

**Table 1S.** Details of the isolates included in this study. Type cultures and sequences generated in this study are in **bold face**.

Order/Family and Species name	Voucher/Culture <sup>1</sup>	Lifestyle	GenBank accession numbers <sup>2</sup>		
			LSU	<i>TEF-1α</i>	<i>RPB2</i>
<b><i>Cladosporiales/Cladosporiales</i></b>					
<i>Cladosporium allicinum</i>	CBS 813.71	Saprophyte	DQ008149	–	–
<i>Cladosporium cladosporioides</i>	CBS 170.54	Saprophyte	DQ678057	DQ677898	DQ677952
<i>Cladosporium iridis</i>	CBS 138.40	Plant Parasite	DQ008148	–	KT223022
<i>Davidiellomyces australiensis</i>	CPC 29170	Saprophyte	KY979792	–	LT799790
<i>Graphiopsis chlorocephala</i>	CBS 121522	Plant Parasite	EU009457	–	LT799753
<i>Graphiopsis chlorocephala</i>	CBS 100405	Plant Parasite	EU009456	–	KT216520
<i>Neocladosporium leucadendri</i>	CBS 131317	Saprophyte	JQ044455	–	LT799755
<i>Rachicladosporium americanum</i>	CBS 124774	Saprophyte	GQ303323	<b>MN829421</b>	<b>MN829336</b>
<i>Rachicladosporium cboliae</i>	CBS 125424	Saprophyte	GU214484	<b>MN829422</b>	LT799763
<i>Rachicladosporium eucalypti</i>	CBS 138900	saprophyte	KP004476	–	–
<i>Rachicladosporium pini</i>	CBS 129525	Saprophyte	JF951165	–	LT799764
<i>Verrucocladosporium dirinae</i>	CBS 112794	Unknown	EU040244	–	–
<b><i>Comminutisporales/Comminutisporaceae</i></b>					
<i>Comminutispora agavaciensis</i>	CBS 619.95	Saprophyte	EU981286	<b>MN829423</b>	<b>MN829337</b>
<b><i>Dothideales</i></b>					
<i>Aureobasidium pullulans</i>	AFTOL-ID 912	Saprophyte	DQ470956	DQ471075	DQ470906
<i>Dothidea insculpta</i>	CBS 189.58	Saprophyte	DQ247802	DQ471081	DQ247792
<i>Dothidea sambuci</i>	AFTOL-ID 274	Saprophyte	AY544681	DQ497606	DQ522854
<i>Dothiora cannabinae</i>	AFTOL-ID 1359	Saprophyte	DQ470984	DQ471107	DQ470936
<i>Dothiora phillyreae</i>	CBS 473.69	Saprophyte	EU754146	–	–
<b><i>Mycosphaerellales/Mycosphaerellaceae</i></b>					
<i>Amycosphaerella africana</i>	CBS 680.95	Plant Parasite	KF902048	–	KF902225
<i>Amycosphaerella keniensis</i>	CBS 111001	Plant Parasite	GQ852610	–	MF951433
<i>Cercospora beticola</i>	CBS 116456	Plant Parasite	DQ678091	DQ677932	KT216555
<i>Cercospora catenulata</i>	CBS 355.73	Plant Parasite	KX286973	–	KX288424
<i>Cercospora virgaureae</i>	CBS 113304	Plant Parasite	KF251805	–	KX348051
<i>Hyalinozasmidium arohyalinosporum</i>	CBS 125011	Plant Parasite	KF901930	–	MF951504
<i>Microcyclosporella mali</i>	CBS 126136	Ectophyte-SBFS	GU570547	–	KX288436
<i>Mycosphaerelloides madeirae</i>	CBS 116066	Plant Parasite	KX286989	–	KX288444
<i>Neomycosphaerella pseudopentameridis</i>	CBS 136407	Plant Parasite	KF777226	–	MF951545

<i>Paramycosphaerella intermedia</i>	CBS 114356	Plant Parasite	KF902026	–	MF951569
<i>Paramycosphaerella marksii</i>	CBS 110750	Plant Parasite	DQ303075	–	MF951573
<i>Phloeospora ulmi</i>	CBS 344.97	Plant Parasite	KF251705	–	–
<i>Pseudozasmidium eucalypti</i>	CBS 121101	Plant Parasite	KF901931	–	MF951637
<i>Ramularia endophylla</i>	CBS 113265	Plant Parasite	AY490776	–	–
<i>Ramularia nyssicola</i>	CBS 127665	Plant Parasite	KJ504724	–	KJ504636
<i>Ramularia pusilla</i>	CBS 124973	Plant Parasite	KP894141	–	KP894687
<i>Septoria lycopersici</i>	CBS 128654	Plant Parasite	KF251966	–	KX348091
<i>Septoria protearum</i>	CBS 135477	Plant Parasite	KF252029	–	–
<i>Xenomycosphaerella elongata</i>	CBS 120735	Plant Parasite	JF700942	–	MF951687
<i>Zasmidium pseudotsugae</i>	rapssd	Plant Parasite	EF114704	–	–
<i>Zasmidium tsugae</i>	ratstk	Plant Parasite	EF114705	–	–
<b><i>Mycosphaerellales/Schizothyriaceae</i></b>					
<i>Schizothyrium cryptogama</i>	CBS 125658	Ectophyte-SBFS	FJ147157	–	KT216548
<i>Schizothyrium pomi</i>	CBS 125312	Ectophyte-SBFS	FJ147155	–	KT216539
<i>Schizothyrium wisconsinensis</i>	CBS 125659	Ectophyte-SBFS	FJ147158	–	KT216549
<b><i>Mycosphaerellales/Dissoconiaceae</i></b>					
<i>Dissoconium aciculare</i>	CBS 204.89	Ectophyte-SBFS	GU214419	–	KX288435
<i>Dissoconium aciculare</i>	CBS 201.89	Ectophyte-SBFS	GU214418	–	KT216557
<i>Dissoconium aciculare</i>	CBS 132080	Ectophyte-SBFS	JQ622083	–	–
<i>Dissoconium aciculare</i>	CBS 132081	Ectophyte-SBFS	AY598874	–	–
<i>Pseudoveronaea ellipsoidea</i>	CBS 132085	Ectophyte-SBFS	FJ147154	–	KT921165
<i>Pseudoveronaea obclavata</i>	CBS 132086	Ectophyte-SBFS	JQ622102	–	–
<i>Ramichloridium luteum</i>	CBS 132088	Ectophyte-SBFS	JQ622099	–	MF951417
<i>Uwebraunia commune</i>	CBS 110747	Ectophyte-SBFS	GU214420	–	KT216558
<b><i>Mycosphaerellales/Phaeothecoidiaceae</i></b>					
<i>Chaetothyria guttulata</i>	MFLUCC15-1080	Ectophyte-SBFS	KU358917	–	–
<i>Chaetothyria musarum</i>	MFLUCC15-0383	Ectophyte-SBFS	KU710171	–	–
<i>Houjia yanglingensis</i>	CBS 125225	Ectophyte-SBFS	GQ433631	–	–
<i>Houjia yanglingensis</i>	CBS 125226	Ectophyte-SBFS	GQ433630	–	–
<i>Phaeothecoidiella illinoisensis</i>	CBS 125223	Ectophyte-SBFS	GU117901	–	–
<i>Phaeothecoidiella missouriensis</i>	CBS 118959	Ectophyte-SBFS	GU117903	–	–
<i>Sporidesmaja pennsylvaniensis</i>	CBS 125229	Ectophyte-SBFS	MF951122	–	MF951424
<i>Stomiopeltis versicolor</i>	GA3-23C2b	Ectophyte-SBFS	FJ147163	–	–
<b><i>Mycosphaerellales/Neodevriesiaceae</i></b>					

<i>Neodevriesia hilliana</i>	CBS 123187	Saprophyte	GU214414	–	LT799761
<i>Neodevriesia modesta</i>	CBS 137182	Saprophyte	KF310026	–	–
<i>Neodevriesia pakbiae</i>	CBS 139914	Saprophyte	KR476775	–	–
<i>Neodevriesia stirlingiae</i>	CBS 133581	Saprophyte	KC005799	–	–
<i>Neodevriesia strelitziae</i>	CBS 122379	Saprophyte	GU301810	GU349049	GU371738
<i>Neodevriesia xanthorrhoeae</i>	CBS 128219	Saprophyte	HQ599606	–	–
<i>Tripospermum myrti</i>	CBS 437.68	Saprophyte	KF902008	–	KF902502
<b><i>Mycosphaerellales/Cytocoleaceae</i></b>					
<i>Cystocoleus ebeneus</i>	L161	Lichen	EU048578	–	–
<i>Cystocoleus ebeneus</i>	L348	Lichen	EU048580	–	–
<b><i>Mycosphaerellales/Incertae sedis</i></b>					
<i>Neodevriesiaceae</i> sp.	CPC 19594	Unknown	KJ564327	<b>MN829424</b>	<b>MN829338</b>
<b><i>Mycosphaerellales/Extremaceae</i></b>					
<i>Extremus antarcticus</i>	CCFEE 5312	Saprophyte	KF310020	–	–
<i>Paradevriesia compacta</i>	CBS 118294	Saprophyte	GU323220	GU349088	GU371751
<i>Penidiella</i> sp.	CPC 16707	Saprophyte	<b>MN749230</b>	<b>MN829425</b>	<b>MN829339</b>
<i>Petrophila incerta</i>	CBS 118608	Saprophyte	KF310030	–	–
<i>Saxophila tyrrhenica</i>	CCFEE 5935	Saprophyte	KP791764	–	–
<b><i>Mycosphaerellales/Teratosphaeriaceae</i></b>					
<i>Austroafricana associata</i>	CBS 112224	Plant Parasite	KF901827	–	KF902183
<i>Batcheloromyces sedgefieldii</i>	CBS 112119	Plant Parasite	KF937222	–	KF937254
<i>Hortaea werneckii</i>	CBS 100496	Saprophyte	GU301817	GU349050	GU371739
<i>Readeriella nontingens</i>	CPC 14444	Plant Parasite	KF902073	–	KF902378
<i>Teratosphaeria stellenboschiana</i>	CBS 125215	Plant Parasite	KF937247	–	–
<i>Teratosphaeriaceae</i> sp.	CPC 16695	Unknown	<b>MN749231</b>	<b>MN829426</b>	<b>MN829340</b>
<i>Teratosphaeriaceae</i> sp.	CPC 17588	Unknown	<b>MN749232</b>	<b>MN829427</b>	<b>MN829341</b>
<b><i>Phaeothecales/Phaeothecaceae</i></b>					
<i>Phaeotheca fissurella</i>	CBS 520.89	Saprophyte	GU117900	<b>MN829428</b>	<b>MN829342</b>
<b><i>Myrangiiales</i></b>					
<i>Elsinoe phaseoli</i>	AFTOL-ID 1855	Plant Parasite	DQ678095	DQ677935	KX887144
<i>Myriangium hispanicum</i>	CBS 247.33	Plant Parasite	GU301854	GU349055	GU371744
<b><i>Neophaeothecales/Neophaeothecaceae</i></b>					
<i>Neophaeotheca salicorniae</i>	CBS 141299	Saprophyte	KX228327	<b>MN829429</b>	<b>MN829343</b>
<i>Neophaeotheca triangularis</i>	CBS 471.90	Saprophyte	EU019279	<b>MN829430</b>	<b>MN829344</b>
<b><i>Pleosporales</i></b>					

<i>Alternaria alternata</i>	CBS 916.96	Plant Parasite	DQ678082	–	KC584375
<i>Stemphylium botryosum</i>	CBS 714.68	Plant Parasite	MH870931	–	–
<b>Racodiales/Racodiaceae</b>					
<i>Racodium rupestre</i>	L346	Lichen	EU048583	–	–
<i>Racodium rupestre</i>	L423	Lichen	EU048581	–	–
<i>Racodium rupestre</i>	L424	Lichen	EU048582	–	–
<b>Outgroup</b>					
<i>Venturia inaequalis</i>	CBS 594.70	Plant Parasite	GU296205	GU349022	<b>MN829345</b>

<sup>1</sup>CBS: Westerdijk Fungal Biodiversity Institute, Utrecht, the Netherlands; CCFEE = Culture Collection of Fungi from Extreme Environments, Italian National Antarctic Museum (MNA, Section of Genoa, Italy), located at the Laboratory of Systematic Botany and Mycology, Department of Ecological and Biological Sciences (DEB), Tuscia University, Viterbo, Italy; CPC: Culture collection of Pedro Crous, housed at Westerdijk Fungal Biodiversity Institute; MFLUCC: Mae Fah Luang University Culture Collection, Chiang Rai, Thailand.

<sup>2</sup>LSU: partial 28S large subunit RNA gene; *TEF-1 $\alpha$* : partial translation elongation factor 1-alpha gene; *RPB2*: partial RNA polymerase II second largest subunit gene. **Bold** GenBank accession numbers for sequences generated in this study; – indicates unavailable sequence.