Fig. S1

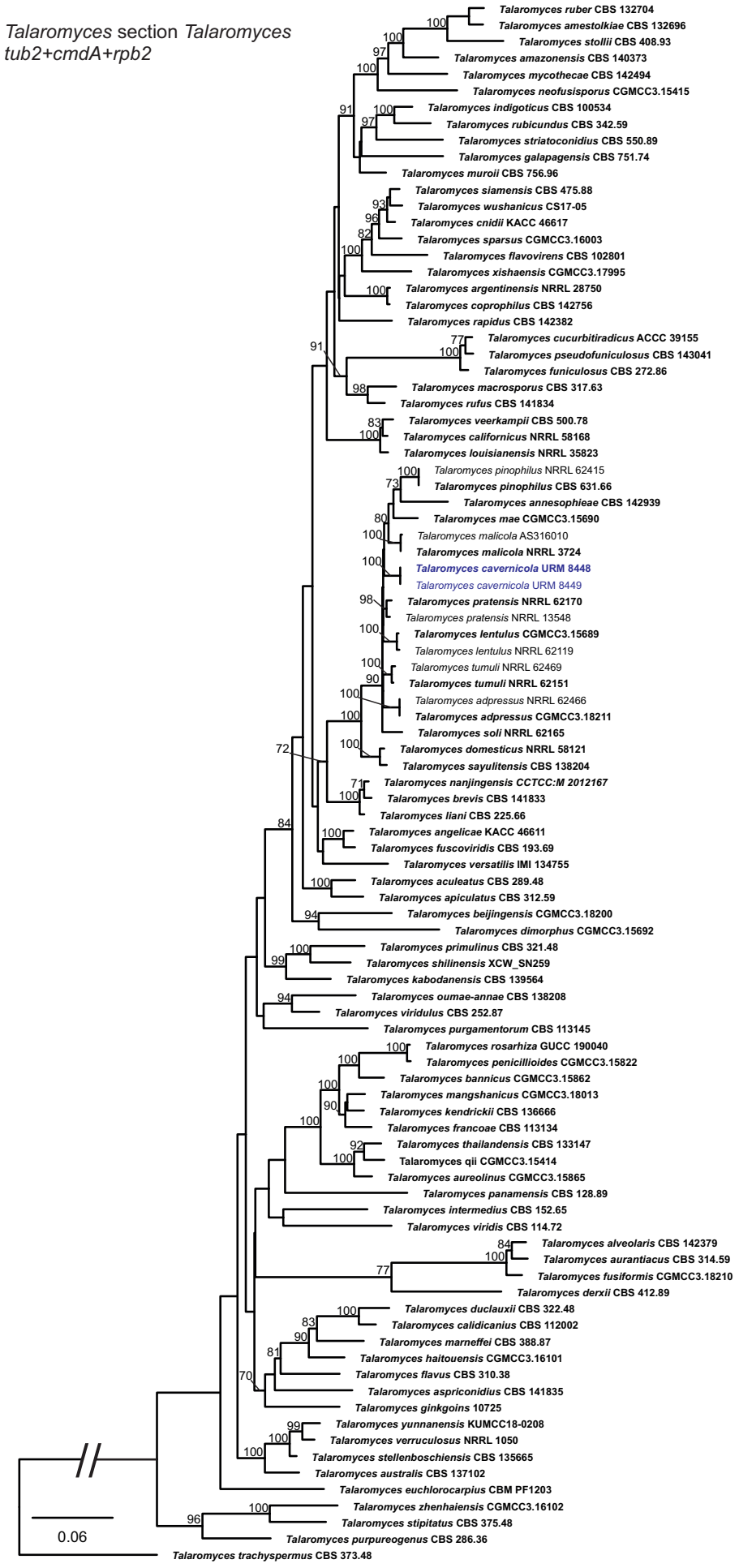

Fig. S1. Maximum likelihood tree using sequences of *tub2-cmdA-rpb2* of species included in*Talaromyces* section *Talaromyces.*

Fig. S2

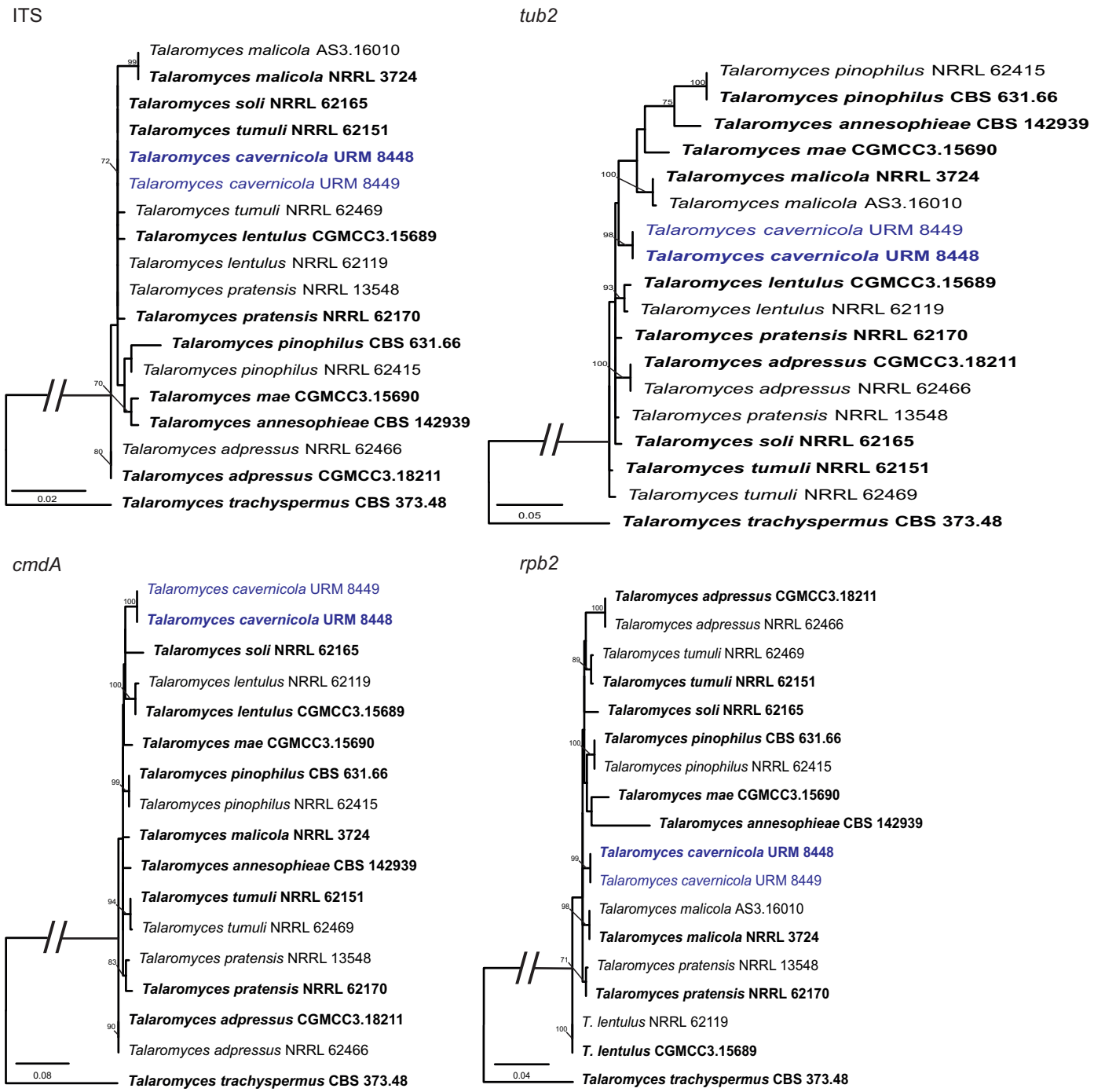

Fig. S2. Maximum likelihood tree using an independent dataset of ITS, *tub2*, *cmdA*, and *rpb2* of species included in *Talaromyces* section *Talaromyces*.

Table S1. GenBank accession numbers of sequences obtained in this study (in bold) and sequences from other studies are ordered according to the phylogenetic analyses of the new species described here.

Table S1

			GenBank accession numbers						
	Strains/isolates	**Substrates/Hosts**	**ITS**	**LSU**	***tub2***	***cmdA***	***rpb2***	***tef1***	***act***
This study									
Ascomycota									
Alternaria jacinthicola	F22	air	**ON795068**	–	–	–	**OP290509**	–	–
Amesia sp.	T210	sediment	**ON795069**	–	–	–	–	–	
Aspergillus alboluteus	R21	sediment	**ON798810**	–	–	–	–	–	–
Aspergillus brunneoviolaceus	F31	air	–	–	–	**OP290527**	–	–	–
Aspergillus cf. niger	M13	air	–	–	**OP672369**	–	–	–	–
Aspergillus dimorphicus	M22	air	–	–	**OP672370**	**OP290528**	–	–	–
	T23	sediment	**ON798811**	–	–	**OP290529**	–	–	–
	T28	sediment	**ON798812**	–	**OP672371**	**OP290530**	–	–	–
	T29	sediment	–	–	**OP672372**	–	–	–	–
Aspergillus eburneocremeus	T35	sediment	**ON798813**	–	–	–	–	–	–
	T36	sediment	**ON798814**	–	–	–	–	–	–
	T37	sediment	**ON798815**	–	–	–	–	–	–
Aspergillus germanicus	F11	air	–	–	**OP672373**	**OP290531**	–	–	–
	F33	air	–	–	**OP672374**	**OP290532**	–	–	–
	F35	air	–	–	**OP672375**	**OP290533**	–	–	–
Aspergillus lebretii sp. nov.	URM 8450	air	**ON862927**	–	**OP672381**	**OP290539**	**OP290510**	–	–
	URM 8451^{T}	air	**ON862928**	–	**OP672382**	**OP290540**	**OP290511**	–	–
Aspergillus neoniger	E25	air	–	–	–	**OP290534**	–	–	–
Aspergillus sp. Sect. *Aspergillus*	R14	sediment	**ON795067**	–	–	–	–	–	–
Aspergillus stellatus	E15	air	–	–	**OP672376**	–	–	–	–
	E17	air	–	–	**OP672377**	**OP290535**	–	–	–
	T310	sediment	**ON798816**	–	**OP672378**	–	–	–	–
Aspergillus sydowii	E12	air	–	–	**OP672379**	**OP290536**	–	–	–
	E28	air	–	–	–	**OP290537**	–	–	–
	C14	sediment	**ON798817**	–	–	–	–	–	–
	C31	sediment	**ON798818**	–	–	–	–	–	–
	R12	sediment	**ON798819**	–	–	–	–	–	–
	R15	sediment	**ON798820**	–	–	–	–	–	–
Aspergillus tubingensis	M31	air	–	–	**OP672380**	**OP290538**	–	–	–
	R28	sediment	**ON798821**	–	–	–	–	–	–

Table S1. (Continued).

			GenBank accession numbers						
	Strains/isolates	**Substrates/Hosts**	**ITS**	**LSU**	***tub2***	***cmdA***	***rpb2***	***tef1***	***act***
Candida sp.	M32	air	**ON795070**	**ON795097**	–	–	–	–	–
Cercospora cf. canescens	E23	air	**ON795071**	–	–	–	–	**OP290518**	–
Cercospora vignigena	E24	air	**ON795072**	–	–	–	–	–	–
Cladosporium oxysporum	E33	air	**ON795074**	–	–	–	–	**OP290519**	–
	C17	sediment	**ON795075**	–	–	–	–	–	**OP683574**
	C33	sediment	–	–	–	–	–	–	**OP683575**
	T24	sediment	**ON795076**	–	–	–	–	–	–
Cladosporium tenuissimum	F24	air	–	–	–	–	–	**OP290520**	–
	T34	sediment	**ON795078**	–	–	–	–	–	–
Cladosporium xanthocromaticum	E11	air	**ON795079**	–	–	–	–	**OP290521**	–
	E16	air	–	–	–	–	–	**OP290522**	–
Edenia gomezpompae	F21	air	**ON795080**	–	–	–	–	–	–
Gymnascella hyalinospora	R16	sediment	**ON795081**	–	–	–	–	–	–
Humicola lutea	R27	sediment	**ON798822**	–	–	–	–	–	–
Humicola sp.	T27	sediment	**ON795082**	–	–	–	**OP722572**	–	–
	T39	sediment	**ON795083**	–	–	–	**OP290512**	–	–
Lasiodiplodia iranensis	M11	air	**ON795084**	–	–	–	–	**OP290524**	–
	F34	air	**ON795085**	–	–	–	–	**OP290523**	–
Leptosphaerulina sp.	M21	air	**ON795086**		–	–	–	–	–
Malbranchea cavernosa sp. nov.	URM 8443	air	**ON862929**	**ON862922**	**OP672388**	–	–	–	–
	URM 8445^{T}	air	**ON862930**	**ON862923**	**OP672389**	–	–	–	–
	URM 8534	sediment	**ON862931**	**ON862924**	**OP672390**	–	**OP290517**	–	–
Neocosmospora sp.	R29	sediment	**ON795087**	–	–	–	–	–	–
Ovatospora sp.	R33	sediment	**ON795088**	–	–	–	–	–	–
Penicillium citrinum	T26	sediment	**ON795089**	–	**OP672385**	–	–	–	–
Penicillium copticola	R22	sediment	**ON795091**	–	**OP672386**	**OP290541**	–	–	–
Penicillium guanacastense	M12	air	**ON795092**	–	**OP672387**	**OP290542**	–	–	–
Penicillium sp. Sect. *Fasciculata*	T33	sediment	**ON795094**	–	–	–	–	–	–
Penicillium sp. Sect. *Paradoxa*	T12	sediment	**ON795093**	–	–	–	–	–	–
Pseudohumicola cecavii sp. nov.	URM 8444^{T}	air	**ON862932**	–	**OP672391**	–	**OP722570**	–	–
	R35	sediment	–	–	**OP672392**	–	**OP722571**	–	–

Table S1. (Continued).

			GenBank accession numbers						
	Strains/isolates	**Substrates/Hosts**	**ITS**	**LSU**	***tub2***	***cmdA***	***rpb2***	***tef1***	***act***
Pseudolecanicillium caatingaense gen. et sp. nov.	URM 8447^T	air	**ON862934**	**ON862926**	–	–	**OP290513**	**OP290525**	–
	URM 8446	air	**ON862933**	**ON862925**	–	–	**OP290514**	**OP290526**	–
Talaromyces cavernicola sp. nov.	URM 8448^T	air	**ON862935**	–	**OP672383**	**OP290543**	**OP290515**	–	–
	URM 8449	air	**ON862936**	–	**OP672384**	**OP290544**	**OP290516**	–	–
Basidiomycota									
Sympodiomycopsis paphiopedili	E26	air	**ON795095**	**ON795098**	–	–	–	–	–
Tritirachium brasiliense sp. nov.	URM 8535^T	sediment	**ON862937**	–	–	–	**OP290517**	–	–
GenBank accession numbers – other studies									
Aspergillus									
Aspergillus arxii	CBS 525.83^T	–	MN431361	–	MN969365	MN969223	JN121529	–	–
Aspergillus brunneouniseriatus	CBS 127.61	–	MH857996	–	FJ531025	FJ531104	JN121442	–	–
Aspergillus chaetosartoryae	CBS 265.73^T	–	MH860680	–	FJ531024	FJ531102	EF652099	–	–
Aspergillus chrysellus	NRRL 5084 ^{T}	–	EF652155	–	EF652109	EF652136	EF652090	–	–
	NRRL 5085	–	EF652156	–	EF652110	EF652137	EF652091	–	–
Aspergillus citocrescens	CCF 4001	sediment	NR_151781	–	FR775317	LN878969	MN969163	–	–
Aspergillus cremeus	NRRL 5081^T	–	NR_137455	–	EF652120	EF652125	EF652101	–	–
Aspergillus dimorphicus	NRRL 3650^T	–	EF652154	–	EF652111	EF652135	EF652096	–	–
	NRRL 35052	–	EU021602	–	EU021672	EU021685	EU021637	–	–
Aspergillus europeaus	CCF 4409^T	soil cave	LN908996	–	LN909006	LN909007	LT548274	–	–
	CCF 4678	toenail of human	LN908997	–	LN909008	LN909009	–	–	–
Aspergillus flaschentraegeri	NRRL 5042^T	–	EF652150	–	EF652113	EF652130	–	–	–
Aspergillus glaucus	NRRL 117	–	EF652053	–	EF651888	EF651990	EF651935	–	–
Aspergillus gorakhpurensis	CBS 648.74	–	FJ531042	–	FJ531018	FJ531096	EF652097	–	–
Aspergillus inflatus	CBS 682.70^T	–	NR_166000	–	FJ531008	FJ531090	JN406529	–	–
Aspergillus itaconicus	CBS 115.32	–	FJ531043	–	FJ531026	FJ531103	EF652103	–	–
Aspergillus koreanus	EML–GSNP1–1	rhizosphere soil of pine tree	KX216525	–	KX216530	KX216528	KX216531	–	–
Aspergillus pulvinus	CBS 578.65	–	FJ531048	–	FJ531013	FJ531086	JN121536	–	–
Aspergillus stromatoides	CBS 113231	–	FJ531046	–	FJ531002	FJ531085	–	–	–
Aspergillus tardus	CBS 433.93	–	FJ531045	–	FJ531001	FJ531084	–	–	–
Aspergillus wentii	NRRL 377	–	EF652158	–	EF652107	EF652132	EF652093	–	–
	NRRL 375^T	–	EF652151	–	EF652106	EF652131	EF652092	–	–

Table S1. (Continued).

			GenBank accession numbers						
	Strains/isolates	**Substrates/Hosts**	**ITS**	**LSU**	***tub2***	***cmdA***	***rpb2***	***tef1***	***act***
Humicola									
Chaetomium globosum	CBS 160.62^{T}	–	NR_144851	–	KT214742	–	KT214666	–	–
Humicola ampulliella	CBS 116736	discarded sock	LT993569	–	LT993650	–	LT993488	–	–
	CBS 116735^{T}	soil	LT993568	–	LT993649	–	LT993487	–	–
Humicola atrobrunnea	DTHSAUPII:05–1004^{T}	soil	LT993570	–	LT993651	–	LT993489	–	–
Humicola christensenii	CBS 127760^{T}	soil	LT993571	–	LT993652	–	LT993490	–	–
	CGMCC.3.08497	–	LT993572	–	LT993653	–	LT993491	–	–
Humicola cuyabenoensis	CBS 398.97^{T}	rain forest	LT993573	–	LT993654	–	LT993492	–	–
Humicola degenerans	CBS 780.71	termite mound	LT993575	–	LT993656	–	LT993494	–	–
	CBS 127324	soil	LT993576	–	LT993657	–	LT993495	–	–
	CBS 232.65^{T}	soil under mixed forest	LT993574	–	LT993655	–	LT993493	–	–
Humicola distorta	CBS 417.66^{T}	*Populus tremuloides* dead leaf	LT993577	–	LT993658	–	LT993496	–	–
Humicola floriformis	CBS 815.97^{T}	fallen leaves	LT993578	–	LT993659	–	LT993497	–	–
Humicola fuscoatra	CGMCC.3.13428	soil	LT993580	–	LT993661	–	LT993499	–	–
	CBS 118.14^{T}	soil	LT993579	–	LT993660	–	LT993498	–	–
Humicola fuscogrisea	CGMCC.3.13790^{T}	soil	LT993581	–	LT993662	–	LT993500	–	–
Humicola homopilata	CBS 338.68	–	LT993583	–	LT993664	–	LT993502	–	–
	CBS 157.55^{T}	filter paper in soil	LT993582	–	LT993501	–	LT993663	–	–
Humicola leptodermospora	CBS 120095^{T}	forest soil	LT993584	–	LT993665	–	LT993503	–	–
Humicola malaysiensis	CBS 399.97	*Elaeis guineensis*	LT993586	–	LT993667	–	LT993505	–	–
	CBS 167.61	soil	LT993585	–	LT993666	–	LT993504	–	–
	CBS 760.83	soil	LT993587	–	LT993668	–	LT993506	–	–
Humicola mutabilis	CBS 779.71^{T}	soil	LT993588	–	LT993669	–	LT993507	–	–
Humicola olivacea	CBS 142031^{T}	dust	LT993589	–	LT993670	–	LT993508	–	–
Humicola pinnata	CBS 467.66^{T}	dead wood	LT993590	–	LT993671	–	LT993509	–	–
Humicola pulvericola	CBS 144165^{T}	dust	LT993591	–	LT993672	–	LT993510	–	–
	CBS 144166		LT993592	–	LT993673	–	LT993511	–	–
Humicola quadrangulata	CBS 111771^{T}	soil	LT993593	–	LT993674	–	LT993512	–	–
Humicola seminuda	CBS 153.59	leaf fragment in soil	LT993595	–	LT993676	–	LT993514	–	–
	CBS 549.69	soil	LT993596	–	LT993677	–	LT993515	–	–
	CBS 368.84^{T}	soil	LT993594	–	LT993675	–	LT993513	–	–

Table S1. (Continued).

			GenBank accession numbers						
	Strains/isolates	**Substrates/Hosts**	**ITS**	**LSU**	***tub2***	***cmdA***	***rpb2***	***tef1***	***act***
Humicola semispiralis	CBS 723.97^{T}	paper	LT993597	–	LT993678	–	LT993516	–	–
Humicola sphaeralis	CBS 985.87^{T}	soil	LT993598	–	LT993679	–	LT993517	–	–
Humicola subspiralis	BS 148.58	leaf fragments in soil	LT993599	–	LT993680	–	LT993518	–	–
	CBS 119768	soil	LT993600	–	LT993681	–	LT993519	–	–
Humicola udagawae	CBS 337.68^{T}	–	LT993601	–	LT993682	–	LT993520	–	–
Humicola wallefii	CBS 147.67^{T}	soil	LT993602	–	LT993683	–	LT993521	–	–
Malbranchea									
Malbranchea albolutea	UTHSCSA DI18-85 = FMR 17679	human BAL	LR701834	LR701835	–	–	–	–	–
	UTHSCSA DI18-95 = FMR 17689	human BAL	LR701836	LR701837	–	–	–	–	–
	CBS 125.77^{T}	soil	MH861039	MH872808	–	–	–	–	–
Malbranchea aurantiaca	UTHSCSA DI18-94 = FMR 17688	animal	LR701824	LR701825	–	–	–	–	–
	UTHSCSA DI18-88 = FMR 17682	animal skin lesion	LR701826	LR701827	–	–	–	–	–
	CBS 127.77^{T}	culture contaminate	NR -157447	AB040704	–	–	–	–	–
Malbranchea californiensis	ATCC 15600^{T}	dung of a pack rat	MH858121	NG_056947	–	–	–	–	–
Malbranchea chinense	CGMCC3.19572	cave soil	MK329076	MK328981	–	–	–	–	–
Malbranchea chlamydospora	RV 28009^{T}	–	AJ271425	–	–	–	–	–	–
Malbranchea chrysosporioidea	CBS 128.77^{T}	soil	AB361632	AB359413	–	–	–	–	–
Malbranchea circinata	ATCC 34526^{T}	soil	MN627784	MN627782	–	–	–	–	–
Malbranchea concentrica	FMR 405^{T}	–	NR_111089	–	–	–	–	–	–
Malbranchea conjugata	UTHSCSA DI18-105 = FMR 17699	human lung tissue	LR701828	LR701829	–	–	–	–	–
	UTHSCSA DI18-103 = FMR 17697	human BAL	LR701830	LR701831	–	–	–	–	–
	CBS 247.58	soil	NR_121475	HF545313	–	–	–	–	–
Malbranchea dendritica	CBS 131.77^{T}	soil	AY177310	AB359416	–	–	–	–	–
Malbranchea filamentosa	CBS 581.82^{T}	soil	NR_111136	AB359417	–	–	–	–	–
Malbranchea flava	CBS 132.77^{T}	soil	AB361633	AB359418	–	–	–	–	–
Malbranchea flavorosea	ATCC 34529^{T}	soil	NR_158362	AB359419	–	–	–	–	–
Malbranchea flocciformis	UTHSCSA DI18-104 = FMR 17698	human skin	LR701822	LR701823	–	–	–	–	–
	CBS 133.77^{T}	saline soil	AB361634	AB359420	–	–	–	–	–
Malbranchea fulva	CBS 135.77^{T}	air	NR_157444	AB359422	–	–	–	–	–
Malbranchea gymnoascoides	UTHSCSA DI18-87 = FMR 17681 = CBS 146930^{T}	human BAL	LR701757	LR701758	–	–	–	–	–

Table S1. (Continued).

			GenBank accession numbers						
	Strains/isolates	**Substrates/Hosts**	**ITS**	**LSU**	***tub2***	***cmdA***	***rpb2***	***tef1***	***act***
Malbranchea guangxiense	CGMCC3.19634	cave soil	MK329080	MK328985	–	–	–	–	–
Malbranchea kuehnii	CBS 539.72^{T}	dung	NR_103573	NG_056928	–	–	–	–	–
Malbranchea longispora	FMR 12768^{T}	soil	HG326873	HG326874	–	–	–	–	–
Malbranchea multiseptata	UTHSCSA DI18-101 = FMR 17695 = CBS 146931^{T}	human BAL	LR701759	LR701760	–	–	–	–	–
Malbranchea ostraviense	CBS 132919^{T}	fingernail sample	NR_121474	–	–	–	–	–	–
Malbranchea pseudoauxarthron	IFO 31701 = CBS 657.71 = ATCC 22158 = NRRL 5132	domestic rabbit dung	MH860293	KY014424	–	–	–	–	–
Malbranchea pseudoreticulata	UAMH 3117^{T}	lizard dung	NR_111111	–	–	–	–	–	–
Malbranchea pulchella	CBS 202.38	–	AB361638	AB359426	–	–	–	–	–
Malbranchea reticulata	UAMH 2006	wood slat	AJ271568	–	–	–	–	–	–
Nalbranchea setosa	CBS 198.92^{T}	soil	KT155638	–	–	–	–	–	–
Malbranchea stricta	UTHSCSA DI18-86 = FMR 17680 = CBS 146932^{T}	human nail	LR701638	LR701639	–	–	–	–	–
Malbranchea sp.	CBS 319.61	soil	MH858065	MH869635	–	–	–	–	–
Malbranchea thaxteri	CBS 248.58 = UAMH 3912^{T}	opossum dung	NR_111138	–	–	–	–	–	–
Malbranchea umbrina	UTHSCSA DI18-106 = FMR 17700	human BAL	LR701814	LR701815	–	–	–	–	–
	UTHSCSA DI18-107 = FMR 17701	human sinus	LR701816	LR701817	–	–	–	–	–
	UTHSCSA DI18-100 = FMR 17694	human wound	LR701818	LR701819	–	–	–	–	–
	UTHSCSA DI18-99 = FMR 17693	human nail	LR701820	LR701821	–	–	–	–	–
	CBS 105.09^{T}	soil	MH854591	MH866116	–	–	–	–	–
	CBS 226.58	–	MH857765	MH869296	–	–	–	–	–
	CBS 261.52	soil	MH857026	MH868556	–	–	–	–	–
Malbranchea zuffiana	UTHSCSA DI18-96 = FMR 17690	human wound	LR701832	LR701833	–	–	–	–	–
	CBS 219.58^{T}	prairie dog lung	MH869293	AY176712	–	–	–	–	–
Arachnomyces jinanicus	CGMCC3.14173^{T}	pig farm soil	KY440749	KY440752	–	–	–	–	–
Pseudohumicola									
Pseudohumicola atrobrunnea	DTHSAUPII:05–1004^{T}	soil	LT993570	–	LT993651	–	LT993489	–	–
Pseudohumicola pulvericola	CBS 144165^{T}	–	LT993591	–	LT993672	–	LT993510	–	–
	CBS 144166	–	LT993592	–	LT993673	–	LT993511	–	–
Pseudohumicola semispiralis	CBS 723.97^{T}	paper	LT993597	–	LT993678	–	LT993516	–	–

Table S1. (Continued).

			GenBank accession numbers						
	Strains/isolates	**Substrates/Hosts**	**ITS**	**LSU**	***tub2***	***cmdA***	***rpb2***	***tef1***	***act***
Pseudohumicola subspiralis	CBS 148.58	leaf fragments in soil	LT993599	–	LT993680	–	LT993518	–	–
	CBS 119768	soil	LT993600	–	LT993681	–	LT993519	–	–
***Pseudolecanicillium* gen. nov.**									
Akanthomyces aculeatus	HUA 186145^{T}	–	–	MF416520	–	–	–	MF416465	–
	HUA 772	–	KC519371	KC519370	–	–	–	KC519366	–
Amphichorda cavernicola	CGMCC 3.19571^{T}	bird faeces	MK329056	MK328961	–	–	–	MK335997	–
Amphichorda guana	CGMCC 3.17908	soil	KU746665	KU746711	–	–	KY883228	KX855211	–
Ascopolyporus polychrous	P.C. 546	–	–	DQ118737	–	–	–	DQ118745	–
Ascopolyporus villosus	ARSEF 6355	–	AY886544	AY886544	–	–	–	DQ118750	–
Beauveria bassiana	ARSEF 1564^{T}	–	HQ880761	–	–	–	HQ880905	HQ880974	–
	ARSEF 7518	–	HQ880762	–	–	–	–	HQ880975	–
Blackwellomyces pseudomilitaris	BCC 1919^{T}	–	–	MF416534	–	–	MF416440	MF416478	–
	BCC 2091	–	–	MF416535	–	–	MF416441	MF416479	–
Cordyceps kyusyuensis	EFCC 5886	–	–	EF468813	–	–	–	EF468754	–
Cordyceps militaris	OSC 93623	–	JN049825	AY184966	–	–	–	DQ522332	–
Cordyceps ninchukispora	EGS 38.165	–	–	EF468846	–	–	–	EF468795	–
	EGS 38.166	–	–	EF468847	–	–	–	EF468794	–
Cordyceps piperis	CBS 116719	–	–	AY466442	–	–	EU369083	DQ118749	–
Engyodontium aranearum	CBS 309.85	–	AJ292391	AF339526	–	–	DQ522439	DQ522341	–
Flavocillium bifurcatum	YFCC 6101^{T}	pupa	MN576833	MN576781	–	–	MN576897	MN576951	–
Gamszaerea humicola	CGMCC3.19303^{T}	–	MK329092	MK328997	–	–	MK335979	MK336027	–
Gamszarea lunata	CGMCC3.19315^{T}	rock	MK329094	MK328999	–	–	MK335981	MK336029	–
Gamszarea wallacei	CBS 101237^{T}	lepidopteran larva	NR_111267	AY184967	–	–	EF469119	EF469073	–
Gibellula gamsii	BCC 25798	–	MH152532	MH152542	–	–	–	–	–
	BCC 27968^{T}	–	MH152529	MH152539	–	–	–	MH152560	–
Hevansia novoguineensis	CBS 610.80^{T}	–	MH532831	MH394646	–	–	MH521844	MH521885	–
	NHJ 11923	–	–	EU369032	–	–	EU369072	EU369013	–
Hyperdermium pulvinatum	P.C. 602	–	–	AF242353	–	–	–	DQ118746	–
Lecanicillium aranearum	CBS 350.85^{T}	–	MH861888	AF339536	–	–	DQ522450	DQ522350	–
Lecanicillium psalliotae	CBS 101270	–	–	EF469081	–	–	EF469113	EF469066	–
	CBS 532.81	–	–	AF339560	–	–	EF469112	EF469067	–

Table S1. (Continued).

Table S1 (Continued)

			GenBank accession numbers						
	Strains/isolates	**Substrates/Hosts**	**ITS**	**LSU**	***tub2***	***cmdA***	***rpb2***	***tef1***	***act***
Leptobacillium filiforme	URM7918	–	MH979338	MH979399	–	–	–	–	–
Leptobacillium leptobactrum	774.69	decaying wood	NR_154111	NG_069745	–	–	–	–	–
Leptobacillium symbioticum	LC506046 = NBRC 113865^{T}	sori of *Phakopsora pachyrhizi*	NR_171812	LC506046	–	–	–	–	–
Liangia sinensis	YFCC 3103^{T}	–	MN576831	MN576782	–	–	MN576898	MN576952	–
	YFCC 3104	–	MN576832	MN576783	–	–	MN576899	MN576953	–
Neotorrubiella chinghridicola	BCC 39684	–	–	MK632096	–	–	MK632148	MK632071	–
	BCC 80733^{T}	–	–	MK632097	–	–	MK632149	MK632072	–
Parengyodontium album	CBS 504.83^{T}	–	LC092880	LC092899	–	–	–	LC425535	–
	IHEM 4198	–	LC092887	LC092906	–	–	–	DQ268655	–
Pseudogibellula formicarum	BCC 81493	Hemiptera	MT508781	MT512652	–	–	–	MT863566	–
	BCC 84257	Hemiptera	MT508782	MT512653	–	–	–	MT533480	–
	CBS 433.73	–	MH860731	MH872442	–	–	–	MT533481	–
	CBS 871.72	–	–	MH878295	–	–	–	MT863565	–
Purpureocillium lilacinum	CBS 284.36^{T}	–	MH855800	FR775484	–	–	EF468941	EF468792	–
	CBS 431.87	–	–	EF468844	–	–	EF468940	EF468791	–
Samsoniella aurantia	TBRC 7271^{T}	–	–	MF140728	–	–	–	MF140846	–
	TBRC 7272	–	MF140763	MF140727	–	–	MF140817	MF140845	–
Simplicillium lanosoniveum	CBS 101267	–	–	–	–	–	DQ522463	DQ522357	–
	CBS 704.86	–	AJ292396	MH867593	–	–	DQ522464	DQ522358	–
Torrubiella ratticaudata	ARSEF 1915	–	JN049837	DQ518777	–	–	DQ522467	DQ522360	–
Talaromyces									
Talaromyces aculeatus	CBS 289.48^{T}	textile	KF741995	–	KF741929	KF741975	MH793099	–	–
Talaromyces adpressus	CGMCC3.18211^{T}	indoor air	KU866657	–	KU866844	KU866741	KU867001	–	–
	NRRL 62466	–	MH793088	–	MH792961	MH793025	MH793152	–	–
Talaromyces alveolaris	CBS 142379^{T}	human bronch. lavage	LT558969	–	LT559086	LT795596	LT795597	–	–
Talaromyces amazonensis	CBS 140373^{T}	leaf litter	KX011509	–	KX011490	KX011502	MN969186	–	–
Talaromyces amestolkiae	CBS 132696^{T}	house dust	JX315660	–	JX315623	KF741937	JX315698	–	–
Talaromyces angelicae	KACC 46611^{T}	dried root of *Angelica gigas*	KF183638	–	KF183640	KJ885259	KX961275	–	–
Talaromyces annesophieae	CBS 142939^{T}	soil	MF574592	–	MF590098	MF590104	MN969199	–	–
Talaromyces apiculatus	CBS 312.59^{T}	soil	JN899375	–	KF741916	KF741950	KM023287	–	–

Table S1. (Continued).

			GenBank accession numbers						
	Strains/isolates	**Substrates/Hosts**	**ITS**	**LSU**	***tub2***	***cmdA***	***rpb2***	***tef1***	***act***
Talaromyces argentinensis	NRRL 28750^{T}	soil	MH793045	–	MH792917	MH792981	MH793108	–	–
Talaromyces aspriconidius	CBS 141835^{T}		MN864274	–	MN863343	MN863320	MN863332	–	–
Talaromyces aurantiacus	CBS 314.59^{T}	soil	JN899380	–	KF741917	KF741951	KX961285	–	–
Talaromyces aureolinus	CGMCC3.15865^{T}	soil	MK837953	–	MK837937	MK837945	MK837961	–	–
Talaromyces australis	CBS 137102^{T}	soil	KF741991	–	KF741922	KF741971	KX961284	–	–
Talaromyces bannicus	CGMCC3.15862^{T}	soil	MK837955	–	MK837939	MK837947	MK837963	–	–
Talaromyces beijingensis	CGMCC3.18200^{T}	indoor air	KU866649	–	KU866837	KU866733	KU866993	–	–
Talaromyces brevis	CBS 141833^{T}	soil	MN864269		MN863338	MN863315	MN863328		
Talaromyces calidicanius	CBS 112002^{T}	soil	JN899319	–	HQ156944	KF741934	KM023311	–	–
Talaromyces californicus	NRRL 58168^{T}	air	MH793056	–	MH792928	MH792992	MH793119	–	–
Talaromyces cnidii	KACC 46617^{T}	dried root of *Cnidium* sp.	KF183639	–	KF183641	KJ885266	KM023299	–	–
Talaromyces coprophilus	CBS 142756^{T}	herbivore dung	LT899794	–	LT898319	LT899776	LT899812	–	–
Talaromyces cucurbitiradicus	ACCC 39155^{T}	endophyte (*Cucurbita moschata*)	KY053254	–	KY053228	KY053246	–	–	–
Talaromyces derxii	CBS 412.89^{T}	cultivated soil	JN899327	–	JX494306	KF741959	KM023282	–	–
Talaromyces dimorphus	CGMCC3.15692^{T}	forest soil	KY007095	–	KY007111	KY007103	KY112593	–	–
Talaromyces domesticus	NRRL 58121^{T}	floor swab	MH793055	–	MH792927	MH792991	MH793118	–	–
Talaromyces duclauxii	CBS 322.48^{T}	canvas	JN899342	–	JX091384	KF741955	JN121491	–	–
Talaromyces euchlorocarpius	CBM PF1203^{T}	soil	AB176617	–	KJ865733	KJ885271	KM023303	–	–
Talaromyces flavovirens	CBS 102801^{T}	–	JN899392	–	JX091376	KF741933	KX961283	–	–
Talaromyces flavus	CBS 310.38^{T}	–	JN899360	–	JX494302	KF741949	JF417426	–	–
Talaromyces francoae	CBS 113134^{T}	leaf litter	KX011510	–	KX011489	KX011501	MN969188	–	–
Talaromyces funiculosus	CBS 272.86^{T}	*Lagenaria vulgaris*	JN899377	–	MN969408	KF741945	KM023293	–	–
Talaromyces fuscoviridis	CBS 193.69^{T}	soil	KF741979	–	KF741912	KF741942	MN969156	–	–
Talaromyces fusiformis	CGMCC3.18210^{T}	indoor air	KU866656	–	KU866843	KU866740	KU867000	–	–
Talaromyces galapagensis	CBS 751.74^{T}	soil under *Maytenus obovata*	JN899358	–	JX091388	KF741966	KX961280	–	–
Talaromyces ginkgonis	10725^{T}	rotten fruit of	OL638158	–	OL689844	OL689846	OL689848	–	–
Talaromyces haitouensis	CGMCC3.16101^{T}	riverside soil	MZ045695	–	MZ054634	MZ054637	MZ054631	–	–
Talaromyces indigoticus	CBS 100534^{T}	soil	JN899331	–	JX494308	KF741931	KX961278	–	–
Talaromyces intermedius	CBS 152.65^{T}	swamp soil	JN899332	–	JX091387	KJ885290	KX961282	–	–

Table S1. (Continued).

			GenBank accession numbers						
	Strains/isolates	**Substrates/Hosts**	**ITS**	**LSU**	***tub2***	***cmdA***	***rpb2***	***tef1***	***act***
Talaromyces kabodanensis	CBS 139564^{T}	hypersaline soil	KP851981	–	KP851986	KP851995	MN969190	–	–
Talaromyces kendrickii	CBS 136666^{T}	forest soil	KF741987	–	KF741921	KF741967	MN969158	–	–
Talaromyces lentulus	CGMCC3.15689^{T}	soil	KY007088	–	KY007104	KY007096	KY112586	–	–
	NRRL 62119	–	MH793063	–	MH792935	MH792999	MH793126	–	–
Talaromyces liani	CBS 225.66^{T}	soil	JN899395	–	JX091380	KJ885257	KX961277	–	–
Talaromyces louisianensis	NRRL 35823^{T}	air	MH793052	–	MH792924	MH792988	MH793115	–	–
Talaromyces macrosporus	CBS 317.63^{T}	apple juice	JN899333	–	JX091382	KF741952	KM023292	–	–
Talaromyces mae	CGMCC3.15690^{T}	forest soil	KY007090	–	KY007106	KY007098	KY112588	–	–
Talaromyces malicola	NRRL 3724^{T}	rhizosphere of apple tree	MH909513	–	MH909406	MH909459	MH909567	–	–
	AS3.16010	–	MW721012		MW727233	–	MW727227	–	–
Talaromyces mangshanicus	CGMCC3.18013^{T}	soil	KX447531	–	KX447530	KX447528	KX447527	–	–
Talaromyces marneffei	CBS 388.87^{T}	bamboo rat (*Rhizomys sinensis*)	JN899344	–	JX091389	KF741958	KM023283	–	–
Talaromyces muroii	CBS 756.96^{T}	soil	MN431394	–	KJ865727	KJ885274	KX961276	–	–
Talaromyces mycothecae	CBS 142494^{T}	nest of stingless bee (*Melipona scutellaris*)	MF278326	–	LT855561	LT855564	LT855567	–	–
Talaromyces nanjingensis	CCTCC:M 2012167^{T}	rhizosphere soil of *Pinus massoniana*	MW130720	–	MW147759	MW147760	MW147762	–	–
Talaromyces neofusisporus	CGMCC3.15415^{T}	leaf sample	KP765385	–	KP765381	KP765383	MN969165	–	–
Talaromyces oumae–annae	CBS 138208^{T}	house dust	KJ775720	–	KJ775213	KJ775425	KX961281	–	–
Talaromyces panamensis	CBS 128.89^{T}	soil	JN899362	–	HQ156948	KF741936	KM023284	–	–
Talaromyces penicillioides	CGMCC3.15822^{T}	soil	MK837956	–	MK837940	MK837948	MK837964	–	–
Talaromyces pinophilus	CBS 631.66^{T}	PVC	JN899382	–	JX091381	KF741964	KM023291	–	–
	NRRL 62415	–	MH793087	–	MH792970	MH793024	MH793151	–	–
Talaromyces pratensis	NRRL 62170^{T}	effluent of water treatament plant	MH793075	–	MH792948	MH793012	MH793139	–	–
	NRRL 13548	–	MH793044	–	MH792948	MH792980	MH793107	–	–
Talaromyces primulinus	CBS 321.48^{T}	–	JN899317	–	JX494305	KF741954	KM023294	–	–
Talaromyces pseudofuniculosus	CBS 143041^{T}	herbivore dung	LT899796	–	LT898323	LT899778	LT899814	–	–
Talaromyces purgamentorum	CBS 113145^{T}	leaf litter	KX011504	–	KX011487	KX011500	MN969189	–	–
Talaromyces purpureogenus	CBS 286.36^{T}	–	JN899372	–	JX315639	KF741947	JX315709	–	–

Table S1. (Continued).

			GenBank accession numbers						
	Strains/isolates	**Substrates/Hosts**	**ITS**	**LSU**	***tub2***	***cmdA***	***rpb2***	***tef1***	***act***
Talaromyces qii	CGMCC3.15414^{T}	leaf sample	KP765384	–	KP765380	KP765382	MN969164	–	–
Talaromyces rapidus	CBS 142382^{T}	human BAL	LT558970	–	LT559087	LT795600	LT795601	–	–
Talaromyces rosarhiza	GUCC 190040^{T}	endophyte of *Rosa roxburghii*	MZ221603	–	MZ333143	MZ333137	MZ333141	–	–
Talaromyces ruber	CBS 132704^{T}	aircraft fuel tank	JX315662	–	JX315629	KF741938	JX315700	–	–
Talaromyces rubicundus	CBS 342.59^{T}	soil	JN899384	–	JX494309	KF741956	KM023296	–	–
Talaromyces rufus	CBS 141834^{T}	soil	MN864272	–	MN863341	MN863318	MN863331	–	–
Talaromyces sayulitensis	CBS 138204^{T}	house dust	KJ775713	–	KJ775206	KJ775422	MN969146	–	–
Talaromyces shilinensis	XCW_SN25^{T}	associated with *Pseudocosmospora* sp.	OL638159	–	OL689845	OL689847	OL689849	–	–
Talaromyces siamensis	CBS 475.88^{T}	forest soil	JN899385	–	JX091379	KF741960	KM023279	–	–
Talaromyces soli	NRRL 62165^{T}	soil	MH793074	–	MH792947	MH793011	MH793138	–	–
Talaromyces sparsus	CGMCC3.16003^{T}	soil	MT077182	–	MT083924	MT083925	MT083926	–	–
Talaromyces stellenboschiensis	CBS 135665^{T}	soil	JX091471	–	JX091605	JX140683	MN969157	–	–
Talaromyces stipitatus	CBS 375.48^{T}	rotting wood	JN899348	–	KM111288	KF741957	KM023280	–	–
Talaromyces stollii	CBS 408.93^{T}	AIDS patient	JX315674	–	JX315633	JX315646	JX315712	–	–
Talaromyces striatoconidium	CBS 550.89^{T}	leaf litter of *Pachyanthus poirettii*	MN431418	–	MN969441	MN969360	MT156347	–	–
Talaromyces thailandensis	CBS 133147^{T}	forest soil	JX898041	–	JX494294	KF741940	KM023307	–	–
Talaromyces trachyspermus	CBS 373.48^{T}	–	JN899354	–	KF114803	KJ885281	JF417432	–	–
Talaromyces tumuli	NRRL 62151^{T}	soil from prairie	MH793071	–	MH792944	MH793008	MH793135	–	–
	NRRL 62469	soil	MH793089	–	MH792962	MH793026	MH793153	–	–
Talaromyces veerkampii	CBS 500.78^{T}	soil	KF741984	–	KF741918	KF741961	KX961279	–	–
Talaromyces verruculosus	NRRL 1050^{T}	soil	KF741994	–	KF741928	KF741944	KM023306	–	–
Talaromyces versatilis	IMI 134755^{T}	–	MN431395	–	MN969412	MN969319	MN969161	–	–
Talaromyces viridis	CBS 114.72^{T}	soil	AF285782	–	JX494310	KF741935	JN121430	–	–
Talaromyces viridulus	CBS 252.87^{T}	soil	JN899314	–	JX091385	KF741943	JF417422	–	–
Talaromyces xishaensis	CGMCC3.17995^{T}	soil	KU644580	–	KU644581	KU644582	MZ361364	–	–
Talaromyces yunnanensis	KU01MCC 18-0208^{T}	rhizosphere soil	MT152339	–	MT161683	MT178251	–	–	–
Talaromyces zhenhaiensis	CGMCC3.16102^{T}	mudflat soil	MZ045697	–	MZ054636	MZ054639	MZ054633	–	–

Table S1. (Continued).

			GenBank accession numbers						
	Strains/isolates	**Substrates/Hosts**	**ITS**	**LSU**	***tub2***	***cmdA***	***rpb2***	***tef1***	***act***
Tritirachium									
Paratritirachium curvibasidium	DAOM 242438^{T}	heat-treated soil	KF258724	–	–	–	–	–	–
	DAOM 242437	heat-treated soil	KF258723	–	–	–	–	–	–
	DAOM 242439	heat-treated soil	KF258725	–	–	–	–	–	–
Paratritirachium cylindroconium	CBS 838.71^{T}	coal spoil tip	KF258726	–	–	–	–	–	–
Sakaguchia dacryoidea	CBS 6353^{T}	–	AF444597	–	–	–	–	–	–
Symmetrospora coprosmae	CBS 7899^{T}	–	NR_073317	–	–	–	–	–	–
Tritirachium sp.	CBS 473.93	–	JF779664	–	–	–	–	–	–
	CBS 265.96	–	JF779668	–	–	–	–	–	–
Tritirachium batistae	URM 38^{T}	air	MN496401	–	–	–	–	–	–
Tritirachium candoliense	CBS 123151^{T}	from anoxic marine sediment	KC879157	–	–	–	–	–	–
	URM 3561	–	MN496404	–	–	–	–	–	–
	URM 5442	–	MN496405	–	–	–	–	–	–
	URM 6518	–	MN496409	–	–	–	–	–	–
	URM 6519	–	MN496410	–	–	–	–	–	–
Tritirachium cinnamomeum	CBS 182.42^{T}	on flies from a chalk-pit	JF779667	–	–	–	–	–	–
Tritirachium dependens	IHEM 3497		JF779666	–	–	–	–	–	–
	BPI 414589	from branch of *Yucca treculeana*	JF779665	–	–	–	–	–	–
	BPI 414589	from branch of *Yucca treculeana*	JF779665	–	–	–	–	–	–
Tritirachium oryzae	NRRL 2018	–	JF779663	–	–	–	–	–	–
	CBS 164.67	–	GQ329853	–	–	–	–	–	–
	NRRL 1210	–	JF779662	–	–	–	–	–	–
	CBS 896.70	–	JF779660	–	–	–	–	–	–
	CBS 388.39	–	JF779661	–	–	–	–	–	–
	CBS 442.70	–	JF779659	–	–	–	–	–	–
	CBS 837.71	–	JF779658	–	–	–	–	–	–
	CBS 116300	–	JF779657	–	–	–	–	–	–
Tritirachium roseum	CBS 183.42^{T}	on litter from a cowshed	JF779669	–	–	–	–	–	–

Table S2

Table S2. Number of fungal colonies (CFU) from air and sediment.

Air				
		Point 1	**Point 2**	**Point 3**
Petri dish 1		56	28	61
Petri dish 2		53	38	100
Petri dish 3		61	53	100
Sediment				
Culture media	**Dilutions**	**Point 1**	**Point 2**	**Point 3**
BHI	10^{-2}	251	540	294
	10^{-3}	227	294	65
	10^{-4}	136	165	12
PDA	10^{-2}	233	414	291
	10^{-3}	231	95	99
	10^{-4}	176	19	36

Table S3

Table S3. Checklist of mycoespeleological studies in Brazil.

Taxa	**Brazilian state**	**Substrate/host**	**Reference**
Candida albicans, *Cryptococcus neoformans*	Rio de Janeiro	Soil	Rogers & Beneke (1963)
Cephalosporium sp., *Penicillium* sp., *Verticillium* sp., *Aspergillus* sp., *Cunninghamella* sp., *Fusarium* sp., *Geotrichum* sp., *Microsporum amazonicum* other fungi without any identification (sterile mycelium)	Amazonas	Soil	Castrillón *et al*. (1976)
Candida blankii, *Candida rugosa*, *Candida krusei* and 43 other filamentous fungi without any identification	Minas Gerais	Guano	Ferreira *et al*. (2000)
Tomentella sp., *Marasmius* sp., *Schizophora paradoxa*, *Hydnopolyporus palmatus*, *Hypochnicium punctulatum*, *Clavaria* sp., *Tremella* sp., *Hypochnicium analogum*	São Paulo	Multiple	Pedro & Bononi (2007)
Aspergillus caespitosus, *A. candidus*, *A. clavatus*, *A. flavus*, *A. japonicus*, *A. niger*, *A. niveus*, *A. ochraceus*, *A. restrictus*, *A. sclerotiorum*, *A. sydowii*, *A. ustus*, *A. versicolor*, *A. wentii*, *Calcarisporium* sp., *Chaetomium* sp., *Cladosporium cladosporioides*, *C. herbarum*, *Curvularia* sp., *Emericella rugulosa*, *Eurotium amstelodami*, *Fusarium oxysporum*, *F. solani*, *Geotrichum* sp., *Gliocladium roseum*, *Purpureocillium lilacinum*, *Paecilomyces variotii*, *Penicillium brevicompactum*, *P. chrysogenum*, *P. citrinum*, *P. decumbens*, *P. expansum*, *P. glabrum*, *P. griseofulvum*, *P. islandicum, P. oxalicum*, *P. pinophilum*, *P. purpurogenum*, *P. simplicissimum*, *P. solitum*, *P. thomii*, *P. variabile*, *Trichoderma viride*, *Mucor* sp., *Rhizopus* sp.	Minas Gerais	Air and guano	Taylor *et al*. (2013)
Acremonium sp., *Aspergillus caespitosus*, *A. candidus*, *A. flavus*, *A. fumigatus*, *A. japonicus*, *A. niger*, *A. niveus*, *A. ochraceus*, *A. sclerotiorum*, *A. versicolor*, *Cladosporium cladosporioides*, *Fusarium solani*, *Fusarium* sp., *Geotrichum* sp., *Paecilomyces variotii*, *Purpureocillium lilacinum*, *Penicillium chrysogenum*, *P. commune*, *P. decumbens*, *P. glabrum*, *P. griseofulvum*, *P. oxalicum*, *P. purpurogenum*, *P. restrictum*, *P. simplicissimum*, *P. thomii*, *Penicillium* sp., *Torula* sp. *Trichoderma viride*, *Mucor* sp. 1, *Mucor* sp. 2, *Mucor* sp. 3, *Rhizopus* sp.	Minas Gerais	Soil	Taylor *et al*. (2014)
Aspergillus sp. 1, *Aspergillus* sp. 2, *Aspergillus* sp. 3, *Aspergillus* sp. 4 section *Nigri*, *Aspergillus* sp. 6, *Aspergillus* sp. 7, *Aspergillus* sp. 8, *Aspergillus* sp. 9 section *Flavi*, *Penicillium* sp. 1, *Penicillium* sp. 2, *Penicillium* sp. 3, *Penicillium* sp. 4, *Purpureocillium* sp., *Scopulariopsis* sp., *Talaromyces* sp., *Trichoderma* sp.	Bahia	Soil	Paula *et al*. (2016)
Amphoromorpha/*Basidiobolus*	São Paulo	*Centipedes* (*Geophyllomorpha*, *Geophilidae*)	Fonseca *et al*. (2017)

Table S3 (Continued)

Table S3. (Continued).

Taxa	Brazilian state	Substrate/host	Reference
Sagenomella striatispora	Minas Gerais	Iron caves	Hornick (2017)
Geosmithia carolliae	Pernambuco	*Carollia perspicillata*	Crous *et al*. (2018)
Aplosporella, *Aspergillus bertholletiae*, *Aspergillus cf*. *sesamicola*, *Aspergillus cf*. *tubingensis, Aspergillus cf*. *wentii*, *Aspergillus ochraceus*, *Aspergillus sydowii*, *Aspergillus westerdijkiae*, *Beauveria bassiana*, *Candida orthopsilosis*, *Candida parapsilosis*, *Cladosporium* sp. *C*. *sphaerospermum* species complex, *Cladosporium* sp. *C*. *cladosporioides* species complex, *Curvularia* sp., *Deniquelata quercina*, *Diaporthe* sp., *Fusarium* sp. *F*. *fujikuroi* species complex, *Gymnoascus dankaliensis*, *Humicola cf*. *seminuda*, *Hypoxylon* sp., *Meyerozyma cf*. *caribbica*, *Myceliophthora* sp., *Neodidymella thailandicum*, *Nothophoma* sp., *Ochroconis cf*. *musae*, *Paecilomyces cf*. *formosus*, *Paraconiothyrium archidendri*, *Paraphaeosphaeria* sp., *Penicillium citrinum*, *Penicillium guaibinense*, *Penicillium* sp. 1 section *Lanata–Divaricata*, *Penicillium* sp. 3 section *Brevicompacta*, *Phaeosphaeria musae*, *Polyschema* sp., *Purpureocillium cf*. *lilacinum*, *Rhinocladiella similis*, *Sarocladium terricola*, *Talaromyces allahabadensis*, *Talaromyces* section *Talaromyces*, "*Chondrostereum* sp.", *Irpex cf*. *lacteus*, *Kwoniella cf*. *dendrophila*, *Rhodotorula cf*. *mucilaginosa*, "*Rigidoporus* sp.", *Sakaguchia* sp., *Schizophyllum commune*, *Trametes villosa*, *Rhizopus arrhizus*	Pernambuco	Air, guano and bats	Cunha *et al*. (2020)
Cladosporium pernambucoense, *C. cavernicola*, *C. austrohemisphaericum*, *C. parahalotolerans*, *C. puris*, *C. sphaerospermum*, *C*. *subuliforme*, *C. tenuissimum*	Pernambuco	Air	Pereira *et al*. (2022)
Allophoma brasiliensis, *Alternaria alternata*, *Aspergillus austroafricanus*, *Aspergillus penicillioides*, *Aspergillus sydowii*, *Cladosporium halotolerans*, *Cladosporium subuliforme*, *Fusarium equiseti*, *Hannaella cf*. *siamensis*, *Penicillium citrinum*, *Pyrenochaetopsis cecavii*, *Stagonosporopsis citruli*, *Yunnania carbonaria*	Pernambuco	Bat flies	Carvalho *et al*. (2022)

Table S4

Table S4. Details on the combined datasets (number of taxa, sequences, and length of dataset (bp)) and the best–fit models for each partition proposed by MrModelTest.

Dataset	No. of taxa	No. of sequences	ITS	Model	*cmdA*	Model	LSU	Model	*rpb2*	Model	*tef1*	Model	*tub2*	Model
Aspergillus section *Cremei*	19	24	–	–	618	GTR+I+G	–	–	884	SYM+I+G	–	–	421	SYM+I+G
Malbranchea	27	43	640	GTR+I+G	–	–	833	GTR+I+G	–	–	–	–	–	–
Humicola and *Pseudohumicola*	26	40	507	F81+I+G	–	–	–	–	852	GTR+I+G	–	–	767	HKY+I+G
Pseudolecanicillium	34	50	704	GTR+I+G	–	–	–	–	1051	GTR+I+G	1041	GTR+I+G	–	–
Talaromyces section *Talaromyces*	11	18	–	–	533	K80+I	–	–	795	K80+G	–	–	512	K80+G
Tritirachium	13	27	1257	GTR+I+G	–	–	–	–	–	–	–	–	–	–