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Changes to virus taxonomy and to the International Code of Virus Classification and Nomenclature ratified by the International Committee on Taxonomy of Viruses (2021)

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Abstract

This article reports the changes to virus taxonomy approved and ratified by the International Committee on Taxonomy of Viruses (ICTV) in March 2021. The entire ICTV was invited to vote on 290 taxonomic proposals approved by the ICTV Executive Committee at its meeting in October 2020, as well as on the proposed revision of the International Code of Virus Classification and Nomenclature (ICVCN). All proposals and the revision were ratified by an absolute majority of the ICTV members. Of note, ICTV mandated a uniform rule for virus species naming, which will follow the binomial 'genus-species' format with or without Latinized species epithets. The Study Groups are requested to convert all previously established species names to the new format. ICTV has also abolished the notion of a type species, i.e., a species chosen to serve as a name-bearing type of a virus genus. The remit of ICTV has been clarified through an official definition of 'virus' and several other types of mobile genetic elements. The ICVCN and ICTV Statutes have been amended to reflect these changes.

Introduction

Changes to virus taxonomy (the universal scheme of virus classification of the International Committee on Taxonomy of Viruses [ICTV]) take place annually and are the result of a multi-stage process. In accordance with the ICTV Statutes (<https://ictv.global/statutes.asp>), taxonomic proposals (TaxoProps) 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 presented for ratification to the full ICTV membership by posting on the ICTV website (<https://ictv.global/>), followed by an electronic vote.

The latest set of proposals approved by the EC was made available on the ICTV website in February 2021 (see <https://ictv.global/proposal/MSL36/> for all proposals combined into a single zip file, and use the links provided in the References to access individual proposals). A list of proposals was then emailed on 3rd February 2021 to the 176 members of ICTV, namely the EC Members, Life Members, ICTV SC 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 5th March 2021.

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Changes to virus taxonomy, to the International Code of Virus Classification and Nomenclature, and to the ICTV Statutes ratified in 2021

All proposals were ratified by ICTV members, in every case receiving an absolute majority of votes; at least 60% of eligible voters approved each proposal. A summary of the taxonomy changes enacted by ratification of the proposals is provided in Table 1. Each proposal is cited and listed in the References to acknowledge the authors' efforts and to provide links to the specific proposal on the ICTV website [1–297]. These documents remain available for those who wish to see the full details of the proposals. A ratified non-taxonomic proposal 2020.002G [3] specifies a novel procedure for expedited correction of unintended errors that may occur during proposal writing but clearly do not reflect the intention of the proposers, as described in the submitted proposal documentation. Examples of such errors include assignment of a lower-rank taxon to an incorrect higher rank, inadvertent introduction of duplicate taxon names, or assignment of a misspelled taxon name. Since the changes ratified by ICTV take effect immediately, this mechanism was used to correct seven proposals that relate to proposals ratified in March 2021 but were found to contain errors upon cross-checking [18, 53, 54, 66, 254, 255, 297].

A notable change approved this year is the adoption of a uniform binomial format for naming of virus species [1]. Previously, virologists have not been required to follow the convention of species naming that has been established in other fields of biology, whereby the species name consists of the genus name separated by a space from a species epithet that identifies the species within that genus. Over the last several decades, the case for a standardized nomenclature

for virus species has been acknowledged by the ICTV and by many other virologists, but a uniform format of the species names had not been adopted (see references [298–304] for an incomplete but relatively representative account of the opinion spectrum). The case for a binomial nomenclature was presented by the ICTV Executive Committee in 2018 and 2020, and the advantages and disadvantages of different naming formats within the binomial framework were discussed [305, 306]. The EC then invited comments on this position from the virology community. Comments from ICTV SGs were also solicited and received by the EC SCs. Debates of the merits of various forms of binomial nomenclature took place in social media (e.g., 307) and in journal publications [308, 309]. Taking these discussions and comments into account, ICTV ratified the adoption of a standardized binomial system, which may follow either Latinized or free form formats [1]. The ICTV SGs are now charged with conversion of all existing virus species names to the new binomial form; the process has started already and is expected to be completed in time to be considered by an EC meeting planned for 2023. It is worth emphasizing that this system concerns only the names of virus species but does not affect the names of viruses.

Another general proposal [2] was the abolition of the requirement for a type species—a designated nomenclatural type for each genus. The ICTV noted that the requirement for type species in virus taxonomy was largely historical. Most importantly, the ICVCN defines virus species as follows: “A species is a monophyletic group of viruses whose properties can be distinguished from those of other species by multiple criteria”, suggesting that the emphasis on “defining” a genus has been shifting from the properties of any particular member to the closeness of molecular and ecological relationships between all genus members. The ICTV

Table 1 Summary of taxonomic changes approved in March 2021

Rank	Total, MSL-35 ^a	New	Moved	Abolished	Renamed	Merged	Total, MSL-36 ^b
Realm	4	2	0	0	0	0	6
Kingdom	9	1	0	0	0	0	10
Phylum	16	1	0	0	0	0	17
Class	36	3	0	0	1	0	39
Order	55	4	1	0	1	0	59
Family	168	22	5	1	1	0	189
Subfamily	103	33 ^c	2	0	0	0	136
Genus	1,421	807	69	3 ^{c,d}	10	1	2,224
Subgenus	68	2 ^d	0	0	2	0	70
Species	6,590	2,562	126	30	215	12	9,110

^aTotal number of taxa in the ICTV Master Species List prior to 2021 ratification

^bTotal number of taxa now recognized and reported in the ICTV Master Species List

^cOne new subfamily promoted from genus

^dOne new subgenus demoted from genus

concluded that the concept of a type species no longer serves a clear and useful purpose in virology and voted to abolish it.

One more proposal [4] has clarified the remit of the ICTV. In addition to viruses, ICTV has been classifying viroids and virus satellites, though none of these mobile genetic elements, including viruses themselves, have been operationally defined, leaving the limits of the ICTV scope unclear. This has been clarified now by giving operational definitions of viruses *sensu stricto*, viriforms, viroids, and satellites. These entities together constitute the virosphere and are within the remit of the ICTV responsibilities for their classification, taxonomy and nomenclature. The historical name of the organization—the International Committee on Taxonomy of Viruses—remains unchanged.

Conclusion

All proposals submitted to ratification were ratified by an absolute majority of the ICTV, and the changes are now part of official ICTV taxonomy. An up-to-date list of all approved taxa, which now includes more than 9000 virus species, can be found on the ICTV website: see <https://ictv.global/proposal/MSL36/> for the Master Species List and <https://ictv.global/vmr/> for the Virus Metadata Resource.

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Declarations

Conflict of interest The authors declare no conflicts of interest

Human and animal rights statement None of the work reported involved research on human participants or animals. All authors have contributed to this work and agreed to its publication.

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 53. Kuhn JH (2021) Correct errors inadvertently introduced into phylum *Negarnaviricota* taxonomy https://ictv.global/ictv/proposals/2020.030M.R.Negarnaviricota_corrections.zip. kuhnjens@mail.nih.gov
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 60. Zell R, Gorbalenya AE, Hovi T, Knowles NJ, Lindberg AM, Oberste MS, Palmenberg AC, Reuter G, Simmonds P, Skern T, Tapparel C, Wolthers KC, Woo PCY (2020) Create one new genus (*Marsupivirus*) including one new species (*Picornavirales: Picornaviridae*) https://ictv.global/ictv/proposals/2020.006S.R.Marsupivirus_1ngen1nsp.zip. roland.zell@med.uni-jena.de
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 62. Zell R, Gorbalenya AE, Hovi T, Knowles NJ, Lindberg AM, Oberste MS, Palmenberg AC, Reuter G, Simmonds P, Skern T, Tapparel C, Wolthers KC, Woo PCY (2020) Create one new species (*Pemapivirus B*) in the genus *Pemapivirus* (*Picornavirales: Picornaviridae*) https://ictv.global/ictv/proposals/2020.008S.R.Pemapivirus_1nsp.zip. roland.zell@med.uni-jena.de
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 80. Adriaenssens EM, Tolstoy I, Łobocka M, Moraru C, Barylski J, Tong Y, Kropinski AM (2020) Create one new genus (*Astrithvirus*) including one species (*Caudovirales: Podoviridae*) <https://ictv.global/ictv/proposals/2020.014B.R.Astrithvirus.zip>. Phage.Canada@gmail.com
 81. Adriaenssens EM, Tolstoy I, Turner D, Lueder M, Mahony J, Neve H, Moineau S, Kropinski AM (2020) Create one new genus (*Audreyjarvisvirus*) including seven species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.015B.R.Audreyjarvisvirus.zip>. Phage.Canada@gmail.com
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 83. Adriaenssens EM, Tolstoy I, Moraru C, Kropinski AM (2020) Create one new genus (*Ayohrtrevirus*) including one species (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.017B.R.Ayohrtrevirus.zip>. Phage.Canada@gmail.com
 84. Adriaenssens EM, Tolstoy I, Kropinski AM, Moraru C, Łobocka M (2020) Create one new subfamily (*Azeredovirinae*) including one new genus (*Dubowvirus*) (*Caudovirales: Siphoviridae*)

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 86. Adriaenssens EM, Turner D, Tolstoy I, Kropinski AM (2020) Split the genus *Barneyardvirus* into three genera, two of which (*Konstantinevirus*, *Predatorvirus*) are new (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.020B.R.Barneyardvirus.zip>. Phage.Canada@gmail.com
 87. Kropinski AM, Tolstoy I, Adriaenssens EM, Turner D, Barylski J (2020) Create one new genus (*Beceayunavirus*) including one new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.021B.R.Beceayunavirus.zip>. Jakub.Barylski@gmail.com
 88. Adriaenssens EM, Tolstoy I, Kropinski AM Barylski J (2020) Create one new genus (*Becedseptimavirus*) including one new species (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.022B.R.Becedseptimavirus.zip>. Jakub.Barylski@gmail.com
 89. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create one new subfamily (*Beephvirinae*) including three new genera (*Caudovirales: Podoviridae*) <https://ictv.global/ictv/proposals/2020.023B.R.Beephvirinae.zip>. Phage.Canada@gmail.com
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 91. Adriaenssens EM, Tolstoy I, Kropinski AM, Moraru C, Łobocka M (2020) Create one new subfamily (*Bronfenbrennervirinae*) including the new genus *Peeveelvirus* (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.025B.R.Bronfenbrennervirinae.zip>. loboeka@ibb.waw.pl
 92. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create one new genus (*Burrovirus*) including three new species (*Caudovirales: Podoviridae*) <https://ictv.global/ictv/proposals/2020.026B.R.Burrovirus.zip>. Phage.Canada@gmail.com
 93. Adriaenssens EM, Tolstoy I, Kropinski AM, Barylski J (2020) Create one new genus (*Camtrevirus*) including three new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.027B.R.Camtrevirus.zip>. Jakub.Barylski@gmail.com
 94. Adriaenssens EM, Tolstoy I, Kropinski AM, Wittmann J, Buttner C, Coffey A (2020) Create one new genus (*Cbunavirus*) including four new species (*Caudovirales: Schitoviridae*) <https://ictv.global/ictv/proposals/2020.028B.R.Cbunavirus.zip>. jow12@dszm.de
 95. Adriaenssens EM, Tolstoy I, Moraru C, Turner D, Lueder M, Mahony J, Neve H, Moineau S, Kropinski AM (2020) Create 34 new species in the genus *Ceduovirus* (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.029B.R.Ceduovirus.zip>. Phage.Canada@gmail.com
 96. Anany H, Moraru C, Turner D, Adriaenssens EM, Kropinski AM (2020) Create two new subfamilies and three new genera (*Caudovirales: Chaseviridae*) https://ictv.global/ictv/proposals/2020.030B.R.Chaseviridae_new_taxa.zip. Phage.Canada@gmail.com
 97. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM, Moraru C (2020) Reassessment of the genus *Cheoctovirus* and formation of one new genus *Avanivirus* (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.031B.R.Cheoctovirus.zip>. Phage.Canada@gmail.com
 98. Adriaenssens EM, Tolstoy I, Turner D, Lueder M, Moineau S, Kropinski AM (2020) Create one new genus (*Chertseyvirus*) including one new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.032B.R.Chertseyvirus.zip>. Phage.Canada@gmail.com
 99. Adriaenssens EM, Tolstoy I, Kropinski AM, Moraru C (2020) Create nine new species in the genus *Chivirus* (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.033B.R.Chivirus.zip>. Phage.Canada@gmail.com
 100. Kropinski AM, Tolstoy I, Adriaenssens EM, Moineau S, Mahony J, Lueder M, Neve H (2020) Create one new genus (*Chopinivirus*) including one new species (*Caudovirales: Podoviridae*) <https://ictv.global/ictv/proposals/2020.034B.R.Chopinivirus.zip>. Phage.Canada@gmail.com
 101. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Taxonomic analysis of the myoviruses infecting *Clostridioides difficile* (*Caudovirales: Myoviridae*) https://ictv.global/ictv/proposals/2020.035B.R.Clostridioides_myoviruses.zip. Phage.Canada@gmail.com
 102. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create one new genus of *Mycobacterium* siphoviruses (*Cornievirus*) including one new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.036B.R.Cornievirus.zip>. Phage.Canada@gmail.com
 103. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Correction of errors in the master species list (*Caudovirales*) https://ictv.global/ictv/proposals/2020.037B.R.Correction_MSL_Errors.zip. Phage.Canada@gmail.com
 104. Adriaenssens EM, Tolstoy I, Kropinski AM, Łobocka M (2020) Create one new genus (*Coventryvirus*) including seven new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.038B.R.Coventryvirus.zip>. loboeka@ibb.waw.pl
 105. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create three new genera (*Cukevirus*, *Indulamithivirus* and *Fowlmouthvirus*) each with one new species (*Caudovirales: Siphoviridae*) https://ictv.global/ictv/proposals/2020.040B.R.Cukevirus_Fowlmouthvirus_Indulamithivirus.zip. Phage.Canada@gmail.com
 106. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create one new subfamily (*Deejayvirinae*) including three new genera (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.041B.R.Deejayvirinae.zip>. Phage.Canada@gmail.com
 107. Caruso SM, deCarvalho TN, Erill I, Gill J, Gillis A (2020) Create two new genera (*Deltatectivirus* and *Epsilontectivirus*) including three new species (*Kalamavirales: Tectiviridae*) https://ictv.global/ictv/proposals/2020.042B.R.Deltatectivirus_Epsilontectivirus.zip. scaruso@umbc.edu
 108. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create 29 new species in two existing genera (*Caudovirales: Demerecviridae*) https://ictv.global/ictv/proposals/2020.043B.R.Demerecviridae_new_species.zip. Phage.Canada@gmail.com
 109. Wittmann J, Adriaenssens EM, Kropinski AM (2020) Create one new genus (*Dendoorenvirus*) including one new species (*Caudovirales: Schitoviridae*) <https://ictv.global/ictv/proposals/2020.044B.R.Dendoorenvirus.zip>. Johannes.Wittmann@dszm.de
 110. Adriaenssens EM, Tolstoy I, Kropinski AM, Barylski J, Gillis A (2020) Create one new genus (*Deurplevirus*) including one new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.045B.R.Deurplevirus.zip>. Annika.gillis@gmail.com
 111. Sadunishvili T, Kvesitadze G, Kropinski AM, Adriaenssens EM, Truncaite L, Šimoliūnas E (2020) Create one new genus (*Dibbivirus*) including three new species (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.046B.R.Dibbivirus.zip>. Phage.Canada@gmail.com
 112. Kropinski AM, Adriaenssens EM, Barylski J (2020) Create one new genus (*Donellivirus*) to include the species *Bacillus virus*

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113. Adriaenssens EM, Tolstoy I, Moraru C, Kropinski AM (2020) Create five new genera (*Caudovirales: Drexlerviridae*) https://ictv.global/ictv/proposals/2020.048B.R.Drexlerviridae_new_genera.zip. Phage.Canada@gmail.com
 114. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create one new species in the genus *Ruthyvirus* (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.049B.R.Dumpstervirus.zip>. Phage.Canada@gmail.com
 115. Wittmann J, Adriaenssens EM, Kropinski AM (2020) Create one new genus (*Eceepunavirus*) including one new species (*Caudovirales: Schitoviridae*) <https://ictv.global/ictv/proposals/2020.050B.R.Eceepunavirus.zip>. Johannes.Wittmann@dsmz.de
 116. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create one new subfamily (*Eekayvirinae*) including two new genera (*Caudovirales: Podoviridae*) <https://ictv.global/ictv/proposals/2020.051B.R.Eekayvirinae.zip>. Phage.Canada@gmail.com
 117. Kropinski AM, Tolstoy I, Adriaenssens EM, Barylski J (2020) Create one new genus (*Elmenteitavirus*) including one new species (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.052B.R.Elmenteitavirus.zip>. Jakub.Barylski@gmail.com
 118. Kropinski AM, Tolstoy I, Turner D, Adriaenssens EM (2020) Create one new subfamily (*Emmerichvirinae*) including two new genera (*Ishigurovirus* and *Ceceduovirus*) (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.053B.R.Emmerichvirinae.zip>. Phage.Canada@gmail.com
 119. Adriaenssens EM, Tolstoy I, Kropinski AM, Moraru C, Wittmann J (2020) Create one subfamily (*Enquatrovirinae*) including three new genera (*Caudovirales: Schitoviridae*) <https://ictv.global/ictv/proposals/2020.054B.R.Enquatrovirinae.zip>. jow12@dsmz.de
 120. Kirchberger PC, Ochman H (2020) Create one new genus (*Enterogokushovirus*) in the subfamily *Gokushovirinae* (*Microviridae*) <https://ictv.global/ictv/proposals/2020.055B.R.Enterogokushovirus.zip>. pkirchberger@utexas.edu
 121. Adriaenssens EM, Tolstoy I, Kropinski AM, Moraru C, Wittmann J (2020) Create one new subfamily (*Erskinevirinae*) including two genera (*Caudovirales: Podoviridae*) <https://ictv.global/ictv/proposals/2020.056B.R.Erskinevirinae.zip>. jow12@dsmz.de
 122. Adriaenssens EM, Tolstoy I, Moraru C, Kropinski AM, Tsourkas PK, Barylski J (2020) Create 12 new species in the genus *Fernvirus* (formerly *Sitaravirus*) (*Caudovirales: Siphoviridae*) https://ictv.global/ictv/proposals/2020.057B.R.Fernvirus_12nsp.zip. Jakub.Barylski@gmail.com
 123. Nilsson E, Holmfeldt K (2020) Create six new genera including five new species in the genus *Muminivirus*, six new species in the genus *Lillamyvirus*, one new species in the genus *Hattifnattvirus*, two new species in the genus *Pippivirus*, one new species in the genus *Tantvirus* and one new species in the genus *Labanvirus* (*Caudovirales*) https://ictv.global/ictv/proposals/2020.058B.R.Flavobacterium_phages.zip. karin.holmfeldt@lnu.se
 124. Adriaenssens EM, Tolstoy I, Moraru C, Turner D, Lueder M, Mahony J, Neve H, Moineau S, Kropinski AM (2020) Create one new genus (*Fremauxvirus*) including two new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.059B.R.Fremauxvirus.zip>. Phage.Canada@gmail.com
 125. Adriaenssens EM, Tolstoy I, Kropinski AM, Jang HB, Sullivan MB, Moraru C, Wittmann J (2020) Create one new subfamily (*Fuhrmanvirinae*) including two new genera (*Caudovirales: Schitoviridae*) <https://ictv.global/ictv/proposals/2020.060B.R.Fuhrmanvirinae.zip>. jow12@dsmz.de
 126. Kropinski AM, Turner D, Adriaenssens EM (2020) Create one new genus (*Fukuivirus*) including one new species and one existing species (*Microcystis virus Ma-LMM01*) (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.061B.R.Fukuivirus.zip>. Phage.Canada@gmail.com
 127. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create one new genus (*Gilsonvirus*) including two new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.062B.R.Gilsonvirus.zip>. Phage.Canada@gmail.com
 128. Krupovic M, Baquero DP, Prangishvili D (2020) Rename the genus *Alphaglobulovirus* and create two new species (*Globuloviridae*) <https://ictv.global/ictv/proposals/2020.063B.R.Globuloviridae.zip>. mart.krupovic@pasteur.fr
 129. Adriaenssens EM, Tolstoy I, Kropinski AM, Tsourkas PK (2020) Create one new subfamily (*Gochneuervirinae*) including four genera (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.064B.R.Gochneuervirinae.zip>. Phage.Canada@gmail.com
 130. Adriaenssens EM, Tolstoy I, Kropinski AM, Moraru C (2020) Create one new subfamily (*Gorgonvirinae*) including two genera (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.065B.R.Gorgonvirinae.zip>. Phage.Canada@gmail.com
 131. Adriaenssens EM, Tolstoy I, Łobocka M, Moraru C, Barylski J, Tong Y, Kropinski AM (2020) Create one new family (*Guelinviridae*) of Clostridium phages including one new subfamily, four new genera and nine new species (*Caudovirales*) <https://ictv.global/ictv/proposals/2020.066B.R.Guelinviridae.zip>. Phage.Canada@gmail.com
 132. Adriaenssens EM, Tolstoy I, Kropinski AM, Barylski J (2020) Create one new subfamily (*Gutmannvirinae*) including two new genera and three new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.067B.R.Gutmannvirinae.zip>. Jakub.Barylski@gmail.com
 133. Adriaenssens EM, Tolstoy I, Moraru C, Kropinski AM, Tsourkas PK, Barylski J (2020) Rename the genus *Halcyonevirus* (formerly *Trippvirus*) and create four new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.068B.R.Halcyonevirus.zip>. Jakub.Barylski@gmail.com
 134. Adriaenssens EM, Tolstoy I, Moraru C, Kropinski AM (2020) Create 13 new species in the genus *Hannirivirvirus* (*Caudovirales: Drexlerviridae*) <https://ictv.global/ictv/proposals/2020.069B.R.Hannirivirvirus.zip>. Phage.Canada@gmail.com
 135. Lehman SM, Petit MA, Lossouarn J, Tong Y, Tolstoy I, Adriaenssens E (2020) Promote the genus *Hendrixvirus* to the rank of subfamily (*Hendrixvirinae*) and establish nine new genera (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.070B.R.Hendrixvirinae.zip>. susan.lehman@fda.hhs.gov
 136. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create one new genus (*Henunavirus*) including two new species in the subfamily *Vequintavirinae* (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.071B.R.Henunavirus.zip>. Phage.Canada@gmail.com
 137. Adriaenssens EM, Tolstoy I, Kropinski AM, Moraru C, Hertel R, Lehman SM, Barylski J (2020) Create 13 new genera and move two genera (*Caudovirales: Herelleviridae*) <https://ictv.global/ictv/proposals/2020.072B.R.Herelleviridae.zip>. Jakub.Barylski@gmail.com
 138. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create one new genus (*Hnatkovirus*) including one new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.073B.R.Hnatkovirus.zip>. Phage.Canada@gmail.com
 139. Adriaenssens EM, Tolstoy I, Kropinski AM, Barylski J (2020) Create one new genus (*Hubeivirus*) including two new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.074B.R.Hubeivirus.zip>. Jakub.Barylski@gmail.com
 140. Adriaenssens EM, Tolstoy I, Kropinski AM, Moraru C, Wittmann J (2020) Create one new genus (*Huelvavirus*) including

- one new species (*Caudovirales: Schitoviridae*) <https://ictv.global/ictv/proposals/2020.075B.R.Huelvavirus.zip>. jow12@dszm.de
141. Adriaenssens EM, Tolstoy I, Kropinski AM, Moraru C, Wittmann J (2020) Create one new subfamily (*Humphriesvirinae*) including three existing genera (*Caudovirales: Schitoviridae*) <https://ictv.global/ictv/proposals/2020.076B.R.Humphriesvirinae.zip>. jow12@dszm.de
 142. Adriaenssens EM, Tolstoy I, Moraru C, Kropinski AM (2020) Create three new species in the genus *Ilzatvirus* (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.077B.R.Ilzatvirus.zip>. Phage.Canada@gmail.com
 143. Adriaenssens EM, Tolstoy I, Kropinski AM, Barylski J (2020) Create one new genus (*Jarrellvirus*) including one new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.078B.R.Jarrellvirus.zip>. Jakub.Barylski@gmail.com
 144. Adriaenssens EM, Tolstoy I, Kropinski AM, Morozova V, Barylski J (2020) Create one new genus (*Kamchatkavirus*) including one new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.079B.R.Kamchatkavirus.zip>. Jakub.Barylski@gmail.com
 145. Kropinski AM, Adriaenssens EM, Turner D (2020) Create one new genus (*Kanagawavirus*) including two new species (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.080B.R.Kanagawavirus.zip>. Phage.Canada@gmail.com
 146. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create one new genus (*Karimavirus*) including five new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.081B.R.Karimavirus.zip>. Phage.Canada@gmail.com
 147. Kropinski AM, Adriaenssens EM, Neve H, Franz CMAP, Sprotte S (2020) Create one new genus (*Knuthellervirus*) including one new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.082B.R.Knuthellervirus.zip>. Phage.Canada@gmail.com
 148. Kropinski AM, Turner D, Adriaenssens EM (2020) Create one new genus (*Kozyakovvirus*) including one new species (*Caudovirales: Podoviridae*) <https://ictv.global/ictv/proposals/2020.083B.R.Kozyakovvirus.zip>. Phage.Canada@gmail.com
 149. Adriaenssens EM, Tolstoy I, Moraru C, Kropinski AM (2020) Create one new genus (*Kuleanavirus*) including one new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.084B.R.Kuleanavirus.zip>. Phage.Canada@gmail.com
 150. Adriaenssens EM, Tolstoy I, Kropinski AM (2020) Create one new genus (*Kungbxbnavirus*) including one new species (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.085B.R.Kungbxbnavirus.zip>. Phage.Canada@gmail.com
 151. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create one new genus (*Kylevirus*) including one new species (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.086B.R.Kylevirus.zip>. Phage.Canada@gmail.com
 152. Kabwe M, Petrovski S, Tucci J, Adriaenssens EM, Tolstoy I, Kropinski AM (2020) Create one new genus (*Lahexavirus*) including four new species (*Caudovirales: Podoviridae*) <https://ictv.global/ictv/proposals/2020.087B.R.Lahexavirus.zip>. Phage.Canada@gmail.com
 153. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create one new genus (*Lambovirus*) including five new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.088B.R.Lambovirus.zip>. Phage.Canada@gmail.com
 154. Kropinski AM, Tolstoy I, Turner D, Adriaenssens EM (2020) Create 12 new genera including 17 new species for Lactobacillus viruses (*Caudovirales: Siphoviridae*) https://ictv.global/ictv/proposals/2020.089B.R.Lactobacillus_siphoviruses.zip. Phage.Canada@gmail.com
 155. Adriaenssens EM, Tolstoy I, Moraru C, Kropinski AM (2020) Create three new species in the genus *Laroyevirus* (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.090B.R.Laroyevirus.zip>. Phage.Canada@gmail.com
 156. Adriaenssens EM, Tolstoy I, Kropinski AM (2020) Create one new genus (*Lastavirus*) including two new species (*Caudovirales: Podoviridae*) <https://ictv.global/ictv/proposals/2020.091B.R.Lastavirus.zip>. Phage.Canada@gmail.com
 157. Kropinski AM, Tolstoy I, Adriaenssens EM, Kabwe M, Tucci J (2020) Create one new genus (*Latrobevirus*) including one new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.092B.R.Latrobevirus.zip>. Phage.Canada@gmail.com
 158. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create one new genus (*Leicestervirus*) including three new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.093B.R.Leicestervirus.zip>. Phage.Canada@gmail.com
 159. Adriaenssens EM, Tolstoy I, Moraru C, Kropinski AM (2020) Create one new genus (*Seongbukvirus*) including one new species and create four new species of Leuconostoc phages in two existing genera (*Caudovirales: Siphoviridae*) https://ictv.global/ictv/proposals/2020.094B.R.Leuconostoc_siphoviruses.zip. Phage.Canada@gmail.com
 160. Callanan J, Stockdale SR, Adriaenssens EM, Kuhn JH, Rumnieks J, Shkoporov A, Draper LA, Ross RP, Hill C (2020) Rename one class (*Leviviricetes* - formerly *Allasoviricetes*), rename one order (*Norzivirales* - formerly *Levivirales*), create one new order (*Timlovirales*), and expand the class to a total of six families, 420 genera and 883 species <https://ictv.global/ictv/proposals/2020.095B.R.Leviviricetes.zip>. c.hill@ucc.ie
 161. Truncaitė L, Kropinski AM, Adriaenssens EM, Šimoliūnas E (2020) Create one new genus (*Lietduovirus*) including one new species (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.096B.R.Lietduovirus.zip>. Phage.Canada@gmail.com
 162. Wittmann J, Adriaenssens EM, Kropinski AM (2020) Create one new genus (*Littlefixvirus*) containing one new species (*Caudovirales: Schitoviridae*) <https://ictv.global/ictv/proposals/2020.097B.R.Littlefixvirus.zip>. Johannes.Wittmann@dszm.de
 163. Kropinski AM, Tolstoy I, Turner D, Adriaenssens EM (2020) Create one new genus (*Marfavirus*) including two new species (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.098B.R.Marfavirus.zip>. Phage.Canada@gmail.com
 164. Adriaenssens EM, Tolstoy I, Moraru C, Kropinski AM (2020) Create one new species in the genus *Marthavirus* (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.099B.R.Marthavirus.zip>. Phage.Canada@gmail.com
 165. Oksanen HM, Krupovic M, Jalasvuori M (2020) Create one new family (*Matsushitaviridae*) including one renamed genus (*Hukuchivirus* - formerly *Gammaphaerolipovirus*) moved from the family *Sphaerolipoviridae* (*Halopanivirales*) <https://ictv.global/ictv/proposals/2020.100B.R.Matsushitaviridae.zip>. matti.jalasvuori@jyu.fi
 166. Adriaenssens EM, Tolstoy I, Kropinski AM, Ramsey J (2020) Create one new genus (*Menderavirus*) including three new species (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.101B.R.Menderavirus.zip>. Phage.Canada@gmail.com
 167. Adriaenssens EM, Tolstoy I, Kropinski AM, Moraru C, Wittmann J (2020) Create one new subfamily (*Migulavirinae*) including two existing genera (*Caudovirales: Schitoviridae*) <https://ictv.global/ictv/proposals/2020.102B.R.Migulavirinae.zip>. jow12@dszm.de
 168. Adriaenssens EM, Tolstoy I, Kropinski AM, Ramsey J (2020) Create one new genus (*Moabitevirus*) including two new species (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.103B.R.Moabitevirus.zip>. Phage.Canada@gmail.com
 169. Adriaenssens EM, Tolstoy I, Kropinski AM (2020) Create one new genus (*Moturavirus*) including one new species

- (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.104B.R.Moturavirus.zip>. Phage.Canada@gmail.com
170. Adriaenssens EM, Tolstoy I, Moraru C, Kropinski AM (2020) Create one new genus (*Mufasoctovirus*) including one new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.105B.R.Mufasoctovirus.zip>. Phage.Canada@gmail.com
 171. Adriaenssens EM, Tolstoy I, Kropinski AM, Ramsey J (2020) Create one new genus (*Muldoonvirus*) including two new species (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.106B.R.Muldoonvirus.zip>. Phage.Canada@gmail.com
 172. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create one new genus (*Mydovirus*) including six new species in the subfamily *Vequintavirinae* (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.107B.R.Mydovirus.zip>. Phage.Canada@gmail.com
 173. Gonzalez-Serrano R, Dunne M, Rosselli R, Martin-Cuadrado A-B, Grosboillot V, Zinsli LV, Roda-Garcia JJ, Loessner MJ, Rodriguez-Valera F (2020) Create one new genus (*Myoalterovirus*) including one new species (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.108B.R.Myoalterovirus.zip>. rafael.gonzalez@umh.es
 174. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create one new genus (*Myosmarvirus*) including two new species (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.109B.R.Myosmarvirus.zip>. Phage.Canada@gmail.com
 175. Adriaenssens EM, Tolstoy I, Turner D, Lueder M, Moineau S, Kropinski AM (2020) Create one new genus (*Nevevirus*) including four new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.110B.R.Nevevirus.zip>. Phage.Canada@gmail.com
 176. Kropinski AM, Tolstoy I, Turner D, Adriaenssens EM (2020) Create one new genus (*Nylescharonvirus*) including two new species (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.111B.R.Nylescharonvirus.zip>. Phage.Canada@gmail.com
 177. Adriaenssens EM, Tolstoy I, Kropinski AM, Moraru C, Wittmann J (2020) Create one new genus (*Pacinivirus*) including two new species (*Caudovirales: Schitoviridae*) <https://ictv.global/ictv/proposals/2020.112B.R.Pacinivirus.zip>. jow12@dszm.de
 178. Adriaenssens EM, Tolstoy I, Kropinski AM, Ramsey J (2020) Create one new genus (*Parlovirus*) including one new species (*Caudovirales: Podoviridae*) <https://ictv.global/ictv/proposals/2020.113B.R.Parlovirus.zip>. Phage.Canada@gmail.com
 179. Roux S, Krupovic M (2020) Create one new family (*Paulinoviridae*) including two genera moved from the family *Inoviridae* (*Tubulavirales*) <https://ictv.global/ictv/proposals/2020.114B.R.Paulinoviridae.zip>. siroux1@gmail.com
 180. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Abolish one genus (*Pb1virus*) and rename one species (*Mycobacterium virus Plot*) (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.115B.R.Pb1virus.zip>. Phage.Canada@gmail.com
 181. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create one new genus (*Bcepfunavirus*) and create nine new species in the genus *Pbunavirus* (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.116B.R.Pbunavirus.zip>. Phage.Canada@gmail.com
 182. van Zyl LJ, Lueder MR, Bishop-Lilly KA, Turner D, Adriaenssens EM, Kropinski AM (2020) Create five new genera and 29 new species in the subfamily *Peduovirinae* (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.117B.R.Peduviruses.zip>. lvanzyl@uwc.ac.za
 183. Kropinski AM, Adriaenssens EM, Tolstoy I, Barylski J (2020) Create one new genus (*Pimunavirus*) including one new species (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.118B.R.Pemunavirus.zip>. Jakob.Barylski@gmail.com
 184. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create one new genus (*Plateaulakevirus*) including four new species (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.119B.R.Plateaulakevirus.zip>. Phage.Canada@gmail.com
 185. Adriaenssens EM, Tolstoy I, Kropinski AM, Moraru C, Wittmann J (2020) Create one new genus (*Pokkenvirus*) including one new species (*Caudovirales: Schitoviridae*) <https://ictv.global/ictv/proposals/2020.120B.R.Pokkenvirus.zip>. jow12@dszm.de
 186. Adriaenssens EM, Tolstoy I, Kropinski AM, Moraru C, Wittmann J (2020) Create one new genus (*Pollockvirus*) including one species moved from the genus *Ithacavirus* (*Caudovirales: Schitoviridae*) <https://ictv.global/ictv/proposals/2020.121B.R.Pollockvirus.zip>. jow12@dszm.de
 187. Adriaenssens EM, Tolstoy I, Kropinski AM, Jang HB, Sullivan MB, Moraru C, Wittmann J (2020) Create one new subfamily (*Pontosvirinae*) including three new genera (*Caudovirales: Schitoviridae*) <https://ictv.global/ictv/proposals/2020.122B.R.Pontosvirinae.zip>. jow12@dszm.de
 188. Wittmann J, Adriaenssens EM, Kropinski AM (2020) Create one new genus (*Presleyvirus*) including one new species (*Caudovirales: Schitoviridae*) <https://ictv.global/ictv/proposals/2020.123B.R.Presleyvirus.zip>. Johannes.Wittmann@dszm.de
 189. Adriaenssens EM, Tolstoy I, Kropinski AM, Ramsey J (2020) Create one new genus (*Privateervirus*) including two new species (*Caudovirales: Podoviridae*) <https://ictv.global/ictv/proposals/2020.124B.R.Privateervirus.zip>. Phage.Canada@gmail.com
 190. Kropinski AM, Adriaenssens EM, Moraru C (2020) Create one new genus (*Pseudotevenvirus*) including nine species in the subfamily *Tevenvirinae* (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.125B.R.Pseudotevenvirus.zip>. Phage.Canada@gmail.com
 191. Adriaenssens EM, Tolstoy I, Kropinski AM, Moraru C, Wittmann J (2020) Create one new genus (*Pylasvirus*) including two new species (*Caudovirales: Schitoviridae*) <https://ictv.global/ictv/proposals/2020.126B.R.Pylasvirus.zip>. jow12@dszm.de
 192. Adriaenssens EM, Tolstoy I, Turner D, Lueder M, Mahony J, Neve H, Moineau S, Kropinski AM (2020) Create one new genus (*Questintvirus*) including one new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.127B.R.Questintvirus.zip>. Phage.Canada@gmail.com
 193. Ma R, Zhang R (2020) Create one new subfamily (*Queuovirinae*) including one new genus (*Amoyvirus*) and three existing genera (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.128B.R.Queuovirinae.zip>. maruijie@stu.xmu.edu.cn
 194. Adriaenssens EM, Tolstoy I, Moraru C, Kropinski AM, Kaliniene L (2020) Rename one genus (*Klausavirus* - formerly *Radnorvirus*) and create three new species (*Caudovirales: Myoviridae*) https://ictv.global/ictv/proposals/2020.129B.R.Radnorvirus_rename.zip. laura.kaliniene@bchi.vu.lt
 195. Torres-Barceló C, Trotereau A (2020) Create seven new genera and 13 new species of Ralstonia phages (*Caudovirales*) https://ictv.global/ictv/proposals/2020.130B.R.Ralstonia_phages.zip. clara.torresbarcelo@inrae.fr
 196. Adriaenssens EM, Tolstoy I, Turner D, Holmfeldt K, Šulčius S, Kropinski AM (2020) Create one new genus (*Ravarandavirus*) including three new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.131B.R.Ravarandavirus.zip>. Phage.Canada@gmail.com
 197. Kropinski AM, Turner D, Adriaenssens EM (2020) Create two new species and move the species *Rhodococcus virus RGL3* to the genus *Rerduovirus* (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.132B.R.Rerduovirus.zip>. Phage.Canada@gmail.com

198. Adriaenssens EM, Tolstoy I, Kropinski AM, Moraru C, Wittmann J (2020) Create one new subfamily (*Rhodovirinae*) including seven genera (*Caudovirales: Schitoviridae*) <https://ictv.global/ictv/proposals/2020.133B.R.Rhodovirinae.zip>. jow12@dszm.de
199. Wittmann J, Adriaenssens EM, Kropinski AM (2020) Create one new genus (*Riverridervirus*) including one new species (*Caudovirales: Schitoviridae*) <https://ictv.global/ictv/proposals/2020.134B.R.Riverridervirus.zip>. Johannes.Wittmann@dszm.de
200. Adriaenssens EM, Tolstoy I, Kropinski AM, Łobocka M (2020) Create one new genus (*Rockefellervirus*) including six species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.135B.R.Rockefellervirus.zip>. lobocka@ibb.waw.pl
201. Kropinski AM, Tolstoy I, Adriaenssens EM, Barylski J (2020) Create one new genus (*Rockvillevirus*) including one new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.136B.R.Rockvillevirus.zip>. Jakub.Barylski@gmail.com
202. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create one new genus (*Ronodorrivirus*) including two new species (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.137B.R.Ronodorrivirus.zip>. Phage.Canada@gmail.com
203. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create four new species in the genus *Rosemountvirus* (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.138B.R.Rosemountvirus.zip>. Phage.Canada@gmail.com
204. Adriaenssens EM, Tolstoy I, Kropinski AM, Moraru C, Wittmann J (2020) Create one new subfamily (*Rothmandenesvirinae*) including four genera (*Caudovirales: Schitoviridae*) <https://ictv.global/ictv/proposals/2020.139B.R.Rothmandenesvirinae.zip>. jow12@dszm.de
205. Adriaenssens EM, Tolstoy I, Moraru C, Barylski J, Tong Y, Kropinski AM, Łobocka M (2020) Create one new family (*Rountreeviridae*) including two subfamilies and six genera of predominantly *Staphylococcus* and *Enterococcus* phages (*Caudovirales*) <https://ictv.global/ictv/proposals/2020.140B.R.Rountreeviridae.zip>. Phage.Canada@gmail.com
206. Krupovic M, Baquero DP, Prangishvili D (2020) Create six new genera and 14 new species (*Ligamenvirales: Rudiviridae*) <https://ictv.global/ictv/proposals/2020.141B.R.Rudiviridae.zip>. mart.krupovic@pasteur.fr
207. Kropinski AM, Tolstoy I, Turner D, Adriaenssens EM (2020) Create one new genus (*Saintgironvirus*) including one new species (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.142B.R.Saintgironvirus.zip>. Phage.Canada@gmail.com
208. Adriaenssens EM, Tolstoy I, Moraru C, Kropinski AM, Barylski J (2020) Create two new genera in the family *Podoviridae* and create one new family (*Salasmaviridae*) including one moved subfamily (*Picovirinae*), two new subfamilies (*Northropvirinae* and *Tatarstanvirinae*), and nine new genera (*Caudovirales*) <https://ictv.global/ictv/proposals/2020.143B.R.Salasmaviridae.zip>. Jakub.Barylski@gmail.com
209. Adriaenssens EM, Tolstoy I, Moraru C, Turner D, Lueder M, Moineau S, Kropinski AM (2020) Create one new genus (*Sandinevirus*) including new one species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.144B.R.Sandinevirus.zip>. Phage.Canada@gmail.com
210. Adriaenssens EM, Tolstoy I, Kropinski AM (2020) Create one new genus (*Sarumanvirus*) including two new species (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.145B.R.Sarumanvirus.zip>. Phage.Canada@gmail.com
211. Adriaenssens EM, Tolstoy I, Kropinski AM, Moraru C, Wittmann J (2020) Create one new family (*Schitoviridae*) including eight existing subfamilies and 40 existing genera (*Caudovirales: Schitoviridae*) <https://ictv.global/ictv/proposals/2020.146B.R.Schitoviridae.zip>. jow12@dszm.de
212. Kropinski AM, Adriaenssens EM (2020) Create one new genus (*Sendosyavirus*) including two species (*Caudovirales: Podoviridae*) <https://ictv.global/ictv/proposals/2020.147B.R.Sendosyavirus.zip>. Phage.Canada@gmail.com
213. Lehman SM, Petit MA, Lossouarn J, Tong Y, Tolstoy I, Adriaenssens E (2020) Create ten new species in the subfamily *Sepvirinae* (*Caudovirales: Podoviridae*) <https://ictv.global/ictv/proposals/2020.148B.R.Sepvirinae.zip>. susan.lehman@fda.hhs.gov
214. Kropinski AM, Turner D, Adriaenssens EM (2020) Create one new genus (*Shandongvirus*) including one new species (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.149B.R.Shandongvirus.zip>. Phage.Canada@gmail.com
215. Adriaenssens EM, Tolstoy I, Kropinski AM (2020) Create one new genus (*Shirahamavirus*) including one new species (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.150B.R.Shirahamavirus.zip>. Phage.Canada@gmail.com
216. Liu Y, Du S, Chen X, Krupovic M (2020) Create one new family (*Simuloviridae*) including one genus (*Yingchengvirus* - formerly *Betasphaerolipovirus*) moved from the family *Sphaerolipoviridae* (*Halopanivirales*) <https://ictv.global/ictv/proposals/2020.151B.R.Simuloviridae.zip>. mart.krupovic@pasteur.fr
217. Kropinski AM, Tolstoy I, Adriaenssens EM, Barylski J, Piligrimova EG, Kazantseva OA, Nikulin NA, Shadrin AM (2020) Create one new subfamily (*Skryabinvirinae*) including two new genera, each with one new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.152B.R.Skryabinvirinae.zip>. Jakub.Barylski@gmail.com
218. Adriaenssens EM, Tolstoy I, Moraru C, Turner D, Lueder M, Moineau S, Kropinski AM (2020) Create 80 new species in the genus *Skunavirus* (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.153B.R.Skunavirus.zip>. Phage.Canada@gmail.com
219. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create one new genus (*Sleepyheadvirus*) including one new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.154B.R.Sleepyheadvirus.zip>. Phage.Canada@gmail.com
220. Kropinski AM, Tolstoy I, Turner D, Adriaenssens EM (2020) Create one new genus (*Sozzivirus*) including three new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.155B.R.Sozzivirus.zip>. Phage.Canada@gmail.com
221. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create one new genus (*Sparkyvirus*) including one new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.156B.R.Sparkyvirus.zip>. Phage.Canada@gmail.com
222. Kropinski AM, Tolstoy I, Adriaenssens EM, Barylski J (2020) Create one new genus (*Spizizenvirus*) including one new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.157B.R.Spizizenvirus.zip>. Jakub.Barylski@gmail.com
223. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create one new genus (*Squirtyvirus*) including one new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.158B.R.Squirtyvirus.zip>. Phage.Canada@gmail.com
224. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create four new species in the genus *Samwavirus* (*Caudovirales: Siphoviridae*) https://ictv.global/ictv/proposals/2020.159B.R.Samwavirus_new_species.zip. Phage.Canada@gmail.com
225. Kropinski AM, Adriaenssens EM, Barylski J (2020) Create one new genus (*Takahashivirus*) including one existing species (*Bacillus virus PBS1*) (*Caudovirales: Myoviridae*) <https://ictv.global/ictv/proposals/2020.160B.R.Takahashivirus.zip>. Jakub.Barylski@gmail.com
226. Adriaenssens EM, Tolstoy I, Kropinski AM Barylski J (2020) Create one new genus (*Tandoganvirus*) including one new species (*Caudovirales: Siphoviridae*) <https://ictv.global/ictv/proposals/2020.161B.R.Tandoganvirus.zip>

- sals/2020.161B.R.Tandoganvirus.zip. Jakub.Barylski@gmail.com
227. Adriaenssens EM, Tolstoy I, Moraru C, Kropinski AM (2020) Create 53 new species, rename one species and move one species in the genus *Tequatrovirus* (Caudovirales: Myoviridae) <https://ictv.global/ictv/proposals/2020.162B.R.Tequatrovirus.zip>. Phage.Canada@gmail.com
 228. Adriaenssens EM, Tolstoy I, Moraru C, Turner D, Lueder M, Neve H, Mahony J, Moineau S, Kropinski AM (2020) Create one new genus (*Teubervirus*) including five new species (Caudovirales: Siphoviridae) <https://ictv.global/ictv/proposals/2020.163B.R.Teubervirus.zip>. Phage.Canada@gmail.com
 229. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create one new genus (*Thetabobvirus*) including three new species (Caudovirales: Siphoviridae) <https://ictv.global/ictv/proposals/2020.164B.R.Thetabobvirus.zip>. Phage.Canada@gmail.com
 230. Adriaenssens EM, Tolstoy I, Moraru C, Kropinski AM (2020) Create one new subfamily (*Trabyvirinae*) including two new genera (Caudovirales: Siphoviridae) <https://ictv.global/ictv/proposals/2020.165B.R.Trabyvirinae.zip>. Phage.Canada@gmail.com
 231. Adriaenssens EM, Tolstoy I, Kropinski AM, Łobocka M (2020) Create 17 new species in the genus *Triavirus* (Caudovirales: Siphoviridae) <https://ictv.global/ictv/proposals/2020.166B.R.Triavirus.zip>. lobocka@ibb.waw.pl
 232. Adriaenssens EM, Tolstoy I, Moraru C, Kropinski AM (2020) Create one new genus (*Triplejayvirus*) including one new species (Caudovirales: Siphoviridae) <https://ictv.global/ictv/proposals/2020.167B.R.Triplejayvirus.zip>. Phage.Canada@gmail.com
 233. Krupovic M, Baquero DP, Prangishvili D (2020) Create one new genus (*Betatristromavirus*) including one existing species (*Thermoproteus tenax virus 1*) and create one new species in the genus *Alphatristromavirus* (Tristromaviridae) <https://ictv.global/ictv/proposals/2020.168B.R.Tristromaviridae.zip>. mart.krupovic@pasteur.fr
 234. Adriaenssens EM, Tolstoy I, Moraru C, Kropinski AM (2020) Create four new species and abolish one species in the genus *Tunavirus* (Caudovirales: Drexlerviridae) <https://ictv.global/ictv/proposals/2020.169B.R.Tunavirus.zip>. Phage.Canada@gmail.com
 235. Adriaenssens EM, Tolstoy I, Kropinski AM, Oliveira H, Turner D, Moraru C (2020) Create one new subfamily (*Twarogvirinae*) including five new genera (Caudovirales: Podoviridae) <https://ictv.global/ictv/proposals/2020.170B.R.Twarogvirinae.zip>. Phage.Canada@gmail.com
 236. Adriaenssens EM, Tolstoy I, Turner D, Lueder M, Nakai T, Kropinski AM (2020) Create one new genus (*Uwajimavirus*) including one new species (Caudovirales: Siphoviridae) <https://ictv.global/ictv/proposals/2020.171B.R.Uwajimavirus.zip>. Phage.Canada@gmail.com
 237. Adriaenssens EM, Tolstoy I, Turner D, Lueder M, Moineau S, Mahony J, Kropinski AM (2020) Create one new genus (*Vedamuthuvirus*) including five new species (Caudovirales: Siphoviridae) <https://ictv.global/ictv/proposals/2020.172B.R.Vedamuthuvirus.zip>. Phage.Canada@gmail.com
 238. Adriaenssens EM, Tolstoy I, Moraru C, Kropinski AM (2020) Create one new genus (*Veterinaerplatzvirus*) including one new species (Caudovirales: Drexlerviridae) <https://ictv.global/ictv/proposals/2020.173B.R.Veterinaerplatzvirus.zip>. Phage.Canada@gmail.com
 239. Adriaenssens EM, Tolstoy I, Moraru C, Kropinski AM (2020) Create one new genus (*Vibakivirus*) including one new species (Caudovirales: Myoviridae) <https://ictv.global/ictv/proposals/2020.174B.R.Vibakivirus.zip>. Phage.Canada@gmail.com
 240. Wittmann J, Adriaenssens EM, Kropinski AM (2020) Create one new genus (*Waedenswilvirus*) including one new species (Caudovirales: Schitoviridae) <https://ictv.global/ictv/proposals/2020.175B.R.Waedenswilvirus.zip>. Johannes.Wittmann@dsmz.de
 241. Adriaenssens EM, Tolstoy I, Kropinski AM, Turner D, Łobocka M (2020) Create one new genus (*Warsawvirus*) including one new species (Caudovirales: Autographiviridae) <https://ictv.global/ictv/proposals/2020.176B.R.Warsawvirus.zip>. lobocka@ibb.waw.pl
 242. Adriaenssens EM, Tolstoy I, Moraru C, Kropinski AM (2020) Create eight new species and abolish one species in the genus *Warwickvirus* (Caudovirales: Drexlerviridae) <https://ictv.global/ictv/proposals/2020.177B.R.Warwickvirus.zip>. Phage.Canada@gmail.com
 243. Kropinski AM, Tolstoy I, Adriaenssens EM, Barylski J (2020) Create one new genus (*Waukeshavirus*) including two new species (Caudovirales: Siphoviridae) <https://ictv.global/ictv/proposals/2020.178B.R.Waukeshavirus.zip>. Jakub.Barylski@gmail.com
 244. Adriaenssens EM, Tolstoy I, Moraru C, Kropinski AM (2020) Create 16 new species and abolish two species in the genus *Webervirus* (Caudovirales: Drexlerviridae) <https://ictv.global/ictv/proposals/2020.179B.R.Webervirus.zip>. Phage.Canada@gmail.com
 245. Adriaenssens EM, Tolstoy I, Turner D, Kropinski AM (2020) Create one new genus (*Whackvirus*) including one new species (Caudovirales: Siphoviridae) <https://ictv.global/ictv/proposals/2020.180B.R.Whackvirus.zip>. Phage.Canada@gmail.com
 246. Adriaenssens EM, Tolstoy I, Mahony J, Neve H, Moineau S, Kropinski AM (2020) Create one new genus (*Whiteheadvirus*) including one new species (Caudovirales: Siphoviridae) <https://ictv.global/ictv/proposals/2020.181B.R.Whiteheadvirus.zip>. Phage.Canada@gmail.com
 247. Kropinski AM, Tolstoy I, Adriaenssens EM, Turner D (2020) Create one new genus (*Wumpquatrovirus*) including one new species (Caudovirales: Podoviridae) <https://ictv.global/ictv/proposals/2020.182B.R.Wumpquatrovirus.zip>. Dann2.Turner@uwe.ac.uk
 248. Kropinski AM, Tolstoy I, Adriaenssens EM, Turner D (2020) Create one new genus (*Wumptrevirus*) including two species (Caudovirales: Podoviridae) <https://ictv.global/ictv/proposals/2020.183B.R.Wumptrevirus.zip>. Dann2.Turner@uwe.ac.uk
 249. Adriaenssens EM, Tolstoy I, Kropinski AM, Moraru C (2020) Create one new genus (*Yonseivirus*) including three new species (Caudovirales: Siphoviridae) <https://ictv.global/ictv/proposals/2020.184B.R.Yonseivirus.zip>. Phage.Canada@gmail.com
 250. Wittmann J, Adriaenssens EM, Kropinski AM (2020) Create one new genus (*Zicotriavirus*) including two new species (Caudovirales: Schitoviridae) <https://ictv.global/ictv/proposals/2020.185B.R.Zicotriavirus.zip>. Johannes.Wittmann@dsmz.de
 251. Krupovic M, Kuhn JH, Wang F, Baquero DP, Egelman EH, Koonin EV, Prangishvili D (2020) Create one new realm (*Adnaviria*) for classification of filamentous archaeal viruses with linear dsDNA genomes <https://ictv.global/ictv/proposals/2020.186B.R.Adnaviria.zip>. mart.krupovic@pasteur.fr
 252. Bischoff V, Adriaenssens EM, Kropinski AM, Duhaime M, Moraru C (2020) Create one new family (*Zobellviridae*) including one new subfamily (*Cobavirinae*), seven new genera and 12 new species (Caudovirales) <https://ictv.global/ictv/proposals/2020.187B.R.Zobellviridae.zip>. liliana.cristina.moraru@uni-oldenburg.de
 253. Adriaenssens EM, Tolstoy I, Kropinski AM, Moraru C, Wittmann J (2020) Create one new genus (*Zurivirus*) including one new species (Caudovirales: Schitoviridae) <https://ictv.global/ictv/proposals/2020.188B.R.Zurivirus.zip>. jow12@dsmz.de
 254. Adriaenssens EM (2021) Delete the Excel modules of proposals 2020.121B and 2020.126B and replace them with the

- 2020.146B Excel module (*Caudovirales: Schitoviridae*) https://ictv.global/ictv/proposals/2020.189B.R.Expedited_correction.docx. Evelien.adriaenssens@quadram.ac.uk
255. Adriaenssens EM (2021) Correct typographical errors in proposal 2020.005B Excel module (*Caudovirales: Ackermannviridae*) https://ictv.global/ictv/proposals/2020.190B.R.Corrections_Ackermannviridae.zip. Evelien.adriaenssens@quadram.ac.uk
256. Ayllón MA, Turina M, Xie J, Jiang D, Marzano S-Y, Nerva L, Donaire L (2020) Create two new genera (*Rhizoulivirus* and *Penoulivirus*) and 25 new species (*Ourlivirales: Botourmiaviridae*) <https://ictv.global/ictv/proposals/2020.001F.R.Botourmiaviridae.zip>. mariaangeles.ayllon@upm.es
257. Vainio EJ, Chiba S, Nibert ML, Roossinck MJ, Sabanadzovic S, Suzuki N, Xie J (2020) Create one new family *Curvulaviridae*, one new genus *Orthocurvulavirus* and eight new species <https://ictv.global/ictv/proposals/2020.002F.R.Curvulaviridae.zip>. eeva.vainio@luke.fi
258. Kotta-Loizou I, Castón JR, Coutts RHA, Hillman BI, Jiang D, Kim D-H, Moriyama H, Suzuki N (2020) Create six new species in the genus *Alphachrysovirus* (*Ghabrivirales: Chrysoviridae*) <https://ictv.global/ictv/proposals/2020.003F.R.Chrysoviridae.zip>. i.kotta-loizou13@imperial.ac.uk
259. Jiang D, Ayllón MA, Marzano S-Y (2020) Create seven new genera (*Mononegavirales: Mymonaviridae*) <https://ictv.global/ictv/proposals/2020.004F.R.Mymona.zip>. daohongjiang@mail.hzau.edu.cn
260. Varsani A, Krupovic M (2020) Create one new genus, rename 73 species and create 164 new species (*Geplafuvirales: Genomoviridae*) <https://ictv.global/ictv/proposals/2020.005F.R.Genomoviridae.zip>. Arvind.varsani@asu.edu
261. Gronenborn B, Varsani A, Randles JW, Vetter HJ, Thomas JE (2020) Create a new subfamily (*Petromalphasatellitinae*) including four new genera and seven new species (*Alphasatellitidae*) https://ictv.global/ictv/proposals/2020.001P.R.Petromalphasatellitinae_nsf.zip. bgronenborn@gmail.com
262. Varsani A, Martin DP, Lett J-M, Roumagnac P (2020) Create nine new species and three new genera (*Alphasatellitidae*) https://ictv.global/ictv/proposals/2020.002P.R.Alphasatellitidae_3ng_9nsp.zip. Arvind.Varsani@asu.edu
263. Teycheney P-Y, Umber M, Geering ADW (2020) Create eight new species in the genus *Badnavirus*, one new species in the genus *Cavemovirus*, and one new genus (*Ortervirales: Caulimoviridae*) https://ictv.global/ictv/proposals/2020.003P.R.Caulimoviridae_1ng_9nsp.zip. teycheney@cirad.fr
264. Fuchs M, Bar-Joseph M, Candresse T, Maree HJ, Melzer MJ, Menzel W, Minafra A, Sabanadzovic S (2020) Create three new species in the genera *Closterovirus*, *Ampleovirus* and *Velarivirus* (*Martellivirales: Closteroviridae*) https://ictv.global/ictv/proposals/2020.004P.R.Closteroviridae_3nsp.zip. mf13@cornell.edu
265. Lett J-M, Martin DP, Roumagnac P, Varsani A (2020) Create four new species in the genus *Mastrevirus* (*Geminiviridae*) https://ictv.global/ictv/proposals/2020.005P.R.Mastrevirus_4nsp.zip. jean-michel.lett@cirad.fr
266. Fiallo-Olivé E, Navas-Castillo J (2020) Create 22 species and abolish one species in the genus *Begomovirus* (*Geminiviridae*) https://ictv.global/ictv/proposals/2020.006P.R.Begomovirus_22nsp.zip. efiallo@eelm.csic.es
267. Fiallo-Olivé E, Navas-Castillo J (2020) Create one species in the genus *Deltasatellite* (*Toleusatellitidae*) https://ictv.global/ictv/proposals/2020.007P.R.Deltasatellite_1nsp.zip. efiallo@eelm.csic.es
268. Roumagnac P, Varsani A, Martin DP, Lett J-M (2020) Create five new genera and 11 new species (*Geplafuvirales: Geminiviridae*) https://ictv.global/ictv/proposals/2020.008P.R.Geminiviridae_5ng_11nsp.zip. philippe.roumagnac@cirad.fr
269. Fiallo-Olivé E, Navas-Castillo J (2020) Create 61 species and abolish three species in the genus *Betasatellite* (*Toleusatellitidae*) https://ictv.global/ictv/proposals/2020.009P.R.Betasatellite_61nsp.zip. efiallo@eelm.csic.es
270. Melzer M, Freitas-Astua J, Gang W, Rodrigues JCV, Roy A (2020) Create one new species in the genus *Blunervirus* (*Martellivirales: Kitaviridae*) https://ictv.global/ictv/proposals/2020.010P.R.Kitaviridae_1nsp.zip. melzer@hawaii.edu
271. Ramos-González PL, Chabi-Jesus C, Freitas-Astúa J (2020) Create one new species in the genus *Cilevirus* (*Martellivirales: Kitaviridae*) https://ictv.global/ictv/proposals/2020.011P.R.Kitaviridae_1nsp.zip. juliana.astua@embrapa.br
272. Wang Y, Zhai L, Wen S, Yang Z, Wang G, Hong N (2020) Create one new species (*Actinidia virus 2*) in the genus *Emaravirus* (*Bunyavirales: Fimoviridae*) https://ictv.global/ictv/proposals/2020.012P.R.Emaravirus_AcV-2.zip. whni@mail.hzau.edu.cn
273. von Barga S, Al Kubrusli R, Gaskin T, Füll S, Hüttner F, Blystad D, Karlin DG, Jalkanen R, Büttner C (2020) Create one new species (*Aspen mosaic-associated virus*) in the genus *Emaravirus* (*Bunyavirales: Fimoviridae*) https://ictv.global/ictv/proposals/2020.013P.R.Emaravirus_AsMaV.zip. susanne.von.barga@agrar.hu-berlin.de
274. Wang YQ, Yu S, Cao MJ, Cheng Q, Wu JX, Hu T (2020) Create one new species (*Lilac chlorotic ringspot-associated virus*) in the genus *Emaravirus* (*Bunyavirales: Fimoviridae*) https://ictv.global/ictv/proposals/2020.014P.R.Emaravirus_LiCRaV.zip. taohu1989@zju.edu.cn
275. Ilyas M, Avelar S, Schuch K, Brown JK (2020) Create one new species (*Palo verde broom virus*) in the genus *Emaravirus* (*Bunyavirales: Fimoviridae*) https://ictv.global/ictv/proposals/2020.015P.R.Emaravirus_PVBV.zip. jbrown@ag.arizona.edu
276. Liu H, Wang G, Yang Z, Wang Y, Zhang Z, Li L, Waqas M, Zhang J, Xu L, Qi L, Hong J, Hong N (2020) Create one new species (*Pear chlorotic leaf spot-associated virus*) in the genus *Emaravirus* (*Bunyavirales: Fimoviridae*) https://ictv.global/ictv/proposals/2020.016P.R.Emaravirus_PCLSaV.zip. whni@mail.hzau.edu.cn
277. Olmedo-Velarde A, Park AC, Sugano J, Uchida JY, Kawate M, Borth WB, Hu JS, Melzer MJ (2020) Create one new species (*Ti ringspot-associated virus*) in the genus *Emaravirus* (*Bunyavirales: Fimoviridae*) https://ictv.global/ictv/proposals/2020.017P.R.Emaravirus_TiRSaV.zip. melzer@hawaii.edu
278. Peracchio C, Forgia M, Chiapello M, Vallino M, Turina M, Ciuffo M (2020) Create one new species (*Camellia japonica-associated virus 1*) in the genus *Emaravirus* (*Bunyavirales: Fimoviridae*) https://ictv.global/ictv/proposals/2020.018P.R.Emaravirus_CjaV-1.zip. carlota.peracchio@ipsp.cnr.it
279. Peracchio C, Forgia M, Chiapello M, Vallino M, Turina M, Ciuffo M (2020) Create one new species (*Camellia japonica-associated virus 2*) in the genus *Emaravirus* (*Bunyavirales: Fimoviridae*) https://ictv.global/ictv/proposals/2020.019P.R.Emaravirus_CjaV-2.zip. carlota.peracchio@ipsp.cnr.it
280. Yang C, Zhang S, Han T, Fu J, Di Serio F, Cao M (2020) Create one new species (*Jujube yellow mottle-associated virus*) in the genus *Emaravirus* (*Bunyavirales: Fimoviridae*) https://ictv.global/ictv/proposals/2020.020P.R.Emaravirus_JYMaV.zip. caomengji@cric.cn
281. Kubota K, Usugi T, Tomitaka Y, Shimamoto Y, Shigeharu T, Kadono F, Yanagisawa H, Chiaki Y, Tsuda S (2020) Create one new species (*Perilla mosaic virus*) in the genus *Emaravirus* (*Bunyavirales: Fimoviridae*) https://ictv.global/ictv/proposals/2020.021P.R.Emaravirus_PerMV.zip. kubotak@affrc.go.jp
282. Gronenborn B, Randles JW, Vetter HJ, Thomas JE (2020) Create one new family (*Metaxyviridae*) with one new genus (*Cofodevirus*) and one species (*Coconut foliar decay virus*) moved from the family *Nanoviridae* (*Mulpavirales*) <https://ictv.global/ictv/>

- proposals/2020.022P.R.Metaxyviridae_nf.zip. bgronenborn@gmail.com
283. Thomas JE, Gronenborn B, Vetten H-J, Heydarnejad J, Varsani A, Roumagnac P (2020) Create four new species in the genus *Nanovirus* (Mulpavirales: Nanoviridae) https://ictp.global/ictv/proposals/2020.023P.R.Nanoviridae_4nsp.zip. j.thomas2@uq.edu.au
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