Table S1. Hyphal Anastomosis Frequencies (AF) are self-fusion events related to mycelial interconnectedness [a] (%) across the AM fungal phylogeny [b].

AM Fungal Species	AF within germlings	AF between germlings	AF within a mycelium	AF between mycelia
Acaulospora scrobiculata (A38)[S1]	42.01 ± 6.38	72.86 ± 6.72		
Acaulospora spinosa (95-UFLA)[S1]	32.81 ± 6.92	14.02 ± 7.36		
Ambispora leptoticha[S2]			0	
Claroideoglomus etunicatum (SCT101A)[S1]	75.40 ± 3.57	63.79 ± 6.09		
Dentiscutata reticulata[S3]			5.3	0
Funneliformis caledonium (BEG 20)[S4]	55.0 (46.0 – 63.0)	34.0 (27.0 – 41.0)		
F. caledonium (BEG 20)[S4]	35.0 (30.0 – 39.0)	0		
F. caledonium (BEG 20)[S4]	48.0 (43.0 – 53.0)	34.0 (24.0 – 44.0)		
Funneliformis coronatum – in Lactuca sativa[S5]			6.5	
F. coronatum- in *Cichorium intybus T*[S5]			7.7	
F. coronatum – in *C. intybus S* [S5]			3.6	
F. coronatum – in *C. intybus B* [S5]			2.6	
F. coronatum – in *Valerianella locusta* [S5]			1.2	
Funneliformis mosseae (BEG 12)[S4]	57.0 (48.0 – 66.0)	0		
F. mosseae (BEG 12)[S4]	51.0 (42.0 – 61.0)	40.0 (31.0 – 49.0)		
F. mosseae (IMA1) – in *Allium porrum* [S6]			59.3 (49.7 - 68.4)	62.3 (53.7 – 70.4)
F. mosseae (IMA1) – in *Daucus carota* [S6]			45.5 (36.1 - 55.2)	48.5 (38.3 – 58.7)
F. mosseae (IMA1) – in *L. Sativa* [S5]			63.8 (54.4 - 72.5)	44.8 (36.3 – 53.2)
F. mosseae (IMA1) – in *Gossypium hirsutum* [S6]			53.1 (44.2 - 61.8)	48.9 (40.3 – 57.5)
F. mosseae (IMA1) – in *Solanum melongena* [S6]			47.0 (35.9 - 58.3)	44.0 (37.7 – 50.5)
F. mosseae – in *L. Sativa* [S5]			27.2	
F. mosseae – in *C. intybus T* [S5]			29.1	
F. mosseae – in *C. intybus S* [S5]			31.9	
F. mosseae – in *C. intybus B* [S5]			25.8	
F. mosseae – in *V. Locusta* [S5]			48.0	
Gigaspora albida (URM-FMA01) [S1]	0	0		
Gigasorpa gigantea [S2]			0	
Gigaspora margarita [S3]			4.5	0
Gigaspora rosea (A35) [S1]	0	0		
Gi. Rosea [S4]	0	0		
Glomus formosanum (A20) [S1]	79.84 ± 4.39	91.41 ± 3.92		
Glomus proliferum [S3]			79.6	20.1
Paraglomus occultum [S2]			0	
Rhizophagus clarus (351-UFLA) [S2]	47.98 ± 26.19	0		

R. clarus (1UnC#7) [S7]	6.3	8.0	15.6	37.4
R. clarus (6AmA#2) [S7]	6.6	19.7	10.3	24.5
R. clarus (Crwest#8) [S7]	17.4	37.5	11.7	32.4
R. clarus (WV123A#6) [S7]	13.4	30.3	2.4	5.4
R. clarus (WV123A#7) [S7]	11.4	18.1	4.7	11.1
R. clarus (WV310#5) [S7]	20.6	35.7	6.8	17.8
R. clarus [S2]			6.67	
Rhizophagus irregularis (LPA 8) [S4]	59.0 (51.0 – 66.0)	0		
R. irregularis (IMA 5) [S4]	69.0 (62.0 – 75.0)	90.0 (81.0 – 99.0)		
R. irregularis (A4) [S8]	48.1			
R. irregularis (B3) [S8]	49.4			
R. irregularis (C2) [S8]	51.0			
R. irregularis (C3) [S8]	47.5			
R. irregularis (D1) [S8]	45.8			
R. irregularis – in *L. sativa* [S5]			44.2	
R. irregularis – in *C. intybus T* [S5]			40.1	
R. irregularis – in *C. intybus* [S5]			35.6	
R. irregularis – in *C. intybus B* [S5]			41.0	
R. irregularis – in *V. locusta* [S5]			53.6	
R. irregularis [S3]			87.5	12.5
R. irregularis [S2]			13.90	
R. irregularis (DAOM 197198) [S9]				26.0 ± 23.0
R. irregularis (DAOM 240415 [S9]				19.0 ± 8.2
R. irregularis (DAOM 234328) [S9]				49.5 ± 17.5
Rhizophagus manihotis (A83) [S1]	9.29 ± 3.01	24.29 ± 11.02		
Scutellospora calospora (A80) [S1]	0	0		
Scutellospora castanea [S4]	0	0		
Scutellospora heterogama [S2]			0	

[a] *Measures of variability include ± S.E. of means* [S1,S9] *or 95% confidences intervals* [S4, S6].

[b] *Isolate identifications extracted directly from articles; however, AM fungal species have been updated in line with current nomenclature.*

Supplemental references

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