

Supplementary Table S2. Isolates of *Peronospora* species used in the phylogenetic analysis and related host, origin and GenBank accession numbers.

Species	Isolates ¹	Host	Origin	ITS GenBank Accession Numbers
<i>Peronospora boni-henrici</i>	WU 22886	<i>Chenopodium bonus-hericus</i>	Austria	AY198286
	SOMF 15654	<i>Chenopodium bonus-hericus</i>	Bulgaria	EF614952
	BPI 787221	<i>Chenopodium bonus-hericus</i>	Germany	EF614953
	BPI 787219	<i>Chenopodium bonus-hericus</i>	Switzerland	EF614954
<i>Peronospora chenopodii</i>	2001 HAL	<i>Chenopodium hybridum</i>	Germany	EF614955
<i>Peronospora chenopodii-polyspermi</i>	WU 22891	<i>Chenopodium polyspermum</i>	Austria	AY198291
	BPI 787538	<i>Chenopodium polyspermum</i>	Germany	EF614956
<i>Peronospora effusa</i>	BPI 877761	<i>Spinacia oleracea</i>	Korea	DQ643876
<i>Peronospora farinosa</i> s.l.	RD 1459	<i>Atriplex</i> sp.	Argentina	EU571109
	1962 UPS	<i>Atriplex</i> sp	Iceland	DQ643840
	BPI 789214	<i>Atriplex littoralis</i>	Sweden	DQ643841
	1962 UPS	<i>Atriplex patula</i>	Sweden	DQ643842
<i>Peronospora manshurica</i>	KUS-F17669	<i>Glycine soja</i>	Korea	AY211019
<i>Peronospora variabilis</i>	RD 90	<i>Chenopodium album</i>	Argentina	EU571110
	HMAS 57036	<i>Chenopodium album</i>	China	EF614959
	BPI 791617	<i>Chenopodium album</i>	Germany	EF614961
	1935 UPS	<i>Chenopodium album</i>	Ireland	EF614962
	BPI 791615	<i>Chenopodium album</i>	Italy	EF614963
	BPI 791620	<i>Chenopodium album</i>	Latvia	EF614967
	2000 UPS	<i>Chenopodium album</i>	Romania	AF465762
	1932 UPS	<i>Chenopodium album</i>	Netherlands	EF614968
	RD 1436	<i>Chenopodium quinoa</i>	Argentina	EU571113
	BPI 788269a	<i>Chenopodium quinoa</i>	Bolivia	EU571108
	DK03	<i>Chenopodium quinoa</i>	Denmark	FJ638473
	DK04	<i>Chenopodium quinoa</i>	Denmark	EU113306
	DK05	<i>Chenopodium quinoa</i>	Denmark	FJ638474
	DK06	<i>Chenopodium quinoa</i>	Denmark	FJ638475
	DK07	<i>Chenopodium quinoa</i>	Denmark	FJ638476
	DK08	<i>Chenopodium quinoa</i>	Denmark	FJ638477
	DK10	<i>Chenopodium quinoa</i>	Denmark	FJ638478
	DK11	<i>Chenopodium quinoa</i>	Denmark	FJ638479
	EC04	<i>Chenopodium quinoa</i>	Ecuador	EU113303
	EC05	<i>Chenopodium quinoa</i>	Ecuador	FJ638491
	EC11	<i>Chenopodium quinoa</i>	Ecuador	EU113309
	PE01	<i>Chenopodium quinoa</i>	Peru	FJ638496
	PE02	<i>Chenopodium quinoa</i>	Peru	EU113304
	PE03	<i>Chenopodium quinoa</i>	Peru	FJ638497
	PV-PG-Q1	<i>Chenopodium quinoa</i>	Italy	MZ191106

¹**BPI**: Systematic Mycology and Microbiology Laboratory, USDA-ARS, Beltsville, Maryland, U.S.A.; **HAL**: Herbarium of Institut für Biologie, Department of Geobotany and Botanical Garden, Martin-Luther-University, Halle, Germany; **HMAS**: Herbarium Mycologium, Institute of Microbiology, Chinese Academy of Sciences, Chaoyang, People's Republic of China; **KUS**: Herbarium of School of Life Sciences, Korea University, Seoul, Republic of Korea; **RD**: R. Delhey (private collections) in the Phytopathology Lab of Bahia Blanca, Argentina; **SOMF**: Mycological Collection, Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, Sofia, Bulgaria; **UPS**: Museum of Evolution, Uppsala University, Uppsala, Sweden; **WU**: Herbarium of the Institute of Botany, University of Vienna, Austria. Isolates listed as **DK**, **EC** and **PE** are from Reference [50]. Bold type, isolate and accession number obtained in the present study.