

Corrections and Additions to the North Carolina, USA Lichen Checklist

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In response to the recently published North Carolina lichen checklist (Perlmutter 2005), a few errors were noticed and many citations of literature reports documenting additional taxa have been brought to our attention. Therefore, corrections to these errors and a supplemental checklist are here presented to clarify the checklist and make it more complete. An additional 128 lichen taxa are here reported for the state (Table 1) with two removed as not occurring in North America, bringing the total to 731.

Corrections -- Corrections to the checklist are listed below:

1. The Global Biodiversity Information Facility (GBIF) references were not fully cited. These are for three taxa: *Collema callibotrys*, *Pertusaria propinqua* and *P. rubefacta*. Their full citations are:

Collema callibotrys: GBIF Data Portal, www.gbif.net. 2005-08-03. *Collema callibotrys* Tuck.; United States. GBIF-Sweden Provider, Lichens (S), 1 record from North Carolina.

Pertusaria propinqua: GBIF Data Portal, www.gbif.net. 2005-08-03. *Pertusaria propinqua* Müll. Arg.; United States. International Institute for Sustainability (ASU) DiGIR Provider, Arizona State University Lichen Herbarium, 2 records from North Carolina.

Pertusaria rubefacta: GBIF Data Portal, www.gbif.net. 2005-08-03. *Pertusaria rubefacta* Erichsen; United States. International Institute for Sustainability (ASU) DiGIR Provider, Arizona State University Lichen Herbarium, 1 record from North Carolina.

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2. *Lasallia pustulata*: “A very common lichen in Europe is most likely not found in North America.” Brodo et al. (2001). This taxon should be excluded from the checklist.
3. *Lecanora varia*: Only *L. densa* and *L. laxa* occur in North America. *Lecanora varia* occurs in Europe, and therefore should be excluded from the checklist. See: Śliwa and Wetmore (2000) for descriptions and the keys to North American species.
4. *Parmotrema rigidum* (Lyngé) Hale is now *P. subrigidum* Egan, a new species distinct from *P. rigidum* from South America (Egan et al. 2005).
5. *Pertusaria globularis* is cited from unpublished material; the citation should be Dibben (1980).
6. *Umbilicaria phaea* Tuck. has not been reported east of Nebraska (Llano 1950, Brodo et al. 2001). Therefore, this taxon should be excluded from the list as it is likely a misidentification.
7. Lendemer and Yahr (2004) is partially cited. The full citation is:

Lendemer, J.C. and R. Yahr. 2004. A Checklist of the lichens collected during the Tuckerman Workshop #12, Outer Banks, North Carolina, USA. *Evansia* 21(3): 247-256.
8. *Usnea ambyloclada* (Müll. Arg.) Zahlbr. is *U. ambyloclada* Clerc & Herrera-Campos (Clerc & Herrera-Campos 1997)
9. *Usnea hesperina* Motyka is a synonym for *U. schadenbergiana* Göpp & Stein (Clerc 2004).

Acknowledgements -- We would like to thank the following for bringing these corrections and additional references to our attention: Philippe Clerc, Jonathan P. Dey, James C. Lendemer, and Tor Tønsberg. Carol Ann McCormick of the University of North Carolina Herbarium (NCU) provided some of these materials. This report in part meets the Final Project requirement of the North Carolina Botanical Garden Native Plant Studies certificate program for G.B. Perlmutter.

Table 1. Supplemental lichen taxa reported in the literature not listed in Perlmutter (2005). All taxa follow accepted nomenclature of Esslinger [1997 (updated 14 June 2005)] with synonyms as found in the literature. References are as first reported in the literature.	
Taxon	Reference
<i>Alectoria sarmentosa</i> (Ach.) Ach. subsp. <i>sarmentosa</i>	Degelius 1941
<i>Anisomeridium polypori</i> (Ellis & Everh.) M.E. Barr (Syn.: <i>Arthopyrenia willeyana</i>)	Harris 1973
<i>Anisomeridium subprostans</i> (Nyl.) R.C. Harris (Syn.: <i>Arthopyrenia</i> cf. <i>subprostans</i>)	Degelius 1941
<i>Arthonia bisepitata</i> Degel.	Degelius 1941
<i>Arthonia spadicea</i> Leighton	Schmitt and Slack 1990
<i>Arthopyrenia degelii</i> R.C. Harris	Harris 1995
<i>Bacidia diffracta</i> S. Eckman	Ekman 1996
<i>Bacidia suffusa</i> (Fr.) A. Schnieder	Ekman 1996
<i>Bacidina arnoldiana</i> (Körber) S. Ekman	Ekman 1996
<i>Biatora appalachensis</i> Printzen & Tønsberg	Printzen & Tønsberg 2004
<i>Biatora helvola</i> Körber ex Hellborn (Syn.: <i>Lecidea helvola</i>)	Degelius 1941
<i>Biatora longispora</i> (Degel.) Lendemer & Printzen	Printzen & Tønsberg 2004
<i>Biatora pycnidia</i> Printzen & Tønsberg	Printzen & Tønsberg 2004
<i>Bryoria furcellata</i> (Fr.) Brodo & D. Hawksw. (Syn.: <i>Alectoria nidulifera</i>)	Culberson 1958
<i>Buellia mamillana</i> (Tuck.) W. A. Weber (Syn.: <i>Rinodina thomae</i>)	Fink 1935
<i>Caloplaca camptida</i> (Tuck.) Zahlbr.	Rudolph 1955
<i>Caloplaca conversa</i> (Kremp.) Jatta	Wetmore 1994
<i>Caloplaca pollinii</i> (A. Massal.) Jatta	Wetmore 1994
<i>Caloplaca quercicola</i> H. Magn.	Rudolph 1955
<i>Caloplaca sideritis</i> (Tuck.) Zahlbr.	Wetmore 1996
<i>Caloplaca subsoluta</i> (Nyl.) Zahlbr.	Wetmore 2003
<i>Caloplaca xanthostigmoidea</i> (Räsänen) Zahlbr.	Wetmore 2001
<i>Cetrariella dilesei</i> (Bory ex Schaerer) Kärnefelt & Thell (Syn.: <i>Cetraria hiascens</i>)	Fink 1935
<i>Chaenothecopsis pusilla</i> (Ach.) A.F.W. Schmidt	Sullivan 1996
<i>Chromofulvea dialyta</i> (Nyl.) Marbach (Syn.: <i>Buellia dialyta</i>)	Fink 1935
<i>Cladonia perlomera</i> Kristinsson	Culberson and Kristinsson 1969
<i>Cladonia petrophila</i> R.C. Harris	Harris 1992

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<i>Cladonia polycladodes</i> Nyl.	Evans 1947
<i>Coenogonium pineti</i> (Ach.) ined. (Syn.: <i>Dimerella diluta</i> , <i>D. pineti</i> , <i>Microphiale diluta</i>)	Degelius 1941
<i>Cresponea premnea</i> (Ach.) Egea & Torrente (Syn.: <i>Lecanactis premnea</i>)	Culberson 1972
<i>Dendriscoaulon umhausense</i> (Auersw.) Degel.	Degelius 1941
<i>Dermiscellum oulocheila</i> (Tuck.) Lendemer	Lendemer 2003
<i>Diploschistes actinostomus</i> (Ach.) Zahlbr.	Fink 1935
<i>Erioderma mollissimum</i> (Samp.) Du Reitz	Degelius 1941
<i>Fuscidea arboricola</i> Coppins & Tønsberg	Tønsberg 1993
<i>Fuscidea cyathoides</i> (Ach.) V. Wirth & Vezda (Syn.: <i>Lecidea rivulosa</i>)	Fink 1935
<i>Fuscopannaria ahlneri</i> (P.M. Jørg) P.M. Jørg	Jørgensen 2000
<i>Gassicurtia vernicoma</i> (Tuck.) Marbach (Syn.: <i>Buellia vernicoma</i>)	Imshaug 1951
<i>Gomphillus calycioides</i> (Duby) Nyl.	Buck 1998
<i>Graphis rigidula</i> Müll. Arg.	Lendemer and Yahr 2004
<i>Hafellia parastata</i> (Nyl.) Kalb. (Syn.: <i>Buellia rinodinospora</i>)	Imshaug 1951
<i>Heterodermia dendritica</i> (Pers.) Poelt	Culberson 1966
<i>Hypotrachyna taylorensis</i> (M.E. Mitch.) Hale	Groner and Dietrich 1996
<i>Lecanora albella</i> (Pers.) Ach. var. <i>albella</i> (Syn.: <i>L. pallida</i>)	Culberson 1958
<i>Lecanora albellula</i> Nyl. (Syn.: <i>L. piniperda</i>)	Degelius 1941
<i>Lecanora argentata</i> (Ach.) Malme	Brodo 1984
<i>Lecanora chlarotera</i> Nyl.	Brodo 1984
<i>Lecanora expallens</i> Ach. (Syn.: <i>L. conizaea</i>)	Degelius 1941
<i>Lecanora hypoptoides</i> (Nyl.) Nyl.	Degelius 1941
<i>Lecanora impudens</i> Degelius	Schmitt and Slack 1990
<i>Lecanora imshaugii</i> Brodo	Brodo 1984
<i>Lecanora insignis</i> Degel.	Degelius 1941
<i>Lecanora miculata</i> Ach.	Brodo 1984
<i>Lecanora pulicaris</i> (Pers.) Ach. (Syn.: <i>L. pinastris</i>)	Degelius 1941
<i>Lecanora rugosella</i> Zahlbr.	Brodo 1984
<i>Lecanora subimmergens</i> Vainio	Brodo 1984
<i>Lecanora wisconsinensis</i> H. Magn.	Brodo 1984

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* <i>Lecidea microps</i> Tuck.	Fink 1935
<i>Lecidea miccytho</i> Tuck.	Fink 1935
<i>Lecidea nylanderi</i> (Anzi) Th. Fr.	Culberson 1958
<i>Lecidea subtilis</i> Degel.	Degelius 1941
<i>Lecidella elaeochroma</i> (Ach.) Haszl. (Syn.: <i>Lecidea olivacea</i>)	Degelius 1941
<i>Leioderma cherokeeense</i> P.M. Jørg. & Tønsberg	Jørgensen & Tønsberg 2005
<i>Leptogium juniperinum</i> Tuck.	Sierk 1964
<i>Leptorhaphis contorta</i> Degel.	Degelius 1941
<i>Lithothelium hyalosporum</i> (Nyl.) Aptroot (Syn.: <i>Plagiocarpia hyalospora</i>)	Harris 1973
<i>Lithothelium illotum</i> (Nyl.) Aptroot	Harris 1995
<i>Lithothelium macrosporum</i> (R. C. Harris) Aptroot (Syn.: <i>Plagiocarpa macrocarpa</i>)	Harris 1989
<i>Lithothelium phaeosporum</i> (R.C. Harris) Aproot	Harris 1989
<i>Lithothelium septemseptatum</i> (R.C. Harris) Aproot)	Harris 1989
<i>Loxospora cismonica</i> (Beltr.) Haffelner (Syn.: <i>Haematomma cismonicum</i>)	Fink 1935
<i>Loxospora elatina</i> (Ach.) A. Massal. (Syn.: <i>Haematomma elatinum</i>)	Fink 1935
<i>Megalaria albocincta</i> (Degel.) Tønsberg (Syn.: <i>Catinarina albocincta</i>)	Degelius 1941
<i>Megalospora porphyritis</i> (Tuck.) R.C. Harris	Harris 1984
<i>Megaspora verrucosa</i> (Tuck.) Sipman (Syn.: <i>Lecanora verrucosa</i>)	Fink 1935
<i>Melanohalea olivacea</i> (L.) O. Blanco et al. (Syn.: <i>Parmelia olivacea</i>)	Degelius 1941
* <i>Melaspilea gemella</i> (Eshw.) Nyl. (Syn.: <i>Opegrapha scaphella</i> var. <i>gemella</i>)	Fink 1935
<i>Micarea endocyanea</i> (Tuck. Ex Willey) R. C. Harris	Schmitt and Slack 1990
<i>Melaspilea tribuloides</i> (Tuck.) Müll. Arg.	Fink 1935
<i>Mycoporum compositum</i> (A. Massal.) R.C. Harris (Syn.: <i>M. ohioense</i>)	Fink 1935
<i>Mycoporum pycnocarpoides</i> Müll. Arg.	Harris 1973

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<i>Ochrolechia arborea</i> (Kreyer) Almb.	Brodo 1991
<i>Ochrolechia mexicana</i> Vainio	Brodo 1991
<i>Ochrolechia trochophora</i> var. <i>pruiniosella</i> Brodo	Brodo 1991
<i>Ochrolechia tartarea</i> (L.) A. Massal.	Howard 1970
<i>Pannaria lurida</i> subsp. <i>russellii</i> (Tuck.) P.M. Jørg	Jørgensen 2000
<i>Pannaria subfusca</i> P.M. Jørg	Jørgensen 2000
* <i>Parmelia submarginalis</i> (Wulfen) Ach.	Fink 1935
<i>Parmeliopsis ambigua</i> (Wulfen) Nyl.	Culberson 1958
<i>Parmeliopsis hyperopta</i> (Ach.) Arnold	Culberson 1958
<i>Parmotrema gardneri</i> (C. W. Dodge) Sérus. (Syn.: <i>Parmotrema robustum</i>)	Schmitt and Slack 1990
<i>Pertusaria geminipara</i> (Th. Fr.) C. Knight ex Brodo (Syn.: <i>Ochrolechia geminipara</i>)	Howard 1970
<i>Pertusaria multipunctoides</i> Dibben	Dibben 1980
<i>Pertusaria sinuomexicana</i> Dibben	Dibben 1980
<i>Pertusaria tetrathalamia</i> (Fée) Nyl.	Dibben 1980
<i>Pertusaria waghornei</i> Hulting	Dibben 1980
<i>Phaeographis erumpens</i> (Nyl.) Müll. Arg.	Fink 1935
<i>Phylliscum demageonii</i> (Moug. & Mont.) Nyl.	Yoshimura and Sharp 1968
<i>Punctelia borneri</i> (Sm.) Krog	Schmitt and Slack 1990
<i>Punctelia perreticulata</i> (Räsänen) G. Wilh. & Ladd	Aptroot 2003
<i>Pyrenopsis subfuliginea</i> Nyl.	Degelius 1941
<i>Pyrenula cuyabensis</i> (Malme) R.C. Harris	Harris 1989
<i>Pyrenula laevigata</i> (Pers.) Arnold	Schmitt and Slack 1990
<i>Pyrenula lucifera</i> R.C. Harris	Harris 1989
<i>Pyrenula plittii</i> R. C. Harris	Schmitt and Slack 1990
<i>Pyrenula punctella</i> (Nyl.) Trevisan	Harris 1989
<i>Pyrenula subelliptica</i> (Tuck.) R.C. Harris (Syn.: <i>P. imperfecta</i>)	Harris 1973
<i>Pyxine albobirens</i> (G. Meyer) Aptroot	Amtoft 2002
<i>Racodium rupestre</i> Pers.	Fink 1935
<i>Rhizocarpon inferulum</i> (Nyl.) Lyngé	Fryday 2002
<i>Rhizocarpon rubescens</i> Th. Fr. (Syn.: <i>R.</i>	Degelius 1941

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Taxon	Reference
<i>plicatile</i>)	
<i>Rinodina chrysmelaena</i> Tuck.	Fink 1935
* <i>Rinodina dolichospora</i> Malme	Sheard and Mayehofer 2002
<i>Rinodina subminuta</i> H. Magn.	Schmitt and Slack 1990
<i>Rinodina willeyii</i> Sheard & Giralt	Sheard 1995
<i>Ropalospora chlorantha</i> (Tuck.) S. Ekman (Syn.: <i>Bacidia chlorantha</i>)	Degelius 1941
<i>Santessoniella crossophylla</i> (Nyl.) P.M. Jørg	Jørgensen 2000
<i>Sticta sylvatica</i> (Hudson) Ach.	Fink 1935
<i>Thelenella muscorum</i> (Fries) Vainio var. <i>muscorum</i>	Harris 1995
<i>Thelomma carolinianum</i> (Tuck.) Tibell (Syn.: <i>Cyphelium carolinianum</i>)	Fink 1935
<i>Trapeliopsis viridescens</i> (Schraader) Coppins & P. James	Sullivan 1996
<i>Trichothelium chloroticum</i> (Ach.) R.C. Harris (Syn.: <i>Porina chlorotica</i>)	Fink 1935
<i>Trichothelium guentheri</i> (Flotow) R.C. Harris	Harris 1995
<i>Usnea cavarnosa</i> Tuck.	Degelius 1941
<i>Usnea entoviolata</i> Motyka	Clerc 2004
<i>Usnea halei</i> Clerc	Clerc & Herrera-Campos 1997
<i>Usnea praetervisa</i> (Asahina) P.Clerc	Clerc 2004
<i>Usnea silesiaca</i> Motyka (Syn.: <i>U. madiernensis</i>)	Clerc 1991
<i>Xanthoparmelia hypomeleana</i> (Hale) Hale	Hale 1967
Total	129

*New to North America; not listed in Esslinger's checklist. Names were confirmed via Index Fungorum (CABI Bioscience et al. 2005).

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