

Table S1. Study sites were located in two mixed maritime forests in the early stages of succession. These two forests, which we called Forest 1 and Forest 2, are approximately 9 km apart and are located near Bellingham, Washington, USA. Altitude and soil organic matter content of the studied forests are presented as means \pm standard errors. Study sites 1 through 4 were located in Forest 1, while 5 through 8 were located in Forest 2.

Location ID	n	Altitude (m)	Organic matter (%)	Study Sites
Forest 1	4	174	14.4 \pm 3.8	1- 4, composite
Forest 2	4	471	24.5 \pm 5.0	5 - 8

Table S3. Arbuscular mycorrhizal fungal taxa found in litter, soil, or both litter and soil after resampling to 114 sequences/sample.

Where found	Virtual taxa	Genus
Only in leaf litter	VTX00067	<i>Glomus</i>
	VTX00108	<i>Glomus</i>
	VTX00113	<i>Glomus</i>
	VTX00115	<i>Glomus</i>
	VTX00143	<i>Glomus</i>
	VTX00165	<i>Glomus</i>
	VTX00197	<i>Glomus</i>
	VTX00159	<i>Glomus</i>
	VTX00239	<i>Paraglomus</i>
In both leaf litter and soil	VTX00004	<i>Archaeospora</i>
	VTX00057	<i>Claroideoglomus</i>
	VTX00225	<i>Claroideoglomus</i>
	VTX00357	<i>Claroideoglomus</i>
	VTX00160	<i>Glomus</i>
	VTX00281	<i>Paraglomus</i>
	VTX00308	<i>Paraglomus</i>
Only in soil	VTX00030	<i>Acaulospora</i>
	VTX00056	<i>Claroideoglomus</i>
	VTX00193	<i>Claroideoglomus</i>
	VTX00340	<i>Claroideoglomus</i>
	VTX00061	<i>Diversispora</i>
	VTX00062	<i>Diversispora</i>
	VTX00072	<i>Glomus</i>
	VTX00074	<i>Glomus</i>
	VTX00084	<i>Glomus</i>
	VTX00088	<i>Glomus</i>
	VTX00122	<i>Glomus</i>
	VTX00129	<i>Glomus</i>
	VTX00153	<i>Glomus</i>
	VTX00199	<i>Glomus</i>
	VTX00214	<i>Glomus</i>
	VTX00216	<i>Glomus</i>
	VTX00219	<i>Glomus</i>

Table S4. Results of a permutational multivariate analysis of variance of AM fungal communities considering two factors, site and source of mycorrhizal community (*i.e.* soil or litter). This analysis used the same data that are displayed in Fig. 1c. Note that the factor 'site' included a separate category for composite samples.

Source	df	SS	R ²	F	p
site	8	39418	0.698	2.86	0.006
soil/litter	1	10127	0.179	5.88	0.004
residual	4	6891	0.122		
Total	13	56436			