

SUPPLEMENTAL TABLE I. Voucher information (including country where specimens were collected, collector name, collection number and acronyms of herbaria where specimens were deposited) for 70 *Umbilicaria* and *Lasallia* specimens used for this study and three outgroup species. GenBank accession numbers are provided for the 186 sequences generated for this study, whereas GenBank identification numbers are listed for the 29 sequences obtained from GenBank.

Taxon	AFTOL	Voucher	GenBank accession number		
			nucLSU	ITS	mitSSU
<i>Umbilicaria africana</i>	AFTOL7152	Peru, <i>Hestmark 05081B</i> (O)	HM161545	HM161482	HM161572
<i>U. aprina</i> 1	AFTOL7153	Bolivia, <i>Hestmark 05030B</i> (O)	HM161514	HM161483	HM161573
<i>U. aprina</i> 2	AFTOL7116	Bolivia, <i>Hestmark 05007</i> (O)	HM161597	HM161502	HM161619
<i>U. aprina</i> 3	AFTOL1416	Norway, <i>Hestmark 00201</i> (DUKE)	119514009	HM161480	119514024
<i>U. arctica</i>	AFTOL1266	Norway, <i>Hestmark 04201</i> (DUKE)	119513982	HM161454	119514129
<i>U. calvescens</i> 1	AFTOL7149	Bolivia, <i>Hestmark 05050B</i> (O)	HM161515	HM161457	HM161550
<i>U. calvescens</i> 2	AFTOL7117	Argentina, <i>Hestmark 09002</i> (O)	HM161601	HM161506	HM161623
<i>U. calvescens</i> 3	AFTOL7118	Argentina, <i>Hestmark 09003</i> (O)	HM161602	HM161507	HM161624
<i>U. calvescens</i> 4	AFTOL7119	Argentina, <i>Hestmark 09005</i> (O)	HM161604	HM161508	HM161626
<i>U. calvescens</i> 5	AFTOL7140	Peru, <i>Hestmark 05060B</i> (O)	HM161516	HM161458	HM161574
<i>U. calvescens</i> 6	AFTOL7141	Chile, <i>Hestmark 98025</i> (O)	HM161517	HM161459	HM161551
<i>U. calvescens</i> 7	AFTOL7142	Bolivia, <i>Hestmark 05046B</i> (O)	HM161518	HM161484	HM161575
<i>U. calvescens</i> 8	AFTOL7143	Peru, <i>Hestmark 05083B</i> (O)	HM161546	HM161485	HM161576
<i>U. calvescens</i> 9	AFTOL7144	Peru, <i>Hestmark 05061B</i> (O)	HM161519	HM161460	HM161552
<i>U. calvescens</i> 10	AFTOL7145	Bolivia, <i>Hestmark 05016B</i> (O)	HM161520	HM161461	HM161553
<i>U. calvescens</i> 11	AFTOL7146	Bolivia, <i>Hestmark 05015B</i> (O)	HM161521	HM161462	HM161577
<i>U. calvescens</i> 12	AFTOL7147	Bolivia, <i>Hestmark 05011B</i> (O)	HM161522	----	HM161554
<i>U. calvescens</i> 13	AFTOL7148	Bolivia, <i>Hestmark 05049B</i> (O)	HM161523	----	HM161578
<i>U. calvescens</i> 14	AFTOL7150	Bolivia, <i>Hestmark 05019B</i> (O)	HM161524	HM161463	HM161579

<i>U. calvescens</i> 15	AFTOL7151	Peru, <i>Hestmark 05084B</i> (O)	HM161547	HM161486	HM161555
<i>U. cinereorufescens</i> 1	AFTOL7120	Bolivia, <i>Hestmark 05010B</i> (O)	HM161598	HM161503	HM161620
<i>U. cinereorufescens</i> 2	AFTOL7121	Ecuador, <i>Hestmark 94079</i> (O)	HM161605	HM161511	HM161629
<i>U. crustulosa</i> 1	AFTOL7122	Norway, <i>Hestmark 09017</i> (O)	HM161590	HM161496	HM161612
<i>U. crustulosa</i> 2	AFTOL7123	Norway, <i>Hestmark 2002</i> (O)	HM161593	HM161498	HM161615
<i>U. crustulosa</i> 3	AFTOL7124	Norway, <i>Hestmark 2008</i> (O)	HM161594	HM161499	HM161616
<i>U. crustulosa</i> 4	AFTOL7125	Norway, <i>Hestmark 09018</i> (O)	HM161591	HM161497	HM161613
<i>U. decussata</i> 1	AFTOL7126	Bolivia, <i>Hestmark 05003B</i> (O)	HM161596	HM161501	HM161618
<i>U. decussata</i> 2	AFTOL7127	Argentina, <i>Hestmark 09004</i> (O)	HM161603	-----	HM161625
<i>U. decussata</i> 3	AFTOL7128	Ecuador, <i>Hestmark 94074</i> (O)	-----	HM161510	HM161628
<i>U. dendrophora</i> 1	AFTOL7129	Bolivia, <i>Hestmark 05021</i> (O)	HM161599	HM161504	HM161621
<i>U. dendrophora</i> 2	AFTOL7130	Ecuador, <i>Hestmark 94005</i> (O)	-----	HM161509	HM161627
<i>U. dendrophora</i> 3	AFTOL7131	Argentina, <i>Hestmark 09001</i> (O)	HM161600	HM161505	HM161622
<i>U. dichroa</i> 1	AFTOL7154	Peru, <i>Hestmark 050110B</i> (O)	HM161525	HM161464	HM161580
<i>U. dichroa</i> 2	AFTOL7155	Peru, <i>Hestmark 05074B</i> (O)	HM161526	HM161465	HM161556
<i>U. grisea</i> 1	AFTOL7132	Sweden, <i>Hestmark 09011</i> (O)	HM161586	HM161491	HM161607
<i>U. grisea</i> 2	AFTOL7133	Sweden, <i>Hestmark 09013</i> (O)	HM161587	HM161493	HM161609
<i>U. grisea</i> 3	AFTOL7134	Spain, <i>Hestmark 87001</i> (O)	HM161595	HM161500	HM161617
<i>U. haplocarpa</i> 1	AFTOL7156	Ecuador, <i>Hestmark 94043</i> (O)	HM161527	HM161466	HM161557
<i>U. haplocarpa</i> 2	AFTOL7157	Bolivia, <i>Hestmark 05110B</i> (O)	HM161528	HM161467	HM161558
<i>U. haplocarpa</i> 3	AFTOL7158	Peru, <i>Hestmark 05077B</i> (O)	HM161529	HM161468	HM161559
<i>U. haplocarpa</i> 4	AFTOL7159	Peru, <i>Hestmark 05076B</i> (O)	HM161530	HM161469	HM161560
<i>U. haplocarpa</i> 5	AFTOL7160	Peru, <i>Hestmark 05079B</i> (O)	HM161531	HM161470	HM161561
<i>U. haplocarpa</i> 6	AFTOL7161	Peru, <i>Hestmark 05078B</i> (O)	HM161532	HM161471	HM161562

<i>U. haplocarpa</i> 7	AFTOL7162	Peru, <i>Hestmark 05070B</i> (O)	HM161533	HM161472	HM161581
<i>U. haplocarpa</i> 8	AFTOL7163	Chile, <i>Hestmark 98013</i> (O)	HM161534	HM161473	HM161563
<i>U. haplocarpa</i> 9	AFTOL7164	Chile, <i>Hestmark 98023</i> (O)	HM161535	HM161474	HM161564
<i>U. haplocarpa</i> 10	AFTOL7165	Chile, <i>Hestmark 98023B</i> (O)	HM161536	HM161475	HM161565
<i>U. haplocarpa</i> 11	AFTOL7166	Bolivia, <i>Hestmark 05042B</i> (O)	HM161548	HM161476	HM16158
<i>U. haplocarpa</i> 12	AFTOL7167	Bolivia, <i>Hestmark 05052B</i> (O)	HM161537	HM161487	HM161583
<i>U. haplocarpa</i> 13	AFTOL7168	Chile, <i>Hestmark 98022</i> (O)	HM161538	HM161477	HM161566
<i>U. hirsuta</i> 1	AFTOL7135	Norway, <i>Hestmark 09015</i> (O)	HM161588	HM161494	HM161610
<i>U. hirsuta</i> 2	AFTOL7136	Norway, <i>Hestmark 09016</i> (O)	HM161589	HM161495	HM161611
<i>U. hirsuta</i> 3	AFTOL7137	Sweden, <i>Hestmark 09012</i> (O)	HM165263	HM161492	HM161608
<i>U. hirsuta</i> 4	AFTOL7138	Sweden, <i>Hestmark 09019</i> (O)	HM161592	-----	HM161614
<i>U. leprosa</i> 1	AFTOL7169	Bolivia, <i>Hestmark 05004B</i> (O)	HM161539	HM161478	HM161567
<i>U. leprosa</i> 2	AFTOL7170	Ecuador, <i>Hestmark 94052</i> (O)	HM161540	-----	HM161568
<i>U. leprosa</i> 3	AFTOL7171	Ecuador, <i>Hestmark 94065</i> (O)	HM161541	-----	HM161569
<i>U. leprosa</i> 4	AFTOL7172	Bolivia, <i>Hestmark 05039B</i> (O)	HM161542	HM161479	HM161584
<i>U. mammulata</i>	-----	-----	110666899	110666887	11964208
<i>U. muehlenbergii</i>	-----	-----	52699725	4336518	46411484
<i>U. nylanderiana</i> 1	AFTOL7173	Bolivia, <i>Hestmark 05009B</i> (O)	HM161543	HM161488	HM161570
<i>U. nylanderiana</i> 2	AFTOL7174	Ecuador, <i>Hestmark 94200</i> (O)	HM161549	HM161489	HM161571
<i>U. polyphylla</i>	-----	-----	62005358	-----	62005405
<i>U. rigida</i>	AFTOL1267	Norway, <i>Hestmark 04202</i> (DUKE)	-----	HM161455	119514130
<i>U. spodochroa</i>	AFTOL555	Norway, <i>Hestmark 03201</i> (DUKE)	119513983	HM161481	119514025
<i>U. subcalvescens</i>	AFTOL7139	Colombia, <i>Lutzoni &amp; Miadlikowska 061409-31</i> (ANDES)	HM161606	-----	HM161630
<i>U. vellea</i>	AFTOL7175	Bolivia, <i>Hestmark 05038B</i> (O)	HM161544	HM161490	HM161585

<i>Lasallia papulosa</i>	AFTOL650	USA, <i>Lutzoni &amp; Miadlikowska 03.07.04/10</i> (DUKE)	113707371	-----	119514148
<i>L. pustulata</i>	AFTOL554	Norway, <i>Hestmark 03202</i> (DUKE)	113707370	HM161456	119514146
<i>L. pennsylvanica</i>	AFTOL365	USA, <i>Culberson 22287</i> (DUKE)	15216676	HM161513	48773785
Outgroup:					
<i>Boreoplaca ultrafrigida</i>	AFTOL1702	Russia, <i>Haugan &amp; Timdal YAK03/84</i> (DUKE)	119514007	HM161512	119514023
<i>Hypocenomyce scalaris</i>	-----	-----	110666901	110666888	119641341
<i>Ophioparma ventosa</i>	-----	-----	62005338	46906213	62005386

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