

Supplementary Table 1. Information of isolated endophytic fungi from hydrophytes

Isolation sites	Plant species	Fungal isolates	Accession No.	NCBI BLAST search	Similarity (%)	
Dokdo Islands, Republic of Korea	<i>Sedum oryzifolium</i>	DSO111	KU555946	<i>Penicillium</i> cf. <i>murcianum</i> (KP016844)	100	
		DSO112	KU555947	<i>Cladosporium</i> sp. (KT310929)	100	
		DSO113	KU555948	<i>Alternaria</i> cf. <i>alternate</i> (KT192219)	100	
		DSO114	KU555949	<i>Mucor</i> cf. <i>circinelloides</i> (KF753949)	98	
		DSO115	KU555950	<i>Alternaria</i> cf. <i>alternate</i> (KT192219)	100	
		DSO116	KU555951	<i>Penicillium</i> cf. <i>murcianum</i> (KP016844)	99	
		DSO117	KU555952	<i>Alternaria</i> cf. <i>alternata</i> (KR912290)	100	
		DSO118	KU555953	<i>Penicillium</i> cf. <i>spinulosum</i> (KF876837)	100	
		DSO119	KU555954	<i>Penicillium</i> cf. <i>spinulosum</i> (KF876837)	100	
		DSO120	KU555955	<i>Fusarium</i> cf. <i>oxysporum</i> (KT803066)	100	
		DSO121	KU555956	<i>Fusarium</i> cf. <i>tricinctum</i> (KT192404)	100	
		DSO122	KU555957	<i>Fusarium</i> cf. <i>equiseti</i> (KT192274)	100	
		DSO123	KU555958	<i>Fusarium</i> cf. <i>oxysporum</i> (KT803066)	100	
		DSO124	KU555959	<i>Plectosphaerella</i> cf. <i>cucumerina</i> (KP780283)	100	
		DSO125	KU555960	<i>Penicillium</i> cf. <i>citrinum</i> (KP329838)	100	
		DSO126	KU555961	<i>Clonostachys</i> cf. <i>rosea</i> (FJ025204)	100	
		DSO127	KU555962	<i>Penicillium</i> cf. <i>palmense</i> (KJ834515)	100	
		DSO128	KU555963	<i>Fusarium</i> cf. <i>tricinctum</i> (KM280050)	100	
		DSO129	KU555964	<i>Stemphylium</i> cf. <i>lycopersici</i> (KT957741)	100	
		DSO130	KU555965	<i>Cladosporium</i> cf. <i>uredinicola</i> (KT310937)	100	
		DSO131	KU555966	<i>Fusarium</i> cf. <i>oxysporum</i> (KR997535)	100	
		DSO132	KU555967	<i>Fusarium</i> cf. <i>oxysporum</i> (KT876694)	100	
		<i>Lysimachia mauritiana</i>	DLM111	KU555968	<i>Cladosporium</i> cf. <i>allicinum</i> (KP701924)	100
			DLM112	KU555969	<i>Penicillium</i> cf. <i>murcianum</i> (KP016844)	100
			DLM113	KU555970	<i>Penicillium</i> cf. <i>citrinum</i> (JF327822)	100
			DLM114	KU555971	<i>Penicillium</i> cf. <i>guanacastense</i> (KF991208)	99
			DLM115	KU555972	<i>Aspergillus</i> cf. <i>flavipes</i> (KT809365)	100
			DLM116	KU555973	<i>Fusarium</i> cf. <i>solani</i> (AB498983)	99
			DLM117	KU555974	<i>Paraphoma</i> cf. <i>chrysanthemicola</i> (KF313119)	99
			DLM118	KU555975	<i>Penicillium</i> cf. <i>restrictum</i> (KJ775656)	99
			DLM119	KU555976	<i>Penicillium</i> cf. <i>restrictum</i> (KP016818)	99
			DLM120	KU555977	<i>Talaromyces</i> cf. <i>purpureogenus</i> (EU427301)	100
			DLM121	KU555978	<i>Paraphoma</i> sp. (HQ914822)	99
DLM122	KU555979		<i>Paecilomyces</i> cf. <i>carneus</i> (HQ711848)	99		
DLM123	KU555980		<i>Penicillium</i> cf. <i>restrictum</i> (KP016818)	99		
DLM124	KU555981		<i>Talaromyces</i> cf. <i>flavus</i> (JF327821)	99		
DLM125	KU555982		<i>Colletotrichum</i> cf. <i>destructivum</i> (KP259876)	99		
<i>Aster spathulifolius</i>	DAS111	KU555983	<i>Penicillium</i> cf. <i>janczewskii</i> (KP016839)	100		
	DAS112	KU555984	<i>Penicillium</i> cf. <i>murcianum</i> (KP016844)	99		
	DAS113	KU555985	<i>Penicillium</i> cf. <i>restrictum</i> (KJ775656)	100		
	DAS114	KU555986	<i>Penicillium</i> cf. <i>murcianum</i> (KP016844)	100		
	DAS115	KU555987	<i>Fusarium</i> cf. <i>oxysporum</i> (KT803066)	99		
	DAS116	KU555988	<i>Diaporthe</i> cf. <i>melonis</i> (KF053673)	99		
	DAS117	KU555989	<i>Paraphoma</i> sp. (KT268593)	99		
	DAS118	KU555990	<i>Plectosphaerella</i> cf. <i>cucumerina</i> (KT699136)	100		
	DAS119	KU555991	<i>Penicillium</i> cf. <i>pasqualense</i> (NR121513)	99		
	DAS120	KU555992	<i>Penicillium</i> cf. <i>restrictum</i> (KP016818)	99		
	DAS121	KU555993	<i>Phialophora</i> cf. <i>mustea</i> (JX406525)	100		
	DAS122	KU555994	<i>Paraphoma</i> sp. (JN585935)	98		
	DAS123	KU555995	<i>Talaromyces</i> cf. <i>flavus</i> (KF917583)	99		
	DAS124	KU555996	<i>Fusarium</i> cf. <i>oxysporum</i> (KT343974)	100		
	DAS125	KU555997	<i>Penicillium</i> cf. <i>citrinum</i> (LC106114)	100		
DAS126	KU555998	<i>Aspergillus</i> cf. <i>iizukae</i> (KM215631)	99			
DAS127	KU555999	<i>Purpureocillium</i> cf. <i>lilacinum</i> (FJ765024)	100			
DAS128	KU556000	<i>Penicillium</i> cf. <i>murcianum</i> (KP016844)	100			
DAS129	KU556001	<i>Phialophora</i> cf. <i>mustea</i> (KF850364)	99			
DAS130	KU556002	<i>Penicillium</i> cf. <i>griseofulvum</i> (AY373917)	100			

Supplementary Table 1. Continued

Isolation sites	Plant species	Fungal isolates	Accession No.	NCBI BLAST search	Similarity (%)
East Sea, Republic of Korea	<i>S. oryzipolium</i>	DAS131	KU556003	<i>Penicillium</i> cf. <i>janthinellum</i> (HQ839780)	100
		DAS132	KU556004	<i>Aspergillus</i> cf. <i>iizukae</i> (KM215631)	99
		DAS133	KU556005	<i>Phialophora</i> cf. <i>mustea</i> (AB190404)	99
		DAS134	KU556006	<i>Fusarium</i> cf. <i>solani</i> (KR997532)	100
		ESO111	KU556007	<i>Fusarium</i> sp. (KT269398)	100
		ESO112	KU556008	<i>Fusarium</i> cf. <i>oxysporum</i> (KT223348)	100
		ESO113	KU556009	<i>Fusarium</i> cf. <i>annulatum</i> (AY213654)	99
		ESO114	KU556010	<i>Alternaria</i> cf. <i>tenuissima</i> (KR912296)	100
		ESO115	KU556011	<i>Fusarium</i> cf. <i>oxysporum</i> (KT223348)	100
		ESO116	KU556012	<i>Colletotrichum</i> cf. <i>guajavae</i> (KJ947302)	100
		ESO117	KU556013	<i>Penicillium</i> cf. <i>oxalicum</i> (KT189514)	100
		ESO118	KU556014	<i>Fusarium</i> cf. <i>oxysporum</i> (KT215404)	99
		ESO119	KU556015	<i>Fusarium</i> cf. <i>tricinctum</i> (KT192246)	100
		ESO120	KU556016	<i>Fusarium</i> cf. <i>solani</i> (KR997533)	100
		ESO121	KU556017	<i>Fusarium</i> cf. <i>solani</i> (KP881510)	100
		ESO122	KU556018	<i>Ceratobasidium</i> sp. (JX913817)	100
		ESO123	KU556019	<i>Ilyonectria</i> sp. (KT270296)	100
		ESO124	KU556020	<i>Curvularia</i> cf. <i>inaequalis</i> (AF313409)	99
		ESO125	KU556021	<i>Fusarium</i> cf. <i>equiseti</i> (KR364600)	99
		ESO126	KU556022	<i>Cladosporium</i> cf. <i>cladosporioides</i> (KT037422)	100
		ESO127	KU556023	<i>Alternaria</i> cf. <i>alternata</i> (KT192219)	100
		ESO128	KU556024	<i>Fusarium</i> cf. <i>solani</i> (KT362213)	100
		ESO129	KU556025	<i>Fusarium</i> cf. <i>solani</i> (KT366735)	100
		ESO130	KU556026	<i>Fusarium</i> cf. <i>acuminatum</i> (KR364583)	100
		ESO131	KU556027	<i>Fusarium</i> cf. <i>solani</i> (KT362213)	100
		ESO132	KU556028	<i>Cladosporium</i> sp. (KT270261)	100
		ESO133	KU556029	<i>Ilyonectria</i> sp. (KT270296)	100
		ESO134	KU556030	<i>Aspergillus</i> cf. <i>japonicas</i> (KF031031)	100
		ESO135	KU556031	<i>Penicillium</i> cf. <i>murcianum</i> (KP016844)	100
		ESO136	KU556032	<i>Fusarium</i> cf. <i>oxysporum</i> (KR997535)	100
		ESO137	KU556033	<i>Mucor</i> cf. <i>circinelloides</i> (JX094799)	100
		ESO138	KU556034	<i>Fusarium</i> cf. <i>oxysporum</i> (KT884661)	100
		ESO139	KU556035	<i>Fusarium</i> cf. <i>solani</i> (KP881510)	100
		ESO140	KU556036	<i>Penicillium</i> cf. <i>murcianum</i> (KP016844)	100
		ESO141	KU556037	<i>Penicillium</i> cf. <i>janthinellum</i> (KM268682)	100
		ESO142	KU556038	<i>Fusarium</i> cf. <i>tricinctum</i> (KT192246)	100
		ESO143	KU556039	<i>Aspergillus</i> cf. <i>japonicus</i> (JN676110)	100
		ESO144	KU556040	<i>Fusarium</i> cf. <i>oxysporum</i> (KT343974)	100
		ESO145	KU556041	<i>Cladosporium</i> cf. <i>cladosporioides</i> (KR673902)	100
		ESO146	KU556042	<i>Fusarium</i> cf. <i>delphinooides</i> (NR130680)	100
		ESO147	KU556043	<i>Fusarium</i> cf. <i>oxysporum</i> (KT876692)	99
		ESO148	KU556044	<i>Fusarium</i> cf. <i>avenaceum</i> (KT350588)	99
ESO149	KU556045	<i>Fusarium</i> cf. <i>oxysporum</i> (KT215403)	100		
ESO150	KU556046	<i>Talaromyces</i> cf. <i>flavus</i> (KF917583)	100		
ESO151	KU556047	<i>Macrophomina</i> cf. <i>phaseolina</i> (KF951632)	100		
<i>L. mauritiana</i>	ELM111	KU556048	<i>Ilyonectria</i> sp. (KT268465)	99	
	ELM112	KU556049	<i>Leptosphaeria</i> sp. (AB752252)	100	
	ELM113	KU556050	<i>Cadophora</i> cf. <i>luteo-olivacea</i> (KP903599)	99	
	ELM114	KU556051	<i>Penicillium</i> cf. <i>dipodomycicola</i> (KR610975)	100	
	ELM115	KU556052	<i>Capnodium</i> sp. (HQ914834)	99	
	ELM116	KU556053	<i>Talaromyces</i> cf. <i>cellulolyticus</i> (KM458826)	99	
	ELM117	KU556054	<i>Penicillium</i> cf. <i>spinulosum</i> (KF876837)	100	
	ELM118	KU556055	<i>Penicillium</i> cf. <i>swiecickii</i> (NR121254)	98	
	ELM119	KU556056	<i>Talaromyces</i> cf. <i>verruculosus</i> (HQ608025)	100	
	ELM120	KU556057	<i>Talaromyces</i> cf. <i>verruculosus</i> (KT804160)	100	
ELM121	KU556058	<i>Fusarium</i> cf. <i>oxysporum</i> (KT343974)	100		
ELM122	KU556059	<i>Penicillium</i> cf. <i>restrictum</i> (KP016818)	100		

Supplementary Table 1. Continued

Isolation sites	Plant species	Fungal isolates	Accession No.	NCBI BLAST search	Similarity (%)
		ELM123	KU556060	<i>Microsphaeropsis</i> cf. <i>arundinis</i> (KP230828)	99
		ELM124	KU556061	<i>Penicillium</i> cf. <i>restrictum</i> (KP016819)	100
		ELM125	KU556062	<i>Cadophora</i> sp. (KC007166)	100
		ELM126	KU556063	<i>Alternaria</i> sp. (JQ388267)	99
		ELM127	KU556064	<i>Neonectria</i> sp. (JX243890)	100
		ELM128	KU556065	<i>Fusarium</i> cf. <i>proliferatum</i> (KM369868)	100
		ELM129	KU556066	<i>Fusarium</i> sp. (KF151850)	100
		ELM130	KU556067	<i>Penicillium</i> cf. <i>glabrum</i> (KP329607)	99
		ELM131	KU556068	<i>Neonectria</i> sp. (KF428546)	100
		ELM132	KU556069	<i>Fusarium</i> cf. <i>oxysporum</i> (KT884661)	100
		ELM133	KU556070	<i>Neonectria</i> sp. (JX244050)	100
		ELM134	KU556071	<i>Cylindrocarpon</i> sp. (KF631448)	100
		ELM135	KU556072	<i>Fusarium</i> sp. (KT270080)	99
		ELM136	KU556073	<i>Cladosporium</i> cf. <i>tenuissimum</i> (KP701910)	100
		ELM137	KU556074	<i>Cylindrocarpon</i> sp. (KF631448)	100
		ELM138	KU556075	<i>Alternaria</i> cf. <i>tenuissima</i> (KR912296)	100
		ELM139	KU556076	<i>Ilyonectria</i> cf. <i>robusta</i> (JF735265)	100
		ELM140	KU556077	<i>Ilyonectria</i> cf. <i>crassa</i> (KF850440)	99
		ELM141	KU556078	<i>Fusarium</i> sp. (KT269393)	100
		ELM142	KU556079	<i>Neonectria</i> sp. (JX244048)	100
		ELM143	KU556080	<i>Fusarium</i> cf. <i>equiseti</i> (KR364600)	100
		ELM144	KU556081	<i>Fusarium</i> cf. <i>oxysporum</i> (KM265104)	100
		ELM145	KU556082	<i>Fusarium</i> sp. (KR422347)	100
		ELM146	KU556083	<i>Ilyonectria</i> cf. <i>crassa</i> (KF850435)	99
		ELM147	KU556084	<i>Fusarium</i> cf. <i>oxysporum</i> (KC329616)	100
		ELM148	KU556085	<i>Penicillium</i> cf. <i>guanacastense</i> (KF991208)	100
		ELM149	KU556086	<i>Fusarium</i> sp. (KR263845)	100
		ELM150	KU556087	<i>Fusarium</i> cf. <i>oxysporum</i> (KT279876)	99
	<i>A. sphathulifolius</i>	EAS111	KU556088	<i>Fusarium</i> cf. <i>oxysporum</i> (KP903515)	100
		EAS112	KU556089	<i>Penicillium</i> cf. <i>pasqualense</i> (NR121513)	100
		EAS113	KU556090	<i>Absidia</i> sp. (JQ683214)	99
		EAS114	KU556091	<i>Penicillium</i> sp. (KP689249)	99
		EAS115	KU556092	<i>Clonostachys</i> cf. <i>rosea</i> (KP269006)	99
		EAS116	KU556093	<i>Penicillium</i> cf. <i>minioluteum</i> (JF910284)	99
		EAS117	KU556094	<i>Penicillium</i> cf. <i>murcianum</i> (KP016844)	100
		EAS118	KU556095	<i>Penicillium</i> cf. <i>pasqualense</i> (NR121513)	100
		EAS119	KU556096	<i>Penicillium</i> sp. (JN686455)	98
		EAS120	KU556097	<i>Fusarium</i> sp. (KT282392)	100
		EAS121	KU556098	<i>Paraphoma</i> cf. <i>chrysanthemicola</i> (KF850366)	99
		EAS122	KU556099	<i>Fusarium</i> cf. <i>oxysporum</i> (KT215404)	100
		EAS123	KU556100	<i>Gibberella</i> cf. <i>moniliformis</i> (HF546372)	100
		EAS124	KU556101	<i>Fusarium</i> sp. (KT270080)	99
		EAS125	KU556102	<i>Penicillium</i> sp. (KT268739)	100
		EAS126	KU556103	<i>Penicillium</i> sp. (KT268722)	100
		EAS127	KU556104	<i>Penicillium</i> cf. <i>murcianum</i> (KP016844)	100
		EAS128	KU556105	<i>Backusella</i> cf. <i>lamprospora</i> (JQ979458)	94
		EAS129	KU556106	<i>Penicillium</i> cf. <i>viticola</i> (JX003129)	99
		EAS130	KU556107	<i>Penicillium</i> cf. <i>murcianum</i> (KP016843)	100
		EAS131	KU556108	<i>Penicillium</i> cf. <i>sumatrense</i> (KJ775694)	99
		EAS132	KU556109	<i>Fusarium</i> sp. (KT269606)	99
		EAS133	KU556110	<i>Ilyonectria</i> sp. (KT270236)	100
		EAS134	KU556111	<i>Fusarium</i> sp. (KT270080)	99
		EAS135	KU556112	<i>Fusarium</i> sp. (KT323109)	99
		EAS136	KU556113	<i>Neonectria</i> sp. (KF428413)	100
		EAS137	KU556114	<i>Aspergillus</i> cf. <i>japonicus</i> (KC128815)	100
		EAS138	KU556115	<i>Gongronella</i> cf. <i>butleri</i> (JN206284)	100
		EAS139	KU556116	<i>Fusarium</i> sp. (KT270240)	99

Supplementary Table 1. Continued

Isolation sites	Plant species	Fungal isolates	Accession No.	NCBI BLAST search	Similarity (%)
		EAS140	KU556117	<i>Aspergillus</i> cf. <i>aculeatus</i> (NR111412)	100
		EAS141	KU556118	<i>Cunninghamella</i> cf. <i>echinulata</i> (JN942997)	96
		EAS142	KU556119	<i>Fusarium</i> sp. (KT269516)	99
		EAS143	KU556120	<i>Ilyonectria</i> sp. (KT270298)	100
		EAS144	KU556121	<i>Fusarium</i> cf. <i>oxysporum</i> (KP903521)	100
		EAS145	KU556122	<i>Penicillium</i> cf. <i>meleagrinum</i> (KP216966)	99
		EAS146	KU556123	<i>Penicillium</i> cf. <i>janthinellum</i> (KF906546)	100
		EAS147	KU556124	<i>Fusarium</i> cf. <i>equiseti</i> (KR364600)	100
West Sea, Republic of Korea	<i>S. oryzifolium</i>	WSO111	KU556125	<i>Penicillium</i> cf. <i>guanacastense</i> (NR111673)	99
		WSO112	KU556126	<i>Fusarium</i> cf. <i>redolens</i> (KJ540090)	100
		WSO113	KU556127	<i>Fusarium</i> sp. (KT269829)	99
		WSO114	KU556128	<i>Fusarium</i> cf. <i>lateritium</i> (KC453998)	99
		WSO115	KU556129	<i>Clonostachys</i> cf. <i>rosea</i> (KT876553)	100
		WSO116	KU556130	<i>Fusarium</i> cf. <i>equiseti</i> (KR364599)	100
		WSO117	KU556131	<i>Fusarium</i> cf. <i>solani</i> (KR997533)	100
		WSO118	KU556132	<i>Bartalinia</i> cf. <i>pondoensis</i> (JX854540)	99
		WSO119	KU556133	<i>Pestalotiopsis</i> sp. (JF439507)	100
		WSO120	KU556134	<i>Lecanicillium</i> cf. <i>psalliotae</i> (AB378518)	99
	<i>L. mauritiana</i>	WLM111	KU556135	<i>Penicillium</i> cf. <i>viticola</i> (NR121209)	99
		WLM112	KU556136	<i>Fusarium</i> cf. <i>oxysporum</i> (KT884661)	99
		WLM113	KU556137	<i>Cladosporium</i> cf. <i>cladosporioides</i> (KT240141)	100
		WLM114	KU556138	<i>Fusarium</i> cf. <i>proliferatum</i> (KC793206)	100
		WLM115	KU556139	<i>Cladosporium</i> sp. (KT270180)	99
		WLM116	KU556140	<i>Fusarium</i> sp. (KP857663)	100
		WLM117	KU556141	<i>Cladosporium</i> cf. <i>pseudocladosporioides</i> (KP701949)	100
		WLM118	KU556142	<i>Clonostachys</i> cf. <i>rosea</i> (FJ025204)	100
	<i>A. sphathulifolius</i>	WAS111	KU556143	<i>Penicillium</i> sp. (JF772181)	99
		WAS112	KU556144	<i>Penicillium</i> cf. <i>thomii</i> (NR077159)	100
WAS113		KU556145	<i>Alternaria</i> sp. (KT323165)	100	
WAS114		KU556146	<i>Fusarium</i> sp. (KT268902)	100	
WAS115		KU556147	<i>Penicillium</i> cf. <i>maximae</i> (NR121343)	100	
WAS116		KU556148	<i>Penicillium</i> sp. (KJ174314)	95	
WAS117		KU556149	<i>Penicillium</i> cf. <i>glabrum</i> (KP329741)	100	
WAS118		KU556150	<i>Fusarium</i> sp. (KT268605)	99	
WAS119		KU556151	<i>Cercospora</i> cf. <i>beticola</i> (NR121315)	99	
WAS120		KU556152	<i>Penicillium</i> cf. <i>spinulosum</i> (KT266857)	100	