282.

Brooks, J.R. 2021b. *Grimmia serrana* J. Muñoz, J. Shevock, D.R. Toren confirmed new for Oregon. *Evansia*: 38: (4) pp. 146-148.

Bryan, V.S. 2007. Ephemeraeae. *Flora of North America* 27: 646-653. Oxford University Press, New York. 713 pp.

Buck, W.R. & D.H. Norris. 1996. *Hedwigia stellata* and *H. detonsa* (Hedwigiaceae) in North America. *Nova Hedwigia* 62: 361-370.

Campbell, A.C. 1973. Vegetative ecology of Hunts Cove, Mt. Jefferson, Oregon. M.S. Thesis, Oregon State University, Corvallis.

_____. 2000. Personal communication with John Christy.

Carter, B.D. 2012a. Systematics and ecology of the moss genus *Scleropodium* (Brachytheciaceae). Ph.D. dissertation. University of California, Berkeley. 96 pp.

_____. 2012b. *Scleropodium occidentale* (Brachytheciaceae), a new moss species from western North America. *Bryologist* 115: 222-230.

Chapman, C.J. & E.I. Sanborn. 1941. Moss flora of the Willamette Valley, Oregon. *Oregon State Monographs, Studies in Botany* 4: 1-72.

Christy, J.A. 1983. Bibliography of Oregon mosses. *Syesis* 16: 43-52.

_____, J.H. Lyford & D.H. Wagner. 1982. Checklist of Oregon mosses. *Bryologist* 85: 22-36.

Crum, H.A. 2007. *Dicranella*. *Flora of North America* 27: 386-393. Oxford University Press, New York. 713 pp.

_____. 2014. *Thuidium*. *Flora of North America* 28: 380-383. Oxford University Press, New York. 702 pp.

_____, W.C. Steere & L.E. Anderson. 1973. A new list of mosses of North America north of Mexico. *Bryologist* 76: 85-130.

Damayanti, L., J. Muñoz, S. Wicke, L. Symmank, B. Shaw, J.-P. Frahm & D. Quandt. 2012. Common but new: *Bartramia rosamrosiae*, a “new” widespread species of apple mosses (Bartramiales, Bryophytina) from the Mediterranean and western North America. *Phytotaxa*

73: 37-59.

Duvall, R.H. 1938. The moss flora of the Willowa Mountains of Oregon. *Bryologist* 41: 90-95.

Eckel, P.M. 1998. Re-evaluation of *Tortella* (Musci, Pottiaceae) in conterminous U.S.A. and Canada with a treatment of the European species *Tortella nitida*. *Bulletin of the Buffalo Society of Natural Sciences* 36: 117-191.

_____. 2007. *Tortella*. *Flora of North America* 27: 498-511. Oxford University Press, New York. 713 pp.

_____. 2014a. Hedwigiaceae. *Flora of North America* 28: 83-90. Oxford University Press, New York. 702 pp.

_____. 2014b. Orthodontiaceae. *Flora of North America* 28: 113-116. Oxford University Press, New York. 702 pp.

Ellis, L.T., A. Alegro, V. Šegota, V.A. Bakalin, R. Barone, E.A. Borovichev, V. Hugonnot, M. Lebouvier, M. Nobis, A. Nowak, R. Ochyra, B. Papp, E. Szurdoki, R. Piwowarczyk, V. Plášek, L. Číhal, Z.-J. Ren, M.S. Sabovljević, C. Sérgio, C.A. Garcia, I. Melo, J. Sawicki, A. Stebel, S. Ștefașnuț, R. Ion, A. Manole, I. Tziortzis, Y. Xiong & Z.-T. Zhao. 2015. Bryological note: New national and regional bryophyte records, 44. *Journal of Bryology* 37: 228-241.

Enroth, J., Olsson, S., Huttunen, S., Buchbender, V., Tangney, R. Stech, M., Hedenäs, L., Quandt, D. 2019. Orthostichellaceae *fam. nov.* and other novelties in pleurocarpous mosses revealed by phylogenetic analyses. *Bryologist* 122(2): 219-245.

Flatberg, K.I. 1989. *Sphagnum (Cuspidata) pacificum*, sp. nov. *Bryologist* 92: 116-119.

Frahm, J.-P. 2007. *Campylopus*. *Flora of North America* 27: 366-376. Oxford University Press, New York. 713 pp.

Frisvoll, A.A. 1983. A taxonomic revision of the *Racomitrium canescens* group (Bryophyta, Grimmiiales). *Gunneria* 41: 1-181.

_____. 1988. A taxonomic revision of the *Racomitrium heterostichum* group (Bryophyta, Grimmiiales) in N. and C. America, N. Africa, Europe and Asia. *Gunneria* 59: 1-289.

Goffinet, B., W.R. Buck & A.J. Shaw. 2014. Classification: mosses.
<http://bryology.uconn.edu/classification-2/>

Griffin, D. 2014. Bartramiaceae. *Flora of North America* 28: 97-112. Oxford University Press, New York. 702 pp.

- Harpel, J.A. 2007a. Schistostegaceae. *Flora of North America* 27: 475. Oxford University Press, New York. 713 pp.
- _____. 2007b. Tetrarhizaceae. *Flora of North America* 27: 111-115.
- Hassel, K., M.O. Kyrkjeeide, N. Yousefi, T. Prestø, H.K. Stenøien, J.A. Shaw & K.I. Flatberg 2018. *Sphagnum divinum* (sp. nov.) and *S. medium* Limpr. and their relationship to *S. magellanicum* Brid. *Journal of Bryology* 40: 197-222.
- Hastings, R.I. 2011. Personal communication with John Christy. February 2011.
- _____ & H.C. Greven. 2007. *Grimmia*. *Flora of North America* 27: 225-258. Oxford University Press, New York. 713 pp.
- Hedenäs, L. 2014a. *Drepanocladus*. *Flora of North America* 28: 292-297. Oxford University Press, New York. 702 pp.
- _____. 2014b. *Campylophyllum*. *Flora of North America* 28: 314-317. Oxford University Press, New York. 702 pp.
- _____. 2014c. Calliergonaceae. *Flora of North America* 28: 384-403. Oxford University Press, New York. 702 pp.
- Hedenäs, L. 1996. On the interdependence of some leaf characters within the *Drepanocladus aduncus-polycarpos* complex. *Journal of Bryology* 19: 311-324.
- Hedenäs, L. 2008. Molecular variation in *Drepanocladus aduncus* s.l. does not support recognition of more than one species in Europe. *Journal of Bryology* 30: 108-120.
- Hedenäs, L. 2009. Personal communication to D.H. Wagner. April 2009.
- Hedenäs, L. 2022. Personal communication with David Kofranek. February 2022.
- Huttunen, S., M. S. Ignatov, D. Quandt & L. Hedenäs. 2013. Phylogenetic position and delimitation of the moss family Plagiotheciaceae in the order Hypnales. *Botanical Journal of the Linnean Society* 171: 330–353.
- _____, O. Kuznetsova, M. Li, Y. Wang, M. S. Ignatov. 2015. East Asian origin and Northern Hemisphere diversification in the *Brachythecium novae-angliae*-complex (Bryophyta). *Taxon*, Vol. 64, No. 5, pp. 911-930.
- Ignatov, M.S. 2014a. *Brachythecium*. *Flora of North America* 28: 414-428. Oxford University Press, New York. 702 pp.
- _____. 2014b. *Sciuro-hypnum*. *Flora of North America* 28: 455-463. Oxford University Press,

New York. 702 pp.

- _____ & I.A. Milyutina. 2007. On *Sciuro-hypnum oedipodium* and *S. curtum* (Brachytheciaceae, Bryophyta). *Arctoa* 16: 47-61.
- Ireland, R.R. 2007. *Dicranum*. *Flora of North America* 27: 397-420. Oxford University Press, New York. 713 pp.
- _____ & J.R. Spence. 1987. *Rhacomitrium pacificum*, a new moss species from western North America. *Canadian Journal of Botany* 65: 859-862.
- _____, G.R. Brassard, W.B. Schofield & D.H. Vitt. 1987. Checklist of the mosses of Canada II. *Lindbergia* 13: 1-62.
- Jamieson, D.W. 2014. *Hygrohypnum*. *Flora of North America* 28: 269-282. Oxford University Press, New York. 702 pp.
- Koch, L.F. 1950. Mosses of California: an annotated list of species. *Leaflets of Western Botany* 6: 1-40.
- Kofranek, David. 2014. Rare Moss and Lichen Surveys of BLM Vale District, North Umatilla Co., OR, *Aloina bifrons*, *Bryoerythrophyllum columbianum*, and *Texosporium sancti-jacobi*. Technical report for the Interagency Special Status / Sensitive Species Program: https://www.researchgate.net/publication/278157368_Rare_Moss_and_Lichen_Surveys_of_BLM_Vale_District_North_Umatilla_Co_OR_Aloina_bifrons_Bryoerythrophyllum_columbianum_and_Texosporium_sancti-jacobi
- _____. 2016. Rare Moss and Lichen Surveys of BLM Vale District, North Umatilla Co., OR & Spokane District, South Benton Co., WA, *Aloina bifrons*, *Bryoerythrophyllum columbianum*, and *Texosporium sancti-jacobi*. Technical report for the Interagency Special Status / Sensitive Species Program. 73 pp.: https://www.researchgate.net/publication/366485994_Mosses_Lichens_of_Columbia_Basin_OR_WA_Kofranek_%2716
- _____. 2019. Preliminary Inventory Results of the Bryophytes & Lichens of Steens Mt. Technical report for the Interagency Special Status / Sensitive Species Program. 60 pp.: <https://www.fs.usda.gov/r6/issssp/downloads/xnonvascular/inv-rpt-br-va-steens-mtn-201905.pdf>
- _____. 2020. Rare Bryophyte and Lichen Surveys of High Coastal Peaks, OR. Technical report for the Interagency Special Status / Sensitive Species Program. <https://www.fs.usda.gov/r6/issssp/downloads/xnonvascular/inv-rpt-li-br-rare-species-oregon-high-coastal-peaks-202003.pdf>
- LaFarge-England, C. & D.H. Vitt. 1985. A taxonomic study of *Tayloria hornschuchii* and *T. froelichiana* in North America. *Bryologist* 88: 82-93.
- Lara, F., R. Garilleti, B. Goffinet, I. Draper, R. Medina, B. Vigalondo & V. Mazimpaka. 2016.

- Lewinskya*, a new genus to accommodate the phaneroporous and monoicous taxa of *Orthotrichum* (Bryophyta, Orthotrichaceae). *Cryptogamie, Bryologie* 37: 361-382.
- Lara, F., I. Draper, M. Flagmeier, J.A. Calleja, V. Mazimpaka & R. Garilleti. 2020. Let's make *Pulviger* great again: re-circumscription of a misunderstood group of Orthotrichaceae that diversified in North America. *Botanical Journal of the Linnean Society* 193: 180-206.
- Larraín, J., D. Quandt, M. Stech & J. Muñoz. 2013. Lumping or splitting? The case of *Racomitrium* (Bryophytina, Grimmiaceae). *Taxon* 62: 1117-1132.
- Lawton, E. 1971. Moss Flora of the Pacific Northwest. Hattori Botanical Laboratory, Nichinan, Japan. 362 pp.
- Lewinsky-Haapasaari, J. & D.H. Norris. 1998. A re-evaluation of *Orthotrichum euryphyllum*. *Bryologist* 101: 295-302.
- Malcolm, B., N. Malcolm, J. Shevock & D. Norris. 2009. California mosses. Micro-Optics Press, Nelson, New Zealand. 430 pp.
- Marino, P.C. 2014. Splachnaceae. *Flora of North America* 28: 14-29. Oxford University Press, New York. 702 pp.
- McIntosh, T.T. 2007a. *Schistidium*. *Flora of North America* 27: 207-225. Oxford University Press, New York. 713 pp.
- _____. 2007b. *Ceratodon*. *Flora of North America* 27: 445-448. Oxford University Press, New York. 713 pp.
- _____. 2013. Personal communication with John Christy.
- _____ & S.G. Newmaster. 2014a. *Plagiomnium*. *Flora of North America* 28: 229-235. Oxford University Press, New York. 702 pp.
- _____ & S.G. Newmaster. 2014b. *Rhizomnium*. *Flora of North America* 28: 236-242. Oxford University Press, New York. 702 pp.
- McQueen, C.B. & R.E. Andrus. 2007. Sphagnaceae. *Flora of North America* 27: 45-101. Oxford University Press, New York. 713 pp.
- Merrifield, K. 2000. Bryophytes on isolated *Quercus garryana* trunks in urban and agricultural settings in the Willamette Valley, Oregon. *Bryologist* 103: 720-724.
- _____. 2001. Bryophyte flora of William L. Finley National Wildlife Refuge, Willamette Valley, Oregon. *Madroño* 48: 17-24.

- Merrill, G.L.S. 2007a. *Polytrichastrum*. Flora of North America 27: 124-133. Oxford University Press, New York. 713 pp.
- _____. 2007b. *Polytrichum*. Flora of North America 27: 133-140. Oxford University Press, New York. 713 pp.
- Miller, H.A. & S. Shushan. 1964. The 1962 foray in Oregon of the American Bryological Society. *Bryologist* 67: 60-72.
- Mishler, B.D. 2007. *Syntrichia*. Flora of North America 27: 618-627. Oxford University Press, New York. 713 pp.
- Muñoz, J. 1998. A taxonomic revision of *Grimmia* subgenus *Othogrimmia* (Musci, Grimmiaceae). *Annals of the Missouri Botanical Garden* 85: 367-403.
- Newmaster, S.G. 2007. *Arctoa*. Flora of North America 27: 362-363. Oxford University Press, New York. 713 pp.
- Norris, D.H. & J.R. Shevock. 2004a. Contributions toward a bryoflora of California: I. A specimen-based catalogue of mosses. *Madroño* 51: 1-131.
- _____ & _____. 2004b. Contributions toward a bryoflora of California: II. A key to the mosses. *Madroño* 51: 133-269.
- Ochyra, R. & H. Bednarek-Ochyra. 2007a. *Bucklandiella*. Flora of North America 27: 267-285. Oxford University Press, New York. 713 pp.
- _____ & _____. 2007b. *Niphotrichum*. Flora of North America 27: 285-292. Oxford University Press, New York. 713 pp.
- Price, M.J. & E. Maier. 2013. A lectotype for *Dicranum howellii* (Dicranaceae). *Bryologist* 116: 281-286.
- Pursell, R.A. 2007. *Fissidens*. Flora of North America 27: 331-357. Oxford University Press, New York. 713 pp.
- Robinson, H. & M.S. Ignatov. 1997. *Brachythecium laetum* (Brid.) B.S.G. the correct name for the species commonly known as *Brachythecium oxycladon*. *Bryologist* 100: 359-361.
- Rushing, A.E. & J.A. Christy. 1984. *Bruchia flexuosa* new to western North America. *Bryologist* 87: 68-69.
- Sastre-De Jesús, I. 2014a. *Neckera*. Flora of North America 28: 603-606. Oxford University Press, New York. 702 pp.

- _____. 2014b. *Homalia*. Flora of North America 28: 608-609. Oxford University Press, New York. 702 pp.
- Sawicki, J., V. Plášek, & M. Szczecińska. 2010. Molecular studies resolve *Nyholmiella* (Orthotrichaceae) as a separate genus. *Journal of Systematics and Evolution* 48: 183-194.
- Sawicki, J., M. Szczecińska, H. Bednarek-Ochyra & R. Ochyra. 2015. Mitochondrial phylogenomics supports splitting the traditionally conceived genus *Racomitrium* (Bryophyta: Grimmiaceae). *Nova Hedwigia* 100: 293-317.
- Schofield, W.B. 2007. Disceliaceae. Flora of North America 27: 200-201. Oxford University Press, New York. 713 pp.
- _____. 2014a. *Hypnum*. Flora of North America 28: 532-549. Oxford University Press, New York. 702 pp.
- _____. 2014b. *Isothecium*. Flora of North America 28: 618-622. Oxford University Press, New York. 702 pp.
- Shaw, A.J. 1981a. *Pohlia andrewsii* and *P. tundrae*, two new arctic-alpine propaguliferous species from North America. *Bryologist* 84: 65-74.
- _____. 1981b. A taxonomic revision of the propaguliferous species of *Pohlia* (Musci) in North America. *Journal of the Hattori Botanical Laboratory* 50: 1-81.
- _____. 1982. *Pohlia* Hedw. (Musci) in North and Central America and the West Indies. *Contributions from the University of Michigan Herbarium* 15: 219-295.
- _____. 2014. Mielichhoferiaceae. Flora of North America 28: 190-214. Oxford University Press, New York. 702 pp.
- _____, S.B. Boles & B. Shaw. 2008. A phylogenetic delineation of the “*Sphagnum subsecundum* complex” (Sphagnaceae, Bryophyta). *American Journal of Botany* 95: 731–744.
- _____, B. Shaw, M. Ricca & K.I. Flatberg. 2012. A phylogenetic monograph of the *Sphagnum subsecundum* complex (Sphagnaceae) in eastern North America. *Bryologist* 115: 128-152.
- _____, G.K. Golinski, E.G. Clark, B. Shaw, H.K. Stenøien & K.I. Flatberg. 2014. Intercontinental genetic structure in the amphi-Pacific peatmoss *Sphagnum miyabeaenum* (Bryophyta: Sphagnaceae). *Biological Journal of the Linnean Society* 111: 17–37.
- Shevock, J.R. & D.H. Norris. 2014. *Scouleria siskiyouensis* (Scouleriaceae), a new rheophytic moss endemic to southern Oregon, USA. *Madroño* 61: 137-143.

- _____, D.H. Norris, & A.J. Shaw. 2008. Identification, distribution, and family placement of the pleurocarpous moss *Bestia longipes*. *Madroño* 55: 291-296.
- Smith, A. J. E. 2004. *The Moss Flora of Britain and Ireland*, ed. 2. Cambridge University Press, Cambridge. 1012 pp.
- Smith, Gary L. 2007. *Pogonatum*. *Flora of North America* 27: 155-159. Oxford University Press, New York. 713 pp.
- Snider, J. 1982. Bryophytes. *Ohio Biological Survey Biology Notes* 16: 14-21.
- Spence, J.R. 1988. *Bryum* Hedw. (Bryaceae) in western North America. *Bryologist* 91: 73-85.
- _____. 2007. *Jaffueliobryum*. *Flora of North America* 27: 262-264. Oxford University Press, New York. 713 pp.
- _____. 2014a. *Bryum*. *Flora of North America* 28: 124-129. Oxford University Press, New York. 702 pp.
- _____. 2014b. *Gemmabryum*. *Flora of North America* 28: 129-140. Oxford University Press, New York. 702 pp.
- _____. 2014c. *Imbribryum*. *Flora of North America* 28: 142-146. Oxford University Press, New York. 702 pp.
- _____. 2014d. *Ptychostomum*. *Flora of North America* 28: 155-175. Oxford University Press, New York. 702 pp.
- _____. 2014e. *Rosulabryum*. *Flora of North America* 28: 177-185. Oxford University Press, New York. 702 pp.
- _____. 2014f. *Pseudoleskea*. *Flora of North America* 28: 355-361. Oxford University Press, New York. 702 pp.
- _____. 2014g. *Pseudoleskeella*. *Flora of North America* 28: 361-364. Oxford University Press, New York. 702 pp.
- _____ & K.M. Kellman. 2015. New and interesting species of *Gemmabryum* J.R. Spence & H.P. Ramsay (Bryaceae, Bryopsida) from California and the West. *Madroño* 62: 124-135.
- _____ & J.R. Shevock. 2012. *Ptychostomum pacificum* (Bryaceae), a new fen species from California, Oregon, and western Nevada, USA. *Madroño* 59: 156-162.
- _____ & _____. 2015. *Imbribryum torenii* (Bryaceae), a new species from western North America. *Madroño* 62: 68-72.

- Tan, B.C. 1978. *Physcomitrella patens* (Musci: Funariaceae) in North America. *Bryologist* 81: 561-567.
- Thomas, D.W. 2021. Personal communication with John Christy. March 2021.
- Thomas, D.W. 2022a. Personal communication with John Christy. June 2022.
- Thomas, D.W. 2022b. Personal communication with John Christy. November 2022.
- Vanderpoorten, A. & C.E. Zartman. 2002. The *Bryum bicolor* complex in North America. *Bryologist* 105: 128-139.
- Vigalondo, B., I. Draper, V. Mazimpaka, J.A. Calleja, F. Lara & R. Garilleti. 2020. The *Lewinskya affinis* complex (Orthotrichaceae) revisited: species description and differentiation. *Bryologist* 123: 455-482.
- Vitt, D.H. 2014a. Orthotrichaceae. *Flora of North America* 28: 37-82. Oxford University Press, New York. 702 pp.
- _____. 2014b. *Myurella*. *Flora of North America* 28: 370-372. Oxford University Press, New York. 702 pp.
- Wagner, D.H. 2007. Guide to *Racomitrium* of Oregon, including *Bucklandiella*, *Codriophorus*, *Niphotrichum*, & *Racomitrium s.s.* (= *Racomitrium s.l.*). Online key, descriptions, and photos. Northwest Botanical Institute, Eugene, Oregon. [Accessed February 2018].
http://fernzenmosses.com/racomitrium_of_oregon/ARACKEY.htm
- Weiss, R. *Hygrohypnum cochlearifolium* and *Orthotrichum pallens* var. *johnseniae* new for Oregon. *Evansia* 31: 85-87.
- Welch, W. 1934. Fontinalaceae. In: Grout, A.J. *Moss Flora of North America* 3: 233-262. Published by the author, Newfane, Vermont.
- Wynns, J.T., K. Rysbjerg Munk & C. B. Asmussen Lange. 2018. Molecular phylogeny of *Plagiothecium* and similar hypnalean mosses, with a revised sectional classification of *Plagiothecium*. *Cladistics* 34: 469–501.
- Wilson, P. & D.H. Norris. 1989. *Pseudoleskeella* in North America and Europe. *Bryologist* 92: 387-396.
- Yip, K.L. 2002. *Pseudephemerum*, new to the United States and Mexico. *Bryologist* 105: 256-258.
- _____. 2007a. *Pleuridium*. *Flora of North America* 27: 463-466. Oxford University Press,

New York. 713 pp.

- _____. 2007b. *Pseudephemerum*. Flora of North America 27: 467. Oxford University Press, New York. 713 pp.
- Zander, R.H. 1981. *Didymodon* (Pottiaceae) in Mexico and California: taxonomy and nomenclature of discontinuous and nondiscontinuous taxa. Cryptogamie, Bryologie et Lichénologie 2: 379-422.
- _____. 1999. A new species of *Didymodon* (Bryopsida) from western North America and a regional key to the taxa. Bryologist 102: 112-115.
- _____. 2007a. Andreaeaceae. Flora of North America 27: 102-107. Oxford University Press, New York. 713 pp.
- _____. 2007b. *Timmiella*. Flora of North America 27: 481-482. Oxford University Press, New York. 713 pp.
- _____. 2007c. *Barbula*. Flora of North America 27: 528-534. Oxford University Press, New York. 713 pp.
- _____. 2007d. *Didymodon*. Flora of North America 27: 539-561. Oxford University Press, New York. 713 pp.
- _____. 2007e. *Pseudocrossidium*. Flora of North America 27: 569-572. Oxford University Press, New York. 713 pp.
- _____. 2007f. *Stegonia*. Flora of North America 27: 603-605. Oxford University Press, New York. 713 pp.
- _____. 2007g. *Crumia*. Flora of North America 27: 639-640. Oxford University Press, New York. 713 pp.
- _____. 2013. A Framework For Post-Phylogenetic Systematics. Zetetic Publications, St. Louis, MO. 209 pp.
- _____. 2019. Macroevolutionary versus molecular analysis: Systematics of the *Didymodon* segregates *Aithobryum*, *Exobryum* and *Fuscobryum* (Pottiaceae). Hattoria 10: 1-38.
- _____ & P.M. Eckel. 2007. *Tortula*. Flora of North America 27: 586-603. Oxford University Press, New York. 713 pp.