

Table S1. Genbank accession numbers of sequences used in the phylogenetic analysis.

Species	Voucher Information	ITS	SSU	LSU	TEF	RPB1	RPB2	Bloc
<i>Beauveria pseudobassiana</i>	BBNK1	MT004821						MT001936
<i>Lecanicillium pissodis</i>	BBNK2	MT004822	MT004817	MT004833	MT027501	MT027505		
<i>Beauveria pseudobassiana</i>	BBC1	MT004823						MT001937
<i>Beauveria pseudobassiana</i>	BBC2	MT004824						MT001938
<i>Beauveria pseudobassiana</i>	BBC3	MT004825						MT001939
<i>Beauveria pseudobassiana</i>	BBC4	MT004826						MT001940
<i>Samsoniella alboaurantia</i>	BBC5	MT004827	MT004818	MT004834	MT027502		MT027508	
<i>Beauveria pseudobassiana</i>	BBC6	MT004828						MT001941
<i>Lecanicillium pissodis</i>	BBC7	MT004829	MT004819	MT004835	MT027503	MT027506	MT027509	
<i>Beauveria pseudobassiana</i>	BBC8	MT004830						MT001942
<i>Akanthomyces attenuatus</i>	BBC9	MT004831	MT004820		MT027504	MT027507	MT027510	
<i>Beauveria pseudobassiana</i>	BBC10	MT004832						MT001943
<i>Beauveria medogensis</i>	CGMCC 3.15617	KU994837			KU994833	KU994835	KU994834	KU994836
<i>Beauveria bassiana</i>	ARSEF 1040	AY531972			AY531881	HQ880830	HQ880902	HQ880689
<i>Beauveria bassiana</i>	ARSEF 1564	HQ880761			HQ880974	HQ880833	HQ880905	HQ880692
<i>Beauveria bassiana</i>	ARSEF 1848	AY531995			AY531904	HQ880832	HQ880904	HQ880696
<i>Beauveria australis</i>	ARSEF 4622	HQ880790			HQ880996	HQ880862	HQ880934	HQ880721
<i>Beauveria australis</i>	ARSEF 4580	HQ880788			HQ880994	HQ880860	HQ880932	HQ880719
<i>Beauveria australis</i>	ARSEF 4598	HQ880789			HQ880995	HQ880861	HQ880933	HQ880720
<i>Beauveria brongniartii</i>	ARSEF 617	HQ880782			HQ880991	HQ880854	HQ880926	HQ880713
<i>Beauveria brongniartii</i>	ARSEF 985	HQ880768			HQ880978	HQ880840	HQ880912	HQ880699

<i>Beauveria brongniartii</i>	ARSEF 10277	HQ880780			HQ880989	HQ880852	HQ880924	HQ880711
<i>Beauveria asiatica</i>	ARSEF 4384	AY532026			AY531935	HQ880857	HQ880929	HQ880716
<i>Beauveria asiatica</i>	ARSEF 4474	HQ880786			AY531936	HQ880858	HQ880930	HQ880717
<i>Beauveria asiatica</i>	ARSEF 4850	HQ880787			AY531937	HQ880859	HQ880931	HQ880718
<i>Beauveria sungii</i>	ARSEF 1685	AY531990			AY531899	HQ880881	HQ880953	HQ880740
<i>Beauveria sungii</i>	ARSEF 7279	HQ880813			HQ881009	HQ880885	HQ880957	HQ880744
<i>Beauveria sungii</i>	ARSEF 7280	HQ880814			HQ881010	HQ880886	HQ880958	HQ880745
<i>Beauveria malawiensis</i>	ARSEF 7760	DQ376247			DQ376246	HQ880897	HQ880969	HQ880756
<i>Beauveria malawiensis</i>	BCC 17613	HQ880824			HQ881016	HQ880896	HQ880968	HQ880755
<i>Beauveria malawiensis</i>	ARSEF 4755	HQ880825			HQ881015	HQ880895	HQ880967	HQ880754
<i>Beauveria caledonica</i>	ARSEF 7117	HQ880820			HQ881013	HQ880892	HQ880964	HQ880751
<i>Beauveria caledonica</i>	ARSEF 4302	HQ880821			HQ881014	HQ880893	HQ880965	HQ880752
<i>Beauveria caledonica</i>	AESEF 2567	AY532006			AY531915	HQ880889	HQ880961	HQ880748
<i>Beauveria amorpha</i>	ARSEF 2641	AY532008			AY531917	HQ880880	HQ880952	HQ880739
<i>Beauveria amorpha</i>	ARSEF 4149	HQ880804			HQ881006	HQ880876	HQ880948	HQ880735
<i>Beauveria pseudobassiana</i>	ARSEF 1855	HQ880796			HQ880999	HQ880868	HQ880940	HQ880727
<i>Beauveria pseudobassiana</i>	ARSEF 3405	AY532022			AY531931	HQ880864	HQ880936	HQ880723
<i>Beauveria pseudobassiana</i>	ARSEF 4933	AY532029			AY531938	HQ880870	HQ880942	HQ880729
<i>Beauveria varroae</i>	ARSEF 2694	HQ880802			HQ881004	HQ880874	HQ880946	HQ880733
<i>Beauveria varroae</i>	ARSEF 8257	HQ880800			HQ881002	HQ880872	HQ880944	HQ880731
<i>Beauveria varroae</i>	ARSEF 8259	HQ880801			HQ881003	HQ880873	HQ880945	HQ880732
<i>Beauveria kipukae</i>	ARSEF 7032	HQ880803			HQ881005	HQ880875	HQ880947	HQ880734
<i>Beauveria vermiconia</i>	AESEF 2922	AY532012			AY531920	HQ880894	HQ880966	HQ880753
<i>Beauveria rudraprayagi</i>	MTCC 8017	JQ266173			JQ990914	JQ990892	JQ990870	JQ990848
<i>Beauveria lii</i>	RCEF 5500	JN689372			JN689371	JN689374	JN689370	JN689373
<i>Beauveria hoplocheli</i>	Bt96	KC339697			KC339709	KM453950	KM453959	KM453974
<i>Beauveria hoplocheli</i>	Bt121	KC339687			KC339704	KM453956	KM453965	KM453968

<i>Beauveria hoplocheli</i>	Bt128	KC339693			KC339705	KM453952	KM453961	KM453972
<i>Cordyceps militaris</i>	ARSEF 5050	HQ880829			HQ881020	HQ880901	HQ880973	
<i>Akanthomyces aculeatus</i>	HUA 186145		MF416572	MF416520	MF416465			
<i>Akanthomyces aculeatus</i>	TS 772	KC519371	KC519368	KC519370	KC519366			
<i>Akanthomyces attenuatus</i>	CBS402.78	AJ292434	AF339614	AF339565	EF468782	EF468888	EF468935	
<i>Akanthomyces attenuatus</i>	KACC42493		KM283756	KM283780	KM283804	KM283826	KM283846	
<i>Akanthomyces coccidioperitheciatus</i>	NHJ 6709	JN049865	EU369110	EU369042	EU369025	EU369067	EU369086	
<i>Akanthomyces kanyawimiae</i>	TBRC 7242	MF140751		MF140718	MF140838	MF140784	MF140808	
<i>Akanthomyces kanyawimiae</i>	TBRC 7244	MF140752		MF140716	MF140836			
<i>Akanthomyces lecanii</i>	CBS101247	JN049836	KM283770	KM283794	DQ522359	KM283837	KM283859	
<i>Akanthomyces lecanii</i>	CBS102067		KM283771	KM283795	KM283818	KM283838	KM283860	
<i>Akanthomyces muscarius</i>	CBS143.62		KM283774	KM283798	KM283821	KM283841	KM283863	
<i>Akanthomyces pistillariaeformis</i> =tuberculatus	HUA 186131		MF416573	MF416521	MF416466			
<i>Akanthomyces sulphureus</i>	TBRC 7248	MF140758		MF140722	MF140843	MF140787	MF140812	
<i>Akanthomyces sulphureus</i>	TBRC 7249	MF140757		MF140721	MF140842	MF140786	MF140734	
<i>Akanthomyces thailandicus</i>	TBRC 7245	MF140754			MF140839		MF140809	
<i>Akanthomyces thailandicus</i>	TBRC 7246	MF140755		MF140719	MF140840		MF140810	
<i>Akanthomyces tuberculatus</i>	BCC16819		MF416600	MF416546	MF416490	MF416647		
<i>Akanthomyces waltegersii</i>	TBRC 7250	MF140749		MF140715	MF140835			
<i>Akanthomyces waltegersii</i>	TBRC 7251	MF140747		MF140713	MF140833	MF140781	MF140805	
<i>Ascopolyporus polychrous</i>	P.C. 546			DQ118737	DQ118745	DQ127236		
<i>Ascopolyporus villosus</i>	ARSEF 6355			AY886544	DQ118750	DQ127241		
<i>Beauveria brongniartii</i>	BCC 16585	JN049867	JF415951	JF415967	JF416009	JN049885	JF415991	
<i>Blackwellomyces cardinalis</i>	OSC 93609		AY184973	AY184962	DQ522325	DQ522370	DQ522422	
<i>Blackwellomyces pseudomilitaris</i>	NBRC 101409	JN943305	JN941748	JN941393		JN992482		

<i>Blackwellomyces pseudomilitaris</i>	NBRC 101410	JN943307	JN941747	JN941394		JN992481		
<i>Blackwellomyces cardinalis</i>	OSC 93610	JN049843	AY184974	AY184963	EF469059	EF469088	EF469106	
<i>Gibellula longispora</i>	NHJ 12014		EU369098		EU369017	EU369055	EU369075	
<i>Gibellula ratticaudata</i>	ARSEF 1915	JN049837	DQ522562	DQ518777	DQ522360	DQ522408	DQ522467	
<i>Gibellula</i> sp.	NHJ 10788		EU369101	EU369036	EU369019	EU369058	EU369078	
<i>Gibellula</i> sp.	NHJ 5401		EU369102			EU369059	EU369079	
<i>Gibellula</i> sp.	NHJ 7859		EU369107			EU369064	EU369085	
<i>Hevansia arachnophila</i>	NHJ 10469		EU369090	EU369031	EU369008	EU369047		
<i>Hevansia cinerea</i>	NHJ 3510		EU369091		EU369009	EU369048	EU369070	
<i>Hevansia nelumboides</i>	BCC 41864	JN201871	JN201863	JN201873	JN201867			
<i>Hevansia novoguineensis</i>	NHJ 11923		EU369095	EU369032	EU369013	EU369052	EU369072	
<i>Lecanicillium acerosum</i>	CBS418.81	EF641893	KM283762	KM283786	KM283810	KM283832	KM283852	
<i>Lecanicillium antillanum</i>	CBS350.85	AJ292392	AF339585	AF339536	DQ522350	DQ522396	DQ522450	
<i>Lecanicillium aphanocladii</i>	CBS797.84		KM283763	KM283787	KM283811	KM283833	KM283853	
<i>Lecanicillium araneorum</i>	CBS726.73a	AJ292464	AF339586	AF339537	EF468781	EF468887	EF468934	
<i>Lecanicillium araneicola</i>	BTCC-F35	AB378506						
<i>Lecanicillium araneogenum</i>	GZU1031Lea		KX845705		KX845697	KX845699	KX845701	
<i>Lecanicillium dimorphum</i>	CBS345.37		KM283764	KM283788	KM283812	KM283834	KM283854	
<i>Lecanicillium flavoidum</i>	CBS300.70D	EF641877	KM283765	KM283789	KM283813		KM283855	
<i>Lecanicillium fusisporum</i>	CBS164.70	AJ292428	KM283769	KM283793	KM283817	KM283836	KM283858	
<i>Lecanicillium kalimantanense</i>	BTCC-F23	AB360356						
<i>Lecanicillium longisporum</i>	CBS102072		KM283772	KM283796	KM283819	KM283839	KM283861	
<i>Lecanicillium longisporum</i>	CBS126.27		KM283773	KM283797	KM283820	KM283840	KM283862	
<i>Lecanicillium nodulosum</i>	IMI 338014R	EF513012						
<i>Lecanicillium pissodis</i>	CBS118231		KM283775	KM283799	KM283822	KM283842	KM283864	
<i>Lecanicillium primulinum</i>	JCM 18525	AB712266		AB712263				
<i>Lecanicillium primulinum</i>	JCM 18526	AB712267		AB712264				

<i>Lecanicillium psalliotae</i>	CBS101270		EF469128	EF469081	EF469066	EF469095	EF469113	
<i>Lecanicillium psalliotae</i>	CBS363.86		AF339608	AF339559	EF468784	EF468890		
<i>Lecanicillium psalliotae</i>	CBS532.81	JN049846	AF339609	AF339560	EF469067	EF469096	EF469112	
<i>Lecanicillium restrictum</i>	CCF5252	LT548279			LT626943			
<i>Lecanicillium sabanense</i>	JCHA5	KC633232	KC633251	KC875225	KC633266		KC633249	
<i>Lecanicillium saksenae</i>	IMI 179841	AJ292432						
<i>Lecanicillium subprimulinum</i>	HKAS99548	MG585314	MG585316	MG585315	MG585317			
<i>Lecanicillium subprimulinum</i>	HKAS99549	MG585318	MG585320	MG585319	MG585321			
<i>Lecanicillium tenuipes</i>	CBS309.85	JN036556	KM283778	KM283802	DQ522341	KM283844	KM283866	
<i>Lecanicillium testudineum</i>	UBOCC- A112180	LT992874			LT992868			
<i>Lecanicillium testudineum</i>	UBOCC- A116026	LT992871			LT992867			
<i>Lecanicillium uredinophilum</i>	KACC44082		KM283758	KM283782	KM283806	KM283828	KM283848	
<i>Lecanicillium uredinophilum</i>	KACC47756		KM283759	KM283783	KM283807	KM283829	KM283849	
<i>Lecanicillium wallacei</i>	CBS101237	EF641891	AY184978	AY184967	EF469073	EF469102	EF469119	
<i>Lecanicillium fungicola</i> var. <i>aleophilum</i>	CBS357.80	NR_111064	KM283767	KM283791	KM283815	KM283835	KM283856	
<i>Lecanicillium fungicola</i> var. <i>fungicola</i>	CBS992.69	NR_119653	KM283768	KM283792	KM283816		KM283857	
<i>Paecilomyces hepiali</i>	CGMCC 3.17103	NR_160318			KJ676100			
<i>Paecilomyces hepiali</i>	SJL0909	HM135170	HM135172	HM135171				
<i>Samsoniella alboaurantium</i>	CBS 240.32	AY624178	JF415958	JF415979	JF416019	JN049895	JF415999	
<i>Samsoniella alboaurantium</i>	CBS 262.58	MH857775		MH869308	JQ425685	MF416654	MF416448	
<i>Samsoniella aurantia</i>	TBRC 7271	MF140764		MF140728	MF140846	MF140791	MF140818	
<i>Samsoniella aurantia</i>	TBRC 7272	MF140763		MF140727	MF140845		MF140817	
<i>Samsoniella inthanonensis</i>	TBRC 7915	MF140761		MF140725	MF140849	MF140790	MF140815	
<i>Samsoniella inthanonensis</i>	TBRC 7916	MF140760		MF140724	MF140848	MF140789	MF140814	
<i>Simplicillium lamellicola</i>	CBS 116.25	AJ292393	AF339601	AF339552	DQ522356	DQ522404	DQ522462	

<i>Simplicillium lanosoniyeum</i>	CBS 101267	AJ292395	AF339603	AF339554	DQ522357	DQ522405	DQ522463	
<i>Simplicillium lanosoniyeum</i>	CBS 704.86	AJ292396	AF339602	AF339553	DQ522358	DQ522406	DQ522464	
<i>Simplicillium obclavatum</i>	CBS 311.74		AF339567	AF339517	EF468798			