

Preliminary checklist of the lichens of Kazakhstan

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VIKTORIA WAGNER & TOBY SPRIBILLE

Department of Vegetation Science and Phytodiversity, Albrecht von Haller Institute of Plant Sciences, University of Göttingen, Wilhelm-Weber-Str. 2, D-37073 Göttingen, Germany

Abstract. Wagner, V. & T. Spribille: *Preliminary checklist of the lichens of Kazakhstan*. Available online at <http://www.geobotanik.uni-goettingen.de/spribille/>. Based on a review of the literature, we provide a synonymized checklist of the lichens of Kazakhstan. A total of 555 species are listed as accepted. The list should be useful as a basis for future lichenological investigations and as a working list for an upcoming annotated checklist of the lichens of Kazakhstan (Wagner & Spribille, in prep.).

Please send any comments or additions to Toby Spribille (tspribi@gwdg.de).

A

- Acarospora badiofusca* (Nyl.) Th. Fr (2).
- Acarospora bohlinii* H. Magn. (2) Moberg, *Lich. Sel. Exs. Upsal.* No. 151.
- Acarospora bullata* Anzi (2)
- Acarospora cervina* Massal. (2)
- Acarospora cinereoalba* (Fink.) H. Magn. (2)
- Acarospora fuscata* (Röhl.) Arnold (2)
- Acarospora fuscohepatica* (Nyl.) Hue (2)
- Acarospora geophila* N. Magn. (2)
- Acarospora glaucocarpa* (Wahlenb.) Körber (2)
- Acarospora glypholecioides* H. Magn. (2)
- Acarospora gobiensis* H. Magn. (2)
- Acarospora invadens* H. Magn. (2)
- Acarospora macrocarpa* (Hepp) Bagl. (2)
- Acarospora pulvinata* H. Magn. (2).
- Acarospora reagens* A. Zahlbr. (2)
- Acarospora sarcogynoides* H. Magn. (2)
- Acarospora schleicheri* (Ach.) Massal. (2)
- Acarospora stapfiana* (Müll. Arg.) Hue Specimen at UPS.
- Acarospora strigata* (Nyl.) Jatta (2)
- Acarospora subfuscescens* (Nyl.) H. Magn. (2)
- Acarospora tominiana* H. Magn. (2)
- Acarospora umbrina* H. Magn. (2)
- Acarospora veronensis* Massal. (2)
- Acarospora verruculosa* H. Magn. (2)
- Alectoria ochroleuca* (Hoffm.) Massal. (3)
- Allocetraria madreporiformis* (Ach.) Kärnef. & Thell (3, as *Dactylina m.*)
- Amandinea punctata* (Hoffm.) Coppins & Scheid. (3, as *Buellia p.*)
- Anaptychia ciliaris* (L.) Körber (3)
- Anaptychia ulotrichoides* (Vain.) Vain. (4) Moberg, *Lich. Sel. Exs. Upsal.* No. 153.
- Arctoparmelia centrifuga* (L.) Hale (2, as *Parmelia c.*)
- Aspicilia asiatica* (H. Magn.) Oxner (3)
- Aspicilia aspera* (Mereschk.) Tomin (3)
- Aspicilia bohemica* Körber (3)

Aspicilia caesiocinerea (Nyl. in Malbr.) Arnold (3)
Aspicilia calcarea (L.) Mudd. (3)
Aspicilia cinerea (L.) Körber (3)
Aspicilia contorta (Hoffm.) Krempelh. (3)
Aspicilia cupreoatra (Nyl.) Arnold (3)
Aspicilia desertorum (Krempelh.) Mereschk. (3)
Aspicilia emiliae Tomin (3)
Aspicilia farinosa (Flörke) Arnold (3)
Aspicilia fruticulosa (Eversm.) Flagey (3)
Aspicilia hartliana (J. Steiner) Hue (3)
Aspicilia hedinii (H. Magn.) Oxner (3)
Aspicilia hispida Mereschk (3)
Aspicilia hoffmannii (Ach.) Flagey (3), (4)
Aspicilia lacteola Oxner (3)
Aspicilia lacunosa Mereschk. (3)
Aspicilia lazarenkoi Oxner (3)
Aspicilia maculata (H. Magn.) Oxner (3),(4)
Aspicilia mutabilis (Ach.) Körber (3).
Aspicilia ochraceoalba (H. Magn.) Golubk. (4)
Aspicilia oxneriana Blum (3)
Aspicilia polychromoides (Steiner) Hue (3)
Aspicilia reticulata Krempelh. (3)
Aspicilia schafeevii Tomin (3)
Aspicilia sphaerospora (Tomin) Oxner (3)
Aspicilia thjanschanica Oxner (3)
Aspicilia tominii Oxner (3)
Aspicilia transbaicalica Oxner (3)
Aspicilia vagans Oxner (3)
Aspicilia verrucosa (Ach.) Körber (3)

B

Baeomyces rufus (Huds.) Rebent. (1)
Bellemerea alpina (Sommerf.) Clauzade & Roux (3, as *Aspicilia a.*)
Biatora assercolorum (Ach.) Arnold (2) The current status of this and the following two names is not known.
Biatora leucophaea (Vahl) Flörke (2)
Biatora tenebricosa Norman (2)
Biatora vernalis (L.) Fr (2)
Brodoa intestiniformis (Vill.) Goward (2, as *Hypogymnia encausta* [Sm.] W. Wats.)
Bryoria furcellata (Fr.) Brodo & D. Hawksw. (3, as *Alectoria nidulifera* Norrl.)
Bryoria cf. fuscescens (Gyeln.) Brodo & D. Hawksw. Based on the report (3) of *Alectoria jubata* (L.) Ach., a previously broadly applied name; specimens need to be re-examined.
Bryoria subcana (Nyl. ex Stizenb.) Brodo & D. Hawksw. (3, as *Alectoria s.*)
Buellia badia (Fr.) Massal. (3)
Buellia insignis (Naeg.) Th. Fr. (3)
Buellia margaritacea (Sommerf.) Lynge (3)
Buellia stigmatea (Ach.) Körber (3)

C

Calicium viride Pers. (1)
Caloplaca agardhiana (Fw.) Flag (3)
Caloplaca aurantia (Pers.) Hellbom (3, as *Gasparrinia callopisma* (Ach.) Th. Fr.)
Caloplaca aurantiaca (Lightf.) Th. Fr. (3)
Caloplaca cerina (Ehrh.) Th. Fr. (3)

Caloplaca chalybaea (Fr.) Th. Fr. (3)
Caloplaca citrina (Hoffm.) Th. Fr. (3, as *Gasparrinia citrina* [Hoffm.] Th. Fr.)
Caloplaca decipiens (Arnold) Blomb. & Forss. (3, as *Gasparrinia decipiens* [Arnold] Blomb.)
Caloplaca ectaniza (Nyl.) Mereschk. (3)
Caloplaca ferruginea (Hudson) Th. Fr.
Caloplaca furfuracea H. Magn. Specimen at UPS.
Caloplaca grimmiae (Nyl.) H. Olivier Specimen at UPS.
Caloplaca haematites (St.-Amans) Zwackh (3)
Caloplaca holocarpa (Hoffm.) Wade (4; 3, as *Caloplaca pyracea* [Ach.] Th. Fr.)
Caloplaca jungermanniae (Vahl) Th. Fr. (3)
Caloplaca lactea (Massal.) A. Zahlbr. (3)
Caloplaca lallavei (Clem.) Flag. (3)
Caloplaca paulsenii A. Zahlbr. (3)
Caloplaca polycarpoides (J. Steiner) M. Steiner & Poelt Moberg, *Lich. Sel. Exs. Upsal.* No. 209
 (Thunbergia 27: 4, 1997).
Caloplaca raesaenenii (Räsänen) Bred. (3), (4)
Caloplaca saxicola (Hoffm.) Nordin (3, as *Gasparrinia murorum* [Hoffm.] Th. Fr.)
Caloplaca stillicidiorum (Vahl) Lynge (3)
Caloplaca tegularis (Ehrh.) Sandst. (3, as *Gasparrinia tegularis* [Ehrh.] Sandst.)
Caloplaca tominii (Savicz) Ahlner (4; 3, as *Gasparrinia t.*)
Caloplaca variabilis (Pers.) Müll. Arg. (3)
Caloplaca viridirufa (Ach.) A. Zahlbr. (3)
Caloplaca vitellinula (Nyl.) Oliv. (4)
Candelaria concolor (Dicks.) Stein. (2)
Candelariella aurella (Hoffm.) Zahlbr. (2, 4)
Candelariella boikoi Khodosovtsev & S. Kondratyuk (9)
Candelariella vitellina (Ehrh.) Müll. Arg. (2)
Candelariella xanthostigma (Pers.) Lett. (2)
Carbonea vorticosa (Flörke) Hertel (6)
Catapyrenium cinereum (Pers.) Körber (*Endopyrenium hepaticum* (Ach.) Koerb (1)
Catapyrenium daedaleum (Kremp.) Stein (*Endopyrenium cartilagineum* (Nyl.) Syd (1)
Catapyrenium rufescens Breuss in Poelt & H. Mayrhofer (*Endopyrenium rufescens* (Ach.) Körber) (1)
Catillaria sphaeroides (Dicks.) Zahlbr. (2, as *Bilimbia sphaeroides* (Dicks.) Körber)
Cetraria islandica (L.) Ach. (2)
Cetraria laevigata Rass. (2)
Cetraria muricata (Ach.) Eckfeldt Specimen at UPS.
Cetrariella delisei (Bory ex Schaerer) Kärnefelt & Thell (2, as *Cetraria hiascens* [Fr.] Th. Fr.)
Cetrelia cetrarioides (Duby) Culb. & C. Culb. (2, as *Parmelia c.*)
Chaenotheca brachypoda (Ach.) Tibell (1, as *Coniocybe sulphurea* (Retz.) Nyl.)
Chaenotheca furfuracea (L.) Tibell (1, as *Coniocybe furfuracea* (L.) Ach.)
Cladina arbuscula (Wallr.) Hale & Culb. (5)
Cladina mitis (Sandst.) Hustich (5; 1, as *Cladonia m.*)
Cladina portentosa (Dufour) Follmann (5)
Cladina rangiferina (L.) Nyl. (5; 1, as *Cladonia r.*)
Cladina stellaris (Opiz) Brodo (5)
Cladina tenuis (Flörke) Hale & Culb. (5)
Cladonia acuminata (Ach.) Norrl. ex Nyl (1)
Cladonia alpestris (L.) Rabenh. (1)
Cladonia alpicola (Flot.) Vain. (1)
Cladonia amaurocraea (Flörke) Schaerer
Cladonia bacillaris (Ach.) Nyl. (1), (5)
Cladonia bacilliformis (Nyl.) Vain. (1)
Cladonia bellidiflora (Ach.) Schaerer (1), (5)
Cladonia borealis Stenroos (5)
Cladonia botrytes (Hagen) Willd. (1), (5)
Cladonia cariosa (Ach.) Spreng. (1), (5)

Cladonia carneola (Fr.) Fr. (1, 5)
Cladonia cenotea (Ach.) Schaerer (1, 5)
Cladonia chlorophaea (Flörke) Sprengel (1)
Cladonia coccifera (L.) Willd. (1, 5)
Cladonia coniocraea (Flörke) Sprengel (1, 5)
Cladonia corallifera (Kunze) Nyl.(1)
Cladonia cornuta (L.) Hoffm. (1, 5)
Cladonia crispata (Ach.) Flotow (1, 5)
Cladonia deformis (L.) Hoffm. (1, 5)
Cladonia degenerans (Flörke) Spreng. (1)
Cladonia digitata (L.) Hoffm. (1, 5; both reporting it as *C. digitata* Schaerer)
Cladonia elongata (Jacq.) Hoffm. (1)
Cladonia fimbriata (L.) Fr. (1, 5)
Cladonia floerkeana (Fr.) Sommerf. (1)
Cladonia foliacea (Hudson) Schaerer (1)
Cladonia furcata (Hudson) Schrader (1)
Cladonia furcata subsp. *subrangiformis* (Sandst.) Abbayes (1, as *C. subrangiformis*)
Cladonia glauca Flörke (1)
Cladonia gracilis (L.) Willd. (1, 5)
Cladonia gracilis var. *digitata* (Hoffm.) Vain. (5)
Cladonia grayi G. Merr. ex Sandst. (5)
Cladonia humilis (With.) Laundon. (5)
Cladonia impexa Harm (1)
Cladonia macilenta Hoffm. (1)
Cladonia macroceras (Delise) Hav. (5)
Cladonia ochrochlora Flörke (5)
Cladonia papillaria (Ehrh.) Hoffm. (1)
Cladonia phyllophora Hoffm. (5)
Cladonia pleurota (Flörke) Schaerer (1, 5)
Cladonia pocillum (Ach.) Grognot (1, 5)
Cladonia pyxidata (L.) Fr. (1, 5)
Cladonia rangiformis Hoffm. (1)
Cladonia rei Schaerer (5)
Cladonia scabriuscula (Delise ex Duby) Leighton (1)
Cladonia squamosa (Scop.) Hoffm. (1)
Cladonia strepsilis (Ach.) Vain. (1)
Cladonia subsquamosa (Nyl.) Vain. (4)
Cladonia subulata (L.) Wigg. (1)
Cladonia sulphurina (Michx.) Fr. (5)
Cladonia sylvatica (L.) Hoffm. (1)
Cladonia symphycarpia (Ach.) Flörke (1)
Cladonia turgida (Ehrh.) Hoffm. (1)
Cladonia uncialis (L.) F.H. Wigg. (1)
Cladonia verticillata (Hoff.) Schaer. (1)
Clauzadeana instratula (Nyl.) Roux (6)
Collema cristatum (L.) F.H. Wigg. (1)
Collema flaccidum Ach. (1)
Collema furfuraceum (Arnold) Du Rietz (1)
Collema fuscovirens (With.) J.R. Laundon (1, as *C. tunaeforme* [Ach.] Ach.)
Collema minor (Pakhunova) Tomin (1)
Collema nigrescens (Hudson) DC. (1)
Collema polycarpon Hoffm. (1)
Collema tenax (Sw.) Ach. (1, 4)
Collema undulatum Laurer ex Flotow Specimen at UPS.
Cornicularia normoerica (Gunn.) Du Rietz (3)
Cornicularia steppae Savicz (3)

Cornicularia tenuissima (L.) Savicz (3)
Cyphelium lucidum Th. Fr. (1)
Cyphelium notarisii (Tul.) Blomb. & Forss. Specimen at UPS.
Cyphelium tigillare (Ach.) Ach. (1)

D

Dactylina ramulosa (Hook.) Tuck. (3)
Dermatocarpon desertorum Tomin (1)
Dermatocarpon miniatum (L.) Mann (1)
Dermatocarpon moulinsii (Mont.) Zahlbr. Specimen at UPS.
Dermatocarpon vellereum Zschacke (1)
Dimelaena oreina (Ach.) Norman (3, as *Rinodina o.*) Moberg, *Lich. Sel. Exs. Upsal.* No. 170.
Diploicia canescens (Dickson) A. Massal. (3, as *Buellia c.*)
Diploschistes bryophiloides (Nyl.) A. Zahlbr. (1)
Diploschistes calcareus (Müll. Arg.) Steiner (1)
Diploschistes diacapsis (Ach.) Lumbsch (1, as *D. albissimus* [Ach.] Dalla Torre & Sarnth.)
Diploschistes muscorum (Scop.) R. Sant. Specimen at UPS.
Diploschistes ocellatus (Vill.) Norman (1)
Diploschistes scruposus (Schreber) Norman (1)
Diploschistes steppes Räsänen (1) Endemic to Kazakhstan

E

Endocarpon halophilum Tomin (status uncertain) (1)
Endocarpon pusillum Hedw. (1)
Endocarpon subfoliaceum Tomin (1)
Endopyrenium hepaticum (Ach.) Körber (4)
Ephebe solida Born.
Evernia divaricata (L.) Ach. (3)
Evernia prunastri (L.) Ach. (3)
Evernia mesomorpha Nyl. (3, as *Letharia thamnodes* Hue)

F

Flavocetraria cucullata (Bellardi) Kärnefelt & Thell (2, as *Cetraria c.*)
Flavocetraria nivalis (L.) Kärnefelt & Thell (2, as *Cetraria n.*)
Flavoparmelia caperata (L.) Hale (2, as *Parmelia c.*)
Flavopunctelia soledica (Nyl.) Hale (2, as *Parmelia ulophyllodes* [Vain.] Savicz)
Fulgensia bracteata (Hoffm.) Räsänen (3)
Fulgensia desertorum (Tomin) Poelt (3)
Fulgensia fulgens (Sw.) Elenkin (3)
Fuscopannaria leucophaea (Vahl.) P.M. Jorg. (*Pannaria microphylla* (Sw.) Mass. (1)

G

Glypholecia scabra (Pers.) Müll. Arg. (2)

H

Haematomma coccineum (Pers.) Körber (2)
Hypocenomyce scalaris (Ach.) M. Choisy Specimen at UPS.
Hypogymnia austerodes (Nyl.) Räsänen Moberg, *Lich. Sel. Exs. Upsal.* No. 172.
Hypogymnia bitteriana (A. Zahlbr.) Räsänen (2)
Hypogymnia physodes (L.) Nyl. (2)
Hypogymnia tubulosa (Schaerer) Hav. (2)

I

Icmadophila ericetorum (L.) A. Zahlbr. (1)

L

Lasallia pensylvanica (Hoffm.) Llano (2, as *Umbilicaria p.*)

Lasallia pustulata (L.) Mérat (2, as *Umbilicaria p.*)

Lasallia rossica Dombro. (2, as *Umbilicaria r.*)

Lecania cyrtella (Ach.) Th. Fr. (2)

Lecania dimera (Nyl.) Th. Fr. (2)

Lecania erysibe (Ach.) Mudd. (2)

Lecania koerberiana Lahm. (2)

Lecanora albescens (Hoffm.) Branth & Rostrup (3, as *Placolecanora albescens* [Ach.] Mak., perhaps not the same taxon?)

Lecanora allophana (Ach.) Röhl (3)

Lecanora argopholis (Ach.) Ach. Moberg, *Lich. Sel. Exs. Upsal.* No. 173.

Lecanora atryneae (Ach.) Röhl (3)

Lecanora baicalensis Zahlbr. (3, as *Placolecanora b.*) Moberg, *Lich. Sel. Exs. Upsal.* No. 174.

Lecanora bicincta Ram. (3)

Lecanora bolcana (Pollini) Poelt (3, as *Placolecanora b.*)

Lecanora campestris (Schaerer) Hue (3)

Lecanora carpinea (L.) Vain. (3)

Lecanora cenisea Ach. (3)

Lecanora chlarona (Ach.) Nyl. (3)

Lecanora chlarotera Nyl. (3)

Lecanora circumborealis Brodo & Vitik. Specimen at UPS.

Lecanora coilocarpa (Ach.) Nyl. (3)

Lecanora configurata Nyl. (3, as *Placolecanora c.*)

Lecanora conizaea (Ach.) Nyl. (3)

Lecanora crenulata (Dicks.) Hook. (3)

Lecanora dispersa (Pers.) Röhl. (3)

Lecanora dispersoareolata (Schaerer) Lamy (3, as *Placolecanora dispersoareolata* [Körber] Kopacz)

Lecanora distans (Pers.) Nyl. (3, 4)

Lecanora epibryon Ach. (3)

Lecanora esculenta (Pallas) Eversm. (3, as *Aspicilia esculenta* [Pallas] Flagey)

Lecanora frustulosa (Dicks.) Ach. (3)

Lecanora gangaleoides Nyl. (3)

Lecanora garovaglii (Körber) Zahlbr. (3, as *Placolecanora g.*)

Lecanora glaucella (Fw.) Nyl. (3)

Lecanora hageni Ach. (3)

Lecanora hypopta (Th. Fr.) Vain. (3)

Lecanora intricata (Schrader) Ach. (3)

Lecanora lithophila (Wallr.) Oxner (3)

Lecanora muralis (Schreber) Rabenh. (3, as *Placolecanora m.*)

Lecanora pallida (Schreber) Rabenh. (3)

Lecanora pinastri (Schaer.) H. Magn. (3)

Lecanora piniperda Körber (3)

Lecanora polytropa (Ehrh.) Rabenh. (3)

Lecanora rugosella A. Zahlbr. (3)

Lecanora rupicola (L.) A. Zahlbr. (3)

Lecanora saligna (Schrader) A. Zahlbr. (3)

Lecanora scrupulosa Ach. (3)

Lecanora subcarnea (Sw.) Ach. (3)

Lecanora subintricata (Nyl.) Th. Fr. (3, also specimen at UPS).

Lecanora subradiosa Nyl. (3)
Lecanora umbrina (Ehrh.) Röhl. (3)
Lecanora valesiaca (Müll. Arg.) Stizenb. (4).
Lecanora varia (Ehrh.) Ach. (3)
Lecidea atrobrunnea (Lam. & DC.) Schaerer (2, 6)
Lecidea auriculata Th. Fr. (2, 6)
Lecidea cerviniicola B. de Lesdain (6)
Lecidea confluens (Weber) Ach. (2)
Lecidea exilis (Körber) Rabenh. (6)
Lecidea fuscoatra (L.) Ach. var. *indecora* [author unknown, not provided in reference] (6)
Lecidea glomerulosa Steud. (2)
Lecidea goniophila Flörke (2) Perhaps = *Lecidella anomaloides* (A. Massal.) Hertel & R. Kilius
Lecidea laboriosa Müll. Arg. (6, as *Lecidea leptoboloides* Nyl.)
Lecidea lactea Flörke (6)
Lecidea lapicida (Ach.) Ach. (6)
Lecidea paratropoides Müll. Arg. (6)
Lecidea plana (J. Lahm) Nyl. (6)
Lecidea promiscens Nyl. (6)
Lecidea promiscua Nyl. (6)
Lecidea protecta H. Magn. (6)
Lecidea sylvicola Flotow (2)
Lecidea tessellata Flörke (6)
Lecidella carpathica Körber (6)
Lecidella elaeochroma (Ach.) Haszl. (2, as *Lecidea e.*)
Lecidella euphorea (Flörke) Hertel (6)
Lecidella stigmatea (Ach.) Hertel & Leuckert (6; 2, as *Lecidea s.*)
Leptogium cyanescens (Hoffm.) Körb. (1)
Leptogium lichenoides (L.) A. Zahlbr. (1)
Leptogium saturninum (Dicks.) Nyl. (1)
Leptogium tenuissimum (Dicks.) Körb. (1)
Lobaria linita (Ach.) Rabenh. (1)
Lobaria pulmonaria (L.) Hoffm. (1)
Lobaria scrobiculata (Scop.) DC. (1, as *L. verrucosa* [Huds.] Hoffm.)
Lobothallia alphoplaca (Wahlenb.) Hafellner (3, as *Placolecanora a.*)
Lobothallia melanaspis (Ach.) Hafellner (3, as *Placolecanora m.*)
Lobothallia radiosa (Hoffm.) Hafellner (3, as *Placolecanora r.*)

M

Melanelia elegantula (Zahlbr.) Essl. (2, as *Parmelia e.*)
Melanelia exasperata (De Not.) Essl. (2, as *Parmelia aspera* Massal.)
Melanelia exasperatula (Nyl.) Essl. (2, as *Parmelia e.*)
Melanelia glabra (Schaerer) Essl. (2, as *Parmelia g.*)
Melanelia hepatizon (Ach.) Thell (2, as *Cetraria h.*)
Melanelia infumata (Nyl.) Essl. (2, as *Parmelia i.*)
Melanelia olivacea (L.) Essl. (2, as *Parmelia o.*)
Melanelia panniformis (Nyl.) Essl. (2, 4; as *Parmelia p.*)
Melanelia sorediata (Ach.) Goward & Ahti (2, as *Parmelia sorediata* Almb.)
Melanelia stygia (L.) Essl. (2, as *Parmelia s.*)
Melanelia subargentifera (Nyl.) Essl. (2, as *Parmelia s.*)
Melanelia subaurifera (Nyl.) Essl. (2, as *Parmelia s.*)
Melanelia tominii (Oxner) Essl. (2, as *Parmelia t.*) Moberg, *Lich. Sel. Exs. Upsal.* No. 178 (as *M. substygia*).
Micarea melaena (Nyl.) Hedl. (2, as *Bilimbia melaena* [Nyl.] Arnold)
Miriquidica deusta (Stenh.) Hertel & Rambold (7)
Miriquidica garovaglii (Schaerer) Hertel & Rambold (6, 7)

Miriquidica instrata (Nyl.) Hertel & Rambold (6, 7)
Miriquidica intrudens (H. Magn.) Hertel & Rambold (7)
Mycobilimbia lurida (Ach.) Hafellner & Türk Specimen at UPS.
Mycocalicium subtile (Pers.) Szatala (syn. *Calicium subtile* Pers.) (1)

N

Neofuscelia pulla (Ach.) Essl. (2, as *Parmelia p.*)
Neofuscelia pokornyii (Körber) Essl. Moberg, *Lich. Sel. Exs. Upsal.* No. 180.
Neofuscelia rysssolea (Ach.) Essl. (2, 4, as *Parmelia r.*)
Neofuscelia verruculifera (Nyl.) Essl. (2, as *Parmelia v.*)
Nephroma arcticum (L.) Torss (1)
Nephroma filarszkyanum (Gyelnik) Gyelnik (1)
Nephroma helveticum Ach. (1)
Nephroma laevigatum Ach. (1)
Nephroma parile (Ach.) Ach. (1)
Nephroma resupinatum (L.) Ach. (1)
Nephroma subparile Gyelnik (1)
Normandina pulchella (Borrer) Nyl. (1)

O

Ochrolechia pallescens (L.) A. Massal. (2).
Ochrolechia parella (L.) A. Massal. (2)
Ochrolechia tartarea (L.) A. Massal. (2)
Ochrolechia upsaliensis (L.) A. Massal. (4), (2)
Ophioparma ventosa (L.) Norman (2, as *Haematomma ventosum*)

P

Parmelia isidiotyla Nyl (2)
Parmelia prolixa (Ach.) Röhl. (2)
Parmelia pubescens (L.) Vain. (2)
Parmelia saxatilis (L.) Ach. (2)
Parmelia sulcata Tayl. (2)
Parmelina tiliacea (Hoffm.) Hale (2, as *Parmelia scortea* [Ach.] Ach.)
Parmeliopsis ambigua (Wulfen) Nyl. (2)
Parmeliopsis hyperopta (Ach.) Arnold (2)
Peccania coralloides A. Massal. (1)
Peltigera aphthosa (L.) Willd. (1)
Peltigera canina (L.) Willd. (1)
Peltigera collina (Ach.) Schrader (1, as *P. scutata* [Dicks.] Duby)
Peltigera didactyla (With.) J.R. Laundon (1, reports of *Peltigera erumpens* [Th. Tayl.] Vain. and
Peltigera spuria [Ach.] DC. are referred here)
Peltigera horizontalis (Huds.) Baumg. (1)
Peltigera lepidophora (Nyl.) Vain. (1)
Peltigera leucophlebia (Nyl.) Gyelnik (1)
Peltigera malacea (Ach.) Funck (1)
Peltigera mauritzii Gyelnik (1)
Peltigera membranacea (Ach.) Nyl. (1)
Peltigera polydactylon (Neck.) Hoffm. (1)
Peltigera praetextata (Flörke ex Sommerf.) Zopf Specimen at UPS.
Peltigera rufescens (Wiess) Humb. (1)
Peltigera scabrosa Th. Fr. (1)
Peltigera suomensis Gyelnik (1)
Peltigera venosa (L.) Baumg. (1)

Pertusaria alpina Hepp (2)
Pertusaria amara (Ach.) Nyl (2)
Pertusaria australis Vain. (2)
Pertusaria bryontha (Ach.) Nyl. (2)
Pertusaria chiodectonoides Bagl. (2)
Pertusaria discoidea (Pers.) Malme (2)
Pertusaria globulifera (Turn.) A. Massal. (2)
Pertusaria henrici (Harm.) Erichs. (2)
Pertusaria lactea (L.) Arnold (2)
Pertusaria laevigata (Nyl.) Arnold (2)
Pertusaria leioplaca (Ach.) DC. (2)
Pertusaria leucostoma (Bernh.) A. Massal. (2)
Pertusaria multipuncta (Turn.) Nyl. (2)
Pertusaria oculata (Dicks.) Th. Fr. (2)
Pertusaria pertusa (L.) Tuck. (2)
Phaeophyscia chloantha (Ach.) Moberg Moberg, *Lich. Sel. Exs. Upsal.* No. 181.
Phaeophyscia constipata (Norrlin & Nyl.) Moberg (3, as *Physcia c.*)
Phaeophyscia hirsuta (Mereschk.) Essl. Specimen at UPS.
Phaeophyscia hispidula (Ach.) Essl. (3, as *Physcia setosa* [Ach.] Nyl.)
Phaeophyscia nigricans (Flörke) Moberg (3, as *Physcia n.*) Moberg, *Lich. Sel. Exs. Upsal.* No. 182.
Phaeophyscia orbicularis (Necker) Moberg (3, as *Physcia o.*)
Phaeophyscia sciastra (Ach.) Moberg (3, as *Physcia s.*)
Phaeorrhiza sareptana (Tomin) H. Mayrhofer & Poelt (3, as *Rinodina s.*)
Physcia adscendens (Fr.) H. Olivier (3)
Physcia aipolia (Ehrh.) Fürnr. (3)
Physcia biziana (A. Massal.) Zahlbr. Moberg, *Lich. Sel. Exs. Upsal.* No. 183.
Physcia caesia (Hoffm.) Fürnr. (3)
Physcia dimidiata (Arnold) Nyl. Specimen at UPS.
Physcia dubia (Hoffm.) Lettau Specimen at UPS.
Physcia stellaris (Ach.) Nyl. (3)
Physcia tenella (Scop.) DC. Specimen at UPS.
Physcia tribacia (Ach.) Nyl. (3)
Physconia grisea (Lam.) Poelt (3, as *Physcia g.*)
Physconia muscigena (Ach.) Poelt (4; 3, as *Physcia m.*)
Physconia perisidiosa (Erichsen) Moberg Specimen at UPS.
Placidopsis hamadicola Breck. Breuss (1996) (1). (10)
Placidium lachneum (*Endopyrenium lachneum* (Ach.) A.L. Smith (1)
Placocarpus schaeferi (Fr.) Breuss (*Endopyrenium monstrosum* (Schaer.) Haszl.) (1)
Placolecanora sphaeroides (Oxner) Kopacz. (3) We have not been able to find the protologue for this taxon or its recombination.
Placynthiella uliginosa (Schrader) Coppins & P. James (2, as *Biatora humosa* [Ehrh. ex Hoffm.] Arnold)
Placynthium nigrum (Huds.) S. Gray (1)
Platismatia glauca (L.) Culb. & C. Culb. (2, as *Cetraria g.*)
Pleopsidium chlorophanum (Wahlenb.) Zopf (2, as *Acarospora c.*)
Pleopsidium gobiense (H. Magn.) Hafellner Moberg, *Lich. Sel. Exs. Upsal.* No. 185.
Polychidium muscicola (Sw.) Gray (1)
Polysporina lapponica (Ach. ex Schaerer) Degel. (2, as *Acarospora l.*)
Polysporina simplex (Davies) Vězda (2, as *Sarcogyne s.*)
Porpidia cinereoatra (Ach.) Hertel & Knoph (2, as *Lecidea c.*)
Porpidia tuberculosa (Sm.) Hertel & Knoph (2, as *Lecidea solediza* Nyl.)
Protoblastenia rupestris (Scop.) Steiner (2, as *Biatora r.*)
Protoparmelia badia (Hoffm.) Hafellner (3, as *Lecanora b.*)
Protoparmelia nephaea (Sommerf.) R. Sant. (3, as *Lecanora n.*)
Pseudevernia furfuracea (L.) Zopf (3, as *Evernia f.*)
Psora cerebriformis W.A. Weber (4)

Psora decipiens (Hedwig) Hoffm. (2, 4)
Psora globifera (Ach.) Massal. (2)
Psora lurida (Dill.) DC. (2, 4)
Psoroma hypnorum (Vahl) S. Gray (1)

R

Ramalina farinacea (L.) Ach. (3)
Ramalina fastigiata (Liljeb.) Ach. (3)
Ramalina kazakhorum Oxner (3)
Ramalina pollinaria (Westr.) Ach. (3)
Ramalina polymorpha Ach. (3)
Ramalina strepsilis (Ach.) A. Zahlbr. (3)
Rhizocarpon alpicola (Anzi) Rabenh. (2, as *Catocarpon alpicola* [Hepp.] Arnold)
Rhizocarpon badioatrum (Flörke) Th. Fr. (2, as *Catocarpon badioatrum* [Flörke] Arnold)
Rhizocarpon distinctum Th. Fr. (2)
Rhizocarpon geminatum Körber (2)
Rhizocarpon geographicum (L.) DC. (2)
Rhizocarpon grande (Flörke) Arnold (2)
Rhizocarpon lecanoricum Anders (2)
Rhizocarpon oederi (Web.) Körber (2)
Rhizocarpon phalerosporum (Vain.) H. Magn. (2)
Rhizocarpon sublucidum Räsänen (2)
Rhizocarpon viridiatrum (Wulfen) Körber (2)
Rhizoplaca baranowii (Tomin) Golubk. (3, as *Placolecanora baranowii* [Tomin] Kopacz.; we have also seen the author citation *Lecanora baranowii* Poelt, but Poelt only recombined the Tomin name; see J. Poelt, 1958: Die lobaten Arten der Flechtengattung *Lecanora* Ach. sensu ampl. in der Holarktis. *Mitteilungen der Botanischen Staatssammlung München* 2: 411-573; we do not have the citation for the Golubkova recombination)
Rhizoplaca chrysoleuca (Sm.) Zopf (3, as *Placolecanora rubina* [Vill.] Savicz) Moberg, Lich. Sel. Exs. Upsal. No. 190.
Rhizoplaca melanophthalma (DC.) Leuckert & Poelt (3, as *Placolecanora melanophthalma* [Ram.] Kopacz)
Rhizoplaca peltata (Ramond) Leuckert & Poelt (3, as *Placolecanora p.*)
Rhizoplaca subdiscrepans (Nyl.) R. Sant. Specimen at UPS.
Rimelia reticulata (Taylor) Hale & Fletcher (2, as *Parmelia r.*)
Rinodina archaea (Ach.) Arnold (3)
Rinodina arenaria (Hepp) Th. Fr. (3)
Rinodina bischoffii (Hepp) A. Massal. (3)
Rinodina calcarea (Hepp) Arnold (3)
Rinodina castanomelodes H. Mayrh. & Poelt Specimen at UPS.
Rinodina demissa (Flörke) Arnold (3)
Rinodina discolor (Hepp) Arnold (3)
Rinodina dispersella (Vain.) Vain. (4)
Rinodina exigua (Ach.) S. Gray (3).
Rinodina kornhuberi A. Zahlbr. (3)
Rinodina melvillii Oxner (3)
Rinodina milvina (Wahlenb.) Th. Fr. Specimen at UPS.
Rinodina pyrina (Ach.) Arnold (4)
Rinodina sophodes (Ach.) A. Massal. (4)
Rinodina terrestris Tomin (3)

S

Sarcogyne cyclocarpa (Anzi) Stein. (2)
Sarcogyne distinguenda Th. Fr. (2)

Sarcogyne gyrocarpa H. Magn. (2)
Sarcogyne picea H. Magn. (2)
Sarcogyne privigna (Ach.) Anzi
Sarcogyne regularis Körber (2)
Sarcogyne sinensis H. Magn. (2)
Sarcogyne solitaria H. Magn. (2)
Sarcogyne urceolata Anzi (2)
Schaereria fuscocinerea (Nyl.) Clauzade & Roux (2, as *Biatora tenebrosa* (Flot.) Oxner; syn.
Schaereria tenebrosa [Flotow] Hertel & Poelt)
Solorina bispora Nyl. (1)
Solorina crocea (L.) Ach. (1)
Solorina saccata (L.) Ach. (1)
Sporastatia asiatica H. Magn. (2)
Sporastatia testudinea (Ach.) Massal (2)
Squamarina crassa (Huds.) Poelt. (3)
Squamarina gypsacea (Sm.) Poelt (3)
Squamarina lentigera (Weber) Poelt (3)
Staurothele drummondii (Tuck.) Tuck. (1, as *S. clopima* [Wahl.] Th.Fr.)
Staurothele levinae Oxner (1)
Steinia geophana (Nyl.) Stein (2, as *Biatora g.*)
Stereocaulon alpinum Laur. ex Funck (1)
Stereocaulon incrustatum Flörke (1)
Stereocaulon paschale (L.) Hoffm. (1)
Stereocaulon vesuvianum Pers. (1)
Strangospora moriformis (Ach.) Stein (2, as *Biatorella m.*)

T

Teloschistes brevior (Nyl.) Vain. (3)
Teloschistes lacunosus (Rupr.) Savicz (3) Moberg, Lich. Sel. Exs. Upsal. No. 195.
Teloschistes villosus (Ach.) Norman (3)
Tephromela atra (Huds.) Hafellner (3, as *Lecanora a.*)
Thamnolia vermicularis (Sw.) Schaerer (3)
Toninia candida Th. Fr. (2)
Toninia cumulata (Sommerf.) Th. Fr (2)
Toninia kelleri Olivier (2)
Toninia physaroides (Opiz.) Zahlbr. (4)
Toninia sedifolia (Scop.) Timdal This is probably what is meant by (2) with the report of *T. coeruleonigricans* (Lightf.) Th. Fr.
Toninia tabacina Flagey (2)
Trapeliopsis granulosa (Hoffm.) Lumbsch Specimen at UPS.
Tuckneraria laureri (Krempelh.) Randle & Thell (2, as *Cetraria l.*)

U

Umbilicaria cirrhosa Hoffm. (2) The spelling *cirrhosa* is sometimes also used, it is not clear which is correct.
Umbilicaria corrugata Hoffm. (2)
Umbilicaria crustulosa (Ach.) Frey (2)
Umbilicaria cylindrica (L.) Delise ex Duby (2)
Umbilicaria decussata (Vill.) Frey (2)
Umbilicaria deusta (L.) Baumg. (2)
Umbilicaria hirsuta (Sw. ex Westr.) Hoffm. (2)
Umbilicaria hyperborea (Ach.) Hoffm. (2)
Umbilicaria microphylla (Laur.) Massal. (2)
Umbilicaria muehlenbergii (Ach.) Tuck. (2)

Umbilicaria murina (Ach.) DC. (2)
Umbilicaria nylanderiana (Zahlbr.) H. Magn. Specimen at UPS.
Umbilicaria pertusa Rassad. (2)
Umbilicaria proboscidea (L.) Schrader (2)
Umbilicaria subglabra (Nyl.) Frey (2)
Umbilicaria vellea (L.) Ach. (2)
Umbilicaria virginis Schaerer (2)
Usnea articulata (L.) Hoffm. (3)
Usnea comosa Röhl. (3)
Usnea dasypoga (Ach.) Röhl. (3)
Usnea florida (L.) Wigg. (3)
Usnea hirta (L.) Wigg. (3)
Usnea lapponica Vain. (3)

V

Varicellaria rhodocarpa (Körber) Th. Fr. (2)
Verrucaria muralis Ach. (1)
Verrucaria nigrescens Pers. (1)
Vulpicida juniperina (L.) J.-E. Mattsson & M.J. Lai (2, as *Cetraria j.*)
Vulpicida pinastri (Scop.) J.-E. Mattsson & M.J. Lai (2, as *Cetraria p.*)
Vulpicida tilesii (Ach.) J.-E. Mattsson & M.J. Lai (2, as *Cetraria t.*)

X

Xanthoparmelia camtschadalis (Ach.) Hale Moberg, *Lich. Sel. Exs. Upsal.* No. 197.
Xanthoparmelia conspersa (Ehrh. ex Ach.) Hale (2, as *Parmelia c.*)
Xanthoparmelia somloënsis (Gyelnik) Hale (2, as *Parmelia stenophylla* [Ach.] Heug)
Xanthoparmelia tinctina (Maheu & A. Gillet) Hale (2, as *Parmelia t.*)
Xanthoparmelia vagans (Nyl.) Hale (2, 4; as *Parmelia v.*)
Xanthoria candelaria (L.) Arnold (3, 4) Moberg, *Lich. Sel. Exs. Upsal.* No. 199.
Xanthoria elegans (Link.) Th. Fr. (4; 3, as *Gasparrinia elegans* [Link.] Th. Fr.)
Xanthoria fulva (Hoffm.) Poelt & Petutschnig Specimen at UPS.
Xanthoria parietina (L.) Belt. (3)
Xanthoria polycarpa (Ehrh.) Rieber. (3)
Xanthoria substellaris (Ach.) Vain. (3)
Xylographa parallela (Ach. : Fr.) Behlen & Desberger Specimen at UPS.

Excluded taxa (synonyms or incorrect reports): *Physcia clementiana* (Ach.) Kickx. (3), *Physcia hispida* (Schreb.) Frege (3), *Physcia mereschkowskii* Tomin (3), *Physcia obscura* (Ehrh.) Hampe (3)

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