Summary of taxonomy changes ratified by the International Committee on Taxonomy of Viruses (ICTV) from the Fungal and Protist Viruses Subcommittee, 2024

Main Text

Contents

2024.001F.N.v1.Botourmiaviridae_spren

Title: Change the name of 32 species of six genera of the family *Botourmiaviridae*

Authors: Ayllón MA (mariaangeles.ayllon@upm.es), Turina M, Donaire L, Nerva L, Marzano SYL, Xie J, Jiang D

Summary:
Taxonomic rank(s) affected: Species.

Description of current taxonomy: Species correctly classified inside the genus but with outdated names.

Proposed taxonomic change(s): We propose to change the name of 32 species in the genera *Botoulivirus, Magoulivirus, Ourmiavirus, Penoulivirus, Rhizoulivirus* and *Scleroulivirus* of the family *Botourmiaviridae.*

Justification: The name of 32 species of *Botoulivirus, Magoulivirus, Ourmiavirus, Penoulivirus, Rhizoulivirus* and *Scleroulivirus* of the family *Botourmiaviridae* were not compliant to the binomial format, so in this proposal we made changes to meet the ICTV criteria in naming species.

Submitted: - ; *Revised:* -

TABLE 1 - *Botourmiaviridae*, 32 rename taxa*

Operation	Rank	New taxon name	Previous taxon name
Rename taxon	species	*Botoulivirus botrytidis*	*Botrytis botoulivirus*
Rename taxon	species	*Botoulivirus epicocci*	*Epicoccum botoulivirus*
Rename taxon	species	*Botoulivirus alphasclerotiniae*	*Sclerotinia botoulivirus 2*
Rename taxon	species	*Botoulivirus betasclerotiniae*	*Sclerotinia botoulivirus 3*
Rename taxon	species	*Magoulivirus acremonii*	*Acremonium magoulivirus*
Rename taxon	species	*Magoulivirus plasmoparae*	*Cladosporium magoulivirus 1*

Rename taxon	species	*Magoulivirus cladosporii*	*Cladosporium magoulivirus 2*
Rename taxon	species	*Magoulivirus colletotrichi*	*Colletotrichum magoulivirus*
Rename taxon	species	*Magoulivirus oryzae*	*Magnaporthe magoulivirus 1*
Rename taxon	species	*Magoulivirus penicillii*	*Penicillium magoulivirus*
Rename taxon	species	*Magoulivirus phaeoacremonii*	*Phaeoacremonium magoulivirus*
Rename taxon	species	*Magoulivirus rhizoctoniae*	*Rhizoctonia magoulivirus 1*
Rename taxon	species	*Ourmiavirus manihoti*	*Cassava virus C*
Rename taxon	species	*Ourmiavirus pruni*	*Epirus cherry virus*
Rename taxon	species	*Ourmiavirus cucurbitae*	*Ourmia melon virus*
Rename taxon	species	*Penoulivirus aspergilli*	*Aspergillus penoulivirus*
Rename taxon	species	*Penoulivirus cladosporii*	*Cladosporium penoulivirus*
Rename taxon	species	*Penoulivirus epicocci*	*Epicoccum penoulivirus*
Rename taxon	species	*Penoulivirus oryzae*	*Magnaporthe penoulivirus*
Rename taxon	species	*Penoulivirus neofusicocci*	*Neofusicoccum penoulivirus*
Rename taxon	species	*Penoulivirus penicillii*	*Penicillium penoulivirus*
Rename taxon	species	*Penoulivirus phaeoacremonii*	*Phaeoacremonium penoulivirus*
Rename taxon	species	*Penoulivirus phomae*	*Phoma penoulivirus*
Rename taxon	species	*Penoulivirus phomopsis*	*Phomosis penoulivirus*
Rename taxon	species	*Penoulivirus pyriculariae*	*Pyricularia penoulivirus*
Rename taxon	species	*Penoulivirus sclerotiniae*	*Sclerotinia penoulivirus*
Rename taxon	species	*Rhizoulivirus rhizoctoniae*	*Rhizoctonia rhizoulivirus*
Rename taxon	species	*Scleroulivirus cladosporii*	*Cladosporium scleroulivirus*
Rename taxon	species	*Scleroulivirus pyriculariae*	*Pyricularia scleroulivirus 3*
Rename taxon	species	*Scleroulivirus sclerotiniae*	*Sclerotinia scleroulivirus 1*
Rename taxon	species	*Scleroulivirus alphaglycinae*	*Soybean scleroulivirus 1*
Rename taxon	species	*Scleroulivirus betaglycinae*	*Soybean scleroulivirus 2*

*Source / full text:
https://ictv.global/system/files/proposals/pending/Fungal%20and%20protist%20virus%20(F)%20proposals/2024.001F.A.v1.Botourmiaviridae_spren.docx
https://ictv.global/system/files/proposals/pending/Fungal%20and%20protist%20virus%20(F)%20proposals/2024.001F.A.v1.Botourmiaviridae_spren.xlsx

2024.002F.Uc.v3.Marnaviridae_spren

Title: Rename 20 species within family *Marnaviridae*

Authors: Lang AS (aslang@mun.ca)

Summary:
Taxonomic rank(s) affected: Species

Description of current taxonomy: Family *Marnaviridae* is currently composed of seven genera containing a total of 20 species with an inadequate nomenclature.

Proposed taxonomic change(s): Changes in names of all 20 currently classified species are proposed to adhere to newly adopted binomial nomenclatural standards/formats.

Justification:

Proposed changes are required to comply with binomial species nomenclature mandated by the ICTV.

Submitted: 18/04/2024; *Revised:* 17/10/2024

TABLE 2 - *Marnaviridae*, 20 rename taxa*

Operation	Rank	New taxon name	Previous taxon name
Rename taxon	species	*Bacillarnavirus yujii*	*Chaetoceros socialis forma radians RNA virus 1*
Rename taxon	species	*Bacillarnavirus setoensis*	*Chaetoceros tenuissimus RNA virus 01*
Rename taxon	species	*Bacillarnavirus nagasakii*	*Rhizosolenia setigera RNA virus 01*
Rename taxon	species	*Kusarnavirus tomaruii*	*Astarnavirus*
Rename taxon	species	*Labyrnavirus takaoii*	*Aurantiochytrium single-stranded RNA virus 01*
Rename taxon	species	*Locarnavirus jerichoensis*	*Jericarnavirus B*
Rename taxon	species	*Locarnavirus greningerii*	*Sanfarnavirus 1*
Rename taxon	species	*Locarnavirus derisii*	*Sanfarnavirus 2*
Rename taxon	species	*Locarnavirus rohweri*	*Sanfarnavirus 3*
Rename taxon	species	*Marnavirus taichanarum*	*Heterosigma akashiwo RNA virus*
Rename taxon	species	*Salisharnavirus vlokiae*	*Britarnavirus 1*
Rename taxon	species	*Salisharnavirus britensis*	*Britarnavirus 4*
Rename taxon	species	*Salisharnavirus mirandaeae*	*Palmarnavirus 128*
Rename taxon	species	*Salisharnavirus stewardii*	*Palmarnavirus 473*
Rename taxon	species	*Sogarnavirus gustavseniae*	*Britarnavirus 2*
Rename taxon	species	*Sogarnavirus kitsilanoensis*	*Britarnavirus 3*
Rename taxon	species	*Sogarnavirus tomaruii*	*Chaetarnavirus 2*
Rename taxon	species	*Sogarnavirus kimuraei*	*Chaetenuissarnavirus II*
Rename taxon	species	*Sogarnavirus culleyi*	*Jericarnavirus A*
Rename taxon	species	*Sogarnavirus palmerensis*	*Palmarnavirus 156*

*Source / full text:
https://ictv.global/system/files/proposals/pending/Fungal%20and%20protist%20virus%20(F)%20proposals/2024.002F.Uc.v3.Marnaviridae_spren.docx
https://ictv.global/system/files/proposals/pending/Fungal%20and%20protist%20virus%20(F)%20proposals/2024.002F.Uc.v3.Marnaviridae_spren.xlsx

2024.003F.A.v1.Splipalmiviridae_newfam

Title: Create one new family, including three new genera and 16 new species, in the order *Wolframvirales* (class *Amabiliviricetes,* phylum *Lenarviricota,* Kingdom *Orthornavirae,* Realm *Riboviria)*

Authors: Sato Y, Daghino S, Chiba Y, Urayama S, Xie J, Ayllón MA, Suzuki N, Turina M (massimo.turina@ipsp.cnr.it)

Summary:
Taxonomic rank(s) affected: Family, genus, species

Description of current taxonomy: Currently unclassified

Proposed taxonomic change(s): We propose to create a new family "Splipalmiviridae", including three new genera which collectively accommodates 16 new species, in the order *Wolframvirales.*

Justification: The order *Wolframvirales* currently consists of one family *Narnaviridae.* Members of

the *family Narnaviridae* have non-segmented (+)RNA genomes each encoding an RNA-dependent RNA polymerase (RdRP) in an open reading frame. Recently found unclassified "splipalmiviruses" are phylogenetically close to narnavirids, but carry divided RdRPs encoded by two independent genomic segments. Considering the phylogenetic proximity but the different RdRP-encoding strategy compared to narnavirids, we propose to create the new family "Splipalmiviridae" for "splipalmiviruses", in the order *Wolframvirales.*

Submitted: 20/06/2024; *Revised:* -

TABLE 3 - *Splipalmiviridae*, 20 new taxa*

Operation	Rank	New taxon name	Exemplar	Accession
New taxon	family	*Splipalmiviridae*		
New taxon	genus	*Jakapalmivirus*		
New taxon	species	*Jakapalmivirus sclerotiniae*	Botrytis cinerea binarnavirus 5	RNA1: MN619799; RNA2: MT711187
New taxon	species	*Jakapalmivirus bremiae*	Bremia lactucae associated splipalmivirus 1	RNA1: MN565689; RNA2: MZ926717; RNA3: OR060921
New taxon	species	*Jakapalmivirus cinereae*	Botrytis cinerea binarnavirus 1	RNA1: MN619795; RNA2: MT711186
New taxon	species	*Jakapalmivirus botritidis*	Botrytis cinerea binarnavirus 2	RNA1: MN619796; RNA2: MT119676
New taxon	species	*Jakapalmivirus ibericum*	Downy mildew lesion associated splipalmivirus 3	RNA1: MN539820; RNA2: OQ980200; RNA3: OQ980201
New taxon	species	*Jakapalmivirus italiense*	Downy mildew lesion associated splipalmivirus 4	RNA1: MN539821; RNA2: OQ980202; RNA3: OQ980203
New taxon	genus	*Divipalmivirus*		
New taxon	species	*Divipalmivirus italiense*	Downy mildew lesion associated splipalmivirus 7	RNA1: MN539824; RNA2: OQ990757
New taxon	species	*Divipalmivirus aspergilli*	Aspergillus fumigatus narnavirus 2	RNA1: LC553684; RNA2: LC553685; RNA3: LC553686
New taxon	species	*Divipalmivirus cryphonectriae*	Cryphonectria naterciae splipalmivirus 1	RNA1: LC634419; RNA2: LC634420; RNA3: LC634421; RNA4: LC649880
New taxon	species	*Divipalmivirus diplodiae*	Diplodia seriata splipalmivirus 1	RNA1: OM837803; RNA2: OM837804; RNA3: OM837805
New taxon	species	*Divipalmivirus suilli*	Suillus luteus narnavirus 4	RNA1: OQ862540; RNA2: OQ862539

New taxon	species	*Divipalmivirus japonicum*	Aspergillus flavus narnavirus 1	RNA1: LC763252; RNA2: LC763253; RNA3: LC763254; RNA4: LC763255
New taxon	genus	*Delepalmivirus*		
New taxon	species	*Delepalmivirus ibericum*	Downy mildew lesion associated splipalmivirus 20	RNA1: MN539837; RNA2: OQ990758; RNA3: OQ990759
New taxon	species	*Delepalmivirus oidiodendri*	Oidiodendron maius splipalmivirus 1	RNA1: MN736964; RNA2: MN736965; RNA3: MW988098
New taxon	species	*Delepalmivirus magnaporthae*	Magnaporthe oryzae narnavirus 1	RNA1: LC553711; RNA2: LC553710
New taxon	species	*Delepalmivirus sclerotiniae*	Sclerotinia sclerotiorum narnavirus 5	RNA1: OK573450; RNA2: OK573451

*Source / full text:
https://ictv.global/system/files/proposals/pending/Fungal%20and%20protist%20virus%20(F)%20proposals/2024.003F.A.v1.Splipalmiviridae_newfam.docx
https://ictv.global/system/files/proposals/pending/Fungal%20and%20protist%20virus%20(F)%20proposals/2024.003F.A.v1.Splipalmiviridae_newfam.xlsx

2024.004F.Uc.v2.Oomyviridae_newfam

Title: Create a new order, Lineavirales, and a new family, the Oomyviridae, with 3 genera and 38 species in the class *Arfiviricetes* of the phylum *Cressdnaviricota*

Authors: Canuti M (marta.canuti@gmail.com), Pénzes J (Judycash08@gmail.com)

Summary:
Taxonomic rank(s) affected: Phylum *Cressdnaviricota* and class *Arfiviricetes.*

Description of current taxonomy: Currently unclassified.

Proposed taxonomic change(s): Create a new order, Lineavirales, and a new family, the Oomyviridae, with 3 genera (Nicoomyvirus, Avoomyvirus, and Swoomyvirus) and 38 species, in the class *Arfiviricetes* of the phylum *Cressdnaviricota.*

Justification: In 2013 a novel virus that was considered to be a "hybrid" between a parvovirus and a circovirus ("parvovirus-like hybrid virus) was discovered. With the increased use of metagenomics, several recent publications described similar viruses, proposing their classification as parvoviruses and erroneously labeling them in GenBank as parvoviruses. This misclassification issue is continuously increasing and is in dire need to be rectified. Here, we show that these viruses comprise a distinct linear ssDNA virus family (Oomyviridae) within the *Cressdnaviricota* and that their unique features and phylogenetic relationships with other members of the *class Arfiviricetes,* are strong reasons to include these viruses in a distinct order, for which we propose the name Lineavirales, owning to the linear genome organization these viruses were found to possess thus far. We also show that, although most of these viruses were identified in samples collected from animals, their likely hosts are organisms of the eukaryotic clade Stramenopiles (SAR supergroup).

Submitted: 09/06/2024; *Revised:* 28/10/2024

TABLE 4 - *Oomyviridae*, 43 new taxa*. Table too large, see supplementary information sheet

supp_info_tab_4*Source / full text:
https://ictv.global/system/files/proposals/pending/Fungal%20and%20protist%20virus%20(F)%20proposals/2024.004F.Uc.v2.Oomyviridae_newfam.docx
https://ictv.global/system/files/proposals/pending/Fungal%20and%20protist%20virus%20(F)%20proposals/2024.004F.Uc.v2.Oomyviridae_newfam.xlsx

2024.005F.A.v2.Pimascovirales_reorg

Title: Creation of a new suborder within the *Pimascovirales* to position and name Pithovirus-related isolates

Authors: Claverie JM (Claverie@igs.cnrs-mrs.fr), Legendre M, Rigou S, Abergel C

Summary:Taxonomic rank(s) affected:
A new suborder, the *Ocovirineae* within the *Pimascovirales,*
3 distinct families: *Pithoviridae, Orpheoviridae,* and *Hydriviridae,*
One family, the *Cedratviridae* demoted as the new *Orthocedratvirinae* subfamily
Two subfamilies: *Orthopithovirinae* and *Orthocedratvirinae* splitting the *Pithoviridae* family

Description of current taxonomy: Previously proposed in proposal #2023.011F by Abrahão and colleagues: two different families: *Pithoviridae* & *Cedraviridae* within *the Pimascovirales* order

Proposed taxonomic change(s): a new suborder, the *Ocovirineae* within the *Pimascovirales,* justified by the need to separate them from the other more distant *families* (*Marseilleviridae, Ascoviridae, Iridoviridae)* in the same order.

The creation of 3 distinct families: *Pithoviridae, Orpheoviridae,* and *Hydriviridae* to acknowledge their large differences in genome sizes and gene contents (and accommodate new isolates)
The split of the *Pithoviridae* into two *subfamilies: Orthopithovirinae* and *Orthocedratvirinae* to acknowledge their closer proximity compared to members of the other families listed above.

Justification: see above

Submitted: 13/03/2024; *Revised:* 09/10/2024

TABLE 5 - *Pimascovirales*, 5 new taxa*

Operation	Rank	New taxon name	Exemplar	Accession
New taxon	suborder	*Ocovirineae*		
New taxon	subfamily	*Orthopithovirinae*		
New taxon	family	*Hydriviridae*		
New taxon	genus	*Alphahydrivirus*		
New taxon	species	*Alphahydrivirus permafrostis*	R_bin116_k1, metagenomics	OW988864

TABLE 6 - *Pimascovirales*, 3 move taxa*

Operation	Rank	Taxon name	Old parent taxon	New parent taxon
Move taxon	family	*Pithoviridae*	*Pimascovirales*	*Ocovirineae*
Move taxon	family	*Orpheoviridae*	*Pimascovirales*	*Ocovirineae*
Move taxon	genus	*Alphapithovirus*	*Pimascovirales*	*Ocovirineae*

TABLE 7 - *Pimascovirales*, 2 rename taxa*

Operation	Rank	New taxon name	Previous taxon name
Rename taxon	species	*Alphacedratvirus aljazairmassiliense*	*Alphacedratvirus aljazairense*

Rename taxon	species	*Alphacedratvirus francolausannense*	*Alphacedratvirus franciense*

TABLE 8 - *Pimascovirales*, 1 demote taxon*

Operation	New taxon name	Old rank	New rank
Demote taxon	*Orthocedratvirinae*	subfamily	subfamily

*Source / full text:

https://ictv.global/system/files/proposals/pending/Fungal%20and%20protist%20virus%20(F)%20proposals/2024.005F.A.v2.Pimascovirales_reorg.docx
https://ictv.global/system/files/proposals/pending/Fungal%20and%20protist%20virus%20(F)%20proposals/2024.005F.A.v2.Pimascovirales_reorg.xlsx

2024.006F.A.v1.Amalgaviridae_newgen

Title: Create a new genus Unirnavirus to accommodate 13 new species within family *Amalgaviridae*

Authors: Kotta-Loizou I (i.kotta-loizou13@imperial.ac.uk), Coutts RHA

Summary:
Taxonomic rank(s) affected: Family *Amalgaviridae*

Description of current taxonomy: Family *Amalgaviridae* accommodates 2 genera, *Amalgavirus* and *Zybavirus*

Proposed taxonomic change(s): Within family *Amalgaviridae,* establishing a new genus Unirnavirus to accommodate 13 new species

Justification: Sequence demarcation and phylogenetic analysis, genome organization and host range

Submitted: 20/06/2024; *Revised:* -

TABLE 9 - *Amalgaviridae*, 14 new taxa*

Operation	Rank	New taxon name	Exemplar	Accession
New taxon	genus	*Unirnavirus*		
New taxon	species	*Unirnavirus aldianthicolae*	Alternaria dianthicola dsRNA virus 1	MT241326
New taxon	species	*Unirnavirus allongipei*	Alternaria longipes non-segmented mycovirus 1	KJ817371
New taxon	species	*Unirnavirus aspergilli*	Aspergillus lentulus non-segmented dsRNA virus 1	LC553704
New taxon	species	*Unirnavirus beauveriae*	Beauveria bassiana non-segmented RNA virus 1	LN610699
New taxon	species	*Unirnavirus cogleosporioidei*	Colletotrichum gloeosporioides RNA virus 1	ON887156
New taxon	species	*Unirnavirus cohigginsiani*	Colletotrichum higginsianum non-segmented dsRNA virus 1	KM923925
New taxon	species	*Unirnavirus combuense*	Combu double-strand RNA mycovirus	MH990637
New taxon	species	*Unirnavirus fusarii*	Fusarium culmorum virus 1	MN187541
New taxon	species	*Unirnavirus pripenicillii*	Penicillium janczewskii Beauveria bassiana-like virus 1	KT601106
New taxon	species	*Unirnavirus prustilaginoideae*	Ustilaginoidea virens unassigned RNA virus HNND 1	KR106133
New taxon	species	*Unirnavirus secupenicillii*	Penicillium citrinum non-segmented RNA virus 1	OP103962

New taxon	species	*Unirnavirus secustilaginoideae*	Ustilaginoidea virens RNA virus M-A	ON791647
New taxon	species	*Unirnavirus trichodermae*	Trichoderma harzianum mycovirus 1	MH155602

*Source / full text:
https://ictv.global/system/files/proposals/pending/Fungal%20and%20protist%20virus%20(F)%20proposals/2024.006F.A.v1.Amalgaviridae_newgen.docx
https://ictv.global/system/files/proposals/pending/Fungal%20and%20protist%20virus%20(F)%20proposals/2024.006F.A.v1.Amalgaviridae_newgen.xlsx

2024.007F.Uc.v2.Mycoalphaviridae_newfam

Title: Create one new family (Mycoalphaviridae) including two new genus (Alphasclernavirus, Betasclernavirus) and seven new species

Authors: Xie J (jiataoxie@mail.hzau.edu.cn), Mu F, Jia J, Jiang D, Sabanadzovic S

Summary:
Taxonomic rank(s) affected: *Hepelivirales*

Description of current taxonomy: The order including four families and twenty-seven species.

Proposed taxonomic change(s): Create one new family (Mycoalphaviridae) including two new genera (Alphasclernavirus, Betasclernavirus) and seven new species.

Justification: Members in the proposed family Mycoalphaviridae have a single-stranded positive-sense RNA genome ranging from 6.0 to 10.1 kb and encoding either one or more open reading frames. Members of the proposed family are only identified in fungi and oomycetes. The RNA-depended RNA polymerase of viruses in the family Mycoalphaviridae has the closest similarity to viruses of the order *Hepelivirales,* though the identity is lower than 20%. These low-level amino acid sequence identities, the different host ranges, and the result of phylogenetic analysis both support the establishment of the new family. The proposed family Mycoalphaviridae includes two proposed genera Alphasclernavirus and Betasclernavirus that accommodate three and seven species, respectively. The identity between genus and between species is lower than 26% and 50%, respectively, in the family.

Submitted: - ; *Revised:* 18/10/2024

TABLE 10 - *Mycoalphaviridae*, 10 new taxa*

Operation	Rank	New taxon name	Exemplar	Accession
New taxon	family	*Mycoalphaviridae*		
New taxon	genus	*Alphasclernavirus*		
New taxon	species	*Alphasclernavirus alphasclerotiniae*	Sclerotinia sclerotiorum mycoalphavirus virus 1	MT706025
New taxon	species	*Alphasclernavirus betasclerotiniae*	Sclerotinia sclerotiorum RNA virus L	EU779934
New taxon	genus	*Betasclernavirus*		
New taxon	species	*Betasclernavirus alphafusarii*	Fusarium graminearum alphavirus-like virus 1	MN400076
New taxon	species	*Betasclernavirus botrytidis*	Botrytis cinerea alpha-like virus 1	MN625250
New taxon	species	*Betasclernavirus betafusarii*	Fusarium sacchari alphavirus-like virus 1	MN295968
New taxon	species	*Betasclernavirus betasclerotii*	Sclerotium rolfsii alphavirus-like virus 1	MH766488

New taxon	species	*Betasclernavirus alphasclerotii*	Sclerotium rolfsii alphavirus-like virus 3	MH766490

*Source / full text:
https://ictv.global/system/files/proposals/pending/Fungal%20and%20protist%20virus%20(F)%20proposals/2024.007F.Uc.v2.Mycoalphaviridae_newfam.docx
https://ictv.global/system/files/proposals/pending/Fungal%20and%20protist%20virus%20(F)%20proposals/2024.007F.Uc.v2.Mycoalphaviridae_newfam.xlsx

2024.008F.Uc.v2.Orpoviricetes_newclass

Title: Create a new class, *Orpoviricetes,* including two new orders, four families, seven genera and 26 new species in kingdom *Orthornavirae* (realm *Riboviria)*

Authors: Botella L, Turina M, Hejna O, Krupovic M, Neri U, Poimala A , Shamsi W, Sabanadzovic S, Sutela S, Vainio E, Forgia M (marco.forgia@ipsp.cnr.it)

Summary:
"Ormycoviruses" are recently identified RNA viruses that infect fungi and oomycetes. Their genomes consist of two monocistronic single-stranded (ss) RNA segments, with RNA1 encoding a putative RNA-directed RNA polymerase (RdRP) and RNA2 encoding a hypothetical protein with an unknown function. Ormycoviruses are unique in that they exhibit variations in the conserved motif C of the RdRP, such as NDD, GDQ, and HDD, which are not commonly found in other RNA viruses. This variation, coupled with their significant evolutionary divergence from other RNA viruses, supports the classification of ormycoviruses into a new class within the kingdom *Orthornavirae.* Therefore, we propose the establishment of the floating class "Orpoviricetes," which includes two orders, and four families, encompassing seven genera and 26 new species to initiate official classification of this group of *viruses.*

Taxonomic rank(s) affected: *Riboviria, Orthornavirae*

Description of current taxonomy: Kingdom *Orthornavirae* includes six phyla which were established based on phylogenetic analysis of the RdRP and comparative analysis of the viral genomes and encoded proteins.

Proposed taxonomic change(s): Creation of a new class *"Orpoviricetes",* two new orders, five families and seven genera which collectively accommodates 26 new species.

Justification: Viruses from the kingdom *Orthornavirae,* which encompasses RNA viruses that encode RNA-directed RNA polymerases (RdRPs), generally have highly conserved motif C. This motif, often containing the core triplet GDD, is critical for the catalytic activity of the RdRP enzyme. Other triplets more rarely occurring are NDD, SDD, GDN, IDD, ADN, and ADD (in order of frequency; Olendraite et al. 2023). However, "ormycoviruses" exhibit unique variations in the core amino acid triad of motif C (e.g., NDD, GDQ, and HDD, shown in Figure 1 and 2) not found in other RNA viruses. Based on the significant variations in the conserved motif C and the high divergence from other RNA viruses (not conserved enough to be retrieved by BLAST searches using any of the RdRP encoded by viruses classified in the six currently recognized phyla), there is a strong case for considering "ormycoviruses" as members of, at least, a distinct class. Variations within the C motifs are rare but not unprecedented in other RNA viruses, so there is still a need to carry out phylogenetic and structural analyses to confirm whether ormycoviruses have diverged from viruses within existing phyla or have diverged prior to the radiation of viruses classified in the six currently established phyla. Therefore, as an initial step in the official classification of these viruses, we propose to classify them within a new class non-assigned to an existing phylum within the kingdom *Orthornavirae.* This classification would reflect their unique evolutionary pathway and potentially distinct biological characteristics.

Submitted: 20/06/2024; *Revised:* 17/10/2024

TABLE 11 - *Orpoviricetes*, 40 new taxa*

Operation	Rank	New taxon name	Exemplar	Accession
New taxon	class	*Orpoviricetes*		
New taxon	order	*Formycovirales*		
New taxon	family	*Gammaormycoviridae*		
New taxon	genus	*Hormycovirus*		
New taxon	species	*Hormycovirus hortiboleti*	Hortiboletus rubellus ormycovirus 1	RNA1: PP260025; RNA2: PP260026
New taxon	genus	*Tormycovirus*		
New taxon	species	*Tormycovirus erysiphe*	Erysiphe lesion associated ormycovirus 4	RNA1:OM272933; RNA2: OM272934
New taxon	species	*Tormycovirus thrichodermae*	Trichoderma tomentosum ormycovirus 1	RNA1: OQ463855; RNA2: OQ463856
New taxon	species	*Tormycovirus fusarii*	Fusarium graminearum ormycovirus 1	RNA1: PP658032; RNA2: PP658033
New taxon	species	*Tormycovirus unplasmoparae*	Downy mildew lesion associated ormycovirus 4	RNA1:OM272935; RNA2:OM272936
New taxon	species	*Tormycovirus duaplasmoparae*	Downy mildew lesion associated ormycovirus 5	RNA1: OM272937; RNA2: OM272938
New taxon	family	*Betaormycoviridae*		
New taxon	genus	*Vormycovirus*		
New taxon	species	*Vormycovirus unerysiphe*	Erysiphe lesion associated ormycovirus 2	RNA1:OM272931; RNA2: OM272932
New taxon	species	*Vormycovirus duerysiphe*	Erysiphe lesion associated ormycovirus 3	RNA1:OM363731; RNA2: OM363732
New taxon	species	*Vormycovirus plasmoparae*	Downy mildew lesion associated ormycovirus 3	RNA1:OM363729; RNA2: OM363730
New taxon	species	*Vormycovirus verticilli*	Verticillium dahliae ormycovirus 2	RNA1: OR734292; RNA2: OR734293
New taxon	species	*Vormycovirus ophiocordyceps*	Ophiocordyceps sinensis ormycovirus 1	RNA1: PP623130; RNA2: PP623131
New taxon	genus	*Stormycovirus*		
New taxon	species	*Stormycovirus starmellariae*	Starmerella bacillaris ormycovirus 1	RNA1: OM272929; RNA2: OM272930
New taxon	species	*Stormycovirus alariae*	Alaria esculenta RNA virus 1	RNA1: PP793779; RNA2: PP793780
New taxon	order	*Bormycovirales*		
New taxon	family	*Alphaormycoviridae*		
New taxon	genus	*Phormycovirus*		
New taxon	species	*Phormycovirus phytophthorae*	Phytophthora cinnamomi ormycovirus 7-5	RNA1: PP891879; RNA2: PP891862
New taxon	species	*Phormycovirus unphytophthorae*	Phytophthora cinnamomi ormycovirus 4-1	RNA1: PP891842; RNA2: PP891839
New taxon	species	*Phormycovirus duphytophthorae*	Phytophthora cinnamomi ormycovirus 5-2	RNA1: PP891849; RNA2: PP891846
New taxon	species	*Phormycovirus trephytophthorae*	Phytophthora cinnamomi ormycovirus 6-4	RNA1: PP891858; RNA2: PP891851
New taxon	species	*Phormycovirus quaphytophthorae*	Phytophthora cinnamomi ormycovirus 11-3	RNA1: PP891940; RNA2: PP891934
New taxon	species	*Phormycovirus plasmoparae*	Downy mildew lesion associated ormycovirus 2	RNA1: OM262448; RNA2: PP940184
New taxon	genus	*Dormycovirus*		
New taxon	species	*Dormycovirus erysiphe*	Erysiphe lesion associated ormycovirus 1	RNA1: OM272927; RNA2: OM272928

New taxon	species	*Dormycovirus plasmoparae*	Downy mildew lesion associated ormycovirus 1	RNA1: OM363727; RNA2: OM363728
New taxon	species	*Dormycovirus phytophthorae*	Phytophthora cinnamomi ormycovirus 9-16	RNA1: PP891926; RNA2: PP891910
New taxon	family	*Deltanormycoviridae*		
New taxon	genus	*Bormycovirus*		
New taxon	species	*Bormycovirus verticilli*	Verticillium dahliae ormycovirus 1	RNA1: OR734290; RNA2: OR734291
New taxon	species	*Bormycovirus unphytophthorae*	Phytophthora cinnamomi ormycovirus 1-1	RNA1: PP891751; RNA2: PP891713
New taxon	species	*Bormycovirus duphytophthorae*	Phytophthora cinnamomi ormycovirus 2-25	RNA1: PP891801; RNA2: PP891774
New taxon	species	*Bormycovirus trephytophthorae*	Phytophthora cinnamomi ormycovirus 3-7	RNA1: PP891825; RNA2: PP891808

*Source / full text:

https://ictv.global/system/files/proposals/pending/Fungal%20and%20protist%20virus%20(F)%20proposals/2024.008F.Uc.v2.Orpoviricetes_newclass.docx
https://ictv.global/system/files/proposals/pending/Fungal%20and%20protist%20virus%20(F)%20proposals/2024.008F.Uc.v2.Orpoviricetes_newclass.xlsx