Supplementary Table 1. Nematode sequences used for phylogenetic analysis.

Species	**LSU (D2-D3)**	**ITS (AB-TW)**
Aphelenchus avenae*	AB368536	AB368919
***Aphelenchoides* sp.**		
Psilenchus hilarulus*	KP313831	
Anguina agropyronifloris	MG321206	MG321215
Anguina agrostis	MG321208	KM114437
Anguina australis	–	AF396335
Anguina caricis	–	AF396311
Anguina funesta	MG321209	JQ809339
Anguina microlaenae	–	AF396333
Anguina obesa	KX385109	KX385107
Anguina pacificae	–	KP715099
Anguina paludicola	–	AF396364
Anguina phalaridis	–	AF396352
Anguina tritici	DQ328723	KT900694
Anguina wevelli	–	AF396317
Anguina sp.	–	KM114441
Ditylenchus adasi	–	–
Ditylenchus africanus	–	KF219617
Ditylenchus angustus	–	–
Ditylenchus askenasyi	–	AF396336

Ditylenchus brevicauda	–	–
Ditylenchus destructor	EU400640	KX766417
Ditylenchus drepanocercus	JQ429772	JQ429774
Ditylenchus dipsaci	HQ219224	HQ219244
Ditylenchus cf.	AY284636	–
Ditylenchus gallaeformans	JQ429771	JQ429779
Ditylenchus gigas	HQ219215	HQ219240
Ditylenchus halictus	AY589364	EF627047
Ditylenchus laurae	–	KX389268
Ditylenchus cf.	AY911964	–
Ditylenchus myceliophagus	–	DQ151458
Ditylenchus oncogenus	KF612015	KF612016
Ditylenchus phyllobius	KT192618	AF363112
Ditylenchus stenurus	KX400577	KX400576
Ditylenchus weischeri	MG551903	AF396322
Ditylenchus sp. SZ–2011	JQ930028	JN635037
Ditylenchus sp. 1	–	–
Ditylenchus sp. B	–	AY574285
Ditylenchus sp. D	–	AY574304
Ditylenchus sp. E	–	AY574303
Ditylenchus sp. F	–	AY574302
Ditylenchus sp. G	–	AY574288
Ficotylus congestae	EU018047	–

Ficotylus laselvae	EU018048	–
Halenchus fucicola	–	–
Heteroanguina graminophila	DQ328720	AF396315
Heteroanguina ferulae		AF396325
Litylenchus coprosma	KY679564, GU277547, MK158250	GU727548
Litylenchus crenatae	LC383725	LC383724
***Litylenchus crenatae mccannii* -USA**	MN525396; MN525397, MN525398, MN525399, MN525400, MN525401, MK292437, MK292138	MN525396; MN525397, MN525398, MN525399, MN525400, MN525401, MK292437, MK292138
***Litylenchus crenatae mccannii* – Ontario, CA[a]**	MW295607	MW295557
	MW295608	MW295558
	MW295609	MW295559
	MW295610	MW295560
	MW295611	MW295561
	MW295612	MW295562

	MW295613	MW295563
	MW295614	MW295564
	MW295615	MW295565
	MW295616	MW295566
	MW295617	MW295567
	MW295618	MW295568
	MW295619	MW295569
	MW295620	MW295570
	MW295621	MW295571
	MW295622	MW295572
	MW295623	MW295573
	MW295624	
Mesoanguina kopetdaghica		AF396328
Mesoanguina millefolii	DQ328722	AF396312
Mesoanguina pharangii	–	AF396330
Mesoanguina picridis	–	AF396326
Mesoanguina varsobica	–	AF396327
Mesoanguina sp.	–	AF396332
Nothotylenchus sp.	KX549319	KX549318
Pseudhalenchus minutus	–	–
Subanguina chilensis	DQ328724	–
Subanguina moxae	JN885540	JN865234
Subanguina radicicola	LT714119	JN885538

Subanguina sp. ageratum1	KT205560	KT205558
Zeatylenchus Pittosporum	KY067443	JQ586257

[a] sequence generated from the study