Lichen holdings at the Biodiversity Institute of Ontario Herbarium at the University of Guelph, Ontario

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Abstract. **The history and current status of the lichen collections at the Biodiversity Institute of Ontario Herbarium (OAC) are presented, including a list of all taxa. Seven hundred and seventy-three lichen and allied fungi in 239 genera have been deposited into the herbarium since 2005.**

Key words. **Natural history, conservation, biodiversity, biogeography, reference library.**

INTRODUCTION

The Biodiversity Institute of Ontario Herbarium (OAC) houses a lichen collection that has not been data-based and the first author (RTM) recently left his role managing the lichen collection in the herbarium. Therefore, we felt it was an appropriate time to publish the lichen holdings. By listing these taxa we hope to raise the profile of the collection and encourage its use by students and faculty at the University of Guelph and by researchers outside of the university.

Early history of the OAC Herbarium

The Biodiversity Institute of Ontario Herbarium (OAC) at the University of Guelph in Guelph, Ontario, began as part of the Ontario Agriculture College, which was established in 1878. The first known mention of "plant" collections at the college was in 1880 when the Act of Incorporation included a statement that the school was to have a Museum of Agriculture and Horticulture (Lacroix and Burgess 1994). The first known evidence of the College housing plants was in the 1883 Annual Report where Professor J.P. McMurrich refers to the acquisition of a Japanese plant collection into the botanical division of the museum (Lacroix and Burgess 1994). Plant collections were separated from the rest of the museum in 1906 and the first account of a herbarium at the College was in 1907 by the head of the Botany and Geology Department, S.B. McCready, when he reported 1400 specimens in the herbarium (Lacroix and Burgess 1994).

Recent history of OAC Herbarium

The OAC Herbarium was the responsibility of the head of the Botany and Geology department at the college until 1968 when Dr. Jack Alex became the first Curator of the Herbarium (Lacroix and Burgess 1994). There has been a full time herbarium curator since that time. The current curator, Carol Ann Lacroix, took over after Jack Alex in 2002. SGN is the current Director of the Herbarium, a position he has also held since 2002.

The Ontario Agriculture College became part of the University of Guelph in 1964. The Herbarium was the sole responsibility of the Ontario Agriculture College until 2002 when management was shared with the Integrative Biology department. Since 2005, the Biodiversity

Institute of Ontario (BIO) replaced the Integrative Biology department's role and shares the management of the herbarium with the Ontario Agriculture College. The herbarium currently resides at BIO (Fig. 1).

Figure 1. Cabinets housing the lichen collection at the Biodiversity Institute of Ontario Herbarium at the University of Guelph. Photo by Sean Rapai. Illustrations in the image by Judith Pennanen.

History of the lichen holdings at the OAC Herbarium

RTM became the first Lichen Collections Manager at the OAC Herbarium in 2008 (until 2016). When he arrived, <100 unprocessed lichen specimens had been donated to OAC by University of Guelph Professor D.W. Larson in 2005. Since 2008, RTM has added most of the new lichen specimens in the collection. However, notable contributions were also made by T.L. Esslinger and the Canadian Museum of Nature. The current lichen holdings at the Herbarium are estimated to be between 8000 and 10000 specimens. The collection includes 773 taxa in 239 genera, which include 15 subspecies, 9 varieties, and 34 non-lichenized allied fungi that are traditionally treated with lichens. Most of the collections were made in Canada, particularly in Ontario and the Maritime Provinces. Additional areas represented include: British Columbia, California, Florida, Georgia, Maine, Newfoundland, North Carolina, Quebec, St. Kitts, and Washington.

RESULTS

Lichen species in the OAC Herbarium

The list is organised alphabetically by genus and species. Nomenclature and authorities mostly follow the 20th edition of the North American Lichen Checklist (Esslinger 2015). Species that were not on Esslinger's list or are deviations from that list follow Index Fungorum (http://www.indexfungorum.org/). Non-lichenized fungi traditionally treated with lichens are preceeded by a dagger '†'.

1. *Acanthothecis peplophora* (M. Wirth & Hale) E. Tripp & Lendemer
2. *Acarospora fuscata* (Schrader) Arnold
3. *Acarospora glaucocarpa* (Ach.) Körber
4. *Acarospora moenium* (Vainio) Räsänen
5. *Acarospora sinopica* (Wahlenb.) Körber
6. *Acarospora strigata* (Nyl.) Jatta
7. *Acrocordia cavata* (Ach.) R.C. Harris
8. †*Agyrium rufum* (Pers.) Fr.
9. *Ahtiana aurescens* (Tuck.) A. Thell & Randlane
10. *Alectoria imshaugii* Brodo & D. Hawksw.
11. *Alectoria ochroleuca* (Hoffm.) A. Massal.
12. *Alectoria sarmentosa* (Ach.) Ach.
13. *Alectoria sorediosa* (Lång ex Räsänen) McMullin & Lendemer
14. *Alectoria vexillifera* (Nyl.) Stizenb.
15. *Alyxoria varia* (Pers.) Ertz & Tehler
16. *Amandinea punctata* (Hoffm.) Coppins & Scheid.
17. *Anaptychia crinalis* (Schaerer) Vězda
18. *Anaptychia palmulata* (Michaux) Vainio
19. *Anzia colpodes* (Ach.) Stizenb.
20. *Anzia ornata* (Zahlbr.) Asahina
21. *Arctoparmelia centrifuga* (L.) Hale
22. *Arthonia byssacea* (Weigel) Almq.
23. †*Arthonia caudata* Willey
24. *Arthonia glebosa* Tuck.
25. *Arthonia helvola* (Nyl.) Nyl.
26. *Arthonia interveniens* Nyl.
27. *Arthonia leucopellaea* (Ach.) Almq.
28. *Arthonia radiata* (Pers.) Ach.
29. *Arthonia rubrocincta* G. Merr. *ex* Grube & Lendemer
30. *Asahinea chrysantha* (Tuck.) W.L. Culb. & C.F. Culb.
31. *Asahinea scholanderi* (Llano) W.L. Culb. & C.F. Culb.
32. *Aspicilia cinerea* (L.) Körber
33. *Aspicilia concinnum* (J.W. Thomson) J.W. Thomson
34. *Athallia holocarpa* (Hoffm.) Arup, Frödén & Søchting
35. *Athallia pyracea* (Ach.) Arup, Frödén & Søchting
36. *Bacidia circumspecta* (Nyl. *ex* Vainio) Malme
37. *Bacidia kekesiana* R.C. Harris
38. *Bacidia rubella* (Hoffm.) A. Massal.
39. *Bacidia schweinitzii* (Fr. *ex* Tuck.) A. Schneider
40. *Bacidia subincompta* (Nyl.) Arnold
41. *Bacidina egenula* (Nyl.) Vězda
42. *Bacidina inundata* (Fr.) Vězda
43. *Baeomyces rufus* (Hudson) Rebent.
44. *Baeomyces placophyllus* Ach.
45. *Bathelium carolinianum* (Tuck.) R.C. Harris
46. *Biatora longispora* (Degel.) Lendemer & Printzen
47. *Biatora pontica* Printzen & Tønsberg
48. *Biatora printzenii* Tønsberg

49. *Biatora pycnidiata* Printzen & Tønsberg
50. *Biatora vernalis* (L.) Fr.
51. *Bilimbia sabuletorum* (Schreber) Arnold
52. *Brigantiaea leucoxantha* (Sprengel) R. Sant. & Hafellner
53. *Bryocaulon divergens* (Ach.) Kärnefelt
54. *Bryoria americana* (Motyka) Holien
55. *Bryoria bicolor* (Ehrh.) Brodo & D. Hawksw.
56. *Bryoria fremontii* (Tuck.) Brodo & D. Hawksw.
57. *Bryoria friabilis* Brodo & D. Hawksw.
58. *Bryoria furcellata* (Fr.) Brodo & D. Hawksw.
59. *Bryoria fuscescens* (Gyelnik) Brodo & D. Hawksw.
60. *Bryoria glabra* (Motyka) Brodo & D. Hawksw.
61. *Bryoria kockiana* Velmala, Myllys & Goward
62. *Bryoria nadvornikiana* (Gyelnik) Brodo & D. Hawksw.
63. *Bryoria nitidula* (Th. Fr.) Brodo & D. Hawksw.
64. *Bryoria pikei* Brodo & D. Hawksw.
65. *Bryoria pseudofuscescens* (Gyelnik) Brodo & D. Hawksw.
66. *Bryoria salazinica* Brodo & D. Hawksw.
67. *Bryoria simplicior* (Vainio) Brodo & D. Hawksw.
68. *Bryoria trichodes* (Michaux) Brodo & D. Hawksw. subsp. *trichodes*
69. *Buellia disciformis* (Fr.) Mudd
70. *Buellia erubescens* Arnold
71. *Buellia schaereri* De Not.
72. *Bunodophoron melanocarpum* (Sw.) Wedin
73. *Calicium abietinum* Pers.
74. *Calicium denigratum* (Vainio) Tibell
75. *Calicium glaucellum* Ach.
76. *Calicium lenticulare* Ach.
77. *Calicium parvum* Tibell
78. *Calicium salicinum* Pers.
79. *Calicium trabinellum* (Ach.) Ach
80. *Calicium viride* Pers.
81. *Caloplaca cerina* (Ehrh. ex Hedwig) Th. Fr.
82. *Caloplaca epiphora* (Taylor) C.W. Dodge
83. *Caloplaca feracissima* H. Magn.
84. *Caloplaca microphyllina* (Tuck.) Hasse
85. *Candelaria concolor* (Dickson) Stein
86. *Candelariella aurella* (Hoffm.) Zahlbr.
87. *Candelariella efflorescens* R.C. Harris & W.R. Buck
88. *Candelariella lutella* (Vainio) Räsänen
89. *Candelariella vitellina* (Hoffm.) Müll. Arg.
90. *Canoparmelia caroliniana* (Nyl.) Elix & Hale
91. *Canoparmelia cryptochlorophaea* (Hale) Elix & Hale
92. *Catapyrenium cinereum* (Pers.) Körber
93. *Catillaria nigroclavata* (Nyl.) Schuler
94. *Cetraria arenaria* Kärnefelt
95. *Cetraria ericetorum* Opiz subsp. *ericetorum*
96. *Cetraria islandica* (L.) Ach. subsp. *islandica*
97. *Cetraria laevigata* Rass.

98. *Cetraria muricata* (Ach.) Eckfeldt
99. *Cetrariella delisei* (Schaerer) Kärnefelt & A. Thell
100. *Cetrelia chicitae* (W. L. Culb.) W.L. Culb. & C.F. Culb.
101. *Cetrelia olivetorum* (Nyl.) W.L. Culb. & C.F. Culb.
102. *Chaenotheca balsamconensis* J.L. Allen & McMullin
103. *Chaenotheca brachypoda* (Ach.) Tibell
104. *Chaenotheca brunneola* (Ach.) Müll. Arg.
105. *Chaenotheca chrysocephala* (Ach.) Th. Fr.
106. *Chaenotheca ferruginea* (Turner *ex* Sm.) Mig.
107. *Chaenotheca furfuracea* (L.) Tibell
108. *Chaenotheca gracilenta* (Ach.) J.-E. Mattsson & Middelb.
109. *Chaenotheca laevigata* Nádv.
110. *Chaenotheca trichialis* (Ach.) Th. Fr.
111. *Chaenotheca xyloxena* Nádv.
112. †*Chaenothecopsis debilis* (Turner & Borrer ex Sm.) Tibell
113. †*Chaenothecopsis exilis* Tibell
114. †*Chaenothecopsis marcineae* Selva
115. †*Chaenothecopsis nana* Tibell
116. †*Chaenothecopsis pusilla* (Ach.) A.F.W. Schmidt
117. †*Chaenothecopsis pusiola* (Ach.) Vainio
118. *Chrismofulvea dialyta* (Nyl.) Marbach
119. *Chrysothrix caesia* (Flotow) Ertz & Tehler
120. *Chrysothrix candelaris* (L.) J. R. Laundon
121. *Chrysothrix chamaecyparicola* Lendemer
122. *Chrysothrix chlorina* (Ach.) J. R. Laundon
123. *Chrysothrix xanthina* (Vainio) Kalb
124. *Circinaria gibbosa* (Ach.) A. Nordin, Savić & Tibell
125. *Cladonia abbreviatula* G. Merr.
126. *Cladonia acuminata* (Ach.) Norrlin
127. *Cladonia amaurocraea* (Flörke) Schaerer
128. *Cladonia arbuscula* (Wallr.) Flotow subsp. *arbuscula*
129. *Cladonia arbuscula* subsp. *mitis* (Sandst.) Ruoss
130. *Cladonia beaumontii* (Tuck.) Vainio
131. *Cladonia bellidiflora* (Ach.) Schaerer
132. *Cladonia borealis* S. Stenroos
133. *Cladonia boryi* Tuck.
134. *Cladonia botrytes* (K.G. Hagen) Willd.
135. *Cladonia caespiticia* (Pers.) Flörke
136. *Cladonia cariosa* (Ach.) Sprengel
137. *Cladonia carneola* (Fr.) Fr.
138. *Cladonia cenotea* (Ach.) Schaerer
139. *Cladonia chlorophaea* (Flörke *ex* Sommerf.) Sprengel
140. *Cladonia coccifera* (L.) Willd.
141. *Cladonia coniocraea* (Flörke) Sprengel
142. *Cladonia cornuta* (L.) Hoffm. subsp. *cornuta*
143. *Cladonia cornuta* subsp. *groenlandica* (E. Dahl) Ahti
144. *Cladonia crispata* (Ach.) Flotow var. *crispata*
145. *Cladonia crispata* var. *cetrariiformis* (Delise) Vainio
146. *Cladonia cristatella* Tuck.

147. *Cladonia cryptochlorophaea* Asahina
148. *Cladonia cyanipes* (Sommerf.) Nyl.
149. *Cladonia decorticata* (Flörke) Sprengel
150. *Cladonia deformis* (L.) Hoffm.
151. *Cladonia didyma* var. *vulcanica* (Zoll. & Moritzi) Vainio
152. *Cladonia digitata* (L.) Hoffm.
153. *Cladonia ecmocyna* Leighton subsp. *ecmocyna*
154. *Cladonia evansii* Abbayes
155. *Cladonia fimbriata* (L.) Fr.
156. *Cladonia furcata* (Hudson) Schrader
157. *Cladonia gracilis* (L.) Willd. subsp. *gracilis*
158. *Cladonia gracilis* subsp. *turbinata* (Ach.) Ahti
159. *Cladonia grayi* G. Merr. *ex* Sandst.
160. *Cladonia incrassata* Flörke
161. *Cladonia leporina* Fr.
162. *Cladonia macilenta* Hoffm.
163. *Cladonia macilenta* var. *bacillaris* (Ach.) Schaerer
164. *Cladonia macrophylla* (Schaerer) Stenh.
165. *Cladonia macrophyllodes* Nyl.
166. *Cladonia maxima* (Asahina) Ahti
167. *Cladonia multiformis* G. Merr.
168. *Cladonia norvegica* Tønsberg & Holien
169. *Cladonia ochrochlora* Flörke
170. *Cladonia oricola* Ahti & S. Stenroos
171. *Cladonia parasitica* (Hoffm.) Hoffm.
172. *Cladonia phyllophora* Hoffm.
173. *Cladonia pleurota* (Flörke) Schaerer
174. *Cladonia pocillum* (Ach.) O.J. Rich.
175. *Cladonia portentosa* (Dufour) Coem.
176. *Cladonia portentosa* subsp. *pacifica* (Ahti) Ahti
177. *Cladonia prostrata* A. Evans
178. *Cladonia pyxidata* (L.) Hoffm.
179. *Cladonia rangiferina* (L.) F.H. Wigg.
180. *Cladonia rei* Schaerer
181. *Cladonia scabriuscula* (Delise) Nyl.
182. *Cladonia squamosa* (Scop.) Hoffm.
183. *Cladonia stellaris* (Opiz) Pouzar & Vězda
184. *Cladonia stygia* (Fr.) Ruoss
185. *Cladonia subfurcata* (Nyl.) Arnold
186. *Cladonia subradiata* (Vainio) Sandst.
187. *Cladonia subsetacea* Robbins *ex* A. Evans
188. *Cladonia subtenuis* (Abbayes) Mattick
189. *Cladonia subulata* (L.) F.H. Wigg.
190. *Cladonia sulphurina* (Michaux) Fr.
191. *Cladonia symphycarpa* (Flörke) Fr.
192. *Cladonia terrae-novae* Ahti
193. *Cladonia turgida* Ehrh. *ex* Hoffm.
194. *Cladonia uncialis* (L.) Weber *ex* F.H. Wigg.
195. *Cladonia verticillata* (Hoffm.) Schaerer

196. *Cladonia wainioi* Savicz
197. *Cliostomum griffithii* (Sm.) Coppins
198. *Cliostomum leprosum* (Räsänen) Holien & Tønsberg
199. *Coccocarpia palmicola* (Sprengel) Arv. & D. J. Galloway
200. *Coccotrema cucurbitula* (Mont.) Müll. Arg.
201. *Coccotrema maritimum* Brodo
202. *Coenogonium luteum* (Dicks.) Kalb & Lücking
203. *Coenogonium pineti* (Ach.) Lücking & Lumbsch
204. *Collema furfuraceum* (Arnold) Du Rietz
205. *Collema pulchellum* Ach.
206. *Collema subflaccidum* Degel.
207. *Collemopsidium halodytes* (Nyl.) Grube & B. D. Ryan
208. *Cresponea chloroconia* (Tuck.) Egea & Torrente
209. *Crocodia aurata* (Ach.) Link
210. *Cryptothecia striata* G. Thor
211. *Cyphelium inquinans* (Sm.) Trevisan
212. *Cyphelium notarisii* (Tul.) Blomb. & Forssell
213. *Cyphelium tigillare* (Ach.) Ach.
214. †*Cystobasidium hypogymniicola* Diederich & Ahti
215. *Dactylina arctica* (Richardson) Nyl.
216. *Dactylina beringica* C. D. Bird & J.W. Thomson
217. *Dendrographa leucophaea* (Tuck.) Darb.
218. *Degelia plumbea* (Lightf.) P.M. Jørg. & P. James
219. *Dermatocarpon luridum* (With.) J. R. Laundon
220. *Dermatocarpon miniatum* (L.) W. Mann
221. *Dermatocarpon reticulatum* H. Magn.
222. *Dibaeis absoluta* (Tuck.) Kalb & Gierl
223. *Dibaeis baeomyces* (L. f.) Rambold & Hertel
224. *Dictyocatenulata alba* Finley & E.F. Morris
225. *Dimelaena oreina* (Ach.) Norman
226. *Dimelaena radiata* (Tuck.) Müll. Arg.
227. *Diploschistes muscorum* (Scop.) R. Sant. subsp. *muscorum*
228. *Diploschistes scruposus* (Schreber) Norman
229. *Diplotomma penichrum* (Tuck.) Szatala
230. *Dirinaria applanata* (Fée) D. D. Awasthi
231. *Dirinaria confusa* D. D. Awasthi
232. *Dirinaria picta* (Sw.) Clem. & Shear
233. *Dyplolabia afzelii* (Ach.) A. Massal.
234. *Enchylium tenax* (Sw.) Gray
235. *Ephebe lanata* (L.) Vainio
236. †*Epilichen scabrosus* (Ach.) Clem.
237. *Erioderma pedicellatum* (Hue) P.M. Jorg.
238. *Esslingeriana idahoensis* (Essl.) Hale & M. J. Lai
239. *Evernia divaricata* (L.) Ach.
240. *Evernia mesomorpha* Nyl.
241. *Evernia prunastri* (L.) Ach.
242. *Fissurina insidiosa* C. Knight & Mitten
243. *Flavocetraria cucullata* (Bellardi) Kärnefelt & A. Thell
244. *Flavocetraria nivalis* (L.) Kärnefelt & A. Thell

245. *Flavoparmelia baltimorensis* (Gyelnik & Fóriss) Hale
246. *Flavoparmelia caperata* (L.) Hale
247. *Flavoplaca microthallina* (Wedd.) Arup, Frödén & Søchting
248. *Flavopunctelia flaventior* (Stirton) Hale
249. *Flavopunctelia soredica* (Nyl.) Hale
250. *Fuscidea arboricola* Coppins & Tønsberg
251. *Fuscidea mollis* (Wahlenb.) V. Wirth & Vězda
252. *Fuscidea recensa* var. *arcuatula* (Arnold) Fryday
253. *Fuscopannaria ahlneri* (P.M. Jørg.) P.M. Jørg.
254. *Fuscopannaria leucosticta* (Tuck.) P.M. Jørg.
255. *Fuscopannaria praetermissa* (Nyl.) P.M. Jørg.
256. *Glyphis cicatricosa* Ach.
257. *Gowardia nigricans* (Ach.) P. Halonen, L. Myllys, S. Velmala, & H. Hyvärinen
258. *Graphis scripta* (L.) Ach.
259. *Gyalecta fagicola* (Hepp *ex* Arnold) Kremp.
260. *Gyalecta jenensis* (Batsch) Zahlbr.
261. *Gyalecta truncigena* (Ach.) Hepp
262. *Gyalolechia bracteata* (Hoffm.) A. Massal. subsp. *bracteata*
263. *Gyalolechia flavorubescens* (Hudson) Søchting, Frödén & Arup
264. *Gyalolechia xanthostigmoidea* (Räsänen) Søchting, Frödén & Arup
265. *Gyrographa gyrocarpa* (Flotow) Ertz & Tehler
266. *Haematomma fenzlianum* A. Massal.
267. *Haematomma persoonii* (Fée) A. Massal.
268. *Heppia adglutinata* (Kremp.) A. Massal.
269. *Herpothallon rubrocinctum* (Ehrenb.: Fr.) Aptroot, Lücking & G. Thor
270. *Heterodermia albicans* (Pers.) Swinscow & Krog
271. *Heterodermia crocea* R.C. Harris
272. *Heterodermia echinata* (Taylor) Culb.
273. *Heterodermia galactophylla* (Tuck.) W. L. Culb.
274. *Heterodermia neglecta* Lendemer, R.C. Harris & E. Tripp
275. *Heterodermia obscurata* (Nyl.) Trevisan
276. *Heterodermia rugulosa* (Kurok.) Wetmore
277. *Heterodermia speciosa* (Wulfen) Trevisan
278. †*Homostegia piggotii* (Berk. & Broome) P. Karsten
279. *Hydropunctaria maura* (Wahlenb.) Keller, Gueidan & Thüs
280. *Hyperphyscia adglutinata* (Flörke) H. Mayrhofer & Poelt
281. *Hyperphyscia syncolla* (Tuck. *ex* Nyl.) Kalb
282. *Hypocenomyce scalaris* (Ach. *ex* Lilj.) M. Choisy
283. *Hypogymnia austerodes* (Nyl.) Räsänen
284. *Hypogymnia bitteri* (Lynge) Ahti
285. *Hypogymnia enteromorpha* (Ach.) Nyl.
286. *Hypogymnia imshaugii* Krog
287. *Hypogymnia incurvoides* Rass.
288. *Hypogymnia krogiae* Ohlsson
289. *Hypogymnia occidentalis* L. Pike
290. *Hypogymnia physodes* (L.) Nyl.
291. *Hypogymnia pulverata* (Nyl. *ex* Crombie) Elix
292. *Hypogymnia tubulosa* (Schaerer) Hav.
293. *Hypogymnia vittata* (Ach.) Parrique

294. *Hypotrachyna catawbiensis* (Degel.) Divakar, A. Crespo, Sipman, Elix & Lumbsch
295. *Hypotrachyna livida* (Taylor) Hale
296. *Hypotrachyna minarum* (Vainio) Krog & Swinscow
297. *Hypotrachyna osseoalba* (Vainio) Park & Hale
298. *Hypotrachyna spumosa* (Asahina) Krog & Swinscow
299. *Icmadophila ericetorum* (L.) Zahlbr.
300. †*Illosporiopsis christiansenii* (B.L. Brady & D. Hawksw.) D. Hawksw.
301. *Imshaugia aleurites* (Ach.) S.F. Meyer
302. *Imshaugia placorodia* (Ach.) S.F. Meyer
303. *Japewia tornoënsis* (Nyl.) Tønsberg
304. †*Julella fallaciosa* (Arnold) R.C. Harris
305. †*Julella lactea* (A. Massal.) M.E. Barr
306. *Lasallia papulosa* (Ach.) Llano
307. *Lasallia pensylvanica* (Hoffm.) Llano
308. *Lathagrium auriforme* (With.) Otálora, P.M. Jørg. & Wedin
309. *Lecanactis abietina* (Ach.) Körb.
310. *Lecania croatica* (Zahlbr.) Kotlov
311. *Lecania naegelii* (Hepp) Diederich & van den Boom
312. *Lecanora albella* (Pers.) Ach. var. *albella*
313. *Lecanora allophana* (Ach.) Nyl.
314. *Lecanora argentea* Oxner & Volkova
315. *Lecanora caesiorubella* Ach. subsp. *caesiorubella*
316. *Lecanora caesiorubella* subsp. *glaucomodes* (Nyl.) Imshaug & Brodo
317. *Lecanora chlarotera* Nyl.
318. *Lecanora cinereofusca* H. Magn.
319. *Lecanora circumborealis* Brodo & Vitik.
320. *Lecanora dispersa* (Pers.) Sommerf.
321. *Lecanora expallens* Ach.
322. *Lecanora frustulosa* (Dickson) Ach.
323. *Lecanora glabrata* (Ach.) Malme
324. *Lecanora hagenii* (Ach.) Ach.
325. *Lecanora hybocarpa* (Tuck.) Brodo
326. *Lecanora intricata* (Ach.) Ach.
327. *Lecanora juniperina* Śliwa
328. *Lecanora louisianae* B. de Lesd.
329. *Lecanora meridionalis* H. Magn.
330. *Lecanora muralis* (Schreber) Rabenh.
331. *Lecanora opiniconensis* Brodo
332. *Lecanora poliophaea* (Wahlenb.) Ach.
333. *Lecanora polytropa* (Ehrh.) Rabenh.
334. *Lecanora pulicaris* (Pers.) Ach.
335. *Lecanora sambuci* (Pers.) Nyl.
336. *Lecanora strobilina* (Sprengel) Kieffer
337. *Lecanora symmicta* (Ach.) Ach.
338. *Lecanora thysanophora* R.C. Harris
339. *Lecanora torrida* Vainio
340. *Lecanora xylophila* Hue
341. *Lecidea cyrtidia* Tuck.
342. *Lecidea nylanderi* (Anzi) Th. Fr.

343. *Lecidea ramulosa* Th. Fr.
344. *Lecidea varians* Ach.
345. *Lecidella patavina* (A. Massal.) Knoph & Leuckert
346. *Lecidella stigmatea* (Ach.) Hertel & Leuckert
347. *Lepraria caesiella* R.C. Harris
348. *Lepraria elobata* Tønsberg
349. *Lepraria finkii* (B. de Lesd.) R.C. Harris
350. *Lepraria neglecta* (Nyl.) Erichsen
351. *Leproplaca obliterans* (Nyl.) Arup, Frödén & Søchting
352. *Leptogium austroamericanum* (Malme) C.W. Dodge
353. *Leptogium corticola* (Taylor) Tuck.
354. *Leptogium cyanescens* (Rabenh.) Körber
355. *Leptogium laceroides* B. de Lesd.
356. *Leptogium rivulare* (Ach.) Mont.
357. *Leptogium saturninum* (Dickson) Nyl.
358. †*Leptorhaphis epidermidis* (Ach.) Th. Fr.
359. *Letharia columbiana* (Nutt.) J.W. Thomson
360. *Letharia vulpina* (L.) Hue
361. *Letrouitia domingensis* (Pers.) Hafellner & Bellem.
362. *Lichenomphalia hudsoniana* (H. S. Jenn.) Redhead, Lutzoni, Moncalvo & Vilgalys
363. *Lichenomphalia umbellifera* (L. : Fr.) Redhead, Lutzoni, Moncalvo & Vilgalys
364. *Lichinodium sirosiphoideum* Nyl.
365. *Lobaria anomala* (Brodo & Ahti) T. Sprib. & McCune
366. *Lobaria anthraspis* (Ach.) T. Sprib. & McCune
367. *Lobaria hallii* (Tuck.) Zahlbr.
368. *Lobaria linita* (Ach.) Rabenh.
369. *Lobaria oregana* (Tuck.) Müll.
370. *Lobaria pulmonaria* (L.) Hoffm.
371. *Lobaria quercizans* Michaux
372. *Lobaria ravenelii* (Tuck.) Yoshim.
373. *Lobaria scrobiculata* (Scop.) DC.
374. *Lobaria tenuis* Vainio
375. *Lobothallia alphoplaca* (Wahlenb.) Hafellner
376. *Lopadium coralloideum* (Nyl.) Lynge
377. *Lopadium disciforme* (Flotow) Kullhem
378. *Loxospora cismonica* (Beltr.) Hafellner
379. *Loxospora elatina* (Ach.) A. Massal.
380. *Loxospora ochrophaea* (Tuck.) R.C. Harris
381. *Masonhalea richardsonii* (Hooker) Kärnefelt
382. *Massalongia carnosa* (Dickson) Körber
383. *Megalaria jemtlandica* (Th. Fr. & Almq.) Fryday
384. *Melanelia hepatizon* (Ach.) A. Thell
385. *Melanelia stygia* (L.) Essl.
386. *Melanelixia glabratula* (Lamy) Sandler & Arup
387. *Melanelixia subargentifera* (Nyl.) O. Blanco et al.
388. *Melanelixia subaurifera* (Nyl.) O. Blanco et al.
389. *Melanohalea elegantula* (Zahlbr.) O. Blanco et al.
390. *Melanohalea exasperatula* (Nyl.) O. Blanco et al.
391. *Melanohalea multispora* (A. Schneider) O. Blanco et al.

392. *Melanohalea olivacea* (L.) O. Blanco et al.
393. *Melanohalea septentrionalis* (Lynge) O. Blanco et al.
394. *Melanohalea subolivacea* (Nyl.) O. Blanco et al.
395. *Menegazzia subsimilis* (H. Magn.) R. Sant.
396. *Menegazzia terebrata* (Hoffm.) A. Massal.
397. *Micarea endocyanea* (Tuck. *ex* Willey) R.C. Harris
398. *Micarea micrococca* (Körber) Gams *ex* Coppins
399. *Micarea misella* (Nyl.) Hedl.
400. *Micarea peliocarpa* (Anzi) Coppins & R. Sant.
401. *Micarea prasina* Fr.
402. †*Microcalicium arenarium* (Hampe ex A. Massal.) Tibell
403. †*Microcalicium conversum* Tibell
404. †*Microcalicium disseminatum* (Ach.) Vainio
405. *Montanelia disjuncta* (Erichsen) Divakar, A. Crespo, Wedin & Essl.
406. *Montanelia panniformis* (Nyl.) Divakar, A. Crespo, Wedin & Essl.
407. *Montanelia sorediata* (Ach.) Divakar, A. Crespo, Wedin & Essl.
408. *Multiclavula mucida* (Fr.) R. Petersen
409. *Mycobilimbia berengeriana* (A. Massal.) Hafellner & V. Wirth
410. *Mycoblastus caesius* (Coppins & P. James) Tønsberg
411. *Mycoblastus sanguinarioides* Kantvilas
412. *Mycoblastus sanguinarius* (L.) Norman
413. †*Mycocalicium subtile* (Pers.) Szatala
414. *Myelochroa aurulenta* (Tuck.) Elix & Hale
415. *Nadvornikia sorediata* R.C. Harris
416. *Nephroma articum* (L.) Torss.
417. *Nephroma bellum* (Sprengel) Tuck.
418. *Nephroma helveticum* Ach.
419. *Nephroma laevigatum* Ach.
420. *Nephroma parile* (Ach.) Ach.
421. *Nodobryoria abbreviata* Common & Brodo
422. *Nodobryoria oregana* (Tuck.) Common & Brodo
423. *Normandina pulchella* (Borrer) Nyl.
424. *Ochrolechia africana* Vainio
425. *Ochrolechia androgyna* (Hoffm.) Arnold
426. *Ochrolechia arborea* (Kreyer) Almb.
427. *Ochrolechia frigida* (Sw.) Lynge
428. *Ochrolechia pallescens* (L.) A. Massal.
429. *Ochrolechia pseudopallescens* Brodo
430. *Ochrolechia subplicans* (Nyl.) Brodo subsp. *subplicans*
431. *Ochrolechia trochophora* (Vainio) Oshio
432. *Ophioparma ventosa* (L.) Norman
433. *Oropogon loxensis* (Fée) Th. Fr.
434. *Orphniospora moriopsis* (A. Massal.) D. Hawksw.
435. †*Ovicuculispora parmeliae* (Berk. & M. A. Curtis) Etayo
436. *Pannaria conoplea* (Ach.) Bory
437. *Pannaria lurida* (Mont.) Nyl.
438. *Pannaria rubiginosa* (Thunb.) Delise
439. *Parmelia hygrophila* Goward & Ahti
440. *Parmelia omphalodes* (L.) Ach.

441. *Parmelia saxatilis* (L.) Ach.
442. *Parmelia squarrosa* Hale
443. *Parmelia sulcata* Taylor
444. *Parmeliella parvula* P.M. Jørg.
445. *Parmeliella triptophylla* (Ach.) Müll. Arg.
446. *Parmelinopsis minarum* (Vainio) Elix & Hale
447. *Parmeliopsis ambigua* (Wulfen) Nyl.
448. *Parmeliopsis capitata* R.C. Harris *ex* J.W. Hinds & P.L. Hinds
449. *Parmeliopsis hyperopta* (Ach.) Arnold
450. *Parmeliopsis subambigua* Gyelnik
451. *Parmotrema crinitum* (Ach.) M. Choisy
452. *Parmotrema perforatum* (Jacq.) A. Massal.
453. *Parmotrema perlatum* (Hudson) M. Choisy
454. *Parmotrema praesorediosum* (Nyl.) Hale
455. *Parmotrema rampoddense* (Nyl.) Hale
456. *Parmotrema reticulatum* (Taylor) M. Choisy
457. *Parmotrema subisidiosum* (Müll. Arg.) Hale
458. *Parmotrema submarginale* (Michaux) DePriest & B. Hale
459. *Parmotrema subrigidum* Egan
460. *Parmotrema sulphuratum* (Nees & Flotow) Hale
461. *Parmotrema tinctorum* (Delise *ex* Nyl.) Hale
462. *Parmotrema xanthinum* (Müll. Arg.) Hale
463. *Peltigera aphthosa* (L.) Willd
464. *Peltigera britannica* (Gyelnik) Holt.-Hartw. & Tønsberg
465. *Peltigera canina* (L.) Willd.
466. *Peltigera castanea* Goward, Goffinet & Miądl.
467. *Peltigera chionophila* Goward & Goffinet
468. *Peltigera collina* (Ach.) Schrader
469. *Peltigera didactyla* (With.) J.R. Laundon
470. *Peltigera elisabethae* Gyelnik
471. *Peltigera evansiana* Gyelnik
472. *Peltigera extenuata* (Nyl. *ex* Vainio) Lojka
473. *Peltigera horizontalis* (Hudson) Baumg.
474. *Peltigera hydrothyria* Miądl. & Lutzoni
475. *Peltigera hymenina* (Ach.) Delise
476. *Peltigera lepidophora* (Nyl. *ex* Vainio) Bitter
477. *Peltigera leucophlebia* (Nyl.) Gyelnik
478. *Peltigera malacea* (Ach.) Funck
479. *Peltigera membranacea* (Ach.) Nyl.
480. *Peltigera neckeri* Hepp ex Müll. Arg
481. *Peltigera neopolydactyla* (Gyelnik) Gyelnik
482. *Peltigera polydactylon* (Necker) Hoffm.
483. *Peltigera ponojensis* Gyelnik
484. *Peltigera praetextata* (Flörke *ex* Sommerf.) Zopf
485. *Peltigera retifoveata* Vitik.
486. *Peltigera rufescens* (Weiss) Humb.
487. *Peltigera scabrosa* Th. Fr.
488. *Peltigera venosa* (L.) Hoffm.
489. *Pertusaria commutata* Müll. Arg.

490. *Pertusaria consocians* Dibben
491. *Pertusaria coriacea* (Th. Fr.) Th. Fr.
492. *Pertusaria dactylina* (Ach.) Nyl.
493. *Pertusaria epixantha* R.C. Harris
494. *Pertusaria globularis* (Ach.) Tuck.
495. *Pertusaria macounii* (I.M. Lamb) Dibben
496. *Pertusaria paratuberculifera* Dibben
497. *Pertusaria propinqua* Müll. Arg.
498. *Pertusaria pustulata* (Ach.) Duby
499. *Pertusaria rubefacta* Erichsen
500. *Pertusaria subobducens* Nyl.
501. †*Phaeocalicium betulinum* (Nyl.) Tibell
502. †*Phaeocalicium compressulum* (Nyl. *ex* Vainio) A.F.W. Schmidt
503. †*Phaeocalicium curtisii* (Tuck.) Tibell
504. †*Phaeocalicium flabelliforme* Tibell
505. †*Phaeocalicium matthewsianum* Selva & Tibell
506. †*Phaeocalicium polyporaeum* (Nyl.) Tibell
507. †*Phaeocalicium populneum* (Brond. *ex* Duby) A.F.W. Schmidt
508. †*Phaeocalicium tremulicola* (Norrlin *ex* Nyl.) Tibell
509. *Phaeophyscia adiastola* (Essl.) Essl.
510. *Phaeophyscia ciliata* (Hoffm.) Moberg
511. *Phaeophyscia hirsuta* (Mereschk.) Essl.
512. *Phaeophyscia hirtella* Essl.
513. *Phaeophyscia hispidula* (Ach.) Essl.
514. *Phaeophyscia orbicularis* (Necker) Moberg
515. *Phaeophyscia pusilloides* (Zahlbr.) Essl.
516. *Phaeophyscia rubropulchra* (Degel.) Essl.
517. *Phlyctis argena* (Sprengel) Flotow
518. *Phlyctis boliviensis* Nyl.
519. *Phlyctis speirea* G. Merr.
520. *Phyllopsora confusa* Swinscow & Krog
521. *Physcia adscendens* (Fr.) H. Olivier
522. *Physcia aipolia* (Ehrh. *ex* Humb.) Fürnr. var. *aipolia*
523. *Physcia americana* G. Merr.
524. *Physcia atrostriata* Moberg
525. *Physcia caesia* (Hoffm.) Hampe *ex* Fürnr.
526. *Physcia dakotensis* Essl.
527. *Physcia dimidiata* (Arnold) Nyl.
528. *Physcia dubia* (Hoffm.) Lettau
529. *Physcia millegrana* Degel.
530. *Physcia solistella* Essl. & Egan
531. *Physcia stellaris* (L.) Nyl.
532. *Physcia subtilis* Degel.
533. *Physcia tenella* (Scop.) DC.
534. *Physciella chloantha* (Ach.) Essl.
535. *Physciella melanchra* (Hue) Essl.
536. *Physconia americana* Essl.
537. *Physconia detersa* (Nyl.) Poelt
538. *Physconia elegantula* Essl.

539. *Physconia enteroxantha* (Nyl.) Poelt
540. *Physconia leucoleiptes* (Tuck.) Essl.
541. *Physconia muscigena* (Ach.) Poelt
542. *Physconia subpallida* Essl.
543. *Pilophorus acicularis* (Ach.) Th. Fr.
544. *Pilophorus cereolus* (Ach.) Th. Fr.
545. *Pilophorus clavatus* Th. Fr.
546. *Placidium arboreum* (Schwein. *ex* E. Michener) Lendemer
547. *Placidium squamulosum* (Ach.) Breuss
548. *Placopsis gelida* (L.) Lindsay
549. *Placynthiella oligotropha* (J.R. Laundon) Coppins & P. James
550. *Placynthiella uliginosa* (Schrader) Coppins & P. James
551. *Placynthium asperellum* (Ach.) Trevisan
552. *Placynthium flabellosum* (Tuck.) Zahlbr.
553. *Placynthium nigrum* (Hudson) Gray
554. *Platismatia glauca* (L.) W.L. Culb. & C.F. Culb.
555. *Platismatia herrei* (Imshaug) W.L. Culb. & C.F. Culb.
556. *Platismatia norvegica* (Lynge) W.L. Culb. & C.F. Culb.
557. *Platismatia tuckermanii* (Oakes) W.L. Culb. & C.F. Culb.
558. *Polyblastia hyperborea* Th. Fr.
559. *Polycauliona candelaria* (L.) Frödén, Arup, & Søchting
560. *Polycauliona polycarpa* (Hoffm.) Frödén, Arup, & Søchting
561. *Polycauliona verruculifera* (Vainio) Arup, Frödén & Søchting
562. *Polymeridium subcinereum* (Nyl.) R.C. Harris
563. *Porpidia albocaerulescens* (Wulfen) Hertel & Knoph
564. *Porpidia cinereoatra* (Ach.) Hertel & Knoph
565. *Porpidia crustulata* (Ach.) Hertel & Knoph
566. *Porpidia flavicunda* (Ach.) Gowan
567. *Porpidia macrocarpa* (DC.) Hertel & A.J. Schwab
568. *Porpidia melinodes* (Körber) Gowan & Ahti
569. *Porpidia speirea* (Ach.) Kremp.
570. *Porpidia thomsonii* Gowan
571. *Protoblastenia rupestris* (Scop.) J. Steiner
572. *Protopannaria pezizoides* (Weber) P.M. Jørg. & S. Ekman
573. *Protoparmelia badia* (Hoffm.) Hafellner
574. *Protoparmelia hypotremella* Herk, Spier & V. Wirth
575. *Pseudevernia intensa* (Nyl.) Hale & W.L. Culb.
576. *Pseudocyphellaria crocata* (L.) Vainio
577. *Pseudocyphellaria hawaiiensis* H. Magn.
578. *Pseudoparmelia uleana* (Müll. Arg.) Elix & T.H. Nash
579. *Psilolechia clavulifera* (Nyl.) Coppins
580. *Psilolechia lucida* (Ach.) M.
581. *Psora decipiens* (Hedwig) Hoffm.
582. *Psora globifera* (Ach.) A. Massal.
583. *Psora pseudorussellii* Timdal
584. *Psoroma hypnorum* (Vahl) Gray
585. *Punctelia appalachensis* (W.L. Culb.) Krog
586. *Punctelia bolliana* (Müll. Arg.) Krog
587. *Punctelia missouriensis* G. Wilh. & Ladd

588. *Punctelia rudecta* (Ach.) Krog
589. *Pyrenula cruenta* (Müll. Arg.) R.C. Harris
590. *Pyrenula occidentalis* (R.C. Harris) R.C. Harris
591. *Pyrenula pseudobufonia* (Rehm) R.C. Harris
592. *Pyrrhospora quernea* (Dickson) Körber
593. *Pyxine albovirens* (G. Meyer) Aptroot
594. *Pyxine cocoes* (Sw.) Nyl.
595. *Pyxine sorediata* (Ach.) Mont.
596. *Pyxine subcinerea* Stirton
597. *Ramalina americana* Hale
598. *Ramalina celastri* (Sprengel) Krog & Swinscow
599. *Ramalina complanata* (Sw.) Ach.
600. *Ramalina dilacerata* (Hoffm.) Hoffm.
601. *Ramalina farinacea* (L.) Ach.
602. *Ramalina intermedia* (Delise *ex* Nyl.) Nyl.
603. *Ramalina menziesii* Taylor
604. *Ramalina pollinaria* (Westr.) Ach.
605. *Ramalina roesleri* (Hochst. *ex* Schaerer) Hue
606. *Ramalina thrausta* (Ach.) Nyl.
607. *Ramalina usnea* (L.) R. Howe
608. *Ramboldia russula* (Ach.) Kalb, Lumbsch & Elix
609. *Rhizocarpon cinereovirens* (Müll. Arg.) Vainio
610. *Rhizocarpon geminatum* Körber
611. *Rhizocarpon geographicum* (L.) DC.
612. *Rhizocarpon grande* (Flörke *ex* Flotow) Arnold
613. *Rhizocarpon hochstetteri* (Körber) Vainio
614. *Rhizocarpon macrosporum* Räsänen
615. *Rhizocarpon oederi* (Weber) Körber
616. *Rhizocarpon reductum* Th. Fr.
617. *Rhizoplaca chrysoleuca* (Sm.) Zopf
618. *Rhizoplaca melanophthalma* (DC.) Leuckert & Poelt
619. *Rhizoplaca subdiscrepans* (Nyl.) R. Sant.
620. *Rinodina ascociscana* (Tuck.) Tuck.
621. *Rinodina austroborealis* Sheard
622. *Rinodina calcigena* (Th. Fr.) Lynge
623. *Rinodina freyi* H. Magn.
624. *Rinodina metaboliza* Vainio
625. *Rinodina tephraspis* (Tuck.) Herre
626. *Roccella decipiens* Darb.
627. *Ropalospora chlorantha* (Tuck.) S. Ekman
628. *Ropalospora lugubris* (Sommerf.) Poelt
629. *Rufoplaca arenaria* (Pers.) Arup, Søchting & Frödén
630. *Rusavskia elegans* (Link) S.Y. Kondr. & Kärnefelt
631. *Rusavskia sorediata* (Vainio) S.Y. Kondr. & Kärnefelt
632. *Sarcographa labyrinthica* (Ach.) Müll. Arg.
633. *Sarcogyne hypophaea* (Nyl.) Arnold
634. *Sarcogyne regularis* Körber
635. †*Sarea difformis* (Fr.) Fr.
636. †*Sarea resinae* (Fr.) Kuntze

637. *Sclerophora amabilis* (Tibell) Tibell
638. *Sclerophora nivea* (Hoffm.) Tibell
639. *Sclerophora peronella* (Ach.) Tibell
640. *Scoliciosporum chlorococcum* (Stenh.) Vězda
641. *Scoliciosporum umbrinum* (Ach.) Arnold
642. *Scytinium californicum* (Tuck.) Otálora, P.M. Jørg. & Wedin
643. *Scytinium lichenoides* (L.) Otálora, P.M. Jørg. & Wedin
644. *Scytinium subtile* (Schrader) Otálora, P.M. Jørg. & Wedin
645. *Siphula ceratites* (Wahlenb.) Fr.
646. *Solorina crocea* (L.) Ach.
647. *Solorina saccata* (L.) Ach.
648. *Speerschneidera euploca* (Tuck.) Trevisan
649. *Sphaerophorus fragilis* (L.) Pers.
650. *Sphaerophorus globosus* (Hudson) Vainio
651. *Sphaerophorus tuckermanii* Räsänen
652. †*Sphinctrina anglica* Nyl.
653. †*Sphinctrina turbinata* (Pers.: Fr.) De Not.
654. *Spilonema revertens* Nyl.
655. *Sporastatia testudinea* (Ach.) A. Massal.
656. *Squamarina lentigera* (Weber) Poelt
657. *Staurothele drummondii* (Tuck.) Tuck.
658. †*Stenocybe major* Nyl. *ex* Körber
659. †*Stenocybe pullatula* (Ach.) Stein
660. *Stereocaulon alpinum* Laurer *ex* Funck
661. *Stereocaulon condensatum* Hoffm.
662. *Stereocaulon dactylophyllum* Flörke
663. *Stereocaulon glaucescens* Tuck.
664. *Stereocaulon grande* (H. Magn.) H. Magn.
665. *Stereocaulon intermedium* (Savicz) H. Magn.
666. *Stereocaulon paschale* (L.) Hoffm.
667. *Stereocaulon plicatile* (Leighton) Fryday & Coppins
668. *Stereocaulon saxatile* H. Magn.
669. *Stereocaulon subcoralloides* (Nyl.) Nyl.
670. *Stereocaulon tomentosum* Fr.
671. *Stereocaulon vesuvianum* Pers.
672. *Sticta beauvoisii* Delise
673. *Sticta deyana* Lendemer & Goffinet
674. *Sticta fuliginosa* (Hoffm.) Ach.
675. *Stictis urceolatum* (Ach.) Gilenstam
676. *Strangospora moriformis* (Ach.) Stein
677. *Strigula smaragdula* Fr.: Fr.
678. *Strigula stigmatella* (Ach.) R.C. Harris
679. *Sulcaria badia* Brodo & D. Hawksw.
680. *Sulcaria isidiifera* Brodo
681. *Sulcaria spiralifera* (Brodo & D. Hawksw.) Myllys, Velmala & Goward
682. *Teloschistes chrysophthalmus* (L.) Th. Fr.
683. *Teloschistes exilis* (Michaux) Vainio
684. *Teloschistes flavicans* (Sw.) Norman
685. *Tephromela atra* (Hudson) Hafellner

686. *Thamnolia subuliformis* (Ehrh.) W.L. Culb.
687. *Thamnolia vermicularis* (Sw.) Ach. *ex* Schaerer
688. *Thelotrema dilatatum* (Müll. Arg.) Hale
689. *Thelotrema lepadinum* (Ach.) Ach.
690. *Tholurna dissimilis* (Norman) Norman
691. *Thyrea confusa* Henssen
692. *Toninia sedifolia* (Scop.) Timdal
693. *Trapelia placodioides* Coppins & P. James
694. *Trapeliopsis flexuosa* (Fr.) Coppins & P. James
695. *Trapeliopsis granulosa* (Hoffm.) Lumbsch
696. *Trapeliopsis viridescens* (Schrader) Coppins & P. James
697. *Tremolecia atrata* (Ach.) Hertel
698. *Trypethelium tropicum* (Ach.) Müll. Arg.
699. *Trypethelium virens* Tuck. *ex* E. Michener
700. *Tuckermanella coralligera* (W.A. Weber) Essl.
701. *Tuckermanella fendleri* (Nyl.) Essl.
702. *Tuckermannopsis americana* (Sprengel) Hale
703. *Tuckermannopsis chlorophylla* (Willd.) Hale
704. *Tuckermannopsis ciliaris* (Ach.) Gyelnik
705. *Tuckermannopsis orbata* (Nyl.) M.J. Lai
706. *Tuckermannopsis platyphylla* (Tuck.) Hale
707. *Tuckermannopsis sepincola* (Ehrh.) Hale
708. *Tuckermannopsis subalpina* (Imshaug) Kärnefelt
709. *Umbilicaria americana* Poelt & T.H. Nash
710. *Umbilicaria deusta* (L.) Baumg.
711. *Umbilicaria hyperborea* (Ach.) Hoffm.
712. *Umbilicaria mammulata* (Ach.) Tuck.
713. *Umbilicaria muehlenbergii* (Ach.) Tuck.
714. *Umbilicaria phaea* var. *coccinea* Tuck.
715. *Umbilicaria phaea* Tuck. var. *phaea*
716. *Umbilicaria polyphylla* (L.) Baumg.
717. *Umbilicaria proboscidea* (L.) Schrader
718. *Umbilicaria torrefacta* (Lightf.) Schrader
719. *Umbilicaria vellea* (L.) Ach.
720. *Usnea angulata* Ach.
721. *Usnea cavernosa* Tuck.
722. *Usnea cornuta* Körber
723. *Usnea dasopoga* (Ach.) Nyl.
724. *Usnea diplotypus* Vainio
725. *Usnea evansii* Motyka
726. *Usnea fragilescens* Hav. *ex* Lynge
727. *Usnea fulvoreagens* (Räsänen) Räsänen
728. *Usnea glabrata* (Ach.) Vainio
729. *Usnea hirta* (L.) Weber *ex* F.H. Wigg.
730. *Usnea intermedia* (A. Massal.) Jatta
731. *Usnea lapponica* Vainio
732. *Usnea longissima* Ach.
733. *Usnea mutabilis* Stirton
734. *Usnea rubicunda* Stirton

735. *Usnea scabrata* Nyl.
736. *Usnea silesiaca* Motyka
737. *Usnea strigosa* (Ach)
738. *Usnea subfloridana* Stirton
739. *Usnea trichodea* Ach.
740. *Usnocetraria oakesiana* (Tuck.) M.J. Lai & C.J. Wei
741. *Vahliella leucophaea* (Vahl) P.M. Jørg.
742. *Varicellaria rhodocarpa* (Körber) Th. Fr.
743. *Varicellaria velata* (Turner) Schmitt & Lumbsch
744. *Variolaria amara* Ach.
745. *Variolaria multipunctoides* (Dibben) Lendemer, Hodkinson & R.C. Harris
746. *Variolaria ophthalmiza* (Nyl.) Darb.
747. *Variolaria pustulata* (Brodo & W.L. Culb.) Lendemer, Hodkinson & R.C. Harris
748. *Variolaria trachythallina* (Erichsen) Lendemer, Hodkinson & R.C. Harris
749. *Verrucaria calkinsiana* Servít
750. *Verrucaria degelii* R. Sant.
751. *Verrucaria epimaura* Brodo
752. *Violella fucata* (Stirton) T. Sprib.
753. *Vulpicida canadensis* (Räsänen) J.-E. Mattsson & M.J. Lai
754. *Vulpicida juniperina* (L.) J.-E. Mattsson & M.J. Lai
755. *Vulpicida pinastri* (Scop.) J.-E. Mattsson & M.J. Lai
756. *Wahlenbergiella mucosa* (Wahlenb.) Gueidan & Thüs
757. *Wahlenbergiella striatula* (Wahlenb.) Gueidan & Thüs
758. *Xanthomendoza fallax* (Hepp *ex* Arnold) Søchting, Kärnefelt & S. Y. Kondr.
759. *Xanthomendoza ulophyllodes* (Räsänen) Søchting, Kärnefelt & S. Y. Kondr.
760. *Xanthoparmelia angustiphylla* (Gyelnik) Hale
761. *Xanthoparmelia chlorochroa* (Tuck.) Hale
762. *Xanthoparmelia conspersa* (Ehrh. *ex* Ach.) Hale
763. *Xanthoparmelia cumberlandia* (Gyelnik) Hale
764. *Xanthoparmelia plittii* (Gyelnk) Hale
765. *Xanthoparmelia stenophylla* (Ach.) Ahti & D. Hawksw.
766. *Xanthoparmelia viriduloumbrina* (Gyelnik) Lendemer
767. *Xanthoria parietina* (L.) Th. Fr.
768. *Xylographa hians* Tuck.
769. *Xylographa opegraphella* Nyl.
770. *Xylographa parallela* (Ach.: Fr.) Fr.
771. *Xylographa vitiligo* (Ach.) J.R. Laundon
772. *Xylopsora friesii* (Ach.) Bendiksby & Timdal
773. *Zwackhia viridis* (Pers. *ex* Ach.) Poetsch & Schied.

Discussion

The closure of small university herbaria has been common throughout North America in recent decades. Holdings are often discarded or given away when individuals responsible for the herbarium leave or retire. This is a reflection of changing priorities in universities. The herbarium at the University of Guelph, however, is an important part of an institution devoted to the study of biodiversity, specifically, the Biodiversity Institute of Ontario. It is a resource for students and faculty involved in documenting and explaining biodiversity, including, of course, lichens. The herbarium is also useful to local consultants, naturalists, researchers, and individuals from further afield. The OAC collection is one of a small number of lichen herbaria in Ontario and one of a

much smaller number with modern collections that are reliably identified. Such collections are essential reference material for accurately determining specimens and for keeping records in space and time. The latter is particularly important for understanding effects of the large scale disturbances facing the natural world, such as acid rain, agriculture, climate change, and urbanization.

RTM remains a Research Associate at OAC periodically assisting with the curation of the lichen collection.

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