

**Discovering the indigenous microbial communities associated with the natural fermentation of sap from the cider gum *Eucalyptus gunnii***

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**Table S1.** Sequences and abundances for all bacterial OTUs.**Table S2.** Relative abundance for all bacterial phyla (%).

Phylum	Overall	Location				Niche		Date	
		Five Rivers - Serpentine	Skullbone Plains	Trawtha Makuminya	Bark	Sap	Soil	Nov 2016	Jan 2017
p__Acidobacteria	0.087	0.032	0.091	0.111	0.116	0.066	0.094	0.079	0.094
p__Actinobacteria	1.952	3.677	0.133	1.558	1.651	2.458	0.545	0.187	3.634
p__Armatimonadetes	0.009	0.000	0.000	0.015	0.002	0.004	0.055	0.013	0.005
p__Bacteroidetes	1.348	0.098	3.347	1.484	1.721	1.000	1.831	1.466	1.236
p__Chlamydiae	0.004	0.000	0.000	0.007	0.000	0.008	0.000	0.000	0.009
p__Cyanobacteria	0.066	0.000	0.000	0.111	0.000	0.090	0.148	0.056	0.075
p__Fibrobacteres	0.003	0.000	0.000	0.005	0.000 <sup>b</sup>	0.000 <sup>b</sup>	0.026 <sup>a</sup>	0.006	0.000
p__Firmicutes	3.199	2.181	1.620	4.014	1.512	3.380	7.276	3.208	3.190
p__Patescibacteria	0.023	0.003	0.051	0.026	0.025 <sup>b</sup>	0.010 <sup>b</sup>	0.075 <sup>a</sup>	0.018	0.027
p__Planctomycetes	0.017	0.019	0.000	0.020	0.024	0.003	0.059	0.025	0.010
p__Proteobacteria	64.722	63.478	62.988	65.675	71.489	59.878	66.895	69.042	60.603
p__Spirochaetes	0.006	0.000	0.000	0.010	0.000 <sup>b</sup>	0.000 <sup>b</sup>	0.052 <sup>a</sup>	0.013	0.000
p__Verrucomicrobia	0.285	0.000	0.021	0.474	0.013	0.440	0.374	0.570	0.013
Unassigned	28.279	30.513	31.749	26.489	23.448	32.662	22.570	25.317	31.104

Different letters indicate statistically significant differences ( $p < 0.05$  according to Kruskal test)

**Table S3.** Sequences and abundances for all fungal OTUs.**Table S4.** Relative abundance for all fungal classes (%).

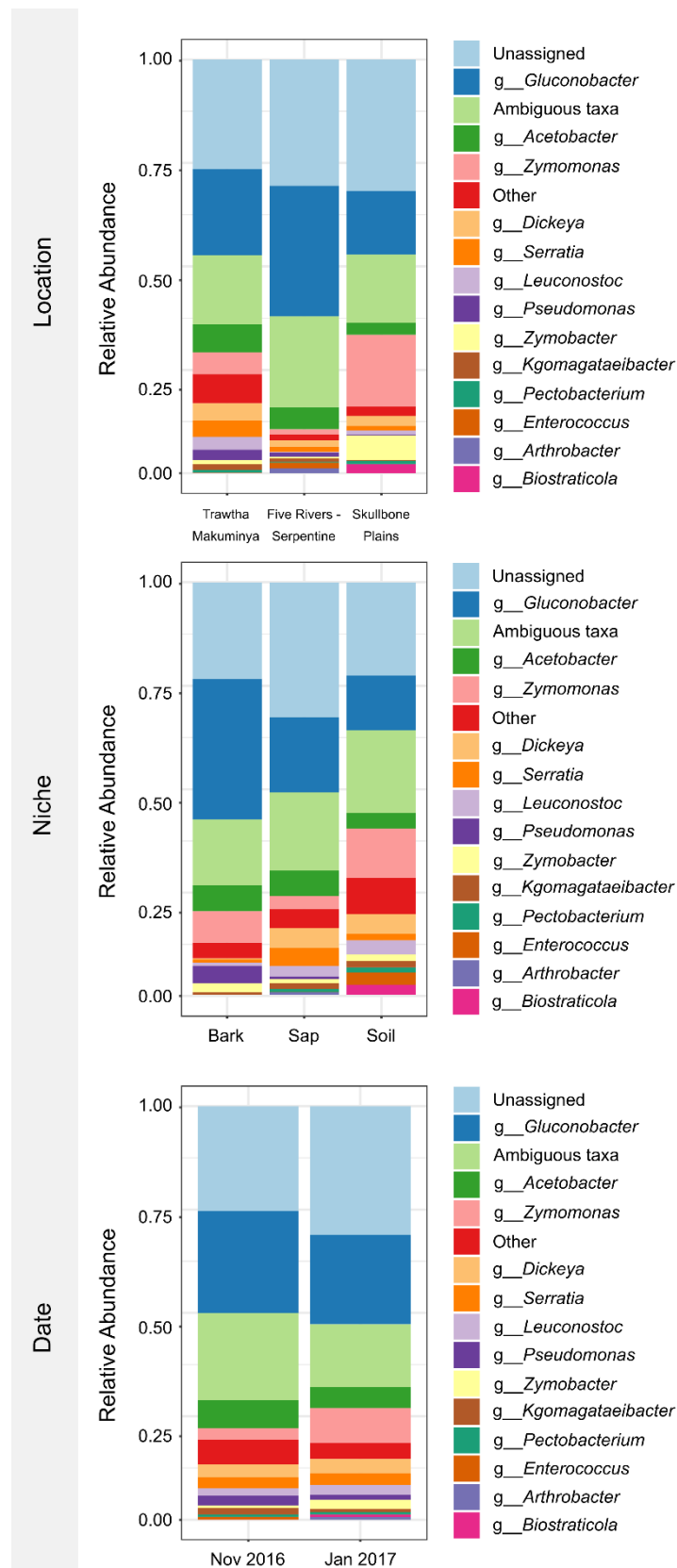
Class	Overall	Location				Niche		Date	
		Five Rivers - Serpentine	Skullbone Plains	Trawtha Makuminya	Bark	Sap	Soil	Nov 2016	Jan 2017
<i>c__Agaricomycetes</i>	0.201	0.608	0.004	0.058	0.103 <sup>b</sup>	0.288 <sup>a</sup>	0.100 <sup>b</sup>	0.062 <sup>b</sup>	0.335 <sup>a</sup>
<i>c__Cystobasidiomycetes</i>	0.547	1.083	0.012	0.418	0.008 <sup>b</sup>	1.004 <sup>a</sup>	0.054 <sup>b</sup>	1.062	0.056
<i>c__Dothideomycetes</i>	7.279	15.940 <sup>a</sup>	0.842 <sup>b</sup>	4.712 <sup>b</sup>	4.105 <sup>b</sup>	9.509 <sup>a</sup>	6.451 <sup>b</sup>	3.711	10.682
<i>c__Eurotiomycetes</i>	0.971	0.702 <sup>b</sup>	1.977 <sup>a</sup>	0.874 <sup>b</sup>	1.044 <sup>a</sup>	1.095 <sup>a</sup>	0.204 <sup>b</sup>	0.703	1.227
<i>c__Leotiomycetes</i>	1.459	0.663	2.697	1.553	2.262	1.236	0.140	1.832	1.105
<i>c__Microbotryomycetes</i>	0.295	0.688	0.060	0.166	0.026	0.253	1.266	0.418	0.178
<i>c__Mortierellomycetes</i>	0.685	2.441	0.005	0.026	0.093 <sup>a</sup>	1.219 <sup>a</sup>	0.000 <sup>b</sup>	0.032	1.308
<i>c__Mucoromycetes</i>	0.001	0.000 <sup>b</sup>	0.010 <sup>a</sup>	0.000 <sup>b</sup>	0.004	0.000	0.000	0.000	0.002
<i>c__Orbiliomycetes</i>	0.064	0.002	0.006	0.106	0.184	0.001	0.002	0.129	0.002
<i>c__Pezizomycetes</i>	0.062	0.000	0.443	0.006	0.179	0.000	0.000	0.008	0.113
<i>c__Saccharomycetes</i>	38.177	37.748	31.997	39.735	42.216	38.148	26.599	38.840	37.545
<i>c__Sordariomycetes</i>	0.508	0.428 <sup>a</sup>	0.158 <sup>b</sup>	0.622 <sup>a</sup>	0.124 <sup>b</sup>	0.808 <sup>a</sup>	0.273 <sup>b</sup>	0.771	0.257
<i>c__Tremellomycetes</i>	2.487	3.322	0.864	2.461	0.789 <sup>b</sup>	3.661 <sup>a</sup>	2.132 <sup>a</sup>	2.202	2.759
<i>c__Wallemiomycetes</i>	0.021	0.003	0.067	0.020	0.002 <sup>b</sup>	0.015 <sup>b</sup>	0.107 <sup>a</sup>	0.010	0.033
Unassigned	47.240	36.373 <sup>b</sup>	60.859 <sup>a</sup>	49.243 <sup>b</sup>	48.863	42.765	62.673	50.221	44.398

Different letters indicate statistically significant differences ( $p < 0.05$  according to Kruskal test)

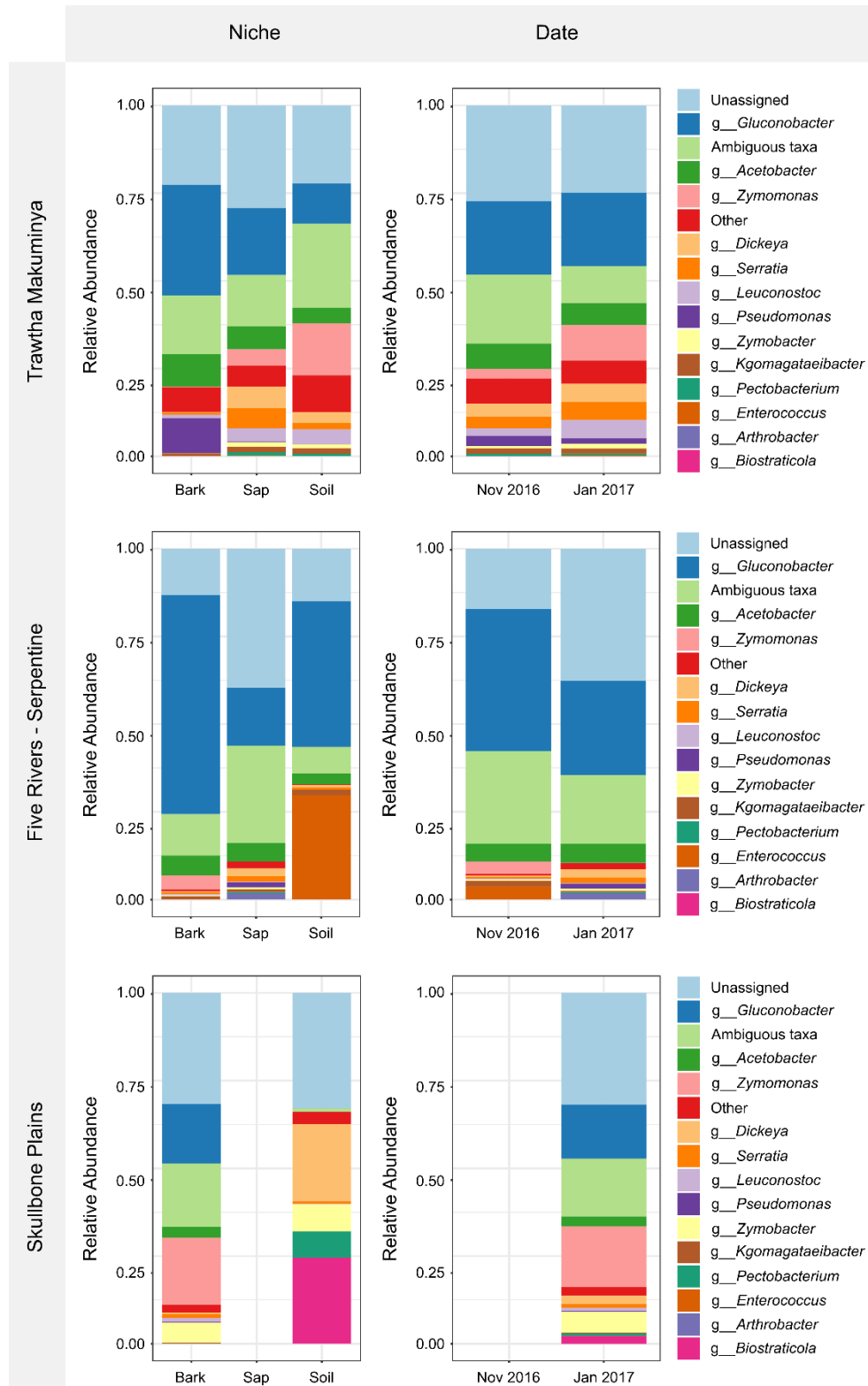
**Table S5.** Most abundant fungal species (%).

Species	Overall
s__ <i>Kregervanrija delftensis</i>	9.308
s__ <i>Hanseniaspora valbyensis</i>	6.684
s__ <i>Lachancea quebecensis</i>	3.182
s__ <i>Citeromyces hawaiiensis</i>	2.465
s__ <i>Schwanniomyces pseudopolymorphus</i>	2.436
s__ <i>Lachancea cidri</i>	2.204
s__ <i>Torulaspota globosa</i>	2.082
s__ <i>Pichia kluyveri</i>	1.865
s__ <i>Hormonema macrosporum</i>	1.348
s__ <i>Hanseniaspora thailandica</i>	1.285
s__ <i>Candida salmanticensis</i>	1.193
s__ <i>Penidiella carpentariae</i>	0.915
s__ <i>Cladosporium delicatulum</i>	0.709
s__ <i>Bettsia alvei</i>	0.395
s__ <i>Holtermanniella takashimae</i>	0.146
s__ <i>Cercophora vinosa</i>	0.109
Unassigned	47.240
Other <sup>1</sup>	11.770
Ambiguous taxa	4.666

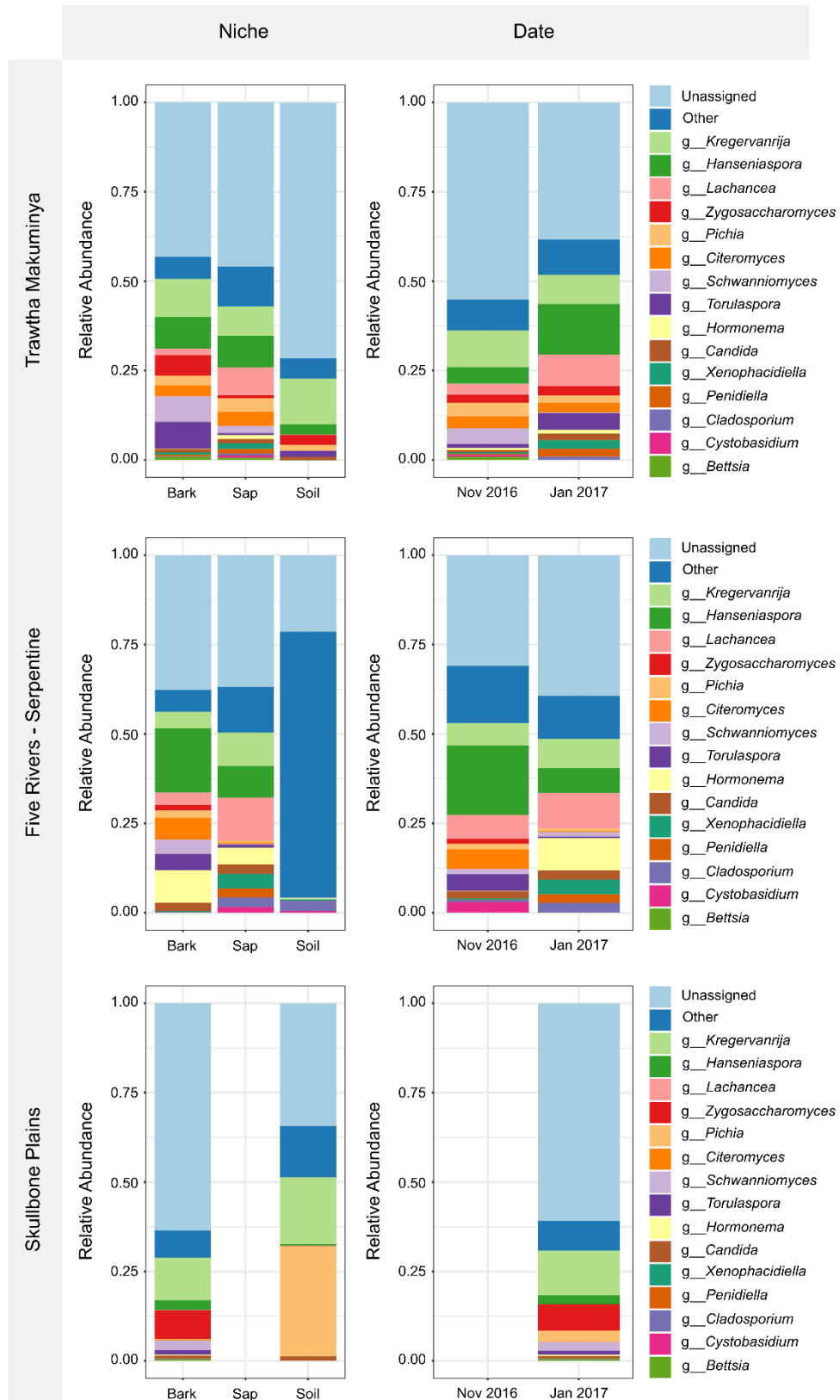
<sup>1</sup> identified species with abundance lower than 0.1%



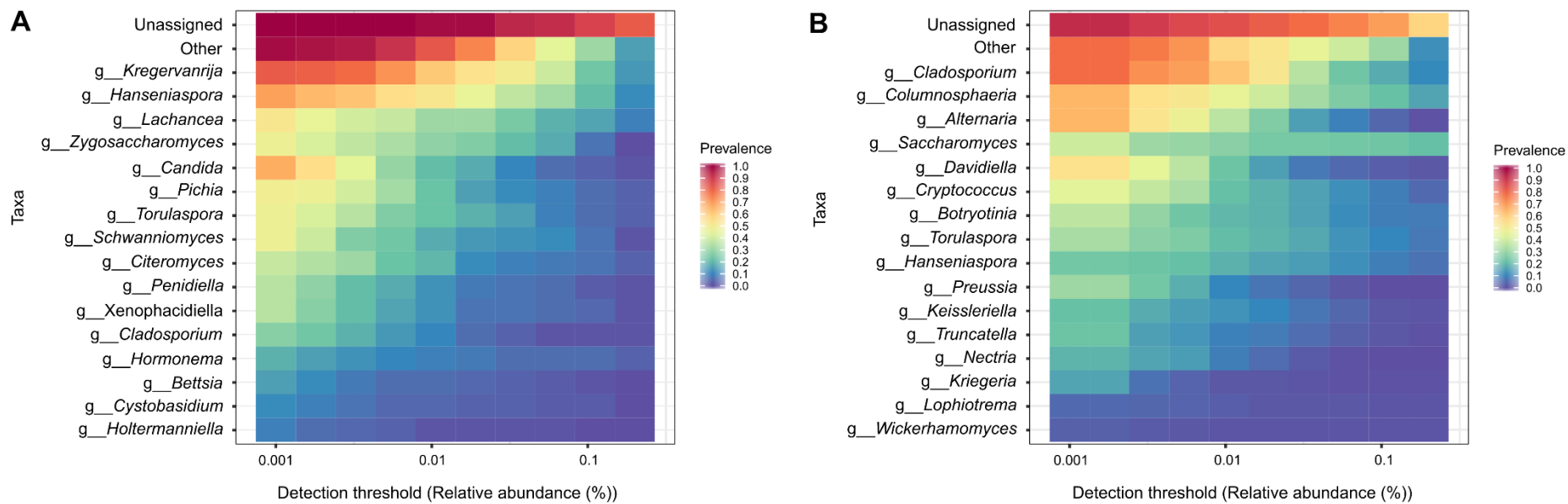
**Figure S1.** Relative abundance for the most abundant bacterial genera associated with *Eucalyptus gunnii* according to geographical location, ecological niche or sampling date.



**Figure S2.** Relative abundance for the most abundant bacterial genera associated with *Eucalyptus gunnii* in Trawtha Makuminya, Skullbone Plains and Five Rivers - Serpentine according to ecological niche, and sampling date.

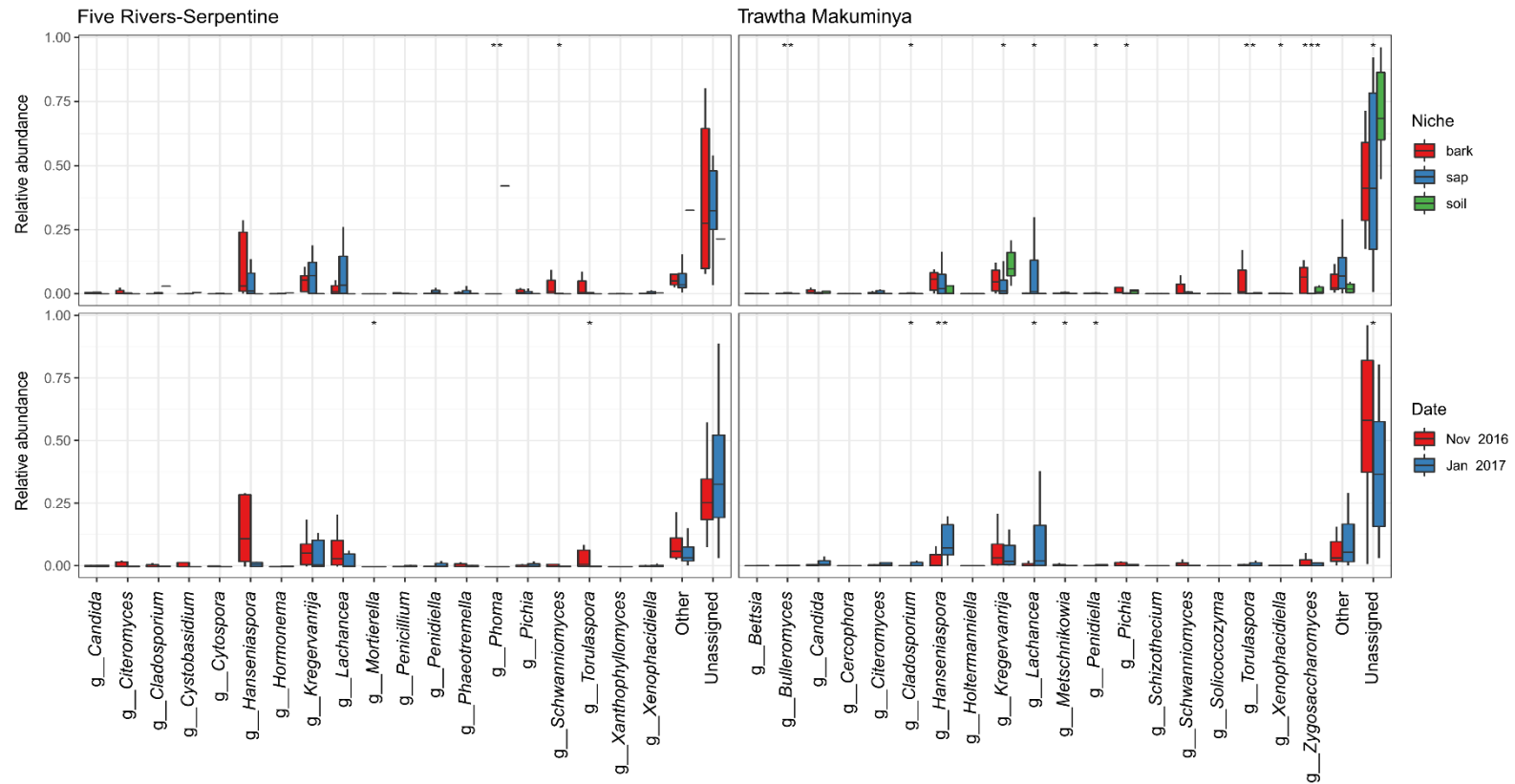


**Figure S3.** Relative abundance for the 15 most abundant fungal genera associated with *Eucalyptus gunnii* according to geographical location, ecological niche, and sampling date.



**Figure S4.** Most prevalent fungal genera associated with *Eucalyptus gunnii* (A) and with *Vitis vinifera* (B). *V. vinifera* data from Morrison-Whittle and Goddard<sup>33,34</sup>.





**Figure S5.** Boxplots showing relative abundance for the 15 most abundant fungal genera in Trawtha Makuminya and Five Rivers - Serpentine according to ecological niche and sampling date. Stars indicate statistically significant differences according to the Kruskal–Wallis test (\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ ).