

SUPPLEMENTAL TABLE S5. Data used to generate Figs. 3 and 4.

Lineages across Lecanoromycetes (Fig. 2)	No. of internodes within each lineage	Average no. of genes in the 5+4+3+2- gene data set	% of internodes with BS- ML $\geq$ 70%	% of internodes with BS- ML<70%	% of internodes absent
Parmeliaceae	272	2.88	21.5	13.8	64.7
Lecanoraceae	49	2.90	20.4	12.7	66.8
Gypsoplacaceae	7	2.75	17.8	10.7	71.4
Cladoniaceae	30	2.84	22.5	19.2	58.3
Stereocaulaceae	15	3.12	33.3	15.0	51.7
Squamarinaceae	5	4.25	45.0	5.0	50.0
Ramboldiaceae	4	2.80	31.2	6.2	62.5
Mycoblastaceae	2	4.00	62.5	0.0	37.5
Tephromelataceae	2	4.67	87.5	0.0	12.5
Ramalinaceae	54	3.20	30.1	16.2	53.7
Psoraceae	8	3.55	40.6	18.7	40.6
Pilocarpaceae	13	3.00	34.6	1.9	63.5
Sphaerophoraceae	5	3.67	50.0	0.0	50.0
Psilolechiaceae	3	3.00	33.3	8.3	58.3
Scoliciosporaceae	1	3.00	50.0	0.0	50.0
<i>Haematomma accolens</i>	0	3.00	N/A	N/A	N/A
Teloschistaceae	64	3.69	57.4	6.2	36.3
Megalosporaceae	4	4.20	75.0	0.0	25.0
Brigantiaeaceae	5	3.33	45.0	5.0	50.0
Letrouitiaceae	2	5.00	100.0	0.0	0.0
Leprocaulales	2	3.67	50.0	0.0	50.0
Caliciaceae	25	3.15	35.0	11.0	54.0
Physciaceae	19	3.30	35.5	11.8	52.6
Lopadiaceae	0	4.00	N/A	N/A	N/A
<i>Psorula rufonigra</i>	0	2.00	N/A	N/A	N/A
Helocarpaceae (?)	1	2.50	25.0	0.0	75.0
Loabriaceae	53	2.87	24.5	12.3	63.2
Peltigeraceae	39	2.77	28.2	10.9	60.9
Nephromataceae	4	3.80	62.5	0.0	37.5
Massalongiaceae	6	3.43	41.7	4.2	54.1
Vahliellaceae	0	3.00	N/A	N/A	N/A
Collemataceae	39	2.65	21.8	10.9	67.3
Placynthiaceae	3	3.50	50.0	0.0	50.0
Coccocarpiaceae	2	4.00	62.5	0.0	37.5
Pannariaceae	35	3.30	44.3	7.1	48.6
Koerberiaceae	2	2.00	0.0	25.0	75.0
<i>Romjularia</i> +	1	4.00	25.0	25.0	50.0

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<i>Mycobilimbia</i> p.p.					
Lecideales	33	3.23	26.5	12.1	61.4
Rhizocarpales	14	3.67	39.3	23.2	37.5
Umbilicariaceae	33	3.06	33.3	9.8	57.6
Ophioparmaceae	7	4.00	60.7	7.1	32.1
Fuscideaceae	5	3.33	40.0	10.0	50.0
Ropalosporaceae	0	3.00	N/A	N/A	N/A
Graphidaceae	99	2.43	18.9	11.6	69.4
Gyalectaceae	11	3.00	40.9	4.5	54.5
Sagiolechiaceae	2	2.33	25.0	0.0	75.0
Coenogoniaceae	3	3.25	33.3	16.7	50.0
Group 1	3	2.25	16.7	8.3	75.0
Phlyctidaceae	2	3.00	12.5	12.5	75.0
Odontotremataceae s.str.	2	2.00	25.0	0.0	75.0
Porinaceae	4	2.40	25.0	0.0	75.0
Stictidaceae	26	2.59	16.3	4.8	78.8
Arctomiales	5	2.50	25.0	5.0	70.0
Trapeliales	33	3.12	34.8	10.6	54.5
Hymeneliales	6	3.28	50.0	4.2	45.8
Baeomycetales	5	3.83	65.0	0.0	35.0
Megasporaceae	36	2.62	25.0	6.9	68.1
Ochrolechiaceae	18	3.31	38.9	6.9	54.2
Coccotremataceae	3	3.50	58.3	0.0	41.7
Pertusariaceae	51	2.75	24.0	12.2	63.7
Icmadophilaceae	8	4.00	65.6	0.0	34.4
Sarrameanales	5	2.83	15.0	25.0	60.0
Candelariaceae	9	3.00	27.8	16.7	55.5
Dactylosporaceae	4	3.20	37.5	6.2	56.2
Strangosporaceae	2	3.00	50.0	0.0	50.0
Acarosporales	37	3.21	37.2	10.1	52.7

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