

UPDATE ON SASKATCHEWAN LICHENS

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Introduction

A total of 536 lichens are known for Saskatchewan to date (Lichens of Saskatchewan-A Provincial List. B. de Vries 2015). In this total are included: 31 new records not recorded in the Saskatchewan Conservation Data Centre (SKCDC) lichen fungi list, 23 records new for Canada and Saskatchewan, 10 parasitic-lichenicolous species new to Saskatchewan and 6 species new to Canada and Saskatchewan.

This update is further enhanced by 23 new records from Canada and Saskatchewan, and a list of lichenicolous Fungi new for Saskatchewan (10) and Canada & Saskatchewan (6), bringing the total of Saskatchewan Provincial Lichens to 570.

Information given on lichens is based on records by Freebury (2014) from Grasslands National Park, located in the extreme southeast of the province and part of the Mixed Grassland Ecoregion which lies within the Prairie Ecozone. The physical aspect of the Park is characterized by a diversity of habitat, from rolling hills to grassland plains with coulees, ravines badlands, river lowlands and wooded uplands.

The nearest settlement is Val Marie (N.49 14 W.107 44) to the northwest. Scientific names, synonyms, substratum, and reference to determination of the species are those of Freebury (2014) and are followed by a literature cited list.

As first records for Saskatchewan all species are tentatively ranked S1.

The lichen list is periodically updated.

CHECKLIST OF NEW LICHENS FOR SASKATCHEWAN

Acarospora stapfiana (Müll.) Arg. Hue- Often parasitic on *Caloplaca trachyphylla* or occasionally independent on rock.

Arthonia glebosa Tuck.- On soil.

Blennothalia crispa (Hudson) Oálora, P.M. Jørg. & Wedin.- (syn. *Collema crispum* (Hudson) Weber ex F.H. Wigg) - On mossy soil and part of *Selaginella*-dominated turf in open prairie. Reference 1286 (det. Björk).

Caloplaca arenaria (Pers.) Müll. Arg.- On silicious rock, occasionally on hardwood.

Caloplaca chrysophthalma Degel.- On *Juniperus*. Reference 1579 (det. Brodo).

Caloplaca citrina (Hoffm.) Th. Fr.- On exposed calcareous rock.

Caloplaca grimmiae (Nyl.) H. Olivier- Lichenicolous on *Candelariella vitellina*.

Caloplaca microphyllina (Tuck.) Hasse-On lignum. The species appears to be common on old fences, abandoned wooden granaries, schools and farm houses throughout much of the southern Saskatchewan but does not appear to have been reported for the province previously.

Candelariella efflorescens R.C. Harris & W.R. Buck-On *Crataegus*, *Fraxinus* & *Juniperus*. For distribution and description of this species refer to Brodo et al. (2001), Lendemer and Westberg (2010),

Westberg (2007).

- Candelariella rosulans* (Müll. Arg.) Zahlbr.- On acidic rock.
Diplotomma venustum (Körber) Körber-On calcareous rock.
Heteroplacidium compactum (A. Massal.) Gueidan & CL Roux (syn. *Verrucaria compacta* (A. Massal.) Jatta-On calcareous rock and partly parasitic on *Verrucaria inficiens*. Reference 1335 (det. Breuss).
Lecanora valesciaca (Müll. Arg.) Stizenb.-On calcareous sandstone.
Lecidea atrobrunnea (Lam. & DC.) Schaerer-On acidic rock.
Lecidella wulfenii (Hebb.) Körber-On mossy soil.
Lobothallia praevalida (Nyl.) Hafellner-On acidic rock and sandstone.
Micarea incrassata Hedl.-On mossy soil on grassland slopes.
Micarea mislla (Nyl.) Hedl.-On Poplar logs in Poplar woods.
Physcia alnophila (Vain.) Loht, Moberg, Myllys & Tehler-On *Ulmus*. Found once.
Physcia dimidiata (Arnold) Nyl.-Found once on *Ulmus*.
Physciella chloantha (Ach.) Essl.-On *Crataegus*, *Ulmus* & *Salix*.
Polysporina urceolata (Anzi) Brodo-On soft calcareous rock.
Rhizocarpon viridiatrum (Wulfen) Korb.-Lichenicolous on *Aspicillia* & cf. *Circinaria* and lichenized on acidic rock and sandstone when mature.
Rinodina conradii Körber-On moss on badland slope. Found once.
Sarcogyne hypophaea (Nyl.) Arn. (syn. *S. privigna* (Ach.) - A. Massal.-On acidic rock.
Sarcogyne similis H. Magnum.-On acidic rock. Reference 1785 (det. Knudsen).
Staurothele monicae (Zahlbr.) Wetmore-On calcareous rock.
Xanthomendoza fulva (Hoffm.) Søchting, Kärnefelt and S.Y. Kondre-On *Juniperus* in the Three Sisters area. Found once.
Xanthoparmelia loxodes (Nyl.) O. Blanco, A. Crespo, Elix, D. Hawksw. & Lumbsch-On silicified rock.
Xanthoparmelia subdecepiens (Vainio) Hale-On smooth quartz stone on sloped and upland grasslands.

CHECKLIST OF NEW LICHENS FOR CANADA AND SASKATCHEWAN

- Acarospora rosulata* (Th. Fr.) H. Magn.-On acidic rock. Reference 529 (det. Knudsen).
Caloplaca decepiens (Arnold) Blomb. & Forsell-On acidic & calcareous sandstone.
Caloplaca lignicola Wetmore-Lignicolous on abandoned ranch building. Reference 1619 (det. Wetmore 2009).
Caloplaca pratensis Wetmore-On calcareous outcrops. Reference 870B (det. Wetmore). Previously reported from Montana, North Dakota and further south in the Great Plains (Wetmore 2009).
Candelariella aggregata M. Westb.-On dead *Selaginella* and detritus.
Candelariella arenaria Räsänen-On Poplar snags, *Artemisia*, *Ulmus* & *Kraschennikovia*.
Endocarpon loscosii Müll, Arg.-On soil in prairie dog colonies.
Fulgensia subbracteata (Nyl.) Poelt-Terricolous on eroded patches on grassland slopes.
Heteroplacidium zamenhofiana (Clauzade & CL. Roux) CL. Roux (syn. *Verrucaria zamenhofiana*)-Parasitic on *Strothele drummondii*, then independent on calcareous rock. Reference 696 (det. Breuss).
Placidium californicum Breuss.-On soil in sandy ditch. Reference 2078 (conf. Breuss). Found once, but likely overlooked due to its inconspicuous appearance.
Rhizocarpon renneri Poelt-Lichenicolous on *Dimelaena oreina* and possibly lichenized on acidic rock.
Rinodina juniperina Sheard-Lichenicolous on abandoned ranch building. Reference 1267 (det. Sheard). Found once. Previously recorded from North Dakota, further south into the Great Plains and Sonoran Desert. (Sheard 2010).

Rinodina lobulata H. Mayerhofer & Sheard-On *Krascheninnikovia* on mostly barren badland slopes and ridges. Reference 1036A (det. Sheard). A northern range extension from North Dakota and Idaho. (Sheard 2010).

Rinodina luridata (Körber) H. Mayrhofer, Scheidegger & Sheard-ON a calcareous outcrop in the Wood Mountain Uplands and found only in one location. Previously reported from Colorado, North Dakota and Washington, as well as further south into the Soronan Desert and Coastal California (Sheard 2010).

Rinodina parasitica H. Mayrhofer & Poelt-On sandstone in the Killdeer badlands. Reference 1739 (det. Sheard) and found only once. Can be lichenicolous on crustose lichens. Previously reported from Alaska, Colorado, South Dakota, the American Pacific coast and the Soronan Desert. (Sheard 2010).

Rinodina strausii J. Steiner-On calcareous rock and found only three times in one location. Reference 566B (det. Sheard). This is a northern range extension from Idaho and Wyoming (Sheard 2010).

Rinodina venostana Buschardt & H. Mayrhofer-On sandstone in the Killdeer Badlands. Found once. Reference 1788 (det. Sheard, confirmed H. Mayrhofer).

Verrucaria bernaicensis Malbr.-On soft calcareous rock. On 70 Mile Butte, Reference 550 (sub *V. othmarri* & sub *V. muralis*) (det. Breuss).

Verrucaria fusca Pers.-On acidic rock in the Killdeer Badlands. Reference 1786 (det. Breuss).

Verrucaria inficiens Breuss-Parasitic on *Staurothele* when young, independent on acidic and calcareous rock when mature. References 1025 (det. Breuss), 503 (sub *Muellerella erratica*), and 910 (sub *Rhizocarpon intermediellum*).

Verrucaria othmarii K. Knudson & L. Arcadia (syn. *Verrucaria rupicola* (B. de Lesd.) Breuss non (L. Humb.)-On calcareous rock outcrop. References 553A, 553B (det. Breuss).

Verrucaria sphaerospora Anzi-On calcareous outcrop in Wood Mountain Uplands.

Xanthoparmelia camtschadalis (Ach.) Hale- Over soil, detritus and attached to soil and pebbles.

CHECKLIST OF LICHENICOLOUS FUNGI NEW FOR SASKATCHEWAN

Arthonia epiphyscia Nyl.-On *Physcia stellaris* (sub *Tremella christiansenii*). Known from Alberta, (Diederich 2003), British Columbia (Diederich 2003 Goward et al. 1996), Newfoundland (NY) and Nunavut (Zhurbenko 2009).

Arthonia molendoi (Heufl. ex Frauenf.) R. Sant.-On *Xanthoria elegans* (apothecia). Reported from British Columbia. (Alstrup & Cole 1998).

Endococcus oreina - On *Dimelaena oreina* (thallus). Original description of the species was given by Hafellner et.al. (2002).

Intralichen christiansenii (D. Hawksw.) D. Hawksw. & M.S. Cole - On *Candelariella vitellina* (apothecia). Reference 1267 (sub *Rinodina juniperina*). Reported from British Columbia (Alstrup & Cole 1998 and Hawksworth and Cole 2002).

Lichenodiplis lecanorae (Vouax) Dyko & D. Hawksw.- On *Caloplaca pyracea* and *Lecanora hagenii* (apothecia). References 1565, 1566 (det. Dieterich). Known from Newfoundland, Nova scotia, Ontario (Brodo et al 2013) & Quebec (Diederich 2003).

Lichenostigma cosmopolites Hafellner & Calatayud-On *Xanthoparmelia wyomingica* (thallus). Reported from British Columbia and Ontario Hafellner and Calatayud (1999).

Polycoccum clauzadei Nav.-Ros. & CL. Roux-Forming galls on *Xanthoria elegans* (thallus). References 1262, 1316 (det. Diederich). Reported from Nunavut (Diederich 2003).

Polysporina pusilla - This species was recognized as lichenicolous by Knudson and Kocourková (2008).

Polysporina subfuscescens (Nyl.) K. Knudsen & Kocourk.-On saxicolous crustose species. References 562,

9724, 979A (det. Knudson).

Sphaerellothecium cladoniae (Alstrup & Zhurb.) Hafellner-(syn. *Sphaerellothecium araneosum* (Arnold) Zoph var. *cladoniae* Alstrup & Zhurb.) - On *Cladonia pocillum* (thallus & apothecia). The species was reported for Nunavut (Zhurbenko 2009, Zhurbenko & Alstrup 2004) and Northwest Territories (Zhurbenko 2013).

Taenionella rolfii Diederich & Zhurb.-Forming galls on *Cetraria aculeate*. Previously reported from N.W. Territories (Zhurbenko 2013) and Nunavut (Diederich & Zhurbenko (2001).

Tetramelas pulverulentus (Anzi) A. Nordin & Tibell (syn. *Buellia pulverulenta*) - On *Physconia muscigena*. Reported from Canada from British Columbia (Alstrup & Colr 1998, Goward & Ahti 1992), the Northwest Territories (Thomson & Scotter 1992) and Nunavut (Diederich 2003).

Zwackhiomyces coepulonus (Norman) Grube & R. Sant.-On *Xanthoria elegans* (thallus). Reference 838 (det. Diederich). Previously reported from British Columbia (Goward et al. 1996)

CHECKLIST FOR LICHENICOLOUS FUNGI NEW FOR CANADA AND SASKATCHEWAN

Cercidospora lobothealliae Nav.-Ross & Calat. On *Lobotheallia alphoplaca* (thallus).

Endococcus oreina Hafellner-On *Dimelaena oreina*.

Lichenocodium lichenicola (P. Karst.) Petrak & H. Sydow-On *Physcia stellaris* (apothecia). Reference 1339 (det. Diederich).

Polysporina pussila (Anzi) M. Steiner ex Kantvilas-On saxicolous crustose species. Reference 891B (det. Knudsen).

Stigmidium squamariae (B. de Lesd.) CL. Roux & Triebel-On *Lecanora garovaglii* (apothecia).

Tremella christiansenii Diederich-Forming cerebriform galls on *Physcia stellaris*. Reference 1540 (det. Diederich). Reported for Austria and Denmark (Diederich 1996). The species is new to North America.

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