
















Changes to taxonomy and the International Code of Virus Classification and Nomenclature ratified by the International Committee on Taxonomy of Viruses (2017)

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Abstract This article lists the changes to virus taxonomy approved and ratified by the International Committee on Taxonomy of Viruses (ICTV) in March 2017.

Introduction

Changes to virus taxonomy (the Universal Scheme of Virus Classification of the International Committee on Taxonomy of Viruses [ICTV]) now take place annually and are

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Table 1 Summary of taxonomic changes approved in March 2017

Change/Taxa	Orders	Families	Subfamilies	Genera	Species
New	1	12	8	128	743
Renamed				5	148
Abolished				2	43
Taxonomy 2017 ¹	8	122	35	735	4404

¹ Total numbers of taxa now recognised and shown in the ICTV Master Species List

the result of a multi-stage process. In accordance with the ICTV Statutes (<http://www.ictv.global/statutes.asp>), proposals submitted to the ICTV Executive Committee (EC) undergo a review process that involves input from the ICTV Study Groups (SGs) and Subcommittees (SCs), other interested virologists, and the EC. After final approval by the EC, proposals are then presented for ratification to the full ICTV membership by publication on the ICTV website (<http://www.ictv.global/>) followed by an electronic vote. The latest set of proposals approved by the EC was made available on the ICTV website by January 2017. A list of these proposals was then emailed on 9 February 2017 to the 149 members of ICTV, namely the EC Members, Life Members, ICTV Subcommittee Members (including the SG chairs) and ICTV National Representatives. Members were then requested to vote on whether to ratify the taxonomic proposals (voting closed on 10 March 2017).

Changes to virus taxonomy: taxa and nomenclature

A large number of changes were ratified by ICTV members (Table 1). A summary of the individual proposals, listed by the ICTV Subcommittee responsible for managing them, is provided in Tables 2, 3, 4, 5, 6, 7. Some proposals concern more than one Subcommittee and appropriate cross-references are then provided. Names of newly created taxa are in *bold italic* type. Names of existing taxa that have been moved or renamed are shown in *plain italics*. Each proposal is cited and listed in the References to acknowledge the authors' efforts and to provide links to the specific proposal as coded on the ICTV website. These documents remain available for any who wish to see the full details of the proposals.

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Table 2 Taxonomic changes from the Subcommittee for Bacterial and Archaeal Viruses (new taxa are in bold typeface)

Order	Family	Subfamily	Genus	Species	Taxonomic change	Ref.
Caudovirales	Myoviridae	Eucampyvirinae	<i>Cp8virus</i>	Campylobacter virus CP30A	1 new species	[1]
Caudovirales	Myoviridae	Ounavirinae	Ea214virus	<i>Erwinia virus Ea214</i> (type)	1 species moved and reassigned to be type species of new genus in a new subfamily. Previous taxonomic position: <i>Caudovirales/Myoviridae/unassigned/FelixoIvirus</i>	[2]
Caudovirales	Myoviridae	Ounavirinae	Ea214virus	<i>Erwinia virus M7</i>	1 new species in new genus in new subfamily	[2]
Caudovirales	Myoviridae	Ounavirinae	<i>FelixoIvirus</i>	<i>Escherichia virus AYO145A</i> , <i>Escherichia virus EC6</i> , <i>Escherichia virus JH2</i> , <i>Escherichia virus VpaE1</i> , <i>Escherichia virus wV8</i> , <i>Salmonella virus FelixO1</i> (type), <i>Salmonella virus HB2014</i> , <i>Salmonella virus Mushroom</i> , <i>Salmonella virus UAB87</i>	Genus and its 9 species assigned to new subfamily. Previous taxonomic position: <i>Caudovirales/Myoviridae/unassigned/FelixoIvirus</i>	[2]
Caudovirales	Myoviridae	Ounavirinae	<i>FelixoIvirus</i>	Escherichia virus HY02 , Escherichia virus TP1	2 new species in genus assigned to new subfamily	[2]
Caudovirales	Myoviridae	Ounavirinae	Mooglevirus	Citrobacter virus Moogle (type), Citrobacter virus Mordin	2 new species in new genus in new subfamily	[2]
Caudovirales	Myoviridae	Ounavirinae	Suspivirus	Escherichia virus SUSP1 (type), Escherichia virus SUSP2	2 new species in new genus in new subfamily	[2]
Caudovirales	Myoviridae	<i>Peduvirinae</i>	<i>P2virus</i>	<i>Mannheimia virus PHL101</i>	1 species renamed. Previous name: <i>Mannheimia virus MhaA1- PHL101</i>	[3]
Caudovirales	Myoviridae	<i>Spounavirinae</i>	<i>Kayvirus</i>	Staphylococcus virus Rodi , Staphylococcus virus S25-4	2 new species	[1]
Caudovirales	Myoviridae	<i>Spounavirinae</i>	<i>Silbivirus</i>	Staphylococcus virus Stau2	1 new species	[1]
Caudovirales	Myoviridae	<i>Spounavirinae</i>	<i>SpoIvirus</i>	Bacillus virus Camphawk	1 new species	[1]
Caudovirales	Myoviridae	<i>Spounavirinae</i>	Tsarbombavirus	Bacillus virus BCP78 , Bacillus virus TsarBomba (type)	3 new species	[4]
Caudovirales	Myoviridae	<i>Spounavirinae</i>	Unassigned	<i>Lactobacillus virus Lb338-1</i>	1 species renamed. Previous name: <i>Lactobacillus phage Lb338-1</i>	[3]
Caudovirales	Myoviridae	<i>Tevenvirinae</i>	<i>Cc-31virus</i>	<i>Escherichia virus CC31</i>	1 species renamed. Previous name: <i>Enterobacter virus CC31</i>	[3]
Caudovirales	Myoviridae	<i>Tevenvirinae</i>	Jd18virus	Klebsiella virus Jd18 (type), Klebsiella virus PKO111	2 new species in new genus	[5]
Caudovirales	Myoviridae	<i>Tevenvirinae</i>	<i>Js98virus</i>	Escherichia virus QL01	1 new species	[1]
Caudovirales	Myoviridae	<i>Tevenvirinae</i>	Kp15virus	Enterobacter virus Eap3 , Klebsiella virus KP15 (type), Klebsiella virus KP27 , Klebsiella virus Matisse , Klebsiella virus Miro	5 new species in new genus	[6]
Caudovirales	Myoviridae	<i>Tevenvirinae</i>	Moonvirus	Citrobacter virus Merlin , Citrobacter virus Moon (type)	2 new species in new genus	[7]
Caudovirales	Myoviridae	<i>Tevenvirinae</i>	<i>Rb-49virus</i>	Escherichia virus JSE	1 new species	[1]
Caudovirales	Myoviridae	<i>Tevenvirinae</i>	<i>T4virus</i>	Escherichia virus HY01	1 new species	[1]
Caudovirales	Myoviridae	<i>Tevenvirinae</i>	Unassigned	<i>Escherichia virus SV44</i>	1 species abolished	[8]
Caudovirales	Myoviridae	Unassigned	Abouovirus	Brevibacillus virus Abouo (type), Brevibacillus virus Davies	2 new species in new genus	[9]
Caudovirales	Myoviridae	Unassigned	Agrican357virus	Erwinia virus Deimos , Erwinia virus Ea35-70 (type), Erwinia virus RAY , Erwinia virus Simmy50 , Erwinia virus SpectaIG	5 new species in new genus	[10]

Table 2 continued

Order	Family	Subfamily	Genus	Species	Taxonomic change	Ref.
Caudovirales	Myoviridae	Unassigned	<i>Arv1virus</i>	<i>Arthrobacter virus ArVI</i> (type), <i>Arthrobacter virus Trina</i>	2 new species in new genus	[11]
Caudovirales	Myoviridae	Unassigned	<i>B4virus</i>	<i>Bacillus virus AvesoBmore</i>	1 new species	[1]
Caudovirales	Myoviridae	Unassigned	<i>Bc431virus</i>	<i>Bacillus virus BM15</i> , <i>Bacillus virus Deepblue</i>	2 new species	[1]
Caudovirales	Myoviridae	Unassigned	<i>Bxz1virus</i>	<i>Mycobacterium virus Alice</i> , <i>Mycobacterium virus Bcz1</i> , <i>Mycobacterium virus Dandelion</i> , <i>Mycobacterium virus HyRo</i> , <i>Mycobacterium virus Nappy</i> , <i>Mycobacterium virus Sebata</i>	6 new species	[12]
Caudovirales	Myoviridae	Unassigned	<i>Elvirus</i>	<i>Pseudomonas virus EL</i> (type)	1 species moved to be type species of new genus. Previous taxonomic position: <i>Caudovirales/Myoviridae/unassigned/Phikzivirus</i>	[13]
Caudovirales	Myoviridae	Unassigned	<i>Jinnervirus</i>	<i>Brevibacillus virus Jimner</i> (type), <i>Brevibacillus virus Osiris</i>	2 new species in new genus	[14]
Caudovirales	Myoviridae	Unassigned	<i>M12virus</i>	<i>Sinorhizobium virus M12</i> (type), <i>Sinorhizobium virus M7</i> , <i>Sinorhizobium virus N3</i>	3 new species in new genus	[15]
Caudovirales	Myoviridae	Unassigned	<i>Marthavirus</i>	<i>Arthrobacter virus Brent</i> , <i>Arthrobacter virus Jawnski</i> , <i>Arthrobacter virus Martha</i> (type), <i>Arthrobacter virus Sonny</i>	4 new species in new genus	[16]
Caudovirales	Myoviridae	Unassigned	<i>Msw3virus</i>	<i>Edwardsiella virus MSW3</i> (type), <i>Edwardsiella virus PEI21</i>	2 new species in new genus	[17]
Caudovirales	Myoviridae	Unassigned	<i>Muivirus</i>	<i>Shigella virus S/Mu</i>	1 new species	[1]
Caudovirales	Myoviridae	Unassigned	<i>Phikzivirus</i>	<i>Pseudomonas virus PA7</i>	1 new species	[13]
Caudovirales	Myoviridae	Unassigned	<i>Phikzivirus</i>	<i>Pseudomonas virus Lm68</i>	1 species abolished	[13]
Caudovirales	Myoviridae	Unassigned	<i>Rsl2virus</i>	<i>Ralstonia virus RSF1</i> , <i>Ralstonia virus RSL2</i> (type)	2 new species in new genus	[18]
Caudovirales	Myoviridae	Unassigned	<i>Rslnavivirus</i>	<i>Ralstonia virus RSL1</i> (type)	1 new species in new genus	[19]
Caudovirales	Myoviridae	Unassigned	<i>Sep1virus</i>	<i>Staphylococcus virus IPLAC1C</i> , <i>Staphylococcus virus SEPI</i> (type)	2 new species in new genus	[20]
Caudovirales	Myoviridae	Unassigned	<i>Spn3virus</i>	<i>Salmonella virus SPN3US</i> (type)	1 new species in new genus	[21]
Caudovirales	Myoviridae	Unassigned	<i>Wpavirus</i>	<i>Bacillus virus BPS13</i> , <i>Bacillus virus Hakana</i> , <i>Bacillus virus Megatron</i>	3 new species	[22]
Caudovirales	Myoviridae	<i>Vequintavirinae</i>	<i>Cr3virus</i>	<i>Cronobacter virus PBES02</i> , <i>Pectobacterium virus phiTE</i>	2 new species	[1]
Caudovirales	Podoviridae	<i>Autographivirinae</i>	<i>Fri1virus</i>	<i>Acinetobacter virus AB3</i> , <i>Acinetobacter virus Abp1</i> , <i>Acinetobacter virus Fri1</i> (type), <i>Acinetobacter virus IME200</i> , <i>Acinetobacter virus PD6A3</i> , <i>Acinetobacter virus PDAB9</i> , <i>Acinetobacter virus phiABI</i>	7 new species in new genus	[23]
Caudovirales	Podoviridae	<i>Autographivirinae</i>	<i>Kp32virus</i>	<i>Escherichia virus K30</i> , <i>Klebsiella virus K11</i> , <i>Klebsiella virus K5</i> , <i>Klebsiella virus Kp1</i> , <i>Klebsiella virus KP32</i> (type), <i>Klebsiella virus KpV289</i>	6 new species in new genus	[24]
Caudovirales	Podoviridae	<i>Autographivirinae</i>	<i>Kp34virus</i>	<i>Klebsiella virus Kp2</i> , <i>Klebsiella virus KpV41</i> , <i>Klebsiella virus KpV475</i> , <i>Klebsiella virus KpV71</i>	4 new species	[1]

Table 2 continued

Order	Family	Subfamily	Genus	Species	Taxonomic change	Ref.
Caudovirales	Podoviridae	Autographivirinae	<i>Pradovirus</i>	<i>Xanthomonas virus T20</i> , <i>Xanthomonas virus J30</i> , <i>Xylella virus Prado</i> (type)	3 new species in new genus	[25]
Caudovirales	Podoviridae	Picovirinae	<i>CpIvirus</i>	<i>Streptococcus virus Cp1</i> (type)	1 species moved to be type species of new genus. Previous taxonomic position: <i>Caudovirales/</i> <i>Podoviridae/Picovirinae/unassigned</i>	[26]
Caudovirales	Podoviridae	Picovirinae	<i>CpIvirus</i>	<i>Streptococcus virus Cp7</i>	1 new species in new genus	[26]
Caudovirales	Podoviridae	Sepvirinae	<i>Nona33virus</i>	<i>Escherichia virus 24B</i> , <i>Escherichia virus 933W</i> (type), <i>Escherichia virus Min27</i> , <i>Escherichia virus PA28</i> , <i>Escherichia virus Six2 II</i>	5 new species in new genus in new subfamily	[27]
Caudovirales	Podoviridae	Sepvirinae	<i>Pocjvirus</i>	<i>Shigella virus 7502Stx</i> , <i>Shigella virus POCJ13</i> (type)	2 new species in new genus in new subfamily	[27]
Caudovirales	Podoviridae	Sepvirinae	<i>T12011virus</i>	<i>Escherichia virus 191</i> , <i>Escherichia virus PA2</i> , <i>Escherichia virus TL2011</i> (type), <i>Shigella virus</i> <i>VASD</i>	4 new species in new genus in new subfamily	[27]
Caudovirales	Podoviridae	Unassigned	<i>Bcep22virus</i>	<i>Erwinia virus Ea9-2</i> (type), <i>Erwinia virus Frozen</i>	Genus renamed. Previous name: <i>Bcep22likevirus</i>	[3]
Caudovirales	Podoviridae	Unassigned	<i>Ea92virus</i>	<i>Salmonella virus SPNIS</i>	2 new species in new genus	[28]
Caudovirales	Podoviridae	Unassigned	<i>Epsilon15virus</i>	<i>Edwardstiella virus KF1</i> (type)	1 new species	[29]
Caudovirales	Podoviridae	Unassigned	<i>Kf1virus</i>	<i>Pseudomonas virus KPP25</i> (type), <i>Pseudomonas virus</i> <i>R18</i>	1 new species in new genus	[30]
Caudovirales	Podoviridae	Unassigned	<i>Kpp25virus</i>	<i>Pseudomonas virus KPP21</i> , <i>Pseudomonas virus LUZ7</i> (type)	2 new species in new genus	[31]
Caudovirales	Podoviridae	Unassigned	<i>Luz7virus</i>	<i>Escherichia virus I72-1</i>	2 new species in new genus	[32]
Caudovirales	Podoviridae	Unassigned	<i>Phico32virus</i>	<i>Brucella virus Pr</i> (type), <i>Brucella virus Tb</i>	1 new species	[1]
Caudovirales	Podoviridae	Unassigned	<i>Prtbvirus</i>	<i>Helicobacter virus 1961P</i> (type), <i>Helicobacter virus</i> <i>KHP30</i> , <i>Helicobacter virus KHP40</i>	2 new species in new genus	[33]
Caudovirales	Podoviridae	Unassigned	<i>Una961virus</i>	<i>Streptomyces virus Amela</i> , <i>Streptomyces virus phiCAM</i> (type)	3 new species in new genus	[34]
Caudovirales	Siphoviridae	Arquatrovirinae	<i>Camvirus</i>	<i>Streptomyces virus Aronocolus</i> , <i>Streptomyces virus</i> <i>Calburn</i> , <i>Streptomyces virus Darzina</i> , <i>Streptomyces</i> <i>virus Hydra</i> , <i>Streptomyces virus Izzy</i> , <i>Streptomyces</i> <i>virus Lannister</i> , <i>Streptomyces virus Lika</i> (type), <i>Streptomyces virus Sujidade</i> , <i>Streptomyces virus</i> <i>Zemlya</i>	2 new species in new genus in new subfamily	[35]
Caudovirales	Siphoviridae	Arquatrovirinae	<i>Likavirus</i>	<i>Streptomyces virus ELB20</i> , <i>Streptomyces virus R4</i> (type)	9 new species in new genus in new subfamily	[35]
Caudovirales	Siphoviridae	Arquatrovirinae	<i>R4virus</i>	<i>Streptomyces virus phiHau3</i>	2 new species in new subfamily	[35]
Caudovirales	Siphoviridae	Arquatrovirinae	Unassigned	<i>Mycobacterium virus Acadian</i> (type)	1 new species unassigned in new subfamily	[35]
Caudovirales	Siphoviridae	Belasvirinae	<i>Acadianvirus</i>	<i>Mycobacterium virus Baeae</i> , <i>Mycobacterium virus</i> <i>Reprobate</i>	1 species moved to be type species of new genus in new subfamily. Previous taxonomic position: <i>Caudovirales/Siphoviridae/unassigned/Pg1virus</i>	[36]
Caudovirales	Siphoviridae	Belasvirinae	<i>Acadianvirus</i>		2 new species in new genus in new subfamily	[36]

Table 2 continued

Order	Family	Subfamily	Genus	Species	Taxonomic change	Ref.
Caudovirales	Siphoviridae	Belasvirinae	Coopervirus	<i>Mycobacterium virus Chrismnich</i> , <i>Mycobacterium virus Cooper</i> (type), <i>Mycobacterium virus Nigel</i> , <i>Mycobacterium virus Stinger</i> , <i>Mycobacterium virus Zemanar</i>	5 species moved to new genus in new subfamily. Previous taxonomic position: <i>Caudovirales/Siphoviridae</i> /unassigned/ <i>Pg1virus</i>	[36]
Caudovirales	Siphoviridae	Belasvirinae	Coopervirus	<i>Mycobacterium virus Adawi</i> , <i>Mycobacterium virus Bane1</i> , <i>Mycobacterium virus BrownCNA</i> , <i>Mycobacterium virus JAMA1</i> , <i>Mycobacterium virus Vincenzo</i>	5 new species in new genus in new subfamily	[36]
Caudovirales	Siphoviridae	Belasvirinae	<i>Pg1virus</i>	<i>Mycobacterium virus Oline</i> , <i>Mycobacterium virus Pg1</i> (type)	Genus and 2 species assigned to new subfamily. Previous taxonomic position: <i>Caudovirales/Siphoviridae</i> /unassigned/ <i>Pg1virus</i>	[36]
Caudovirales	Siphoviridae	Belasvirinae	<i>Pg1virus</i>	<i>Mycobacterium virus Apzium</i> , <i>Mycobacterium virus Manad</i> , <i>Mycobacterium virus Osmaximus</i> , <i>Mycobacterium virus Soto</i> , <i>Mycobacterium virus Suffolk</i>	5 new species in genus assigned to new subfamily	[36]
Caudovirales	Siphoviridae	Belasvirinae	Pipefishvirus	<i>Mycobacterium virus Gadjet</i> , <i>Mycobacterium virus Pipefish</i> (type)	2 species moved to new genus in new subfamily. Previous taxonomic position: <i>Caudovirales/Siphoviridae</i> /unassigned/ <i>Pg1virus</i>	[36]
Caudovirales	Siphoviridae	Belasvirinae	Pipefishvirus	<i>Mycobacterium virus Bernardo</i>	1 new species in new genus in new subfamily	[36]
Caudovirales	Siphoviridae	Belasvirinae	Rosebushvirus	<i>Mycobacterium virus Rosebush</i> (type)	1 species moved to be type species of new genus in new subfamily. Previous taxonomic position: <i>Caudovirales/Siphoviridae</i> /unassigned/ <i>Pg1virus</i>	[36]
Caudovirales	Siphoviridae	Belasvirinae	Rosebushvirus	<i>Mycobacterium virus Godines</i>	1 new species in new genus in new subfamily	[36]
Caudovirales	Siphoviridae	Guemseyvirinae	<i>Jerseyvirus</i>	<i>Salmonella virus LI3</i> , <i>Salmonella virus LSPA1</i>	2 species renamed. Previous names: <i>Salmonella phage LI3</i> and <i>Salmonella phage LSPA1</i>	[3]
Caudovirales	Siphoviridae	Guemseyvirinae	<i>Jerseyvirus</i>	<i>Salmonella virus f18SE</i>	1 new species	[1]
Caudovirales	Siphoviridae	Mclavirinae	Bongovirus	<i>Mycobacterium virus Bongo</i> (type)	1 species moved to be type species of new genus in a new subfamily. Previous taxonomic position: <i>Caudovirales/Siphoviridae</i> /unassigned/ <i>Reyvirus</i>	[37]
Caudovirales	Siphoviridae	Mclavirinae	<i>Reyvirus</i>	<i>Mycobacterium virus Rey</i> (type)	Genus and species assigned to new subfamily. Previous taxonomic position: <i>Caudovirales/Siphoviridae</i> /unassigned/ <i>Reyvirus</i>	[37]
Caudovirales	Siphoviridae	Pelavirinae	<i>Bignuzvirus</i>	<i>Mycobacterium virus Bignuz</i> (type)	Genus and species assigned to new subfamily. Previous taxonomic position: <i>Caudovirales/Siphoviridae</i> /unassigned/ <i>Bignuzvirus</i>	[38]
Caudovirales	Siphoviridae	Pelavirinae	Fishburnevirus	<i>Mycobacterium virus Jebeks</i>	1 species moved to be type species of new genus in new subfamily. Previous taxonomic position: <i>Caudovirales/Siphoviridae</i> /unassigned/ <i>Bignuzvirus</i>	[38]
Caudovirales	Siphoviridae	Pelavirinae	Fishburnevirus	<i>Mycobacterium virus Brusacorom</i> , <i>Mycobacterium virus Donovan</i> , <i>Mycobacterium virus Fishburne</i> (type), <i>Mycobacterium virus Malthi</i>	4 new species in new genus in new subfamily	[38]

Table 2 continued

Order	Family	Subfamily	Genus	Species	Taxonomic change	Ref.
Caudovirales	Siphoviridae	<i>Pelagovirinae</i>	<i>Phayoncevirus</i>	<i>Mycobacterium virus Phayonce</i> (type)	1 new species in new genus in new subfamily	[38]
Caudovirales	Siphoviridae	<i>Tunavirinae</i>	<i>Kp36virus</i>	<i>Klebsiella virus KLPN1</i> , <i>Klebsiella virus PKP126</i> , <i>Klebsiella virus Sushi</i>	3 new species	[1]
Caudovirales	Siphoviridae	<i>Tunavirinae</i>	<i>Rogue1virus</i>	<i>Escherichia virus C119</i>	1 new species	[1]
Caudovirales	Siphoviridae	<i>Tunavirinae</i>	<i>T1virus</i>	<i>Escherichia virus JMPW1</i> , <i>Escherichia virus JMPW2</i>	2 new species	[1]
Caudovirales	Siphoviridae	Unassigned	<i>AB18virus</i>	<i>Pseudomonas virus Ab18</i> (type), <i>Pseudomonas virus Ab19</i> , <i>Pseudomonas virus PaMx11</i>	3 new species in new genus	[39]
Caudovirales	Siphoviridae	Unassigned	<i>Amigovirus</i>	<i>Arthrobacter virus Amigo</i> (type)	1 new species in new genus	[40]
Caudovirales	Siphoviridae	Unassigned	<i>Bernal13virus</i>	<i>Mycobacterium virus Bernal13</i> (type)	1 new species in new genus	[41]
Caudovirales	Siphoviridae	Unassigned	<i>C5virus</i>	<i>Lactobacillus virus Ld17</i> , <i>Lactobacillus virus Ld25A</i> , <i>Lactobacillus virus Ld3</i> , <i>Lactobacillus virus philLdb</i>	4 new species	[1]
Caudovirales	Siphoviridae	Unassigned	<i>Cronusvirus</i>	<i>Rhodobacter virus RcCronus</i> (type)	1 new species in new genus	[42]
Caudovirales	Siphoviridae	Unassigned	<i>Decurrovirus</i>	<i>Arthrobacter virus Decurro</i> (type)	1 new species in new genus	[43]
Caudovirales	Siphoviridae	Unassigned	<i>Demosthenesvirus</i>	<i>Gordonia virus Demosthenes</i> (type), <i>Gordonia virus Katyusha</i> , <i>Gordonia virus Kyothe</i>	3 new species in new genus	[44]
Caudovirales	Siphoviridae	Unassigned	<i>Eiaivirus</i>	<i>Edwardsiella virus eiaU</i> (type)	1 new species in new genus	[45]
Caudovirales	Siphoviridae	Unassigned	<i>Gaivirus</i>	<i>Mycobacterium virus Gaia</i> (type)	1 new species in new genus	[46]
Caudovirales	Siphoviridae	Unassigned	<i>Gilesvirus</i>	<i>Mycobacterium virus Giles</i> (type)	1 new species in new genus	[47]
Caudovirales	Siphoviridae	Unassigned	<i>Gordonvirus</i>	<i>Arthrobacter virus Capnmurica</i> , <i>Arthrobacter virus Gordon</i> (type)	2 new species in new genus	[48]
Caudovirales	Siphoviridae	Unassigned	<i>Gordinkvirus</i>	<i>Gordonia virus GordTnk2</i> (type)	1 new species in new genus	[49]
Caudovirales	Siphoviridae	Unassigned	<i>Harrisonvirus</i>	<i>Paenibacillus virus Harrison</i> (type)	1 new species in new genus	[50]
Caudovirales	Siphoviridae	Unassigned	<i>HK578virus</i>	<i>Escherichia virus EK99P1</i> , <i>Escherichia virus YD2008s</i>	2 new species	[1]
Caudovirales	Siphoviridae	Unassigned	<i>Jenstvirus</i>	<i>Brevibacillus virus Jenst</i> (type)	1 new species in new genus	[51]
Caudovirales	Siphoviridae	Unassigned	<i>Jwxvirus</i>	<i>Achromobacter virus 83-24</i> , <i>Achromobacter virus JWx</i> (type)	2 new species in new genus	[52]
Caudovirales	Siphoviridae	Unassigned	<i>Kalleziavirus</i>	<i>Arthrobacter virus Kellezio</i> (type), <i>Arthrobacter virus Kitkat</i>	2 new species in new genus	[53]
Caudovirales	Siphoviridae	Unassigned	<i>Korravirus</i>	<i>Arthrobacter virus Bennie</i> , <i>Arthrobacter virus Dr-Robert</i> , <i>Arthrobacter virus Glenn</i> , <i>Arthrobacter virus HunterDalle</i> , <i>Arthrobacter virus Joann</i> , <i>Arthrobacter virus Korra</i> (type), <i>Arthrobacter virus Preamble</i> , <i>Arthrobacter virus Pumancara</i> , <i>Arthrobacter virus Wayne</i>	9 new species in new genus	[54]
Caudovirales	Siphoviridae	Unassigned	<i>Laroyevirus</i>	<i>Arthrobacter virus Laroye</i> (type)	1 new species in new genus	[55]
Caudovirales	Siphoviridae	Unassigned	<i>Marvinivirus</i>	<i>Mycobacterium virus Marvin</i> (type), <i>Mycobacterium virus Mosmoris</i>	2 new species in new genus	[56]

Table 2 continued

Order	Family	Subfamily	Genus	Species	Taxonomic change	Ref.
Caudovirales	Siphoviridae	Unassigned	<i>Mudcatvirus</i>	<i>Arthrobacter virus Circum</i> , <i>Arthrobacter virus Mudcat</i> (type)	2 new species in new genus	[57]
Caudovirales	Siphoviridae	Unassigned	<i>Np1virus</i>	<i>Pseudomonas virus NPI</i> (type), <i>Pseudomonas virus PaMx25</i>	2 new species in new genus	[58]
Caudovirales	Siphoviridae	Unassigned	<i>P12002virus</i>	<i>Polaribacter virus P12002L</i> (type), <i>Polaribacter virus P12002S</i>	2 new species in new genus	[59]
Caudovirales	Siphoviridae	Unassigned	<i>P12024virus</i>	<i>Nonlabens virus P12024L</i> , <i>Nonlabens virus P12024S</i> (type)	2 new species in new genus	[60]
Caudovirales	Siphoviridae	Unassigned	<i>Pa6virus</i>	<i>Propionibacterium virus ATCC29399BC</i> , <i>Propionibacterium virus ATCC29399BT</i> , <i>Propionibacterium virus Attacne</i> , <i>Propionibacterium virus Keiki</i> , <i>Propionibacterium virus Kubed</i> , <i>Propionibacterium virus Lauchelly</i> , <i>Propionibacterium virus MrAK</i> , <i>Propionibacterium virus Ouroboros</i> , <i>Propionibacterium virus P1.1</i> , <i>Propionibacterium virus P1001</i> , <i>Propionibacterium virus P100A</i> , <i>Propionibacterium virus P100D</i> , <i>Propionibacterium virus P101A</i> , <i>Propionibacterium virus P104A</i> , <i>Propionibacterium virus P105</i> , <i>Propionibacterium virus P144</i> , <i>Propionibacterium virus P91</i> , <i>Propionibacterium virus Pacnes201215</i> , <i>Propionibacterium virus PAD20</i> , <i>Propionibacterium virus PAS50</i> , <i>Propionibacterium virus PHL009M11</i> , <i>Propionibacterium virus PHL025M00</i> , <i>Propionibacterium virus PHL037M02</i> , <i>Propionibacterium virus PHL041M10</i> , <i>Propionibacterium virus PHL060L00</i> , <i>Propionibacterium virus PHL067M01</i> , <i>Propionibacterium virus PHL070N00</i> , <i>Propionibacterium virus PHL071N05</i> , <i>Propionibacterium virus PHL082M03</i> , <i>Propionibacterium virus PHL092M00</i> , <i>Propionibacterium virus PHL095N00</i> , <i>Propionibacterium virus PHL111M01</i> , <i>Propionibacterium virus PHL112N00</i> , <i>Propionibacterium virus PHL113M01</i> , <i>Propionibacterium virus PHL114L00</i> , <i>Propionibacterium virus PHL116M00</i> , <i>Propionibacterium virus PHL117M00</i> , <i>Propionibacterium virus PHL117M01</i> , <i>Propionibacterium virus PHL132N00</i> , <i>Propionibacterium virus PHL141N00</i> , <i>Propionibacterium virus PHL151M00</i> , <i>Propionibacterium virus PHL152M00</i> , <i>Propionibacterium virus PHL163M00</i> , <i>Propionibacterium virus PHL171M01</i> , <i>Propionibacterium virus PHL179M00</i> , <i>Propionibacterium virus PHL194M00</i> ,	57 new species in new genus	[61]

Table 2 continued

Order	Family	Subfamily	Genus	Species	Taxonomic change	Ref.
Caudovirales	Siphoviridae	Unassigned	<i>Pamx74virus</i>	Propionibacterium virus PHL199M00, Propionibacterium virus PHL301M00, Propionibacterium virus PHL308M00, Propionibacterium virus Pirate, Propionibacterium virus Procrass1, Propionibacterium virus SKKY, Propionibacterium virus Solid, Propionibacterium virus Stormborn, Propionibacterium virus Wizzo	2 new species in new genus	[62]
				<i>Pseudomonas virus PaMx28</i> , <i>Pseudomonas virus PaMx74</i> (type)	1 species moved to be type species of new genus. Previous taxonomic position: <i>Caudovirales/ Siphoviridae</i> /unassigned/ <i>Barnyardvirus</i>	[63]
Caudovirales	Siphoviridae	Unassigned	<i>Patiencivirus</i>	<i>Mycobacterium virus Patiencie</i> (type)	2 new species in new genus	[64]
Caudovirales	Siphoviridae	Unassigned	<i>Pepy6virus</i>	<i>Rhodococcus virus Pepy6</i> (type), <i>Rhodococcus virus Pocob</i>	1 new species in new genus	[65]
Caudovirales	Siphoviridae	Unassigned	<i>Pis4avirus</i>	<i>Aeromonas virus pIS4A</i> (type)	2 new species in new genus	[66]
Caudovirales	Siphoviridae	Unassigned	<i>Rdjlivirus</i>	<i>Roseobacter virus RDJL1</i> (type), <i>Roseobacter virus RDJL2</i>	1 species moved to be type species of new genus. Previous taxonomic position: <i>Caudovirales/ Siphoviridae</i> /unassigned/ <i>L5virus</i>	[67]
Caudovirales	Siphoviridae	Unassigned	<i>Rer2virus</i>	<i>Rhodococcus virus RER2</i> (type)	2 new species in new genus	[68]
Caudovirales	Siphoviridae	Unassigned	<i>Send513virus</i>	<i>Mycobacterium virus Papyrus</i> , <i>Mycobacterium virus Send513</i> (type)	1 new species	[1]
Caudovirales	Siphoviridae	Unassigned	<i>Sitaravirus</i>	<i>Paenibacillus virus Willow</i>	4 new species in new genus	[69]
Caudovirales	Siphoviridae	Unassigned	<i>Smoothievirus</i>	<i>Gordonia virus Baehnia</i> , <i>Gordonia virus ClubL</i> , <i>Gordonia virus OneUp</i> , <i>Gordonia virus Smoothie</i> (type)	1 new species in new genus	[70]
Caudovirales	Siphoviridae	Unassigned	<i>Soupsvirus</i>	<i>Gordonia virus Soups</i> (type)	2 new species	[1]
Caudovirales	Siphoviridae	Unassigned	<i>T5virus</i>	<i>Escherichia virus star09</i> , <i>Salmonella virus I18970sal2</i>	1 new species in new genus	[71]
Caudovirales	Siphoviridae	Unassigned	<i>Tankvirus</i>	<i>Arthrobacter virus Tank</i> (type)	3 new species in new genus	[72]
Caudovirales	Siphoviridae	Unassigned	<i>Tin2virus</i>	<i>Tsakamurella virus TIN2</i> (type), <i>Tsakamurella virus TIN3</i> , <i>Tsakamurella virus TIN4</i>	2 new species in new genus	[73]
Caudovirales	Siphoviridae	Unassigned	<i>Titanvirus</i>	<i>Rhodobacter virus RcSpartan</i> , <i>Rhodobacter virus RcTitan</i> (type)	1 species renamed. Previous name: <i>Mycobacterium virus Fionn</i>	[3]
Caudovirales	Siphoviridae	Unassigned	<i>Tn4virus</i>	<i>Mycobacterium virus Fionnbarth</i>	1 species moved and reassigned to be unassigned in the family. Previous taxonomic position: <i>Caudovirales/Siphoviridae</i> /unassigned/ <i>L5virus</i>	[67]
Caudovirales	Siphoviridae	Unassigned	Unassigned	<i>Rhodococcus virus RGL3</i>	1 new species in new genus	[74]
Caudovirales	Siphoviridae	Unassigned	<i>Vegasvirus</i>	<i>Paenibacillus virus Vegas</i> (type)	1 new species in new genus	[75]
Caudovirales	Siphoviridae	Unassigned	<i>Vendettavirus</i>	<i>Gordonia virus Vendetta</i> (type)	1 new species in new genus	[76]
Caudovirales	Siphoviridae	Unassigned	<i>Wildcatvirus</i>	<i>Mycobacterium virus Wildcat</i> (type)	3 new species in new genus	[77]
Caudovirales	Siphoviridae	Unassigned	<i>Woesvirus</i>	<i>Gordonia virus Hotorobo</i> , <i>Gordonia virus Monty</i> , <i>Gordonia virus Woes</i> (type)		

Table 2 continued

Order	Family	Subfamily	Genus	Species	Taxonomic change	Ref.
Caudovirales	Siphoviridae	Unassigned	<i>Ydn12virus</i>	<i>Streptomyces virus TP1604</i> , <i>Streptomyces virus YDN12</i> (type)	2 new species in new genus	[78]
Caudovirales	Siphoviridae	Unassigned	<i>Yuavirus</i>	<i>Pseudomonas virus LKO4</i> , <i>Pseudomonas virus MPI412</i> , <i>Pseudomonas virus PAE1</i>	3 new species	[1]
Unassigned	Pleolipoviridae	Unassigned	<i>Alphaleolipovirus</i>	<i>Haloarcula virus HHPV1</i> , <i>Haloarcula virus HHPV2</i> , <i>Haloarcula virus HHPV1</i> (type), <i>Haloarcula virus HRPV2</i> , <i>Haloarcula virus HRPV6</i>	5 species renamed from <i>Haloarcula virus HRPV-1</i> etc., to remove hyphens	[3]
Unassigned	Pleolipoviridae	Unassigned	<i>Betapleolipovirus</i>	<i>Halogeometricum virus HGPV1</i> , <i>Haloarcula virus HRPV3</i> (type)	2 species renamed. Previous names: <i>Halogeometricum virus HGPV-1</i> and <i>Haloarcula virus HRPV-3</i>	[3]
Unassigned	Sphaerolipoviridae	Unassigned	<i>Alphasphaerolipovirus</i>	<i>Haloarcula virus HCIV1</i>	1 new species	[79]
Unassigned	Tristromaviridae	Unassigned	<i>Alphatristromavirus</i>	<i>Pyrobaculum filamentous virus I</i> (type)	1 new species in new genus in new family	[80]
Unassigned	Tristromaviridae	Unassigned	<i>Alphatristromavirus</i>	<i>Thermoproteus tenax virus I</i>	1 species moved to new genus in new family. Previous taxonomic position: <i>Ligamenvirales/Lipothrixviridae</i> /unassigned/ <i>Alphalipothrixvirus</i>	[80]
Ligamenvirales	Lipothrixviridae	Unassigned	<i>Alphalipothrixvirus</i>		Genus abolished	[80]
Unassigned	Inoviridae	Unassigned	<i>Fibrovirus</i>	<i>Vibrio virus fs1</i> (type)	1 species moved to be type species of new genus. Previous taxonomic position: unassigned/ <i>Inoviridae</i> /unassigned/ <i>Inovirus</i>	[81]
Unassigned	Inoviridae	Unassigned	<i>Fibrovirus</i>	<i>Vibrio virus VGJ</i>	1 new species in new genus	[81]
Unassigned	Inoviridae	Unassigned	<i>Habenivirus</i>	<i>Ralstonia virus RS603</i> , <i>Ralstonia virus RSM1</i> (type), <i>Ralstonia virus RSM3</i>	3 new species in new genus	[81]
Unassigned	Inoviridae	Unassigned	<i>Inovirus</i>	<i>Escherichia virus AE2</i> , <i>Escherichia virus DeltaA</i> , <i>Escherichia virus Ee9</i> , <i>Escherichia virus fl</i> , <i>Escherichia virus fd</i> , <i>Escherichia virus HR</i> , <i>Escherichia virus PR64FS</i> , <i>Escherichia virus SF</i> , <i>Escherichia virus ff</i> , <i>Escherichia virus X</i> , <i>Escherichia virus X2</i> , <i>Escherichia virus Z12</i> , <i>Pseudomonas virus P2</i> , <i>Salmonella virus C2</i> , <i>Vibrio virus 493</i> , <i>Vibrio virus v6</i> , <i>Vibrio virus Yf12</i> , <i>Vibrio virus YSK</i> , <i>Xanthomonas virus Cff6</i> , <i>Xanthomonas virus Cff</i> , <i>Xanthomonas virus Cffn</i> , <i>Xanthomonas virus Xff</i> , <i>Xanthomonas virus Xff</i> , <i>Xanthomonas virus Xff</i> , <i>Spiroplasma virus Iaa</i>	26 species abolished	[81]

Table 2 continued

Order	Family	Subfamily	Genus	Species	Taxonomic change	Ref.
Unassigned	<i>Inoviridae</i>	Unassigned	<i>Lineavirus</i>	<i>Escherichia virus I22</i> , <i>Salmonella virus IKe</i> (type)	2 species moved to new genus. Previous taxonomic position: unassigned/ <i>Inoviridae</i> /unassigned/ <i>Inovirus</i>	[81]
Unassigned	<i>Inoviridae</i>	Unassigned	<i>Plectrovirus</i>	<i>Spiroplasma virus KC3</i> , <i>Spiroplasma virus S102</i> , <i>Spiroplasma virus I78</i>	3 species abolished	[81]
Unassigned	<i>Inoviridae</i>	Unassigned	<i>Saetivirus</i>	<i>Vibrio virus fs2</i> (type)	1 species moved to be type species of new genus. Previous taxonomic position: unassigned/ <i>Inoviridae</i> /unassigned/ <i>Inovirus</i>	[81]
Unassigned	<i>Inoviridae</i>	Unassigned	<i>Saetivirus</i>	<i>Vibrio virus VFJ</i>	1 new species in new genus	[81]
Unassigned	<i>Inoviridae</i>	Unassigned	Unassigned	<i>Escherichia virus Pf1</i> , <i>Pseudomonas virus Pfl</i> , <i>Pseudomonas virus Pj3</i> , <i>Vibrio virus CTXphi</i> , <i>Vibrio virus Vf33</i> , <i>Xanthomonas virus Cflc</i>	6 species moved and reassigned to unassigned in the family. Previous taxonomic position: unassigned/ <i>Inoviridae</i> /unassigned/ <i>Inovirus</i>	[81]
Unassigned	<i>Inoviridae</i>	Unassigned	Unassigned	<i>Propionibacterium virus B5</i> , <i>Ralstonia virus PE226</i> , <i>Ralstonia virus RSS1</i> , <i>Spiroplasma virus SVTS2</i> , <i>Stenotrophomonas virus PSH1</i> , <i>Stenotrophomonas virus SMA6</i> , <i>Stenotrophomonas virus SMA7</i> , <i>Stenotrophomonas virus SMA9</i> , <i>Vibrio virus KSFI</i> , <i>Vibrio virus VCY</i> , <i>Vibrio virus Vf03K6</i>	11 new species unassigned in the family	[81]
Unassigned	<i>Inoviridae</i>	Unassigned	<i>Vespertiliavirus</i>	<i>Spiroplasma virus C74</i> , <i>Spiroplasma virus R8A2B</i> (type)	2 species moved to new genus. Previous taxonomic position: unassigned/ <i>Inoviridae</i> /unassigned/ <i>Plectrovirus</i>	[81]
Unassigned	<i>Inoviridae</i>	Unassigned	<i>Vespertiliavirus</i>	<i>Spiroplasma virus SkVICR23x</i>	1 new species in new genus	[81]

Table 3 Taxonomic changes from the Subcommittee for Animal Viruses with DNA or Reverse-Transcribing Genomes (new taxa are in bold typeface)

Order	Family	Subfamily	Genus	Species	Taxonomic change	Ref.
Unassigned	Adenoviridae	Unassigned	Adenovirus	<i>Lizard atadenovirus A</i> , <i>Psittacine atadenovirus A</i>	2 new species	[82]
Unassigned	Adenoviridae	Unassigned	Mastadenovirus	<i>Dolphin mastadenovirus A</i> , <i>Platyrrhini mastadenovirus A</i> , <i>Sea lion mastadenovirus A</i> , <i>Simian mastadenovirus D</i> , <i>Simian mastadenovirus E</i> , <i>Simian mastadenovirus F</i> , <i>Simian mastadenovirus G</i> , <i>Simian mastadenovirus H</i> , <i>Skunk mastadenovirus A</i>	9 new species	[83]
Unassigned	Adenoviridae	Unassigned	Siadenovirus	<i>Penguin siadenovirus A</i>	1 new species	[84]
Unassigned	Ascoviridae	Unassigned	Toursvirus	<i>Diadromus pulchellus toursvirus</i>	1 species renamed. Previous name: <i>Diadromus pulchellus ascovirus 4a</i>	[85]
Unassigned	Baculoviridae	Unassigned	Alphabaculovirus	<i>Catopsilia pomona nucleopolyhedrovirus</i> , <i>Choristoneura murinana nucleopolyhedrovirus</i> , <i>Lambdina fscellaria nucleopolyhedrovirus</i> , <i>Lymantiria xyliana nucleopolyhedrovirus</i> , <i>Orgyia leucostigma nucleopolyhedrovirus</i>	5 new species	[86, 87]
Unassigned	Baculoviridae	Unassigned	Betabaculovirus	<i>Clostera anachoreta granulovirus</i> , <i>Clostera anastomosis granulovirus A</i> , <i>Clostera anastomosis granulovirus B</i> , <i>Diatraea saccharalis granulovirus</i> , <i>Epinoitia aporena granulovirus</i> , <i>Spodoptera litura granulovirus</i>	6 new species	[88]
Unassigned	Circoviridae	Unassigned	Circovirus	<i>Bat associated circovirus 1</i>	1 species renamed. Previous name: <i>Bat circovirus 1</i>	[89]
Unassigned	Circoviridae	Unassigned	Circovirus	<i>Bat associated circovirus 2</i>	1 species renamed. Previous name: <i>Bat circovirus 2</i>	[89]
Unassigned	Circoviridae	Unassigned	Circovirus	<i>Bat associated circovirus 3</i>	1 species renamed. Previous name: <i>Bat circovirus 3</i>	[89]
Unassigned	Circoviridae	Unassigned	Circovirus	<i>Chimpanzee associated circovirus 1</i>	1 species renamed. Previous name: <i>Chimpanzee faeces associated circovirus</i>	[89]
Unassigned	Circoviridae	Unassigned	Circovirus	<i>Human associated circovirus 1</i>	1 species renamed. Previous name: <i>Human faeces associated circovirus</i>	[89]
Unassigned	Circoviridae	Unassigned	Cyclovirus	<i>Bat associated cyclovirus 5</i>	1 species renamed. Previous name: <i>Bat cyclovirus</i>	[90]
Unassigned	Circoviridae	Unassigned	Cyclovirus	<i>Bat associated cyclovirus 1</i>	1 species renamed. Previous name: <i>Bat faeces associated cyclovirus 1</i>	[90]
Unassigned	Circoviridae	Unassigned	Cyclovirus	<i>Bat associated cyclovirus 2</i>	1 species renamed. Previous name: <i>Bat faeces associated cyclovirus 2</i>	[90]
Unassigned	Circoviridae	Unassigned	Cyclovirus	<i>Bat associated cyclovirus 3</i>	1 species renamed. Previous name: <i>Bat faeces associated cyclovirus 3</i>	[90]
Unassigned	Circoviridae	Unassigned	Cyclovirus	<i>Bat associated cyclovirus 4</i>	1 species renamed. Previous name: <i>Bat faeces associated cyclovirus 4</i>	[90]
Unassigned	Circoviridae	Unassigned	Cyclovirus	<i>Bovine associated cyclovirus 1</i>	1 species renamed. Previous name: <i>Bovine cyclovirus</i>	[90]
Unassigned	Circoviridae	Unassigned	Cyclovirus	<i>Chimpanzee associated cyclovirus 1</i>	1 species renamed. Previous name: <i>Chimpanzee faeces associated cyclovirus</i>	[90]
Unassigned	Circoviridae	Unassigned	Cyclovirus	<i>Dragonfly associated cyclovirus 1</i>	1 species renamed. Previous name: <i>Dragonfly cyclovirus 1</i>	[90]
Unassigned	Circoviridae	Unassigned	Cyclovirus	<i>Dragonfly associated cyclovirus 2</i>	1 species renamed. Previous name: <i>Dragonfly cyclovirus 2</i>	[90]

Table 3 continued

Order	Family	Subfamily	Genus	Species	Taxonomic change	Ref.
Unassigned	<i>Circoviridae</i>	Unassigned	<i>Cyclovirus</i>	<i>Dragonfly associated cyclovirus 3</i>	1 species renamed. Previous name: <i>Dragonfly cyclovirus 3</i>	[90]
Unassigned	<i>Circoviridae</i>	Unassigned	<i>Cyclovirus</i>	<i>Dragonfly associated cyclovirus 4</i>	1 species renamed. Previous name: <i>Dragonfly cyclovirus 4</i>	[90]
Unassigned	<i>Circoviridae</i>	Unassigned	<i>Cyclovirus</i>	<i>Dragonfly associated cyclovirus 5</i>	1 species renamed. Previous name: <i>Dragonfly cyclovirus 5</i>	[90]
Unassigned	<i>Circoviridae</i>	Unassigned	<i>Cyclovirus</i>	<i>Dragonfly associated cyclovirus 6</i>	1 species renamed. Previous name: <i>Dragonfly cyclovirus 6</i>	[90]
Unassigned	<i>Circoviridae</i>	Unassigned	<i>Cyclovirus</i>	<i>Dragonfly associated cyclovirus 7</i>	1 species renamed. Previous name: <i>Dragonfly cyclovirus 7</i>	[90]
Unassigned	<i>Circoviridae</i>	Unassigned	<i>Cyclovirus</i>	<i>Dragonfly associated cyclovirus 8</i>	1 species renamed. Previous name: <i>Dragonfly cyclovirus 8</i>	[90]
Unassigned	<i>Circoviridae</i>	Unassigned	<i>Cyclovirus</i>	<i>Cockroach associated cyclovirus 1</i>	1 species renamed. Previous name: <i>Florida wood cockroach cyclovirus</i>	[90]
Unassigned	<i>Circoviridae</i>	Unassigned	<i>Cyclovirus</i>	<i>Chicken associated cyclovirus 1</i>	1 species renamed. Previous name: <i>Gallus cyclovirus</i>	[90]
Unassigned	<i>Circoviridae</i>	Unassigned	<i>Cyclovirus</i>	<i>Goat associated cyclovirus 1</i>	1 species renamed. Previous name: <i>Goat cyclovirus</i>	[90]
Unassigned	<i>Circoviridae</i>	Unassigned	<i>Cyclovirus</i>	<i>Human associated cyclovirus 8</i>	1 species renamed. Previous name: <i>Human cyclovirus 1</i>	[90]
Unassigned	<i>Circoviridae</i>	Unassigned	<i>Cyclovirus</i>	<i>Human associated cyclovirus 9</i>	1 species renamed. Previous name: <i>Human cyclovirus 2</i>	[90]
Unassigned	<i>Circoviridae</i>	Unassigned	<i>Cyclovirus</i>	<i>Human associated cyclovirus 10</i>	1 species renamed. Previous name: <i>Human cyclovirus 3</i>	[90]
Unassigned	<i>Circoviridae</i>	Unassigned	<i>Cyclovirus</i>	<i>Human associated cyclovirus 1</i>	1 species renamed. Previous name: <i>Human faeces associated cyclovirus 1</i>	[90]
Unassigned	<i>Circoviridae</i>	Unassigned	<i>Cyclovirus</i>	<i>Human associated cyclovirus 2</i>	1 species renamed. Previous name: <i>Human faeces associated cyclovirus 2</i>	[90]
Unassigned	<i>Circoviridae</i>	Unassigned	<i>Cyclovirus</i>	<i>Human associated cyclovirus 3</i>	1 species renamed. Previous name: <i>Human faeces associated cyclovirus 3</i>	[90]
Unassigned	<i>Circoviridae</i>	Unassigned	<i>Cyclovirus</i>	<i>Human associated cyclovirus 4</i>	1 species renamed. Previous name: <i>Human faeces associated cyclovirus 4</i>	[90]
Unassigned	<i>Circoviridae</i>	Unassigned	<i>Cyclovirus</i>	<i>Human associated cyclovirus 5</i>	1 species renamed. Previous name: <i>Human faeces associated cyclovirus 5</i>	[90]
Unassigned	<i>Circoviridae</i>	Unassigned	<i>Cyclovirus</i>	<i>Human associated cyclovirus 6</i>	1 species renamed. Previous name: <i>Human faeces associated cyclovirus 6</i>	[90]
Unassigned	<i>Circoviridae</i>	Unassigned	<i>Cyclovirus</i>	<i>Human associated cyclovirus 7</i>	1 species renamed. Previous name: <i>Human faeces associated cyclovirus 8</i>	[90]
Unassigned	<i>Circoviridae</i>	Unassigned	<i>Circovirus</i>	Bat associated circovirus 4, Bat associated circovirus 5, Bat associated circovirus 6, Bat associated circovirus 7, Bat associated circovirus 8	5 new species	[89]

Table 3 continued

Order	Family	Subfamily	Genus	Species	Taxonomic change	Ref.
Unassigned	<i>Circoviridae</i>	Unassigned	<i>Cyclovirus</i>	<i>Bat associated cyclovirus 10, Bat associated cyclovirus 11, Bat associated cyclovirus 12, Bat associated cyclovirus 13, Bat associated cyclovirus 14, Bat associated cyclovirus 15, Bat associated cyclovirus 16, Bat associated cyclovirus 6, Bat associated cyclovirus 7, Bat associated cyclovirus 8, Bat associated cyclovirus 9, Feline associated cyclovirus 1, Horse associated cyclovirus 1, Squirrel associated cyclovirus 1, Human associated cyclovirus 11</i>	15 new species	[90]
Unassigned	<i>Hepadnaviridae</i>	Unassigned	<i>Avihepadnavirus</i>	<i>Parrot hepatitis B virus</i>	1 new species	[91]
Unassigned	<i>Hepadnaviridae</i>	Unassigned	<i>Orthohepadnavirus</i>	<i>Pomona bat hepatitis B virus</i>	1 new species	[92]
Unassigned	<i>Hepadnaviridae</i>	Unassigned	Unassigned	<i>White sucker hepatitis B virus</i>	1 new species	[93]
Unassigned	<i>Iridoviridae</i>	<i>Alphairidovirinae</i>	<i>Lymphocystivirus</i>	<i>Lymphocystis disease virus 1</i> (type)	Genus and 1 species assigned to new subfamily. Previous taxonomic position: unassigned/ <i>Iridoviridae</i> /unassigned/ <i>Lymphocystivirus</i>	[94]
Unassigned	<i>Iridoviridae</i>	<i>Alphairidovirinae</i>	<i>Megalocytivirus</i>	<i>Infectious spleen and kidney necrosis virus</i> (type)	Genus and 1 species assigned to new subfamily. Previous taxonomic position: unassigned/ <i>Iridoviridae</i> /unassigned/ <i>Megalocytivirus</i>	[94]
Unassigned	<i>Iridoviridae</i>	<i>Alphairidovirinae</i>	<i>Ranavirus</i>	<i>Ambystoma tigrinum virus, Bohle iridovirus, Epizootic haematopoietic necrosis virus, European catfish virus, Frog virus 3</i> (type), <i>Santee-Cooper ranavirus</i>	Genus and 6 species assigned to new subfamily. Previous taxonomic position: unassigned/ <i>Iridoviridae</i> /unassigned/ <i>Ranavirus</i>	[94]
Unassigned	<i>Iridoviridae</i>	<i>Alphairidovirinae</i>	<i>Ranavirus</i>	<i>Singapore grouper iridovirus</i>	1 new species in genus assigned to new subfamily	[94]
Unassigned	<i>Iridoviridae</i>	<i>Betairidovirinae</i>	<i>Chloriridovirus</i>	<i>Invertebrate iridescent virus 3</i> (type)	Genus and 1 species assigned to new subfamily. Previous taxonomic position: unassigned/ <i>Iridoviridae</i> /unassigned/ <i>Chloriridovirus</i>	[94]
Unassigned	<i>Iridoviridae</i>	<i>Betairidovirinae</i>	<i>Iridovirus</i>	<i>Invertebrate iridescent virus 1, Invertebrate iridescent virus 6</i> (type)	Genus and 2 species assigned to new subfamily. Previous taxonomic position: unassigned/ <i>Iridoviridae</i> /unassigned/ <i>Iridovirus</i>	[94]
Unassigned	<i>Parvoviridae</i>	<i>Densovirinae</i>	<i>Ambidensovirus</i>	<i>Asteroid ambidensovirus 1, Decapod ambidensovirus 1, Hemipteran ambidensovirus 2, Hemipteran ambidensovirus 3, Hymenopteran ambidensovirus 1</i>	5 new species	[95]
Unassigned	<i>Parvoviridae</i>	<i>Densovirinae</i>	Unassigned	<i>Orthopteran densovirus 1</i>	1 new species	[95]
Unassigned	<i>Polyomaviridae</i>	Unassigned	<i>Alphapolyomavirus</i>	<i>Rattus norvegicus polyomavirus 1</i>	1 new species	[96]
Unassigned	<i>Polyomaviridae</i>	Unassigned	<i>Betapolyomavirus</i>	<i>Pan troglodytes polyomavirus 8, Microtus arvalis polyomavirus 1, Myodes glareolus polyomavirus 1</i>	3 new species	[97, 98]
Unassigned	<i>Poxviridae</i>	<i>Chordopoxvirinae</i>	<i>Cenapoxvirus</i>	<i>Yokapox virus</i> (type)	1 new species in new genus	[99]
Unassigned	<i>Poxviridae</i>	<i>Chordopoxvirinae</i>	Unassigned	<i>Pteropox virus</i>	1 new species	[100]
Unassigned	<i>Retroviridae</i>	<i>Orthoretrovirinae</i>	<i>Gammaetrovirus</i>	<i>Koala retrovirus</i>	1 new species	[101]
Unassigned	<i>Retroviridae</i>	<i>Orthoretrovirinae</i>	<i>Lentivirus</i>	<i>Jembrana disease virus</i>	1 new species	[102]

Table 4 Taxonomic changes from the Subcommittee for Fungal and Protist Viruses (changes listed here for convenience; the natural hosts are for the most part unknown; new taxa are in bold typeface)

Order	Family	Subfamily	Genus	Species	Taxonomic change	Ref.
Unassigned	<i>Genomoviridae</i>	Unassigned	<i>Gemycircularivirus</i>	Blackbird associated gemycircularivirus 1, Bovine associated gemycircularivirus 1, Bromus associated gemycircularivirus 1, Cassava associated gemycircularivirus 1, Chickadee associated gemycircularivirus 1, Chicken associated gemycircularivirus 1, Chicken associated gemycircularivirus 2, Dragonfly associated gemycircularivirus 1, Equine associated gemycircularivirus 1, Fur seal associated gemycircularivirus 1, Gerygone associated gemycircularivirus 1, Gerygone associated gemycircularivirus 2, Gerygone associated gemycircularivirus 3, Hypericum associated gemycircularivirus 1, Lanna associated gemycircularivirus 1, Mallard associated gemycircularivirus 1, Miniopiterus associated gemycircularivirus 1, Mongoose associated gemycircularivirus 1, Mosquito associated gemycircularivirus 1, Odonata associated gemycircularivirus 1, Odonata associated gemycircularivirus 1, Porcine associated gemycircularivirus 1, Porcine associated gemycircularivirus 2, Pteropus associated gemycircularivirus 1, Pteropus associated gemycircularivirus 2, Pteropus associated gemycircularivirus 3, Pteropus associated gemycircularivirus 4, Pteropus associated gemycircularivirus 5, Pteropus associated gemycircularivirus 6, Pteropus associated gemycircularivirus 7, Pteropus associated gemycircularivirus 8, Pteropus associated gemycircularivirus 9, Rat associated gemycircularivirus 1, Sewage derived gemycircularivirus 1, Sewage derived gemycircularivirus 2, Sewage derived gemycircularivirus 3, Sewage derived gemycircularivirus 4, Sewage derived gemycircularivirus 5, Sheep associated gemycircularivirus 1, Soybean associated gemycircularivirus 1	42 new species	[103]
Unassigned	<i>Genomoviridae</i>	Unassigned	Gemyduguvirus	Dragonfly associated gemyduguvirus 1 (type)	1 new species in new genus	[103]
Unassigned	<i>Genomoviridae</i>	Unassigned	Gemygorvirus	Canine associated gemygorvirus 1, Mallard associated gemygorvirus 1, Pteropus associated gemygorvirus 1, Sewage derived gemygorvirus 1, Starling associated gemygorvirus 1 (type)	5 new species in new genus	[103]
Unassigned	<i>Genomoviridae</i>	Unassigned	Gemykibivirus	Badger associated gemykibivirus 1, Black robin associated gemykibivirus 1, Blackbird associated gemykibivirus 1, Bovine associated gemykibivirus 1, Dragonfly associated gemykibivirus 1 (type), Human associated gemykibivirus 1, Human associated gemykibivirus 2, Human associated gemykibivirus 3, Human associated gemykibivirus 4, Human associated gemykibivirus 5, Mongoose associated gemykibivirus 1, Pteropus associated gemykibivirus 1, Rhinolophus associated gemykibivirus 1, Rhinolophus associated gemykibivirus 2, Sewage derived gemykibivirus 1, Sewage derived gemykibivirus 2	16 new species in new genus	[103]
Unassigned	<i>Genomoviridae</i>	Unassigned	Gemykolovirus	Pteropus associated gemykolovirus 1 (type), Pteropus associated gemykolovirus 2	2 new species in new genus	[103]
Unassigned	<i>Genomoviridae</i>	Unassigned	Gemykrogovirus	Bovine associated gemykrogovirus 1 (type), Caribou associated gemykrogovirus 1, Sewage derived gemykrogovirus 1	3 new species in new genus	[103]
Unassigned	<i>Genomoviridae</i>	Unassigned	Gemykroznavirus	Rabbit associated gemykroznavirus 1 (type)	1 new species in new genus	[103]
Unassigned	<i>Genomoviridae</i>	Unassigned	Gemytondvirus	Ostrich associated gemytondvirus 1 (type)	1 new species in new genus	[103]
Unassigned	<i>Genomoviridae</i>	Unassigned	Gemyvongvirus	Human associated gemyvongvirus 1 (type)	1 new species in new genus	[103]

Table 5 Taxonomic changes from the Subcommittee for Animal Viruses with dsRNA or ssRNA genomes (new taxa are in bold typeface)

Order	Family	Subfamily	Genus	Species	Taxonomic change	Ref.
Bunyvirales	Feraviridae	Unassigned	Orthoferavirus	Ferak orthoferavirus (type)	1 new species in new genus in new family in new order	[104, 114]
Bunyvirales	Fimoviridae	Unassigned	<i>Emaravirus</i>	<i>European mountain ash ringspot-associated emaravirus</i> (type), <i>Fig mosaic emaravirus</i> , <i>High Plains wheat mosaic emaravirus</i> , <i>Pigeonpea sterility mosaic emaravirus 1</i> , <i>Raspberry leaf blotch emaravirus</i> , <i>Rose rosette emaravirus</i>	6 species renamed (* <i>virus</i> → * <i>emaravirus</i>) in genus moved to new family in new order. Previous taxonomic position: unassigned/unassigned/unassigned/ <i>Emaravirus</i>	[105, 114]
Bunyvirales	Hantaviridae	Unassigned	Orthohantavirus	<i>Isle Vista hantavirus</i> , <i>Maleshee hantavirus</i> , <i>New York hantavirus</i> , <i>Rio Mamore hantavirus</i> , <i>Rio Segundo hantavirus</i> , <i>Searamba hantavirus</i> , <i>Topogrefex hantavirus</i>	7 species abolished from genus (previously named <i>Hantavirus</i>) moved to new family in new order	[106, 114]
Bunyvirales	Hantaviridae	Unassigned	Orthohantavirus	<i>Andes orthohantavirus</i> , <i>Bayou orthohantavirus</i> , <i>Black Creek Canal orthohantavirus</i> , <i>Cano Delgado orthohantavirus</i> , <i>Dobrava-Belgrade orthohantavirus</i> , <i>El Moro Canyon orthohantavirus</i> , <i>Hantaan orthohantavirus</i> (type), <i>Khabarovsk orthohantavirus</i> , <i>Laguna Negra orthohantavirus</i> , <i>Prospect Hill orthohantavirus</i> , <i>Puumala orthohantavirus</i> , <i>Sangassou orthohantavirus</i> , <i>Seoul orthohantavirus</i> , <i>Sin Nombre orthohantavirus</i> , <i>Thailand orthohantavirus</i> , <i>Thottapalayam orthohantavirus</i> , <i>Tula orthohantavirus</i>	Genus and 17 species renamed (* <i>hantavirus</i> → * <i>orthohantavirus</i>) and moved to new family in new order. Previous taxonomic position: unassigned/ <i>Bunyviridae</i> /unassigned/ <i>Hantavirus</i>	[106, 114]
Bunyvirales	Hantaviridae	Unassigned	Orthohantavirus	<i>Anga orthohantavirus</i> , <i>Asama orthohantavirus</i> , <i>Asikkala orthohantavirus</i> , <i>Bowe orthohantavirus</i> , <i>Bruges orthohantavirus</i> , <i>Cao Bang orthohantavirus</i> , <i>Choclo orthohantavirus</i> , <i>Dabieshan orthohantavirus</i> , <i>Fugong orthohantavirus</i> , <i>Imjin orthohantavirus</i> , <i>Jeju orthohantavirus</i> , <i>Kenkeme orthohantavirus</i> , <i>Laibin orthohantavirus</i> , <i>Longquan orthohantavirus</i> , <i>Luxi orthohantavirus</i> , <i>Maporal orthohantavirus</i> , <i>Montano orthohantavirus</i> , <i>Necocli orthohantavirus</i> , <i>Nova orthohantavirus</i> , <i>Oxbow orthohantavirus</i> , <i>Quezon orthohantavirus</i> , <i>Rockport orthohantavirus</i> , <i>Yakeshi orthohantavirus</i>	24 new species in genus renamed and moved as above.	[106, 114]
Bunyvirales	Peribunyaviridae	Unassigned	Herbevirus	<i>Herbert herbevirus</i> (type), <i>Kibale herbevirus</i> , <i>Shuangao insect herbevirus 1</i> , <i>Tai herbevirus</i>	4 new species in new genus in renamed family in new order (family previously unassigned and named <i>Bunyviridae</i>)	[107, 114]
Bunyvirales	Jonviridae	Unassigned	Orthojonvirus	<i>Jonchet orthojonvirus</i> (type)	1 new species in new genus in new family in new order	[108, 114]

Table 5 continued

Order	Family	Subfamily	Genus	Species	Taxonomic change	Ref.
Bunyavirales	Nairoviridae	Unassigned	<i>Orthonairovirus</i>	<i>Crimean-Congo hemorrhagic fever orthonairovirus</i> , <i>Dera Ghazi Khan orthonairovirus</i> , <i>Dugbe orthonairovirus</i> (type), <i>Hughes orthonairovirus</i> , <i>Qalyub orthonairovirus</i> , <i>Sakhalin orthonairovirus</i> , <i>Thiafora orthonairovirus</i>	Genus and 7 species renamed (<i>*nairovirus</i> → <i>*orthonairovirus</i>) and moved to new family in new order. Previous taxonomic position: unassigned/ <i>Bunyaviridae</i> /unassigned/ <i>Nairovirus</i>	[109, 114]
				<i>Burana orthonairovirus</i> , <i>Hazara orthonairovirus</i> , <i>Kasokero orthonairovirus</i> , <i>Keterah orthonairovirus</i> , <i>Nairobi sheep disease orthonairovirus</i>	5 new species in genus renamed and moved as above	[109, 114]
Bunyavirales	Peribunyaviridae	Unassigned	<i>Orthobunyavirus</i>	<i>Acara orthobunyavirus</i> , <i>Akabane orthobunyavirus</i> , <i>Alajuela orthobunyavirus</i> , <i>Anopheles A orthobunyavirus</i> , <i>Anopheles B orthobunyavirus</i> , <i>Bakau orthobunyavirus</i> , <i>Batama orthobunyavirus</i> , <i>Benevides orthobunyavirus</i> , <i>Bertioga orthobunyavirus</i> , <i>Bimiti orthobunyavirus</i> , <i>Botambi orthobunyavirus</i> , <i>Buayamvera orthobunyavirus</i> (type), <i>Bushbush orthobunyavirus</i> , <i>Bwamba orthobunyavirus</i> , <i>Califormia encephalitis orthobunyavirus</i> , <i>Capim orthobunyavirus</i> , <i>Carapanu orthobunyavirus</i> , <i>Catu orthobunyavirus</i> , <i>Estero Real orthobunyavirus</i> , <i>Gamboia orthobunyavirus</i> , <i>Guajara orthobunyavirus</i> , <i>Guama orthobunyavirus</i> , <i>Guaroa orthobunyavirus</i> , <i>Kaeng Khoi orthobunyavirus</i> , <i>Kairi orthobunyavirus</i> , <i>Koongol orthobunyavirus</i> , <i>Madrid orthobunyavirus</i> , <i>Main Drain orthobunyavirus</i> , <i>Manzanilla orthobunyavirus</i> , <i>Mariuba orthobunyavirus</i> , <i>Minatitan orthobunyavirus</i> , <i>MPoko orthobunyavirus</i> , <i>Nyando orthobunyavirus</i> , <i>Olifantsvlei orthobunyavirus</i> , <i>Oriboca orthobunyavirus</i> , <i>Oropouche orthobunyavirus</i> , <i>Patois orthobunyavirus</i> , <i>Sathuperi orthobunyavirus</i> , <i>Shamonda orthobunyavirus</i> , <i>Shuni orthobunyavirus</i> , <i>Simbu orthobunyavirus</i> , <i>Tacaiuma orthobunyavirus</i> , <i>Tete orthobunyavirus</i> , <i>Thimiri orthobunyavirus</i> , <i>Timboteua orthobunyavirus</i> , <i>Turlock orthobunyavirus</i> , <i>Wyeomyia orthobunyavirus</i> , <i>Zegla orthobunyavirus</i>	48 species, genus and family moved to new order (family previously unassigned and named <i>Bunyaviridae</i>)	[114]

Table 5 continued

Order	Family	Subfamily	Genus	Species	Taxonomic change	Ref.		
Bunyavirales	Phasmaviridae	Unassigned	Orthophasmavirus	<i>Kigluaik phantom orthophasmavirus</i> (type), <i>Nome phantom orthophasmavirus</i> , <i>Shuangao insect orthophasmavirus 2</i> , <i>Wuchang cockroach orthophasmavirus 1</i> , <i>Wuhan mosquito orthophasmavirus 1</i> , <i>Wuhan mosquito orthophasmavirus 2</i>	6 new species in new genus in new family in new order	[110, 114]		
				Phenuiviridae	Goukovirus	<i>Cumuto goukovirus</i> , <i>Gouledko goukovirus</i> (type), <i>Yichang insect goukovirus</i>	3 new species in new genus in new family in new order	[111, 114]
				Phenuiviridae	Phasivirus	<i>Badu phasivirus</i> (type), <i>Phasi Charoen-like phasivirus</i> , <i>Wuhan fly phasivirus</i> , <i>Wutai mosquito phasivirus</i>	4 new species in new genus in new family in new order	[112, 114]
				Phenuiviridae	Unassigned	<i>Bijaru phlebovirus</i> , <i>Candiru phlebovirus</i> , <i>Chilibre phlebovirus</i> , <i>Frijoles phlebovirus</i> , <i>Punta Toro phlebovirus</i> , <i>Rift Valley fever phlebovirus</i> (type), <i>Salehabad phlebovirus</i> , <i>Sandfly fever Naples phlebovirus</i> , <i>SFTS phlebovirus</i> , <i>Ukuniemi phlebovirus</i>	10 species and genus moved to new family in new order. Previous taxonomic position: unassigned/ <i>Bunyaviridae</i> /unassigned/ <i>Phlebovirus</i>	[114]
Bunyavirales	Phenuiviridae	Unassigned	Tenuivirus	<i>Echinochloa hoja blanca tenuivirus</i> , <i>Iranian wheat stripe tenuivirus</i> , <i>Maize stripe tenuivirus</i> , <i>Rice grassy stunt tenuivirus</i> , <i>Rice hoja blanca tenuivirus</i> , <i>Rice stripe tenuivirus</i> (type), <i>Urochloa hoja blanca tenuivirus</i>	7 species renamed from (* <i>virus</i> → * <i>tenuivirus</i>) in genus moved to new family in new order. Previous taxonomic position: unassigned/unassigned/unassigned/ <i>Tenuivirus</i>	[113, 114]		
			Orthotospovirus	<i>Groundnut bud necrosis orthotospovirus</i> , <i>Groundnut ringspot orthotospovirus</i> , <i>Groundnut yellow spot orthotospovirus</i> , <i>Impatiens necrotic spot orthotospovirus</i> , <i>Iris yellow spot orthotospovirus</i> , <i>Polygonum ringspot orthotospovirus</i> , <i>Polygonum ringspot orthotospovirus</i> , <i>Tomato chlorotic spot orthotospovirus</i> , <i>Tomato spotted wilt orthotospovirus</i> (type), <i>Watermelon bud necrosis orthotospovirus</i> , <i>Watermelon silver mottle orthotospovirus</i> , <i>Zucchini lethal chlorosis orthotospovirus</i>	Genus and 11 species renamed (* <i>rospe</i> → * <i>orthospo</i>) moved to new family in new order. Previous taxonomic position: unassigned/ <i>Bunyaviridae</i> /unassigned/ <i>Tospovirus</i>	[115]		
Mononegavirales	Bornaviridae	Unassigned	Bornavirus	Mammalian 2 bornavirus	1 new species	[115]		
			Aquaparamyxovirus	<i>Salmon aquaparamyxovirus</i>	1 species renamed. Previous name: <i>Atlantic salmon paramyxovirus</i>	[116]		
Mononegavirales	Paramyxoviridae	Unassigned	Avulavirus	<i>Avian avulavirus 10</i>	1 species renamed. Previous name: <i>Avian paramyxovirus 10</i>	[117]		
			Avulavirus	<i>Avian avulavirus 11</i>	1 species renamed. Previous name: <i>Avian paramyxovirus 11</i>	[117]		

Table 5 continued

Order	Family	Subfamily	Genus	Species	Taxonomic change	Ref.
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Avulavirus</i>	<i>Avian avulavirus 12</i>	1 species renamed. Previous name: <i>Avian paramyxovirus 12</i>	[117]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Avulavirus</i>	<i>Avian avulavirus 2</i>	1 species renamed. Previous name: <i>Avian paramyxovirus 2</i>	[117]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Avulavirus</i>	<i>Avian avulavirus 3</i>	1 species renamed. Previous name: <i>Avian paramyxovirus 3</i>	[117]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Avulavirus</i>	<i>Avian avulavirus 4</i>	1 species renamed. Previous name: <i>Avian paramyxovirus 4</i>	[117]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Avulavirus</i>	<i>Avian avulavirus 5</i>	1 species renamed. Previous name: <i>Avian paramyxovirus 5</i>	[117]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Avulavirus</i>	<i>Avian avulavirus 6</i>	1 species renamed. Previous name: <i>Avian paramyxovirus 6</i>	[117]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Avulavirus</i>	<i>Avian avulavirus 7</i>	1 species renamed. Previous name: <i>Avian paramyxovirus 7</i>	[117]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Avulavirus</i>	<i>Avian avulavirus 8</i>	1 species renamed. Previous name: <i>Avian paramyxovirus 8</i>	[117]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Avulavirus</i>	<i>Avian avulavirus 9</i>	1 species renamed. Previous name: <i>Avian paramyxovirus 9</i>	[117]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Avulavirus</i>	<i>Avian avulavirus 1</i>	1 species renamed. Previous name: <i>Newcastle disease virus</i>	[117]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Avulavirus</i>	<i>Avian avulavirus 13</i>	1 new species	[117]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Ferlavirus</i>	<i>Reptilian ferlavirus</i>	1 species renamed. Previous name: <i>Fer-de-Lance paramyxovirus</i>	[116]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Henipavirus</i>	<i>Hendra henipavirus, Nipah henipavirus</i>	2 species renamed (* <i>virus</i> → * <i>henipavirus</i>)	[116]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Morbillivirus</i>	<i>Canine morbillivirus</i>	1 species renamed. Previous name: <i>Canine distemper virus</i>	[116]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Morbillivirus</i>	<i>Measles morbillivirus</i>	1 species renamed. Previous name: <i>Measles virus</i>	[116]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Morbillivirus</i>	<i>Small ruminant morbillivirus</i>	1 species renamed. Previous name: <i>Pestis-des-petits-ruminants virus</i>	[116]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Morbillivirus</i>	<i>Phocine morbillivirus</i>	1 species renamed. Previous name: <i>Phocine distemper virus</i>	[116]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Morbillivirus</i>	<i>Rinderpest morbillivirus</i>	1 species renamed. Previous name: <i>Rinderpest virus</i>	[116]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Respirovirus</i>	<i>Bovine respirovirus 3</i>	1 species renamed. Previous name: <i>Bovine parainfluenza virus 3</i>	[116]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Respirovirus</i>	<i>Human respirovirus 1</i>	1 species renamed. Previous name: <i>Human parainfluenza virus 1</i>	[116]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Respirovirus</i>	<i>Human respirovirus 3</i>	1 species renamed. Previous name: <i>Human parainfluenza virus 3</i>	[116]

Table 5 continued

Order	Family	Subfamily	Genus	Species	Taxonomic change	Ref.
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Respirovirus</i>	<i>Porcine respirovirus 1</i>	1 species renamed. Previous name: <i>Porcine parainfluenza virus 1</i>	[116]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Respirovirus</i>	<i>Murine respirovirus</i>	1 species renamed. Previous name: <i>Sendai virus</i>	[116]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Rubulavirus</i>	<i>Human rubulavirus 2</i>	1 species renamed. Previous name: <i>Human parainfluenza virus 2</i>	[116]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Rubulavirus</i>	<i>Human rubulavirus 4</i>	1 species renamed. Previous name: <i>Human parainfluenza virus 4</i>	[116]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Rubulavirus</i>	<i>Mapuera rubulavirus</i>	1 species renamed. Previous name: <i>Mapuera virus</i>	[116]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Rubulavirus</i>	<i>Mumps rubulavirus</i>	1 species renamed. Previous name: <i>Mumps virus</i>	[116]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Rubulavirus</i>	<i>Mammalian rubulavirus 5</i>	1 species renamed. Previous name: <i>Parainfluenza virus 5</i>	[116]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Rubulavirus</i>	<i>Simian rubulavirus</i>	1 species renamed. Previous name: <i>Simian virus 41</i>	[116]
<i>Mononegavirales</i>	<i>Paramyxoviridae</i>	Unassigned	<i>Rubulavirus</i>	<i>Achimota rubulavirus 1, Achimota rubulavirus 2, Bat mumps rubulavirus, Menangle rubulavirus, Sosuga rubulavirus, Teviot rubulavirus, Tioman rubulavirus, Tuhoko rubulavirus 1, Tuhoko rubulavirus 2, Tuhoko rubulavirus 3</i>	10 new species	[118]
<i>Mononegavirales</i>	<i>Pneumoviridae</i>	Unassigned	<i>Orthopneumovirus</i>	<i>Bovine orthopneumovirus</i>	1 species renamed. Previous name: <i>Bovine respiratory syncytial virus</i>	[119]
<i>Mononegavirales</i>	<i>Pneumoviridae</i>	Unassigned	<i>Orthopneumovirus</i>	<i>Human orthopneumovirus</i>	1 species renamed. Previous name: <i>Human respiratory syncytial virus</i>	[119]
<i>Mononegavirales</i>	<i>Pneumoviridae</i>	Unassigned	<i>Orthopneumovirus</i>	<i>Murine orthopneumovirus</i>	1 species renamed. Previous name: <i>Murine pneumonia virus</i>	[119]
<i>Mononegavirales</i>	<i>Rhabdoviridae</i>	Unassigned	<i>Almendravirus</i>	<i>Arboretum almemdravivirus, Balsa almemdravivirus, Coot Bay almemdravivirus, Puerto Almendras almemdravivirus</i> (type), <i>Rio Chico almemdravivirus</i>	5 new species in new genus	[120]
<i>Mononegavirales</i>	<i>Rhabdoviridae</i>	Unassigned	<i>Curtovirus</i>	<i>Curtopolis curtovirus</i> (type), <i>Irtiri curtovirus, Itacaunas curtovirus, Rochambeau curtovirus</i>	4 new species in new genus	[121]
<i>Mononegavirales</i>	<i>Rhabdoviridae</i>	Unassigned	<i>Cytorhabdovirus</i>	<i>Colocasia bobone disease-associated cytorhabdovirus</i>	1 new species	[122]
<i>Mononegavirales</i>	<i>Rhabdoviridae</i>	Unassigned	<i>Ephemerovirus</i>	<i>Kimberley ephemerovirus, Koolpinyah ephemerovirus, Yata ephemerovirus</i>	3 new species	[123]
<i>Mononegavirales</i>	<i>Rhabdoviridae</i>	Unassigned	<i>Hapavirus</i>	<i>Flanders hapavirus</i> (type), <i>Ngaingan hapavirus, Wongabel hapavirus</i>	3 species moved and renamed (* <i>virus</i> → * <i>hapavirus</i>) assigning them to new genus. Previous taxonomic position: <i>Mononegavirales/Rhabdoviridae/</i> unassigned/unassigned	[124]

Table 5 continued

Order	Family	Subfamily	Genus	Species	Taxonomic change	Ref.
<i>Mononegavirales</i>	<i>Rhabdoviridae</i>	Unassigned	Hapavirus	<i>Gray Lodge hapavirus</i> , <i>Hart Park hapavirus</i> , <i>Joinjakaka hapavirus</i> , <i>Kamese hapavirus</i> , <i>La Joya hapavirus</i> , <i>Landjia hapavirus</i> , <i>Manitoba hapavirus</i> , <i>Marco hapavirus</i> , <i>Mosqueiro hapavirus</i> , <i>Mossuril hapavirus</i> , <i>Ord River hapavirus</i> , <i>Parry Creek hapavirus</i>	11 new species in new genus	[124]
<i>Mononegavirales</i>	<i>Rhabdoviridae</i>	Unassigned	Ledantevirus	<i>Barur ledantevirus</i> , <i>Fikirini ledantevirus</i> , <i>Fukuoka ledantevirus</i> , <i>Kern Canyon ledantevirus</i> , <i>Keuraliba ledantevirus</i> , <i>Kolente ledantevirus</i> , <i>Kumasi ledantevirus</i> , <i>Le Dantec ledantevirus</i> (type), <i>Mount Elgon bat ledantevirus</i> , <i>Nishimuro ledantevirus</i> , <i>Nkolbisson ledantevirus</i> , <i>Oita ledantevirus</i> , <i>Wuhan ledantevirus</i> , <i>Yongjia ledantevirus</i>	14 new species in new genus	[125]
<i>Mononegavirales</i>	<i>Rhabdoviridae</i>	Unassigned	<i>Novirhabdovirus</i>	<i>Salmonid novirhabdovirus</i>	1 species renamed. Previous name: <i>Oncorhynchus 1 novirhabdovirus</i>	[126]
<i>Mononegavirales</i>	<i>Rhabdoviridae</i>	Unassigned	<i>Novirhabdovirus</i>	<i>Piscine novirhabdovirus</i>	1 species renamed. Previous name: <i>Oncorhynchus 2 novirhabdovirus</i>	[126]
<i>Mononegavirales</i>	<i>Rhabdoviridae</i>	Unassigned	Sripuvirus	<i>Almpiwar sripuvirus</i> , <i>Chaco sripuvirus</i> , <i>Niakha sripuvirus</i> (type), <i>Sena Madureira sripuvirus</i> , <i>Sripur sripuvirus</i>	5 new species in new genus	[127]
<i>Mononegavirales</i>	<i>Rhabdoviridae</i>	Unassigned	<i>Tibrovirus</i>	<i>Bas-Congo tibrovirus</i> , <i>Ekpoma 1 tibrovirus</i> , <i>Ekpoma 2 tibrovirus</i> , <i>Sweetwater Branch tibrovirus</i>	4 new species	[128]
<i>Mononegavirales</i>	<i>Rhabdoviridae</i>	Unassigned	<i>Tupavirus</i>	<i>Klamath tupavirus</i>	1 new species	[129]
<i>Mononegavirales</i>	<i>Rhabdoviridae</i>	Unassigned	<i>Vesiculovirus</i>	<i>American bat vesiculovirus</i> , <i>Jurona vesiculovirus</i> , <i>Malpais Spring vesiculovirus</i> , <i>Morreton vesiculovirus</i> , <i>Perinet vesiculovirus</i> , <i>Radi vesiculovirus</i> , <i>Yug Bogdanovac vesiculovirus</i>	7 new species	[130]
Unassigned	<i>Arenaviridae</i>	Unassigned	<i>Mammarenavirus</i>	<i>Loei River mammarenavirus</i> , <i>Solwezi mammarenavirus</i>	2 new species	[131, 132]
Unassigned	<i>Nyamiviridae</i>	Unassigned	Peropuvirus	<i>Pteromalus puparum peropuvirus</i> (type)	1 new species in new genus	[133]
Unassigned	<i>Orthomyxoviridae</i>	Unassigned	Influenzavirus D	<i>Influenza D virus</i> (type)	1 new species in new genus	[134]
Unassigned	<i>Reoviridae</i>	<i>Sedoreovirinae</i>	<i>Rotavirus</i>	Rotavirus I	1 new species	[135]
Unassigned	Unassigned	Unassigned	Tilapinevirus	<i>Tilapia tilapinevirus</i> (type)	1 new species in new genus	[136]

Table 6 Taxonomic changes from the Subcommittee for Plant Viruses (new taxa are in bold typeface); plant-infecting viruses are also affected by changes listed in Table 5 to the genera *Emaravirus* [105], *Tenuivirus* [113], *Tospovirus* [114] and *Cytorhabdovirus* [122] and the creation of the order *Bunyavirales* [114]

Order	Family	Subfamily	Genus	Species	Taxonomic change	Ref.
Bunyavirales	Fimoviridae	Unassigned	<i>Emaravirus</i>	<i>Actinidia chlorotic ringspot-associated emaravirus</i>	1 new species in genus previously unassigned that is now reassigned to new family in new order	[114, 137]
Bunyavirales	Fimoviridae	Unassigned	<i>Emaravirus</i>	<i>Pigeonpea sterility mosaic emaravirus 2</i>	1 new species in genus previously unassigned that is now reassigned to new family in new order	[114, 138]
Bunyavirales	Fimoviridae	Unassigned	<i>Emaravirus</i>	<i>Redbud yellow ringspot-associated emaravirus</i>	1 new species in genus previously unassigned that is now reassigned to new family in new order	[114, 139]
<i>Picornavirales</i>	<i>Secoviridae</i>	Unassigned	<i>Cheravirus</i>	<i>Current latent virus</i>	1 new species	[140]
<i>Picornavirales</i>	<i>Secoviridae</i>	Unassigned	<i>Torradovirus</i>	<i>Squash chlorotic leaf spot virus</i>	1 new species	[141]
<i>Picornavirales</i>	<i>Secoviridae</i>	Unassigned	Unassigned	<i>Chocolate lily virus A</i>	1 new species	[141]
<i>Picornavirales</i>	<i>Secoviridae</i>	Unassigned	<i>Waikavirus</i>	<i>Bellflower vein chlorosis virus</i>	1 new species	[141]
<i>Tymovirales</i>	<i>Tymoviridae</i>	Unassigned	<i>Marafivirus</i>	<i>Nectarine marafivirus M</i>	1 new species	[142]
<i>Tymovirales</i>	<i>Tymoviridae</i>	Unassigned	<i>Tymovirus</i>	<i>Tomato blistering mosaic tymovirus</i>	1 new species	[142]
Unassigned	<i>Caulimoviridae</i>	Unassigned	<i>Badnavirus</i>	<i>Taro bacilliform CH virus</i> , <i>Yacon necrotic mottle virus</i> , <i>Mulberry badnavirus 1</i>	3 new species	[143, 144]
Unassigned	<i>Caulimoviridae</i>	Unassigned	<i>Caulimovirus</i>	<i>Atractylodes mild mottle virus</i>	1 new species	[145]
Unassigned	<i>Closteroviridae</i>	Unassigned	<i>Closterovirus</i>	<i>Rose leaf rosette-associated virus</i> , <i>Tobacco virus 1</i>	2 new species	[146]
Unassigned	<i>Closteroviridae</i>	Unassigned	<i>Crinivirus</i>	<i>Tetterwort vein chlorosis virus</i>	1 new species	[146]
Unassigned	<i>Closteroviridae</i>	Unassigned	Unassigned	<i>Persimmon virus B</i>	1 new species	[146]
Unassigned	<i>Closteroviridae</i>	Unassigned	<i>Velarivirus</i>	<i>Areca palm velarivirus 1</i>	1 new species	[146]
Unassigned	<i>Endornaviridae</i>	Unassigned	<i>Alphaendornavirus</i>	<i>Oryza sativa alphaendornavirus</i> (new type), <i>Vicia faba alphaendornavirus</i> (type designation removed), <i>Basella alba alphaendornavirus 1</i> , <i>Bell pepper alphaendornavirus</i> , <i>Helicobasidium mompa alphaendornavirus 1</i> , <i>Oryza rufipogon alphaendornavirus</i> , <i>Persea americana alphaendornavirus 1</i> , <i>Phaseolus vulgaris alphaendornavirus 1</i> , <i>Phaseolus vulgaris alphaendornavirus 2</i> , <i>Phytophthora alphaendornavirus 1</i> , <i>Yerba mate alphaendornavirus</i>	Genus and 11 species renamed (<i>endornavirus</i> → <i>*alphaendornavirus</i>)	[148]
Unassigned	<i>Endornaviridae</i>	Unassigned	<i>Alphaendornavirus</i>	<i>Cucumis melo alphaendornavirus</i> , <i>Erysiphe cichoracearum alphaendornavirus</i> , <i>Grapevine endophyte alphaendornavirus</i> , <i>Hordeum vulgare alphaendornavirus</i> , <i>Hot pepper alphaendornavirus</i> , <i>Lagenaria siceraria alphaendornavirus</i> , <i>Rhizoctonia cerealis alphaendornavirus 1</i>	7 new species in renamed genus (previously <i>Endornavirus</i>)	[147, 148]
Unassigned	<i>Endornaviridae</i>	Unassigned	Betaendornavirus	<i>Sclerotinia sclerotiorum betaendornavirus 1</i> (type)	1 species moved and reassigned to new genus. Previous taxonomic position: unassigned/ <i>Endornaviridae</i> /unassigned/ <i>Endornavirus</i>	[148]
Unassigned	<i>Endornaviridae</i>	Unassigned	Betaendornavirus	<i>Alternaria brassicicola betaendornavirus 1</i> , <i>Gremmeniella abietina betaendornavirus 1</i> , <i>Tuber aestivum betaendornavirus</i>	3 new species in new genus	[147, 148]
Unassigned	<i>Geminiviridae</i>	Unassigned	Capulavirus	<i>Alfalfa leaf curl virus</i> , <i>Euphorbia caput-medusae latent virus</i> (type), <i>French bean severe leaf curl virus</i> , <i>Plantago lanceolata latent virus</i>	4 new species in new genus	[149]

Table 6 continued

Order	Family	Subfamily	Genus	Species	Taxonomic change	Ref.
Unassigned	Geminiviridae	Unassigned	Grabovirus	<i>Grapevine red blotch virus</i> (type)	1 new species in new genus	[149]
Unassigned	Geminiviridae	Unassigned	Unassigned	<i>Citrus chlorotic dwarf associated virus</i> , <i>Mulberry mosaic dwarf associated virus</i>	2 new species	[149]
Unassigned	Luteoviridae	Unassigned	<i>Enamovirus</i>	<i>Alfalfa enamovirus 1</i>	1 new species	[150]
Unassigned	Potyviridae	Unassigned	<i>Macluravirus</i>	<i>Broad-leaved dock virus A</i> , <i>Yam chlorotic mosaic virus</i>	2 new species	[151]
Unassigned	Potyviridae	Unassigned	<i>Potyvirus</i>	<i>Cowpea green vein bending virus</i> ; <i>Groumett eyespot virus</i> ; <i>Guinea grass mosaic virus</i> ; <i>Helianthum virus-Y</i> ; <i>Тропаеолитт-мозаік-вірус</i>	5 species abolished	[152]
Unassigned	Potyviridae	Unassigned	<i>Potyvirus</i>	<i>Jasmine virus T</i> , <i>Zucchini shoestring virus</i> , <i>Lettuce Italian necrotic virus</i>	3 new species	[152]
Unassigned	Tolecusatellitidae	Unassigned	Betasatellite	<i>Ageratum leaf curl Buea betasatellite</i> , <i>Ageratum leaf curl Cameroon betasatellite</i> , <i>Ageratum yellow leaf curl betasatellite</i> , <i>Ageratum yellow vein betasatellite</i> (type), <i>Ageratum yellow vein India betasatellite</i> , <i>Ageratum yellow vein Sri Lanka betasatellite</i> , <i>Alternanthera yellow vein betasatellite</i> , <i>Andrographis yellow vein leaf curl betasatellite</i> , <i>Bhendi yellow vein mosaic betasatellite</i> , <i>Cardiospermum yellow leaf curl betasatellite</i> , <i>Chili leaf curl betasatellite</i> , <i>Chili leaf curl Jaunpur betasatellite</i> , <i>Chili leaf curl Sri Lanka betasatellite</i> , <i>Cotton leaf curl Gezira betasatellite</i> , <i>Cotton leaf curl Multan betasatellite</i> , <i>Croton yellow vein mosaic betasatellite</i> , <i>Eupatorium yellow vein betasatellite</i> , <i>Eupatorium yellow vein mosaic betasatellite</i> , <i>French bean leaf curl betasatellite</i> , <i>Hedyotis yellow mosaic betasatellite</i> , <i>Honeysuckle yellow vein betasatellite</i> , <i>Honeysuckle yellow vein mosaic betasatellite</i> , <i>Malvastrum leaf curl betasatellite</i> , <i>Malvastrum leaf curl Guangdong betasatellite</i> , <i>Mirabilis leaf curl betasatellite</i> , <i>Momordica yellow mosaic betasatellite</i> , <i>Mungbean yellow mosaic betasatellite</i> , <i>Okra leaf curl Oman betasatellite</i> , <i>Papaya leaf curl betasatellite</i> , <i>Papaya leaf curl China betasatellite</i> , <i>Papaya leaf curl India betasatellite</i> , <i>Rhynchosia yellow mosaic betasatellite</i> , <i>Rose leaf curl betasatellite</i> , <i>Siegesbeckia yellow vein betasatellite</i> , <i>Tomato leaf curl Laguna betasatellite</i> , <i>Tobacco curly shoot betasatellite</i> , <i>Tobacco leaf curl betasatellite</i> , <i>Tobacco leaf curl Japan betasatellite</i> , <i>Tobacco leaf curl Patna betasatellite</i> , <i>Tomato leaf curl betasatellite</i> , <i>Tomato leaf curl Bangalore betasatellite</i> , <i>Tomato leaf curl China betasatellite</i> , <i>Tomato leaf curl Gandhinagar betasatellite</i> , <i>Tomato leaf curl Java virus betasatellite</i> , <i>Tomato leaf curl Joydebpur betasatellite</i> , <i>Tomato leaf curl Laos betasatellite</i> , <i>Tomato leaf curl Malaysia betasatellite</i> , <i>Tomato leaf curl Nepal betasatellite</i> , <i>Tomato leaf curl Patna betasatellite</i> , <i>Tomato leaf curl Philippine betasatellite</i> , <i>Tomato leaf curl Sri Lanka betasatellite</i> , <i>Tomato leaf curl Yemen betasatellite</i> , <i>Tomato yellow leaf curl China betasatellite</i> , <i>Tomato yellow leaf curl Rajasthan betasatellite</i> , <i>Tomato yellow leaf curl Thailand betasatellite</i> , <i>Tomato yellow leaf curl Vietnam betasatellite</i> , <i>Tomato yellow leaf curl Yunnan betasatellite</i> , <i>Vernonia yellow vein betasatellite</i> , <i>Vernonia yellow vein Fujian betasatellite</i>	61 new species in new genus in new family	[153]

Table 6 continued

Order	Family	Subfamily	Genus	Species	Taxonomic change	Ref.
Unassigned	<i>Tolecusatellitidae</i>	Unassigned	<i>Deltasatellite</i>	<i>Croton yellow vein deltasatellite</i> , <i>Malvastrum leaf curl deltasatellite</i> , <i>Sida golden yellow vein deltasatellite 1</i> , <i>Sida golden yellow vein deltasatellite 2</i> , <i>Sida golden yellow vein deltasatellite 3</i> , <i>Sweet potato leaf curl deltasatellite 1</i> , <i>Sweet potato leaf curl deltasatellite 2</i> , <i>Sweet potato leaf curl deltasatellite 3</i> , <i>Tomato leaf curl deltasatellite</i> (type), <i>Tomato yellow leaf distortion deltasatellite 1</i> , <i>Tomato yellow leaf distortion deltasatellite 2</i>	11 new species in new genus in new family	[153]
Unassigned	<i>Tombusviridae</i>	Unassigned	<i>Umbravirus</i>	<i>Ethiopian tobacco bushy top virus</i> , <i>Opium poppy mosaic virus</i>	2 new species	[154]
Unassigned	Unassigned	Unassigned	<i>Blunervirus</i>	<i>Blueberry necrotic ring blotch virus</i> (type)	1 new species in new genus	[155]
Unassigned	Unassigned	Unassigned	<i>Cilevirus</i>	<i>Citrus leprosis virus C2</i>	1 new species	[156]
Unassigned	<i>Virgaviridae</i>	Unassigned	<i>Pomovirus</i>	<i>Colombian potato soil-borne virus</i>	1 new species	[157]
Unassigned	<i>Virgaviridae</i>	Unassigned	<i>Tobamovirus</i>	<i>Plumeria mosaic virus</i> , <i>Tomato brown rugose fruit virus</i>	2 new species	[158]

Table 7 Taxonomic changes from the Subcommittee for Animal Viruses with ssRNA+ Genomes (new taxa are in bold typeface)

Order	Family	Subfamily	Genus	Species	Taxonomic change	Ref.
Nidovirales	Arteriviridae	Unassigned	Dipartevirus	<i>Wobbly possum disease virus</i> (type)	1 species moved and reassigned to new genus. Previous taxonomic position: <i>Nidovirales/Arteriviridae/unassigned/Arterivirus</i>	[159]
Nidovirales	Arteriviridae	Unassigned	Equartevirus	<i>Equine arteritis virus</i> (type)	1 species moved and reassigned to new genus. Previous taxonomic position: <i>Nidovirales/Arteriviridae/unassigned/Arterivirus</i>	[159]
Nidovirales	Arteriviridae	Unassigned	Nesartevirus	<i>African pouched rat arterivirus</i> (type)	1 species renamed, moved and reassigned to new genus. Previous name: <i>Forest pouched giant rat arterivirus</i> . Previous taxonomic position: <i>Nidovirales/Arteriviridae/unassigned/Arterivirus</i>	[159]
Nidovirales	Arteriviridae	Unassigned	Porartevirus	<i>Lactate dehydrogenase-elevating virus</i> (type), <i>Porcine reproductive and respiratory syndrome virus 1</i> , <i>Porcine reproductive and respiratory syndrome virus 2</i>	3 species moved and reassigned to new genus. Previous taxonomic position: <i>Nidovirales/Arteriviridae/unassigned/Arterivirus</i>	[159]
Nidovirales	Arteriviridae	Unassigned	Porartevirus	<i>Rat arterivirus 1</i>	1 new species in new genus	[159]
Nidovirales	Arteriviridae	Unassigned	Simartevirus	<i>DeBrazza's monkey arterivirus</i> , <i>Kibale red colobus virus 1</i> , <i>Kibale red colobus virus 2</i> , <i>Kibale red-tailed guenon virus 1</i> , <i>Mikami yellow baboon virus 1</i> , <i>Pebjah virus</i> , <i>Simian hemorrhagic encephalitis virus</i> , <i>Simian hemorrhagic fever virus</i> (type)	8 species moved and reassigned to new genus. Previous taxonomic position: <i>Nidovirales/Arteriviridae/unassigned/Arterivirus</i>	[159]
Nidovirales	Arteriviridae	Unassigned	Simartevirus	<i>Free State vervet virus</i> , <i>Kafue kinda chacma baboon virus</i>	2 new species in new genus	[159]
Nidovirales	Arteriviridae	Unassigned	Arterivirus		Genus abolished	[159]
Nidovirales	Coronaviridae	Torovirinae	Unassigned	<i>Bovine nidovirus 1</i> , <i>Chinook salmon nidovirus 1</i>	2 new species	[160]
Picomavirales	Iflaviridae	Unassigned	<i>Iflavirus</i>	<i>Brevicoryne brassicae virus</i>	1 new species	[161]
Picomavirales	Picomaviridae	Unassigned	Ampivirus	<i>Ampivirus A</i> (type)	1 new species in new genus	[162]
Picomavirales	Picomaviridae	Unassigned	<i>Avisivirus</i>	<i>Avisivirus B</i> , <i>Avisivirus C</i>	2 new species	[163]
Picomavirales	Picomaviridae	Unassigned	<i>Cosavirus</i>	<i>Cosavirus B</i> , <i>Cosavirus D</i> , <i>Cosavirus E</i> , <i>Cosavirus F</i>	4 new species	[164]
Picomavirales	Picomaviridae	Unassigned	<i>Enterovirus</i>	<i>Enterovirus I</i>	1 new species	[165]
Picomavirales	Picomaviridae	Unassigned	Harkavirus	<i>Harkavirus A</i> (type)	1 new species in new genus	[166]
Picomavirales	Picomaviridae	Unassigned	<i>Hepatovirus</i>	<i>Hepatovirus B</i> , <i>Hepatovirus C</i> , <i>Hepatovirus D</i> , <i>Hepatovirus E</i> , <i>Hepatovirus F</i> , <i>Hepatovirus G</i> , <i>Hepatovirus H</i> , <i>Hepatovirus I</i>	8 new species	[167]
Picomavirales	Picomaviridae	Unassigned	<i>Kobuvirus</i>	<i>Aichivirus D</i> , <i>Aichivirus E</i> , <i>Aichivirus F</i>	3 new species	[168]
Picomavirales	Picomaviridae	Unassigned	<i>Mischivirus</i>	<i>Mischivirus B</i> , <i>Mischivirus C</i>	2 new species	[169]
Picomavirales	Picomaviridae	Unassigned	<i>Parechovirus</i>	<i>Parechovirus C</i> , <i>Parechovirus D</i>	1 new species	[170]
Picomavirales	Picomaviridae	Unassigned	Rabovirus	<i>Rabovirus A</i> (type)	1 new species in new genus	[171]
Picomavirales	Picomaviridae	Unassigned	Torehivirus	<i>Torehivirus A</i> (type)	1 new species in new genus	[172]
Unassigned	Flaviviridae	Unassigned	<i>Hepacivirus</i>	<i>Hepacivirus C</i>	1 species renamed. Previous name: <i>Hepatitis C virus</i>	[173]
Unassigned	Flaviviridae	Unassigned	<i>Hepacivirus</i>	<i>Hepacivirus A</i> , <i>Hepacivirus B</i> , <i>Hepacivirus D</i> , <i>Hepacivirus E</i> , <i>Hepacivirus F</i> , <i>Hepacivirus G</i> , <i>Hepacivirus H</i> , <i>Hepacivirus I</i> , <i>Hepacivirus J</i> , <i>Hepacivirus K</i> , <i>Hepacivirus M</i> , <i>Hepacivirus N</i>	13 new species	[173]
Unassigned	Flaviviridae	Unassigned	<i>Pegivirus</i>	<i>Pegivirus C</i> , <i>Pegivirus D</i> , <i>Pegivirus E</i> , <i>Pegivirus F</i> , <i>Pegivirus G</i> , <i>Pegivirus H</i> , <i>Pegivirus I</i> , <i>Pegivirus J</i> , <i>Pegivirus K</i>	9 new species	[174]
Unassigned	Soliniviridae	Unassigned	<i>Invictavirus</i>	<i>Solenopsis invicta virus 3</i> (type)	1 new species in new genus in new family	[175]
Unassigned	Soliniviridae	Unassigned	<i>Nyftovavirus</i>	<i>Nylanderia fulva virus 1</i> (type)	1 new species in new genus in new family	[175]

Changes to the International Code of Virus Classification and Nomenclature

Additions to the Code Rule 3.32 and a new Rule 3.34 were proposed [176] to enable the classification of satellite nucleic acids (see Plant Virus proposal to create the family *Tolecutasatellitidae* [153]). The additions are shown in bold, below:

Viroids and satellite nucleic acids

3.32

Rules concerned with the classification of viruses shall also apply to the classification of viroids and satellite nucleic acids.

3.34

The formal endings for taxa of satellite nucleic acids are the suffix “*-satellite*” for genera, the suffix “*-satellitinae*” for sub-families (should this taxon be needed) and “*-satellitidae*” for families.

Conclusion

All of the taxonomic proposals listed were unanimously (or almost unanimously) approved by the 90 members who voted (a return rate of about 60%). The changes are now part of the official ICTV taxonomy. An up-to-date list of all approved taxa can be found on the ICTV online website: <http://www.ictv.global/msl.htm>.

Compliance with ethical standards

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