

Virus Taxonomy

It is the authors' responsibility to ensure proper application of virus and virus taxon nomenclature. *Viruses* adheres to the most current international standards of virus taxonomy governed by the International Committee on Taxonomy of Viruses (ICTV). The ICTV oversees the classification of viruses into taxa and the nomenclature of taxa, *but not* the nomenclature of viruses including their abbreviations.

For authors, it is of utmost importance to stringently distinguish in writing between viruses and viral taxa, such as species, genera or families. Viruses are physical entities, whereas taxa (denoted by italicization) are concepts of the mind.

Example 1 (virus name and species name differ in spelling): Ebola virus (EBOV) is currently a member of the species *Zaire ebolavirus*. Ebola virus can infect people; Ebola virions can be concentrated; and new Ebola virus variants can be discovered. *Zaire ebolavirus* on the other hand cannot be discovered, injected, grown, or vaccinated against; and in contrast to Ebola virus, *Zaire ebolavirus* does not have a genome.

Example 2 (virus name and species name are identical in spelling): measles virus (MeV) is currently a member of the species *Measles virus*. One can be vaccinated against measles virus, but not against *Measles virus*. Measles virus may one day be eradicated; *Measles virus* will not be.

As a rule-of-thumb, the use of species names in general virology articles (aside from mentioning to which species a particular virus belongs in an introduction or a method section), and in particular in article titles, is almost always ill-advised.

The rules for nomenclature are laid out in the ICTV's International Code of Virus Classification and Nomenclature (ICVCN; <http://www.ictvonline.org/codeOfVirusClassification.asp>). Briefly:

- Virus names are written in lower case except if a name compound is a proper noun (e.g., measles virus, but Ebola virus [Ebola is the name of a river])
- Virus names are never italicized
- Virus names can be abbreviated
- Virus names are mass nouns, i.e. virus names should not be preceded by articles ("Ebola virus is an RNA virus"; *not* "The Ebola virus is an RNA virus")
- Species and other taxon names are always italicized (note that in zoological nomenclature taxon names above the rank of genus are not italicized whereas in virological nomenclature they are: Felidae but *Caliciviridae*)
- Species and other taxon names should never be abbreviated (family names should never be abbreviated)
- The first letter of species and other taxon names is capitalized (e.g., *Measles virus*)
- The vernacular name of the virus group assigned to a taxon higher in rank than species is derived from the name of that taxon.

Example 1: the members of the order *Picornaviridae* are called picornaviruses.

Example 2: the members of the genus *Morbillivirus* are called morbilliviruses.

Example 3: the members of the genus *Ebolavirus* are called ebolaviruses.

The vernacular names of these virus groups are mass nouns (and therefore never preceded by articles) and are never abbreviated.

Members of taxa are physical entities. Therefore, picornaviruses can infect people, but *Picornaviridae* cannot infect people; lentiviruses can be isolated, but *Lentivirus* cannot be isolated.

The most up-to-date ICTV *taxon* classification can be found at <http://www.ictvonline.org/virusTaxonomy.asp>. This taxonomy is based on the 9th ICTV Report (King AMQ, Adams MJ, Carstens EB, Lefkowitz EJ, editors (2011) Virus Taxonomy - Ninth Report of the International Committee on Taxonomy of Viruses. London, United Kingdom: Elsevier/Academic Press.) and ICTV updates that appeared since then in the Virology Division News section of Archives of Virology (2012: <http://link.springer.com/article/10.1007/s00705-012-1299-6>; 2013: <http://rd.springer.com/article/10.1007/s00705-013-1688-5>; 2014: <http://link.springer.com/article/10.1007/s00705-014-2114-3>).