

**Part 1:** **TITLE, AUTHORS, APPROVALS, etc**

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| **Code assigned:** | **2020.010B** |  |
| **Short title:** Rename 2,532 bacterial virus species to the binomial format | | |
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**Author(s) and email address(es)**

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**Corresponding author**

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| Evelien Adriaenssens |

**List the ICTV Study Group(s) that have seen this proposal**

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| Caudoviricetes Study Group, Bacterial Viruses Subcommittee |

**ICTV study group comments and response of proposer**

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**Authority to use the name of a living person**

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| **Is any taxon name used here derived from that of a living person (Y/N)** | N |

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| **Taxon name** | **Person from whom the name is derived** | **Permission attached (Y/N)** |
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**Submission dates**

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| Date first submitted to SC Chair |  |
| Date of this revision (if different to above) |  |

**ICTV-EC comments and response of the proposer**

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| The EC would like clarification on support from the phage community at large for the binomial naming decisions made. The EC would also like the submitters and community to consider following the recommendations on limiting the freeform format, including the choosing species epithets that are long enough and not capitalizing.  Response: We have included information in the proposal on the various rounds of consultation with the phage community on the introduction of a binomial nomenclature system.  The SC has been surveyed on the freeform format, results below and species epithets changed accordingly.  Acceptance of proposal 2021.001B.abolish\_Caudovirales by EC53 results in removal of the order *Caudovirales* and families *Myoviridae*, *Podoviridae* and *Siphoviridae*. All underlying taxa are to be assigned directly to the class *Caudoviricetes*. The Excel module of this proposal has been altered to reflect the future changes; however, the Word module has been unaltered while awaiting the ratification vote. |

**Part 3:** **TAXONOMIC PROPOSAL**

**Name of accompanying Excel module**

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| 2021.010B.A.v1.Binomial\_names.xlsx |

**Abstract**

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| To rename existing bacterial virus species to the Linnaean naming format consisting of a genus name and species epithet. |

**Text of proposal**

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| |  | | --- | | This proposal aims to standardize the naming of bacterial viruses to the Linnaean nomenclature in accordance with the recommendations outlined in the ratified ICTV proposal 2018.001.G.R.  These names take the format of non-Latinized binomials consisting of the genus name and species epithet. Where virus names consist only of numerals, the first letter of the genus name, followed by “v” (virus) has been prepended to the species epithet.  **Consultation of the phage community on binomials**  The history of the phage community being informed about binomial nomenclature extends back to 2016 when Andrew Kropinksi (then Chair of the SC) presented the keynote address to a "100 years of bacteriophages" conference (Tbilisi, Georgia) sponsored by the Eliava and Pasteur Institutes and included the following two points:  a) Binomial nomenclature – *Casadabanvirus D3112* not *Pseudomonas virus D3112*  b) Probable disappearance of *Caudovirales*.  A version of this talk was published as: Kropinski AM. Bacteriophage research - What we have learnt and what still needs to be addressed. Res Microbiol. 2018. 169(9):481-487 [1].  In addition, at the Viruses of Microbes 2016 meeting (Liverpool, UK) Andrew Kropinski presented a talk entitled "Has the order *Caudovirales* outlived its taxonomic usefulness?", which also included information on the binomials, while the presentation at the IUMS Singapore (2017) Plenary Session included the question "How do we adapt to a binomial nomenclature system for viruses?"  Evelien Adriaenssens included the information and a request for feedback in her keynote lectures at the Evergreen International Phage Biology Meeting (2019) and Phages.fr annual meeting (2019).  In only one case was any objection raised to the proposed change to the binomial nomenclature; and that was from a Russian scientist and could be viewed as a conflict of interest given their recent submission of a book on phage taxonomy.  **Format of the binomials**  After a consultation with the membership of the Bacterial Viruses Subcommittee, consisting of Study Group Chairs, members representing their geographic regions and members at large, the SC has chosen to implement the following rules:   * If the species epithet is a word, no capitals are allowed * If the species epithet is a word, we recommend to use either all capitals or all small letters, but we will allow a mix if the name is derived from the exemplar (and the mix is present in the exemplar virus name)   **Corrections of species**  As part of our reassessment of species names, we found two duplications of exemplars and species that we will correct by abolishing the duplicated species and in one case the genus as well, because it was a single-species genus.  The following taxa are abolished: *Drexlerviridae* genus *Gyeonggidovirus* and *Schitoviridae* species *Achromobacter virus Axp3.* | |

**Supporting evidence**

**Chart, pie chart

Description automatically generated**

*Figure 1: Survey of the BVSC on binomial nomenclature formats in August 2021. 29 responses received, accounting for 78% of the membership.*

**References**

1. Kropinski AM (2012) Bacteriophage research - What we have learnt and what still needs to be addressed. Res Microbiol. 169:481-487 PMID: 29777837 DOI: 10.1016/j.resmic.2018.05.002