

## ADDITIONS TO THE LICHEN FLORA OF WISCONSIN WITH NEW RECORDS OF RARE SPECIES

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Two lichen species are reported as new to Wisconsin: *Physcia dakotensis* Essl. and *Physconia subpallida* Essl. New records of *Caloplaca saxicola* (Hoffm.) Nordin, *Cetraria arenaria* Kärnefelt, *Coccocarpia palmicola* (Sprengel) Arv. & D. J. Galloway and *Teloschistes chrysophthalmus* (L.) Th. Fr., all of which are rare or endangered at the state level, are reported. *Coccocarpia palmicola* is proposed for inclusion in the state's endangered species list, and changes in the conservation status of *Cetraria arenaria* and *Teloschistes chrysophthalmus* are suggested.

### NEW RECORDS FOR WISCONSIN

*Physcia dakotensis* Essl. (Physciaceae)

WISCONSIN. Dane County: Southeast of Madison, 30 May 1949, Thomson 4632 (WIS).

This represents the easternmost record of this newly described species (Esslinger 2004), and the first report of this species east of the Mississippi River. Its presence in Wisconsin is somewhat expected as it is known from Iowa and Minnesota. This taxon appears to be more of a prairie species, occurring on acidic rock in open, sunny locations across the northern Great Plains (Esslinger 2004).

*Physconia subpallida* Essl. (Physciaceae)

WISCONSIN. Sawyer County: Flambeau River State Forest, 23 August 1951, J.W. Thomson & M.E. Hale, Jr. 4465 (WIS).

This species is new to Wisconsin, known only from Sawyer county; however, its range in the state may be much broader. *Physconia subpallida* is typically corticolous, occurring on hardwoods in eastern North America, and extending as far west as Iowa (Esslinger 1994).

### ADDITIONAL RECORDS OF RARE TAXA

*Caloplaca saxicola* (Hoffm.) Nordin (Teloschistaceae)

WISCONSIN. Trempealeau County: Perrot State Park, 23 July 2005, Nelsen 3984 (WIS).

*Caloplaca saxicola* appears to be a rare crust in Wisconsin (Thomson and Will-Wolf 2000), having only been reported twice in the state (Thomson 1998, 2003). Despite its rarity, it is not a taxon of special concern (Thomson and Will-Wolf 2000). *Caloplaca saxicola* appears to prefer open, sunny conditions and should be looked for on calcareous stone in prairies and on bluffs.

*Cetraria arenaria* Kärnefelt (Parmeliaceae)

WISCONSIN. Grant County: Lower Wisconsin River State Wildlife Area, 28 August 2004, *Nelsen 3981* (WIS).

This species is known from scattered localities around Wisconsin, however, two of the sites at which this species has been found (in Polk and Sauk counties) have been destroyed (Thomson 2003). *C. arenaria* has also been found along the Lake Michigan shore and in Grant and Iowa counties on sandy soils.

It is classified as rare in Wisconsin (Thomson and Will-Wolf 2000; Thomson 2003; Bennett and Wetmore 2004) and received a state rank of SH in Bennett and Wetmore (2004). This rank means that the species is historically known from the state, but has not been collected in the past 20 years, making its existence questionable and designating its need for re-verification. The collection reported here serves as a reminder that *C. arenaria* still exists in Wisconsin, and has not disappeared. Because of this, it is proposed that its state rank be changed from SH to imperiled (S2). The S2 rank is given to species that are imperiled in the state due to rarity (6–20 occurrences or few remaining individuals or acres) or because of factors believed to make the species vulnerable to extirpation (Wisconsin Natural Heritage Program 2004). Other sites in which this species has been found should be re-investigated to determine if this species is critically imperiled (rank S1: 5 or fewer occurrences in the state or certain factors make the species especially vulnerable to extirpation) in Wisconsin.

*Coccocarpia palmicola* (Sprengel) Arv. & D. J. Galloway (Coccocarpiaceae)

WISCONSIN. Iowa County: Ridgeway Township, on calcareous stone, 19 June 2004, *Nelsen 3982* (WIS).

This foliose cyanolichen is known in Wisconsin only from the St. Croix National Scenic Riverway (Wetmore and Bennett 2004). It occurs in Minnesota (Wetmore 2000) and Illinois (Arvidsson 1982), but has not been found in Michigan (Fryday et al. 2001). It is primarily a tropical genus (Arvidsson 1982), extending north in coastal areas. Its range extensions into Minnesota and Wisconsin are of great importance as they represent its northernmost limit in midwestern North America (Brodo 2001).

As only one previous record in Wisconsin exists, the rareness of this species is apparent. Several studies of saxicolous and corticolous lichens in southwest Wisconsin have not encountered this species (Armstrong 1968; Cole 1977; Culberson 1955; Foote 1963, 1966; Hale 1955; Makhholm 2003; Will-Wolf 1980). It is considered threatened in Minnesota (Minnesota Department of Natural Resources 2004) and because of its rarity in the Great Lakes area, it is proposed that this taxon be included in Wisconsin's rare and endangered species list and receive a rank of S1 (described above).

*Teloschistes chrysophthalmus* (L.) Th. Fr. (Teloschistaceae)

WISCONSIN. Dane County: Festge Park, 11 December 1999, *Nelsen 683* (WIS).

This collection was made as part of a study in the Madison, WI area (Nelsen 2000). It appears to be the first collection of *T. chrysophthalmus* in Wisconsin since the late 1800s or early-mid 1900s. The only known collections were made in 1892 by L. Cheney, and in 1893 by Heald and Buell (Thomson 1998). A literature report from 1924 exists (Rentz and Lappley 1925); however, no specimen can be found in WIS for verification. Another specimen is currently known from a private residence in Waukesha county, but has not been collected due to its rarity. This individual was first noticed when it was a juvenile, and has been monitored for the past 3 years.

This species appears to be declining throughout many parts of North America (Wilhelm 1998; Flenniken 1999; Brodo et al. 2001; Fryday et al. 2001; Showman and Flenniken 2004). Its disappearance is most likely the result of habitat destruction and increased air pollution (Brodo et al. 2001). It is proposed that the conservation rank of this species in Wisconsin be changed from SH to critically imperiled (S1), based on its extreme rarity. Fryday and Wetmore (2002) considered *T. chrysophthalmus* to be critically endangered in Michigan, while in Minnesota, this species is not yet considered rare (Minnesota Department of Natural Resources 2004). The Waukesha county individual will continue to be monitored and it is hoped that air pollution from a recently constructed highway will not poison it.

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