

Table S1. Strains of *Neurospora* used in the study.

Species	Strain ID ¹		Mating type	Geographic origin
	Heterokaryon	Homokaryon		
Pseudohomothallic				
<i>N. tetrasperma</i> (L1 ³)	P4492	9033 ²	A	Franklin, Louisiana
		9034 ²	a	
<i>N. tetrasperma</i> (L4 ³)	RLM131	7585 ²	A	Coba, Mexico
		7586 ²	a	
<i>N. tetrasperma</i> (L9 ³)	965	965A ²	A	Liberia
		965a ²	a	
Heterothallic				
<i>N. crassa</i> (NcA ⁴)	n.a.	8900 ^{5,6}	A	Adiopodoume, Ivory Coast
<i>N. crassa</i> (NcA ⁴)	n.a.	8876 ^{5,6}	a	Franklin, Louisiana
<i>N. crassa</i> (NcB ⁴)	n.a.	8830 ^{5,6}	A	Golikro, Ivory Coast
<i>N. crassa</i> (NcB ⁴)	n.a.	8772 ^{5,6}	a	Karnataka, India
<i>N. crassa</i> (NcC ⁴)	n.a.	8858 ^{5,6,7}	A	Tamil Nadu, India
<i>N. crassa</i> (NcC ⁴)	n.a.	8863 ^{5,6,7}	a	Tamil Nadu, India
<i>N. discreta</i>	n.a.	8579 ^{5,6,7}	A	Belen, NM
<i>N. discreta</i>	n.a.	8777 ⁶	A	Texas, USA
<i>N. discreta</i>	n.a.	8827 ⁷	a	Fogbesso, Ivory Coast
<i>N. hispaniola</i>	n.a.	8817 ^{5,6,7}	A	Carrefour Dufort, Haiti
<i>N. hispaniola</i>	n.a.	8815 ^{5,6,7}	a	Carrefour Dufort, Haiti
<i>N. intermedia</i> (NiA ⁴)	n.a.	8901 ^{5,6}	A	Monrovia, Liberia
<i>N. intermedia</i> (NiA ⁴)	n.a.	8869 ^{5,6}	a	Tamil Nadu, India
<i>N. intermedia</i> (NiB ⁴)	n.a.	8764 ^{5,6}	A	Manila, Phillipines
<i>N. intermedia</i> (NiB ⁴)	n.a.	8768 ^{5,6}	a	Bogor, Java
<i>N. metzenbergii</i>	n.a.	8880 ^{5,6}	A	Nosy Be, Madagascar
<i>N. metzenbergii</i>	n.a.	8853 ^{5,6}	a	Yukatan, Mexico
<i>N. perkinsii</i>	n.a.	8838 ^{5,6}	A	Madingo, Congo
<i>N. perkinsii</i>	n.a.	8835 ^{5,6}	a	Makaba, Congo
<i>N. sitophila</i>	n.a.	1135 ^{5,7}	A	Panama
<i>N. sitophila</i>	n.a.	10394 ⁶	a	Laie, Hawaii

<i>N. sitophila</i>	n.a.	412 ^{5,7}	a	Unknown
<i>N. sitophila</i>	n.a.	8770 ⁷	A	Karnataka, India
<i>N. sitophila</i>	n.a.	10409 ⁷	A	Chemax, Mexico

¹IDs are Fungal Genetic Stock Center (FGSC), Perkins (P) or RL Metzenberg (RLM) numbers. For *N. tetrasperma*: the two homokaryotic, single mating-type component strains are derived from the listed heterokaryon. n.a.; non applicable (heterothallic *Neurospora* grows in nature as homokaryotic/haploid).

²Strains used for Illumina sequencing

³Phylogenetic lineages described in Menkis et al. (2009), *Journal of Evolutionary Biology* 22(9): 1923-1936

⁴Phylogenetic subgroup designated by Dettman et al. (2003), *Evolution* 57(12): 2703-2720

⁵Strains used in phylogenetic analyses of genes along the *mat* chromosome

⁶Strains used in phylogenetic analyses of autosomal microsatellite flanking loci

⁷Strains used for Bayesian Concordance Analyses (BCA)