

***Cytospora friesii* and *Sydowia polyspora* are associated with the sudden dieback of *Abies concolor* in Southern Europe**

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<https://doi.org/10.17221/120/2021-PPS>Table S1. Relative abundance of fungal taxa associated with surface-sterilised and surface-unsterilised needles of declining *Abies concolor* in Serbia

Fungal taxon	Phylum	Reference	Sequence length (bp)	Compared (bp)	Sequence similarity (%)	Needles (%)		
						unsterilised	sterilised	all
<i>Cytospora friesii</i>	Ascomycota	KM100568	255	255/255	100	61.39	45.16	59.70
<i>Sydowia polyspora</i>	Ascomycota	MN186854	256	256/256	100	18.06	42.21	20.59
<i>Aureobasidium pullulans</i>	Ascomycota	MT645930	249	249/249	100	3.21	2.25	3.11
<i>Parafenestella tetratrufha</i>	Ascomycota	NR_165545	251	250/251	99	2.26	1.56	2.19
<i>Botrytis cinerea</i>	Ascomycota	MT573470	240	240/240	100	1.63	–	1.46
<i>Neocatenulostroma germanicum</i>	Ascomycota	MK622897	242	242/242	100	1.43	0.52	1.34
<i>Alternaria alternata</i>	Ascomycota	MW776186	253	253/253	100	1.33	–	1.19
<i>Variabilispora flava</i>	Ascomycota	NR_165906	244	238/244	98	1.31	–	1.17
<i>Cladosporium perangustum</i>	Ascomycota	MT645919	243	243/243	100	0.91	1.21	0.94
<i>Dothideales</i> sp. 4235_265	Ascomycota	JX535090	256	256/256	100	0.99	–	0.89
<i>Paracamarosporium fagi</i>	Ascomycota	MN244221	247	247/247	100	0.65	0.35	0.61
<i>Jattaea discreta</i>	Ascomycota	NR_166038	256	252/256	98	0.57	0.69	0.58
<i>Filobasidium wieringae</i>	Basidiomycota	MN128850	329	329/329	100	0.46	0.52	0.47
<i>Pseudeurotiaceae</i> sp. 4235_61	Ascomycota	LR865258	240	240/240	100	0.38	–	0.34
<i>Tremella moriformis</i>	Basidiomycota	AF042426	284	284/284	100	0.36	0.17	0.34
<i>Thyronectria aquifolii</i>	Ascomycota	MH855538	255	251/255	98	0.02	2.94	0.33
<i>Pezizomycotina</i> sp. 4235_240	Ascomycota	JF449825	249	246/249	99	0.34	–	0.31
<i>Dothideomyces</i> sp. 4235_427	Ascomycota	KP991575	256	250/257	97	0.34	–	0.31
<i>Vishniacozyma carnescens</i>	Basidiomycota	MT595884	234	234/234	100	0.30	–	0.27
<i>Pucciniomycotina</i> sp. 4235_512	Basidiomycota	NR_111685	320	277/329	84	0.30	–	0.27
<i>Didymella macrostoma</i>	Ascomycota	MN944409	249	249/249	100	0.26	–	0.23
<i>Dendrophoma faginea</i>	Ascomycota	MT645941	249	249/249	100	0.24	0.17	0.23
<i>Exophiala sideris</i>	Ascomycota	HQ452316	269	266/270	99	0.22	–	0.20
<i>Leotiomycetes</i> sp. 4235_609	Ascomycota	MH858147	239	214/241	89	0.20	–	0.18
<i>Alternaria infectoria</i>	Ascomycota	MT635276	253	253/253	100	0.16	–	0.14
<i>Rhizosphaera oudemansii</i>	Ascomycota	KU516578	257	257/257	100	0.14	–	0.13
<i>Diaporthe eres</i>	Ascomycota	MT573478	251	251/251	100	0.14	–	0.13
<i>Genolevuria</i> sp. 4235_869	Basidiomycota	MN065510	248	246/248	99	0.14	–	0.13
<i>Pseudomicrostroma phylloplanum</i>	Basidiomycota	NR_165979	333	333/334	99	0.14	–	0.13
<i>Alpinaria rhododendri</i>	Ascomycota	KY189973	246	234/246	95	0.12	–	0.11
<i>Pezizomycotina</i> sp. 4235_825	Ascomycota	MH861313	257	256/257	99	0.08	0.35	0.11
<i>Tympanis inflata</i>	Ascomycota	NR_165225	243	239/244	98	0.10	0.17	0.11
<i>Knufia perfecta</i>	Ascomycota	MF062036	261	261/261	100	0.12	–	0.11
<i>Dioszegia buhagiarii</i>	Basidiomycota	KY103347	215	214/215	99	0.12	–	0.11
<i>Dothideales</i> sp. 4235_1039	Ascomycota	KJ826879	258	240/259	93	0.12	–	0.11
<i>Genolevuria</i> aff. <i>amylolytica</i>	Basidiomycota	EF363151	273	265/274	97	0.10	–	0.09
<i>Kwoniella</i> sp. 4235_1566	Basidiomycota	KY558355	287	286/287	99	0.06	0.17	0.07
<i>Basidiomycete</i> sp. 4235_4435	Basidiomycota	FR682288	282	281/282	99	0.08	–	0.07
<i>Teratosphaeriaceae</i> sp. 4235_1158	Ascomycota	LR865170	238	238/238	100	0.06	–	0.05
<i>Genolevuria</i> sp. 4235_1535	Basidiomycota	MN128416	282	280/282	99	0.06	–	0.05
<i>Pleospora incompta</i>	Ascomycota	KU973715	253	253/254	99	0.06	–	0.05
<i>Cylindrosporium</i> sp. 4235_1254	Ascomycota	MT576394	238	237/238	99	0.06	–	0.05

Table S1 to be continued

Fungal taxon	Phylum	Reference	Sequence length (bp)	Compared (bp)	Sequence similarity (%)	Needles (%)		
						unsterilised	sterilised	all
<i>Trichomerium dioscoreae</i>	Ascomycota	MT799737	266	266/266	100	0.06	–	0.05
<i>Pezizomycotina</i> sp. 4235_2911	Ascomycota	KX147589	249	248/249	99	0.06	–	0.05
<i>Lemonniera</i> sp. 4235_2	Ascomycota	KX096679	241	238/241	99	0.04	–	0.04
<i>Saccoltheicum rubi</i>	Ascomycota	MH627280	256	253/256	99	0.04	–	0.04
<i>Genolevuria</i> sp. 4235_406	Basidiomycota	MK353806	273	261/273	96	0.04	–	0.04
<i>Pezizomycotina</i> sp. 4235_602	Ascomycota	JQ995534	242	242/242	100	0.04	–	0.04
<i>Fusarium acuminatum</i>	Ascomycota	MT514385	260	260/260	100	0.04	–	0.04
<i>Stemphylium globuliferum</i>	Ascomycota	MT595549	254	254/254	100	0.04	–	0.04
<i>Aureobasidium</i> sp. 4235_1290	Ascomycota	JN545784	249	246/249	99	0.04	–	0.04
<i>Pucciniomycotina</i> sp. 4235_1392	Basidiomycota	KP887818	349	188/213	88	0.04	–	0.04
<i>Constantinomyces oldenburgensis</i>	Ascomycota	LT976552	247	246/247	99	0.04	–	0.04
<i>Cryptococcus</i> sp. 4235_1782	Basidiomycota	LT904718	246	246/246	100	0.04	–	0.04
<i>Naematelia encephala</i>	Basidiomycota	KY037858	254	253/254	99	0.04	–	0.04
<i>Dothiora buxi</i>	Ascomycota	NR_155059	261	245/261	94	0.04	–	0.04
<i>Tremella</i> sp. 4235_5215	Basidiomycota	MK782312	290	260/262	99	–	0.35	0.04
<i>Parapyrenochaeta acaciae</i>	Ascomycota	NR_155674	252	248/253	98	0.04	–	0.04
<i>Mycena epipterygia</i>	Basidiomycota	MW576898	311	311/311	100	–	0.17	0.02
<i>Cladophialophora</i> sp. 4235_82	Ascomycota	LC523843	271	270/271	99	–	0.17	0.02
<i>Gymnopus</i> sp. 4235_81	Basidiomycota	KY026760	366	366/366	100	–	0.17	0.02
<i>Peniophora</i> sp. 4235_140	Ascomycota	HQ607899	250	237/252	94	0.02	–	0.02
<i>Lophodermium</i> sp. 4235_176	Ascomycota	MN186849	242	240/243	99	–	0.17	0.02
<i>Taphrina carpini</i>	Ascomycota	NR_119488	293	292/293	99	0.02	–	0.02
<i>Herpotrichiellaceae</i> sp. 4235_181	Ascomycota	KJ188566	250	241/250	96	0.02	–	0.02
<i>Ampelomyces quisqualis</i>	Ascomycota	MH997723	245	245/245	100	0.02	–	0.02
<i>Lophodermium conigenum</i>	Ascomycota	KY742578	245	245/245	100	–	0.17	0.02
<i>Phaeosphaeria herpotrichoides</i>	Ascomycota	FJ911873	248	248/248	100	0.02	–	0.02
<i>Coniothyrium ferrarisanum</i>	Ascomycota	MH860854	248	248/248	100	–	0.17	0.02
<i>Comoclathris</i> sp. 4235_1121	Ascomycota	MT595940	240	240/240	100	0.02	–	0.02
<i>Pleosporales</i> sp. 4235_1389	Ascomycota	LR863709	248	248/248	100	0.02	–	0.02
<i>Penicillium glaucoalbidum</i>	Ascomycota	MG490871	253	253/253	100	0.02	–	0.02
<i>Ochrocladosporium elatum</i>	Ascomycota	MW194296	249	248/249	99	–	0.17	0.02
<i>Capnobotryella</i> sp. 4235_1348	Ascomycota	KM056294	242	234/243	96	0.02	–	0.02
<i>Orbilina aristata</i>	Ascomycota	MK473398	279	279/279	100	0.02	–	0.02
<i>Erythrobasidiales</i> sp. 4235_1513	Basidiomycota	JF495181	329	327/330	99	0.02	–	0.02
<i>Chaetothyriales</i> sp. 4235_1669	Ascomycota	JQ342183	258	254/258	98	0.02	–	0.02
<i>Neoascochyta</i> sp. 4235_1697	Ascomycota	MW486031	249	248/249	99	0.02	–	0.02
<i>Pucciniomycotina</i> sp. 4235_1705	Basidiomycota	MT242087	294	253/302	84	0.02	–	0.02