**Suppementary Table S1. Viruses and their satellites identified in naturally- or experimentally-infected plant hosts and fully or partially reconstructed by small RNA sequencing and assembly**

**\*** in most cases, 2 or 3 major size-classes of small interfering (si)RNAs (21-, 22- and 24-nucleotide, nt) are indicated in the order of their relative abundance (note that RNA viruses do not normally spawn 24-nt siRNAs); (+) or (-) strand bias of siRNA production is indicated only if it is strong, otherwise “both strands” are indicated.

\*\* if more than one reference, first appear those reporting more detailed information on the viral siRNA profile (if any detail is reported).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Family**/*Genus* | *Virus species* | Host plant | Viral siRNA profile\* | Reference\*\* |
| **Alphaflexiviridae**  (+)ssRNA |  |  |  |  |
| *Mandarivirus* | *Citrus yellow vein clearing virus* | Lemon | 21nt,22nt; both strands | Loconsole et al. 2012a; Cao et al. 2017b |
| *Potexvirus* | *Alstroemeria virus X* | Woolly burdock | 21nt,22nt | Bi et al. 2012b |
| *Potexvirus* | *Bamboo mosaic virus* | *A.thaliana* | 21nt,22nt; both strands | Lin et al. 2010 |
| *Potexvirus* | *Bamboo mosaic virus* | Bamboo | 21nt,22nt; both strands | Lin et al. 2017 |
| *Potexvirus* | *Bamboo mosaic virus* | *N. benthamiana* | 22nt,21nt; both strands | Lin et al. 2010 |
| *Potexvirus* | *Cassava new alphaflexivirus* | Cassava |  | Carvajal-Yepes et al. 2014 |
| *Potexvirus* | *Euonymus yellow vein associated virus* | *Euonymus bungeanus* |  | Yang et al. 2018a |
| *Potexvirus* | *Hosta virus X* | *Hosta* sp. |  | Shchetynina et al. 2017 |
| *Potexvirus* | *Pepino mosaic virus* | Tomato | 21nt,22nt; both strands | Li et al. 2012; Turco et al. 2018; Pecman et al. 2017 |
| *Potexvirus* | *Potato aucuba mosaic virus* | Potato |  | Wu et al. 2018b |
| *Potexvirus* | *Potato virus X* | *N. benthamiana* | 21nt,22nt; both strands | Donaire et al. 2009; Del Toro et al. 2017 |
| *Potexvirus* | *Potato virus X* | Potato | 21nt,22nt; both strands | Turco et al. 2018; Kutnjak et al. 2014; Zheng et al. 2017a; Massart et al. 2018 |
| *Potexvirus* | *Strawberry mild yellow edge virus* | Strawberry |  | Ding et al. 2016 |
| *Potexvirus* | *Tulip virus X* | Cleome |  | Verdin et al. 2017 |
| *Potexvirus* |  | Japanese tree lilac |  | Han et al. 2018 |
| *Potexvirus*  satellite | *Bamboo mosaic virus* satellite RNA | *A. thaliana* | 21nt,22nt; both strands | Lin et al. 2010 |
| *Potexvirus*  satellite | *Bamboo mosaic virus* satellite RNA | Bamboo | 21nt,22nt; (+) strand bias | Lin et al. 2017 |
| *Potexvirus*  satellite | *Bamboo mosaic virus* satellite RNA | *N. benthamiana* | 21nt,22nt; both strands | Lin et al. 2010 |
| **Amalgaviridae**  dsRNA |  |  |  |  |
| *Amalgavirus* | *Southern tomato virus* | Tomato | 21nt,22nt; both strands | Turco et al. 2018; Xu et al. 2017; Padmanabhan et al. 2015b; Pecman et al. 2017; Alcalá-Briseño et al. 2017; Che et al. 2018 |
| *Amalgavirus* | *Watermelon amalgavirus 1* | Watermelon |  | Zaagueri et al. 2017 |
| *Amalgavirus* |  | Anemone |  | Verdin et al. 2017 |
| **Aspiviridae**  (-)ssRNA |  |  |  |  |
| *Ophiovirus* | *Miraﬁori lettuce virus* | Lettuce |  | Kreuze 2014 |
| **Benyviridae**  (+)ssRNA |  |  |  |  |
| *Benyvirus* | *Beet necrotic yellow vein virus* | *Beta macrocarpa* |  | Liu et al. 2017 |
| **Betaflexiviridae**  (+)ssRNA |  |  |  |  |
| *Capillovirus* | *Apple stem grooving virus* | Apple | 21nt,22nt; both strands | Visser et al. 2014; Zhang et al. 2014a; Liang et al. 2015; Massart et al. 2018 |
| *Capillovirus* | *Apple stem grooving virus* | Crab apple |  | Li et al. 2017b |
| *Capillovirus* | *Apple stem grooving virus* | Kiwifruit  *A. chinensis* |  | Wang et al. 2018d |
| *Capillovirus* | *Apple stem grooving virus* | Pear | 21nt,22nt; both strands | Liu et al. 2016b |
| *Capillovirus* | *Apple stem grooving virus* | Rose |  | He et al. 2015 |
| *Capillovirus* | *Cherry virus A* | Apricot | 21nt,22nt; both strands | Baráth et al. 2018 |
| *Capillovirus* | *Cherry virus A* | Sweet cherry | 21nt,22nt; both strands | Wang et al. 2016b,d; Turco, Renyard, Pooggin in prep; Ruiz-Garcia et al. 2016; Wang et al. 2016e; Zamorano et al. 2017 |
| *Carlavirus* | *Cowpea mild mottle virus* | Common bean |  | Nordenstedt et al. 2017; Chiquito-Almanza et al. 2018; Mwaipopo et al. 2018 |
| *Carlavirus* | *Hop latent virus* | Hop |  | Jakse et al. 2015 |
| *Carlavirus* | *Hop mosaic virus* | Hop |  | Jakse et al. 2015 |
| *Carlavirus* | *Ligustrum virus A* | Japanese tree lilac |  | Han et al. 2018 |
| *Carlavirus* | *Lily symptomless virus* | Lily |  | Li et al. 2018 |
| *Carlavirus* | *Potato virus H* | Potato |  | Wu et al. 2018b |
| *Carlavirus* | *Potato virus H* | Tomato | 21nt,22nt; (+) strand bias | Xu et al. 2017 |
| *Carlavirus* | *Potato virus S* | Potato |  | Nie et al. 2015; Zheng et al. 2017a |
| *Carlavirus* | *Potato virus S* | Tomato | 21nt,22nt; (+) strand bias | Xu et al. 2017 |
| *Carlavirus* | *Sweet potato C6 virus* | Sweet potato |  | De Souza et al. 2013 |
| *Carlavirus* | *Sweet potato chlorotic fleck virus* | Sweet potato |  | Mbanzibwa et al. 2014 |
| *Citrivirus* | *Citrus leaf blotch virus* | Lemon |  | Cao et al. 2017b |
| *Citrivirus* | *Citrus leaf blotch virus* | Sweet cherry |  | Wang et al. 2016e |
| *Foveavirus* | *Apple green crinkle associated virus* | Quince | both strands | Morelli et al. 2017 |
| *Foveavirus* | *Apple stem pitting virus* | Apple |  | Zhang et al. 2014a; Liang et al. 2015 |
| *Foveavirus* | *Grapevine rupestris stem-pitting associated virus* | Grapevine | 21nt,22nt; (+) strand bias | Giampetruzzi et al. 2012; Pantaleo et al. 2010; Miozzi et al. 2013a; Saldarelli et al. 2015; Eichmeier et al. 2016; Chiumenti et al. 2016b; Reynard et al. 2016; Barrero et al. 2017; Cretazzo et al. 2017; Czotter et al. 2018 |
| *Tepovirus* | *Potato virus T* | Potato |  | Kreuze 2014; Zheng et al. 2017a |
| *Trichovirus* | *Apple chlorotic leaf spot virus* | Apple |  | Zhang et al. 2014a; Liang et al. 2015 |
| *Trichovirus* | *Apple chlorotic leaf spot virus* | Crab apple |  | Li et al. 2017b |
| *Trichovirus* | *Apple chlorotic leaf spot virus* | Peach |  | He et al. 2017 |
| *Trichovirus* | *Fig latent virus 1* | Fig |  | Chiumenti et al. 2014 |
| *Trichovirus* | *Grapevine berry inner necrosis virus* | Grapevine |  | Fan et al. 2017b |
| *Trichovirus* | *Grapevine berry inner necrosis virus* | Grapevine Beta |  | Fan et al. 2016b |
| *Trichovirus* | *Grapevine Pinot gris virus* | Grapevine | 21nt,22nt; both strands | Giampetruzzi et al. 2012; Glasa et al. 2014,2015; Saldarelli et al. 2015; Fan et al. 2016a; Eichmeier et al. 2016; Reynard et al. 2016; Czotter et al. 2018 |
| *Vitivirus* | *Actinidia virus A* | Kiwifruit  *A. chinensis* |  | Zheng et al. 2014 |
| *Vitivirus* | *Actinidia virus B* | *Actinidia* sp. | 21nt,22nt,24nt | Barrero et al. 2017 |
| *Vitivirus* | *Grapevine virus A* | Grapevine | 21nt,22nt; both strands | Czotter et al. 2018, pers com; Velasco et al. 2014; Maliogka et al. 2015; Eichmeier et al. 2016; Chiumenti et al. 2016b; Massart et al. 2018 |
| *Vitivirus* | *Grapevine virus B* | Grapevine | 21nt,22nt; (-) strand bias | Czotter et al. 2018, pers com; Barrero et al. 2017; Maliogka et al. 2015; Eichmeier et al. 2016; Cretazzo et al. 2017; Massart et al. 2018 |
| *Vitivirus* | *Grapevine virus G* | Grapevine |  | Blouin et al. 2018a,b |
| *Vitivirus* | *Grapevine virus I* | Grapevine |  | Blouin et al. 2018a,b |
| Unassigned  *Citrivirus*-like | *Watermelon virus A* | Watermelon |  | Xin et al. 2017b,c |
| Unassigned | *Cherry green ring mottle virus* | Peach |  | Lu et al. 2017 |
| Unassigned | *Banana mild mosaic virus* | Banana |  | Verdin et al. 2017 |
| **Bromoviridae**  (+)ssRNA |  |  |  |  |
| *Alfamovirus* | *Alfalfa mosaic virus* | *N. tabacum* |  | Pecman et al. 2017 |
| *Alfamovirus* | *Alfalfa mosaic virus* | Potato |  | Nie et al. 2015 |
| *Bromovirus* | *Brome mosaic virus* | Wheat |  | Sõmera et al. 2016 |
| *Cucumovirus* | *Cucumber mosaic virus*  and its 2b mutants | *A. thaliana*, its RNAi mutants | 21nt,22nt; both strands | Donaire et al. 2009; Wang et al. 2010; Wang et al. 2011 |
| *Cucumovirus* | *Cucumber mosaic virus* | Common bean |  | Mwaipopo et al. 2018 |
| *Cucumovirus* | *Cucumber mosaic virus* | Lily |  | Li et al. 2018 |
| *Cucumovirus* | *Cucumber mosaic virus* | Water lily |  | Kreuze 2014 |
| *Cucumovirus* | *Cucumber mosaic virus* | *N. tabacum* | 21nt,22nt; both strands | Shen et al. 2015; Zahid et al. 2015; Wang et al. 2015b; Akinyemi et al. 2016 |
| *Cucumovirus* | *Cucumber mosaic virus*  2b mutant | *N. benthamiana* | 21nt,22nt; (+) strand bias | Qiu et al. 2018 |
| *Cucumovirus* | *Cucumber mosaic virus*  2b mutant | *N. tabacum* | 21nt,22 nt; (+) strand bias | Qiu et al. 2017 |
| *Cucumovirus* | *Cucumber mosaic virus* | Tomato | 21nt,22 nt; (+) strand bias | Xu et al. 2017; Padmanabhan et al. 2015b; Che et al. 2018 |
| *Cucumovirus* | *Tomato aspermy virus* | Tomato | 21nt,22 nt; (+) strand bias | Xu et al. 2017 |
| *Cucumovirus* satellite | *Cucumber mosaic virus* satellite  Y-Sat | *N. benthamiana* | 21nt,22 nt; both strands | Shimura et al. 2011; Fang et al. 2015; Smith et al. 2011 |
| *Cucumovirus* satellite | *Cucumber mosaic virus* satellite Y-Sat | *N. tabacum* | 22nt,21nt | Shen et al. 2015 |
| *Cucumovirus*  endogenous | *Cucumber mosaic virus* satelliteendogenous sequences | *N. tabacum* | 24nt; both strands | Zahid et al. 2015 |
| *Cucumovirus*  endogenous | *Cucumber mosaic virus* RNA1 endogenous sequences | Soybean | 22nt,24nt,21nt; both strands | Da Fonseca et al. 2016 |
| *Ilarvirus* | *Apple mosaic virus* | Sweet cherry |  | Ruiz-Garcia et al. 2016 |
| *Ilarvirus* | *Blackberry chlorotic ringspot virus* | Rose |  | He et al. 2015 |
| *Ilarvirus* | *Prune dwarf virus* | Sweet cherry |  | Ruiz-Garcia et al. 2016: Katsiani et al. 2018 |
| *Ilarvirus* | *Prunus necrotic ringspot virus* | Crab apple |  | Li et al. 2017b |
| *Ilarvirus* | *Prunus necrotic ringspot virus* | Cucumber | 21nt,22nt; both strands | Herranz et al. 2015 |
| *Ilarvirus* | *Prunus necrotic ringspot virus* | Peach | 21nt,22nt,24nt | Barrero et al. 2017 |
| *Ilarvirus* | *Prunus necrotic ringspot virus* | Rose |  | He et al. 2015 |
| *Ilarvirus* | *Prunus necrotic ringspot virus* | Sweet cherry | 21nt,22nt; both strands | Zhao and Song 2014a,b; Ruiz-Garcia et al. 2016; Wang et al. 2016e; Wang et al. 2018b |
| *Ilarvirus* | *Spinach latent virus* | Tomato |  | Xu et al. 2017 |
| *Ilarvirus* |  | Daisy |  | Verdin et al. 2017 |
| *Ilarvirus* |  | Wild sweetpea |  | Verdin et al. 2017 |
| **Caulimoviridae**  dsDNA-RT |  |  |  |  |
| *Cavemovirus* | *Sweet potato collusive virus* | Sweet potato |  | Mbanzibwa et al. 2014 |
| *Caulimovirus* | *Cauliflower mosaic virus* | *A. thaliana,* its RNAi mutants | 24nt,21nt,22nt; both strands | Blevins et al. 2011; Seguin et al. 2014 |
| *Caulimovirus* | *Cauliflower mosaic virus* | *Brassica oleracea* |  | Pecman et al. 2017 |
| *Caulimovirus* | Strawberry vein banding virus | Strawberry |  | Ding et al. 2016 |
| *Caulimovirus* |  | Centranthus |  | Verdin et al. 2017 |
| *Caulimovirus* |  | Common bean |  | Mwaipopo et al. 2018 |
| *Caulimovirus* |  | Lilac |  | Verdin et al. 2017 |
| *Badnavirus* episomal | *Banana streak Obino l'Ewai virus* | Banana Cavendish | 21nt,24nt,22nt; both strands | Rajeswaran et al. 2014b |
| *Badnavirus* episomal | *Banana streak Goldfinger virus* | Banana Cavendish | 21nt,22nt,24nt; both strands | Rajeswaran et al. 2014b |
| *Badnavirus* episomal | *Banana streak Imove virus* | Banana Cavendish | 21nt,22nt,24nt; both strands | Rajeswaran et al. 2014b |
| *Badnavirus* episomal | *Banana streak Mysore virus* | Banana Cavendish | 21nt,24nt,22nt; both strands | Rajeswaran et al. 2014b |
| *Badnavirus* episomal | *Banana streak Vietnam virus* | Banana Cavendish | 21nt,22nt,24nt; both strands | Rajeswaran et al. 2014b |
| *Badnavirus* episomal | *Banana streak Cavendish virus* | Banana Cavendish | 21nt,22nt,24nt; both strands | Rajeswaran et al. 2014b |
| *Badnavirus* | *Fig badnavirus-1* | Fig | 21nt,22nt,24nt; both strands | Turco, Reynard, Pooggin in prep; Chiumenti et al. 2014 |
| *Badnavirus* | *Grapevine Roditis leaf discoloration-associated virus* | Grapevine | 21nt,22nt,24nt; both strands | Maliogka et al. 2015; Chiumenti et al. 2016a |
| *Badnavirus* | *Grapevine vein clearing virus* | Grapevine | 21nt,22nt,24nt | Howard and Qiu 2017; Zhang et al. 2011 |
| *Badnavirus* | *Mulberry badnavirus 1* | Mulberry | 21nt,22nt,24nt; both strands | Chiumenti et al. 2016c |
| *Badnavirus* | *Pagoda yellow mosaic associated virus* | Pagoda tree | 21nt,22nt,24nt; both strands | Wang et al. 2014 |
| *Badnavirus* | *Rubus yellow net virus* | Raspberry | 21nt,22nt,24nt; (+) strand bias | Kalischuk et al. 2013;  Barrero et al. 2017 |
| *Badnavirus* | *Sweet potato badnavirus A* | Sweet potato |  | Mbanzibwa et al. 2014; Qin et al. 2016; Nhlapo et al. 2018 |
| *Badnavirus* | *Sweet potato badnavirus B* | Sweet potato | 22nt,24nt,21nt | Kreuze et al. 2009; Mbanzibwa et al. 2014; Qin et al. 2016; Nhlapo et al. 2018 |
| *Badnavirus* | *Sweet potato badnavirus C* | Sweet potato |  | Mbanzibwa et al. 2014 |
| *Badnavirus* | *Sweet potato pakakuy virus* | Sweet potato | 22nt,24nt,21nt | Kreuze et al. 2009; Kashif et al. 2012 |
| *Badnavirus* | *Taro bacilliform CH virus* | Taro | 21nt,22nt,24nt; both strands | Kazmi et al. 2015 |
| *Badnavirus* |  | Canna |  | Verdin et al. 2017 |
| *Florendovirus* endogenous | *Amborella trichopoda A virus* | *Amborella trichopoda* | both strands (21-24nt) | Geering et al. 2014 |
| *Florendovirus* endogenous | *Amborella trichopoda B virus* | *Amborella trichopoda* | both strands (21-24nt) | Geering et al. 2014 |
| *Florendovirus* endogenous | *Amborella trichopoda C virus* | *Amborella trichopoda* | both strands (21-24nt) | Geering et al. 2014 |
| *Florendovirus* endogenous | *Citrus clementina virus* | Clementine |  | Geering et al. 2014 |
| *Florendovirus* endogenous | *Citrus clementina virus* | Sweet orange |  | Geering et al. 2014 |
| *Florendovirus* endogenous | *Eucalyptus grandis florendovirus 1* | *Eucalyptus grandis* | 24nt,22nt,21nt | Marcon et al. 2017 |
| *Florendovirus* endogenous | *Eucalyptus grandis florendovirus 4* | *Eucalyptus grandis* | 24nt,22nt,21nt | Marcon et al. 2017 |
| *Florendovirus* endogenous | *Populus trichocarpa virus* | Poplar |  | Geering et al. 2014 |
| *Florendovirus* endogenous | *Solanum tuberosum virus* | Potato |  | Geering et al. 2014 |
| *Florendovirus* endogenous | *Sorghum bicolor virus* | *Sorghum bicolor* |  | Geering et al. 2014 |
| *Florendovirus* endogenous | *Solanum lycopersicum virus* | Tomato |  | Geering et al. 2014 |
| *Florendovirus* endogenous | *Vitis vinifera A virus* | Grapevine | both strands (21-24nt) | Geering et al. 2014 |
| *Florendovirus* endogenous | *Vitis vinifera B virus* | Grapevine | both strands (21-24nt) | Geering et al. 2014 |
| *Petuvirus*  endogenous ? | *Petunia vein clearing virus* | Petunia |  | Verdin et al. 2017 |
| *Solendovirus* | *Tobacco vein-clearing virus* | *N. tabacum* | 21nt,22nt | Barrero et al. 2017 |
| *Solendovirus*  endogenous | *Tobacco vein-clearing virus-*like | *N. tabacum* |  | Kreuze 2014 |
| *Solendovirus*  endogenous | *Tobacco vein-clearing virus-*like | *Physalis ﬂoridiana* |  | Kreuze 2014 |
| *Solendovirus*  endogenous | *Tobacco vein-clearing virus-*like | Potato |  | Kreuze 2014 |
| *Solendovirus*  endogenous | *Tobacco vein-clearing virus-*like | Tomato |  | Kreuze 2014 |
| *Tungrovirus* episomal | *Rice tungro bacilliform virus* | Rice | 21nt,22nt,24nt; both strands | Rajeswaran et al. 2014a; Zarreen et al. 2018 |
| Endogenous  *Petuvirus*-like | *Citrus endogenous pararetrovirus* | *Citrus* sp. | 24nt,21nt,22nt | Barrero et al. 2017 |
| Endogenous *Petuvirus*-like | *Citrus endogenous pararetrovirus* | Sweet orange |  | Matsumura et al. 2017 |
| Endogenous *Petuvirus*-like | *Eucalyptus grandis endogenous viral element 1* | *Eucalyptus grandis* | 24nt,21nt,22nt | Marcon et al. 2017 |
| Endogenous *Petuvirus*-like | *Fritillaria imperialis endogenous pararetrovirus* | *Fritillaria imperialis* | 24nt,22nt,21nt | Becher et al. 2014 |
| Endogenous *Petuvirus*-like |  | Milkweed |  | Verdin et al. 2017 |
| Endogenous  *Badnavirus-*like |  | Banana  *M. acuminata* |  | Kreuze 2014 |
| Endogenous *Caulimo-Sobemo*-like |  | Poplar |  | Kreuze 2014 |
| Endogenous *Cavemo-Badna-*like |  | Watermelon |  | Zaagueri et al. 2017 |
| Endogenous |  | *Amborella trichopoda* |  | Kreuze 2014 |
| Endogenous |  | *Chara coralline* |  | Kreuze 2014 |
| Endogenous |  | *Cycas rumphii* |  | Kreuze 2014 |
| Endogenous |  | Moss  *P. patens* |  | Kreuze 2014 |
| Endogenous |  | Pomelo |  | Verdin et al. 2017 |
| Endogenous |  | *Silene latifolium* |  | Kreuze 2014 |
| Endogenous |  | Sweet orange |  | Kreuze 2014 |
| Endogenous |  | Water lily |  | Kreuze 2014 |
| **Closteroviridae**  (+)ssRNA |  |  |  |  |
| *Ampelovirus* | *Fig leaf mottle-associated virus 2* | Fig | 21nt,22nt; both strands | Turco, Reynard, Pooggin in prep |
| *Ampelovirus* | *Grapevine leafroll-associated virus 1* | Grapevine | 21nt,22nt; both strands | Czotter et al. 2018, pers com; Eichmeier et al. 2016; Chiumenti et al. 2016b; |
| *Ampelovirus* | *Grapevine leafroll‐associated virus 3* | Grapevine | 21nt,22nt; both strands | Alabi et al. 2012; Maliogka et al. 2015; Velasco et al. 2014; Visser et al. 2016; Chiumenti et al. 2016b; Bester et al. 2017a,b; Barrero et al. 2017; Czotter et al. 2018; Fan et al. 2017b |
| *Ampelovirus* | *Grapevine leafroll‐associated virus 3* | Grapevine Beta |  | Fan et al. 2017a; Ahmed et al. 2018 |
| *Ampelovirus* | *Grapevine leafroll‐associated virus 4* | Grapevine | 21nt,22nt; both strands | Turco, Reynard, Pooggin in prep; Velasco et al. 2014 |
| *Ampelovirus* | *Little cherry virus 2* | Sweet cherry | 21nt,22nt; both strands | Turco, Reynard, Pooggin in prep |
| *Ampelovirus* | *Plum bark necrosis stem pitting-associated virus* | Peach |  | He et al. 2017; Lu et al. 2017 |
| *Ampelovirus* | *Plum bark necrosis stem pitting-associated virus* | Sweet cherry |  | Wang et al. 2016c; Zamorano et al. 2017 |
| *Crinivirus* | *Bean yellow disorder virus* | Common bean |  | Mwaipopo et al. 2018 |
| *Crinivirus* | *Beet pseudo yellows virus* | Lettuce |  | Kreuze 2014 |
| *Crinivirus* | *Lettuce chlorosis virus* | Green bean | 21nt,22nt; both strands | Ruiz et al. 2018 |
| *Crinivirus* | *Lettuce chlorosis virus* | Tomato |  | Zhang et al. 2017b |
| *Crinivirus* | *Lettuce infectious yellows virus* | Lettuce |  | Kreuze 2014 |
| *Crinivirus* | *Lettuce infectious yellows virus* | *N. benthamiana* | 22nt,21nt; both strands | Qiao et al. 2018 |
| *Crinivirus* | *Strawberry crinivirus 4* | Strawberry |  | Ding et al. 2016 |
| *Crinivirus* | *Strawberry pallidosis associated virus* | Strawberry |  | Ding et al. 2016, 2017 |
| *Crinivirus* | *Sweet potato chlorotic stunt virus* | Sweet potato | 22nt,21nt; both strands | Kreuze et al. 2009; Cuellar et al. 2015; Cuellar et al. 2011; Kashif et al. 2012; Mbanzibwa et al. 2014; Untiveros et al. 2016; Cao et al. 2017a |
| *Crinivirus* | *Tomato chlorosis virus* | Tomato | 22nt,21nt; both strands | Xu et al. 2017; Padmanabhan et al. 2015b; Pecman et al. 2017 |
| *Closterovirus* | *Cereal closterovirus* | Oat, Wheat |  | Sõmera et al. in prep |
| *Closterovirus* | *Citrus tristeza virus* | Citron | 21nt,22nt,24nt | Barrero et al. 2017 |
| *Closterovirus* | *Citrus tristeza virus* | *Citrus macrophylla* | both strands | Folimonova et al. 2014 |
| *Closterovirus* | *Citrus tristeza virus* | *Citrus* sp. |  | Roy et al. 2013b |
| *Closterovirus* | *Citrus tristeza virus* | Grapefruit | 22nt,21nt; both strands | Visser et al. 2017; Visser et al. 2016 |
| *Closterovirus* | *Citrus tristeza virus* | Lemon | (-) strand bias | Varveri et al. 2015 |
| *Closterovirus* | *Citrus tristeza virus* | Mandarin | both strands | Beris, Varveri, et al. in prep |
| *Closterovirus* | *Citrus tristeza virus* | Mexican lime | 21nt,22nt; (+) strand bias | Ruiz-Ruiz et al. 2011 |
| *Closterovirus* | *Citrus tristeza virus* | Persian lime | 21nt,22nt | Barrero et al. 2017 |
| *Closterovirus* | *Citrus tristeza virus* | Sour orange | 21nt,22nt; (+) strand bias | Ruiz-Ruiz et al. 2011 |
| *Closterovirus* | *Citrus tristeza virus* | Sweet orange | 21nt,22nt; (+) strand bias | Ruiz-Ruiz et al. 2011; Roy et al. 2013a; Matsumura et al. 2017 |
| *Closterovirus* | *Citrus tristeza virus* | Sweet orange on sour orange | 21nt,22nt; both strands; (-) strand bias | Licciardello et al. 2015 |
| *Closterovirus* | *Citrus tristeza virus* | Trifoliate orange | 22nt,21nt; (+) strand bias | Yokomi et al. 2017 |
| *Closterovirus* | *Grapevine leafroll-associated virus 2* | Grapevine | 21nt,22nt; both strands | Seguin, Dolya, Pooggin in prep; Chiumenti et al. 2016b; Cretazzo et al. 2017 |
| *Closterovirus* | *Rose leaf rosette-associated virus* | Rose | 21nt,22nt; both strands | He et al. 2015 |
| *Closterovirus* | *Fig mild mottle-associated virus* | Fig | 21nt,22nt; both strands | Turco, Reynard, Pooggin in prep; Chiumenti et al. 2014 |
| *Velarivirus* | *Grapevine leafroll-associated virus 7* | Grapevine |  | Ma et al. 2017 |
| *Velarivirus* | *Little cherry virus 1* | Apricot | 21nt,22nt; both strands | Baráth et al. 2018 |
| *Velarivirus* | *Little cherry virus 1* | Sweet cherry | 21nt,22nt; both strands | Katsiani et al. 2018; Turco, Reynard, Pooggin in prep; Wang et al. 2016d; Ruiz-Garcia et al. 2016; Wang et al. 2016e; Koloniuk et al. 2018; Fiore et al. 2018 |
| **Endornaviridae**  dsRNA |  |  |  |  |
| *Alphaendornavirus* | *Bell pepper endornavirus* | Bell pepper |  | Sela et al. 2012; Kreuze 2014; Chen et al. 2015a; Kamran et al. 2018 |
| *Alphaendornavirus* | *Helianthus annuus alphaendornavirus* | Sunflower | 21nt,22nt; both strands | Liu et al. 2018 |
| *Alphaendornavirus* | *Hordeum vulgare endornavirus* | Barley | 21nt,22nt; both strands | Golyaev, Candresse, Pooggin et al. in prep; Sõmera et al. in prep |
| *Alphaendornavirus* | *Phaseolus vulgaris endornavirus 1* | Common bean | both strands | Nordenstedt et al. 2017; Mwaipopo et al. 2018 |
| *Alphaendornavirus* | *Phaseolus vulgaris endornavirus 2* | Common bean | both strands | Nordenstedt et al. 2017; Mwaipopo et al. 2018 |
| *Alphaendornavirus* |  | Anemone |  | Verdin et al. 2017 |
| *Alphaendornavirus* |  | Periwinkle |  | Verdin et al. 2017 |
| **Fimoviridae**  (-)ssRNA |  |  |  |  |
| *Emaravirus* | *Actinidia chlorotic ringspot-associated virus* | Kiwifruit  *A. chinensis* | 21nt,22nt; both strands | Zheng et al. 2017b |
| *Emaravirus* | *Fig mosaic virus* | Fig | 21nt,22nt; both strands | Turco, Reynard, Pooggin in prep Chiumenti et al. 2014 |
| *Emaravirus* | *Pigeonpea sterility mosaic virus-I* | Pigeonpea | 21nt,22nt,24nt; both strands | Patil and Arora 2018; Kumar et al. 2017 |
| *Emaravirus* | *Pigeonpea sterility mosaic virus-II* | Pigeonpea |  | Kumar et al. 2017 |
| *Emaravirus* | *Raspberry leaf blotch virus* | Raspberry |  | Bi et al. 2012a |
| *Emaravirus* | *Woolly burdock yellow vein virus* | Woolly burdock | 21nt,22nt | Bi et al. 2012b |
| **Geminiviridae**  ssDNA |  |  |  |  |
| *Capulavirus* | *Plantago lanceolata latent virus* | *Plantago lanceolata* |  | Susi et al. 2017 |
| *Grablovirus* | *Grapevine red blotch virus* | Grapevine | 21nt,24nt,22nt; both strands | Seguin et al. 2014 |
| *Begomovirus* endogenous | *Endogenous geminivirus-like element 1* | Water yam | 21nt,24nt,22nt; both strands | Filloux et al. 2015 |
| *Begomovirus* bipartite | *African cassava mosaic virus* | Cassava | 21nt,22nt,24nt; both strands | Kuria et al. 2017 |
| *Begomovirus* bipartite | *Cabbage leaf curl virus*  & CP deletion/insertion mutants | *A. thaliana* & RNAi mutants | 21nt,24nt,22nt; both strands | Aregger et al. 2012;  Seguin et al. 2014 |
| *Begomovirus* bipartite | *East African cassava mosaic virus* | Cassava | 21nt,22nt,24nt; both strands | Kuria et al. 2017 |
| *Begomovirus* bipartite | *Indian cassava mosaic virus* | Cassava | 21nt,22nt,24nt; both strands | Karthikeyan et al. 2016, Pooggin et al. in prep |
| *Begomovirus* bipartite | *Mungbean yellow mosaic India virus* | Pigeonpea | 22nt,24nt,21nt; both strands | Patil and Arora 2018 |
| *Begomovirus* bipartite | *Squash leaf curl virus* | Squash |  | Hagen et al. 2011 |
| *Begomovirus* bipartite | *South African cassava mosaic virus* | Cassava | 24nt,21nt,22nt; both strands | Rogans et al. 2016 |
| *Begomovirus* bipartite | *Sri Lankan cassava mosaic virus* | Cassava | 24nt,21nt,22nt; both strands | Karthikeyan et al. 2016, Pooggin et al. in prep |
| *Begomovirus* monopartite | *Cotton leaf curl Multan virus* | Cotton | 21nt,22nt,24nt; both strands | Wang et al. 2016a |
| *Begomovirus* monopartite | *Sweet potato golden vein associated virus* | Sweet potato |  | Mbanzibwa et al. 2014; Qin et al. 2016 |
| *Begomovirus* bipartite | *Sweet potato leaf curl virus* | Sweet potato | 22nt,21nt,24nt; both strands | Cuellar et al. 2015; Mbanzibwa et al. 2014; Qin et al. 2016; Cao et al. 2017a |
| *Begomovirus* bipartite | *Sweet potato leaf curl Bengal virus* | Sweet potato |  | Qin et al. 2016 |
| *Begomovirus* bipartite | *Sweet potato leaf curl Canary virus* | Sweet potato |  | Qin et al. 2016 |
| *Begomovirus* monopartite | *Sweet potato leaf curl Georgia virus* | Sweet potato |  | Kashif et al. 2012; Qin et al. 2016 |
| *Begomovirus* monopartite | *Sweet potato leaf curl Lanzarote virus* | Sweet potato |  | Qin et al. 2016 |
| *Begomovirus* monopartite | *Sweet potato leaf curl Sao Paulo virus* | Sweet potato |  | Mbanzibwa et al. 2014 |
| *Begomovirus* monopartite | *Sweet potato leaf curl Spain virus* | Sweet potato |  | Mbanzibwa et al. 2014 |
| *Begomovirus* monopartite | *Sweet potato leaf curl Uganda virus* | Sweet potato |  | Mbanzibwa et al. 2014; Qin et al. 2016 |
| *Begomovirus* monopartite | *Sweet potato mosaic virus* | Sweet potato |  | Mbanzibwa et al. 2014 |
| *Begomovirus* monopartite | *Tomato latent virus* | Tomato RNAi-transgenic | 22nt,21nt,24nt; both strands | Fuentes et al. 2016 |
| *Begomovirus* monopartite | *Tomato yellow leaf curl China virus* | *N. benthamiana* | 22nt,21nt,24nt; both strands | Yang et al. 2011 |
| *Begomovirus* monopartite | *Tomato yellow leaf curl China virus* | Tomato | 22nt,21nt,24nt; both strands | Yang et al. 2011 |
| *Begomovirus* monopartite | *Tomato yellow leaf curl Sardinia virus* | Tomato | 21nt,22nt,24nt; both strands | Miozzi et al. 2013b |
| *Begomovirus* monopartite | *Tomato yellow leaf curl virus* | Tomato | 21nt,22nt,24nt; both strands | Donaire et al. 2009; Fuentes et al. 2016; Xu et al. 2017; Padmanabhan et al. 2015b; Leibman et al. 2015; Pecman et al. 2017; Che et al. 2018 |
| *Begomovirus* | *Sweet potato begomovirus* | Sweet potato |  | Mbanzibwa et al. 2014 |
| *Begomovirus* |  | Common bean |  | Mwaipopo et al. 2018 |
| *Begomovirus* |  | Lilac |  | Verdin et al. 2017 |
| *Begomovirus*  satellite | *Cotton leaf curl Multan*  *betasatellite* | Cotton | 21nt,22nt,24nt; both strands | Wang et al. 2016a |
| *Begomovirus*  satellite | *Tomato yellow leaf curl China betasatellite* | *N. benthamiana* | 22nt,21nt,24nt; both strands | Yang et al. 2011 |
| *Begomovirus*  satellite | *Tomato yellow leaf curl China betasatellite* | Tomato | 22nt,21nt,24nt; both strands | Yang et al. 2011 |
| *Mastrevirus* | *Chickpea chlorotic dwarf virus* | Watermelon | both strands | Zaagueri et al. 2017 |
| *Mastrevirus* | *Maize streak Reunion virus* | Maize | 24nt,22nt,21nt; both strands | Chen et al. 2015b |
| *Mastrevirus* | *Sugarcane streak Egypt Virus* | Sugarcane | 24nt,21nt,22nt; both strands | Candresse et al. 2014 |
| *Mastrevirus* | *Sugarcane white streak virus* | Sugarcane | 24nt,21nt,22nt; both strands | Candresse et al. 2014 |
| *Mastrevirus* | *Sweet potato symptomless mastrevirus 1* | Sweet potato | 22nt,24nt,21nt | Kreuze et al. 2009; Wang et al. 2015a; Cao et al. 2017a; Barrero et al. 2017 |
| *Mastrevirus* | *Wheat dwarf virus* | Wheat |  | Sõmera et al., in prep |
| Unassigned | *Apple geminivirus* | Apple | 21nt,22nt,24nt; both strands | Liang et al. 2015 |
| Unassigned | *Camellia chlorotic dwarf-associated virus* | Camellia |  | Zhang et al. 2018 |
| Unassigned | *Citrus chlorotic dwarf-associated virus* | Lemon |  | Loconsole et al. 2012b |
| Unassigned | *Grapevine geminivirus A* | Grapevine |  | Fan et al. 2017b; Ahmed et al. 2018 |
| Unassigned | *Mulberry mosaic dwarf-associated virus* | Mulberry |  | Ma et al. 2015a |
| **Luteoviridae**  (+)ssRNA |  |  |  |  |
| *Enamovirus* | *Citrus vein enation virus* | Etrog citron | 21nt,24nt,22nt; both strands | Vives et al. 2013 |
| *Enamovirus* | *Pea enation virus* | Wild sweetpea |  | Verdin et al. 2017 |
| *Luteovirus* | *Barley yellow dwarf virus* | Barley, Oat, Rye, Wheat |  | Sõmera et al. in prep |
| *Luteovirus* |  | Wild sweetpea |  | Verdin et al. 2017 |
| *Polerovirus* | *Cereal yellow dwarf virus* | Cocksfoot |  | Pallett et al. 2010 |
| *Polerovirus* | *Cereal yellow dwarf virus* | Oat |  | Sõmera et al. in prep |
| *Polerovirus* | *Cucurbit aphid-borne yellows virus* | Pumpkin |  | Tang et al. 2017 |
| *Polerovirus* | *Brassica yellows virus* | *N. benthamiana* | 22nt,21nt; both strands | Zhou et al. 2017 |
| *Polerovirus* | *Brassica yellows virus* | *N. tabacum* | both strands | Akinyemi et al. 2016 |
| *Polerovirus* | *Cassava polero-like virus* | Cassava |  | Carvajal-Yepes et al. 2014 |
| *Polerovirus* | *Cotton leafroll dwarf virus* | Cotton | 22nt,21nt,24nt; both strands | Silva et al. 2011;  Romanel et al. 2012 |
| *Polerovirus* | *Maize yellow mosaic virus* | Maize | 22nt,21nt; both strands | Chen et al. 2016 |
| *Polerovirus* | *Maize yellow dwarf virus* | Maize |  | Wang et al. 2016f |
| *Polerovirus* | *Melon aphid-borne yellows virus* | Pumpkin |  | Tang et al. 2017 |
| *Polerovirus* | *Pepper leafroll chlorosis virus* | Bell pepper | 21nt,22nt; both strands | Kamran et al. 2018 |
| *Polerovirus* | *Pepper vein yellows virus* | Pepper |  | Liu et al. 2016a |
| *Polerovirus* | *Pepper vein yellows virus* | Red pepper |  | Zhang et al. 2015 |
| *Polerovirus* | *Pepper yellows virus* | Pepper | 21nt,22nt; both strands | Lotos et al. 2017 |
| *Polerovirus* | *Potato leafroll virus* | Potato | 21nt,22nt,24nt; both strands | Hwang et al. 2013; Zheng et al. 2017a |
| *Polerovirus* | *Strawberry polerovirus 1* | Strawberry |  | Ding et al. 2016 |
| *Polerovirus* | *Turnip yellows virus* | European waterclover |  | Kreuze 2014 |
| *Polerovirus* | *Turnip yellows virus* | *N. tabacum* |  | Wang et al. 2015b |
| *Polerovirus* | *Turnip yellows virus* | Tomato |  | Xu et al. 2017 |
| *Polerovirus* | *Wheat leaf yellowing-associated virus* | Wheat | 21nt,22nt; both strands | Zhang et al. 2017a |
| *Polerovirus* |  | Iris |  | Verdin et al. 2017 |
| *Polerovirus* |  | Periwinkle |  | Verdin et al. 2017 |
| *Polerovirus-*like |  | *Torilis arvensis* |  | Lotos et al. 2018 |
| Unassigned | *Nectarine stem pitting-associated virus* | Peach |  | Lu et al. 2017 |
| **Nanoviridae**  ssDNA |  |  |  |  |
| *Nanovirus* | *Faba bean necrotic stunt virus* | Faba bean | 24nt,22nt,21nt; both strands | Golyaev, Blanc, Pooggin et al. in prep |
| *Nanovirus* | *Pea necrotic yellow dwarf virus* | Pea |  | Pecman et al. 2017 |
| **Metaviridae**  ssRNA-RT |  |  |  |  |
| *Ty3/Gypsy*  endogenous | LTR retrotransposons | *A. thaliana*, Maize, Mangrove, Strawberry, Wheat | both strands; (21-24nt) | Creasey et al. 2014; Masuta et al. 2017; Alejandri-Ramírez et al. 2018; Wang et al. 2018a; Šurbanovski et al. 2016; Sun et al. 2013 |
| **Partitiviridae**  dsRNA |  |  |  |  |
| *Deltapartitivirus* | *Citrullus lanatus cryptic virus* | Watermelon | 21nt,22nt; both strands | Xin et al. 2017b |
| *Deltapartitivirus* putative | *Persimmon cryptic virus* | Japanese persimmon |  | Ruiz-Garcia et al. 2017 |
| *Deltapartitivirus* |  | Anemone |  | Verdin et al. 2017 |
| *Deltapartitivirus* |  | Carnation |  | Verdin et al. 2017 |
| **Phenuiviridae**  (-)ssRNA |  |  |  |  |
| *Tenuivirus* | *European wheat striate mosaic virus* | Oat, Wheat |  | Sõmera et al. in prep |
| *Tenuivirus* | *Rice hoja blanca virus* | Rice |  | Jimenez et al. 2018 |
| *Tenuivirus* | *Rice stripe virus* | *N. benthamiana* | 21nt,20nt,22nt; both strands | Xu et al. 2012 |
| *Tenuivirus* | *Rice stripe virus* | Rice | 21nt,20nt,22nt; both strands | Yan et al. 2010; Xu et al. 2012; Jiang et al. 2012; Wu et al. 2015b |
| Unclassified Bunyavirales | *Watermelon crinkle leaf-associated virus 1* | Watermelon |  | Xin et al. 2017a |
| Unclassified Bunyavirales | *Watermelon crinkle leaf-associated virus 2* | Watermelon |  | Xin et al. 2017a |
| **Potyviridae**  (+)ssRNA |  |  |  |  |
| *Bymovirus* | *Wheat yellow mosaic virus* | Wheat | 21nt,22nt; both strands | Chen et al. 2014; Li et al. 2017a |
| *Ipomovirus* | *Cassava brown streak viruses* | Cassava | 21nt,22nt; both strands | Ogwok et al. 2016 |
| *Ipomovirus* | *Cucumber vein yellowing virus* | Cucumber |  | Velasco et al. 2016 |
| *Ipomovirus* | *Squash vein yellowing virus* | Watermelon | 21nt,22nt; both strands | Reingold et al. 2016 |
| *Ipomovirus* | *Sweet potato mild mottle virus* | Sweet potato |  | Mbanzibwa et al. 2014 |
| *Macluravirus* | *Alpinia oxyphylla mosaic virus* | *Alpinia oxyphylla* |  | Hu et al. 2018 |
| *Poacevirus* | *Triticum mosaic virus* | Wheat | 21nt,22nt; both strands | Tatineni et al. 2014 |
| *Potyvirus* | *Alstroemeria mosaic virus* | Alstroemeria |  | Verdin et al. 2017 |
| *Potyvirus* | *Apium virus Y* | Parsley | 21nt,22nt; both strands | Mehle et al. in prep |
| *Potyvirus* | *Bean common mosaic virus* | Common bean |  | Mwaipopo et al. 2018 |
| *Potyvirus* | *Bean common mosaic virus* | Sesame |  | Shi et al. 2016; Wang et al. 2017 |
| *Potyvirus* | *Bean common mosaic necrosis virus* | Common bean |  | Chiquito-Almanza et al. 2018; Mwaipopo et al. 2018 |
| *Potyvirus* | *Bean yellow mosaic virus* | Canna |  | Verdin et al. 2017 |
| *Potyvirus* | *Canna yellow streak virus* | Canna |  | Verdin et al. 2017 |
| *Potyvirus* | *Carrot thin leaf virus* | Parsley | 21nt,22nt; both strands | Mehle et al. in prep |
| *Potyvirus* | *Carrot thin leaf virus* | *Torilis arvensis* | both strands | Lotos et al. 2018 |
| *Potyvirus* | *Chilli veinal mottle virus* | Tomato | 21nt,22nt; both strands | Xu et al. 2017 |
| *Potyvirus* | *Cocksfoot streak virus* | Cocksfoot | 21nt,22nt; both strands | Ho et al. 2010 |
| *Potyvirus* | *Cowpea aphid-borne mosaic virus* | Common bean |  | Mwaipopo et al. 2018 |
| *Potyvirus* | *Endive necrotic mosaic virus* | Lettuce |  | Desbiez et al. 2017a |
| *Potyvirus* | *Henbane mosaic virus* | Tomato | 21nt,22nt; both strands | Pecman et al. in prep |
| *Potyvirus* | *Iris mild mosaic virus* | Iris |  | Verdin et al. 2017 |
| *Potyvirus* | *Iris severe mosaic virus* | Iris |  | Li et al. 2016b |
| *Potyvirus* | *Japanese yam mosaic virus* | Pumpkin |  | Tang et al. 2017 |
| *Potyvirus* | *Kalanchoe mosaic virus* | Kalanchoe |  | Verdin et al. 2017 |
| *Potyvirus* | *Lettuce Italian necrotic virus* | Lettuce |  | Desbiez et al. 2017a |
| *Potyvirus* | *Lily yellow mosaic virus* | Lily |  | Li et al. 2018 |
| *Potyvirus* | *Ornithogalum mosaic virus* | Iris |  | Verdin et al. 2017 |
| *Potyvirus* | *Papaya leaf distortion mosaic virus* | Papaya | 21-nt,22nt; both strands | Zhao et al. 2018 |
| *Potyvirus* | *Papaya ringspot virus* | Papaya |  | Zhang et al. 2014b; Kreuze 2014 |
| *Potyvirus* | *Peanut mottle virus* | Common bean |  | Mwaipopo et al. 2018 |
| *Potyvirus* | *Peanut mottle virus* | Peanut |  | An et al. 2018 |
| *Potyvirus* | *Pecan mosaic-associated virus* | Pecan | 21nt,22nt; both strands | Su et al. 2016 |
| *Potyvirus* | *Pepper mottle virus* | *N. tabacum* | both strands | Akinyemi et al. 2016 |
| *Potyvirus* | *Pepper mottle virus* | Tomato | 21nt,22nt; both strands | Xu et al. 2017 |
| *Potyvirus* | *Pepper veinal mottle virus* | Bell pepper |  | Zhang et al. 2016b |
| *Potyvirus* | *Pepper veinal mottle virus* | Tomato | 21nt,22nt; both strands | Xu et al. 2017 |
| *Potyvirus* | *Plum pox virus* | Apricot |  | Baráth et al. 2018 |
| *Potyvirus* | *Plum pox virus* | Japanese plum | 22nt,21nt; both strands | Sánchez et al. 2017 |
| *Potyvirus* | *Plum pox virus* | *N. benthamiana* | 21nt,22nt; both strands | Montes et al. 2014 |
| *Potyvirus* | *Potato virus A* | Potato |  | Zheng et al. 2017a; Wu et al. 2018b |
| *Potyvirus* | *Potato virus A* derivatives | *N. tabacum* |  | Santala and Valkonen 2018 |
| *Potyvirus* | *Potato virus A* | Tomato | 21nt,22nt; both strands | Xu et al. 2017 |
| *Potyvirus* | *Potato virus Y* | *N. tabacum* | 21nt,22nt; both strands | Barrero et al. 2017; Akinyemi et al. 2016; Santala and Valkonen 2018; Wang et al. 2015b |
| *Potyvirus* | *Potato virus Y* | Potato | 21nt,22nt; both strands | Naveed et al. 2014; Kutnjak et al. 2015; Nie et al. 2015; Pecman et al. 2017; Turco et al. 2018 |
| *Potyvirus* | *Potato virus Y* | Tomato | 21nt,22nt; both strands | Xu et al. 2017; Frizzi et al. 2014 |
| *Potyvirus* | *Potato yellow blotch virus* | Potato |  | Nisbet et al. 2018 |
| *Potyvirus* | *Ranunculus leaf distortion virus* | Buttercup |  | Verdin et al. 2017 |
| *Potyvirus* | *Ranunculus mild mosaic virus* | Buttercup |  | Verdin et al. 2017 |
| *Potyvirus* | *Sorghum mosaic virus* | *Miscanthus sinenesis* | 21nt,22nt,24nt | Barrero et al. 2017 |
| *Potyvirus* | *Soybean mosaic virus* | Pumpkin |  | Tang et al. 2017 |
| *Potyvirus* | *Sudan watermelon mosaic virus* | *Cucumis melo* |  | Desbiez et al. 2017b |
| *Potyvirus* | *Sugarcane mosaic virus* | Maize | 21nt,22nt; both strands | Xia et al. 2014; Xia et al. 2016 |
| *Potyvirus* | *Sweet potato feathery mottle virus* | Sweet potato | 22nt,21nt,24nt;  both strands | Kreuze et al. 2009; Kreuze 2014; Kashif et al. 2012; Mbanzibwa et al. 2014; Cuellar et al. 2015; Untiveros et al. 2016; Qin et al. 2016; Cao et al. 2017a |
| *Potyvirus* | *Sweet potato virus 2* | Sweet potato |  | Mbanzibwa et al. 2014; Untiveros et al. 2016: Qin et al. 2016; Cao et al. 2017a |
| *Potyvirus* | *Sweet potato virus C* | Sweet potato |  | Kashif et al. 2012; Qin et al. 2016; Cao et al. 2017a |
| *Potyvirus* | *Sweet potato virus G* | Sweet potato |  | Mbanzibwa et al. 2014; Untiveros et al. 2016; Qin et al. 2016; Cao et al. 2017a |
| *Potyvirus* | *Tobacco vein banding mosaic virus* | *N. tabacum* | both strands | Akinyemi et al. 2016; Wang et al. 2015b |
| *Potyvirus* | *Tobacco vein banding mosaic virus* | Sesame |  | Wang et al. 2017 |
| *Potyvirus* | *Tobacco vein banding mosaic virus* | Tomato |  | Xu et al. 2017 |
| *Potyvirus* | *Tomato necrotic stunt virus* | Tomato | 21nt,22nt; (+) strand bias | Li et al. 2012 |
| *Potyvirus* | *Turnip mosaic virus*  & its suppressor mutant | *A. thaliana* & RNAi mutants | 21nt,22nt; both strands | Donaire et al. 2009; Garcia-Ruiz et al. 2010, 2015; Kung et al. 2014; Aguiar et al. 2015 |
| *Potyvirus* | *Turnip mosaic virus* | *Brassica juncea* | 21nt,22nt; both strands | Ho et al. 2010 |
| *Potyvirus* | *Watermelon mosaic virus* | Crepe myrtle |  | Wu et al. 2018a |
| *Potyvirus* | *Watermelon mosaic virus* | *Cucumis melo* | 21nt,22nt; both strands | Donaire et al. 2009 |
| *Potyvirus* | *Watermelon mosaic virus* | Melon | both strands | Frizzi et al. 2014 |
| *Potyvirus* | *Watermelon mosaic virus* | Sesame |  | Shi et al. 2016; Wang et al. 2017 |
| *Potyvirus* | *Watermelon mosaic virus* | Pumpkin |  | Tang et al. 2017 |
| *Potyvirus* | *Watermelon mosaic virus* | Watermelon | both strands | Zaagueri et al. 2017 |
| *Potyvirus* | *Watermelon mosaic virus* | Zucchini | both strands | Frizzi et al. 2014; Sun et al. 2018 |
| *Potyvirus* | *Yam bean mosaic virus* | Yam bean | 21nt,22nt; both strands | Fuentes et al. 2012 |
| *Potyvirus* | *Zucchini yellow mosaic virus* | Cucumber | 22nt,21nt; both strands | Leibman et al. 2011 |
| *Potyvirus* | *Zucchini yellow mosaic virus* | Melon | 22nt,21nt; both strands | Leibman et al. 2011 |
| *Potyvirus* | *Zucchini yellow mosaic virus* | Sesame |  | Shi et al. 2016 |
| *Potyvirus* | *Zucchini yellow mosaic virus* | Pumpkin |  | Tang et al. 2017 |
| *Potyvirus* | *Zucchini yellow mosaic virus* | Waterelon | 22nt,21nt; both strands | Kaldis et al. 2018 |
| *Potyvirus* |  | weed | 21nt,22nt; both strands | Zheng et al. 2017a |
| *Potyvirus* |  | Alstroemeria |  | Verdin et al. 2017 |
| *Potyvirus* |  | Anemon |  | Verdin et al. 2017 |
| *Potyvirus* |  | Buttercup |  | Verdin et al. 2017 |
| *Potyvirus* |  | Hydrangea |  | Verdin et al. 2017 |
| *Potyvirus* |  | Petunia |  | Verdin et al. 2017 |
| *Tritimovirus* | *Cocksfoot steak mosaic virus* | Cocksfoot |  | Sõmera et al. in prep |
| *Tritimovirus* | *Wheat streak mosaic virus* | Wheat | 21nt,22nt; both strands | Tatineni et al. 2014 |
| Unassigned | *Areca palm necrotic ringspot virus* | Areca palm |  | Yang et al. 2018b |
| Unassigned | *Common reed chlorotic stripe virus* | Common reed |  | Yuan et al. 2017 |
| **Pseudoviridae**  ssRNA-RT |  |  |  |  |
| *Ty1/Copia*  endogenous | LTR retrotransposons | *A. thaliana*, Maize, Mangrove, Strawberry, Wheat  Brown alga | both strands; (21-24nt)  21nt,20nt; both strands | Creasey et al. 2014; Masuta et al. 2017; Alejandri-Ramírez et al. 2018; Wang et al. 2018a; Šurbanovski et al. 2016;  Sun et al. 2013  Waldron et al. 2018 |
| **Reovirirdae**  dsRNA |  |  |  |  |
| *Fijivirus* | *Mal de Río Cuarto virus* | Wheat | 21nt,22nt; both strands | de Haro et al. 2017 |
| *Fijivirus* | *Oat sterile dwarf virus* | Oat, Wheat |  | Sõmera et al. in prep |
| *Fijivirus* | *Rice black streaked dwarf virus* | Maize | 22nt,21nt; both strands | Li et al. 2017c |
| *Fijivirus* | *Southern rice black-streaked dwarf virus* | Rice | 21nt,22nt; both strands | Xu and Zhou 2017; Lan et al. 2018 |
| *Oryzavirus* | *Rice ragged stunt virus* | Rice |  | Kreuze 2014 |
| *Phytoreovirus* | *Rice dwarf virus* | Rice | 21nt,22nt; both strands | Hong et al. 2015 |
| unassigned | *Cassava frogskin associated virus* | Cassava |  | Carvajal-Yepes et al. 2014 |
| **Rhabdoviridae**  (-)ssRNA |  |  |  |  |
| *Cytorhabdovirus* | *Barley yellow striate mosaic virus* | Wheat | 21nt,22nt; both strands | Yan et al. 2015 |
| *Cytorhabdovirus* unclassified | *Rice stripe mosaic virus* | Rice | 21nt,22nt; both strands | Yang et al. 2017 |
| *Cytorhabdovirus* unclassified | *Tomato yellow mottle-associated virus* | Tomato | 21nt,22nt; both strands | Xu et al. 2017 |
| *Cytorhabdovirus* |  | Common bean |  | Mwaipopo et al. 2018 |
| *Cytorhabdovirus* |  | Water lily |  | Kreuze 2014 |
| *Dichorhavirus* | *Citrus leprosis virus nuclear type* = *Orchid fleck virus* | *Citrus* sp. |  | Roy et al. 2013b,c |
| *Dichorhavirus* | *Citrus leprosis virus nuclear type* | Sweet orange (herbarium) |  | Hartung et al. 2015 |
| *Nucleorhabdovirus* | *Eggplant mottled dwarf virus* | Lisianthus |  | Verdin et al. 2017 |
| *Varicosavirus* | *Lettuce big-vein associated virus* | Lettuce |  | Kreuze 2014 |
| unassigned |  | Kalanchoe |  | Verdin et al. 2017 |
| **Secoviridae**  (+)ssRNA |  |  |  |  |
| *Cheravirus* | *Apple latent spherical virus* | Apple | both strands | Kishigami et al. 2014 |
| *Comovirus* | *Bean pod mottle virus* | Soybean |  | Molina et al. 2012 |
| *Fabavirus* | *Broad bean wilt virus 2* | *N. tabacum* |  | Akinyemi et al. 2016 |
| *Fabavirus* | *Cherry virus F* | Sweet cherry | both strands | Katsiani et al. 2018; Koloniuk et al. 2018 |
| *Fabavirus* | *Grapevine fabavirus* | Grapevine Beta |  | Fan et al. 2017a; Ahmed et al. 2018 |
| *Fabavirus* | *Peach leaf pitting-associated virus* | Peach | 21nt,22nt; both strands | He et al. 2017 |
| *Nepovirus* | *Cycas necrotic stunt virus* | Peony |  | Verdin et al. 2017 |
| *Nepovirus* | *Cycas necrotic stunt virus* | Snapdragon |  | Verdin et al. 2017 |
| *Nepovirus* | *Grapevine chrome mosaic virus* | Grapevine | 21nt,22nt; both strands | Czotter et al. 2018, pers com |
| *Nepovirus* | *Grapevine fanleaf virus* | Grapevine | 21nt,22nt; (+) strand bias | Pantaleo et al. 2010; Turco, Reynard, Pooggin in prep; Chiumenti et al. 2016b |
| *Nepovirus* | *Potato virus B* | Potato | both strands | De Souza et al. 2017; Massart et al. 2018 |
| *Nepovirus* | *Tobacco ringspot virus* | Cleome |  | Verdin et al. 2017 |
| *Nepovirus*  satellite | *Grapevine fanleaf virus* satellite RNA | Grapevine | 21nt,22nt; (+) strand bias | Chiumenti et al. 2016b |
| *Torradovirus* | *Carrot torrado virus 1* | *Torilis arvensis* | both strands | Lotos et al. 2018 |
| *Torradovirus* | *Cassava torrado-like virus* | Cassava |  | Carvajal-Yepes et al. 2014 |
| *Torradovirus* | *Squash chlorotic leaf spot virus* | Zucchini |  | Lecoq et al. 2016 |
| *Torradovirus*-like |  | *N. benthamiana* |  | Kreuze 2014 |
| *Torradovirus*-like |  | Squash |  | Verdin et al. 2017 |
| *Waikavirus* | *Maize chlorotic dwarf virus* | *Pennisetum advena* | 21nt,22nt | Barrero et al. 2017 |
| *Waikavirus* | *Rice tungro spherical virus* | Rice |  | Zarreen et al. 2018 |
| Unassigned | *Black raspberry necrosis virus* | Raspberry | 21nt,22nt; both strands | Susi et al. 2018 |
| Unassigned | *Strawberry mottle virus* | Strawberry | 21nt,22nt | Barrero et al. 2017; Ding et al. 2016 |
| **Solemoviridae**  (+)ssRNA |  |  |  |  |
| *Sobemovirus* | *Cynosurus mottle virus* | Wheat |  | Sõmera et al. in prep |
| *Sobemovirus* | *Southern bean mosaic virus* | Common bean |  | Mwaipopo et al. 2018 |
| *Sobemovirus* | *Solanum nodiflorum mottle virus* | *N. clevelandii* |  | Sõmera et al. in prep |
| *Sobemovirus* | *Velvet tobacco mottle virus* | *N. clevelandii* |  | Sõmera et al. in prep |
| **Tombusviridae**  (+)ssRNA |  |  |  |  |
| *Alphacarmovirus* | *Angelonia flower break virus* | Verbena |  | Verdin et al. 2017 |
| *Alphanecrovirus* | *Corn salad necrosis virus* | *N. benthamiana* |  | Verdin et al. 2018 |
| *Alphanecrovirus* | *Tobacco necrosis virus A* | Potato |  | Bobev et al. 2018 |
| *Betacarmovirus* | *Turnip crinkle virus* | *A. thaliana* | (+) strand bias in AGO2-bound | Harvey et al. 2011 |
| *Betacarmovirus* | *Turnip crinkle virus* | Chickpea | 21nt,22nt; both strands | Ghasemzadeh et al. 2018, pers com |
| *Betacarmovirus* | *Turnip crinkle virus*  mutant deltaCP:GFP | *N. benthamiana* &RNAi mutants | 22nt,21nt,24nt; (+) strand bias | Qin et al. 2017 |
| *Betanecrovirus* | *Beet black scorch virus* | *N. benthamiana* | 22nt,21nt; both strands | Xu et al. 2016 |
| *Betanecrovirus* satellite | *Beet black scorch virus*  satellite RNA | *N. benthamiana* | 22nt,21nt; (+) strand bias | Xu et al. 2016 |
| *Gammacarmovirus* | *Melon necrotic spot virus* | *Cucumis melo* | 21nt,20nt,22nt; both strands | Donaire et al. 2009 |
| *Gammacarmovirus* | *Melon necrotic spot virus* | Melon | 21nt,20nt,22nt; both strands | Herranz et al. 2015 |
| *Machlomovirus* | *Maize chlorotic mottle virus* | Maize | 22nt,21nt; (+) strand bias | Xia et al. 2016 |
| *Panicovirus* | *Ginger chlorotic fleck virus* | Ginger |  | Sõmera et al. in prep |
| *Pelarspovirus* | *Jasmine virus H* | Jasmine |  | Zhuo et al. 2018 |
| *Pelarspovirus* | *Pelargonium line pattern virus* | *N. benthamiana* | 21nt,22nt; both strands | Pérez-Cañamás et al. 2017 |
| *Tombusvirus* | *Cymbidium ringspot virus*  (and its p19 mutant) | *N. benthamiana* | 22nt,21nt; both strands; (+) strand bias | Harris et al. 2015; Donaire et al. 2009; Szittya et al. 2010; Pirovano et al. 2015 |
| *Umbravirus* | *Pea enation mosaic virus 2* | *N. benthamiana* | 21nt,22nt; both strands | Zhou et al. 2017 |
| *Umbravirus* | *Tobacco mottle virus* | Common bean |  | Mwaipopo et al. 2018 |
| *Umbravirus* |  | Common bean |  | Mwaipopo et al. 2018 |
| **Tospoviridae**  (-)ssRNA |  |  |  |  |
| *Orthotospovirus* | *Capsicum chlorosis virus* | Tomato |  | Hagen et al. 2011 |
| *Orthotospovirus* | *Capsicum chlorosis virus* | Zucchini |  | Sun et al. 2018 |
| *Orthotospovirus* | *Chrysanthemum stem necrosis virus* | *N. benthamiana* |  | Pecman et al. 2017 |
| *Orthotospovirus* | *Impatiens necrotic spot virus* | Anemone |  | Verdin et al. 2017 |
| *Orthotospovirus* | *Iris yellow spot virus* | Onion | both strands | Frizzi et al. 2014 |
| *Orthotospovirus* | *Polygonum ringspot virus* | *N. benthamiana* | 21nt,22nt; both strands | Margaria et al. 2016 |
| *Orthotospovirus* | *Polygonum ringspot virus* | Tomato | 22nt,21nt; both strands | Margaria et al. 2016 |
| *Orthotospovirus* | *Tomato spotted wilt virus* | Bell pepper |  | Moyle et al. 2017 |
| *Orthotospovirus* | *Tomato spotted wilt virus* | Buttercup |  | Verdin et al. 2017 |
| *Orthotospovirus* | *Tomato spotted wilt virus* | *Cineraria* sp. |  | Verdin et al. 2017 |
| *Orthotospovirus* | *Tomato spotted wilt virus* | *N. benthamiana* | 21nt,22nt; both strands | Mitter et al. 2013; Margaria et al. 2015 |
| *Orthotospovirus* | *Tomato spotted wilt virus* | Peanut | 21nt,22nt; both strands | Fletcher et al. 2016 |
| *Orthotospovirus* | *Tomato spotted wilt virus* | Tomato | 21nt,22nt; both strands | Mitter et al. 2013; Hagen et al. 2011; Frizzi et al. 2014; Xu et al. 2017 |
| *Orthotospovirus* | *Tomato spotted wilt virus* | Velvet leaf |  | Verdin et al. 2017 |
| *Orthotospovirus* | *Tomato zonate spot virus* | Tomato | 21nt,22nt; both strands | Xu et al. 2017 |
| *Orthotospovirus* |  | Mulberry |  | Meng et al. 2013 |
| **Tymoviridae**  (+)ssRNA |  |  |  |  |
| *Maculavirus* | *Grapevine fleck virus* | Grapevine | 21nt,22nt; (-) strand bias | Barrero et al. 2017; Pantaleo et al. 2010; Miozzi et al. 2013a; Eichmeier et al. 2016; Chiumenti et al. 2016b; Czotter et al. 2018 |
| *Maculavirus* | *Grapevine red globe virus* | Grapevine | 21nt,22nt; both strands; (-) strand bias | Cretazzo and Velasco 2017; Pantaleo et al. 2010, pers com; Czotter et al. 2018, pers com; Fan et al. 2016a; Cretazzo et al. 2017; Massart et al. 2018 |
| *Maculavirus* |  | Fig |  | Chiumenti et al. 2014 |
| *Marafivirus* | *Citrus sudden death-associated virus* | Sweet orange |  | Matsumura et al. 2017 |
| *Marafivirus* | *Grapevine asteroid mosaic associated virus* | Grapevine | 21nt,22nt; (-) strand bias; both strands | Pantaleo et al. 2010, pers com; Czotter et al. 2018, pers com;Vargas-Asencio et al. 2017b |
| *Marafivirus* | *Grapevine rupestris vein feathering virus* | Grapevine | 21nt,22nt; (-) strand bias; both strands | Giampetruzzi et al. 2012; Pantaleo et al. 2010; Saldarelli et al. 2015; Eichmeier et al. 2016; Ma et al. 2017; Czotter et al. 2018, pers com; Massart et al. 2018 |
| *Marafivirus* | *Grapevine Syrah virus 1* | Grapevine | 21nt,22nt; (-) strand bias; both strands | Giampetruzzi et al. 2012; Glasa et al. 2015; Eichmeier et al. 2016; Czotter et al. 2018, pers com; Massart et al. 2018; Ahmed et al. 2018 |
| *Tymovirus* | *Andean potato latent virus* | Potato |  | Kreuze et al. 2013 |
| *Tymovirus* | *Andean potato mild mosaic virus* | Potato |  | Kreuze et al. 2013; Zheng et al. 2017a |
| *Tymovirus* | *Turnip yellow mosaic virus* | *Brassica juncea* | 21nt,22nt,24nt; (-) strand bias | Ma et al. 2015b |
| **Virgaviridae**  (+)ssRNA |  |  |  |  |
| *Furovirus* | *Chinese wheat mosaic virus* | *N. benthamiana* & *rdr6i* mutant | 21nt,22nt; both strands | Andika et al. 2013 |
| *Furovirus* | *Chinese wheat mosaic virus* | Wheat | 21nt,22nt; both strands | Yang et al. 2014 |
| *Hordeivirus* | *Barley stripe mosaic virus* | Barley 700 years old seed |  | Smith et al. 2014 |
| *Hordeivirus* | *Ligustrum mosaic virus*  tentative species | Wild privet | 22nt,21nt; both strands | Reynard, Turco, Pooggin in prep |
| *Pomovirus* | *Potato mop-top virus* | Potato |  | Peña et al. 2016 |
| *Tobamovirus* | *Cucumber green mottle mosaic virus* | Cucumber | 21nt,22nt; (+) strand bias; both strands | Li et al. 2016a |
| *Tobamovirus* | *Cucumber green mottle mosaic virus* | *Lagenaria siceraria* | 21nt,22nt; both strands | Li et al. 2016c |
| *Tobamovirus* | *Paprika mild mottle virus* | Pepper |  | Luria et al. 2018 |
| *Tobamovirus* | *Pepper mild mottle virus* | *N. benthamiana* | 21nt,22nt; (+) strand bias | Donaire et al. 2009 |
| *Tobamovirus* | *Tobacco mild green mosaic virus* | Eggplant |  | Chai et al. 2018 |
| *Tobamovirus* | *Tobacco mild green mosaic virus* | Pumpkin |  | Tang et al. 2017 |
| *Tobamovirus* | *Tobacco mosaic virus* | *A. thaliana* & its *rdr1*, *rdr6* mutants | 21nt,22nt; (+) strand bias; both strands | Qi et al. 2009; Zavallo et al. 2015 |
| *Tobamovirus* | *Tobacco mosaic virus* | *Nicotiana* sp. |  | Pecman et al. 2017 |
| *Tobamovirus* | *Tobacco mosaic virus* | *N. tabacum* | 21nt,22nt; both strands | Konakalla et al. in prep; Wang et al. 2015b; Akinyemi et al. 2016 |
| *Tobamovirus* | *Tobacco mosaic virus* | Pumpkin |  | Tang et al. 2017 |
| *Tobamovirus* | *Tobacco mosaic virus* | Tomato | 21nt,22nt; (+) strand bias | Xu et al. 2017; Che et al. 2018 |
| *Tobamovirus* | *Tomato brown rugose fruit virus* | Tomato | 21nt,22nt; both strands | Luria et al. 2017 |
| *Tobamovirus* | *Tomato mosaic virus* | Tomato | 21nt,22nt; (+) strand bias | Xu et al. 2017; Pecman et al. 2017; Wang et al. 2018c; Che et al. 2018 |
| *Tobamovirus* | *Tomato mottle mosaic virus* | Chickpea | 21nt,22nt; both strands | Pirovano et al. 2015, pers com |
| *Tobamovirus* | *Tomato mottle mosaic virus* | Eggplant |  | Chai et al. 2018 |
| *Tobamovirus* | *Tomato mottle mosaic virus* | Tomato | 21nt,22nt; (+) strand bias | Xu et al. 2017; Li et al. 2013; Padmanabhan et al. 2015a; Che et al. 2018 |
| *Tobamovirus* | *Youcai mosaic virus*  (*Oilseed rape mosaic virus*)  and its p125 mutant | *A. thaliana &* RNAi mutants | 21nt,22nt; both strands; (+) strand bias | Sequin et al. 2014; Zavallo et al. 2015; Malpica-López et al. 2018; Hu et al. 2011 |
| *Tobamovirus* | *Youcai mosaic virus*  and its p125 mutant | *N. benthamiana* | 21nt,22nt; both strands | Malpica-López et al. 2018 |
| *Tobamovirus* | *Youcai mosaic virus* | Bell peper |  | Zhang et al. 2016a |
| *Tobravirus* | *Tobacco rattle virus* | *A. thaliana* | 21nt,22nt,24nt; (+) strand bias | Donaire et al. 2009 |
| *Tobravirus* | *Tobacco rattle virus* | Cleome |  | Verdin et al. 2017 |
| *Tobravirus* | *Tobacco rattle virus* | Peony |  | Verdin et al. 2017 |
| **Unassigned family (+)ssRNA** |  |  |  |  |
| *Cilevirus* | *Citrus leprosis virus cytoplasmic type 2* | *A. thaliana* |  | Ramos-González et al. 2016 |
| *Cilevirus* | *Citrus leprosis virus cytoplasmic type 2* | *Hibiscus rosa-sinensis* |  | Roy et al. 2018a |
| *Cilevirus* | *Citrus leprosis virus cytoplasmic type 2* | Sweet orange | 21nt,22nt | Roy et al. 2013a,b; Ramos-González et al. 2016; Roy et al. 2018a |
| *Cilevirus* | *Citrus leprosis virus cytoplasmic type 2* | Sweet orange (herbarium) |  | Hartung et al. 2015 |
| *Idaeovirus* | *Privet leaf blotch-associated virus* | *Ligustrum japonicum* | 21nt,22nt; both strands | Navarro et al. 2017 |
| *Idaeovirus* | *Raspberry bushy dwarf virus* | Grapevine | 21nt,22nt; both strands | Czotter et al. 2018, pers com |
| *Idaeovirus* | *Raspberry bushy dwarf virus* | Raspberry | 21nt,22nt,24nt; both strands | Barrero et al. 2017; Susi et al. 2018 |
| *Unassigned*  Iflaviridae-like | *Tomato matilda virus* | Tomato |  | Saqib et al. 2015 |
| Satellite virus *Unassigned* | *Grapevine satellite virus* | Grapevine | 21nt,22nt; both strands | Czotter et al. 2018, pers com |
| **Unassigned family**  in Bunyavirales  **(-)ssRNA** |  |  |  |  |
| *Coguvirus* | *Citrus coguvirus* (citrus concave gum‐associated virus) | Blood orange |  | Navarro et al. 2018 |
| *Unassinged* | *Barns Ness serrated wrack bunya/phlebo-like virus 1* | Brown alga *Fucus serratus* | 21nt,20nt; both strands | Waldron et al. 2018 |

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