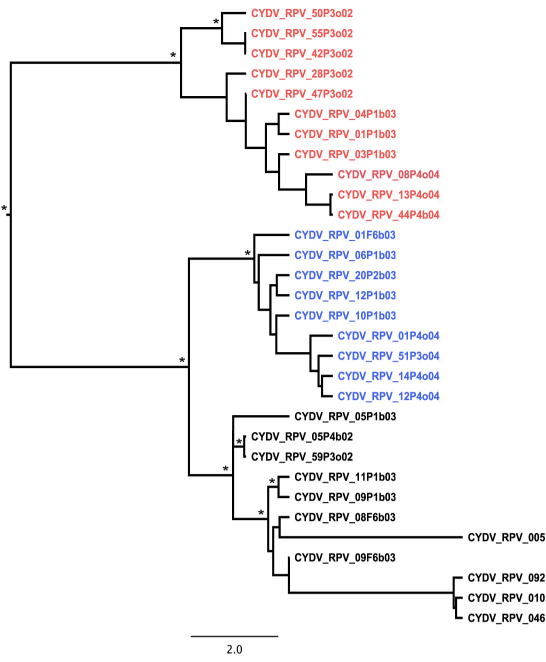


Supplementary Information

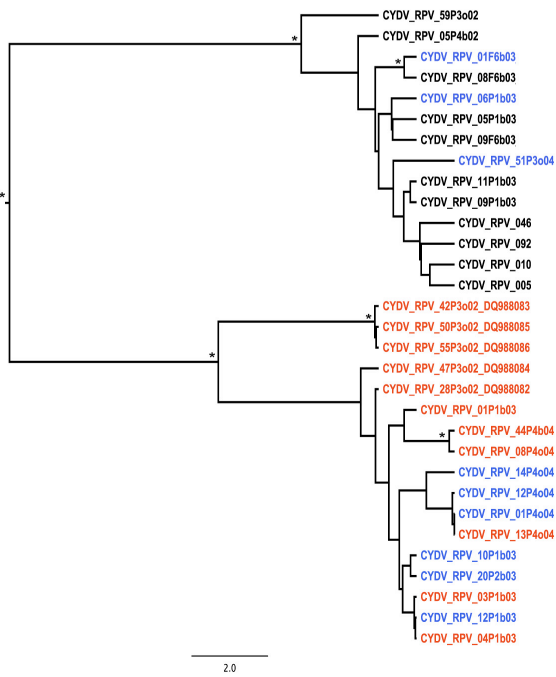
SUPPLEMENTARY FIG. 1. MCC phylogeny of the CP and RdRp genes of CYDV, using isolates for which sequences are available for both genes. The isolate colors (blue, red and black) denote the major clusters observed in the CP phylogeny. The tree is rooted through use of a relaxed molecular clock. Asterisks indicate nodes with posterior probabilities ≥ 0.90 .

SUPPLEMENTARY FIG. 2. MCC phylogeny of the CP and RdRp genes of ScYLV, using isolates for which sequences are available for both genes. The isolate colors (blue, red and black) denote the major clusters observed in the CP phylogeny. The tree is rooted through use of a relaxed molecular clock. Asterisks indicate nodes with posterior probabilities ≥ 0.90 .

CP

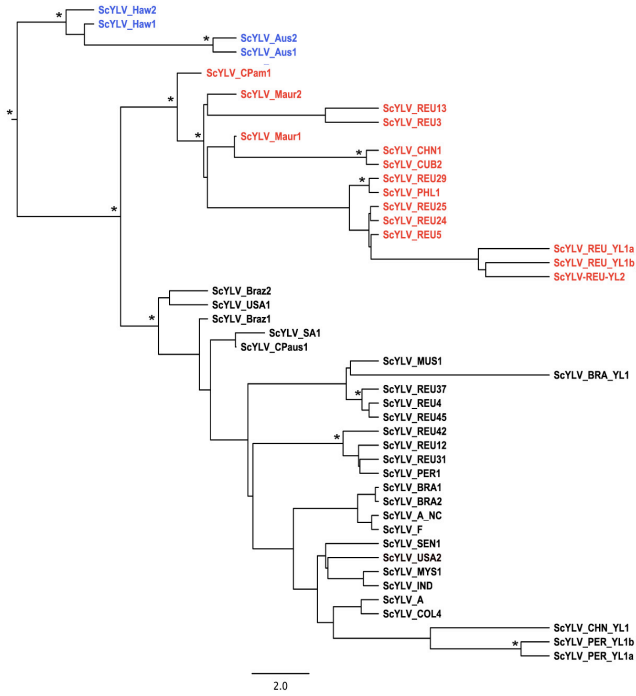


RdRp

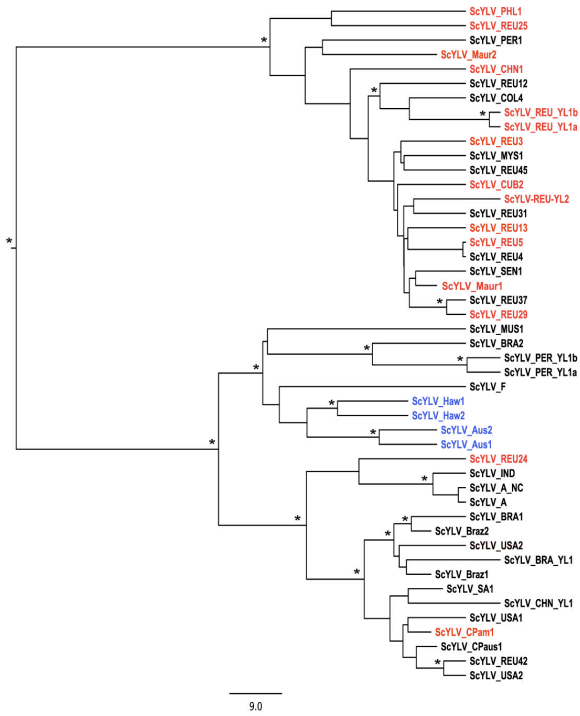


SUPPLEMENTARY FIG. 1

CP



RdRp



SUPPLEMENTARY FIG. 2

SUPPLEMENTARY TABLE 1. Summary of sequence data, country of origin, and date of isolation of *Barley yellow dwarf virus* isolates.

Accession N°	Gene*	Isolate origin	Date
AJ007918	CP/MP	Morocco	1995
AJ007919	CP/MP	Morocco	1995
AJ007920	CP/MP	Morocco	1995
AJ007921	CP/MP	Morocco	1995
AJ007922	CP/MP	Morocco	1995
AJ007923	CP/MP	Morocco	1995
AJ007924	CP/MP	Morocco	1995
AJ007925	CP/MP	Morocco	1995
AJ007926	CP/MP	Morocco	1995
AJ007927	CP/MP	Morocco	1995
AJ007928	CP/MP	Morocco	1994
AJ007929	CP/MP	Morocco	1995
AJ223586	CP/MP	France	1990s
AJ223587	CP/MP	France	1990s
AJ223588	CP/MP	France	1990s
AJ223589	CP/MP	France	1990s
AJ563410	CP/MP	Latvia	2000-2001
AJ563411	CP/MP	Latvia	2000-2001
AJ563412	CP/MP	Sweden	2001
AJ563413	CP/MP	Latvia	2000-2001
AJ563414	CP/MP	Latvia	2000-2001
AJ563415	CP/MP	Sweden	2001
AJ563416	CP/MP	Sweden	2001
AJ563417	CP/MP	Sweden	2001
AJ563418	CP/MP	Latvia	2000-2001
AJ563419	CP/MP	Latvia	2000-2001
AY040343	CP/MP/RTD	France	1985
AY040344	CP/MP/RTD	France	1996
AY167108	CP/MP	France	1997
AY167109	CP/MP	France	1997
AY450454	CP/MP/RTD	Iran	2001
AY879231	RdRp/CP/MP	USA	2000
AY926496	RdRp	Finland	1998
DQ115530	CP/MP	USA	2000
DQ115531	CP/MP	USA	2000
DQ115532	CP/MP	USA	1917
DQ115533	CP/MP	USA	1925
DQ118372	CP/MP/RTD	USA	1940
DQ285671	CP/MP	USA	2004
DQ285672	CP/MP	USA	2004
DQ285673	CP/MP	USA	2004
DQ285674	CP/MP	USA	2004
DQ285675	CP/MP	USA	2004
DQ285676	CP/MP	USA	2004
DQ285677	CP/MP	USA	2004
DQ285678	CP/MP	USA	2004

DQ285680	CP/MP	USA	2004
DQ285681	CP/MP	USA	2004
DQ286375	RdRp	USA	2004
DQ286376	RdRp	USA	2004
DQ286377	RdRp	USA	2004
DQ286378	RdRp	USA	2004
DQ286379	RdRp	USA	2004
DQ286380	RdRp	USA	2004
DQ286381	RdRp	USA	2004
DQ286384	RdRp	USA	2004
DQ286385	RdRp	USA	2004
DQ286386	RdRp	USA	2004
DQ535182	RTD	USA	2004
DQ631840	CP/MP	USA	2002
DQ631841	CP/MP	USA	2002
DQ631842	CP/MP	USA	2003
DQ631843	CP/MP	USA	2002
DQ631844	CP/MP	USA	1925
DQ631845	CP/MP	USA	1942
DQ631846	CP/MP	USA	1921
DQ631847	CP/MP	USA	2002
DQ631848	CP/MP	USA	2002
DQ631849	CP/MP	USA	2002
DQ631850	CP/MP	USA	2002
DQ631851	CP/MP	USA	2002
DQ631852	CP/MP	USA	2002
DQ631853	CP/MP	USA	2002
DQ631854	CP/MP	USA	2002
DQ631855	CP/MP	USA	2002
DQ631856	CP/MP	USA	1924
DQ631857	CP/MP	USA	1936
DQ680114	CP/MP	USA	2003
DQ680115	CP/MP	USA	2003
DQ680116	CP/MP	USA	2003
DQ680117	CP/MP	USA	2003
DQ680118	CP/MP	USA	2003
DQ680119	CP/MP	USA	2003
DQ680120	CP/MP	USA	2003
DQ680121	CP/MP	USA	2003
DQ680122	CP/MP	USA	2003
DQ680123	CP/MP	USA	2003
DQ680124	CP/MP	USA	2003
DQ680125	CP/MP	USA	2003
DQ680126	CP/MP	USA	2003
DQ680127	CP/MP	USA	2003
DQ680128	CP/MP	USA	2003
DQ680129	CP/MP	USA	2003
DQ680130	CP/MP	USA	2003
DQ680131	CP/MP	USA	2003
DQ680132	CP/MP	USA	2003

DQ680133	CP/MP	USA	2003
DQ680134	CP/MP	USA	2003
DQ680135	CP/MP	USA	2003
DQ680136	CP/MP	USA	2003
DQ680137	CP/MP	USA	2004
DQ680138	CP/MP	USA	2004
DQ680139	CP/MP	USA	2004
DQ680140	CP/MP	USA	2004
DQ683252	CP/MP	USA	2003
DQ792506	RdRp/CP/MP	USA	2003
DQ907011	CP/MP	USA	2002
DQ907012	CP/MP	USA	2002
DQ907013	CP/MP	USA	2002
DQ907014	CP/MP	USA	2002
DQ907015	CP/MP	USA	2002
DQ907016	CP/MP	USA	2002
DQ907017	CP/MP	USA	2002
DQ907018	CP/MP	USA	2002
DQ907019	CP/MP	USA	2002
DQ907020	CP/MP	USA	2002
DQ907021	CP/MP	USA	2002
DQ907022	CP/MP	USA	2002
DQ907023	CP/MP	USA	2002
DQ907024	CP/MP	USA	2002
DQ907025	CP/MP	USA	2002
DQ907026	CP/MP	USA	2002
DQ907027	CP/MP	USA	2002
DQ907028	CP/MP	USA	2002
DQ907029	CP/MP	USA	2002
DQ907030	CP/MP	USA	2002
DQ907031	CP/MP	USA	2002
DQ907032	CP/MP	USA	2002
DQ907033	CP/MP	USA	2002
DQ907034	CP/MP	USA	2002
DQ907035	CP/MP	USA	2002
DQ907036	CP/MP	USA	2002
DQ907037	CP/MP	USA	2002
DQ907038	CP/MP	USA	2002
DQ907039	CP/MP	USA	2002
DQ907040	CP/MP	USA	2002
DQ907041	CP/MP	USA	2002
DQ907042	CP/MP	USA	2002
DQ907043	CP/MP	USA	2002
DQ907044	CP/MP	USA	2002
DQ907045	CP/MP	USA	2002
DQ907046	CP/MP	USA	2002
DQ907047	CP/MP	USA	2002
DQ907048	CP/MP	USA	2002
DQ907049	CP/MP	USA	2002
DQ907050	CP/MP	USA	2002

DQ907051	CP/MP	USA	2002
DQ907052	CP/MP	USA	2002
DQ907053	CP/MP	USA	2002
DQ907054	CP/MP	USA	2002
DQ907055	CP/MP	USA	2002
DQ907056	CP/MP	USA	2002
DQ907057	CP/MP	USA	2002
DQ907058	CP/MP	USA	2002
DQ907059	CP/MP	USA	2002
DQ907060	CP/MP	USA	2002
DQ907061	CP/MP	USA	2002
DQ907062	CP/MP	USA	2002
DQ907063	CP/MP	USA	2002
DQ907064	CP/MP	USA	2002
DQ907065	CP/MP	USA	2002
DQ907066	CP/MP	USA	2002
DQ907067	CP/MP	USA	2002
DQ907068	CP/MP	USA	2002
DQ907069	CP/MP	USA	2002
DQ907070	CP/MP	USA	2002
DQ907071	CP/MP	USA	2002
DQ907072	CP/MP	USA	2002
DQ907073	CP/MP	USA	2002
DQ907074	CP/MP	USA	2002
DQ907075	CP/MP	USA	2002
DQ907076	CP/MP	USA	2002
DQ907077	CP/MP	USA	2002
DQ907078	CP/MP	USA	2002
DQ907079	CP/MP	USA	2002
DQ907080	CP/MP	USA	2002
DQ907081	CP/MP	USA	2002
DQ907082	CP/MP	USA	2002
DQ907083	CP/MP	USA	2002
DQ907084	CP/MP	USA	2002
DQ907085	CP/MP	USA	2002
DQ907086	CP/MP	USA	2002
DQ907087	CP/MP	USA	2003
DQ907088	CP/MP	USA	2003
DQ907089	CP/MP	USA	2003
DQ907090	CP/MP	USA	2003
DQ907091	CP/MP	USA	2003
DQ907092	CP/MP	USA	2003
DQ907093	CP/MP	USA	2003
DQ907094	CP/MP	USA	2003
DQ907095	CP/MP	USA	2003
DQ907096	CP/MP	USA	2003
DQ907097	CP/MP	USA	2003
DQ907098	CP/MP	USA	2003
DQ907099	CP/MP	USA	2003
DQ907100	CP/MP	USA	2003

DQ907101	CP/MP	USA	2003
DQ907102	CP/MP	USA	2003
DQ907103	CP/MP	USA	2003
DQ907104	CP/MP	USA	2003
DQ907105	CP/MP	USA	2003
DQ907106	CP/MP	USA	2003
DQ907107	CP/MP	USA	2003
DQ907108	CP/MP	USA	2003
DQ907109	CP/MP	USA	2003
DQ907110	CP/MP	USA	2003
DQ907111	CP/MP	USA	2003
DQ907112	CP/MP	USA	2003
DQ907113	CP/MP	USA	2003
DQ907114	CP/MP	USA	2003
DQ907115	CP/MP	USA	2003
DQ907116	CP/MP	USA	2003
DQ907117	CP/MP	USA	2003
DQ907118	CP/MP	USA	2003
DQ907119	CP/MP	USA	2003
DQ907120	CP/MP	USA	2003
DQ907121	CP/MP	USA	2003
DQ907122	CP/MP	USA	2004
DQ907123	CP/MP	USA	2004
DQ907124	CP/MP	USA	2004
DQ907125	CP/MP	USA	2004
DQ907126	CP/MP	USA	2004
DQ907127	CP/MP	USA	2004
DQ907128	CP/MP	USA	2004
DQ907129	CP/MP	USA	2004
DQ907130	CP/MP	USA	2004
DQ907131	CP/MP	USA	2004
DQ907132	CP/MP	USA	2004
DQ907133	CP/MP	USA	2004
DQ907134	CP/MP	USA	2004
DQ907135	CP/MP	USA	2004
DQ907136	CP/MP	USA	2004
DQ907137	CP/MP	USA	2004
DQ907138	CP/MP	USA	2004
DQ907139	CP/MP	USA	2004
DQ907140	CP/MP	USA	2004
DQ907141	CP/MP	USA	2004
DQ907142	CP/MP	USA	2004
DQ907143	CP/MP	USA	2004
DQ907144	CP/MP	USA	2004
DQ907145	CP/MP	USA	2004
DQ907146	CP/MP	USA	2004
DQ907147	CP/MP	USA	2004
DQ907148	CP/MP	USA	2004
DQ907149	CP/MP	USA	2004
DQ907150	CP/MP	USA	2004

DQ907151	CP/MP	USA	2004
DQ907152	CP/MP	USA	2004
DQ907153	CP/MP	USA	2004
DQ907154	CP/MP	USA	2004
DQ907155	CP/MP	USA	2004
DQ907156	CP/MP	USA	2004
DQ907157	CP/MP	USA	2004
DQ907158	CP/MP	USA	2004
DQ907159	CP/MP	USA	2004
DQ907160	CP/MP	USA	2004
EF408152	CP/MP	New Zealand	2005
EF408153	CP/MP	New Zealand	2005
EF408154	CP/MP	New Zealand	2005
EF408155	CP/MP	New Zealand	2005
EF408156	CP/MP	New Zealand	2005
EF408157	CP/MP	New Zealand	2005
EF408158	CP/MP	New Zealand	2005
EF408159	CP/MP	New Zealand	2005
EF408160	CP/MP	New Zealand	2005
EF408161	CP/MP	New Zealand	2005
EF408162	CP/MP	New Zealand	2005
EF408163	CP/MP	New Zealand	2005
EF408164	CP/MP	New Zealand	2005
EF408165	CP/MP	New Zealand	2005
EF408166	CP/MP	New Zealand	2005
EF408167	CP/MP	New Zealand	2005
EF408168	CP/MP	New Zealand	2005
EF408169	CP/MP	New Zealand	2005
EF408170	CP/MP	New Zealand	2005
EF408171	CP/MP	New Zealand	2005
EF408172	CP/MP	New Zealand	2005
EF408173	CP/MP	New Zealand	2005
EF408174	CP/MP	New Zealand	2005
EF408175	CP/MP	New Zealand	2005
EF408176	CP/MP	New Zealand	2005
EF408177	CP/MP	New Zealand	2005
EF408178	CP/MP	New Zealand	2005
EF408179	CP/MP	New Zealand	2005
EF408180	CP/MP	New Zealand	2005
EF408181	CP/MP	New Zealand	2005
EF408182	CP/MP	New Zealand	2005
EF408183	CP/MP	New Zealand	2005
EF408184	CP/MP	New Zealand	2005
EF408185	CP/MP	New Zealand	2005
EU332307	GN	China	2006
EU332308	GN	China	2004
EU332309	GN	China	2005
EU332310	GN	China	2005
EU332311	GN	China	2005
EU332312	GN	China	2005

EU332313	GN	China	2005
EU332314	GN	China	2005
EU332315	GN	China	2005
EU332316	GN	China	2005
EU332317	GN	China	2005
EU332318	GN	China	2005
EU332319	GN	China	2005
EU332320	GN	China	2005
EU332321	GN	China	2005
EU332322	GN	China	2005
EU332323	GN	China	2005
EU332324	GN	China	2005
EU332325	GN	China	2005
EU332326	GN	China	2005
EU332327	GN	China	2005
EU332328	GN	China	2006
EU332329	GN	China	2006
EU332330	GN	China	2006
EU332331	GN	China	2006
EU332332	GN	China	2006
EU332333	GN	China	2006
EU332334	GN	China	2006
EU332335	GN	China	2006
EU332336	GN	China	2006
EU386773	CP/MP	China	2006
EU386774	CP/MP	China	2005
EU386775	CP/MP	China	2006
EU386776	CP/MP	China	2004
EU386777	CP/MP	China	2004
EU386778	CP/MP	China	2004
EU386779	CP/MP	China	2004
EU386780	CP/MP	China	2004
EU386781	CP/MP	China	2005
EU386782	CP/MP	China	2005
EU386783	CP/MP	China	2004
EU386784	CP/MP	China	2004
EU386785	CP/MP	China	2005
EU386786	CP/MP	China	2005
EU386787	CP/MP	China	2004
EU386788	CP/MP	China	2004
EU386789	CP/MP	China	2005
EU386790	CP/MP	China	2005
EU386791	CP/MP	China	2005
EU386792	CP/MP	China	2005
EU386793	CP/MP	China	2004
EU386794	CP/MP	China	2004
EU386795	CP/MP	China	2005
EU386796	CP/MP	China	2004
EU386797	CP/MP	China	2004
EU386798	CP/MP	China	2004

EU386799	CP/MP	China	2004
EU386800	CP/MP	China	2005
EU386801	CP/MP	China	2005
EU386802	CP/MP	China	2006
EU386803	CP/MP	China	2004
EU386804	CP/MP	China	2004
EU386805	CP/MP	China	2004
EU386806	CP/MP	China	2005
EU386807	CP/MP	China	2006
EU386808	CP/MP	China	2004
EU386809	CP/MP	China	2005
EU386810	CP/MP	China	2005
EU386811	CP/MP	China	2006
EU386812	CP/MP	China	2005
EU386813	CP/MP	China	2005
EU386814	CP/MP	China	2006
EU386815	CP/MP	China	2006
EU402386	GN	China	2005
EU402387	GN	China	2004
EU402388	GN	China	2005
EU402389	GN	China	2005
EU402390	GN	China	2005
EU402391	GN	China	2005
EU863652	CP/MP	Czech Republic	2007
EU863653	CP/MP	Czech Republic	2008
Z14123	CP/MP	USA	1990s

*Gene sequences used in this study (GN = Full-length genome; P0 = P0 protein gene; RdRp = RNA-dependent RNA polymerase gene; CP = Coat protein gene; MP = Movement protein gene; RTD = Read-through domain gene).

SUPPLEMENTARY TABLE 2. Summary of sequence data, country of origin, and date of isolation of *Soybean dwarf virus* isolates.

Accession N°	Gene*	Isolate origin	Date
AB038148	GN	Japan	1994
AB038149	GN	Japan	1997
AB038150	GN	Japan	1996
AB076038	GN	Japan	1999
AB076039	CP/MP/RTD	Japan	1995
AB076040	CP/MP/RTD	Japan	1994
AB076041	CP/MP/RTD	Japan	2000
AB076042	CP/MP/RTD	Japan	2000
AB076043	CP/MP/RTD	Japan	2000
AB076044	CP/MP/RTD	Japan	2000
AB076045	CP/MP/RTD	Japan	2000
AB076046	CP/MP/RTD	Japan	2000
AB076047	CP/MP/RTD	Japan	1999
AB076048	CP/MP/RTD	Japan	1999
AB076049	CP/MP/RTD	Japan	1999
AB076050	CP/MP/RTD	Japan	1999
BD072843	RdRp	Japan	1990s
BD072844	RdRp	Japan	1990s
BD072845	RdRp	Japan	1990s
BD072846	RdRp	Japan	1990s
BD072847	RdRp	Japan	1990s
BD072848	RdRp	Japan	1990s
BD072849	RdRp	Japan	1990s
BD072850	RdRp	Japan	1990s
DQ145545	GN	USA	2003
EF466131	CP/MP	Germany	2006
EF466132	CP/MP	Germany	2003
EF466133	CP/MP	Germany	2006
EF466134	CP/MP	Germany	2003
EU095846	CP/MP/RTD	USA	2006
EU095847	CP/MP/RTD	USA	2006
EU419570	CP/MP/RTD	USA	2004
EU419571	CP/MP/RTD	USA	2004
EU419572	CP/MP/RTD	USA	2004
EU419573	CP/MP/RTD	USA	2003
EU419574	CP/MP/RTD	USA	2003
EU419575	CP/MP/RTD	USA	2005
EU419576	CP/MP/RTD	USA	2005
EU419577	CP/MP/RTD	USA	2005
EU419578	CP/MP/RTD	USA	2005
EU419579	CP/MP/RTD	USA	2005
EU419580	CP/MP/RTD	USA	2004
EU419581	CP/MP/RTD	USA	2006
EU419582	CP/MP/RTD	USA	2006
EU419583	CP/MP/RTD	USA	2007
EU419584	CP/MP/RTD	USA	2007

FJ390401	CP/MP	USA	2007
FJ390402	CP/MP	USA	2007
FJ390403	CP/MP	USA	2007
FJ390404	CP/MP	USA	2007
FJ390405	CP/MP	USA	2007
FJ390406	CP/MP	USA	2007

*Gene sequences used in this study (GN = Full-length genome; P0 = P0 protein gene; RdRp = RNA-dependent RNA polymerase gene; CP = Coat protein gene; MP = Movement protein gene; RTD = Read-through domain gene).

SUPPLEMENTARY TABLE 3. Summary of sequence data, country of origin, and date of isolation of *Beet chlorosis virus* isolates.

Accession N°	Gene*	Isolate origin	Date
AF167483	CP/MP	USA	1997
AF167485	CP/MP	USA	1996
AF168607	P0/RdRp	USA	1997
AF168609	P0/RdRp	USA	1996
AF352025	GN	USA	1996
EF659974	P0/RdRp	Poland	2005
EF659975	CP/MP	Poland	2005
EU022464	P0/RdRp	France	2005
EU022465	P0/RdRp	France	2005
EU022466	P0/RdRp	France	2005
EU022467	P0/RdRp	France	2005
EU022468	P0/RdRp	France	2005
EU022469	P0/RdRp	France	2005
EU022470	P0/RdRp	France	2005
EU022471	P0/RdRp	France	2005
EU022472	P0/RdRp	France	2005
EU022477	P0/RdRp	France	2005
EU022490	CP/MP	France	2005
EU022491	CP/MP	France	2005
EU022492	CP/MP	France	2005
EU022493	CP/MP	France	2005
EU022494	CP/MP	France	2005
EU022495	CP/MP	France	2005
EU022509	CP/MP/RTD	Poland	2005
EU022510	CP/MP/RTD	France	2005
EU022511	CP/MP/RTD	France	2005
L39952	RdRp/CP/MP	Great Britain	1989
L39983	RdRp/CP/MP	Iran	1985
L39984	RdRp/CP/MP	Iran	1985
L39985	RdRp/CP/MP	Iran	1985
L40018	RdRp/CP/MP	Iran	1985
L40019	RdRp/CP/MP	Italy	1988
L40020	RdRp/CP/MP	Italy	1988
NC_002766	GN	Great Britain	1997

*Gene sequences used in this study (GN = Full-length genome; P0 = P0 protein gene; RdRp = RNA-dependent RNA polymerase gene; CP = Coat protein gene; MP = Movement protein gene; RTD = Read-through domain gene).

SUPPLEMENTARY TABLE 4. Summary of sequence data, country of origin, and date of isolation of *Beet mild yellowing virus* isolates.

Accession N°	Gene*	Isolate origin	Date
AF167474	CP/MP	Great Britain	1997
AF167479	CP/MP	Iran	1992
AF167480	CP/MP	France	1990
AF167481	CP/MP	France	1981
AF167482	CP/MP	Great Britain	1996
AF168598	P0/RdRp	Great Britain	1997
AF168599	P0/RdRp	Great Britain	1996
AF168602	P0/RdRp	Iran	1992
AF168603	P0/RdRp	France	1990
AF168604	P0/RdRp	France	1981
EF107543	GN	Great Britain	1998
EU022473	P0/RdRp	Unknown	2005
EU022474	P0/RdRp	France	2005
EU022475	P0/RdRp	France	2005
EU022476	P0/RdRp	France	2005
EU022478	P0/RdRp	France	2005
EU022479	P0/RdRp	Poland	2005
EU022480	P0/RdRp	France	2005
EU022481	P0/RdRp	France	2005
EU022482	P0/RdRp	France	2005
EU022483	P0/RdRp	Poland	2005
EU022484	P0/RdRp	Poland	2005
EU022485	P0/RdRp	Poland	2005
EU022486	P0/RdRp	Poland	2005
EU022487	P0/RdRp	Poland	2005
EU022488	P0/RdRp	Poland	2005
EU022496	CP/MP	France	2005
EU022497	CP/MP	France	2005
EU022498	CP/MP	France	2005
EU022499	CP/MP	France	2005
EU022500	CP/MP	France	2005
EU022501	CP/MP	France	2005
EU022502	CP/MP	France	2005
EU022503	CP/MP	Poland	2005
EU022504	CP/MP	Poland	2005
EU022505	CP/MP	Poland	2005
EU022506	CP/MP	Poland	2005
EU022507	CP/MP	Poland	2005
EU148508	CP/MP/RTD	Poland	2005
EU148509	CP/MP/RTD	France	2005
EU148510	CP/MP/RTD	France	2005
NC_003491	GN	France	1980
Y16864	P0/RdRp	Germany	1990s
Y16865	P0/RdRp	USA	1990s
Y16866	P0/RdRp	Czech Republic	1990s

*Gene sequences used in this study (GN = Full-length genome; P0 = P0 protein gene; RdRp = RNA-dependent RNA polymerase gene; CP = Coat protein gene; MP = Movement protein gene; RTD = Read-through domain gene).

SUPPLEMENTARY TABLE 5. Summary of sequence data, country of origin, and date of isolation of *Cucurbit aphid-borne yellowing virus* isolates.

Accession N°	Gene*	Isolate origin	Date
AY529653	CP/MP	Spain	2003
AY529654	CP/MP	Spain	2003
DQ973123	RdRp/CP/MP	China	2006
DQ973124	RdRp/CP/MP	China	2006
EF029112	CP/MP	Italy	2006
EF029113	CP/MP	Italy	2006
EF029114	CP/MP	Italy	2006
EF029115	CP/MP	Italy	2006
EF063704	RdRp/CP/MP	China	2006
EF063705	RdRp/CP/MP	China	2006
EF063706	RdRp/CP/MP	China	2006
EF063707	RdRp/CP/MP	China	2006
EF063708	RdRp/CP/MP	China	2006
EF187338	CP/MP	Tunisia	2003-2004
EF187339	CP/MP	Tunisia	2003-2004
EF187340	CP/MP	Tunisia	2003-2004
EF187341	CP/MP	Tunisia	2003-2004
EF187342	CP/MP	Tunisia	2003-2004
EF187343	CP/MP	Tunisia	2003-2004
EF187344	CP/MP	Tunisia	2003-2004
EF187345	CP/MP	Tunisia	2003-2004
EF187346	CP/MP	Tunisia	2003-2004
EF488996	RdRp/CP/MP	China	2006
EF488997	RdRp/CP/MP	China	2006
EU000535	GN	China	2006
EU030629	CP/MP	Taiwan	2007
EU091148	RdRp/CP/MP	China	2006
EU091149	RdRp/CP/MP	China	2006
EU091150	RdRp/CP/MP	China	2006
EU091151	RdRp/CP/MP	China	2006
EU244315	RdRp/CP/MP	China	2007
EU244316	RdRp/CP/MP	China	2007
EU244317	RdRp/CP/MP	China	2007
EU244318	RdRp/CP/MP	China	2007
EU244319	RdRp/CP/MP	China	2007
EU244320	RdRp/CP/MP	China	2007
EU244321	RdRp/CP/MP	China	2007
EU244322	RdRp/CP/MP	China	2007
EU244323	RdRp/CP/MP	China	2007
EU244324	RdRp/CP/MP	China	2007
EU244325	RdRp/CP/MP	China	2007
EU244326	RdRp/CP/MP	China	2007
EU244327	RdRp/CP/MP	China	2007
FJ428797	CP/MP	Slovakia	2008
FJ428798	CP/MP	Iran	2005-2007
FJ428799	CP/MP	Iran	2005-2007

FJ428800	CP/MP	Iran	2005-2007
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*Gene sequences used in this study (GN = Full-length genome; P0 = P0 protein gene; RdRp = RNA-dependent RNA polymerase gene; CP = Coat protein gene; Movement protein gene; RTD = Read-through domain gene).

SUPPLEMENTARY TABLE 6. Summary of sequence data, country of origin, and date of isolation of *Cereal yellow dwarf virus* isolates.

Accession N°	Gene*	Isolate origin	Date
AF235168	GN	Mexico	2000s
AY450425	CP/MP/RTD	Iran	2001
DQ115527	CP/MP	USA	1990s
DQ115529	CP/MP	USA	1990s
DQ115534	CP/MP	USA	1925
DQ631858	CP/MP	USA	2003
DQ631859	CP/MP	USA	2002
DQ631860	CP/MP	USA	2002
DQ631861	CP/MP	USA	2002
DQ910730	CP/MP	USA	2002
DQ910731	CP/MP	USA	2002
DQ910732	CP/MP	USA	2002
DQ910733	CP/MP	USA	2002
DQ910734	CP/MP	USA	2002
DQ910735	CP/MP	USA	2002
DQ910736	CP/MP	USA	2002
DQ910737	CP/MP	USA	2002
DQ910738	CP/MP	USA	2002
DQ910739	CP/MP	USA	2002
DQ910740	CP/MP	USA	2003
DQ910741	CP/MP	USA	2003
DQ910742	CP/MP	USA	2003
DQ910743	CP/MP	USA	2003
DQ910744	CP/MP	USA	2003
DQ910745	CP/MP	USA	2003
DQ910746	CP/MP	USA	2003
DQ910747	CP/MP	USA	2003
DQ910748	CP/MP	USA	2003
DQ910749	CP/MP	USA	2003
DQ910750	CP/MP	USA	2003
DQ910751	CP/MP	USA	2003
DQ910752	CP/MP	USA	2003
DQ910753	CP/MP	USA	2003
DQ910754	CP/MP	USA	2003
DQ910755	CP/MP	USA	2004
DQ910756	CP/MP	USA	2004
DQ910757	CP/MP	USA	2004
DQ910758	CP/MP	USA	2004
DQ910759	CP/MP	USA	2004
DQ910760	CP/MP	USA	2004
DQ910761	CP/MP	USA	2004
DQ988082	RdRp/CP/MP	USA	2002
DQ988083	RdRp/CP/MP	USA	2002
DQ988084	RdRp/CP/MP	USA	2002
DQ988085	RdRp/CP/MP	USA	2002

DQ988086	RdRp/CP/MP	USA	2002
DQ988087	RdRp/CP/MP	USA	2002
DQ988088	RdRp/CP/MP	USA	2002
DQ988089	RdRp/CP/MP	USA	2003
DQ988090	RdRp/CP/MP	USA	2003
DQ988091	RdRp/CP/MP	USA	2003
DQ988092	RdRp/CP/MP	USA	2003
DQ988093	RdRp/CP/MP	USA	2003
DQ988094	RdRp/CP/MP	USA	2003
DQ988095	RdRp/CP/MP	USA	2003
DQ988096	RdRp/CP/MP	USA	2003
DQ988097	RdRp/CP/MP	USA	2003
DQ988098	RdRp/CP/MP	USA	2003
DQ988099	RdRp/CP/MP	USA	2003
DQ988100	RdRp/CP/MP	USA	2003
DQ988101	RdRp/CP/MP	USA	2003
DQ988102	RdRp/CP/MP	USA	2004
DQ988103	RdRp/CP/MP	USA	2004
DQ988104	RdRp/CP/MP	USA	2004
DQ988105	RdRp/CP/MP	USA	2004
DQ988106	RdRp/CP/MP	USA	2004
DQ988107	RdRp/CP/MP	USA	2004
DQ988108	RdRp/CP/MP	USA	2004
EF372272	CP/MP/RTD	Turkey	2006
EF408186	CP/MP	New Zealand	2005
EF408187	CP/MP	New Zealand	2005
EF408188	CP/MP	New Zealand	2005
EF521827	GN	USA	2000s
EF521830	GN	USA	2000s
EF521839	GN	USA	2000s
EF521848	GN	USA	2000s
NC_004751	RTD	USA	1960s

*Gene sequences used in this study (GN = Full-length genome; P0 = P0 protein gene; RdRp = RNA-dependent RNA polymerase gene; CP = Coat protein gene; Movement protein genes; RTD = Read-through domain gene).

SUPPLEMENTARY TABLE 7. Summary of sequence data, country of origin, and date of isolation of *Potato leafroll virus* isolates.

Accession N°	Gene*	Isolate origin	Date
AF220151	RdRp	Argentina	1990s
AF453388	GN	Zimbabwe	1985
AF453389	GN	Spain	1986
AF453390	GN	France	1996
AF453391	GN	France	1983
AF453392	GN	Peru	1974
AF453393	GN	Cuba	1987
AF453394	GN	France	1985
AF453395	P0/RdRp	Australia	2000
AF453396	P0/RdRp	Australia	1981
AF453397	P0/RdRp	Australia	1987
AF453398	P0/RdRp	Australia	1992
AF453399	P0/RdRp	Spain	1986
AF453400	P0/RdRp	Poland	1985
AF453401	P0/RdRp	Poland	2000
AF453403	P0/RdRp	Poland	1985
AF453404	P0/RdRp	Poland	1985
AF453405	P0/RdRp	France	1985
AF453406	P0/RdRp	Brazil	2000
AF454283	P0/RdRp	Poland	2000
AY138970	GN	Egypt	2000-2005
AY307123	CP/MP	Pakistan	2005-2006
AY645677	P0/RdRp	Tunisia	2002
AY645678	P0/RdRp	Tunisia	2002
AY645679	P0/RdRp	Tunisia	2002
AY645680	P0/RdRp	Tunisia	2002
AY645681	P0/RdRp	Tunisia	2002
AY645682	P0/RdRp	Tunisia	2002
AY645683	P0/RdRp	Tunisia	2002
AY645684	P0/RdRp	Tunisia	2002
AY645685	P0/RdRp	Tunisia	2002
DQ309064	CP/MP	China	2000-2005
DQ315385	CP/MP	China	2000-2005
EF063711	CP/MP	China	2000-2006
EF654113	CP/MP	China	2000s
EU073861	CP/MP	Jordan	2007
EU073862	CP/MP	Jordan	2007
EU313202	GN	Czech Republic	2007
EU717545	GN	Czech Republic	2007
EU717546	GN	Czech Republic	2007
EU780084	CP/MP	China	2008
FJ481107	CP/MP	Iran	2005
FJ481108	CP/MP	Iran	2005
FJ481109	CP/MP	Iran	2005
FJ481110	P0/RdRp	Iran	2005
FJ648776	CP/MP	Ukraine	2008

NC_001747	GN	Scotland	1980s
U73777	CP/MP	South Korea	1990s
X74789	GN	Poland	1990s
X77322	CP/MP/RTD	Unknown	1980s
X77323	CP/MP/RTD	Unknown	1980s
X77324	CP/MP/RTD	Unknown	1980s
X77325	CP/MP/RTD	Unknown	1980s
X77326	CP/MP/RTD	Unknown	1980s

*Gene sequences used in this study (GN = Full-length genome; P0 = P0 protein gene; RdRp = RNA-dependent RNA polymerase gene; CP = Coat protein gene; MP = Movement protein gene; RTD = Read-through domain gene).

SUPPLEMENTARY TABLE 8. Summary of sequence data, country of origin, and date of isolation of *Sugarcane yellow leaf virus* isolates.

Accession N°	Gene	Isolate origin	Date
AJ491110	P0/RdRp	Australia	1990s
AJ491111	P0/RdRp	Australia	1990s
AJ491112	P0/RdRp	Brazil	1990s
AJ491113	P0/RdRp	Brazil	1990s
AJ491114	P0/RdRp	USA	1990s
AJ491115	P0/RdRp	USA	1990s
AJ491116	P0/RdRp	USA	1990s
AJ491117	P0/RdRp	USA	1990s
AJ491118	P0/RdRp	USA	1989
AJ491119	P0/RdRp	USA	1989
AJ491120	P0/RdRp	USA	1989
AJ491121	P0/RdRp	Mauritius Island	1990s
AJ491122	P0/RdRp	Mauritius Island	1990s
AJ491123	P0/RdRp	Mauritius Island	1990s
AJ491126	P0/RdRp	South Africa	1990s
AJ491129	P0/RdRp	Australia	1990s
AJ491130	P0/RdRp	USA	1990s
AJ491131	P0/RdRp	USA	1990s
AJ491132	RdRp	Australia	1990s
AJ491133	RdRp	Australia	1990s
AJ491134	CP/MP	Brazil	1990s
AJ491135	CP/MP	Brazil	1990s
AJ491136	RdRp	USA	1990s
AJ491137	RdRp	USA	1990s
AJ491138	RdRp	USA	1989
AJ491139	RdRp	USA	1989
AJ491140	RdRp	Mauritius Island	1990s
AJ491143	RdRp	South Africa	1990s
AJ491146	RdRp	Australia	1990s
AJ491147	RdRp	USA	1990s
AJ491255	CP/MP	Australia	1990s
AJ491256	CP/MP	Australia	1990s
AJ491257	CP/MP	Brazil	1990s
AJ491258	CP/MP	Brazil	1990s
AJ491259	CP/MP	USA	1990s
AJ491260	CP/MP	USA	1990s
AJ491261	CP/MP	USA	1989
AJ491262	CP/MP	USA	1989
AJ491263	CP/MP	Mauritius Island	1990s
AJ491264	CP/MP	Mauritius Island	1990s
AJ491267	CP/MP	South Africa	1990s
AJ491270	CP/MP	Australia	1990s
AJ491271	CP/MP	USA	1990s
AJ491272	RTD	Australia	1990s
AJ491273	RTD	Australia	1990s
AJ491274	RTD	Brazil	1990s

AJ491275	RTD	Brazil	1990s
AJ491276	RTD	USA	1990s
AJ491277	RTD	USA	1990s
AJ491278	RTD	USA	1989
AJ491279	RTD	USA	1989
AJ491280	RTD	Mauritius Island	1990s
AJ491281	RTD	Mauritius Island	1990s
AJ491284	RTD	South Africa	1990s
AJ491287	RTD	Australia	1990s
AJ491288	RTD	USA	1990s
AJ582759	CP/MP	Reunion Island	1999-2000
AJ582760	CP/MP	Reunion Island	1999-2000
AJ582761	CP/MP	Philippines	1999-2000
AJ582762	CP/MP	Reunion Island	1999-2000
AJ582763	CP/MP	Reunion Island	1999-2000
AJ582764	CP/MP	Mauritius Island	1999-2000
AJ582765	CP/MP	Reunion Island	1999-2000
AJ582766	CP/MP	Malaysia	1999-2000
AJ582767	CP/MP	Peru	1999-2000
AJ582768	CP/MP	Senegal	1999-2000
AJ582769	CP/MP	Reunion Island	1999-2000
AJ582770	CP/MP	Cuba	1999-2000
AJ582771	CP/MP	Reunion Island	1999-2000
AJ582772	CP/MP	Brazil	1999-2000
AJ582773	CP/MP	Reunion Island	1999-2000
AJ582774	CP/MP	Reunion Island	1999-2000
AJ582775	CP/MP	Reunion Island	1999-2000
AJ582776	CP/MP	Reunion Island	1999-2000
AJ582777	CP/MP	China	1999-2000
AJ582778	CP/MP	Colombia	1999-2000
AJ582779	CP/MP	Brazil	1999-2000
AJ582780	CP/MP	USA	1999-2000
AJ582781	CP/MP	Reunion Island	1999-2000
AJ582782	CP/MP	Reunion Island	1999-2000
AJ582783	RTD	Reunion Island	1999-2000
AJ582784	RTD	Reunion Island	1999-2000
AJ582785	RTD	Reunion Island	1999-2000
AJ582786	RTD	Reunion Island	1999-2000
AJ582787	RTD	Reunion Island	1999-2000
AJ582788	RTD	Reunion Island	1999-2000
AJ582789	RTD	Colombia	1999-2000
AJ582790	RTD	Brazil	1999-2000
AJ582791	RTD	Reunion Island	1999-2000
AJ582792	RTD	Reunion Island	1999-2000
AJ606084	P0/RdRp	Malaysia	1999-2000
AJ606085	P0/RdRp	Mauritius Island	1999-2000
AJ606086	P0/RdRp	Brazil	1999-2000
AJ606087	P0/RdRp	Reunion Island	1999-2000
AJ606088	P0/RdRp	Reunion Island	1999-2000
AJ606089	P0/RdRp	Reunion Island	1999-2000

AJ606090	P0/RdRp	Reunion Island	1999-2000
AJ606091	P0/RdRp	Reunion Island	1999-2000
AJ606092	P0/RdRp	Reunion Island	1999-2000
AJ621159	P0/RdRp	Reunion Island	1999-2000
AJ621160	P0/RdRp	Reunion Island	1999-2000
AJ621161	P0/RdRp	Reunion Island	1999-2000
AJ621162	P0/RdRp	USA	1999-2000
AJ621163	P0/RdRp	Reunion Island	1999-2000
AJ621164	P0/RdRp	Reunion Island	1999-2000
AJ621165	P0/RdRp	Reunion Island	1999-2000
AJ621166	P0/RdRp	Reunion Island	1999-2000
AJ621167	P0/RdRp	Reunion Island	1999-2000
AJ621168	P0/RdRp	Reunion Island	1999-2000
AJ621169	P0/RdRp	Reunion Island	1999-2000
AJ621170	P0/RdRp	Reunion Island	1999-2000
AJ621171	P0/RdRp	Reunion Island	1999-2000
AJ621172	P0/RdRp	Reunion Island	1999-2000
AJ621173	P0/RdRp	Reunion Island	1999-2000
AJ621174	P0/RdRp	Reunion Island	1999-2000
AJ621175	P0/RdRp	Reunion Island	1999-2000
AJ621176	P0/RdRp	Reunion Island	1999-2000
AJ621177	P0/RdRp	Reunion Island	1999-2000
AJ621178	P0/RdRp	Reunion Island	1999-2000
AJ621179	P0/RdRp	Peru	1999-2000
AJ621180	P0/RdRp	Brazil	1999-2000
AJ621181	P0/RdRp	Cuba	1999-2000
AJ621182	P0/RdRp	Cuba	1999-2000
AM072623	RdRp	Brazil	1999-2000
AM072624	RdRp	Colombia	1999-2000
AM072625	RdRp	Sri-Lanka	1999-2000
AM072626	RdRp	Martinique	1999-2000
AM072627	RdRp	Peru	1999-2000
AM072628	RdRp	Philippines	1999-2000
AM072629	RdRp	Reunion Island	1999-2000
AM072630	RdRp	Taiwan	1999-2000
AM072631	CP/MP	USA	1999-2000
AM072632	RdRp	USA	1999-2000
AM072633	RdRp	Reunion Island	1999-2000
AM072634	RdRp	Reunion Island	1999-2000
AM072635	RdRp	Reunion Island	1999-2000
AM072636	RdRp	Reunion Island	1999-2000
AM072637	RdRp	Reunion Island	1999-2000
AM072638	RdRp	Reunion Island	1999-2000
AM072639	RdRp	Reunion Island	1999-2000
AM072640	RdRp	Reunion Island	1999-2000
AM072641	RdRp	Reunion Island	1999-2000
AM072642	RdRp	Reunion Island	1999-2000
AM072643	RdRp	Reunion Island	1999-2000
AM072644	RdRp	Reunion Island	1999-2000
AM072645	RdRp	Reunion Island	1999-2000

AM072646	RdRp	Reunion Island	1999-2000
AM072647	RdRp	Reunion Island	1999-2000
AM072648	RdRp	Reunion Island	1999-2000
AM072649	RdRp	Reunion Island	1999-2000
AM072652	RdRp	Reunion Island	1999-2000
AM072654	RdRp	Reunion Island	1999-2000
AM072655	RdRp	Reunion Island	1999-2000
AM072656	RdRp	Reunion Island	1999-2000
AM072750	GN	Brazil	2002-2006
AM072751	GN	China	2002-2006
AM072752	GN	Peru	2002-2006
AM072753	GN	Peru	2002-2006
AM072754	GN	Reunion Island	2002-2006
AM072755	GN	Reunion Island	2002-2006
AM072756	GN	Reunion Island	2002-2006
AM083988	RdRp	Cuba	1999-2000
AM085305	RdRp	Reunion Island	1999-2000
AM085306	RdRp	Reunion Island	2002-2006
AM085307	RdRp	Reunion Island	2002-2006
EF635930	CP/MP	India	2007
EF635931	CP/MP	India	2007
EF635932	CP/MP	India	2007
EF635933	CP/MP	India	2007
EF635934	CP/MP	India	2007
EF635935	CP/MP	India	2007
EF635936	CP/MP	India	2007
EF635937	CP/MP	India	2007
EF635938	CP/MP	India	2007
EF635939	CP/MP	India	2007
EF635940	CP/MP	India	2007
EF635941	CP/MP	India	2007
EF635942	CP/MP	India	2007
EF635943	CP/MP	India	2007
EF635944	CP/MP	India	2007
EF635945	CP/MP	India	2007
EF635946	CP/MP	India	2007
EU089687	CP/MP	India	2007
EU089688	CP/MP	India	2007
EU089689	CP/MP	India	2007
FJ430661	CP/MP	India	2008
FJ430662	CP/MP	India	2008
FJ430663	CP/MP	India	2008
FJ430664	CP/MP	India	2008
FJ430665	CP/MP	India	2008
FJ430666	CP/MP	India	2008
FJ430667	CP/MP	India	2008
FJ430668	CP/MP	India	2008
FJ430669	CP/MP	India	2008
FJ430670	CP/MP	India	2008
FJ430671	CP/MP	India	2008

FJ430672	CP/MP	India	2008
FJ430673	CP/MP	India	2008
NC_00874	GN	USA	1990s

*Gene sequences used in this study (GN = Full-length genome; P0 = P0 protein gene; RdRp = RNA-dependent RNA polymerase gene; CP = Coat protein gene; MP = Movement protein gene; RTD = Read-through domain gene).

SUPPLEMENTARY TABLE 9. Summary of sequence data, country of origin, and date of isolation of *Turnip yellows virus* isolates.

Accession N°	Gene*	Isolate origin	Date
DQ973125	RdRp/CP/MP	China	2006
EF079903	RdRp/CP/MP	China	2006
EF079904	RdRp/CP/MP	China	2006
EF079905	RdRp/CP/MP	China	2006
EF079906	RdRp/CP/MP	China	2006
EF079907	RdRp/CP/MP	China	2006
EF079908	RdRp/CP/MP	China	2006
EF090905	RdRp/CP/MP	China	2006
EF126150	RdRp/CP/MP	China	2006
EU022489	P0/RdRp	Poland	2005
EU022508	CP/MP	Poland	2005
L39966	RdRp/CP/MP	Belgium	1991
L39967	RdRp/CP/MP	France	1991
L39968	RdRp/CP/MP	UK	1989
L39970	RdRp/CP/MP	UK	1989
L39971	RdRp/CP/MP	France	1991
L39973	RdRp/CP/MP	UK	1990
L39974	RdRp/CP/MP	UK	1990
L39975	RdRp/CP/MP	UK	1990
L39976	RdRp/CP/MP	UK	1990
L39977	RdRp/CP/MP	Italy	1988
L39978	RdRp/CP/MP	Italy	1988
L39979	RdRp/CP/MP	Italy	1988
L39980	RdRp/CP/MP	Italy	1988
L39981	RdRp/CP/MP	UK	1980
L39986	RdRp/CP/MP	UK	1990
L39987	RdRp/CP/MP	Spain	1991
L40011	RdRp/CP/MP	UK	1989
L40012	RdRp/CP/MP	UK	1989
L40013	RdRp/CP/MP	Netherlands	1988
L40014	RdRp/CP/MP	Belgium	1988
L40015	RdRp/CP/MP	Netherlands	1988
L40016	RdRp/CP/MP	France	1988
L40017	RdRp/CP/MP	France	1988
NC_003743	GN	France	1980
Y16867	P0/RdRp	Germany	1990s
Y16868	P0/RdRp	Germany	1990s
Y16869	P0/RdRp	France	1990s
Y16870	P0/RdRp	UK	1990s
Y16871	P0/RdRp	UK	1990s
Y16872	P0/RdRp	Germany	1990s
Y16873	P0/RdRp	Germany	1990s
Y16874	P0/RdRp	Germany	1990s
Y16875	P0/RdRp	Germany	1990s
Y16876	P0/RdRp	Germany	1990s
Y16877	P0/RdRp	Germany	1990s

Y16878	P0/RdRp	Germany	1990s
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*Gene sequences used in this study (GN = Full-length genome; P0 = P0 protein gene; RdRp = RNA-dependent RNA polymerase gene; CP = Coat protein gene; MP = Movement protein gene; RTD = Read-through domain gene).

SUPPLEMENTARY TABLE 10. Estimates of amino acid substitution rates and age of diversity (TMRCA) for *Luteoviridae* species.

Virus ^a	Date range	N ^b	Parameter	Gene			
				P0	RdRp	CP	RTD
BYDV (L)	1917-2008	0-48-335-41	Sub rate ^c	-	2.2×10 ⁻³	1.4×10 ⁻³	3.4×10 ⁻⁴
			HPD ^d	-	(3.9×10 ⁻⁴ -4.2×10 ⁻³)	(8.2×10 ⁻⁴ -1.9×10 ⁻³)	(2.7×10 ⁻⁶ -8.1×10 ⁻⁴)
			TMRCA ^e	-	155	369	6108*
SbDV (L)	1990-2007	0-13-44-34	HPD ^d	-	(201-23)	(708-201)	(12596-545)
			Sub rate	-	2.9×10 ^{-4*}	5.0×10 ⁻⁴	1.3×10 ⁻³
			HPD	-	(4.0×10 ⁻¹⁷ -1.8×10 ⁻³)	(1.5×10 ⁻⁴ -9.1×10 ⁻⁴)	(3.3×10 ⁻⁴ -2.6×10 ⁻³)
BChV (P)	1985-2005	15-21-21-5	TMRCA	-	52*	129	211
			HPD	-	4000-10	379-55	231-24
			Sub rate	1.1×10 ⁻²	2.4×10 ⁻³	1.3×10 ⁻³	ND
BMV (P)	1980-2005	25-25-20-5	HPD	(2.5×10 ⁻³ -1.8×10 ⁻²)	(2.8×10 ⁻⁴ -4.5×10 ⁻³)	(8.4×10 ⁻⁵ -3.0×10 ⁻³)	ND
			TMRCA	13	25	35	ND
			HPD	(14-12)	(56-20)	(204-20)	ND
CABYV (P)	2003-2008	1-27-47-1	Sub rate	4.1×10 ⁻⁴	4.2×10 ⁻⁴	7.1×10 ^{-5*}	ND
			HPD	(1.7×10 ⁻⁶ -9.6×10 ⁻⁴)	(4.8×10 ⁻⁶ -3.5×10 ⁻⁴)	(2.3×10 ⁻¹⁰ -2.6×10 ⁻⁴)	ND
			TMRCA	217	74	146*	ND
CYDV (P)	1925-2006	5-32-75-8	HPD	(732-37)	(396-32)	(8000-30)	ND
			Sub rate	ND	4.7×10 ⁻³	9.6×10 ⁻³	ND
			HPD	ND	(8.5×10 ⁻⁴ -9.3×10 ⁻³)	(5.4×10 ⁻³ -1.4×10 ⁻²)	ND
PLRV (P)	1974-2008	35-36-31-18	TMRCA	ND	220	20	ND
			HPD	ND	(432-19)	(21-19)	ND
			Sub rate	ND	3.0×10 ⁻³	2.6×10 ⁻³	3.6×10 ⁻³
ScYLV (P)	1989-2008	59-104-80-31	HPD	ND	(4.7×10 ⁻⁵ -7.4×10 ⁻³)	(8.8×10 ⁻⁴ -4.1×10 ⁻³)	(1.2×10 ⁻⁴ -8.4×10 ⁻³)
			TMRCA	ND	110	586	40
			HPD	ND	(238-19)	(613-207)	(98-29)
TuYV (P)	1980-2006	15-48-34-1	Sub rate	3.4×10 ^{-5*}	5.1×10 ^{-5*}	7.2×10 ^{-5*}	7.8×10 ^{-5*}
			HPD	(7.1×10 ⁻⁷ -1.0×10 ⁻⁴)	(4.1×10 ⁻⁸ -1.5×10 ⁻⁴)	(5.8×10 ⁻⁷ -1.9×10 ⁻⁴)	(1.7×10 ⁻⁸ -2.2×10 ⁻⁴)
			TMRCA	819*	428*	132*	388*
ScYLV (P)	1989-2008	59-104-80-31	HPD	6260-45	6094-46	1894-44	5330-44
			Sub rate	9.4×10 ⁻⁴	7.5×10 ⁻⁴	1.7×10 ⁻³	1.0×10 ^{-4*}
			HPD	(2.3×10 ⁻⁴ -1.7×10 ⁻³)	(4.4×10 ⁻⁴ -1.1×10 ⁻³)	(8.4×10 ⁻⁴ -2.8×10 ⁻³)	(3.5×10 ⁻⁷ -2.4×10 ⁻³)
TuYV (P)	1980-2006	15-48-34-1	TMRCA	21	269	19	400*
			HPD	(44-20)	(436-131)	(21-18)	(1033-178)
			Sub rate	6.0×10 ⁻³	9.3×10 ⁻⁴	6.8×10 ⁻⁴	ND
			HPD	(1.2×10 ⁻⁴ -1.4×10 ⁻²)	(2.3×10 ⁻⁵ -2.0×10 ⁻³)	(2.2×10 ⁻⁴ -1.2×10 ⁻³)	ND

	TMRCA	32	34	47	ND
	HPD	(377-29)	(181-29)	(136-36)	ND

^a Virus species. The genus is indicated in parenthesis (L: *Luteovirus*; P: *Polerovirus*).

^b Number of sequences for each gene (P0-RdRp-CP-RTD).

^c Amino acid substitution rate (subs/residue/year).

^d 95% Highest Probability Density (HPD) values.

^e Time to the Most Common Ancestor (TMRCA; years ago).

* Unreliable estimates.

ND: Not determined estimates due to low number of sequences.

P0 = P0 gene; RdRp = RNA-dependent RNA polymerase; CP = Coat protein; RTD = Read-through domain.