

Annotated species list of the lichens of Sleeping Giant Provincial Park, Ontario.

The annotated list of lichens and allied fungi is arranged alphabetically by genus and species. For each species, specimens are ordered first alphabetically by collector name, then by site number (lowest to highest, in Roman numerals (Table 1)), then by collection number (lowest to highest). Synonymy and authorities follow Brummitt and Powell (1996) and the 24th edition of the North American Lichen Checklist (Esslinger 2021). Any deviance from Esslinger's list represents the opinion of the authors. Symbols used in the annotated list are as follows: † = non-lichenized fungi traditionally treated with lichens; # = lichenicolous fungi/lichens; * = new to Ontario; ** = new to Canada; *** = new to North America; **** = new species to science.

#**Abrothallus parmeliarum** (Sommerf.) Arnold – On *Parmelia sulcata*, *Pseudevernia consocians*, *Punctelia caseana*, and *P. rudecta*. Brinker 8172, 8174 (det. J. Etayo) (VIII); Deduke 384A (XIII); Hollinger 23540 (II); McMullin 20332 (XV). S4?

#**Abrothallus peyritschii** (Stein) I. Kotte – On *Vulpicida pinastri*. Brinker 7924 (XXXV); Deduke 326 (I); Hjartarson 4 (I); Hollinger 23489 (I); McMullin 22023 (I). SU.

#**Abrothallus usneae** Rabenh. – On *Biatoropsis usnearum* galls on *Usnea cavernosa*. Brinker 8209 (XXXVII); Gockman 5870 (I); Stanton s.n. (VII). SNR.

Acarospora americana H. Magn. – On diabase. Hollinger 23557 (XV); Scott 7031D (det. J. Hollinger), 7033 (det. K. Knudsen) (XV); Singh & Schultz 2.18 (det J.C. Lendemer) (VII). S4?

Acarospora badiofusca (Nyl.) Th. Fr. – On non-calcareous rock. Brinker 8227 (XV); Knight 33 (XV). S3.

Acarospora bullata Anzi – On diabase. Dorval 1181 (XL); Hollinger 23574 (XV). S1S2.

Acarospora fuscata (Schr.) Arnold – On diabase, non-calcareous rock, and sandstone. Brinker 8124 (XXXIV); Dorval 1455 (XIV); Hollinger 23519 (I), 23541 (XV); Lendemer 61710 (I), 61483, 61564 (XXIV); McMullin 21391 (XXVII); Schaefer 1397 (XIII); Scott 7033 (XV); Waters 4226, 4227 (I), 4265 (VIII). S5.

Acarospora glaucocarpa (Ach.) Körb. – On calcareous rock. Brinker 8115 (XXXIV); Dorval 1349 (XXXI); McMullin 19986 (XXVII); Rutherford 137 (det. T. McMullin) (XXXI); Schaefer 1365 (VIII); Wegenschimmel 43 (XXXI). Notes: We follow Spribille et al. (2023) and use *A. glaucocarpa* more broadly instead of *Sarcogyne wheeleri* K. Knudsen et al. (Knudsen et al. 2020) until *Acarosporaceae* is more fully resolved at the genus-level.

Acarospora moenium (Vain.) Räsänen – On concrete and rock. Lendemer 61451, 61452 (XXIV). S4?

Acarospora privigna (Ach.) A. Schneid. [= *Polysporina simplex* (Davies) Vězda] – On non-calcareous rock. Waters 4240 (I). SNR.

****Acarospora scottii** K. Knudsen & Kocourk. – On rock. Scott 7030 (det. K. Knudsen), 7032 (XV); McMullin 21029 (I); Waters 4305 (det. T. McMullin) (VII). SU. (Figs. 4A, 12A).

Acarospora sinopica (Wahlenb.) Körb. – On diabase and non-calcareous rock. Dorval 1422 (VII), 1182 (XV); Hollinger 23552 (XV); Maloles 369 (XV); McMullin 19980 (XV); Scott 7068 (XXXIII); Wegenschimmel 5 (XV). S2.

***Acarospora squamulosa** (Schr.) Trevisan – On rock. Scott 7065 (det. K. Knudsen) (XXV). SNR. (Figs. 4B, 12B).

***Acarospora thamnina** (Tuck.) Herre – On diabase. Scott 7031 (det. J. Hollinger), 7032A (XV). SNR. (Figs. 4C, 12C).

**Acarospora veronensis* A. Massal. – On rock. Scott 7040C (det. J. Hollinger) (XV). SNR. (Figs 4D, 12D).

Acrocordia cavata (Ach.) R.C. Harris – On *Populus balsamifera*. Brinker 8098 (XVIII); McMullin 21498 (VIII), 20083, 21464, 21366 (XXX); Wegenschimmel 28 (I). S4.

Ahtiana aurescens (Tuck.) A. Thell & Randle – On *Thuja occidentalis*. Brinker 5168 (XXXVIII); Brodo 5984 (XVI). S3.

Alectoria sarmentosa (Ach.) Ach. – On *Abies balsamea* and *Picea* sp. Lendemer 61803 (XV), 61939 (XXXI). SU.

Alyxoria varia (Pers.) Ertz & Tehler – On *Populus balsamifera* and *Thuja occidentalis*. Brinker 8099 Meyer (XVIII); Dorval 1324 (XVII), 1489 (XLIII); McMullin 21516 (II); Wegenschimmel 31 (I). S4.

Amandinea punctata (Hoffm.) Coppins & Scheid. – On *Abies balsamea*, *Acer spicatum*, and *Thuja occidentalis*. Lendemer 61821 (XV); McMullin 21550 (XVII); Scott 7002A (XV); Waters 4214 (I). S5.

Amygdalaria panaeola (Ach.) Hertel & Brodo – On rock. Lendemer 61523 (XXIV); McMullin 20073 (XXIV); Scott 7090 (det. J. Hollinger, stet B. McCune) (XXXIII). S3.

Anaptychia crinalis (Schaer.) Vězda – On *Populus* sp., *Thuja occidentalis*, calcareous rock, diabase, and shale. Brinker 5145 (XXXIII); Brodo 13740 (XII); Deduke 330 (I); Dorval 1145 (XL); Garton 15195 (XXI); Hollinger 23631 (XXXIII); Ireland 15330 (I); Lendemer 61649 (I), 61782 (XV), 61963 (XXXI); Maloles 371 (VII); McMullin 20067, 20328 (I); Meyer s.n. (XXX); Robillard TK19-07 (VII); Rutherford 88 (XXXI); Singh & Schultz 2.16 (VII). S3.

Anaptychia palmulata (Michaux) Vain. – On the bark of a log. McMullin 20063 (XXX). S3.

***Anema tumidulum* P.M. Jørg., M. Schultz & Guttová – On rock. Brinker 8136 (XXVI). SNR. (Figs. 4E, 12E).

Anisomeridium biforme (Borrer) R.C. Harris – On *Populus tremuloides*. Brinker 8181 (XVIII); Waters 4218 (I). S3?

Arctoparmelia centrifuga (L.) Hale – On rock. Brinker 8039 (XXII); Brodo 5938 (XVI). S4S5.

Arctoparmelia incurva (Pers.) Hale – On diabase and non-calcareous rock. Brinker 8142 (XXXIV), 7922, 8163 (XXXV); Hollinger 23614 (XXV), 23644 (XXXIII); Lendemer 61540 (XXIV); McCune 38541 (XXV). S2S3.

Arctoparmelia subcentrifuga (Oxner) Hale – On rock. Brinker 8161 (XXXV), 8205 (XXXVII); Knight 35 (XXV); McCune 38513 (XXV); Scott 7088 (XXXIII). S2.

**Arthonia atra* (Pers.) A. Schneid. – On *Abies balsamea*. Dorval 1501 (XLII). SNR. (Fig. 12F).

**#*Arthonia clemens* (Tul.) Th. Fr. – On *Rhizoplaca* sp. Brinker 8143 (stet J. Etayo) (XXXIV). SNR. (Figs. 4F, 13A).

Arthonia didyma Körb. – On *Thuja occidentalis*. McMullin 21373 (XII), 21479 (XXIII). SU. (Figs. 5A, 12B).

*#*Arthonia epiphyscia* Nyl. – On *Physcia caesia*. Scott 7033A (XV). SNR. (Figs. 5B, 13C).

Arthonia helvola (Nyl.) Nyl. – On . McMullin 21574 (VII), 20252 (XVII). S4.

†*Arthonia hypobela* (Nyl.) Zahlbr. – On *Pinus strobus*. McMullin 20373 (XVII). S5.

*#*Arthonia intexta* Almq. – On *Lecidella patavina*. Hollinger 23502 (I). SNR. (Fig. 13D).

**Arthonia lapidicola* (Taylor) Branth & Rostrup – On rock. McMullin 21442 (XXVII); Schaefer 1333 (XXVII). SNR. (Figs. 5C, 13E).

Arthonia patellulata Nyl. – On *Populus tremuloides*. Brodo 5973 (XVI), 28619B (XLVIII); Dorval 1466 (X). S4S5.

Arthonia radiata (Pers.) Ach. – On *Abies balsamea* and *Populus* sp. McMullin 20260, 21549 (XVII); Waters 4295 (III). S5.

**#*Arthonia stereocaulina* (Ohlert) R. Sant. – On diabase. Hollinger 23566 (XV). SNR. (Figs. 5D, 13F).

*#*Arthonia varians* (Davies) Nyl. – On *Lecanora rupicola*. Hollinger 23587 (XV). SNR. (Figs. 5E, 14A).

Arthonia vinosa Leighton – On *Thuja occidentalis*. Hollinger 23521 (II); Scott 6989 (II). S1S3.

***Arthonia* sp. 1** – On *Populus* sp. McMullin 1995^{TLC} (XXX). Notes: This appears to be an undescribed species. Its photobiont is *Trentepohlia*. Apothecia are up to 0.5 mm in diameter and epruinose. Ascospores are hyaline, 3-septate, 12–13 µm long, 8 per ascus, taper at lower end, and the upper cell is larger than the other cells. Conidia are hyaline, simple, bacilliform, and 5.5–6.5 µm long. Hymenial gel is K- and K/I+ blue. It was growing in an old forest on a large *Populus* sp. with three species of *Sclerophora*, which are also rare and restricted to old-forests in Ontario. Multiple attempts to generate DNA sequence data were unsuccessful. Additional work is being conducted before describing this species. TLC: trace amounts of atranorin.

***Arthothelium spectabile* (Flotow) A. Massal.** – On *Picea mariana*. Dorval 1293 (XIV); McMullin 21482 (VII). S2S3.

****Aspicilia bicensis* F.L. Anderson & Lendemer** – On calcareous rock. Rutherford 112 (XXXI). Notes: Reported for the second time in Canada (Anderson and Lendemer 2016). SNR. (Figs. 5F, 14B).

***Aspicilia cinerea* (L.) Körb.** – On non-calcareous rock and sandstone. Brodo 13755 (XII), 5946, 5969, 6779 (XVI); Dorval 1221 (I), 1287 (XVII); Hollinger 23496 (I), 23542 (XV); McMullin 21503 (I), 21501 (IV); Schaefer 1380 (VIII); Singh & Schultz 2.24 (VII); Waters 4234 (I). S5.

***Aspicilia laevata* (Ach.) Arnold** – On non-calcareous rock. Brodo 5932 (XVI); Waters 4217 (I), 4260, 4264 (VIII). S4.

***Aspicilia verrucigera* Hue** – On rock. Brinker 8223 (XV); Brodo 13743A (XII), 5937 (XVI); Dorval 1469, 1479 (XV); Scott 6962 (det. J. Hollinger) (I). S4S5.

#*Bachmanniomyces punctum* (A. Massal.) Diederich & Pino-Bodas – On *Cladonia* sp. on wood. Lendemer 61496 (XXIV). SU.

***Bacidia bagliettoana* (A. Massal. & De Not.) Jatta** – On soil. McMullin 21478 (XXX). S4.

***Bacidia gigantensis* Lendemer, McCune & McMullin** – On *Thuja occidentalis*. Lendemer 61902, 61909 (II); McCune 38492 (VIII); McMullin 20006^{TLC} (VIII), 19948, 21471 (XXIII), 20009^{TLC} (XXVIII), 20010^{TLC} (XXX). TLC: homosekikaic acid. Notes: This species was described from collections made during our study. It is named after the Sleeping Giant and is currently only known from Sleeping Giant Provincial Park, where it is common in mature *Thuja occidentalis* dominated forests (McMullin et al. 2020). SU. (Figs. 6A, 14C).

***Bacidia laurocerasi* subsp. *laurocerasi* (Delise ex Duby) Zahlbr.** – On *Thuja occidentalis*. McMullin 21434 (XIII). S4.

***Bacidia polychroa* (Th. Fr.) Körb.** – On *Populus* sp. McMullin 21089 (II); Waters 4288 (XXX). S4.

***Bacidia rubella* (Hoffm.) A. Massal.** – On *Populus tremuloides* and *Thuja occidentalis*. McMullin 20092, 21513 (II), 20294 (XVII); Wegenschimmel 12 (XIV). S4.

***Bacidia schweinitzii* (Fr. ex Tuck.) A. Schneid.** – On *Thuja occidentalis*. Brinker 8084 (XXIX); Dorval 1524 (XLI); McMullin 21368 (XXX). S5.

***Bacidia subincompta* (Nyl.) Arnold** – On *Populus* sp. McMullin 21457 (XXX). S4?

***Bacidina inundata* (Fr.) Vězda** – On non-calcareous rock. Hollinger 23625 (XXIV); Waters 4292 (III). S4?

***Baeomyces rufus* (Huds.) Rebent.** – On non-calcareous rock and soil. Brinker 8066 (I); Lendemer 61640 (I); McMullin 21042 (I), 20282 (VIII), 20079 (XXIV); Rutherford 122 (I); Singh & Schultz 2.11 (VII); Waters 4259 (VIII). S4S5.

***Bellemerea cinereorufescens* (Ach.) Clauzade & Cl. Roux** – On rock. Scott 7021 (det. J. Hollinger) (XV). SU.

****Bellemerea sanguinea* (Kremp.) Hafellner & Cl. Roux** – On diabase. Hollinger 23558 (XV). SNR. (Fig. 8E).

***Biatora chrysantha* (Zahlbr.) Printzen** – On *Picea* sp., among bryophytes on rock, and on soil. Hollinger 23516^{TLC} (I); Lendemer 61719 (I), 61858 (II), 61517, 61602 (XXIV). TLC: gyrophoric acid. SU.

***Biatora efflorescens* (Hedl.) Räsänen** – On *Populus tremuloides*. Stanton s.n. (I). SU.

**Biatora hypophaea* Printzen & Tønsberg – On bark. McMullin 19959 (XXIII). SNR. (Figs. 6B, 14E).

**Biatora pontica* Printzen & Tønsberg – On *Populus tremuloides*. McMullin 21388 (II). SNR. (Figs. 6C, 14F).

Biatora pycnidata Printzen & Tønsberg – On *Picea mariana* and *Thuja occidentalis*. Dorval 1169 (VIII), 1325 (XXVII), 1383 (XXVIII); McMullin 21533 (XXVII), 21469 (XXX), 22432 (VII); Waters 4210 (det. R.T. McMullin) (I); Wegenschimmel 47 (det. R.T. McMullin) (I). SU.

Biatora vernalis (L.) Fr. – On a log, among bryophytes on *Thuja occidentalis*, *Picea* sp., *Populus* sp., and on rock. Dorval 1321 (V); Glauser s.n. (I); Hjartarson 17, 20, 21 (VII); Lendemer 61849 (II); McMullin 20442 (I), 20417 (V); Waters 4301 (III), 4250, 4258, 4261 (VIII); Wegenschimmel 45 (XIV). S5.

#*Biatoropsis usnearum* Räsänen – On *Usnea cavernosa*. Gockman 5870 (I); Stanton s.n. (VII). SU.

Bilimbia sabuletorum (Schreb.) Arnold – On *Populus* sp., *Thuja occidentalis*, and among bryophytes. Brodo 5975 (XVI); Lendemer 61499 (XXIV); McMullin 20419 (XIV), 21047 (XV); Waters 4251, 4270 (VIII), 4283 (XXX). S5.

Bryobilimbia ahlesii (Körb.) Fryday, Printzen & S. Ekman – On non-calcareous and sedimentary rock. Brinker 8202 (XXXVII); Waters 4243 (I); Wegenschimmel 27 (XXIV). SU.

Bryobilimbia hypnorum (Lib.) Fryday, Printzen & S. Ekman – On *Thuja occidentalis*. Lendemer 61917, 61925 (II), 61498 (XXIV). S4.

Bryobilimbia sanguineoatra (Wulfen) Fryday, Printzen & S. Ekman – Among bryophytes on *Thuja occidentalis*. Scott 6970 (det. J. Hollinger) (II). SNR.

Bryoria americana (Mot.) Holien – on *Picea glauca*. Brodo 13737 (XII). SU.

Bryoria furcellata (Fr.) Brodo & D. Hawksw. – On *Abies balsamea*, *Picea* sp., *Pinus banksiana*, *P. strobus*, *Thuja occidentalis*, and rock. Brinker 5430 (I); Dorval 1251 (I), 1202 (VII), 1347 (XLVI); Garton 21740 (XIX); Lendemer 61628 (I); McCune 38500 (VIII); McMullin 20369 (XVII), 20025 (XXIII); Rinas s.n. (I); Rutherford 92 (II). S5.

Bryoria fuscescens (Gyeln.) Brodo & D. Hawksw. – On *Abies balsamea*, , and *Picea* sp. Denison 645 (unknown location); Dorval 1443 (VII), 1384, 1386 (X), 1313 (XLIII); McMullin 21363 (I), 20372 (XVII); Rinas s.n. (XIII). S5.

Bryoria kockiana Velmala, Myllys & Goward – On and *Thuja occidentalis*. Brinker 5428 (XIX); McMullin 20371 (XVII). S4.

Bryoria nadvornikiana (Gyeln.) Brodo & D. Hawksw. – On *Abies balsamea* and *Picea mariana*. Brodo 13732, 13746B (XII); Deduke 409 (XIII); Dorval 1190 (III), 1314, 1408 (VII), 1137 (XVII), 1172, 1173 (XLV); McMullin 21347 (XIII); Rinas s.n. (XIII); Schaefer 1375 (XIII); Stanton s.n. (VII). S4.

Bryoria pseudofuscescens var. *pikiei* (Brodo & D. Hawksw) McCune – On *Abies balsamea*, *Picea mariana*, and *Pinus strobus*. Brodo 13746A (XII); Dorval 1320, 1323, 1442 (VII), 1322, 1486 (XIV); McMullin 20253 (VII), 21360 (XXIII); Rutherford 110 (XXXI). S4.

Bryoria trichodes subsp. *trichodes* (Michaux) Brodo & D. Hawksw. – On *Abies balsamea*, *Picea mariana*, *Thuja occidentalis*, and rock. Brinker 5427 (XIX), 8162 (XXXV); Dorval 1420 (VII), 1368, 1485, 1499, 1500, 1546 (XIV), 1441 (XLIII), 1376, 1398 (XLIV), 1282, 1303 (XLV); Garton 10808 (XII); McMullin 21354 (XXIX); Rinas s.n. (XIII); Schaefer 1359 (XIII). S5.

***Buellia abstracta* (Nyl.) H. Olivier – On shale. Hollinger 23595 (XV); Scott 7040 (XV). SNR. (Figs. 6D, 15A).

Buellia arnoldii Servít – On *Picea mariana* and *Thuja occidentalis*. Dorval 1395, 1502 (XLIII), 1360 (XLIV). S4.

Buellia disciformis (Fr.) Mudd – On *Abies balsamea* and *Pinus banksiana*. McCune 37478 (I); McMullin 20259 (XVII). S4S5.

Buellia griseovirens (Turner & Borrer ex Sm.) Almb. – On *Alnus incana* subsp. *rugosa* and *Thuja occidentalis*. Hollinger 23529 (II); Lendemer 61662 (I), 61856, 61874 (II), 61786 (XV); McMullin 19954^{TLC} (XXIX); Scott 6973 (II). TLC: atranorin and norstictic acid. SU.

Buellia schaeereri De Not. – On *Picea mariana* and cones of *Pinus banksiana*. Dorval 1362 (XLIV); Lendemer 61626 (I). S455.

Buellia stillingiana J. Stein. – On *Abies balsamea*, *Acer spicatum*, , and *Sorbus* sp. Brinker 8216 (XXXVII); Denison 482 (XVI); Dorval 1419 (VII), 1387, 1427, 1444 (X); Hollinger 23493 (I); Lendemer 61604, 61616 (I), 61835 (II), 61812 (XV); McMullin 20311 (XVII), 21370 (XII), 21517 (II); Robillard TK19-04 (I); Schaefer 1364 (III), 1346 (XIII); Stanton s.n. (det. R.T. McMullin) (I); Waters 4222, 4246 (both det. R.T. McMullin) (I). S5.

#Buellia sp. – On various crustose lichens (*Acarospora* sp., *Dimelaena oreina*, *Rhizocarpon disporum*). Hollinger 23556, 23567 (XV). Notes: A parasitic lichen, forming insular patches on host lichen thallus. Thallus verrucose-areolate, white, K+ yellow and UV+ yellow after application of K (generally indicates presence of atranorin); medulla amyloid (IKI+ violet). Apothecia black, sessile from the start, 0.25–0.85 mm in diameter; exciple *dispersa*-type with thin, radiating, capitate hyphae, dark red-brown, N-; hymenium 50–60 µm high, not interspersed; ascospores 8 per ascus, thin-walled, 11–15 × 6–7 µm. These two specimens are very similar to *B. imshaugii* Hafellner, but that species has non-amyloid medulla, pannarin in the exciple and weakly *Physconia*-type ascospores (Giralt & Elix 2010).

****#Buellia physciicola** Poelt & Hafellner – On *Phaeophyscia sciastra*. Scott 7037B (det. J. Hollinger) (XV). SNR. (Figs. 6E, 15B).

Calicium glaucellum Ach. – On *Thuja occidentalis* and *Picea* sp. McMullin 21355 (XXIX); Selva 11712A, 11712B (XII), 11675 (XVI). SU.

Calicium lenticulare Ach. – On *Picea* sp. Paquette 1079 (I); Selva 11671B (XVI). S253.

Calicium lucidum (Th. Fr.) M. Prieto & Wedin – On *Picea mariana*. Dorval 1223 (XLV). S3.

Calicium parvum Tibell – On *Picea mariana* and *Pinus strobus*. Brinker 8094 (XXXVI); Maloles 391 (I); Scott 6964 (det. S.B. Selva) (I); Selva 11689 (XVIII), 11680A, 11680B, 11682A, 11682B, 11683B, 11684A, 11684B (XXXVI). S4.

Calicium salicinum Pers. – On *Betula* sp. and *Thuja occidentalis*. Maloles 374 (II); McMullin 20433 (VII); Paquette 1087 (XXVII). S455.

Calicium tigillare (Ach.) Pers. – On *Picea glauca* and *Thuja occidentalis*. Dorval 1430 (I), 1375, 1438 (XLIV); Lendemer 61680 (I); Maloles 370 (XV); McMullin 20362 (I); Paquette 1055 (I); Rutherford 97 (XV); Wegenschimmel 38 (XXXI). S455.

Calicium trabinellum (Ach.) Ach. – On a snag. Maloles 387 (I); McMullin 20412 (VII), 21344 (XXV); Paquette 1064 (I); Selva 11712A, 11712B (XII). S455.

****Calogaya pusilla** (A. Massal.) Arup, Frödén & Søchting – On rock. Brinker 7925 (det. R.T. McMullin) (XXXV). SNR. (Fig. 15C).

Caloplaca ahtii Søchting – On *Populus* sp. Brodo 5956 (det. C. Wetmore) (XVI). SU.

Caloplaca arenaria (Pers.) Müll. Arg. – On non-calcareous rock. Lendemer 61695 (I), 61734 (XV); McMullin 21530 (XXVII). S5.

***Caloplaca borealis** (Vain.) Poelt – On *Picea mariana*. Meyer s.n. (VII). This species is reported for the first time from Ontario, but two previous collections were made in the province (Brodo 13457, CANL, det. C. Wetmore; Wetmore 28940, MIN). SNR.

Caloplaca cerina (Ehrh. ex Hedwig) Th. Fr. – On *Abies balsamea* and *Populus tremuloides*. Dorval 1232 (II), 1464 (X); Lendemer 61654 (I), 61933 (XXXI); McMullin 20353 (XVII); Schaefer 1327 (XXX). S455.

Caloplaca chlorina (Flot.) Sandst. – On diabase. Hollinger 23598 (XV). SU.

Caloplaca chrysophthalma Degel. – On *Populus* sp. Brinker 7930 (XIII); Dorval 1266 (XVII); Hollinger 23513 (I); McMullin 20257 (I), 20316 (II), 21538 (XXVII); Waters 4219 (I). S4?

***Caloplaca demissa** (Körb.) Arup & Grube – On diabase. Hollinger 23575 (XV). SNR. (Figs. 6F, 15D).

†Caloplaca epithallina Lynge – On *Rhizocarpon* sp. Brinker 8138 (XXXIV). S152.

Caloplaca feracissima H. Magn. – On concrete. Lendemer 61449 (XXIV). S5.

***Caloplaca holocarpa* (Hoffm. ex Ach.) A.E. Wade** – On diabase. *Hollinger* 23588 (XV), 23598 (XV). S5.

***Caloplaca flavorubescens* (Huds.) J.R. Laundon** – On *Populus* sp. and *Thuja occidentalis*. *Lendemer* 61655 (I); *Scott* 7005 (XV). S4.

***Caloplaca flavovirescens* (Wulfen) Dalla Torre & Sarnth.** – On calcareous rock. *Brodo* 13751 (XII); *Dorval* 1348 (VIII); *Lendemer* 61958, 61968, 61995 (XXXI); *McMullin* 20327 (I); *Rutherford* 107 (XXV); *Singh & Schultz* 1.14 (I). S5.

***Caloplaca microphyllina* (Tuck.) Hasse** – On *Thuja occidentalis*. *McMullin* 20290 (XVII). S4.

***Caloplaca pyracea* (Ach.) Zwackh.** – On *Populus tremuloides*. *Dorval* 1465 (X); *Lendemer* 61934A (XXXI); *McMullin* 20320 (XVII). S4S5.

***Caloplaca stillicidiorum* (Vahl) Lyngé** – On a bryophyte. *McMullin* 21444 (I). SU.

***Caloplaca vitellinula* (Nyl.) H. Olivier** – On shale. *Hollinger* 23635 (XXXIII). Notes: This specimen agrees with the description in Arup (2009), however we have never seen authentic reference material. The thallus is thin, areolate, pale yellow; apothecia orange with well-developed proper margin and thin to excluded thalline margin; ascospores $10\text{--}13 \times 5\text{--}7\ \mu\text{m}$, with septum $3\text{--}4\ \mu\text{m}$. SU.

***Caloplaca* sp.** – On shale. *Hollinger* 23637 (XXXIII). Notes: This specimen was found in a sheltered, enriched microsite at the base of a tall diabase cliff. It has a thick, orange, effuse, verruculose thallus. The verrucules grow out into a mixture of isidioid granules and soredia.

***Candelariella aurella* (Hoffm.) Zahlbr.** – On calcareous rock and soil. *Brinker* 8132 (XXXIV); *Dorval* 1459 (XXXI); *Schaefer* 1335 (III). S5.

***Candelariella efflorescens* R.C. Harris & W.R. Buck** – On *Sorbus* sp. and *Thuja occidentalis*. *Glauser s.n.* (XXVI); *Lendemer* 61603^{cf}, 61678^{cf} (I); *McMullin* 21541 (VIII), 21560 (XV); *Meyer s.n.* (XII). S5.

***Candelariella lutella* (Vain.) Räsänen** – On *Populus tremuloides*. *Lendemer* 61480 (XXIV), 61934 (XXXI); *McMullin* 21515 (II), 21543 (VIII). S4?

***Candelariella vitellina* (Hoffm.) Müll. Arg.** – On *Thuja occidentalis* and rock. *Brodo* 13772 (XII), 5931 (XVI); *Dorval* 1186, 1275 (I); *Lendemer* 61696 (I), 61741, 61746 (XV), 61485, 61557 (XXIV), 61975 (XXXI); *McMullin* 21534 (XXVII); *Scott* 7003 (XV). S5.

***Candelariella xanthostigma* (Ach.) Lettau** – On *Thuja occidentalis*. *Lendemer* 61775 (XV). S4S5.

#*Carbonea vitellinaria* (Nyl.) Hertel – On *Candelariella vitellina*. *Hollinger* 23518 (I).

****Carbonea vorticosa* (Flörke) Hertel** – On sandstone. *Hollinger* 23498 (I); *Schaefer* 1387 (I). SNR. (Figs. 7A, 15E).

***Catillaria nigroclavata* (Nyl.) Schuler** – On *Picea* sp., *Populus tremuloides*, and *Thuja occidentalis*. *Lendemer* 61650, 61664, 61676 (I), 61477 (XXIV); *Waters* 4221 (I). S4S5.

*****Cercidospora epipolytropa* (Mudd) Arnold** – On *Lecanora polytropa*. *Waters* 4249 (I). SNR. (Fig. 11A).

****#*Cercidospora xanthoriae* (Wedd.) R. Sant.** – On *Rusavskia elegans*. *Scott* 7036B (XV). SNR. (Fig. 16A).

***Cetraria arenaria* Kärnefelt** – On soil. *Dorval* 1256 (VII); *McMullin* 21384, 21499 (VII). S4.

***Cetraria ericetorum* subsp. *reticulata* (Räsänen) Kärnefelt** – On soil. *Brodo* 13759 (XII); *Garton* 10792 (XII); *Hollinger* 23599 (XIV). SNR.

***Cetraria islandica* subsp. *crispiformis* (Räsänen) Kärnefelt** – On soil. *Glauser s.n.* (stet R.T. McMullin) (VII); *Stanton s.n.* (stet R.T. McMullin) (VII). S3.

***Cetraria laevigata* Rass.** – On soil. *Dorval* 1298, 1392 (VII). S2S3.

***Cetrelia chicitae* (W.L. Culb.) W.L. Culb. & C.F. Culb.** – On *Abies balsamea*, *Thuja occidentalis*, and calcareous rock. *Brinker* 4698 (XIX), 8042 (XXI); *Brodo* 5944 (XVI); *Lendemer* 61827, 61908 (II), 61534 (XXIV); *McMullin* 20027 (I), 20240 (V), 21455 (XXV); *Rutherford* 125 (XXXI). S3?

***Cetrelia olivetorum* (Nyl.) W.L. Culb. & C.F. Culb.** – On rock. *Brinker* 4660 (XXV); *Brodo* 5986 (XVI); *Dorval* 1198 (I), 1151 (V); *McCune* 37485 (I); *McMullin* 21565 (XV), 20048 (XXV); *Rinas s.n.* (XIV); *Rutherford* 135 (XXXI). S4.

***Chaenotheca brachypoda* (Ach.) Tibell** – On *Thuja occidentalis*. *Maloles* 397 (I); *McMullin* 20429 (V). S2S3.

***Chaenotheca brunneola* (Ach.) Müll. Arg.** – On *Picea mariana*, *Pinus strobus*, and *Thuja occidentalis*. *Dorval* 1315 (II), 1289 (XIV), 1361 (XLIV); *Paquette* 1080B (I), 1089 (XXX); *Selva* 11671B, 11675 (XVI), 11690A (XVIII). S4.

***Chaenotheca chrysocephala* (Ach.) Th. Fr.** – On *Picea mariana*, *Pinus strobus*, and *Thuja occidentalis*. *Brinker* 8075B (XXX); *Maloles* 390 (I); *McMullin* 20431 (II), 20421 (III), 21403 (XXV); *Selva* 11706 (III), 11716, 11717A, 11717B, 11718A (XII), 11663A, 11663B, 11663C, 11663F (XVI), 11690A (XVIII), 11699A, 11699B (XXX), 11682A, 11682B, 11684A (XXXVI); *Singh & Schultz* 3.4 (XXX). S4.

***Chaenotheca cinerea* (Pers.) Tibell** – On *Thuja occidentalis*. *McMullin* 20401 (II), 20411 (V); *Scott* 6987 (det. S.B. Selva) (II). S1?

***Chaenotheca ferruginea* (Turner ex Sm.) Mig.** – On , *Picea mariana*, and *Pinus strobus*. *Brinker* 6900 (XIV); *Dorval* 1521, 1525 (XLI); *Hjartarson* 41 (XIII); *Maloles* 361 (XII); *McMullin* 20033 (XXIII); *Selva* 11718A, 11718B, 11719A, 11719B, 11721A, 11721B (XII), 11664B, 11671B (XVI), 11689, 11690A, 11690C (XVIII), 11680A, 11682B, 11683A, 11683B, 11684A, 11684B (XXXVI); *Wegenschimmel* 9 (XIV). S4.

***Chaenotheca furfuracea* (L.) Tibell** – On , *Thuja occidentalis*, and soil. *Dorval* 1468 (IV), 1447 (XL), 1284 (XLVII); *Maloles* 364 (XIV); *McMullin* 20032, 20392 (I), 20393 (II), 20408 (III), 20398 (VIII); *Paquette* 1061 (XXX); *Selva* 11707B (III), 11691A, 11691B, 11692A, 11697 (XVIII). S4.

***Chaenotheca gracilentia* (Ach.) Mattsson & Middelb.** – On *Thuja occidentalis*. *Selva* 11707A (III), 11672 (XVI), 11692A (XVIII), 11700 (XXX). S4.

***Chaenotheca hispidula* (Ach.) Zahlbr.** – On , *Populus* sp., and *Thuja occidentalis*. *Hjartarson* 12 (XXX); *McMullin* 20400 (II), 21392 (XIII), 20390 (XXVII), 20416, 20426, 20427 (XXXII); *Paquette* 1086 (XXVII), 2015, 2016 (XXX); *Robillard* TK19-22 (XXX); *Scott* 6983, 6991, 6992, 6995 (all det. S.B. Selva) (II); *Selva* 11706, 11707A, 11707B, 11708, 11710A, 11710B (III), 11693, 11696A, 11696B, 11697 (XVIII), 11702A (XXX); *Singh & Schultz* 3.1 (XXX); *Thorn* 81.3 (XVIII). S2S3.

***Chaenotheca laevigata* Nádv.** – On *Picea* sp. and *Thuja occidentalis*. *Hjartarson* 8 (XXX); *Maloles* 381 (XVII); *McMullin* 21429 (XII), 20449 (XIII), 21456 (XXIII), 21432 (XXIV), 21428 (XXVIII); *Paquette* 2007 (XXX); *Robillard* TK19-17 (XXX); *Scott* 6981, 6990 (both det. S.B. Selva) (II); *Selva* 11671B (XVI), 11691A, 11691B, 11692A, 11692B (XVIII), 11699A, 11699B, 11700 (XXX). S3.

***Chaenotheca nitidula* Tibell** – On *Thuja occidentalis*. *Paquette* 1090 (XXX). S4.

****Chaenotheca sphaerocephala* Nádv.** – On *Pinus strobus*. *Selva* 11690B (XVIII). (Fig. 16B).

***Chaenotheca stemonea* (Ach.) Müll. Arg.** – On *Picea mariana* and *Thuja occidentalis*. *Brinker* 8074 (XXX); *Maloles* 372 (II); *McMullin* 20410 (III); *Robillard* TK19-21 (XXX); *Selva* 11707B (III), 11719B (XII), 11667, 11670A, 11670B, 11671A, 11676A, 11676B (XVI), 11699A, 11699B, 11701A, 11701B (XXX). S3.

***Chaenotheca trichialis* (Ach.) Th. Fr.** – On , *Picea mariana*, and *Thuja occidentalis*. *Brinker* 8075A (XXX); *Hollinger* 23522 (II); *McMullin* 20383, 20399 (II), 20422^{TLC} (V), 21342 (XII), 21461^{TLC} (XIII), 21402 (XXV), 20397 (XXVII); *Paquette* 2017 (XXX); *Scott* 6993 (det. S.B. Selva) (II); *Selva* 11706, 11707A, 11708 (III), 11717A, 11717B (XII), 11663A, 11663B, 11663C, 11663D, 11663E, 11663F, 11667, 11669B, 11671B, 11676A, 11676B (XVI), 11691B, 11693, 11696A, 11696B (XVIII), 11699A, 11699B, 11700 (XXX), 11682A, 11682B (XXXVI). TLC: trichales unknown 1 & 2. S4.

***Chaenotheca xyloxena* Nádv.** – On *Abies balsamea*, *Picea* sp., and *Thuja occidentalis*. *McMullin* 20030 (XXIII); *Selva* 11724A (VIII), 11673A, 11673B (XVI), 11695B (XVIII). S4?

***†*Chaenothecopsis amurensis* Titov** – On deciduous bark. *Selva* 11674 (XVI). SNR. (Fig. 16C).

#*Chaenothecopsis australis* Tibell – On *Thuja occidentalis*. *Scott* 6982 (det. S.B. Selva) (II); *Selva* 11706, 11707A, 11707B (III). S1?

#*Chaenothecopsis brevipes* Tibell – On *Inoderma byssaceum* on *Thuja occidentalis*. *Brinker* 8103B (XVIII). S2?

*#*Chaenothecopsis consociata* (Nádv.) A.F.W. Schmidt – On *Chaenotheca chrysocephala*. McMullin 20448 (II); Selva 11716, 11717A, 11717B (XII), 11663A, 11663B, 11663C (XVI), 11699A (XXX); Singh & Schultz 3.6 (stet R.T. McMullin) (XXX). Notes: Some of these collections were used to report this species for the first time from Ontario by McMullin (2019). SNR. (Fig. 16D).

†*Chaenothecopsis debilis* (Turner & Borrer ex Sm.) Tibell – On *Thuja occidentalis*. Brinker 8073 (XXX). S4.

*†*Chaenothecopsis dolichocephala* Titov – On *Picea* sp. resin. Selva 11664A, 11664B, 11665 (XVI). Notes: These are the first reports from Ontario, but older unpublished collections were made in the province (Selva 9190, 9345, NY). SNR. (Fig. 16E).

†*Chaenothecopsis exilis* Tibell – On and *Thuja occidentalis*. McMullin 20407 (XV), 21425 (XXIV); Selva 11673B (XVI). SNR.

†*Chaenothecopsis marcineae* Selva – On *Picea mariana* resin. Brinker 8093 (XXXVI); Maloles 398 (I); McMullin 20031 (I); Paquette 2012 (XXX); Scott 6964A (det. S.B. Selva) (I); Selva 11721B (XII), 11680C, 11683C, 11683D (XXXVI). S4.

†*Chaenothecopsis nana* Tibell – On *Picea mariana*, *Pinus strobus*, and *Thuja occidentalis*. Brinker 8085 (XXIX); McMullin 20414 (II), 21341 (XII); Selva 11708 (III), 11716, 11717A, 11717B, 11718A, 11718B, 11719A, 11719B, 11721B (XII), 11663A, 11663C, 11663D, 11663E, 11663F, 11668, 11671B, 11676A, 11676B (XVI), 11690C, 11692A (XVIII), 11699A, 11699B, 11701A, 11701B, 11702A, 11702B (XXX), 11682A, 11682B (XXXVI). S4.

#*Chaenothecopsis nigra* Tibell – On *Picea mariana*. Brinker 8097 (XXXVI); Selva 11685, 11686 (XXXVI). Notes: These are the first reports from Ontario, but an older unpublished collection was made in the province (Selva 9006, NY). SNR.

#*Chaenothecopsis ochroleuca* (Körb.) Tibell & K. Ryman – On *Lecanora thysanophora*. Gockman 5866 (XXXV). S152.

*†*Chaenothecopsis oregana* Rikkinen – On *Abies balsamea* resin. Gockman s.n. (XXX); McMullin 21426 (XXX). SNR. (Figs. 7B, 16F)

***†*Chaenothecopsis penningtonensis* Gockman & Selva – On *Picea mariana*. Selva 11684C (XXXVI). SNR. (Fig 17A).

†*Chaenothecopsis pusilla* (Ach.) A.F.W. Schmidt – On *Picea* sp., *Pinus strobus*, and *Thuja occidentalis*. McMullin 20415 (XIV), 20413 (XXXII); Selva 11671A (XVI), 11690C (XVIII), 11701A, 11702A (XXX). S253.

†*Chaenothecopsis pusiola* (Ach.) Vain. – On *Abies balsamea*, *Picea* sp., and *Thuja occidentalis*. Selva 11673A, 11675 (XVI), 11695B (XVIII). S152.

†*Chaenothecopsis savonica* (Räsänen) Tibell – On *Picea mariana* and *Thuja occidentalis*. Brinker 8096 (XXXVI); McMullin 20396 (II), 21345 (XXIII), 21422 (XXIV); Scott 6981, 6996 (both det. S.B. Selva) (II); Selva 11669A, 11669B, 11671A, 11671B, 11673A, 11673B (XVI), 11691B (XVIII), 11699A, 11699B (XXX). S4?

*†*Chaenothecopsis tsugae* Rikkinen – On resin of *Picea* sp. McMullin 21427 (XXX); Paquette 2003A (XXX). S4. (Figs. 7C, 17B).

***†*Chaenothecopsis ussuriensis* Titov – On *Pinus strobus*. Selva 11689 (XVIII). SNR. (Fig. 17C).

*#*Chaenothecopsis viridialba* (Kremp.) A.F.W. Schmidt – On an unknown sterile lichen host on *Thuja occidentalis*. McMullin 21421 (XXIV). SNR. (Figs. 7D, 17D).

†*Chaenothecopsis viridireagens* (Nádv.) A.F.W. Schmidt – On and *Thuja occidentalis*. Selva 11701B (XXX), 11681 (XXXVI). S152.

†*Chaenothecopsis* sp. – On *Betula* sp., *Picea mariana*, *Pinus strobus*, and *Thuja occidentalis*. McMullin 21495 (I), 20432 (II); Scott 6978, 6979, 6980, 6981, 6985, 6987, 6993 (all det. S.B. Selva) (II); Selva 11706, 11710A (III), 11717A, 11718B, 11721B, 11723 (XII), 11663B, 11663E, 11663F, 11673A, 11675 (XVI), 11689, 11690A (XVIII), 11699A (XXX), 11680C, 11682A, 11683C, 11683D, 11684C (XXXVI).

Notes: These specimens have brown 2-celled ascospores and the stalks and excipula have no red pigment and they are both K- and N-. They do not fit any currently described species concepts.

Chaenotricha obscura (G. Merr.) Suija, McMullin & P. Lõhmus – On *Trichaptum abietinum* on *Abies balsamea* and *Picea mariana*. *Deduke* 396 (XIII); *McMullin* 20391 (XIX); *Selva* 11711 (XII). S5.

Chromatochlamys muscorum (Fr.) H. Mayrhofer & Poelt – On a bryophyte. *Brinker* 8121 (XXXIV). SU.

Chrysothrix caesia (Flot.) Ertz & Tehler – On *Alnus* sp. and *Sorbus* sp. *Lendemer* 61606 (I); *McMullin* 20404 (I). S5.

Chrysothrix chlorina (Ach.) J.R. Laundon – On rock. *Brinker* 4104 (XXXIII), 8156^{TLC} (det. R.T. McMullin) (XXXV); *Dorval* 1269 (I), 1451 (X); *McMullin* 21281^{TLC} (VII). TLC: calycin, vulpinic acid and an unknown fatty acid. S3.

**Chrysothrix insulizans* R.C. Harris & Ladd – On . *Brinker* 8193^{TLC} (det. R.T. McMullin) (XIX). TLC: calycin and leprapinic acid. Notes: This is the second record in Canada. The first is from Kejimikujik National Park and National Historic Site in Nova Scotia (McMullin 2019). SNR. (Fig 17E).

Circinaria cf. *caesiocinerea* (Nyl. ex Malbr.) A. Nordin, Savić & Tibell – On rock. *Hollinger* 23558 (XV); *McMullin* 21481 (XXV); *Singh & Schultz* 2.19 (VII). Notes: *Aspicilia caesiocinerea* (Nyl. ex Malbr.) Arnold (= *Circinaria caesiocinerea*) has been widely misapplied in North America to a number of gray, K- species. This specimen has a bluish gray subsquamulose-areolate thallus. The consistently ± 4 -spored asci place it squarely in *Circinaria*, although the conidia are long, (10–)18–22(–25) μm . All other species of *Circinaria* known to occur in North America have short conidia, ca. 6–10 μm . S4?

Circinaria calcarea (L.) A. Nordin, Savić & Tibell – On rock. *Lendemer* 61970 (XXXI). SNR.

Circinaria contorta (Hoffm.) A. Nordin, Savić & Tibell – On calcareous rock. *Brodo* 13771 (XII); *Dorval* 1457, 1462 (XXXI). S4?

Cladonia amaurocraea (Flörke) Schaer. – On diabase and soil. *Brodo* 5959 (XVI); *Garton* 19260 (XX); *Hollinger* 23611 (XXV), 23638 (XXXIII); *Lendemer* 61713 (I), 61543 (XXIV); *McMullin* 21039^{TLC} (I), 21401, 21450^{TLC} (XXV). TLC: usnic and barbatic acids. S5.

Cladonia arbuscula (Wallr.) Flot. – On soil. *Singh & Schultz* 1.5 (I). S5.

Cladonia bellidiflora (Ach.) Schaer. – On diabase. *Hollinger* 23621^{TLC} (XXV). TLC: squamatic and usnic acids and an unknown terpenoid. SU.

Cladonia borealis S. Stenroos – On bark and among bryophytes. *Dorval* 1490^{TLC} (det. R.T. McMullin) (XIV); *Paquette* 1051^{TLC} (I); *Scott* 7089 (XXXIII). TLC: barbatic and usnic acids. S5.

Cladonia botrytes (K.G. Hagen) Willd. – On a roof shingle. *McMullin* 20074 (XXVII). S5.

Cladonia caespiticia (Pers.) Flörke – On diabase and soil. *Hollinger* 23606 (XXV); *Lendemer* 61599 (XXIV); *Rutherford* 126 (XV). S4.

Cladonia cariosa (Ach.) Spreng. – On soil. *Dorval* 1217 (XXVII); *McMullin* 20375 (XXVII). S5.

Cladonia cenotea (Ach.) Schaer. – On a log, on rock, and on soil. *Dorval* 1167 (III), 1244 (VIII); *Garton* 10807 (XII); *Lendemer* 61638 (I), 61791 (XV); *McMullin* 20387 (I), 20305 (VIII); *Schaefer* 1368 (XIII); *Scott* 7073 (XXXIII). S5.

Cladonia chlorophaea (Flörke ex Sommerf.) Spreng. – On rock and soil. *Dorval* 1371^{TLC} (det. R.T. McMullin) (XLV); *McMullin* 20017^{TLC}, 20343^{TLC}, 21506^{TLC} (I), 20014^{TLC} (XII), 19956^{TLC} (XXIV), 20340^{TLC} (XXVII), 20016^{TLC} (XXX); *Robillard* TK19-12^{cf}, TK19-13^{cf} (VII); *Singh & Schultz* 2.10^{cf} (VII). TLC: fumarprotocetraric acid. S5.

Cladonia coccifera (L.) Willd. – On soil. *Lendemer* 61597 (XXIV). S5.

Cladonia coniocraea (Flörke) Spreng. – On bark, among bryophytes on a log, and on soil. *Brodo* 5955, 5966 (XVI); *Deduke* 321 (I); *Singh & Schultz* 1.6 (I). SU.

Cladonia cornuta subsp. *cornuta* (L.) Hoffm. – On bark, a roof shingle, and soil. *Dorval* 1283 (XIX); *McMullin* 20326 (VIII), 21085 (XIX). S4S5.

Cladonia crispata var. *crispata* (Ach.) Flotow – On soil. *Brinker* 8058 (XXI); *Brodo* 5987B (XVI); *Dorval* 1205 (VIII); *Garton* 10783 (XIII), 19262 (XX); *McMullin* 21080 (I); *Rinas* s.n. (I); *Robillard* TK19-14 (VII); *Schaefer* 1385 (II). S5.

***Cladonia cristatella* Tuck.** – On a roof shingle and on soil. *Dorval* 1274 (XL); *Garton* 18065 (XXII); *McMullin* 20284 (XIX). S5.

***Cladonia deformis* (L.) Hoffm.** – On soil. *McMullin* 21423 (VIII). S5.

***Cladonia digitata* (L.) Hoffm.** – Among bryophytes on a log and on soil. *Dorval* 1192 (I); *Hollinger* 23499^{TLC} (I); *Lendemer* 61853 (II). TLC: thamnolic acid. S4S5.

***Cladonia fimbriata* (L.) Fr.** – On soil. *Brodo* 5977^{TLC} (XVI) (*stet* P.Y. Wong). TLC: fumarprotocetraric acid. S5.

***Cladonia furcata* (Huds.) Schrad.** – On rock and soil. *Garton* 18060 (XXII); *Glauser s.n.* (XXVI); *Meyer s.n.* (XXVI); *Scott* 7081 (XXXIII). S5.

***Cladonia gracilis* subsp. *gracilis* (L.) Willd.** – On soil. *Dorval* 1406 (XLII). S4S5.

***Cladonia gracilis* subsp. *turbinata* (Ach.) Ahti** – On wood and soil. *Brodo* 5987A (XVI); *McMullin* 21555 (XV), 21511 (XIX). S5.

***Cladonia macilenta* var. *bacillaris* (Ach.) Schaer.** – On bark, a log, a stump, and a roof shingle. *Barclay* 5690 (I); *Deduke* 332 (I); *Lendemer* 61789 (XV); *McMullin* 21082 (XIX), 21443 (XXVII). S5.

***Cladonia macilenta* var. *macilenta* Hoffm.** – On wood. *Lendemer* 61658 (I). S5.

***Cladonia merochlorophaea* Asahina** – On soil. *Brodo* 5996 (XVI); *Dorval* 1249^{TLC} (*det.* R.T. McMullin) (XIX); *Lendemer* 61642 (I); *McMullin* 21462^{TLC} (XXV). TLC: merochlorophaeic and fumarprotocetraric acids. S4.

***Cladonia mitis* Sandst.** – On rock and soil. *Brodo* 13764 (XII), 5929, 5951 (XVI); *Dorval* 1142 (I), 1496 (XLII); *Garton* 18066 (XXII); *Lendemer* 61698 (I), 61768 (XV), 61978 (XXXI); *McMullin* 20437 (I), 20436 (VIII). S5.

***Cladonia multififormis* G. Merr.** – On soil. *Brodo* 5940B, 5992 (XVI); *Dorval* 1200 (VII); *Garton* 10782 (XIII); *McMullin* 20361 (XIV). S5.

***Cladonia norvegica* Tønsberg & Holien** – On soil. *Hollinger* 23600 (XIV). S5.

***Cladonia ochrochlora* Flörke** – On *Picea* sp., among bryophytes on *Thuja occidentalis*, and on soil. *Lendemer* 61682 (I), 61857 (II), 61793 (XV), 61598 (XXIV); *McMullin* 20386 (I), 20423 (III), 21571 (VII), 21566 (XV), *Scott* 6971 (II). S5.

***Cladonia phyllophora* Hoffm.** – On rock and soil. *Garton* 10784 (XIII), 18061 (XXII); *Lendemer* 61686 (I), 61754 (XV); *Schaefer* 1341 (I). S5.

***Cladonia pleurota* (Flörke) Schaer.** – On soil. *Brodo* 5994 (XVI); *Hollinger* 23643 (XXXIII); *McMullin* 20337 (I); *Paquette* 1057 (I). S5.

***Cladonia pyxidata* (L.) Hoffm.** – On rock and soil. *Dorval* 1144, 1291 (XIV); *Garton* 5959 (XV); *McMullin* 19974^{TLC} (XV), 20349^{TLC} (XVII); *Scott* 7015, 7016^{cf}, 7038^{cf} (XV). TLC: fumarprotocetraric acid. S5.

***Cladonia rangiferina* (L.) F.H. Wigg.** – On rock and soil. *Brodo* 5950 (XVI); *Lendemer* 61692 (I), 61769 (XV), 61491 (XXIV); *McMullin* 20099, 20274 (I), 20271, 20379 (VIII), 21107 (XII). S5.

***Cladonia scabriuscula* (Delise) Nyl.** – On soil. *Brodo* 13752 (XII), 5962, 5993 (XVI); *Dorval* 1134 (XIV), 1248 (XIX); *McMullin* 20250 (XIV). S5.

***Cladonia squamosa* Hoffm.** – On a log, among bryophytes on a log, and on soil. *Brodo* 5987C (XVI); *Lendemer* 61855 (II); *McMullin* 20388 (I); *Meyer s.n.* (XXX); *Robillard* TK19-02 (I); *Schaefer* 1388 (I); *Singh & Schultz* 1.12 (I). S5.

***Cladonia stellaris* (Opiz) Pouzar & Vězda** – On rock and soil. *Dorval* 1174 (XLII); *Lendemer* 61717 (I), 61753 (XV); *McMullin* 20439 (I). S5.

***Cladonia stygia* (Fr.) Ruoss** – On rock and soil. *Brinker* 6892 (XIII); *Dorval* 1141, 1268 (I), 1497 (XLII); *McMullin* 20275, 20366, 20368 (I), 20356, 20358, 20364 (VIII), 20365 (XV), 21400, 21447 (XXV); *Robillard* TK19-11 (VII). S5.

***Cladonia sulphurina* (Michaux) Fr.** – On wood and soil. *Dorval* 1201 (VIII), 1246 (XIX); *Schaefer* 1343 (XIII). S5.

***Cladonia turgida* Ehrh. ex Hoffm.** – Among bryophytes, on rock and on soil. *Deduke* 329 (I); *Dorval* 1241 (I), 1336 (XLII); *Garton* 19263 (XX); *Lendemer* 61643 (I), 61767 (XV); *McCune* 38479 (I); *Rinas s.n.* (I). S5.

Cladonia uncialis* (L.) F.H. Wigg. subsp. *uncialis – On rock and soil. *Brinker* 8038 (XXII); *Dorval* 1239 (I), 1518 (XLII); *Hollinger* 23490 (I); *Lendemer* 61759 (XV); *McMullin* 20385, 21040 (I); *Robillard TK19-10* (VII). S5.

***Cladonia verticillata* (Hoffm.) Schaer.** – On soil. *Brodo* 5940A (XVI); *Dorval* 1535 (I); *McMullin* 19979 (XXVII); *Robillard TK19-05* (XVII); *Schaefer* 1336 (XXX). S4S5.

***Cladonia wainioi* Savicz** – On rock and soil. *Brinker* 7928 (XXX); *Dorval* 1530 (XLII); *McMullin* 20441 (I); *Schaefer* 1350 (I). S5.

***Coenogonium luteum* (Dicks.) Kalb & Lücking** – On *Thuja occidentalis* and rock. *Brinker* 8086 (XXIX); *McMullin* 20291 (I), 20007 (XXIX). S4.

***Coenogonium pineti* (Ach.) Lücking & Lumbsch** – On bryophytes and soil. *Lendemer* 61596 (XXIV), 61852 (II); *McMullin* 20046 (XXX); *Wegenschimmel* 29 (I). S4?

***Collema furfuraceum* (Arnold) Du Rietz** – On *Populus balsamifera*, among bryophytes on rock, and on shale. *Brinker* 5951 (VI), 8160 (XXXV); *Deduke* 404 (XIII); *Dorval* 1351 (XIV); *Maloles* 363 (III); *McCune* 38531 (XIII); *McMullin* 21500 (I). S4.

***Collema pulchellum* var. *pulchellum* Ach.** – On *Fraxinus nigra* and *Populus* sp. *Brinker* 8102 (XVIII); *Maloles* 393 (III); *McMullin* 20047 (III). S4.

***Collema subflaccidum* Degel.** – Among bryophytes on *Thuja occidentalis* and on *Populus* sp. *Brodo* 5972 (XVI); *Hjartarson* 34 (III) (det. R.T. McMullin); *Paquette* 1099 (III). S4S5.

***Cresponea chloroconia* (Tuck.) Egea & Torrente** – On and *Thuja occidentalis*. *Brinker* 8192 (XIX); *Dorval* 1488 (XLIII), 1330 (XLVII); *Hjartarson* 10, 27 (XXX); *Hollinger* 23520 (II); *McMullin* 20024 (XII), 20300 (XXVII), 21419 (XXVIII); *Scott* 6977 (II); *Wegenschimmel* 40 (XXX). S4.

#*Cyphobasidium hypogymniicola* (Diederich & Ahti) Millanes, Diederich & Wedin – On *Hypogymnia incurvodes* and *H. physodes*. *Brinker* 8089 (XXIX); *Deduke* 382 (XIII); *Gockman* 5868 (XXIX); *McMullin* 20078 (XXX). S5.

***Dermatocarpon arenosaxi* Amtoft** – On diabase. *Hollinger* 23565 (XV); *Scott* 7012 (XV). S5.

***Dermatocarpon intestiniforme* (Körb.) Hasse** – On igneous rock and shale. *Brinker* 8117 (XXXIV), 8212 (XXXVII); *Dorval* 1294 (XIV); *Rutherford* 121 (XV). S2S3.

***Dermatocarpon luridum* (With.) J.R. Laundon** – On rock. *Brinker* 8200 (XXXVII); *McMullin* 21588 (VII). S5.

****Dermatocarpon meiophyllizum* Vain.** – On rock. *Deduke* 346 (VII). SNR.

***Dermatocarpon miniatum* (L.) W. Mann** – On calcareous rock. *Lendemer* 61998 (XXXI); *Wegenschimmel* 3 (XXXI). S5.

***Dermatocarpon moulinii* (Mont.) Zahlbr.** – On rock. *Brinker* 8133 (XXXIV); *Lendemer* 61997 (XXXI); *Scott* 7080 (XXXIII). S3?

***Dermatocarpon muhlenbergii* (Ach.) Müll. Arg.** – On diabase. *Hollinger* 23583 (XV). S5.

***Dictyocatenulata alba* Finley & E.F. Morris** – On . *McMullin* 20357 (XIV); *Paquette* 1083 (XXX); *Wegenschimmel* 33 (XXX). S4S5.

***Dimelaena oreina* (Ach.) Norman** – On diabase. *Brinker* 8225 (XV); *Hollinger* 23567 (XV). S4.

***Diploschistes actinostomus* (Ach.) Zahlbr.** – On diabase and non-calcareous rock. *Brinker* 8203 (XXXVII); *Hollinger* 23612 (XXV); *Knight* 38 (XXV). S1S3.

***Diploschistes gypsaceus* (Ach.) Zahlbr.** – On rock. *Brinker* 8052 (XXI). S1S2.

***Diploschistes muscorum* (Scop.) R. Sant.** – On *Cladonia* sp., among bryophytes, and on rock. *Brinker* 8119 (XXXIV); *Dorval* 1425 (X); *Rinas s.n.* (XV); *Singh & Schultz* 2.13 (stet J.C. Lendemer) (VII). S4

***Diploschistes scruposus* (Schreb.) Norman** – On sandstone. *Lendemer* 61571 (XXIV); *Maloles* 368 (XV); *McMullin* 20324 (VIII), 21399 (XXV); *Rinas s.n.* (XXVI); *Schaefer* 1330 (VIII); *Stanton s.n.* (XXV); *Waters* 4268 (VIII). S4S5.

***Diplotomma alboatrum* (Hoffm.) Flot.** – On shale. *Brinker* 8057 (XXI); *Hollinger* 23637A (XXXIII); *McMullin* 21383 (VII). S3?

***Enchylium tenax* (Sw.) Gray** – On soil. *McMullin* 21497 (XXVII). S4.

***Endocarpon pallidulum* (Nyl.) Nyl.** – On rock. *Brinker* 8135 (XXXIV). SU.

#*Endococcus nanellus* Ohlert – On *Stereocaulon* cf. *dactylophyllum*. *Scott* 7075, 7077 (XXXIII). SU.

***#*Endococcus propinquus* (Körb.) D. Hawksw.** – On *Porpidia crustulata*. *Scott* 6956 (I). Notes: This species is reported for the first time from Ontario, but there is a previous collection (*Brodo* 6180B, CANL). SNR.

#*Endococcus* sp. Nyl. – On *Staurothele drummondii*. *Hollinger* 23572 (XV). Notes: *Endococcus variabilis* Halıcı, Kocourk. & Diederich also grows on *Staurothele* (Halıcı et al. 2007), but our material has smaller ascomata (100–150 µm in diameter vs. 190–250 µm), 8 ascospores per ascus (vs. 4–6), and significantly narrower ascospores (4.5–5.5 µm vs. 6.5–7.5 µm) with unequal cells (vs. equal).

***Enterographa zonata* (Körb.) Källsten** – On shale. *Hollinger* 23636 (XXXIII). SU.

***Eopyrenula intermedia* Coppins** – On *Acer* sp. *McMullin* 21496 (XXVIII). SU.

***Ephebe hispidula* (Ach.) Horwood** – On rock. *Scott* 7011A (XV). SU.

***Ephebe lanata* (L.) Vain.** – On diabase. *Hollinger* 23547 (XV); *Lendemer* 61725 (XV); *McMullin* 19966 (XV), 20075 (XXIV); *Paquette* 1095 (XXIV); *Scott* 7011B (XV). S4?

***Evernia mesomorpha* Nyl.** – On *Abies balsamea*, *Acer spicatum*, *Picea glauca*, *P. mariana*, *Pinus banksiana*, and *Thuja occidentalis*. *Brodo* 5928 (XVI); *Dorval* 1197 (I), 1340, 1437 (VII), 1412 (X), 1341 (XL); *Hollinger* 23482 (I); *Lendemer* 61631 (I), 61820 (XV), 61455, 61472, 61509 (XXIV), 61946 (XXXI); *McMullin* 21561 (XV), 20352 (XVII); *Schaefer* 1372 (XIII), *Singh & Schultz* 1.2 (I). S5.

****Felipes leucopellaeus* (Ach.) Frisch & G. Thor** – On the bark of a conifer snag. *McMullin* 21494 (XXX). SNR. (Figs. 7E, 17F).

***Flavoparmelia baltimorensis* (Gyeln. & Förliss) Hale** – On rock. *Brinker* 8206A (XXXVII); *McMullin* 20333 (I). S4.

***Flavoparmelia caperata* (L.) Hale** – On *Abies balsamea*, *Picea* sp., *Pinus banksiana*, *Sorbus* sp., *Thuja occidentalis*, among bryophytes on rock, and on rock. *Deduke* 370 (I); *Dorval* 1252 (V); *Lendemer* 61619, 61623, 61663 (I), 61845, 61871 (II), 61781, 61811 (XV), 61463, 61535 (XXIV), 61965 (XXXI); *McMullin* 21521 (I), 20288, 20292, 21114 (II), 20307 (VIII), 21044 (XVII); *Scott* 6961 (I). S5.

***Flavopunctelia flaventior* (Stirt.) Hale** – On *Picea mariana*, *Pinus banksiana*, and *Thuja occidentalis*. *Brinker* 8120 (XXXIV); *Dorval* 1450 (VII), 1292 (XVII); *Lendemer* 61453, 61456 (XXIV), 61780, 61797 (XV); *McMullin* 20299 (I). S5.

***Flavopunctelia soredica* (Nyl.) Hale** – On *Pinus banksiana*. *Glauser s.n.* (XXVI); *McMullin* 21412 (XXIV), 21459 (XXV). S4.

***Fuscidea arboricola* Coppins & Tønsberg** – On *Abies balsamea*, *Picea* sp., and *Pinus banksiana*. *Brinker* 8082 (XXIX); *Glauser s.n.* (XXVI); *Lendemer* 61645, 61667 (I), 61522 (XXIV); *McMullin* 21374b (XIII). SU.

***Fuscidea pusilla* Tønsberg** – On . *Brodo* 28623^{TLC} (det. T. Tønsberg), 28625^{TLC} (VII). TLC: divaricatic acid. SU.

Fuscidea recensa* (Stirt.) Hertel, V. Wirth & Vězda var. *recensa – On shale. *Hollinger* 23634^{TLC} (XXXIII). TLC: divaricatic acid. SU.

***Fuscidea recensa* var. *arcuatula* (Arnold) Fryday** – On rock. *Brinker* 8043 (XXI); *Hollinger* 23504 (I), 23616 (XXV). SNR. (Fig. 14A).

***Fuscopannaria ahlneri* (P.M. Jørg.) P.M. Jørg.** – Among bryophytes on rock. *Brinker* 7914 (XXXV). S253.

***Fuscopannaria leucosticta* (Tuck.) P.M. Jørg.** – On *Thuja occidentalis* and among bryophytes on rock. *Brinker* 8184 (XIX), 8083 (XXIX); *McCune* 38487 (VIII); *McMullin* 20020^{TLC} (XXVIII); *Singh & Schultz* 3.9 (stet J.C. Lendemer, B. McCune & R.T. McMullin) (XXX). TLC: fatty acids and triterpenes. S2. (Figs. 7F, 18A).

***Fuscopannaria praetermissa* (Nyl.) P.M. Jørg.** – On *Thuja occidentalis*, among bryophytes on *T. occidentalis*, and on rock. Brinker 8111 (XXXIV); Hollinger 23531 (II); McMullin 21045 (XV), 21589 (XXIX). S4S5.

****Fuscopannaria soledata* P.M. Jørg.** – On *Thuja occidentalis*. McMullin 21340 (XXVIII). (Fig. 8A, 18B). SNR.

***Graphis scripta* (L.) Ach.** – On and *Thuja occidentalis*. Dorval 1388, 1413 (X), 1327 (XXIII); Hjartarson 29 (XXX); Hollinger 23528 (II); Lendemer 61838, 61878 (II), 61520 (XXIV); Rutherford 130 (II); Waters 4285 (XXX). S5.

***Gyalecta truncigena* (Ach.) Hepp** – On , *Sorbus* sp., and *Thuja occidentalis*. Brinker 8196 (XVIII); Lendemer 61605 (I); McMullin 20066 (XXVIII). S2?

***Gyrographa gyrocarpa* (Flot.) Ertz & Tehler** – On rock. Brinker 8107, 8116 (XXXIV); Brodo 5942 (XVI); Hollinger 23641 (XXXIII). SU.

#*Heterocephalacria physciacearum* (Diederich) Millanes & Wedin – On *Physcia aipolia* on and *Thuja occidentalis*. Lendemer 61921 (II), 61508 (XXIV); Scott 6954B (I). S4?

***Heterodermia galactophylla* (Tuck.) W.L. Culb.** – On *Populus tremuloides* and rock. McCune 38501 (VIII); Scott 6960 (stet T. Esslinger & J. Hollinger) (I). S3?

***Heterodermia japonica* (M. Satô) Swinscow & Krog** – On *Thuja occidentalis*. Brinker 7862, 8081 (XXIX); Dorval 1477, 1478 (X); Lendemer 61904, 61932 (II); McMullin 20080 (VIII), 20055 (XXVIII). S3.

***Heterodermia speciosa* (Wulf.) Trev.** – On *Acer spicatum*, *Populus tremuloides*, *Thuja occidentalis*, among bryophytes on rock, and on rock. Brinker 8064 (I), 6899 (VIII), 8049, 8053 (XXI), 7927 (XXXV); Dorval 1399 (I), 1155, 1158 (VIII), 1397, 1400 (X), 1277 (XVII), 1288 (XXVIII), 1193 (XL); Glauser s.n. (XXVI), s.n. (XXX); Lendemer 61872, 61924 (II); McCune 38493 (VIII); McMullin 21523 (I), 21081 (II), 19952^{TLC} (XII), 19953^{TLC} (XXIII), 21389 (XXVII), 21357 (XXVIII), 21406 (XXIX), 21435 (XXX); Rutherford 105 (XXV); Schaefer 1394 (I); Singh & Schultz 1.7 (det. R.T. McMullin), 1.10 (I). TLC: atranorin, zeorin, fatty acids and terpenes below zeorin. S4S5.

#*Homostegia piggotii* (Berk. & Broome) P. Karsten – On *Parmelia saxatilis* and *P. sulcata*. Deduke 384B (XIII); Hollinger 23626 (XXXIII). SU.

***Hypocenomyce scalaris* (Ach. ex Lilj.) M. Choisy** – On *Thuja occidentalis* and wood. Dorval 1230 (I), 1373 (XLIV); Lendemer 61660 (I); McMullin 20042 (XXV). S5.

***Hypogymnia incurvroides* Rass.** – On *Abies balsamea*, , *Picea* sp., and *Pinus* sp. Brinker 6893 (XIII), 8165 (XXXV); Glauser s.n. (VII), s.n. (XXX), s.n. (XXXII); McCune 38499 (VIII); McMullin 21579 (VII), 20070 (XII). S4.

***Hypogymnia physodes* (L.) Nyl.** – On *Abies balsamea*, *Acer spicatum*, , *Picea* sp., *Pinus banksiana*, *Thuja occidentalis*, *Tsuga canadensis*, and rock. Brodo 13798 (VI); Deduke 371 (I); Glauser s.n. (VII); Lendemer 61630 (I), 61861, 61891 (II), 61796, 61817 (XV), 61466, 61494, 61531 (XXIV), 61937 (XXXI); McCune 37477 (I); McMullin 20281 (XVII); Singh & Schultz 2.20 (det. R.T. McMullin) (VII). S5.

***Hypogymnia tubulosa* (Schaer.) Hav.** – On *Abies balsamea*, , *Picea mariana*, *Pinus banksiana*, *Populus* sp., *Thuja occidentalis*, and rock. Brinker 8180 (XVIII); Dorval 1513 (X), 1234 (XVII); Hjartarson 36 (III); Lendemer 61629 (I), 61892 (II), 61457 (XXIV), 61943 (XXXI); Maloles 365 (XV); McCune 37483 (I); McMullin 20269, 20286 (I). S4?

***Hypotrachyna afrorevoluta* (Krog & Swinscow) Krog & Swinscow** – On rock. Brinker 8108 (XXXIV). S1?

***Hypotrachyna revoluta* (Flörke) Hale** – On *Picea mariana* and *Thuja occidentalis*. Brinker 6888 (XIII), 7864 (XXIX); Dorval 1369 (XXVIII), 1342, 1367, 1522, 1527 (XLI) (all det. R.T. McMullin); Glauser s.n. (XXX); Lendemer 61883 (II); Maloles 377 (II); McMullin 20061 (XXVIII), 20060, 21352 (XXIX); Meyer s.n. (VII); Schaefer 1353 (I). S3.

***Icmadophila ericetorum* (L.) Zahlbr.** – On *Thuja occidentalis*, among bryophytes on and *T. occidentalis*, and on soil. Brinker 8078 (XXIX); Lendemer 61854 (II); Maloles 396 (II); McMullin 20035

(XII), 21405 (XXIX), 20022 (XXX); Meyer *s.n.* (VII); Paquette 2004 (VII); Scott 6975 (II); Singh & Schultz 3.5 (XXX); Wegenschimmel 46 (XXVII). S5.

#*Illosporopsis christiansenii* (B.L. Brady & D. Hawksw.) D. Hawksw. – On *Parmelia* sp. and *Physcia* sp. Deduke 406 (XIII); Dorval 1218 (XLIV); McMullin 20301 (XVII). S4?

†*Immersaria athroocarpa* (Ach.) Rambold & Pietschm. – On diabase and non-calcareous rock. Brinker 8140 (XXXIV); Hollinger 23545 (XV); Knight 34 (XV); Scott 7070 (XXXIII). S3.

Imshaugia aleurites (Ach.) S.F. Meyer – On *Pinus banksiana*, *Thuja occidentalis*, and sandstone. Dorval 1231 (I), 1337 (X); Glauser *s.n.* (I); Hollinger 23507 (I); Lendemer 61627, 61659 (I); McCune 38519 (XXV); McMullin 21528 (I), 21554 (XV), 21348 (XXIX); Singh & Schultz 3.7 (XXX). S5.

Imshaugia placorodia (Ach.) S.F. Meyer – On *Pinus banksiana*. Dorval 1366 (I). S4S5.

Inoderma byssaceum (Weigel) Gray – On *Thuja occidentalis*. Brinker 8103A (XVIII). S3?

Ionaspis lacustris (With.) Lutzoni – On diabase. Hollinger 23553 (XV); McMullin 20076 (XXIV); Scott 7026 (XV). S4.

***Ionaspis obtecta* (Vain.) R. Sant. – On rock. Brinker 8204 (XXXVII). SNR. (Figs. 8B, 18C). Notes: reported for the first time in Canada, but two previous unpublished collections were made in Ontario (Brinker xx, XX and Brodo xx, CANL).

†*Julella fallaciosa* (Arnold) R.C. Harris – On *Betula* sp. Brinker 6887 (XIII); McMullin 20370 (XVII). S4?

Lambiella insularis (Nyl.) T. Sprib. – On non-calcareous rock. Knight 36B (XXV). S1S3.

Lathagrium fuscovirens (With.) Otálora, P.M. Jørg. & Wedin – Among bryophytes on rock and on rock. Brinker 4095 (XXX), 8231 (XXXIX); Brodo 13773A (XII); Hollinger 23577 (XV); McCune 38488 (VIII). S4.

Lathagrium undulatum (Flot.) Otálora, P.M. Jørg. & Wedin – On rock. Dorval 1319 (VIII). S4?

Lecania croatica (Zahlbr.) Kotlov – On , *Populus* sp., *Thuja occidentalis*, and non-calcareous rock. Dorval 1185 (XVII); Hollinger 23538 (II); Lendemer 61518 (XXIV); McMullin 20322 (II); Waters 4297 (III). S5

Lecania naegelii (Hepp) Diederich & v. d. Boom – On *Thuja occidentalis*. Dorval 1473 (XXVIII). S4

Lecanographa abscondita (Th. Fr.) Egea & Torrente – On rock. Brinker 8105 (stet D. Ertz) (XXXIV). S1S2.

Lecanora albella (Pers.) Ach. – On conifer bark. Brodo 13750, 13762A^{TLC}, 13762B (XII); Lendemer 61636 (I). TLC: atranorin, nephrosteranic acid pair, protocetraric and unidentified fatty acids. S5.

Lecanora caesiorubella subsp. *saximontana* Imshaug & Brodo – On *Abies balsamea*. McMullin 20347 (VII). TLC: atranorin, norstictic, protocetraric, and roccellic acids. S5.

Lecanora allophana f. *sorediata* Nyl. – On *Populus balsamifera* and *Populus tremuloides*. Brinker 8060^{TLC} (det. R.T. McMullin) (XXI); Brodo 13773B (XII); McMullin 20087^{TLC} (II). TLC: atranorin and two unknown fatty acids that colour after H₂SO₄ & heat. S5.

Lecanora argentea Oxner & Volkova – On diabase. Brinker 8044 (XXI), 5419^{TLC} (stet R.T. McMullin) (XXXIII); Brodo 13735 (XII), 5941 (XVI); Hollinger 23582, 23597 (XV), 23628 (XXXIII); McMullin 19940^{TLC} (XV). TLC: atranorin, gangaleoidin. S5.

Lecanora argopholis (Ach.) Ach. – On diabase. Hollinger 23549 (XV); Lendemer 61724 (XV), 61957 (XXXI); McMullin 21087^{TLC} (VIII). TLC: atranorin, epanorin, zeorin, and unknown fatty acids. S3.

Lecanora cateilea (Ach.) A. Massal. – On *Abies balsamea* and *Acer spicatum*. Lendemer 61824 (XV); Sharnoff 1145.34 (VII). S2S3.

Lecanora cenisia Ach. – On non-calcareous rock. Brodo 13743B (XII); Schaefer 1393 (I); Waters 4304 (VII). S4.

Lecanora circumborealis Brodo & Vitik. – On *Picea* sp. and *Thuja occidentalis*. McMullin 21546 (VIII); Rinas *s.n.* (I); Scott 7085 (det. J. Hollinger) (XXXIII). S5.

Lecanora glabrata (Ach.) Malme – On *Populus* sp. McMullin 21520 (I), 21441 (XII); Schaefer 1344 (VIII). S4S5.

***Lecanora intricata* (Ach.) Ach.** – On diabase. *Brinker* 8155 (XXXV); *Hollinger* 23563 (XV); *Scott* 7018F (XV). SU.

***Lecanora meridionalis* H. Magn.** – On a conifer snag. *Hollinger* 23585 (XV). SU.

***Lecanora minutella* Nyl.** – On a *Pinus banksiana* cone. *Lendemer* 61625 (I). SU.

***Lecanora oreinoides* (Körb.) Hertel & Rambold** – On non-calcareous rock. *Knight* 21 (XV). SU.

***Lecanora polytropa* (Ehrh.) Rabenh.** – On rock. *Brodo* 13777 (VI); *Lendemer* 61715 (I), 61760 (XV), 61484 (XXIV); *McMullin* 21094 (VIII); *Schaefer* 1396 (XIII); *Scott* 7040A (det. J. Hollinger) (XV). S5.

***Lecanora pulicaris* (Pers.) Ach.** – On *Abies balsamea*, , and *Sorbus* sp. *Brodo* 13741A (XII); *Lendemer* 61614, 61646 (I), 61470 (XXIV); *McMullin* 21470 (XII), 21378 (XIII), 20330 (XVII). S5.

***Lecanora rugosella* Zahlbr.** – On *Abies balsamea*, *Picea* sp., and *Thuja occidentalis*. *Brodo* 13795 (VI); *Denison* 483 (XVI); *Hollinger* 23510 (I), 23613 (XXV); *Lendemer* 61665, 61677 (I), 61867, 61876 (II), 61947 (XXXI); *McMullin* 21387 (V), 21547 (VII). S4?

***Lecanora rupicola* (L.) Zahlbr.** – On non-calcareous rock and sandstone. *Brinker* 8035 (XXII); *Dorval* 1309 (I), 1302 (XL), 1352, 1391 (XLII); *Hollinger* 23518 (I); *Knight* 36A (XXV); *Lendemer* 61740 (XV), 61594 (XXIV); *McMullin* 19962, 21046 (XV); *Rinas s.n.* (XV); *Scott* 7050A (XXV); *Singh & Schultz* 2.25 (stet J.C. Lendemer) (VII); *Wegenschimmel* 21 (XXV). S3.

***Lecanora strobilina* (Spreng.) Kieffer** – On *Thuja occidentalis*. *Schaefer* 1354 (II). S5.

***Lecanora symmicta* (Ach.) Ach.** – On *Abies balsamea*, *Acer spicatum*, and *Picea* sp. *Lendemer* 61613, 61617 (I), 61798, 61799, 61818 (XV), 61949 (XXXI); *McMullin* 20434^{TLC} (XVII). TLC: no substances detected. S5.

***Lecanora thysanophora* R.C. Harris** – On *Abies balsamea*, *Acer spicatum*, *Populus tremuloides*, *Thuja occidentalis*, *Sorbus* sp., and rock. *Brinker* 8041 (XXI); *Deduke* 385 (XIII); *Dorval* 1236 (XVII); *Lendemer* 61843 (II), 61807 (XV), 61497 (XXIV); *McMullin* 20350 (I). S5.

***Lecanora wisconsinensis* H. Magn.** – On *Pinus banksiana*. *Brodo* 5976 (XVI); *Meyer s.n.* (XXVI). S4.

***Lecidea albofuscescens* Nyl.** – On *Abies balsamea*. *Waters* 4279, 4282 (XXX). SU.

***Lecidea atrobrunnea* (Ramond ex Lam. & DC.) Schaerer** – On diabase. *Dorval* 1410 (XV); *Hollinger* 23551 (XV). S3?

***Lecidea auriculata* Th. Fr.** – On non-calcareous rock. *Waters* 4215 (I). S4?

****Lecidea carnulenta* (Tuck.) Fink** – On wood. *Schaefer* 1347 (III). SNR. (Fig. 18D).

***Lecidea lithophila* (Ach.) Ach.** – On non-calcareous rock. *Wegenschimmel* 24 (XXV). S1S3.

***Lecidea tessellata* Flörke** – On diabase. *Hollinger* 23543, 23586 (XV); *Rinas s.n.* (XV); *Scott* 7018E (det. J. Hollinger) (XV), 7052 (det. J. Hollinger) (XXV). S4.

***Lecidea turgidula* Fr.** – On a log. *Stanton s.n.* (XXX). SU.

***Lecidella carpathica* Körb.** – On diabase and non-calcareous rock. *Brinker* 8222 (XV); *Dorval s.n.* (XV); *Hollinger* 23541, 23546 (XV); *Knight* 19 (XV); *Rinas s.n.* (XV); *Scott* 7018G (XV); *Wegenschimmel* 22 (XXV). S4.

***Lecidella euphorea* (Flörke) Hertel** – On *Alnus alnobetula* subsp. *crispa*, *Populus tremuloides*, and *Thuja occidentalis*. *Dorval* 1476 (XL); *Hollinger* 23485, 23512 (I), 23585 (XV); *McMullin* 19972, 19981 (XV); *Schaefer* 1331 (VIII); *Scott* 7002 (det. J. Hollinger) (XV). S4?

****Lecidella patavina* (A. Massal.) Knoph & Leuckert** – On rock. *Hollinger* 23502 (I). Notes: This species is reported for the first time from Ontario, but one previous collection was made in the province (*Brodo* 13285B, DUKE, det. J.G. Knoph). SNR.

***Lecidella stigmathea* (Ach.) Hertel & Leuckert** – On non-calcareous rock and sandstone. *Brinker* 8114 (XXXIV); *Brodo* 28627 (I), 13734 (XII); *Dorval* 1405 (XXXI); *Hollinger* 23503 (I); *McMullin* 21536 (XXVII); *Waters* 4266 (VIII). S5.

***Lempholemma cladodes* (Tuck.) Zahlbr.** – On calcareous rock. *Brinker* 8131, 8134 (XXXIV); *Stanton s.n.* (XXXI). SU.

***Lempholemma polyanthes* (Bernh.) Malme** – Among bryophytes. *Scott* 7035A (det. J. Hollinger) (XV). S3.

cf. Lempholemma sp. Körb. – On rock. *McCune* 38485A, 38494 (VIII). Notes: On small ledges on sedimentary cliff; sterile, lobulate with ± globular isidia, ecorticate, the thallus 100–127 µm thick, photobiont *Nostoc*; occurring with *Placynthium stenophyllum* (*McCune* 38485B).

***Lepra amara* (Ach.) Hafellner** – On *Abies balsamea*, *Thuja occidentalis*, *Tsuga canadensis*, and rock. *Brodo* 13796 (VI); *Dorval* 1237 (I), 1279 (V), 1511 (VII); *Glauser s.n.* (XXXII); *Lendemer* 61859 (II), 61784 (XV); *McMullin* 20345 (I); *Rutherford* 93 (II); *Singh & Schultz* 2.23 (*stet* J.C. Lendemer) (VII). *S455*.

***Lepra multipunctoides* (Dibben) Lendemer & R.C. Harris** – On *Thuja occidentalis*. *Dorval* 1526 (XLI); *Lendemer* 61894 (II). *SU*.

***Lepra ophthalmiza* (Nyl.) Hafellner** – On and conifer bark. *Brinker* 8195^{TLC} (*stet* R.T. McMullin) (XIX); *Dorval* 1431 (XL). TLC: myelochroic and isomyelochroic acids. *S455*.

***Lepra pustulata* (Brodo & W.L. Culb.) Lendemer & R.C. Harris** – On *Populus tremuloides* and *Thuja occidentalis*. *Lendemer* 61906 (II); *McMullin* 20049 (XXVIII). *SU*.

***Lepraria cryophila* Lendemer** – On rock. *McMullin* 20029^{TLC} (VII). TLC: divaricatic acid, trace norstictic acid. *S4*.

***Lepraria eburnea* J.R. Laundon** – On *Thuja occidentalis* and among bryophytes on rock. *McMullin* 20026^{TLC} (XXX); *Stanton s.n.*^{cf} (I). TLC: alectorialic acid. *S455*.

***Lepraria finkii* (B. de Lesd.) R.C. Harris** – On *Picea mariana*, *Thuja occidentalis*, among bryophytes on rock, on rock, and on soil. *Lendemer* 61841, 61914 (II), 61600 (XXIV); *McMullin* 20355^{TLC-2} (I), 20015^{TLC-1} (II), 19984^{TLC-3} (XV), 20018^{TLC-3}, 20084^{TLC-3} (XXX); *Singh & Schultz* 1.13 (*stet* J.C. Lendemer) (I); *Stanton s.n.*^{cf} (I). TLC-1: atranorin, zeorin, stictic and roccellic acids. TLC-2: atranorin, zeorin, stictic and norstictic acids. TLC-3: atranorin, zeorin, and stictic acid. *S5*.

***Lepraria neglecta* (Nyl.) Erichsen** – On a log and sandstone. *Hollinger* 23515 (I); *McMullin* 20339^{TLC} (I); *Scott* 7071A, 7072A (both *det.* J. Hollinger) (XXXIII); *Stanton s.n.* (XXX). TLC: atranorin and roccellic acid. *S455*.

***Lepraria oxybapha* Lendemer** – On rock. *Lendemer* 61579 (XXIV). *SU*.

***Leprocaulon adhaerens* (K. Knudsen, Elix & Lendemer) Lendemer & Hodgkinson** – On rock. *Lendemer* 61570 (XXIV). *SU*.

***Leptoplaca chrysodeta* (Vain.) J.R. Laundon ex Ahti (= *Caloplaca chrysodeta* (Vain.) Dombr.)** – On rock. *Brinker* 7926 (XXXV); *McMullin* 19978 (I). *S253*.

***Leptogium acadiense* J.W. Hinds, F.L. Anderson & Lendemer** – On *Populus tremuloides* and *P. balsamifera*, among bryophytes on rock, and on non-calcareous rock. *Brinker* 8067 (I); *Brodo* 13739, 13745 (XII); *Dorval* 1345 (I), 1428 (X); *Maloles* 388 (I); *McCune* 38484 (I), 38486 (VIII), 38532 (XIII) (all sequenced, unpubl.); *McMullin* 21472, 21504 (I), 21083 (II), 21043 (XXVII); *Paquette* 2001 (III); *Wegenschimmel* 42 (I). *S455*.

***Leptogium arsenei* Sierk** – Among bryophytes on rock. *McMullin* 21445 (I). *S152*.

***Leptogium corticola* (Taylor) Tuck.** – On *Thuja occidentalis*. *Dorval* 1519 (XXVIII). *S2*. (Figs. 8C, 18E).

***Leptogium cyanescens* (Rabenh.) Körb.** – Among bryophytes on a log and rock, and on non-calcareous rock. *Brinker* 8185 (XIX), 8168 (XXXV); *Brodo* 5968 (XVI); *Deduke* 305 (I); *Dorval* 1238 (I), 1133 (XIV), 1551 (XXVIII); *McCune* 38530 (XXIV); *McMullin* 20255, 21524 (I), 21417 (XXIV); *Paquette* 1059 (I); *Wegenschimmel* 50 (I). *S5*.

***Leptogium saturninum* (Dicks.) Nyl.** – On *Populus balsamifera*. *Brinker* 8059 (XXI); *McCune* 38532 (XIII); *Paquette* 2000 (III). *SU*.

†*Leptorhaphis epidermidis* (Ach.) Th. Fr. – On . *McMullin* 21453 (XIII). *S4*.

#*Lichenocodium erodens* M.S. Christ. & D. Hawksw. – On *Lecanora pulicaris* and *Rhizoplaca chrysoleuca*. *Hollinger* 23569 (XV); *Wegenschimmel* 44 (XVII). *SU*.

#**Lichenocodium lecanorae** (Jaap) D. Hawksw. – On *Myriolecis wetmorei*, *Rhizoplaca opiniconensis*, and *Lecanora* sp. McMullin 21487 (XII); Scott 7004 (det. J. Hollinger) (XV), 7050C, 7054 (XXV). SNR. (Figs. 8D, 18F).

*#**Lichenocodium lichenicola** (P. Karsten) Petrak & H. Sydow – On *Physcia* sp. McMullin 21493 (XII). SNR. (Figs. 8E, 19A).

#**Lichenodiplis lecanorae** (Vouaux) Dyko & D. Hawksw. – On *Caloplaca* sp. and *Lecanora* sp. Brinker 8173 (XXI); McMullin 20280 (VIII). SU.

*****Lichenopeltella heterodermiicola** subsp. *endothallina* M.S. Cole & D. Hawksw. – On *Heterodermia speciosa*. Brinker 8189 (stet J. Etayo.) (XIX); McMullin 21448 (XXIX). SNR. (Figs. 8F, 19B).

#**Lichenostigma cosmopolites** Hafellner & Calat. – On *Xanthoparmelia cumberlandia* over diabase. Deduke 334B (I); Hollinger 23542, 23590 (XV). SU.

#**Lichenostigma elongatum** Nav.-Ros. & Hafellner – On *Aspicilia* sp. Wegenschimmel 49 (XV). SU.

#**Lichenostigma "rhizoplacae"** ined. – On *Rhizoplaca opiniconensis*. Scott 7053 (det. J. Hollinger) (XXV).

Lichinella nigritlella (Lettau) P.P. Moreno & Egea – Among bryophytes and on calcareous rock, diabase, and igneous rock. Brinker 8130 (XXXIV); Hollinger 23570 (XV); Rutherford 120 (XV); Scott 7034 (XV); Wegenschimmel 4 (XXXI). S253.

Lobaria pulmonaria (L.) Hoffm. – On *Populus* sp., *Thuja occidentalis*, among bryophytes on soil, and on rock. Brinker 4093 (XXX); Brodo 13789 (VI); Deduke 401 (XIII); Dorval 1146 (I); Lendemer 61905 (II), 61505 (XXIV); McMullin 20247, 21109 (I), 20278 (II); Schaefer 1328 (III). S4.

Lobarina scrobiculata (Scop.) Nyl. – Among bryophytes on rock. Brinker 7915 (XXXV). S1?

Lopadium disciforme (Flot.) Kullhem – On *Abies balsamea*, *Picea* sp., and *Thuja occidentalis*. Brinker 8182 (XVIII); Dorval 1389 (XXVIII); Hollinger 23535 (II); Lendemer 61847, 61877 (II); McMullin 21356 (XXVIII); Waters 4280 (XXX). S4.

Loxospora cismonica (Beltr.) Hafellner – On *Abies balsamea* and . Brinker 8147 (XIX); Brodo 13791 (VI); Lendemer 61839 (II); McMullin 20059 (XXX). S253.

Loxospora elatina (Ach.) A. Massal. – On , *Picea mariana*, and *Thuja occidentalis*. Dorval 1273 (VII), 1379 (XLIV); Lendemer 61840 (II); McMullin 20254 (VII), 21358 (XXIII); Stanton s.n. (I). S4.

Loxospora ochrophaea (Tuck.) R.C. Harris – On *Thuja occidentalis*. Brinker 8080 (XXIX). S4.

Massalongia carnosae (Dicks.) Körb. – On a bryophyte and calcareous rock. Knight 13 (XV); Rutherford 89 (XXXI); Wegenschimmel 34 (XXVII). S153.

Megalospora porphyritis (Tuck.) R.C. Harris – On *Thuja occidentalis*. Brinker 8077 (XXIX); Lendemer 61903 (II). S4.

Megaspora verrucosa (Ach.) Arcadia & A. Nordin – On *Populus tremuloides* and *Thuja occidentalis*. Dorval 1149 (II), 1260 (XVII); McMullin 20314 (II), 21385 (XVII); Scott 6952 (det. J. Hollinger) (I). S4.

Melanelia hepatizon (Ach.) A. Thell – On rock. McMullin 20038^{TLC} (VII). TLC: stictic acid. S3.

Melanelia stygia (L.) Essl. – On calcareous and non-calcareous rock. Knight 20 (XV); Rutherford 101 (XXXI). S3?

Melanelixia glabrata (Lamy) Sandler & Arup – On *Abies balsamea*, , *Picea* sp., and *Sorbus* sp. Deduke 388 (XIII); Lendemer 61511 (XXIV); McMullin 21371 (XII); Scott 6955 (det. J. Hollinger) (I). S3.

Melanelixia subaurifera (Nyl.) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch – On *Abies balsamea*, *Acer spicatum*, , *Pinus strobus*, *Populus* sp., *Sorbus* sp., *Thuja occidentalis*, and on rock. Deduke 349 (VII); Dorval 1372 (XXXI), 1401 (XL), 1440 (XLIII), 1308 (XLVI); Lendemer 61611 (I), 61819 (XV), 61474 (XXIV); McMullin 20336 (II), 21474 (XII), 21564 (XV), 21509 (XVII); Schaefer 1356 (XIII); Singh & Schultz 1.15 (stet J.C. Lendemer) (I). S5.

Melanohalea exasperatula (Nyl.) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch – On *Abies balsamea*, *Picea mariana*, *Pinus strobus*, and *Sorbus* sp. Dorval 1159 (VIII); Glauser s.n. (VII); McMullin 19990 (II), 21369 (XII), 20293 (XVII), 21410 (XXIV); Robillard TK19-06 (VII). S455.

***Melanohalea halei* (Ahti) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch** – On deciduous bark. *Schaefer* 1355 (XIII). 5152.

***Melanohalea infumata* (Nyl.) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch** – On diabase. *Hollinger* 23630 (XXXIII). 54.

***Melanohalea olivacea* (L.) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch** – On *Acer spicatum*, *Populus* sp., and *Sorbus* sp. *Brinker* 8215 (XXXVII); *Brodo* 13742 (XII), 5971 (XVI); *Dorval* 1445 (X), 1446 (XIX). 5455.

***Melanohalea septentrionalis* (Lynge) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch** – On *Sorbus* sp. *McMullin* 21475 (XII), 20303 (XVII); *Paquette* 1053 (I). 54.

***Menegazzia subsimilis* (H. Magn.) R. Sant.** – On *Thuja occidentalis*. *Dorval* 1355 (XXVIII); *Glauser s.n.* (XXX); *Lendemer* 61929 (II); *McMullin* 20072, 21349, 21437 (XXIX); *Meyer s.n.* (XXX). 53.

***Menegazzia terebrata* (Hoffm.) A. Massal.** – On *Thuja occidentalis*. *Brinker* 7867, 8079 (XXIX); *McMullin* 20241 (V). 5253.

***Micarea elachista* (Körb.) Coppins & R. Sant.** – On *Pinus strobus*. *McMullin* 21491 (det. A. Fryday) (XXIII). 5U.

***Micarea peliocarpa* (Anzi) Coppins & R. Sant.** – On *Thuja occidentalis*, *Tsuga canadensis*, and a bryophyte. *Brinker* 8109 (XXXIV); *Dorval* 1359 (XLIV); *Hollinger* 23533 (II); *Lendemer* 61865, 61898, 61926 (II), 61513 (XXIV). 55.

***Micarea prasina* Fr. s.l.** – On *Thuja occidentalis* and soil. *Maloles* 373 (II); *Schaefer* 1361 (II); *Stanton s.n.* (IX); *Waters* 4247 (I), 4276 (VIII). 5U.

†***Microcalicium ahlneri* Tibell** – On *Picea* sp. and *Thuja occidentalis*. *Maloles* 378, 395 (II); *McMullin* 20380 (II); *Selva* 11675 (XVI). 5U.

#*Microcalicium arenarium* (Hampe ex A. Massal.) Tibell – On *Psilolechia lucida*. *Brinker* 7918 (XXXV); *Brodo* 28624 (VII); *Dorval* 1310A (I); *McMullin* 20272 (I); *Paquette* 2021 (I). 5152.

#*Microcalicium disseminatum* (Ach.) Vain. – On *Picea mariana*, *Pinus strobus*, and *Thuja occidentalis*. *Brinker* 8092 (XXXVI); *McMullin* 20389, 20395 (II), 20021 (XXIII), 21343 (XXV), 20418, 20428, 20430 (XXXII); *Scott* 6964B (det. S.B. Selva) (I); *Selva* 11717A, 11718B, 11719A, 11719B (XII), 11690A, 11690C, 11691A (XVIII), 11700, 11701A, 11701B (XXX), 11667, 11671A, 11676A (XVI), 11680C, 11682B, 11683C, 11684A (XXXVI). 5152.

#*Miriquidica* sp. – On *Aspicilia cinerea*. *McCune* 38510^{TLC} (XXV). TLC: no substances detected. Notes: Thallus dark gray, forming small thick, irregularly convex patches to about 5 mm in diameter, consisting of swollen, fused areoles; apothecia numerous, black, glossy, convex, margin soon turned under and becoming compound; epithecium deep blue green, K-; hymenium pale blue green, I+ blue; hypothecium flecked with orange brown pigment that is K+ magenta, also with grayish POL+ granules, I+ yellowish; exciple edge blue green grayish, streaky grayish within, POL-, I-, K-; paraphyses coherent, slender, tips not expanded, lacking algae; spores 8 per ascus, nonseptate, 9–16 × 4–6 µm; thallus P-, UV-.

†***Monerolechia badia* (Fr.) Kalb** – On *Lecanora rupicola* and rock. *Brinker* 8106 (XXXIV); *Hollinger* 23615 (XXV); *Lendemer* 61558 (XXIV); *Scott* 7050 (XXV). 53?

***Montanelia saximontana* (R. Anderson & W. Weber) S. Leavitt, Essl., Divakar, A. Crespo & Lumbsch** – On igneous rock. *Brinker* 8218 (XXXVII); *McMullin* 21557 (XV); *Rutherford* 108 (XV). 53?

***Montanelia disjuncta* (Erich.) Divakar, A. Crespo, Wedin & Essl.** – On igneous rock. *Brodo* 5930 (XVI); *Dorval* 1183 (I); *McMullin* 21483 (XXV); *Rutherford* 109 (XV). 54.

***Montanelia panniformis* (Nyl.) Divakar, A. Crespo, Wedin & Essl.** – On non-calcareous rock. *Brinker* 8036 (det. R.T. McMullin) (XXII); *Dorval* 1550 (I), 1365, 1390 (XLII); *Hollinger* 23608 (XXV); *Knight* 39 (XXV); *Rutherford* 114 (XXV); *Scott* 7057 (XXV). 53.

***Montanelia sorediata* (Ach.) Divakar, A. Crespo, Wedin & Essl.** – On rock. *Hollinger* 23543 (XV), 23639 (XXXIII); *Meyer s.n.* (XXVI); *Scott* 7072B (XXXIII). 55.

#*Muellerella erratica* (A. Massal.) Hafellner & V. John – On *Immersaria athrocarpa* over diabase. *Hollinger* 23545 (XV). 5U.

#**Muellerella lichenicola** (Sommerf. ex Fr.) D. Hawksw. – On *Athallia pyracea* and *Mycoblastus sanguinarioides*. McMullin 21460 (XXV); Scott 6954 (I). SNR.

***Multiclavula coronilla** (G.W. Martin) R.H. Petersen – On a *Populus tremuloides* stump. Hollinger 23495 (I). SNR. (Figs. 9A, 19C).

Multiclavula mucida (Fr.) R.H. Petersen – On a log. McMullin 20023 (III); Waters 4302 (III). S4?

Mycobilimbia berengeriana (A. Massal.) Hafellner & V. Wirth – On *Thuja occidentalis* and among bryophytes on *T. occidentalis*. Brinker 8188 (XIX); Brodo 5943 (XVI); Dorval 1297 (IV), 1272 (XXVII); Hollinger 23535A (II); McMullin 20243 (V), 20071 (XXVIII), 21584 (XXXII); Rutherford 94 (II); Singh & Schultz 3.2 (stet J.C. Lendemer) (XXX); Wegenschimmel 32 (I). S455.

Mycobilimbia carnealbida (Müll. Arg.) S. Ekman & Printzen – On *Thuja occidentalis* and among bryophytes on *T. occidentalis*. Brodo 13794 (VI); Hollinger 23536 (II); McMullin 22322 (XXIV); Singh & Schultz 3.10 (stet B. McCune) (XXX). SU.

Mycobilimbia epixanthoides (Nyl.) Vitik., Ahti, Kuusinen, Lommi & T. Ulvinen – Among bryophytes on *Populus* sp. Garton 18961 (VIII). S455.

Mycobilimbia tetramera (De Not.) Vitik., Ahti, Kuusinen, Lommi & T. Ulvinen ex Hafellner & Türk – On *Tsuga canadensis* and bryophytes. Hjartarson 26 (XXX); Hollinger 23511 (I); McCune 38540 (I); Waters 4294 (III). S4.

Mycoblastus sanguinarioides Kantvilas – On *Pinus resinosa*, *Thuja occidentalis*, and rock. Brodo 13790 (VI); McMullin 21573^{TLC} (VII); Rinas s.n. (XXX). TLC: atranorin and bourgeanic acid. SU.

Mycoblastus sanguinarius (L.) Norman – On *Populus* sp., *Thuja occidentalis*, diabase, and sandstone. Glauser s.n. (XXX); Hollinger 23505 (I), 23607 (XXV); McCune 38512 (XXV); McMullin 19993^{TLC} (I), 21463^{TLC} (XXV); Rinas s.n. (XXX); Rutherford 90 (II); Stanton s.n. (XXV). TLC: atranorin, norrangiformic and rangiformic acids. SU.

†**Mycocalicium subtile** (Pers.) Szatala – On *Picea glauca*, *P. mariana*, and *Thuja occidentalis*. Brinker 5429 (XIX); Brodo 5967 (XVI); Hjartarson 33 (XXX); Hollinger 23524, 23525, 23526 (II); McMullin 21527 (I), 20420 (III), 20409 (VII), 20297 (XVII), 21420 (XXIV); Selva 11724A, 11724B (VIII), 11714 (XII), 11669A, 11669B, 11671A, 11677 (XVI), 11688, 11695A, 11695B (XVIII), 11687 (XXXVI), Wegenschimmel 18 (XXXI). S455.

Myriolecis crenulata (Hooker) Šliwa, Zhao Xin & Lumbsch – On calcareous rock. Schaefer 1383 (VIII); Sharnoff 1146.16 (I). S152.

Myriolecis dispersa (Pers.) Šliwa, Zhao Xin & Lumbsch – On concrete and rock. Dorval 1215 (VIII), 1296 (XL); Lendemer 61450 (XXIV); McMullin 21535 (XXVII). S5.

*#**Myriolecis invadens** (H. Magn.) Šliwa, Zhao Xin & Lumbsch – On *Staurothele drummondii*. Hollinger 23572 (XV). SNR. (Figs. 9B, 19D).

Myriolecis sambuci (Pers.) Clem. – On *Populus tremuloides*. McMullin 21542 (VIII); Scott 6954A (det. J. Hollinger) (I). S455.

***Myriolecis wetmorei** (Šliwa) Šliwa, Zhao Xin & Lumbsch – On *Thuja occidentalis*. Scott 7001 (det. J. Hollinger) (XV). SNR. (Figs. 9C, 19E).

Nephroma bellum (Spreng.) Tuck. – Among bryophytes on *Acer spicatum* and rock. Brinker 8166 (det. R.T. McMullin) (XXXV); Brodo 13775 (VI); Knight 5 (I); Maloles 392 (I). S455.

Nephroma helveticum Ach. subsp. **helveticum** – On *Acer spicatum*, *Picea mariana*, *Thuja occidentalis*, among bryophytes, on rock, and on soil. Brinker 4699 (XIX), 8048 (XXI), 4659 (XXV); Brodo 13783, 13800 (VI); Dorval 1148 (I), 1305, 1356 (XXVIII); McMullin 21585 (V); Rutherford 129 (II) (det. R.T. McMullin); Waters 4286 (det. R.T. McMullin) (XXX). S455.

Nephroma helveticum subsp. **sipeanum** (Gyeln.) Goward & Ahti – On *Thuja occidentalis*. Brodo 13778 (det. C. Wetmore) (VI). SNR.

Nephroma parile (Ach.) Ach. – Among bryophytes on rock, on rock, and on soil. Brinker 4102, 4107 (XXXIII); Brodo 13770 (XII), 5957, 5980, 5982 (XVI); Glauser s.n. (I); Lendemer 61539 (XXIV); McMullin 21563 (XV), 20057, 21416 (XXIV); Rutherford 128 (XXV); Singh & Schultz 2.8 (VII). S455.

***Nephroma resupinatum* (L.) Ach.** – On *Populus* sp., *Thuja occidentalis*, and rock. Dorval 1240 (I); McMullin 20041 (XXIV); Schaefer 1390 (II). S4.

#*Nesolechia oxyspora* (Tul.) A. Massal. – On *Punctelia rudecta*. Hollinger 23540 (II); McMullin 21353 (XXIX); Meyer s.n. (XXX); Scott 6974 (II). SU

***Normandina pulchella* (Borr.) Nyl.** – On *Fuscopannaria praetermissa* and *Pannaria conoplea*. Brinker 8110 (XXXIV); McMullin 20040 (I), 21409 (XXIX). S3?

***Ochrolechia arborea* (Krey.) Almb.** – On *Betula* sp., *Picea* sp., and *Thuja occidentalis*. Hollinger 23585 (XV); Lendemer 61868 (II), 61948 (XXXI); McMullin 21374A (XIII), 20279 (XXVII). S5.

#*Paranectria oropensis* (Ces. ex Rabenh.) D. Hawksw. & Piroz. – On *Lecanora allophana* f. *sorediata*. McMullin 20088 (II). SU. (Figs. 9D, 19F).

***Pannaria conoplea* (Ach.) Bory** – On *Populus tremuloides*, *Thuja occidentalis*, among bryophytes on rock, and on rock. Brinker 4657, 8072 (I), 8100, 8179 (XVIII), 8199 (XIX), 4096 (XXX); Dorval 1537 (I), 1461 (X); Lendemer 61910, 61927 (II); Maloles 386 (I); McCune 37474 (I); McMullin 21084, 21361, 21364 (I), 21587 (V), 21350 (XXIX), 20058 (XXX); Robillard TK19-01B (I). S3.

***Pannaria tavaresii* P.M. Jørg.** – On rock. Brinker 5423 (XXXIII), 8112 (XXXIV); McMullin 21407 (XXIX). S2?

***Parmelia fraudans* (Nyl.) Nyl.** – On rock. Brinker 8153^{TLC} (stet R.T. McMullin) (XXXV); McMullin 20342^{TLC} (I). TLC: atranorin, salazinic and usnic acids. S3.

***Parmelia omphalodes* (L.) Ach.** – Among bryophytes on rock, on igneous rock, and on soil. Brodo 5974 (XVI); Dorval 1150 (V); Lendemer 61687, 61706 (I), 61534A (XXIV); McMullin 20331 (I), 21382 (VII), 21394, 21451 (XXV); Rutherford 123 (I); Scott 7058 (XXV). S4.

***Parmelia saxatilis* (L.) Ach.** – On *Populus* sp. and diabase. Dorval 1448 (XLII); Hollinger 23544 (XV); Lendemer 61524 (XXIV); Schaefer 1352 (II). S5.

***Parmelia squarrosa* Hale** – On *Abies balsamea*, *Picea* sp., *Thuja occidentalis*, and rock. Brodo 13799 (VI); Deduke 372 (det. R.T. McMullin) (I); Dorval 1262 (I); Lendemer 61846, 61896, 61930 (II); McMullin 20313 (II), 20242 (V), 21468 (VII), 20245 (XVII), 20019 (XXVIII). S5.

***Parmelia sulcata* Taylor** – On *Abies balsamea*, *Acer spicatum*, , *Tsuga canadensis*, and rock. Barclay 6512 (XII); Dorval 1165 (XLV); Lendemer 61860 (II), 61748, 61815 (XV), 61467, 61510 (XXIV), 61964 (XXXI); McMullin 19991^{TLC} (VII), 20354 (XVII). TLC: atranorin and salazinic acid. S5.

***Parmeliella triptophylla* (Ach.) Müll. Arg.** – On *Thuja occidentalis* and among bryophytes on rock. Brinker 7866 (XXIX); Hollinger 23633 (XXXIII); McCune 38533 (XIII); McMullin 21362 (I); Waters 4284 (det. R.T. McMullin) (XXX). S3.

***Parmeliopsis ambigua* (Wulfen) Nyl.** – On and *Pinus banksiana*. Brodo 5927 (XVI); Lendemer 61633 (I), 61515 (XXIV); McMullin 21572 (VII); Scott 7059 (XXV). S5.

***Parmeliopsis capitata* R.C. Harris ex J.W. Hinds & P.L. Hinds** – On *Picea* sp. Hollinger 23517 (I); McMullin 21092 (VIII). S5.

***Parmeliopsis hyperopta* (Ach.) Arnold** – On *Abies balsamea*. Brodo 5927 (XVI); Dorval 1263 (XIX); Lendemer 61609 (I); McMullin 21575 (VII). S5.

***Parmotrema arnoldii* (Du Rietz) Hale** – On *Thuja occidentalis* and rock. Brinker 5947, 5949 (VI), 6891 (XIII), 7865 (XXIX), 5174 (XXXVIII); Dorval 1143 (IV), 1344, 1396 (VII); Lendemer 61889 (II); McMullin 21091 (VIII), 21556 (XV), 20005^{TLC}, 20012^{TLC}, 21408 (XXIX), 20011^{TLC}, 20013^{TLC} (XXX). TLC: atranorin and aleatoronic acid. S2S3.

***Parmotrema crinitum* (Ach.) M. Choisy** – On *Thuja occidentalis*, among bryophytes on rock, on rock, and on soil. Brinker 7861 (XXIX), 4101 (XXXIII); Brodo 13738 (XII); Dorval 1253 (V), 1333, 1495 (X); Glauser s.n. (det. R.T. McMullin) (VII), s.n. (det. R.T. McMullin) (XXX); Lendemer 61912 (II), 61532 (XXIV); Maloles 376 (II); McCune 38511 (XXV); McMullin 20318, 20344 (I), 21113 (II), 21553 (XV), 21338 (XXV); Paquette 1074 (XXX); Rinas s.n. (XIV). S3.

***Peltigera aphthosa* (L.) Willd.** – On soil. Dorval 1429 (X); Maloles 389 (I); McMullin 20360 (VIII), 20367 (XIX), 21454 (XXV). S5.

***Peltigera canina* (L.) Willd.** – Among bryophytes on rock and on soil. *Deduke* 400 (XIII); *Hjartarson* 25 (XVII); *McCune* 38529 (XXIV); *McMullin* 20270 (XXVII). S5.

***Peltigera didactyla* (With.) J.R. Laundon** – On soil. *Dorval* 1233 (XVII). S5.

***Peltigera elisabethae* Gyeln.** – On *Abies balsamea*, among bryophytes, and on soil. *Brinker* 8069 (I), 8047, 8061 (XXI); *Brodo* 13784 (VI); *Deduke* 402 (XIII); *Dorval* 1242 (I), 1226 (III); *McMullin* 20302 (I), 20091, 20438 (II), 21115 (VII), 20268, 20348 (VIII); *Singh & Schultz* 2.1 (VII). S5.

***Peltigera evansiana* Gyeln.** – Among bryophytes and on soil. *Brinker* 8183 (XVIII), 8217 (det. R.T. McMullin) (XXXVII); *Hjartarson* 22 (VII); *McMullin* 20363 (XXXII); *Paquette* 1093 (III). S4.

***Peltigera extenuata* (Nyl. ex Vain.) Lojka** – On soil. *Hjartarson* 19 (VII); *Hollinger* 23601 (XIV); *Maloles* 384 (I) (det. McMullin); *McMullin* 20256, 20446, 21090 (I); *Singh & Schultz* 1.16 (I). S4?

***Peltigera horizontalis* (Huds.) Baumg.** – On a log, among bryophytes on rock, and on soil. *Brodo* 5925 (XVI); *Deduke* 376 (I); *Dorval* 1255 (VIII); *Maloles* 385 (I); *McCune* 38495 (VIII); *McMullin* 20034, 20317 (I), 19949 (XXX). S5.

***Peltigera lepidophora* (Nyl. ex Vain.) Bitter** – On bark, among bryophytes, on rock, and on soil. *Brinker* 5422 (XXXIII), 8128 (XXXIV), 8229 (XXXIX); *Dorval* 1254 (IV); *Lendemer* 61989 (XXXI); *Rutherford* 99 (XXXI). S4.

***Peltigera leucophlebia* (Nyl.) Gyeln.** – On soil. *Brinker* 8171 (XXXV). S4.

***Peltigera malacea* (Ach.) Funck** – Among bryophytes on rock, on rock, and on soil. *Brodo* 5983 (XVI); *Deduke* 344 (VII); *Dorval* 1214 (I); *Lendemer* 61697 (I); *Maloles* 366 (XV); *McMullin* 21108 (XII), 20248 (XIV); *Singh & Schultz* 2.7 (VII). S4S5.

***Peltigera membranacea* (Ach.) Nyl.** – On a log, among bryophytes on *Thuja occidentalis*, and on soil. *Dorval* 1317 (III); *McCune* 38497 (VIII); *McMullin* 20298 (I). S5.

***Peltigera neckeri* Hepp ex Müll. Arg.** – Among bryophytes on rock and on soil. *Brodo* 13757 (XII); *Hollinger* 23484 (I); *McCune* 38537 (XIII); *McMullin* 20062 (I); *Wegenschimmel* 30 (I). S5.

***Peltigera neopolydactyla* (Gyeln.) Gyeln.** – On soil. *McMullin* 21439 (XXV). S5.

***Peltigera polydactylon* (Neck.) Hoffm.** – On wood, among bryophytes on rock and *Thuja occidentalis*, and on soil. *Dorval* 1229 (XVII); *Hjartarson* 32 (XXX); *McCune* 38496, 38498 (VIII); *McMullin* 20444 (XVII); *Schaefer* 1373 (III), 1367 (VIII); *Singh & Schultz* 2.6 (VII), 3.3 (XXX). S5.

***Peltigera praetextata* (Flörke ex Sommerf.) Zopf** – Among bryophytes and on soil. *Brodo* 5948 (XVI); *Dorval* 1187 (XXVII); *McMullin* 20044 (I), 21537 (XXVII); *Schaefer* 1345 (II). S5.

***Peltigera rufescens* (Weiss) Humb.** – On rock and soil. *Deduke* 350 (VII); *Dorval* 1166 (XXVII); *Hjartarson* 23, 24 (XVII); *Lendemer* 61490 (XXIV), 61974 (XXXI); *McMullin* 20315, 20359 (XXVII); *Rutherford* 124 (XXXI); *Schaefer* 1337 (XIII). S5.

***Peltigera venosa* (L.) Hoffm.** – On soil. *Brinker* 8051 (XXI); *Dorval* 1538 (X); *McMullin* 20043, 20329 (I). S3.

***Peltula bolanderi* (Tuck.) Wetmore** – Among bryophytes. *Scott* 7035 (XV). S1S2.

***Pertusaria consocians* Dibben** – On *Abies balsamea*, *Alnus incana* subsp. *rugosa*, , *Picea* sp., *Populus tremuloides*, *Thuja occidentalis*, and non-calcareous rock. *Brinker* 7910 (III), 8194 (XIX), 8087 (XXIX); *Brodo* 13780, 13793A (VI); *Dorval* 1407 (VII), 1300 (XIX); *Hollinger* 23494 (I); *Lendemer* 61848, 61931 (II); *Maloles* 375 (II); *McMullin* 20090, 21514 (II), 21359 (XXIII); *Waters* 4244 (I), 4299 (III), 4281 (XXX). S4?

*****Pertusaria plittiana* Erichsen** – On rock. *Brodo* 13754 (XII); *McCune* 38478A (I). SNR. (Fig. 20A).

***Pertusaria subobducens* Nyl.** – On rock. *Brinker* 8071^{TLC} (stet R.T. McMullin) (I). TLC: 2,7-dichlorolichenexanthone, stictic acid and unknowns. S5.

†*Phaeocalicium compressulum* (Nyl. ex Vain.) A.F.W. Schmidt – On *Alnus alnobetula* subsp. *crispa*. *Maloles* 382 (XVII); *McMullin* 20394 (I); *Paquette* 1050 (I); *Rinas s.n.* (XIII); *Selva* 11722 (XII), 11703A, 11703B (XXX). S5.

***†*Phaeocalicium flabelliforme* Tibell** – On and *Sorbus* sp. *Maloles* 379 (XII); *Selva* 11679 (XXXVI). SNR. (Figs. 9E, 20B).

†***Phaeocalicium polyporaeum* (Nyl.) Tibell** – On *Trichaptum bifforme* on *Betula cordifolia* and *B. papyrifera*. Deduke 369 (I); McMullin 21415 (XXIV); Rutherford 98 (XXXI); Selva 11709 (III), 11698A, 11698B (XXX). S4S5.

†***Phaeocalicium populneum* (Brond. ex Duby) A.F.W. Schmidt** – On *Trichaptum bifforme* on dead *Populus* sp. and *Populus balsamifera*. Brinker 8062 (XXI); Dorval 1259 (XIX); McMullin 20376 (I), 20403 (XIX); Selva 11713 (XII), 11704, 11705 (XXX); Wegenschimmel 41 (XXX). S4S5.

***Phaeophyscia adiastrata* (Essl.) Essl.** – Among bryophytes on rock and on rock. Dorval 1227 (I); McCune 38539 (det. T. Esslinger) (I); McMullin 20054, 20306, 20351 (I); Schaefer 1342 (XIII); Singh & Schultz 4.2 (XXXI). S4.

***Phaeophyscia ciliata* (Hoffm.) Moberg** – On *Populus* sp. Hjartarson 35 (III). S4.

***Phaeophyscia decolor* (Kashiw.) Essl.** – On calcareous rock. Schaefer 1378 (VIII). SU.

***Phaeophyscia hirtella* Essl.** – On *Populus* sp. McMullin 21518 (I). S4.

***Phaeophyscia hispidula* (Ach.) Essl.** – Among bryophytes on rock and on calcareous rock. Brinker 8068 (I); Brodo 28622 (I), 5425 (XXXIII); Rutherford 113 (XXXI). S3.

***Phaeophyscia kairamoi* (Vain.) Moberg** – On *Populus balsamifera*, among bryophytes on rock, and on rock. Brinker 8220 (XXI); Lendemer 61985 (XXXI); McCune 38534 (XIII). S3?

***Phaeophyscia pusilloides* (Zahlbr.) Essl.** – On *Populus* sp. and on rock. McCune 38502 (det. T. Esslinger) (VIII); McMullin 20308 (II), 20053 (XXVIII); Schaefer 1332 (VIII). S5.

***Phaeophyscia rubropulchra* (Degel.) Essl.** – On *Thuja occidentalis*, among bryophytes on rock, and on rock. Brinker 8040 (XXII); Hjartarson 18 (VII); Lendemer 61672 (I). S5.

***Phaeophyscia sciastra* (Ach.) Moberg** – On diabase. Lendemer 61749, 61758 (XV), 61969 (XXXI); McCune 37468 (XV); McMullin 19965 (XV); Scott 7014 (XV). S4S5.

*#***Phaeospora parasitica* (Lönnr.) Arnold** – On *Rimularia gibbosa*. Scott 7050E, 7051 (both det. J. Hollinger) (XXV). SNR. (Fig. 18E).

***Phlyctis argena* (Ach.) Flotow** – On *Populus* sp., *Thuja occidentalis*, and non-calcareous rock. Hollinger 23514 (I); Lendemer 61675 (I), 61875, 61901 (II), 61500 (XXIV); McMullin 20089, 20276 (II), 20309 (VIII), 20265 (XXVII), 21346, 21367 (XXX), 19944^{TLC}, 19985 (XXXII); Schaefer 1392 (I); Waters 4307 (VII). TLC: norstictic acid. S4S5.

***Phlyctis speirea* G. Merr.** – On *Acer spicatum* and *Populus* sp. Lendemer 61653 (I), 61844 (II). SU.

***Phylliscum demangeonii* (Moug. & Mont.) Nyl.** – On diabase. Hollinger 23581 (XV). S2S3.

***Physcia adscendens* (Fr.) H. Olivier** – On *Abies balsamea*, *Acer spicatum*, *Picea mariana*, and *Populus* sp. Brodo 5981 (XVI); Lendemer 61459 (XXIV); McMullin 21551 (XVII); Meyer s.n. (I), s.n. (VII); Rinas s.n. (XVII). S5.

***Physcia aipolia* (Ehrh. ex Humb.) Fűrnr.** – On *Populus* sp. Brodo 13749 (XII); McMullin 19967^{TLC}, 20086^{TLC} (II); Rinas s.n. (XVII). TLC: atranorin, zeorin, and unknown fatty acids running below norstictic acid. S5.

***Physcia caesia* (Hoffm.) Hampe ex Fűrnr.** – On *Thuja occidentalis* and calcareous rock. Brodo 13763 (XII); Dorval 1180 (VIII); Lendemer 61956 (XXXI); McMullin 20050 (I), 21086 (VIII); Meyer s.n. (XII), s.n. (XXVI); Rutherford 134 (XXXI). S4S5.

***Physcia dubia* (Hoffm.) Lettau** – On rock. Lendemer 61723 (XV). S5.

***Physcia millegrana* Degel.** – On *Abies balsamea* and *Acer spicatum*. Dorval 1267 (XVII); Lendemer 61464 (XXIV); McMullin 20289 (XVII). S5.

***Physcia phaea* (Tuck.) J.W. Thomson** – On igneous rock. Rutherford 127 (XXXI). S4.

***Physcia subalbinea* Nyl.** – On rock. Lendemer 61750, 61771 (XV); Scott 7037 (XV). SNR.

***Physcia tenella* (Scop.) DC.** – On *Picea* sp. and *Thuja occidentalis*. Hjartarson 15 (VII); McMullin 21510 (XVII); Meyer s.n. (XXX); Schaefer 1338 (VIII). SU.

***Physcia thomsoniana* Essl.** – On diabase. Brinker 8127 (XXXIV); Dorval 1432 (VII); Hjartarson 16 (VII); McMullin 21552 (XV); Singh & Schultz 2.5 (stet T. Esslinger) (VII). S4S5.

***Physconia detersa* (Nyl.) Poelt** – On *Populus tremuloides*, *Thuja occidentalis*, among bryophytes on rock, on diabase, and on igneous rock. *Dorval* 1176 (I), 1191, 1265 (VIII), 1424 (X), 1228 (XVII); *Hollinger* 23492 (I), 23584 (XV); *Lendemer* 61673 (I), 61506 (XXIV); *McCune* 38491 (VIII); *Paquette* 1063 (XXX); *Rutherford* 104 (XV); *Scott* 6950, 6959 (I). S5.

***Physconia enteroxantha* (Nyl.) Poelt** – On *Thuja occidentalis* and rock. *Dorval* 1534 (XL); *Schaefer* 1340 (VIII). S4.

***Physconia grumosa* Kashiw. & Poelt** – On *Populus* sp., *Thuja occidentalis*, among bryophytes on rock, on diabase, and on soil. *Brinker* 5175 (XXXVIII), 8149 (det. R.T. McMullin) (XXXV); *Deduke* 311 (I), 383 (XIII); *Dorval* 1280 (V), 1290 (XIV); *Hjartarson* 31 (XXX); *Lendemer* 61919 (II); *McMullin* 19968^{TLC} (II), 20052, 20056 (both *stet* T. Esslinger) (XXIV), 20065 (XXVIII); *Meyer s.n.* (XXX), *s.n.* (XXXI); *Paquette* 1067 (XXX); *Rinas s.n.* (XVI); *Singh & Schultz* 2.4 (*stet* T. Esslinger) (VII), 3.8 (det. R.T. McMullin) (XXX); *Stanton s.n.* (I). TLC: atranorin. S4.

***Physconia muscigena* (Ach.) Poelt** – Among bryophytes on rock and on soil. *Brinker* 8211 (XXXVII); *Lendemer* 61954 (XXXI); *McCune* 38490 (VIII); *Rutherford* 100 (XXXI). S4S5.

***Physconia perisidiosa* (Erich.) Moberg** – On *Populus* sp. *Schaefer* 1374 (VIII). S4.

***Placopyrenium fuscillum* (Turn.) Gueidan & Cl. Roux** – On rock. *Brinker* 8233 (XXXIX). S5?

***Placynthiella icmalea* (Ach.) Coppins & P. James** – On *Thuja occidentalis* and soil. *Brinker* 7913 (XXX), 8159 (XXXV); *Lendemer* 61644 (I), 61915 (II), 61792 (XV); *Waters* 4248 (I), 4298 (III). S4.

***Placynthiella oligotropha* (J.R. Laundon) Coppins & P. James** – On soil. *McCune* 38504 (XVII). S4?

***Placynthiella uliginosa* (Schrad.) Coppins & P. James** – On soil. *McCune* 38503 (XVII). S4?

***Placynthium asperellum* (Ach.) Trev.** – On rock. *Brinker* 8158 (XXXV). S4?

***Placynthium nigrum* (Huds.) Gray** – On calcareous rock. *Brinker* 6898 (VIII); *McMullin* 21093 (I); *Sharnoff* 1142.01 (I). S5.

Placynthium stenophyllum* (Tuck.) Fink var. *stenophyllum – On rock. *McCune* 38485B (VIII). S3.

***Platismatia tuckermanii* (Oakes) W.L. Culb. & C.F. Culb.** – On *Abies balsamea*, *Pinus banksiana*, *P. resinosa*, *Thuja occidentalis*, and rock. *Brodo* 13785 (VI), 5964 (XVI); *Dorval* 1258 (IV), 1543 (XIV), 1307 (XLVI); *Glauser s.n.* (XXX); *Hollinger* 23530 (II); *Lendemer* 61632 (I), 61897 (II); *McCune* 37482 (I); *McMullin* 20283, 21112 (II), 20244 (V), 21413 (XXIV); *Meyer s.n.* (XXVI); *Rutherford* 136 (XXXI). S5.

#*Plectocarpon lichenum* (Sommerf.) D. Hawksw. – On *Lobaria pulmonaria*. *Brinker* 8190 (XIX), 5424 (XXXIII). S2S3.

***Polycauliona polycarpa* (Hoffm.) Frödén, Arup & Søchting** – On *Abies balsamea*, *Acer spicatum*, *Picea glauca*, *P. mariana*, *Populus* sp., and *Sorbus* sp. *Brodo* 5970 (XVI), 13747 (XII); *Hjartarson* 37 (III); *Lendemer* 61808, 61814 (XV), 61454, 61465 (XXIV), 61941 (XXXI); *McMullin* 20304, 21508 (XVII). S5.

***Polycauliona stellata* (Wetmore & Kärnefelt) Arup, Frödén & Søchting** – On rock. *Brinker* 8104 (XXXIV). S1S2.

***#*Polycoccum clauzadei* Nav.-Ros. & Cl. Roux** – On *Rusavskia elegans*. *Scott* 7036A (XV). SNR. (Fig 9F, 20C).

***Porina scabrida* R.C. Harris** – On *Thuja occidentalis*. *Brinker* 7868 (XXIX); *Dorval* 1370 (XXVIII), 1520 (XLI); *Garton* 10801 (XII); *Lendemer* 61900 (II), 61501 (XXIV); *McMullin* 20447 (VIII), 20037 (XXIX), 20028 (XXX). S3? (Figs. 10A, 20D).

***Porpidia crustulata* (Ach.) Hertel & Knoph** – On non-calcareous rock. *Brinker* 7912 (XXX); *Hollinger* 23559 (XV); *Schaefer* 1363, 1379 (VIII); *McMullin* 21540 (VIII), 20258^{TLC} (XVII), 21531, 21532^{TLC}, (XXVII); *Waters* 4275 (VIII). TLC: stictic acid. S5.

***Porpidia macrocarpa* (DC.) Hertel & A.J. Schwab** – On non-calcareous rock. *Brodo* 13781B (VI); *Rinas s.n.* (XV); *Waters* 4229 (I). S4S5.

***Porpidia speirea* (Ach.) Kremp.** – On rock. *Scott* 7041 (det. J. Hollinger) (XV). S4?

***Porpidia tuberculosa* (Sm.) Hertel & Knoph** – On diabase. *Brinker* 4106 (XXXIII); *Dorval* 1540 (VII); *Hollinger* 23609 (XXV); *Scott* 7072 (det. J. Hollinger) (XXXIII). S4.

***Protoplastenia incrustans* (DC.) J. Stein.** – On rock. *Dorval* 1212 (VIII). S4.

***Protoplastenia rupestris* (Scop.) J. Stein.** – On rock. *Dorval* 1175, 1196, 1301 (det. R.T. McMullin) (XL); *Stanton s.n.* (XXXI). S5.

***Protopannaria pezizoides* (Weber) P.M. Jørg. & S. Ekman** – On *Thuja occidentalis*, among bryophytes on rock, on rock, and on soil. *Brinker* 4658 (XXIV), 7916, 8150 (XXXV); *Dorval* 1271, 1343 (I), 1409 (X), 1528 (XLI); *Lendemer* 61913 (II); *McMullin* 19988, 20374 (I), 21375 (XIII), 21351 (XXIX); *Paquette* 1058 (I); *Rutherford* 131 (I) (det. R.T. McMullin), 95 (II) (det. R.T. McMullin). S4.

***Protoparmelia hypotremella* Herk, Spier & V. Wirth** – On *Thuja occidentalis*. *Brinker* 8175 (XXXIX); *Lendemer* 61873 (II); *McMullin* 20382 (I). S4S5.

***Protoparmeliopsis muralis* (Schreb.) M. Choisy** – On rock. *Hollinger* 23556 (XV); *Lendemer* 61738, 61744 (XV), 61551, 61555 (XXIV); *McMullin* 20325 (XXVII); *Meyer s.n.* (VII). S5.

***Protothelenella corrosa* (Körb.) H. Mayrhofer & Poelt** – On rock. *Brinker* 8151 (XXXV); *Lendemer* 61704 (I), 61481 (XXIV). S4.

***Pseudevernia consocians* (Vain.) Hale & W.L. Culb.** – On *Abies balsamea*, *Alnus* sp., *Picea mariana*, *Pinus banksiana*, and *Thuja occidentalis*. *Deduke* 343 (VII); *Dorval* 1261 (I), 1338 (VII), 1328 (VIII), 1529 (X), 1548 (XLI); *Glauser s.n.* (VII), *s.n.* (XXX); *Hjartarson* 5 (I); *Lendemer* 61621 (I), 61888 (II), 61795 (XV), 61458 (XXIV), 61944 (XXXI); *McCune* 37481 (I), 37464 (VII); *McMullin* 20287, 21529 (I), 20377 (VIII), 21110 (XII), 20064 (XXV); *Paquette* 1062 (XXX); *Rinas s.n.* (XIII); *Robillard* TK19-09 (VII); *Rutherford* 91 (II); *Schaefer* 1357 (II), 1360 (XIII); *Singh & Schultz* 2.21 (VII). S4.

***Pseudocyphellaria holarctica* McCune, Lücking & Moncada** – Among bryophytes on rock. *Brinker* 5147 (XXXIII), 7919 (XXXV). S1?

***Psilolechia lucida* (Ach.) M. Choisy** – On rock. *Brinker* 4103 (XXV); *Deduke* 359 (VII); *Dorval* 1310B (I); *Hollinger* 23641 (XXXIII); *Lendemer* 61585 (XXIV); *McMullin* 20264 (XVII); *Meyer s.n.* (VII); *Stanton s.n.* (VII). S4.

***Psora globifera* (Ach.) A. Massal.** – On calcareous rock and soil. *Dorval* 1414 (XIV), 1417 (XXXVII); *Glauser s.n.* (XXXI); *Rutherford* 117 (XXXI) (det. R.T. McMullin); *Singh & Schultz* 4.1 (det. R.T. McMullin) (XXXI); *Stanton s.n.* (XXXI); *Wegenschimmel* 7, 36 (XXXI). S2?

***Psora pseudorussellii* Timdal** – On calcareous rock and soil. *Dorval* 1544 (XXXVII); *Hjartarson* 39 (XXXI). S3.

****Psora rubiformis* (Ach.) Hook.** – On rock. *Brinker* 8113, 8126 (XXXIV). S1?

***Psorula rufonigra* (Tuck.) Gotth. Schneid.** – On *Spilonema revertens*. *Brinker* 8129 (XXXIV); *Dorval* 1335A (VII), 1154 (XL); *Hollinger* 23554, 23589 (XV); *McMullin* 20003 (VII); *Rutherford* 106 (XXV); *Schaefer* 1370 (VIII); *Scott* 7010 (XV); *Stanton s.n.* (VII). S3.

*****Pterygiopsis atra* Vain.** – On diabase. *Hollinger* 23576 (XV). SNR. (Figs. 10B, 20E).

***Punctelia bolliana* (Müll. Arg.) Krog** – On *Thuja occidentalis*. *Meyer s.n.* (XXX). S4.

***Punctelia caseana* Lendemer & Hodgkinson** – On *Abies balsamea*, *Picea mariana*, *Pinus banksiana*, *Thuja occidentalis*, and rock. *Brinker* 8177 (XXXIX); *Deduke* 355 (VII); *Dorval* 1517, 1549 (XLI), 1332 (XLIV); *Lendemer* 61622 (I), 61893 (II), 61462, 61507 (XXIV); *McMullin* 20261, 20321 (XVII). S4?

***Punctelia rudecta* (Ach.) Krog** – On *Thuja occidentalis*, among bryophytes, and on diabase. *Dorval* 1460 (X); *Hjartarson* 28 (XXX); *Lendemer* 61674 (I), 61922 (II), 61783 (XV); *McMullin* 21522 (I), 21111 (II), 20323 (VIII), 20285 (XIX); *Meyer s.n.* (XXX); *Paquette* 1070 (VII); *Schaefer* 1362 (XIII); *Singh & Schultz* 2.3 (VII). S5.

***Punctelia stictica* (Duby) Krog** – On rock. *Brinker* 7869 (VIII); *Brodo* 5995 (XVI); *McMullin* 20081 (I). S3.

***Pycnora praestabilis* (Nyl.) Hafellner** – On *Thuja occidentalis*. *Brinker* 8125 (XXXIV); *McCune* 38520 (XXV). S4.

***Pycnora sorophora* (Vain.) Hafellner** – On wood. *Lendemer* 61661 (I). S4?

****#Pyrenidium aggregatum K. Knudsen & Kocourk.** – On *Physcia subalbinea*. Scott 7037 (XV). SNR. (Figs. 10C, 20F).

Pyrenopsis polycocca (Nyl.) Tuck. – On non-calcareous rock. Brinker 8221 (XV); Hollinger 23560 (XV); Scott 7023 (XV); Wegenschimmel 48 (XV). SU.

Pyxine sorediata (Ach.) Mont. – On *Thuja occidentalis*. Lendemer 61923 (II). S5.

Ramalina americana Hale – On *Populus* sp. Rinas s.n. (XIII); Schaefer 1351 (II). S5.

Ramalina dilacerata (Hoffm.) Hoffm. – On *Abies balsamea*, *Acer spicatum*, and *Alnus* sp. Brinker 8170A (XXXV); Deduke 362 (VII); Dorval 1418 (X), 1140 (XVII), 1402 (XL); Lendemer 61620 (I), 61816 (XV); McMullin 20312 (XVII); Rinas s.n. (XIII). S4.

Ramalina farinacea (L.) Ach. – On rock. Glauser s.n. (VII). S4.

Ramalina intermedia (Delise ex Nyl.) Nyl. – On *Thuja occidentalis* and rock. Brinker 8070 (I), 8197 (XIX); Glauser s.n. (VII); Lendemer 61572 (XXIV); McMullin 21424 (I), 20249 (XVII), 20319 (XIX); Rinas s.n. (XXVI); Singh & Schultz 2.9 (VII). S5.

Ramalina labiosorediata Gasparyan, Sipman & Lücking – On bark and rock. Brodo 5963 (XVI); McMullin 21365 (I); Rutherford 132 (I). S3?

Ramalina obtusata (Arnold) Bitter – On igneous and non-calcareous rock. Brinker 8056 (XXI); Glauser s.n. (VII); Knight 23 (XV); Rutherford 96 (XV). S4?

Ramalina roesleri (Hochst. ex Schaer.) Hue – On *Abies balsamea* and *Picea* sp. Deduke 310B (I); Lendemer 61610 (I), 61942 (XXXI); McMullin 20273 (XV); Rinas s.n. (XIII). S4.

Ramalina sinensis Jatta – On *Picea glauca* and *Populus tremuloides*. Dorval 1219 (XXVII); Glauser s.n. (VII); Hollinger 23483 (I); McMullin 21372 (XII). S3.

Ramalina thrausta (Ach.) Nyl. – On *Thuja occidentalis*. Brinker 8186 (XIX). S3.

Ramboldia elabens (Fr.) Kantvilas & Elix – On *Thuja occidentalis*. Waters 4211 (I). S4?

Rhizocarpon badioatrum (Flörke ex Spreng.) Th. Fr. – On diabase, non-calcareous rock, and sandstone. Dorval 1404 (XLII); Hollinger 23548 (XV); Knight 2 (I); Scott 6968 (I), 7018D, 7025 (XV); Wegenschimmel 23 (XV). S4?

Rhizocarpon cinereovirens (Müll. Arg.) Vain. – On rock. Lendemer 61691 (I). S4?

Rhizocarpon disporum (Nägeli ex Hepp) Müll. Arg. – On diabase and non-calcareous rock. Brinker 8226 (XV); Dorval s.n. (XV); Lendemer 61735 (XV), 61553 (XXIV), 61959 (XXXI); McCune 38514 (XXV); McMullin 21433 (XXV); Rinas s.n. (XV); Scott 7024, 7031A (XV); Waters 4308 (VII); Wegenschimmel 10 (XXXIII). S4S5.

Rhizocarpon eupetraeum (Nyl.) Arnold – On rock. Brinker 8157 (XXXV); Dorval 1507, 1509 (XLII); Lendemer 61993 (XXXI). S4?

Rhizocarpon geminatum Körb. – On non-calcareous rock. Brinker 8118 (XXXIV); Stanton s.n. (XXV); Waters 4306 (VII). S4S5.

Rhizocarpon geographicum (L.) DC. – On diabase. Dorval 1487 (XV), 1299, 1454 (XLII); Hollinger 23645 (XXXIII); McMullin 21525 (I); Rinas s.n. (I), s.n. (XV); Schaefer 1386 (I); Scott 7018C (XV). S5.

Rhizocarpon grande (Flörke ex Flot.) Arnold – On diabase. Brinker 8219 (XXXVII); Dorval 1285 (XV); Hollinger 23564 (XV); Lendemer 61709 (I), 61766 (XV), 61556 (XXIV); McMullin 21519 (I), 19970 (XV); Scott 7020 (XV). S5.

Rhizocarpon hochstetteri (Körb.) Vain. – On non-calcareous rock. Waters 4233 (I). S4.

Rhizocarpon infernulum (Nyl.) Lyngé – On rock. Brodo 13768A (XII); Schaefer 1377 (VIII). SU.

Rhizocarpon lecanorinum Anders – On sandstone. Dorval 1157 (I), 1278, 1403, 1552 (XLII); Hollinger 23488 (I); McCune 38480 (I); Scott 6967 (I). S4.

Rhizocarpon macrosporum Räsänen – On quartz, non-calcareous rock, and sandstone. Brinker 8224 (XV); Dorval 1203 (V); Hollinger 23487 (I); Knight 40 (I); Thorn 81.255 (XV). S3.

Rhizocarpon polycarpum (Hepp.) Th. Fr. – On rock. Scott 7022 (det. J. Hollinger) (XV). S152.

Rhizocarpon reductum Th. Fr. – On non-calcareous rock. Knight 17 (XV); Lendemer 61701, 61711 (I); McMullin 21580 (VII); Schaefer 1384 (VIII); Waters 4231, 4236 (I). SU.

***Rhizocarpon rubescens* Th. Fr.** – On non-calcareous rock. *Brodo* 5933 (XVI); *Knight* 16 (XV); *Lendemer* 61548 (XXIV); *Scott* 7071 (det. J. Hollinger) (XXXIII). S4.

***Rhizocarpon timdalii* Ihlen & Fryday** – On non-calcareous rock. *Waters* 4230 (I). SU.

****Rhizocarpon viridiatrum* (Wulfen) Körb.** – On diabase. *Hollinger* 23622 (XXV). SNR. (Figs. 10D, 21A).

***Rhizoplaca chrysoleuca* (Sm.) Zopf** – On rock. *Brinker* 8123 (XXXIV); *Lendemer* 61756 (XV); *Maloles* 367 (XV); *Rinas s.n.* (XV); *Scott* 7018B (XV). S4.

***Rhizoplaca melanophthalma* (DC.) Leuckert & Poelt** – On non-calcareous rock. *Brinker* 8207 (XXXVII); *Knight* 14 (XV); *McMullin* 21033 (XV); *Rinas s.n.* (XV). S2S3.

***Rhizoplaca opiniconensis* (Brodo) Leavitt, Zhao Xin & Lumbsch** – On diabase. *Hollinger* 23568, 23591 (XV), 23610^{TLC} (XXV); *McCune* 38517, 38526 (XXV). TLC: placodiolic and usnic acids, and an unknown terpenoid. S4.

***Rhizoplaca subdiscrepans* (Nyl.) R. Sant.** – On diabase and shale. *Brodo* 5936 (XVI); *Dorval* 1318, 1481, 1498 (XV); *Hollinger* 23594 (XV), 23618 (XXV); *Lendemer* 61552 (XXIV); *McCune* 38509 (XXV); *McMullin* 19939 (XIV); *Singh & Schultz* 2.15 (VII); *Stanton s.n.* (VII). S4S5.

***Ricasolia quercizans* (Michaux) Stitzenb.** – On *Thuja occidentalis*. *Brodo* 13788 (VI); *Dorval* 1364 (XXVIII); *Maloles* 394 (III). S4.

****Rimularia gibbosa* (Ach.) Coppins, Hertel & Rambold** – On rock. *Scott* 7050E, 7051 (XXV). SNR. (Fig. 21B).

***Rinodina archaea* (Ach.) Arnold** – On bark. *Brodo* 13797 (VI). SU.

***Rinodina austroborealis* Sheard** – On bark. *Brodo* 28621 (det. J. Sheard) (VI). SU.

***Rinodina colobina* (Ach.) Th. Fr.** – On a snag. *Waters* 4272 (VIII). S4.

***Rinodina efflorescens* Malme** – On *Abies balsamea*, *Picea* sp., and *Thuja occidentalis*. *Lendemer* 61666 (I), 61828, 61885 (II), 61516 (XXIV). SU.

***Rinodina freyi* H. Magn.** – On *Populus balsamifera* and *Sorbus* sp. *Brinker* 8148 (XXI); *Brodo* 13748 (XII). S4S5.

***Rinodina metaboliza* Vain.** – On *Alnus* sp. *McMullin* 21505 (I). SU.

***Rinodina populicola* H. Magn.** – On *Populus tremuloides*. *Dorval* 1357 (XXVIII). S4?

***Rinodina subpariata* (Nyl.) Zahlbr.** – On *Thuja occidentalis*. *Lendemer* 61884 (II). S4.

***Rinodina tenuis* Müll. Arg.** – On wood. *Dorval* 1416 (X). SU.

***Rinodina tephraspis* (Tuck.) Herre** – On sandstone. *Hollinger* 23497 (I). S4.

***Ropalospora viridis* (Tønsberg) Tønsberg** – On *Abies balsamea*, *Alnus incana* subsp. *rugosa*, *Thuja occidentalis*, and *Tsuga canadensis*. *Dorval* 1456 (X); *Lendemer* 61862, 61881 (II); *McMullin* 20341^{TLC} (II); *Scott* 6972 (det. J.C. Lendemer) (II); *Waters* 4223 (I). TLC: perlatolic acid. S4S5.

***Rusavskia elegans* (Link) S.Y. Kondr. & Kärnefelt** – On calcareous rock. *Brodo* 13769 (XII); *Dorval* 1458 (XXXI), 1453 (XL); *Lendemer* 61729 (XV), 61977 (XXXI); *McMullin* 20346 (I); *Rinas s.n.* (XV); *Schaefer* 1366 (VIII); *Singh & Schultz* 2.2 (VII). S5.

***Rusavskia sorediata* (Vain.) S.Y. Kondr. & Kärnefelt** – On rock. *Brinker* 8164 (XXXV); *Dorval* 1247 (VIII); *McMullin* 20334 (VIII); *Rinas s.n.* (XXXII). S4.

***Sarcogyne clavus* (DC.) Kremp.** – On calcareous rock. *Wegenschimmel* 25 (XXXI). S4.

***Sarcogyne hypophaea* (Nyl.) Arnold** – On non-calcareous rock. *Knight* 15 (I). SU.

***Sarcogyne regularis* Körb.** – On shale. *Dorval* 1331 (XL). S5.

***†*Sarea coeloplata* (Norman) J.K. Mitch., Garrido-Ben. & Quijada** – On resin of *Abies balsamea* and *Pinus strobus*. *McMullin* 20267, 21377 (XXVII). SNR. (Fig. 21C).

†*Sarea difformis* (Fr.) Fr. – On resin of *Picea glauca*. *Brinker* 6897B (stet R.T. McMullin) (VIII). S4?

***Schaereria fuscocinerea* (Nyl.) Clauzade & Cl. Roux** – On non-calcareous rock. *Waters* 4216 (I). SU.

****#*Sclerococcum amygdalariae* (Triebel) Ertz & Diederich** – On *Amygdalaria panaeola*. *McMullin* 21027 (XXIV); *Scott* 7090 (XXXIII). Notes: Reported for the first time in Canada, but a previous unpublished collection was made in Newfoundland (*Buck* 52340, NY). SNR. (Figs. 10E, 21D).

#*Sclerococcum athallinum* (Müll. Arg.) Ertz & Diederich – On *Baeomyces rufus*. Brinker 8065A (I).
 ***Sclerococcum attendendum* (Nyl.) Ertz & Diederich – On *Icmadophila ericetorum*. McMullin 21337 (II). SNR.
 ***Sclerococcum parasiticum* (Flörke ex Spreng.) Ertz & Diederich – On *Bilimbia sabuletorum*. Waters 4253 (VIII). SNR. (Fig. 21E).
 **Sclerophora amabilis* (Tibell) Tibell – On *Populus* sp. Maloles 362 (II); McMullin 21431 (XXX). SNR. (Fig. 21F).
Sclerophora farinacea (Chevall.) Chevall. – On *Populus* sp. McMullin 22426 (XXX). S152.
Sclerophora nivea (Hoffm.) Tibell – On *Populus balsamifera*. Brinker 8101 (XVIII); McMullin 19960, 21430 (XXX). S152.
Scoliciosporum chlorococcum (Stenh.) Vězda – On *Abies balsamea*, *Alnus* sp, *Sorbus* sp., and a cone of *Pinus banksiana*. Lendemer 61612, 61624 (I); McMullin 20405 (I), 21339 (XIII). S5.
 **Scoliciosporum intrusum* (Th. Fr.) Hafellner – On rock. Hollinger 23616, 23619 (XXV). SNR. (Figs. 10F, 22A).
Scoliciosporum umbrinum (Ach.) Arnold – On rock. Brinker 4105 (XXXIII); Brodo 5947 (XVI); Hollinger 23542 (XV); Lendemer 61742, 61773 (XV), 61567 (XXIV). S4.
Scytinium lichenoides (L.) Otálora, P.M. Jørg. & Wedin – Among bryophytes on rock and on rock. Lendemer 61962 (XXXI); McMullin 21011 (VIII); Paquette 2006 (XXIV).
 **Scytinium pulvinatum* (Hoffm.) Cromb. Among bryophytes on rock. S5. McCune 38535 (XIII); McCune 38489 (VIII). Notes: ITS sequences demonstrated an affinity to *Scytinium pulvinatum*, rather than *S. lichenoides* or *S. californicum*. Reported for the first time from Ontario, but one previous SNR.
Scytinium tenuissimum (Dicks.) Otálora, P.M. Jørg. & Wedin – Among bryophytes on a log. Brinker 8187 (XIX). S4?
Scytinium teretiusculum (Wallr.) Otálora, P.M. Jørg. & Wedin – On soil. Dorval 1311 (XXVII). S4?
Solorina saccata (L.) Ach. – Among bryophytes on rock and on soil. Brinker 8230 (XXXIX); Dorval 1245 (VIII); McMullin 20068 (I), 21545 (VIII); Rutherford 102 (XXXI); Stanton s.n. (XXXI). S5.
Solorina spongiosa (Ach.) Anzi – Among bryophytes on rock. Brinker 8232 (XXXIX). S4.
 #*Sphaerellothecium coniodes* (Nyl.) Cl. Roux & Diederich – On *Baeomyces rufus*. Brinker 8065B (I); Hollinger 23486, 23491 (I). SU.
 ***Sphaerellothecium reticulatum* (Zopf) Etayo – On *Parmelia saxatilis*. Hollinger 23544 (XV). SNR. (Fig. 21F).
 #*Sphinctrina anglica* Nyl. – On *Protoparmelia hypotremella* on *Thuja occidentalis*. Brinker 8176 (XXXIX); Dorval 1179, 1195 (XLIII), 1393 (XLIV); Lendemer 61864, 61886 (II), 61785 (XV); McMullin 20402 (I), 21404 (XXIX); Paquette 1056 (I). S4.
 #*Sphinctrina leucopoda* Nyl. – On *Pertusaria* sp. Glauser s.n. (XXX); Gockman 5865 (XXXIV); McMullin 21030 (XXX). S1?
 #*Sphinctrina turbinata* (Pers.: Fr.) De Not. – On *Pertusaria consocians* on *Thuja occidentalis*. Brinker 7909 (III); Maloles 399 (XVII); McCune 38478B (I); Schaefer 1329 (III); Selva 11694 (XVIII). S4.
Spilonema revertens Nyl. – On calcareous rock. Brinker 8145, 8146 (XXXIV); Dorval 1335B (VII); McMullin 20004 (VII); Scott 7010 (XV); Wegenschimmel 17 (XXXI). S4.
Spirographa fusisporella (Nyl.) Zahlbr. – On *Thuja occidentalis*. Lendemer 61679 (I). SNR.
 ***Sporodophoron americanum* (Lendemer, E. Tripp & R.C. Harris) Ertz & Frisch – On sandstone. Brinker 8046 (XXI); Gockman 5875 (XXXV); Hollinger 23589 (XV); McMullin 20039 (I). S1?
Staurothele areolata (Ach.) Lettau – On rock. Brodo 13736 (XII). SU.
Staurothele drummondii (Tuck.) Tuck. – On calcareous rock, diabase, and shale. Dorval 1306, 1536 (XL); Hollinger 23571, 23592 (XV); Wegenschimmel 35 (XXXI). S4.
Staurothele fissa (Taylor) Zwackh – On diabase. Hollinger 23578 (XV). S4?
 †*Stenocybe major* Nyl. ex Körb. – On *Abies balsamea*. Brinker 8088 (XXIX); Maloles 383 (I); McMullin 20381 (II), 20378 (VII), 21393 (XII); Selva 11678 (XVI). S4?

†*Stenocybe pullatula* (Ach.) Stein. – On *Alnus incana* subsp. *rugosa*. Brinker 6889 (XIII); McMullin 20384 (VIII); Selva 11715 (XII), 11666 (XVI). 5455.

Stereocaulon dactylophyllum Flörke – On rock, less often on thin soil over rock. McCune 38515, 38516 (XXV); McMullin 21398 (XXV); Scott 7076, 7079 (XXXIII). 54.

Stereocaulon glaucescens Tuck. – On diabase. Brinker 8122, 8141A (XXXIV); Dorval 1512 (XIV), 1436 (X), 1480 (XXXVII); Hollinger 23604 (XXV); McMullin 21048 (XV); Scott 7013 (XV), 7056 (XXV). 52?. McCune 38506, 38508 (XXV). Notes: These specimens include both the *S. depreatitii* and *S. glaucescens* morph of this species, shown to be conspecific by resampling and sequencing a range of morphologies near the two type localities (McCune, unpublished data). 5U.

Stereocaulon grande (H. Magn.) H. Magn. – On soil. Schaefer 1349 (I). 54.

Stereocaulon modestum McCune ined. – On rock. McCune 37475 (I). Notes: This overlooked species of the Great Lakes area forms small, compact cushions directly on rock, usually with abundant small apothecia bearing ascospores smaller than most *Stereocaulon* species; cephalodia with *Stigonema*; contains atranorin and lobaric acid.

Stereocaulon parasakii McCune ined. – On rock. McCune 37491 (I), 37471 (XV). Notes: Another overlooked species of the Great Lakes region, this one forms sprawling cushions directly on rock, mostly 1–2 cm tall but up to 10 cm in diameter, the stalks with very thin to no tomentum, usually bearing apothecia; cephalodia with *Stigonema*; contains atranorin and lobaric acid.

Stereocaulon paschale (L.) Hoffm. – On diabase and soil. Hjartarson 7 (I); Hollinger 23603 (XXV); Knight 37 (XXV); McCune 37480, 37484, 37487, 37490 (I), 38481, 38505, 38507, 38518 (XXV); Rutherford 116 (XV). 55.

Stereocaulon pileatum Ach. – On diabase. Dorval 1329 (XXV); Hollinger 23555 (XV), 23627 (XXXIII); Scott 7078 (XXXIII). 5152.

Stereocaulon saxatile H. Magn. – On diabase. Brinker 8141B (XXXIV); Brodo 5978 (XVI); Dorval 1394 (XLII); Hollinger 23566 (XV); McCune 37473, 38482, 38483 (I); McMullin 21568 (XV), 21395 (XXV); Singh & Schultz 2.12 (VII). 55.

Stereocaulon tomentosum Fr. – On soil. Brodo 5997 (XVI); Hjartarson 3 (I); Schaefer 1339 (XXX). Notes: Some or all of these collections may be the very similar *S. cyaneum* McCune (McCune et al. 2023). 5455.

Sticta canariensis (Bory) Bory ex Delise – On rock. Brodo 5961A (XVI). Notes: This specimen was collected in 1965 (Brodo 1994). It remains the only known record from North America. Targeted searches to refine this species were made during the Tuckerman Workshop, which were fueled by author IMB's generous offer of a prize, a donation to the American Bryological and Lichenological Society on behalf of the person that found it. Unfortunately, no one was successful. 5H.

Sticta fuliginosa (Hoffm.) Ach. – Among bryophytes on rock. Brinker 8063 (I), 7920 (XXXV). 51.

*#*Stigmidium squamariae* (B. de Lesd.) Cl. Roux & Triebel – On *Rhizoplaca opiniconensis*. Hollinger 23563, 23591 (XV). 5NR. (Fig.).

Strangospora pinicola (A. Massal.) Körb. – On a log. Waters 4300 (III). 5U.

Strigula stigmatella (Ach.) R.C. Harris – On *Thuja occidentalis*, among bryophytes on *T. occidentalis* and on a bryophyte. Brinker 8076 (XXX); Hollinger 23534 (II); Lendemer 61916, 61918 (II), 61504 (XXIV); McMullin 21544 (VIII), 19947, 21485 (XXVIII). 5455.

Thalloidima sedifolium (Scop.) Kistenich, Timdal, Bendiksby & S. Ekman – On calcareous rock. Dorval 1346 (XIV), 1377 (XXXI); Hjartarson 40 (XXXI); Lendemer 61960 (XXXI); Meyer s.n. (det. R.T. McMullin) (XXXI); Rutherford 118 (XXXI) (stet R.T. McMullin); Stanton s.n. (det. R.T. McMullin) (XXXI).

**Thelidium microsporum* Lynge – On non-calcareous rock. Waters 4291 (III). 5NR. (Fig.). *Thelidium minutulum* Körb. – On rock. Brinker 8152 (XXXV). 5U.

Toniniopsis aromatica (Sm.) Kistenich, Timdal, Bendiksby & S. Ekman – On rock. Brinker 8208 (XXXVII). 5152.

***Trapelia placodioides* Coppins & P. James** – On non-calcareous rock. *Lendemer* 61714 (I), 61482 (XXIV); *McMullin* 21049 (V); *Waters* 4303 (VII). S5.

***Trapeliopsis flexuosa* (Fr.) Coppins & P. James** – On an old fence and a log. *Dorval* 1295 (I); *McMullin* 21028 (I). S4S5.

***Trapeliopsis granulosa* (Hoffm.) Lumbsch** – On a log and soil. *Hollinger* 23501 (I); *Lendemer* 61639 (I), 61790 (XV), 61495 (XXIV). S5.

***Trapeliopsis viridescens* (Schr.) Coppins & P. James** – On *Thuja occidentalis* and rotting stump. *Brodo* 13774 (VI); *Hollinger* 23537 (II); *McMullin* 21418^{TLC} (XXIV). TLC: gyrophoric and lecanoric acids. SU.

#*Tremella candelariellae* Diederich & Etayo – On *Thuja occidentalis*. *Lendemer* 61776 (XV). SU.

#*Tremella cetrariicola* Diederich & Coppins – On *Tuckermannopsis* sp. *Brinker* 8090 (XXIX); *Gockman* 5867 (XXIX). SU.

#*Tremella everniae* Diederich – On *Evernia mesomorpha*. *Brinker* 8091 (XXIX); *Lendemer* 61634 (I), 61829 (II). S4S5.

***#*Tremella nephromatis* Diederich** – On *Nephroma parile*. *Gockman* 5869 (XXXIV). Notes: The only other known Canadian record is from British Columbia (*Goward & Knight* 91-1050, UBC). SNR. (Fig. 22F).

***Tremolecia atrata* (Ach.) Hertel** – On diabase. *Hollinger* 23617 (XXV). S1S2.

***Tuckermannopsis americana* (Spreng.) Hale** – On *Abies balsamea*, *Picea* sp., *Pinus banksiana*, and *Thuja occidentalis*. *Deduke* 408 (XIII); *Dorval* 1515 (I), 1514 (III), 1434 (VII), 1433 (X), 1531, 1532 (XIV), 1516 (XVII), 1435 (XL); *McMullin* 20085, 21526 (I), 20443, 21578 (VII), 20310 (XVII), 21414 (XXIV); *Rinas s.n.* (XIII); *Schaefer* 1334 (XXX). S5.

***Tuckermannopsis orbata* (Nyl.) M.J. Lai** – On *Picea* sp. and *Pinus banksiana*. *Glauser s.n.* (XXVI); *Hjartarson* 6 (I). S4?

***Umbilicaria americana* Poelt & T.H. Nash** – On diabase and soil. *Brinker* 8055 (XXI); *Brodo* 5949, 5985 (XVI); *Deduke* 351 (VII); *Dorval* 1131 (V), 1132 (XIV), 1541 (VII), 1542 (XXXVII); *Hollinger* 23580 (XV); *Lendemer* 61702 (I), 61536, 61554, 61569 (XXIV); *McCune* 37472 (VII), 37469 (XV), 38527 (XXV); *McMullin* 20440, 21041 (I), 19945, 20036, 21436 (VII), 19992 (XV), 20262 (XVII), 21438 (XXV); *Singh & Schultz* 2.14 (VII); *Stanton s.n.* (VII), *s.n.* (XXV). Notes: Our specimens agree with the description of *U. americana* well except for the lower cortex, which is hyaline rather than brown (Poelt and Nash 1993). S4S5.

***Umbilicaria arctica* (Ach.) Nyl.** – On rock. *Brinker* 8139 (det. R.T. McMullin) (XXXIV); *Dorval* 1286 (det. R.T. McMullin) (XV); *McMullin* 19963 (XV); *Rutherford* 115 (XXV); *Scott* 7009 (XV). S1S3.

***Umbilicaria deusta* (L.) Baumg.** – On diabase. *Brodo* 5926 (XVI); *Deduke* 318 (I); *Dorval* 1225 (XV); *Hollinger* 23564 (XV), 23629 (XXXIII); *Lendemer* 61684 (I), 61751 (XV); *McCune* 37476 (I), 37467 (XV), 38522 (XXV); *McMullin* 21559 (XV), 21380, 21397 (XXV). S5.

***Umbilicaria hyperborea* (Ach.) Hoffm.** – On igneous and non-calcareous rock. *Brodo* 5952 (XVI); *Dorval* 1162 (XIV), 1353 (XLII); *McCune* 37470 (XV), 38521 (XXV); *McMullin* 21562 (XV); *Rutherford* 103 (XV); *Scott* 7082 (det. J. Hollinger) (XXXIII); *Wegenschimmel* 8 (XXV). S3?

***Umbilicaria papulosa* (Ach.) Nyl.** – On non-calcareous rock and sandstone. *Hollinger* 23509 (I); *Knight* 32 (XXV); *Lendemer* 61533 (XXIV); *McCune* 38525 (XXV); *McMullin* 21379 (XXV); *Rutherford* 133 (XXV); *Stanton s.n.* (XXV). S5.

***Umbilicaria mammulata* (Ach.) Tuck.** – On rock. *Brinker* 8169 (XXXV); *Lendemer* 61716 (I), 61529 (XXIV); *McCune* 37486 (I), 38523 (XXV); *McMullin* 20051, 21396 (XXV); *Singh & Schultz* 1.8 (I); *Stanton s.n.* (XXV). S4S5.

***Umbilicaria muhlenbergii* (Ach.) Tuck.** – On igneous rock. *Brodo* 5934, 5953 (XVI); *Deduke* 327 (I), 348 (VII); *Dorval* 1220 (I), 1250 (V), 1316 (XIV); *Glauser s.n.* (VII); *Lendemer* 61688 (I), 61530 (XXIV), 61966 (XXXI); *McCune* 37479, 37488 (I), 37465 (VII), 38524 (XXV); *McMullin* 20296 (I), 21452 (XXV); *Rutherford* 119 (XV); *Schaefer* 1389 (I); *Stanton s.n.* (XXV). S5

***Umbilicaria torrefacta* (Lightf.) Schrad.** – On rock. *Dorval s.n.* (XV); *McMullin 19964* (XV); *Rinas n.s.* (XV); *Scott 7018* (XV). S2.

***Usnea cavernosa* Tuck.** – On *Abies balsamea*, *Picea glauca*, *P. mariana*, and *Thuja occidentalis*. *Brinker 4094* (XXX), *8210* (XXXVII); *Deduke 354* (VII), *407* (XIII); *Dorval 1152, 1177, 1339* (VII), *1224, 1276* (VIII), *1156, 1334, 1380* (X), *1235* (XVII), *1281, 1363, 1449, 1467* (XLIII), *1381* (XLIV), *1170* (XLV); *McMullin 20425* (VII), *20251* (XVII); *Rutherford 111* (XXXI); *Stanton s.n.* (VII). S4S5.

***Usnea dasopoga* (Ach.) Nyl.** – On *Abies balsamea*, , and *Picea mariana*. *Brinker 6894* (XIII), *5425A, 8191* (XIX); *Brodo 13766, 13767* (XII), *5989* (XVI); *Dorval 1147* (VII), *1135* (VIII), *1385* (det. R.T. McMullin) (X), *1439* (XLIII), *1171* (XLV); *McMullin 19971*^{TLC} (I), *20424* (III), *19957*^{TLC} (XII); *Robillard TK19-15* (VII); *Schaefer 1348* (XIII). TLC: usnic and salazinic acids. S5.

***Usnea hirta* (L.) Weber ex F.H. Wigg.** – On *Abies balsamea* and *Picea* sp. *Lendemer 61806* (XV), *61945* (XXXI); *Rinas s.n.* (XIII). S5.

***Usnea longissima* Ach.** – On *Abies balsamea*, *Picea glauca*, *Pinus resinosa*, and *Thuja occidentalis*. *Brinker 4656* (III), *5948* (VI), *4099* (XVIII), *4697, 5426* (XIX), *4097* (XXX), *5169* (XXXVIII); *Dorval 1130* (II), *1216* (III), *1163* (XIV), *1354* (XL); *McMullin 20406* (III); *Paquette 1094* (III); *Schaefer 1358* (II). S3.

***Usnea perplexans* Stirt.** – On *Abies balsamea*. *Brodo 5998A* (XVI); *Dorval 1411* (X), *1204* (XVII); *McMullin 19942*^{TLC} (XV); *Schaefer 1395* (XIII). TLC: usnic and salazinic acids. S4?

***Usnea subfloridana* Stirt.** – On *Abies balsamea*, *Picea mariana*, and *Thuja occidentalis*. *Brodo 5998B* (XVI); *Dorval 1189* (III), *1382, 1423* (X), *1139* (XVII), *1194* (XLIII), *1208* (XLIV), *Dorval 1491* (det. R.T. McMullin); *McMullin 19946* (XIII); *Rinas s.n.* (I), *s.n.* (XIII); *Robillard TK19-24* (XIII); *Schaefer 1371* (XIII); *Singh & Schultz 1.1* (I). S5.

***Usnocetraria oakesiana* (Tuck.) M.J. Lai & C.J. Wei** – On *Abies balsamea* and . *Barclay 3562* (I); *Dorval 1164* (XIV); *Lendemer 61834* (II), *61514* (XXIV); *McMullin 20069* (XXX). S4.

***Vahliella leucophaea* (Vahl) P.M. Jørg.** – On rock. *Brinker 8201* (XXXVII). S4.

***Varicellaria velata* (Turner) Schmitt & Lumbsch** – On sandstone. *Hollinger 23506* (I); *McMullin 20077* (I). S4.

***Verrucaria cf. aethiobola* Wahlenb.** – On diabase rock on a lakeshore. *Hollinger 23579* (XV). Notes: Thallus thin, rimose-areolate, pale brown; perithecia protruding from center of fertile areoles; involucrellum extending nearly to base, spreading near bottom, ca. 40–60 µm thick laterally; spores ca. 25 × 10 µm. We have seen a number of diverse specimens from freshwater habitats which share these characters. It is not clear which if any represent true *V. aethiobola*. SU

***Verrucaria calkinsiana* Servit** – On rock. *Brinker 8228* (XXXIX). S5.

*****Verrucaria cf. coerulea* DC.** – On diabase rock on a lakeshore. *Hollinger 23573* (XV). Notes: Thallus thin, rimose to chinky-areolate in the center, brown, ca. 125 µm thick, with a distinct epinecral layer and cortex; perithecia immersed in the center of areoles, ca. 250 µm wide; involucrellum reaching at least halfway to base or more; spores medium-sized, ellipsoid, 16–18 × 8–9 µm. Well-developed cortex and epinecral layers are unusual in *Verrucaria* s.l.. This specimen matches the description of *V. coerulea* in the British Flora well (Orange et al. 2009), however, the overall appearance is quite different.

****Verrucaria cf. hydrela* Ach.** – On shale in a creek. *Hollinger 23624* (XXIV). Notes: Thallus thin, gelatinous, with a thin black underlayer near the large, protruding perithecia; involucrellum well-developed and continuous with the black underlayer; ascospores quite large, 22–30 × 10–12 µm. The ascospores are unusually large for *V. hydrela*. Another similar species is *V. funckii* (Spreng.) Zahlbr., which also has a gelatinous thallus with black underlayer. However, its perithecia protrude less and are more or less completely covered with thalline material. This species is reported for the first time from Ontario, but a previous collection was made in the province (*Brodo 32767*, CANL).

***Verrucaria muralis* Ach.** – On rock. *Schaefer 1381* (III). S5.

***Verrucaria nigrescens* Pers.** – On calcareous rock. *Schaefer 1382* (VIII). S5.

***Vulpicida pinastri* (Scop.) J.-E. Mattsson & M.J. Lai** – On *Abies balsamea*, *Pinus* sp., and *Thuja occidentalis*. *Brodo 5958* (XVI); *Dorval 1421* (VII), *1257* (XIX); *Lendemer 61608* (I), *61800* (XV),

61468, 61471 (XXIV); McMullin 20338 (I), 20263 (XVII); Schaefer 1391 (I); Scott 7059 (XXV); Singh & Schultz 1.3 (I). S5.

***Xanthomendoza fallax* (Hepp ex Arnold) Søchting, Kärnefelt & S.Y. Kondr.** – On *Populus tremuloides*. Dorval 1545 (II); Schaefer 1369 (VIII). S5.

***Xanthomendoza fulva* (Hoffm.) Søchting, Kärnefelt & S.Y. Kondr.** – On *Populus* sp. Brinker 6890 (XIII); McMullin 20445 (I), 20277 (XXVII). S5.

***Xanthomendoza hasseana* (Räsänen) Søchting, Kärnefelt & S.Y. Kondr.** – On *Acer spicatum* and *Populus* sp. Lendemer 61813 (XV); McMullin 20295 (XVII); Meyer s.n. (det. R.T. McMullin) (XXVI); Paquette 1065 (XXX); Rinas s.n. (XXVI). S5.

***Xanthoparmelia conspersa* (Ehrh. ex Ach.) Hale** – On bark and rock. Deduke 345 (VII); Dorval 1270 (I); Lendemer 61694 (I), 61770 (XV); McMullin 21558 (XV), 21458 (XXV); Rinas s.n. (XXVI); Scott 7037A (XV). S4S5.

***Xanthoparmelia cumberlandia* (Gyeln.) Hale** – On diabase. Brodo 5979 (XVI); Deduke 334A (I); Dorval s.n. (VII); Hollinger 23590 (XV); Lendemer 61683 (I), 61488 (XXIV); McMullin 20335 (I), 21576 (VII), 21411 (XXIV); Rinas s.n. (VII); Singh & Schultz 1.7 (I); Stanton s.n. (VII). S5.

***Xanthoparmelia plittii* (Gyeln.) Hale** – On rock. McMullin 21581 (VII), 21381 (XV). S4S5.

***Xanthoparmelia viriduloumbrina* (Gyeln.) Lendemer** – On non-calcareous rock. Knight 31 (XXV); Lendemer 61685, 61693 (I), 61752 (XV), 61546 (XXIV), 61955 (XXXI); McMullin 21577 (VII); Rinas s.n. (I). S5.

*#***Xenonectriella* sp.** Weese – On *Heterodermia speciosa*. Brinker 8054 (det. J. Etayo) (XXI).

***Xylographa parallela* (Ach.) Fr.** – On *Thuja occidentalis*. McMullin 21088^{TLC} (VIII); Stanton s.n. (I); Wegenschimmel 39 (XVII). TLC: stictic acid. S4.

***Xylopsora friesii* (Ach.) Bendiksby & Timdal** – On *Pinus strobus*. McMullin 19955^{TLC} (XXIII). TLC: friesiiic acid. S4.

†***Zythia resinae* (Ehrenb.) P. Karsten** – On resin of *Abies balsamea* and *Picea glauca*. Brinker 6897A (VIII); Lendemer 61618 (I); McMullin 20266 (XXVII). S4S5.