

Supplementary material for Nelson, P. R., B. McCune & D. K. Swanson. 2015. Lichen traits and species as indicators of vegetation and environment. The Bryologist 118(3): XX–XX.

Supplementary Table S4. Trait matrix (alphabetical by species). “1” indicates a species possesses that trait.

Lichen Species	Subspecies	Green	Cyano Only	Tripartite	Saxicole	Terricole	Epiphyte	Lignicole	Foliose	Fruticose	Simple cladoniiform	Squamulose	Erect richly branched	Appressed foliose	Filamentous sprawling	3D foliose	soredia	isida	lobules
<i>Alectoria ochroleuca</i>		1	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0
<i>Allantoparmelia almquistii</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Allantoparmelia alpicola</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Allocetraria madreporiformis</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Anaptychia bryorum</i>		1	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Arctoparmelia centrifuga</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Arctoparmelia incurva</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	1	0	0
<i>Arctoparmelia separata</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Arctoparmelia subcentrifuga</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Asahinea chrysantha</i>		1	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0
<i>Baeomyces carneus</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Baeomyces placophyllus</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Baeomyces rufus</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Blennothallia crispa</i>		0	1	0	0	1	0	0	1	0	0	0	0	0	0	1	0	1	0
<i>Brodoa oroarctica</i>		1	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0
<i>Bryocaulon divergens</i>		1	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0
<i>Bryoria capillaris</i>		1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0
<i>Bryoria chalybeiformis</i>		1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0
<i>Bryoria fremontii</i>		1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0
<i>Bryoria fuscescens</i>		1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0
<i>Bryoria lanestrisk</i>		1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	1	0	0
<i>Bryoria nadvornikiana</i>		1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0

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<i>Bryoria nitidula</i>		1	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0
<i>Bryoria simplicior</i>		1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	1	0	0
<i>Calicium viride</i>		1	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0
<i>Callome multipartita</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Candelariella terrigena</i>		1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
<i>Cetraria aculeata</i>		1	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0
<i>Cetraria cucullata</i>		1	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0
<i>Cetraria ericetorum</i>	<i>reticulata</i>	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0
<i>Cetraria halei</i>		1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0
<i>Cetraria inermis</i>		1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0
<i>Cetraria islandica</i>		1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0
<i>Cetraria islandica</i>	<i>crispiformis</i>	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0
<i>Cetraria islandica</i>	<i>islandica</i>	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0
<i>Cetraria kamczatica</i>		1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0
<i>Cetraria laevigata</i>		1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0
<i>Cetraria muricata</i>		1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0
<i>Cetraria nigricans</i>		1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0
<i>Cetraria nivalis</i>		1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0
<i>Cetraria odontella</i>		1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0
<i>Cetraria sepincola</i>		1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0
<i>Cetrariella commixta</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Cetrariella delisei</i>		1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0
<i>Chaenotheca furfuracea</i>		1	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0
<i>Cladonia acuminata</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	1	0
<i>Cladonia alaskana</i>		1	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Cladonia albonigra</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Cladonia amaurocraea</i>		1	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Cladonia arbuscula</i>		1	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0

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<i>Cladonia bacillaris</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0
<i>Cladonia bacilliformis</i>		1	0	0	0	0	0	1	0	1	1	0	0	0	0	0	1	0	0
<i>Cladonia bellidiflora</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Cladonia borealis</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Cladonia botrytes</i>		1	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0
<i>Cladonia cariosa</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Cladonia carneola</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0
<i>Cladonia cenotea</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0
<i>Cladonia chlorophaea</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0
<i>Cladonia ciliata</i>		1	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Cladonia coccifera</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Cladonia coniocraea</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0
<i>Cladonia cornuta</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0
<i>Cladonia crispata</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Cladonia cryptochlorophaea</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0
<i>Cladonia cyanipes</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0
<i>Cladonia decorticata</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	1	0
<i>Cladonia deformis</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0
<i>Cladonia digitata</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0
<i>Cladonia ecmocyna</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Cladonia fimbriata</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0
<i>Cladonia furcata</i>		1	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Cladonia gracilis</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Cladonia gracilis</i>	<i>elongata</i>	1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Cladonia gracilis</i>	<i>turbinata</i>	1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Cladonia gracilis</i>	<i>vulnerata</i>	1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Cladonia grayi</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Cladonia kanewskii</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0

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<i>Cladonia macrophylla</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	1	0
<i>Cladonia merochlorophaea</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Cladonia metacorallifera</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Cladonia mitis</i>		1	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Cladonia ochrochlora</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Cladonia phyllophora</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Cladonia pleurota</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0
<i>Cladonia portentosa</i>		1	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Cladonia pyxidata</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Cladonia rangiferina</i>		1	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Cladonia rei</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Cladonia scabriuscula</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0
<i>Cladonia squamosa</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	1	0
<i>Cladonia squamosa</i>	<i>squamosa</i>	1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	1	0
<i>Cladonia stellaris</i>		1	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Cladonia stygia</i>		1	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Cladonia subfurcata</i>		1	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Cladonia subulata</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0
<i>Cladonia sulphurina</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0
<i>Cladonia symphylicarpia</i>		1	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Cladonia trassii</i>		1	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Cladonia umbricola</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0
<i>Cladonia uncialis</i>		1	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Cladonia verruculosa</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0
<i>Cladonia verticillata</i>		1	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Coccocarpia erythroxyli</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Collema flaccidum</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Collema tenax</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0

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<i>Collema undulatum</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Dactylina arctica</i>	<i>arctica</i>	1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Dactylina arctica</i>	<i>beringica</i>	1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Dactylina ramulosa</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Dermatocarpon arnoldianum</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Dermatocarpon miniatum s.lat.</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Dibaeis baeomyces</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Enchylium polycarpon</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Ephebe hispidula</i>		0	1	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0
<i>Ephebe lanata</i>		0	1	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0
<i>Evernia mesomorpha</i>		1	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	0	0
<i>Fuscopannaria abscondita</i>		0	1	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0
<i>Fuscopannaria praetermissa</i>		0	1	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0
<i>Fuscopannaria viridescens</i>		0	1	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0
<i>Gowardia nigricans</i>		1	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0
<i>Hypogymnia austerodes</i>		1	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	0	0
<i>Hypogymnia bitteri</i>		1	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	0	0
<i>Hypogymnia physodes</i>		1	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	0	0
<i>Hypogymnia subobscura</i>		1	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0
<i>Hypogymnia vittata s.lat.</i>		1	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	0	0
<i>Imshaugia aleurites</i>		1	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	1	0
<i>Lasallia pennsylvanica</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Lathagrium cristatum</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	1	0
<i>Lathagrium fuscovirens</i>		0	1	0	1	0	0	0	1	0	0	0	0	1	0	0	0	1	0
<i>Lathagrium undulatum</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Leciophysma finmarkicum</i>		0	1	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0
<i>Lempholemma cf. intricatum</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Lempholemma polyanthes</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0

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<i>Lempholemma radiatum</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Lempholemma sp. nov.</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Leptogium saturninum</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Lichenomphalia hudsoniana</i>		1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Lobaria linita</i>		0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0
<i>Lobaria pseudopulmonaria</i>		0	1	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0
<i>Lobaria scrobiculata</i>		0	1	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0
<i>Masonhalea richardsonii</i>		1	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0
<i>Massalongia carnosae</i>		0	1	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0
<i>Melanelia agnata</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Melanelia hepatizon</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Melanelia infumata</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	1	0
<i>Melanelia sorediata</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	1	0	0
<i>Melanelia stygia</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Melanohalea exasperatula</i>		1	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	1	0
<i>Melanohalea multispora</i>		1	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0
<i>Melanohalea olivaceoides</i>		1	0	0	0	0	1	0	1	0	0	0	0	1	0	0	1	0	0
<i>Melanohalea septentrionalis</i>		1	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0
<i>Melanohalea trabeculata</i>		1	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	1	0
<i>Montanelia disjuncta</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	1	0	0
<i>Montanelia panniformis</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Multiclavula vernalis</i>		1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Nephroma arcticum</i>		0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0
<i>Nephroma expallidum</i>		0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0
<i>Nephroma helveticum</i>		0	1	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0
<i>Nephroma parile</i>		0	1	0	0	0	0	1	1	0	0	0	0	1	0	0	1	0	0
<i>Nephroma resupinatum</i>		0	1	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0
<i>Parmelia fraudans</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0

Lichen Species	Subspecies	Green	Cyano Only	Tripartite	Saxicole	Terricole	Epiphyte	Lignicole	Foliose	Fruticose	Simple cladoniform	Squamulose	Erect richly branched	Appressed foliose	Filamentous sprawling	3D foliose	soredia	isidia	lobules
<i>Parmelia hygrophila</i>		1	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	1	0
<i>Parmelia omphalodes</i>		1	0	0	1	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Parmelia saxatilis</i>		1	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	1	0
<i>Parmelia skultii</i>		1	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Parmelia sulcata</i>		1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0
<i>Parmeliella triptophylla</i>		0	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0
<i>Parmeliopsis ambigua</i>		1	0	0	0	0	1	1	1	0	0	0	0	1	0	0	1	0	0
<i>Parmeliopsis hyperopta</i>		1	0	0	0	0	1	1	1	0	0	0	0	1	0	0	1	0	0
<i>Peltigera aphthosa</i>		0	0	1	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Peltigera canina</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Peltigera chionophila</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Peltigera collina</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	1	0	0
<i>Peltigera didactyla</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	1	0	0
<i>Peltigera elisabethae</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	1
<i>Peltigera extenuata</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	1	0	0
<i>Peltigera kristinssonii</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Peltigera lepidophora</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	1	0
<i>Peltigera leucophlebia</i>		0	0	1	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Peltigera lyngei</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Peltigera malacea</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Peltigera membranacea</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Peltigera neckeri</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Peltigera neopolydactyla</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Peltigera polydactylon</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Peltigera praetextata</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	1
<i>Peltigera retifoveata</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Peltigera rufescens</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Peltigera scabrosa</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0

Lichen Species	Subspecies	Green	Cyano Only	Tripartite	Saxicole	Terricole	Epiphyte	Lignicole	Foliose	Fruticose	Simple cladoniform	Squamulose	Erect richly branched	Appressed foliose	Filamentous sprawling	3D foliose	soredia	isidia	lobules
<i>Peltigera scabrosella</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Peltigera venosa</i>		0	0	1	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Phaeophyscia constipata</i>		1	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Phaeophyscia decolor</i>		1	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Phaeophyscia sciastra</i>		1	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	0	0
<i>Physcia aipolia</i>		1	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0
<i>Physcia caesia</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	1	0	0
<i>Physcia dubia</i>		1	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	0	0
<i>Physcia tenella s. lat.</i>		1	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	0	0
<i>Physconia muscigena</i>		1	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Pilophorus robustus</i>		1	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Polyscaenia candelaria</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Polychidium muscicola</i>		0	1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0
<i>Protopannaria pezizoides</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Pseudephebe minuscula</i>		1	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0
<i>Pseudephebe pubescens</i>		1	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Psora decipiens</i>		1	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0
<i>Psora himalayana</i>		1	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0
<i>Psora rubiformis</i>		1	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0
<i>Psoroma hypnorum</i>		0	0	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0
<i>Ramalina dilacerata</i>		1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0
<i>Ramalina farinacea</i>		1	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	0	0
<i>Ramalina roesleri</i>		1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0
<i>Ramalina thrausta</i>		1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0
<i>Rhizoplaca chryssoleuca</i>		1	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Rhizoplaca melanophthalma</i>		1	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Rostania ceranisca</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Rusavskia elegans</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0

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<i>Rusavskia sorediata</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	1	0	0
<i>Scytinium gelatinosum</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Scytinium lichenoides</i>		0	1	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0
<i>Scytinium tenuissimum</i>		0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Solorina bispora</i>		0	0	1	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Solorina crocea</i>		0	0	1	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Solorina saccata</i>		0	0	1	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Solorina spongiosa</i>		0	0	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0
<i>Sphaerophorus fragilis</i>		1	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Sphaerophorus globosus</i>		1	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Stereocaulon alpinum</i>		0	0	1	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Stereocaulon apocalypticum</i>		0	0	1	0	1	0	0	0	1	0	0	1	0	0	0	1	0	0
<i>Stereocaulon botryosum</i>		0	0	1	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Stereocaulon glareosum</i>		0	0	1	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Stereocaulon groenlandicum</i>		0	0	1	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Stereocaulon paschale</i>		0	0	1	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Stereocaulon saxatile</i>		0	0	1	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Stereocaulon subcoralloides</i>		0	0	1	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Stereocaulon symphycheilum</i>		0	0	1	0	1	0	0	0	1	0	0	1	0	0	0	1	0	0
<i>Stereocaulon tomentosum</i>		0	0	1	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Stereocaulon vesuvianum</i>		0	0	1	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0
<i>Stereocaulon wrightii</i>		0	0	1	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0
<i>Sticta arctica</i>		0	1	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0
<i>Thamnolia vermicularis</i>		1	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
<i>Toninia candida</i>		1	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0
<i>Umbilicaria caroliniana</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Umbilicaria cinereorufescens</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Umbilicaria cylindrica</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0

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<i>Umbilicaria decussata s.lat</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Umbilicaria deusta</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Umbilicaria hyperborea</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Umbilicaria krascheninnikovii</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Umbilicaria phaea s.lat</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Umbilicaria proboscidea</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Umbilicaria scholanderi s.lat</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Umbilicaria torrefacta</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Umbilicaria vellea</i>		1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Usnea lapponica</i>		1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0
<i>Usnea scabrata</i>		1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0
<i>Vestergrenopsis elaeina</i>		0	1	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Vestergrenopsis isidiata</i>		0	1	0	1	0	0	0	1	0	0	0	0	1	0	0	1	0	0
<i>Vulpicida pinastris</i>		1	0	0	0	0	1	1	1	0	0	0	0	0	0	1	1	0	0
<i>Vulpicida tilesii</i>		1	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0
<i>Xanthoparmelia coloradoensis</i>		1	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0
<i>Zahlbrucknerella calcarea</i>		0	1	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0