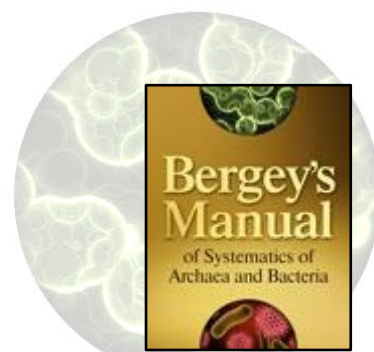


BERGEY'S MANUAL OF SYSTEMATICS OF ARCHAEA AND BACTERIA



<http://wileyonlinelibrary.com/ref/bergeysmanual>

Contributor Guidelines

Version 2.0

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1. SUBMISSION OF MANUSCRIPTS

1.1 SCHOLARONE MANUSCRIPTS

All submissions for the Manual must come via ScholarOne Manuscripts (ScholarOne), a web-based manuscript submission, peer review, and tracking system. It integrates manuscript invitation, submission, file conversion, correspondence, tracking, reviewer management and decision making, and interfaces with the production process.

Authorship in Bergey's Manual is generally by invitation. However, if you believe a taxonomic group has been overlooked, please contact the Editorial Office.

1.2 PRESENTATION

Manuscripts should be typed (in at least 12 point size) with double spacing between all lines of text, tables, figure captions, and references. There should be reasonable margins (at least 2.5 cm) all around. All pages should be numbered consecutively in the top right-hand corner; this includes pages containing references, tables, figure captions and figures, which should be grouped in that order after the text pages. Add **continuous** line numbers before submission of the manuscript to the editorial office.

There will be approximately 800 words (or the equivalent in tabular or illustrative material) on the final printed page. An average double-spaced manuscript page, in 12-point Times New Roman font, typically contains about 250 words. Thus, one printed page equates to approximately 3 double-spaced A4 manuscript pages.

Your Copyright Transfer Agreement will detail the desired length of your article. The contracted page extent includes figures and tables. A full-page figure will therefore take the equivalent of 800 words, a half-page figure will take the equivalent of 400 words, and so on. Please contact the Wiley publishing assistant or editor if your article will be greatly different from the length specified in your Copyright Transfer Agreement.

1.3 PREPARATION OF ELECTRONIC MANUSCRIPT

If you are using a PC, Macintosh or workstation, then please use a standard word processing program, preferably Word, TeX or LaTeX. Please do not use layout programs such as Quark Xpress, FrameMaker or PageMaker.

If you prepare your manuscript in TeX or LaTeX, it is vital that you submit the PDF of your article, along with source, font and class files, and any other associated macros and files.

If you do use TeX/LaTeX please be aware that the typesetter will reformat your files to produce typeset pages following the style we have adopted for this work.

1.4 SUBMISSION OF DRAFT MANUSCRIPT

Please submit your manuscript by the contracted due date (refer to your Copyright Transfer Agreement) and in accordance with the terms and conditions of your Copyright Transfer Agreement. Use the Checklists at the end of the Contributor Guidelines to ensure that all components are included.

Articles commissioned for the *Bergey's Manual of Systematics of Archaea and Bacteria* are submitted via ScholarOne. When you accept an invitation to contribute an article, a user account will be created and the login information emailed to you. To submit your manuscript online, go to <http://mc.manuscriptcentral.com/bergeys>. Once you log in, click on the 'Author' tab to initiate your submission. Please note that you will be required to upload your signed Copyright Transfer Agreement in order to complete submission of your manuscript.



Detailed instructions on using ScholarOne can also be found under the 'User Tutorials' button on the left-hand side of the login screen.

Please be sure to study the instructions given at the site carefully and then let the system guide you through the submission process. You will be able to exit and re-enter the system at any stage before finally submitting your work. All submissions are kept strictly confidential. You can log in periodically and check your Contributor Center to monitor the movement of your manuscript through the review process.

1.5 SUBMISSION OF REVISED/FINAL MANUSCRIPT

Your manuscript will be reviewed by your Editor and ad hoc reviewers, who will send you, through ScholarOne, any suggestions for amendments or improvements. The revised version of your manuscript must then be uploaded to ScholarOne within **4 weeks**.

Should further amendments be required, you will receive feedback through ScholarOne. Otherwise, your (revised or original) manuscript will be approved by the Editor.

When your article is finalized for publication, the manuscript will enter the production process (see Section 21 below).

It is important that any necessary copyright permissions (see Section 20 below) are also uploaded to ScholarOne at this time or sent to the Publishing Assistant (bergeys@wiley.com).

Any changes of postal and/or e-mail address, whether temporary or permanent, should be notified to the Publishing Assistant (bergeys@wiley.com), giving dates when they are effective.

1.5.1 Authorship rules for updated articles

Your name(s) as author(s) of the article: For articles that are revisions of previous articles by other authors, the listing of authors is at the discretion of the editor. In general, the following authorship guidelines are recommended:

If 10% or less of the article is updated:

- Except for very extensive articles, the updating author/s name will **not** be added to the author list at the beginning of the chapter.
- Update details will be displayed in an end note in the following style:
"This article is based on Logan, NA and Vos, PD (2015) *Bacillus*. Bergey's Manual of Systematics of Archaea and Bacteria and has been updated by Whitman, WB."

If 11%-30% of the article has been updated:

- The updating author/s name will be added to the author list at the beginning of the chapter.
- Update details will be displayed in an end note in the following style:
"This article is based on Logan, NA and Vos, PD (2015) *Bacillus*. Bergey's Manual of Systematics of Archaea and Bacteria and has been updated by Whitman, WB."

If 31%-100% of the article has been updated:

- The updating author/s will be solely listed at the beginning of the chapter and the original authors will be removed.
- Update details will be displayed in an end note in the following style:
"This article is based on Logan, NA and Vos, PD (2015) *Bacillus*. Bergey's Manual of Systematics of Archaea and Bacteria and has been updated by Whitman, WB."

2. DUE DATE



Contributors must adhere to the due date specified in their contracts for the initial submission of their manuscript to Wiley. Contributors who are unable to meet the due date should inform the Publishing Assistant at the earliest opportunity. Please note that the Publisher cannot guarantee acceptance of manuscripts submitted after the due date.

3. UNIQUE ARTICLE IDS

The Publisher has assigned to your article a unique identifying number ('unique ID') comprising three letters followed by five digits, in the following format:

- Phylum articles = pbm00000
- Class articles = cbm00000
- Order articles = obm00000
- Family articles = fbm00000
- Genus articles = gbm00000
- Other (e.g. essays, taxonomic outlines) = bm00000

This reference number should be quoted in all correspondence with Wiley and with the Project Management company dealing with production (see Section 21 below).

4. ARTICLE COMPONENTS

The required article components vary depending upon the type of article being written. Three templates and examples are available to guide authors of 1) genus chapters, 2) family, order or class-level chapters, and 3) phylum-level chapters at the Bergeys website [[Information for Contributors - Bergey's Manual Trust \(bergeys.org\)](http://Information for Contributors - Bergey's Manual Trust (bergeys.org))]. However, all articles on taxonomic groups must contain the following components:

- Article title (see Section 5 below)
- Contributor details (see Section 6 below)
- Keywords (see Section 7 below)
- Abstract (see Section 8 below)
- Defining publication (see Section 9.1 and 15.4 below)
- Etymology (see Section 9.2 below)
- Type (see Section 9.3 below)
- Bibliography (see Section 16 below)

Additionally, Genus articles (with the ID syntax gbm00000) may follow the template (Information for Contributors - Bergey's Manual Trust) and should contain most of the following sections:

- Generic definition (see Section 9.3 below)
- Type species (see Section 9.3 below)
- Family classification (see Section 9.4 below)
- Further descriptive information (see Section 9.5 below)
- Enrichment/isolation procedures (see Section 9.6 below)
- Maintenance procedures (see Section 9.7 below)
- Procedures for testing special characters (see Section 9.8 below)
- Differentiation from other closely related genera (see Section 9.9 below)
- Taxonomic comments (see Section 9.10 below)
- Miscellaneous comments (see Section 9.11 below)
- Tables of the species (see Section 9.12 below)
- Diagnostic table (see Section 9.12.1 below)
- Descriptive table (see Section 9.12.2 below)
- Phylogenetic tree (see Section 9.13 below)
- List of species (see Section 9.14 below)
- Intrasubspecific divisions (see Section 9.15 below)
- Species incertae sedis (see Section 9.16 below)
- Other organisms (see Section 9.19 below)



Family articles (with the ID syntax fbm00000), order articles (obm00000) and class articles (cbm00000) may follow the template ([Information for Contributors - Bergey's Manual Trust](#)) and should contain most of the following sections:

- Description (see Section [10.1](#) below)
- Taxonomic comments (see Section [10.2](#) below)
- Further comments (see Section [10.3](#) below)
- Table to constituent subgroups (see Section [10.4](#) below)

Phylum-level articles (with the ID syntax pbm00000) may follow the template ([Information for Contributors - Bergey's Manual Trust](#)) and should contain most of the following sections:

-
- Description (see Section [11.1](#) below)
- Taxonomic outline of the phylum (see Section [11.2](#) below)
- Phylogenetic tree (see Section [11.3](#) below)
- Taxonomic comments (see Section [11.4](#) below)
- Other points of interest (see Section [11.5](#) below)
- Table to constituent subgroups (see Section [11.6](#) below)

5. ARTICLE TITLE

This should be the title specified in the Copyright Transfer Agreement. Any changes to this title during the writing and review phases should be agreed with your Editor and the Publisher.

The Publisher may recommend amending the title of your article in order to ensure consistency across the Manual. The Supervising Editor may also decide to amend the title once all of the articles have been submitted. This will avoid duplication of titles throughout the book and ensure that the titles best describe the topic of the article itself.

6. CONTRIBUTOR DETAILS

6.1 NAME(S)

Please include your name and the names of all other contributors to your article beneath the title of the article. You should include your first name, middle initial(s) and family name e.g. 'John A. Smith'. The editorial office only needs to know the name of the corresponding author. Coauthors only need to be identified here and may be placed in any order.

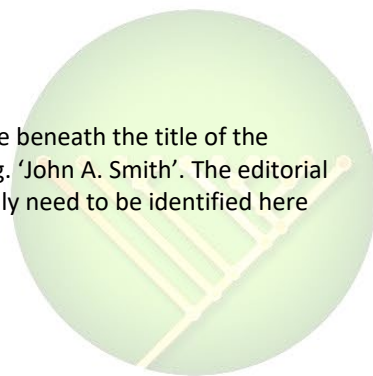
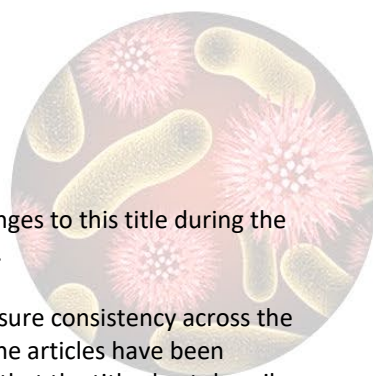
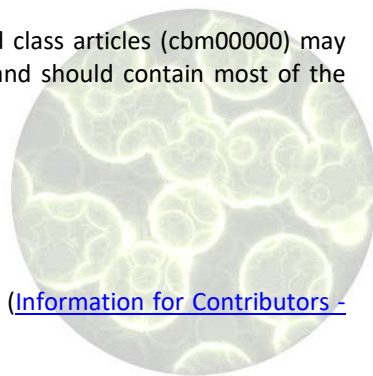
6.2 AFFILIATION

Beneath each author's name, you should include the author's basic affiliation.

This should take the following form:

Department/Institution
University
Town/City
US State abbreviation/spelled-out Canadian or Australian state (if applicable)
Country (USA/UK, otherwise the spelled-out name). e.g.,

Department of Microbiology
University of Newcastle
Newcastle upon Tyne
UK



7. KEYWORDS

To make the manual more searchable, please choose 7-10 keywords when uploading your article into ScholarOne. Please use words from the list below as much as possible. You may also add additional keywords of your own choosing. Your keywords will not appear in the PDF but will be displayed in the online version of the article for use in optimizing the visibility of the Manual to external search engines.

Keywords should include the names of the taxon described. For the higher ranks, the most prominent genera names may also be included.

Please use the keywords below even if they only apply to some members of the taxon. For example, for a genus composed of mesophiles and thermophiles, please use the keyword thermophile. For a genus composed of thermophiles and hyperthermophiles, use both keywords. Avoid keywords that apply to enormous groups, ie. mesophile, heterotroph, Gram-stain negative/positive.

List of possible keywords:

Habitat: Marine, freshwater, wastewater, foodborne, soil, subsurface, plant-associated, rhizosphere, phyllosphere, animal-associated, human-associated, clinical, cosmopolitan

Energy metabolism: Lithotroph, phototroph

Carbon source: Autotroph, mixotroph

Relationship to oxygen: Strict anaerobe, facultative anaerobe, aerobe, microaerophile

Temperature optimum: Psychrophile (optimum <15 °C), thermophile (optimum 45-80 °C), hyperthermophile (optimum >80 °C)

pH optimum: Acidophile (<5.0), alkaliphile (>8.5)

Salinity optimum: Slight halophile (1.7-4.7%), moderate halophile (4.8-20%), extreme halophile (>20%)

Biotic relationship: Mutualistic, endosymbiotic, pathogenic

Resting stage: Endospores, cysts, akinetes, exospores, myxospores

Other characters: Aerial mycelium, gliding motility, gas vesicle, annamoxosome, magnetosome, budding, luminescence

8. ABSTRACT

In order to increase the Manual's visibility to search engines such as Google, you should include an abstract (200-500 words) for your article. Names of the taxon described, and, for the higher ranks, the most prominent genera names should be included.

The abstract will be made available free of charge in the online edition of the Manual. You will be asked to upload your abstract when submitting your article to ScholarOne.

As the abstract will be made available independently of the main article, it must not contain direct cross-references to elements contained in the rest of the article. For example, you should not include in the abstract cross-references to figures, tables, or references which appear only in the full article.

9. GENUS ARTICLES: ADDITIONAL COMPONENTS

For an example and template of a genus chapter, please see [[Information for Contributors - Bergey's Manual Trust \(bergeys.org\)](http://bergeys.org)]. While authors are not required to use the template, it may be helpful.

9.1 DEFINING PUBLICATION

The title is normally followed by reference to the defining publication in the following order: author(s), date, all in the same format as citations to references in the bibliography. If the name comes from the Approved Lists, the letters *AL* (in italics) are added as superscripts directly after the date (see examples below). If the name is validly published since January 1980 under the ICNP and originally published in the IJSEM/IJSB, it should be marked *VP* (in italics) as superscripts. If originally published outside the IJSEM/IJSB, the citation should be to the original (or effective publication), and the Validation List should be indicated as VL(list



number). If the name is validly published under the SeqCode, the effective publication should be cited followed by the SeqCode Registry citation. Lastly, a name neither in the Approved Lists nor validly published under either the ICNP or SeqCode should be placed in double quotation marks wherever it occurs. The following examples are representative of many common defining publications:

Bacillus subtilis Cohn 1872^{AL}. [Name on Approved List]
Bacillus tequilensis Gatson et al. 2006^{VP} [Name first published in IJSEM/IJSB and thus validly published]
Bacillus alkalicellulosilyticus Liu et al. 2021, VL203 [Name effectively published outside the IJSEM/IJSB and later added to Validation List 203 in IJSEM/IJSB]
Phosphoribacter Singleton et al. 2022, Nielsen 2024 [Name validly published under the SeqCode]
"Bacillus xerothermodurans" Bond and Favero 1977 [Name not validly published]

See also section 15.4 for more explanation and examples of citations to defining publications.

9.2 ETYMOLOGY

Follow one of the formats used in the Second Edition of *Bergey's Manual of Systematic Bacteriology*, the LPSN ([LPSN - List of Prokaryotic names with Standing in Nomenclature \(dsmz.de\)](https://www.dsmz.de/LPSN)) or the original description in the *International Journal of Systematic and Evolutionary Microbiology*.

Examples:

Arthrobacter woluwensis

wo.lu.wen'sis. N.L. masc. adj. *woluwensis* of or belonging to Woluwe, a town near Brussels, Belgium, where the type strain was isolated from a patient.

Candidatus Pasteuria usgae

us'gae. N.L. gen. n. *usgae* of U.S.G.A., the acronym for the United States Golf Association, in gratitude for their financial support to study this potential biological control agent against *Belonolaimus longicaudatus* in turfgrass ecosystems. (See section 9.17 for more discussion of *candidatus* names.)

Corynebacterium diphtheriae

diph.the.ri'a.e. Gr. n. *diphthera* leather, skin; N.L. fem. n. *diphtheria* a disease in which a leathery membrane forms in the throat; N.L. gen. n. *diphtheriae* of diphtheria

9.3 GENERIC DEFINITION

This should be a **brief paragraph** that gives the most important features that describe the genus and that separate it from all other genera. Use the following order of presentation of features: morphology, Gram reaction, flagellar arrangement, relationship to oxygen, cultural characteristics, physiology, nutrition, chemotaxonomic markers, habitat, and any other special features that might be of importance. **Indicate with boldface type the most important features of the genus.** Indicate the DNA G+C content (with method of determination) and the type species as separate paragraphs immediately after the description. For example:

DNA G + C content (mol %): 55.5–61.5 (by genome sequence).

List the type species of the genus with the author and year of the defining publication including superscripts *AL* or *VP*, *VL* and basonyms as appropriate. For example:

Type species: ***Pontixanthobacter luteolus*** Xu et al. 2020^{VP} (basonym: *Erythrobacter luteolus* Yoon et al. 2005^{VP})

After listing the type species, please insert the line:

"Number of species with validly published names: x"

Where x is the number of species with validly published names in this genus, not including any species that might be listed under 'Other Organisms,' 'Species Incertae Sedis,' 'Misclassified species,' etc. If *Candidatus* species are also present, include a separate line:



"Number of *Candidatus* species: x"

9.4 FAMILY CLASSIFICATION

Identify the family classification with a cross-reference to the family article in the Manual (see section 19.1).
For example:

Family classification: The genus *Rickettsia* is classified within the family *Rickettsiaceae* (fbm00178).

9.5 FURTHER DESCRIPTIVE INFORMATION

This section should contain a full description of the genus, including characteristics that are not necessarily shared by all the species. When details of each species are presented in the Descriptive Table (see 9.12 below), just present general overviews of the features here. For instance, when the growth ranges for temperature, pH and salinity for each species are presented in the Descriptive Table, just summarize the properties for the entire group here. Please use the following order of presentation and include illustrations where needed.

- Cell morphology
- Cell-wall composition; fine structure
- Colonial or cultural characteristics; life cycles
- Nutrition and growth conditions
- Metabolism and metabolic pathways

If special media or growth conditions are mentioned, please prepare these as separate articles (see below for the format) which can then be cited in this chapter.

If genome sequences are available for a genus, discuss the quality of genomic sequences available for the group and their authenticity. Accession numbers for genomic sequences of type strains of the species will be identified in the species descriptions and should not be given here. Include when available descriptions of the core and pangenome for the genus.

- Overview of genetics methods available within this genus
- Antigenic structure
- Antibiotic or drug sensitivity
- Pathogenicity of species or strains including susceptible organisms
- Ecology and habitat of genus
- Miscellaneous (not covered in above categories) includes other topics that are important for this genus

9.6 ENRICHMENT/ISOLATION PROCEDURES

Briefly summarize current methods used in the isolation of members of the genus. When appropriate, give methodology for one or two of the best methods and cite references for other methods.

9.7 MAINTENANCE PROCEDURES

Briefly summarize methods or conditions necessary for the proper maintenance of cultures of members of the genus, e.g., best medium for subculturing, whether they lyophilize well or if liquid nitrogen storage is required. Give methodology, if brief, or cite pertinent references.

9.8 PROCEDURES FOR TESTING SPECIAL CHARACTERS

Briefly summarize methods needed to test for the presence of features where special, defined methods are required. The features tested should be important for identification of the genus or various species. Include



any special “tricks of the trade”. (Note: This could include information regarding probe sequences and specificity, PCR amplification conditions, etc.).

9.9 DIFFERENTIATION FROM OTHER CLOSELY RELATED GENERA

This material, if given, may be either in a narrative form or a table.

9.10 TAXONOMIC COMMENTS

This section should include discussion of the following:

- Circumscription of the genus and its species
- Phylogeny
- Rank or position of genus or its species
- Subdivision of the taxon
- Nomenclatural problems
- Nomenclatural types
- Historical notes
- Anticipated future changes in classification

Where alternative taxonomic viewpoints exist, they should be discussed even if the author does not accept them.

9.11 MISCELLANEOUS COMMENTS

or "Further comments". Include here comments not covered by the above categories.

9.12 TABLES OF THE SPECIES

Use the following order for tables and include at least one diagnostic table and one descriptive table. See the sample multitaxa article.

9.12.1 Diagnostic Table

This table should contain only those features used to identify the constituent species. It may include phenotypic, genetic data, or both. **It should be kept short.**

9.12.2 Descriptive Table

This table should be a complete listing of all the characteristics for **all of the species in the genus**. It is not intended to be diagnostic but is a summary of data and so should be exhaustive. For large genera, it may be included in the Supplementary Material (see 13 below).

9.12.3 Species Tables or Summaries

You may wish to include tables of phenotypes, DNA-DNA hybridization or genome sequence similarities, antigenic schemes, signature sequences, etc. Line drawings, various plots, and dendrograms are also acceptable (when the number of species is meaningful for such a treatment). Large matrixes may be included in Supplementary Materials (see 13 below). Summaries can then be provided in the text.

9.13 PHYLOGENETIC TREES

Phylogenetic trees should be presented for complex taxa or to illustrate relationships among multispecies genera. Generally, trees should be included at the appropriate taxonomic rank, i.e. trees of genera at the family level and trees of species at the genus level.



Examples of phylogenetic trees are provided in the sample articles ([Information for Contributors - Bergey's Manual Trust](#)). In constructing trees, authors should include **all members of a taxon with validly published names** as well as other taxa (such as metagenomes and *Candidatus* taxa) of interest for which quality, **nearly full-length sequences** are available (for the 16S rRNA this would be >1300 bp with <3% ambiguity; for many species, curated sequences are available at the SILVA databases). In general, sufficient detail of the method should be provided to allow another investigator to reproduce the results. Trees should also include representatives of sister taxa. Outgroups that are used in the calculation of the tree should not ordinarily be included in the final tree presented. However, outgroups, including the sequences accession numbers, should be identified in the figure legend. It is also important that phylogenetic trees be presented in a consistent fashion and include bootstrap values and a bar or scale indicating evolutionary distance. Trees must include the names of organisms, their strain name or number (as stated by the depositor of the sequence, with type strains indicated where appropriate by a superscript capital T) and sequence accession number. If the trees are composed entirely of sequences from type strains, this fact should be noted in the figure legend, and the superscript T may be omitted.

Authors are free to include other trees in their articles should they wish to do so, especially where there are areas of ambiguity or disagreement. They should, however, be prepared to provide the reader with a clear understanding of their reasoning. Any aligned sequences used in such trees should be made publicly available upon request so that readers may explore the alternative models on their own, should they choose to do so.

9.14 LIST OF SPECIES

Each species with standing in nomenclature (i.e., the name has appeared on the Approved Lists, has been subsequently validly published under the ICNP or SeqCode, or appears on the *Candidatus* Lists) should be listed in alphabetical order. Species with validly published names that have been reclassified to other genera can be listed here or below under "Other species". Likewise, if the name is not validly published, it should appear in quotation marks, but it can be listed either here or under "Other species". Include the following in this order:

- Name, author, and year of defining publication (See Citing a defining publication, [15.4](#))
- Etymology
- Descriptive information not included in the tables or special information of the genus description that explains uniqueness. If this section is extensive, then use the same order as the genus description. When available include a description of the core and pangenome for the species. If all the information has been provided in tables and texts of the genus description, the species description may just be a simple statement such as "The species is described above in the genus description and Tables X and Y."
- DNA base ratio, include method of analysis (e.g., T_m , LC, BD, GS-for genome sequence)
- Type, neotype, reference strains.
- GenBank/EMBL/DDBJ accession number of 16S sequence of type strains. Refer to the best sequence available, which is not necessarily the earliest. Once the article is published online, the type strain will link to the appropriate entry/entries within Genbank.
- GenBank/EMBL/DDBJ accession number of genomic sequence of type strains. Refer to the best sequence available, which is not necessarily the earliest. Once the article is published online, the type strain will link to the appropriate entry/entries within Genbank. If the species is described under the SeqCode, refer to the type sequence.

9.15 INFRASUBSPECIFIC DIVISIONS

Terms that will be used for infrasubspecific subdivisions are shown below, following the Revised Code of Nomenclature. The "- var" or "-form" suffix will continue to be used to replace "-type". This eliminates confusion with the strict use of the term "type" to mean nomenclatural type.

Name

- Biovar = Biotype, physiological type



- Chemoform = Biochemical or physiological properties
- Chemovar = Production or the amount of production of a particular chemical
- Cultivar = A cultivated strain with special properties
- A parasitic, symbiotic or commensal microorganism distinguished primarily by adaptation to a particular host or habitat. Named preferably by the scientific name of the host in the genitive
- Forma specialis = Special form
- Morphovar = Morphotype = Morphological characteristics
- Pathovar = Pathotype = Pathogenic reactions in one or more hosts
- Phagovar = Phagotype = Lysotype = Reactions to bacteriophage
- Phase = Restrict to well-defined stages of naturally occurring alternating variations
- Ribotype = strains with the same or similar 16S rRNA sequence
- Serovar = Serotype = Antigenic characteristics
- State = Colonial variants, e.g., rough, smooth, mucoid (may be defined antigenically)

The term “group” is informal and may be useful to designate a set of organisms on which further studies are desirable before giving it a formal name.

9.16 SPECIES *INCERTAE SEDIS*

If a listing of species of uncertain affiliation is necessary for your treatment of a taxon, then only include those for which there is a name, a description, and a deposited culture. This section may include organisms whose names appear on the Approved Lists, Validation Lists, or have only been effectively published. There is no set format for this section, and the Bacteriological Code should be consulted for advice on the revival of old names. List in alphabetical order and give author and year of the description.

9.17 SPECIES *CANDIDATUS*

Authors are encouraged to include taxa that have been accorded provisional status using the *Candidatus* category (Murray and Schleifer, IJSB 44: 176; Murray and Stackebrandt, IJSB 45: 186; Oren 2025, IJSEM 75, 006638). Briefly, *Candidatus* organisms have been described but can't be deposited in culture collections, usually either because they have not yet been cultured or they are not pure. For that reason, they are not formally named and follow the *Candidatus* conventions. Nevertheless, many are extremely interesting and important, and the Manual should include them.

In Bergey's, the format for *Candidatus* names is *Candidatus* Somethinglatin or *Candidatus* Somethinglatin somethingelselatin. Bergey's does not use quotation marks because they are redundant with the *Candidatus* designation. Bergey's uses *Ca.* and not *Cand.* as the abbreviation for *Candidatus*. However, the abbreviation should not be used in the title of a chapter or in the species list.

Candidatus taxa may have type strains, but their names are not validly published. Therefore, the sentence “Number of species with validated names:” should be replaced with “Number of *Candidatus* species:” If a genus contains a mixture of validated and *Candidatus* names, both sentences should be used.

In the species list, ignore the *Candidatus* designation during alphabetization. Thus, in a mixture of *Candidatus* and validly published names, the name of the species and not the word “*Candidatus*” will determine the order.

Candidatus names have defining publications, but they are not designated by a superscript. Because they are not validly published, the superscripts ‘VP’ should not be used.

In other regards, the description of *Candidatus* taxa should closely resemble that of validly named taxa.

9.18 SEQCODE NAMES

Beginning in January 2022, some taxa were named according to the SeqCode (Hedlund et al. 2022). For these names, DNA sequences serve as nomenclatural types and not strains. The effective and defining publications



are recognized through the online SeqCode Registry. In the ICNP, these names are often recognized as *Candidatus* or other names. The BMSAB desires to be inclusive of multiple points of view, and authors are encourage to use the nomenclature they feel most appropriate to the taxon being described, *Candidatus* or SeqCode.

9.19 OTHER ORGANISMS

Listed here with a brief description are organisms that have been reclassified to other genera, whose names have not been validly published, or are unnamed and are of sufficient importance to warrant inclusion. Authors have some discretion in using this category, which might include names encountered in the literature but no longer believed to be correct or might otherwise be in doubt.

10. FAMILY-, ORDER-, AND CLASS-LEVEL ARTICLES: ADDITIONAL COMPONENTS

For an example of a family-level article and a template for this type of chapter, please see [Information for Contributors - Bergey's Manual Trust](#). While authors are not required to use this template, it may be helpful.

For each taxonomic rank, there should be the following order of presentation (after the common components listed in Section 5-9: chapter title, defining publication, authors and institutions, etymology, abstract, and keywords).

10.1 DESCRIPTION

This should be brief and include morphological, cultural, physiological, genomic and ecological characteristics along with any supporting phylogenetic evidence (such as range of sequence similarities within and between members of the taxon and sister taxa). Include in the text the names of the subordinate taxa, i.e. genera in the family, families in the order, or orders in the class, with cross references to the Manual articles (see section 19).

The last sentence should be in its own paragraph and read: “*Type genus: typegenusname* definingpublication”

10.2 TAXONOMIC COMMENTS

Include information on the taxonomic position of the higher taxon and the genera it contains. A 16S rRNA gene phylogenetic and/or phylogenomic tree should be presented for complex taxa or to illustrate relationships among multigenera higher taxa. Generally, trees should be included at the appropriate taxonomic rank, i.e. trees of genera at the family level, and they should contain the type strain of the type species of each genus within the family. When other strains are also included, the type strains should be indicated by a superscript capital T. Otherwise, please follow the instructions above in Section 9.13 for “Genus articles”. Phylogenetic trees for other genes may also be presented if deemed appropriate.

Often one tree at the phylum-, class- or order-level is often sufficient for all of the higher-order taxa of a group. In this case, the tree can be presented in one article and cross-referenced in the other articles.

10.3 FURTHER COMMENTS

If any further descriptive material is needed, use any of the same categories used in generic descriptions, following the same order of presentation.

10.4 TABLE TO CONSTITUENT SUBGROUPS



Provide a descriptive table for the constituent subgroups emphasizing features that might distinguish members of the taxon.

11. PHYLUM-LEVEL ARTICLES: ADDITIONAL COMPONENTS

For an example and template for a phylum-level chapter, please see [Information for Contributors - Bergey's Manual Trust](#). Authors are not required to use the template, but it may be helpful.

There should be the following order of presentation (after the common components listed in Section 5-9: chapter title, defining publication, authors and institutions, etymology, abstract, and keywords).

11.1 DESCRIPTION

This should be brief and include morphological, cultural, physiological, genomic and ecological characteristics along with any supporting phylogenetic evidence (such as range of sequence similarities within and between members of the taxon and sister taxa). Include in the text information on the distribution.

The last sentence should be in its own paragraph and read: “*Type genus: typegenusname* definingpublication”

11.2 TAXONOMIC OUTLINE OF PHYLUM

Create a hierarchical taxonomic outline with the names of each class, order, family and genus. For each taxon, include the name, defining publication, and etymology. Add a brief description, which could be ‘same as phylum’. For large and complex groups, the taxonomic outline can be truncated at the class, order, or family level with cross reference links to articles on the subordinate taxa.

11.3 PHYLOGENY

If a significant number of genomes are available for the constituent genera, authors are encouraged to include a phylogenomic tree and other phylogenomic comparison data (e.g., average nucleotide identity, average amino acid identity matrices) as appropriate. A 16S rRNA gene phylogenetic tree may be presented for complex taxa or to illustrate relationships among the taxon. Generally, trees should contain the type strain of the type species of the type genus within each family or other higher taxon. When other strains are also included, the type strains should be indicated by a superscript capital T. Otherwise, please follow the instructions above for Section 9.13. Phylogenetic trees for other genes may also be presented if deemed appropriate.

11.4 TAXONOMIC COMMENTS

Discuss any points of interest or differing opinions regarding the taxonomic outline or phylogeny.

11.5 OTHER POINTS OF INTEREST

Include here other topics of potential interest for readers such as medical, agricultural or industrial importance.

11.6 TABLE TO CONSTITUENT SUBGROUPS

Provide a descriptive table for the constituent subgroups emphasizing features that might distinguish members of the taxon or be of particular biological importance.

12. ARTICLES DESCRIBING MEDIA AND SPECIAL METHODS



These articles are intended to serve as independent sources of methods that might be cited by multiple authors. They should include sufficient detail for use by an experienced investigator and the “tricks of the trade” that would be useful to new investigators. Factors known to affect the outcome of the procedure should be included, such as source of reagents, type of glassware, sterilization procedures, etc. Please see the sample article for medium preparation.

In general, the article should include an introductory paragraph providing a description of the purpose of the medium or method, citations to the original source, and features of interest. This will be followed by 1) description of any specialized glassware or instruments, 2) list of the reagents, 3) detailed protocol, and 4) troubleshooting or potential problems.

13. SUPPLEMENTARY MATERIALS

The BMSAB site supports supplementary materials with the flexibility to use any format such as audio, video, Excel, Word, PDF, and more. Although files above 1 GB can be uploaded to the Wiley Online Library, it facilitates the production team’s checks if the files are within 1 GB. If files greater than 1 GB are to be loaded, please discuss this with your editor.

Large tables and figures that do not conveniently fit within the format of the main content of the BMSAB are especially appropriate for supplementary materials.

14. GENERAL EDITORIAL GUIDANCE

Please adhere to these guidelines as closely as possible for all article types and consult with your editor for questions.

14.1 HEADING LEVELS

Divide article into sections and sub-sections up to a maximum of three levels of section heading.

To help the copyeditor correctly identify your section headings, please use the following style:

- H1 **1 NUMBERED BOLD CAPS LIKE THIS**
- H2 **1.1 Numbered Title Case and Bold Like This**
- H3 *1.1.1 Numbered lower case and italic like this*

Each section heading should start on a new line.

H1 and H2 headings should be preceded by 2 line spaces and followed by 1 line space.

H3 headings should be preceded by 1 line space and followed by 1 line space.

After the abstract, the article should begin with a first level heading, i.e. there should be no “free-standing” text before the first heading.

Please note that the headings “Acknowledgements”, “References” and “Further Reading” should all be presented as unnumbered H1 headings in bold capitals.

14.2 MATHEMATICAL EQUATIONS

These should be numbered consecutively using Arabic numerals enclosed in parentheses, written to the right of the equation, i.e.

$$x + y = 5 \quad (5)$$



Each equation should be cited in the text using the form:

...equation (5) describes... or Equation (5) describes

but not ...eqn (5) describes... or Eqn (5) describes.

Each equation should be placed in the appropriate position within the text. Please use Word Equation Editor or MathType wherever possible.

14.3 NOTES

It is not possible to include footnotes in the body of the articles. Any footnotes will therefore be moved into a section at the end of the article to be titled 'End Notes'. Any notes should be included under a heading entitled 'End Notes' at the end of the article before 'References'.

Note citations should take the form of a lower case, superscript letter, e.g. ^a, ^b, ^c etc.

In the online edition, the note citation will form a clickable hyperlink taking the user directly from the citation to the note.

15. EDITORIAL STYLE

15.1 SPELLING

Prepare your manuscript following American spelling and usage, e.g.

-ize endings *not* -ise (characterized *not* characterised)

-yze *not* yse (analyze *not* analyse)

behavior, color, neighbor, modeling

Our preferred dictionary is Merriam–Webster Collegiate Dictionary, 11th Edition.

15.2 SYMBOLS AND UNITS

It is important to distinguish between the letter "oh" and "zero", between the letter "ell" and "one", between the letter "kay" and "kappa", between the letter "vee" and "nu", etc.

SI units should be used throughout. Negative superscripts (i.e. kJ mol⁻¹) NOT the solidus (i.e. kJ/mol) should be used. For example:

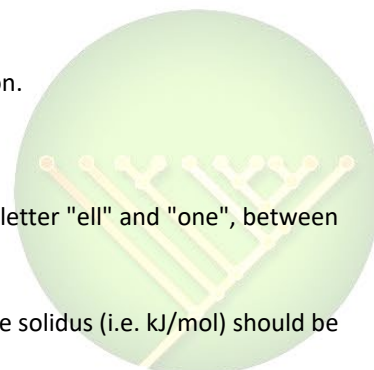
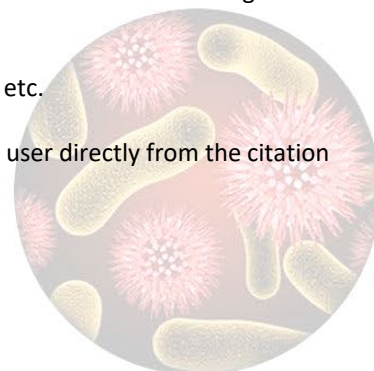
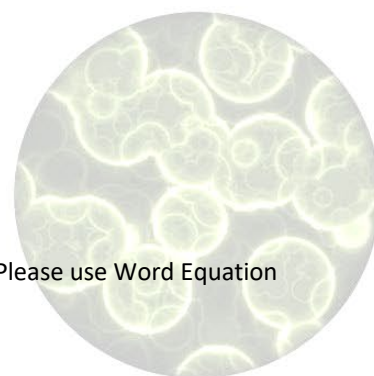
cubic millimeter per mole-second is mm³ mol⁻¹ s⁻¹

15.3 ABBREVIATIONS AND ACRONYMS

Abbreviations or acronyms must be defined in full on their **first** usage.

15.4 CITING A DEFINING PUBLICATION

Traditionally, the defining publication has been an important part of the name for any taxon. The correct citation of the defining publication(s) enabled the date of publication to be verified and hence the name's priority. It also identified the original description, which was the key to the name's circumscription. Lastly, it allowed the use of the same name by different authors for different organisms to be distinguished [ICNP Rule 33b, Note 1]. However, following the creation of the Approved Lists and Validation Lists in prokaryotic biology, all names became registered and unique, and it was no longer possible for different authors to use the same



name for different taxa. Reference to the appropriate list was also sufficient to retrieve the defining publication and the name's priority. Thus, it was no longer necessary to include the defining publication in the name for the name to be unambiguous.

Nevertheless, custom has demanded the continued use of the defining publication in the complete names for prokaryotes under most circumstances. Previously in Bergey's Manual, citations of defining publications have appeared in chapter headings and species lists. They included all of the authors' names and the page on which the species description appeared (not the first page of the article). However, in many cases, this amount of information was not necessary, was open to error, and could be confusing.

Emendations are not validly published as they have no standing in nomenclature. Nevertheless, emendations that change the circumscription of a name remain an important component of nomenclature, and they will continue to be listed with the defining publication.

For these reasons, the style has been changed. The new style is as follows:

1. The elements of the defining publication includes three parts: citation to the defining publication, a list of basonyms and synonyms with their citation(s), and a list of citations to emendations, in that order.
2. The citation of the defining publication uses the same format as used elsewhere in the Manual except that the comma before the year of publication is omitted. For instance, one, two and more than two authors are cited as Allan 1991, Cheshire and Cheyne 1885, and Stackebrandt et al. 2002, respectively. Page numbers are not given. However, if the citation is to a book, the reference should include either the page numbers of the relevant chapter or the page number on which the protologue appears.
3. When the name is described outside of the International Journal of Systematic and Evolutionary Microbiology or the International Journal of Systematic Bacteriology (IJSEM/IJSB), the effective publication along with the validation list including the name are cited. The validation list is cited as "VL134" and appears in the reference list as: Validation List No. 134 (2010) *Int J Syst Evol Microbiol* 60: 1477-1479.
4. If the name appeared on the Approved Lists, the citation is followed by the superscript "AL". The reference to the defining publication but not to the Approved Lists should be included in the references.
5. When the name is validly published in IJSEM, the citation is followed by the superscript "VP".
6. When the name is validated under the SeqCode, the effective publication is cited along with the SeqCode citation, which appears in the SeqCode Registry. In the reference list, the SeqCode citation is in the format of an internet reference.

Examples:

For a name on the Approved Lists:

Clostridium thermosaccharolyticum McClung 1935^{AL}

The page number is no longer required. The superscript denotes the source as Approved Lists. The reference list includes McClung, 1935, but not the Approved Lists.

For a validly published name published in the IJSEM/IJSB:

Rhodococcus marinoascens Helmke and Weyland 1984^{VP}

The page numbers are not included in the citation but in the reference. The superscript denotes that the name was validly published in IJSEM/IJSB.

For a name published elsewhere but validated in IJSEM/IJSB:

Rhodococcus chubuensis Tsukamura 1982, VL12



The effective publication is Tsukamura, 1982. The page numbers appear in the references and not the citation. Validation List No. 12 also appears in the reference list. Occasionally, the names of the validating authors are different from the names of the authors of the effective publication. This happens more frequently in older papers where the description is attributed to only a few of the authors of the paper. In these cases, still cite the effective publication.

For a name validly published under the SeqCode:

Phosphoribacter Singleton et al. 2022, Nielsen 2024

The effective publication is Singleton et al., 2022. The SeqCode Registry citation is Nielsen 2024 and is obtained from the SeqCode Registry by following the links to the “Register List” and “How to cite”. In the reference list, this reference would appear as Nielsen, P.H. (2024). Register list for 3 new names including *Phosphoribacter* gen. nov. The SeqCode Registry r:km1jc405. <https://doi.org/10.57973/seqcode.r:km1jc405>

For a name that has been changed:

Pseudomonas aeruginosa Migula 1900^{AL} (*Bacterium aeruginosum* Schroeter 1872) OR
Pseudomonas aeruginosa Migula 1900^{AL} (basonym: *Bacterium aeruginosum* Schroeter 1872)

In this case, Schroeter 1872 is the effective publication of *Bacterium aeruginosum* and Migula 1900 is the valid publication of *Pseudomonas aeruginosa*. The term “basonym” should be included if it avoids confusion.

Chryseobacterium indoltheticum Vandamme et al. 1994^{VP} (basonym: *Flavobacterium indoltheticum* Campbell and Williams 1951, *Beneckea indolthetica* Campbell 1957) emend. Wu et al. 2013

Basonyms precede any emendations. The basonym is the first validly published name. Subsequent validly published names are synonyms. All validly published names should be listed in chronological order. Reporting basonyms from before the creation of the Approved Lists in 1980 is optional.

For a name that has been emended:

Chryseobacterium Vandamme et al. 1994^{VP} emend. Kämpfer et al. 2009b, Wu et al. 2013, Montero-Calasanz et al. 2014, Chen et al. 2015a, Hahnke et al. 2016.

Emendations are preceded by the abbreviation “emend.” and appear in chronological order. Even when they are announced in IJSEM/IJSB, emendations are not validly published as they have no standing in nomenclature.

For a name not validly published:

“*Pseudomonas hydrogenovora*” Igarashi et al. 1980.

Further questions:

What if the emendation is for a basonym?

Include the emendation with all the other emendations in chronological order. Because the year of the emendation is also given, in most cases the year will identify the name to which it refers.

What if an emendation reverses a previous emendation?

Cite only the emendation that is used in the circumscription of the name. Other points of views should be fully discussed in the taxonomic comments.

What is cited for a basonym proposed after 1980, the valid or effective publication?

Cite both, using the same format as for defining publication. Example:



Borrelia turdi Adeolu and Gupta 2014, VL182 (basonym: *Borrelia turdii* Fukunga et al. 1996, VL 63)

How to cite opinions of the Judicial Commission?

Cite as: Judicial Commission 1986. Include the citation at the end of the defining publication. Example: *Methanosarcina* Kluver and van Niel 1936^{AL} emend. Mah and Kuhn 1984, Judicial Commission 1986

In the reference list, it would appear as:

Judicial Commission (1986) Opinion 63. Rejection of the type species *Methanosarcina methanica* and conservation of the genus *Methanosarcina* emend. Mah and Kuhn 1984 with *Methanosarcina barkeri* as the type species. *Int J Syst Bacteriol* **36**: 492.

15.5 SYNONYMS

Synonyms of generic names will be used only if they are on the Approved Lists or have been subsequently validly published. Likewise, with species the basonym will be used along with any validly published synonyms, and, in rare cases, an invalid synonym that would be important to workers in the field. While authors are free to use their name of choice, the most recent name is preferred. In addition, authors should provide a brief history of nomenclatural changes since 1980.

15.6 NEW NAMES AND COMBINATIONS

The publication of new names and combinations is allowed in the Manual. Authors must be aware of the rules for valid publication in the International Code of Nomenclature of Prokaryotes (Rules 27–32b). For a name that is effectively published in the Manual to be validly published, it must appear on a Validation List in the *International Journal of Systematic and Evolutionary Microbiology* (IJSEM). The author is responsible for submitting new names and combinations to the IJSEM for validation. Also, it is preferable that newly described genera or species be first published in the IJSEM or another journal where the experimental methods and results are described fully.

15.7 REVIVAL OF OLD NAMES

If you are proposing a description under a name which was published prior to 1980 but that did not appear on the Approved Lists of Bacterial Names, then the name must be revived according to Rule 28a of the International Code of Nomenclature of Prokaryotes. Names that were published before January 1, 1980 need to be validated in IJSEM.

16. BIBLIOGRAPHY

References are to take the Harvard style (name and date). The Bibliography section at the end should therefore be in alphabetical order (i.e. in order of the surname of the first-named author).

16.1 REFERENCES AND FURTHER READING

The Bibliography must contain only those references cited in the text (including table/figure captions). The Bibliography should appear at the end of the article beneath an unnumbered first level heading, e.g.

BIBLIOGRAPHY

If you want to include non-cited references in your article, you should present them in separate list beneath an unnumbered first level heading, e.g.

FURTHER READING



General reviews that might be of interest to students and workers from other fields are most appropriate for this section.

16.2 CITATION OF REFERENCES IN THE TEXT

All references should be cited in the text or the defining publications. See section 15.4 for the format for citations in the defining publications.

For citations in the text, the Harvard system is used where references are cited by author's surname and year of publication and then listed alphabetically by author. The citation should take the form:

'Stackebrandt et al. (2002)' or '(Stackebrandt et al., 2002)' depending on context.

Where two authors are present, both are given:

'(Cheshire and Cheyne, 1885)'

Where three or more authors are present give the first name followed by et al., for example:

'(Kanzawa et al., 1995)'

Where two or more references are cited at the same point they should be separated by semi-colons:

'Allan, 1991; Allan et al., 1993'

If two or more references by the same author(s) in the same year are cited, they should appear as:

'Deinhard et al., 1987a' and 'Deinhard et al., 1987b' in their order of appearance in the text. They should then be listed a, b, c order in the bibliography.

Distinct references by the same author(s) in different years can be cited, e.g.

'Fox et al., 1977, 1981'

16.3 CITATION OF JOURNAL IN THE BIBLIOGRAPHY

16.3.1 Standard Journal Reference

For a standard journal article with one author:

Knowles BH (1994) Mechanism of action of *Bacillus thuringiensis* insecticidal delta-endotoxin. *Adv. Insect Physiol.* **24**: 275–308.

For a standard journal article with two or more authors:

Kim JM, Lim WJ, & Suh HJ (2001) Feather-degrading *Bacillus* species from poultry waste. *Proc Biochem.* **37**: 287–291.

If a journal article has more than six authors, only the first six will be listed followed by "et al".

16.3.2 Online Journal Reference

Lund T, De Buyser M-L, & Granum PE (2000) *Mol. Microbiol.*, doi: 10.1046/j.1365-2958.2000.02147.x.

16.4 CITATION OF A BOOK IN THE BIBLIOGRAPHY



16.4.1 Authored Book Reference

Logan NA (1994) *Bacterial Systematics*. Blackwell Scientific Publications, Oxford.

16.4.2 Edited Book Reference

Logan NA, Popovitch TJ & Hoffmaster A (2007) *Bacillus* and related genera. In *Manual of Clinical Microbiology*, 9th ed., vol. 1, PR Murray, EJ Baron, JH Jorgensen, & MA Pfallera (eds). ASM, Washington; pp 455–473.

16.5 REFERENCES TO REPORTS/DOCUMENTS ON THE INTERNET

Buckley M & Roberts RJ (2007) *Reconciling Microbial Systematics & Genetics*.
<http://www.asm.org/Academy/index.asp?bid=49252>

17. TABLES AND CAPTIONS

Tables should be numbered consecutively with Arabic numerals (1-n) and grouped at the end of the manuscript.

Each table should have a title and individual column headings. Any units for columns should be in parentheses after the column heading. Footnotes to tables should be designated by superscript lower-case letters.

All tables must be cited in the text. Please do not embed the table into the text, but include a 'table flag' (i.e. a piece of text enclosed in angle brackets: <Table x near here> at the end of the paragraph containing the first citation to the table.

Data presented in tabular form is preferred over textual presentation, even if only one taxon is involved. There are two main categories of tables: tables that differentiate taxa and tables of descriptive data. Differentiation tables should contain only the most important differentiation data. Descriptive tables should strive to be complete. When possible, data obtained by a single method are preferred. When that is not possible, artifacts that might affect the reliability should be discussed in the text. Descriptive data should comprise one- or two-word descriptions of a character state that would be less clear if expressed in symbols.

Very large tables can be presented as Supplementary Material (see Section 13).

17.1 STANDARDIZED SYMBOLS

Without footnotes, the following symbols mean:

Symbol Meaning

+	90% or more of the strains are positive
-	10% or less of the strains are positive
d	11-89% of the strains are positive
v	strain instability (not equivalent to "d")
w	weak reaction
D	different reactions in different taxa (species of a genus or genera of a family)

Do not provide descriptive matter in tables unless the result is a more compact presentation of the data. Descriptive data should comprise one- or two-word descriptions of a character state that would be less clear if expressed in symbols.

17.2 TABLE PREPARATION

If tables are formatted consistently and properly, we can avoid considerable delays at the editorial and pre-production stage. Tables should be prepared either as part of your word document or as Excel spreadsheets.



Tables prepared in Microsoft Word should use the Table editor, rather than tabs and spaces. Allow text to wrap automatically within cells, rather than using the 'Return' key.

Provide tables at the end of your main document.

Tables spanning multiple pages should be kept to a minimum or placed in Supplementary Materials. If multiple-page tables are necessary, please use the Heading Rows Repeat function in Word's Tables editor to indicate repeated headings.

17.3 COLUMN HEADINGS

Use taxonomic names as column headings. Names should be in alphabetic order and can be abbreviated or replaced by numbers to reduce column width.

18. FIGURES AND CAPTIONS

18.1 ELECTRONIC FORMAT/RESOLUTION

All illustrations (i.e. all figures, and any standalone structures/schemes) should be submitted in electronic format. Please supply your figures either as EPS files or as TIFF files. You should supply EPS files for line illustrations and TIFF files for photographs or other greyscale or tone illustrations. Each figure file should contain only one figure. If the figure is a composite figure, all parts of the figure should be supplied in the one file. Please do **NOT** supply 'thumbnails' or low-resolution images such as GIF or JPEG files.

Line illustrations supplied electronically should not have a resolution less than 600 dpi. Tone illustrations (black and white and color photographs for instance) should have a resolution of around 300 dpi. Note that figures supplied in color will be reproduced in color online.

18.2 ILLUSTRATION SIZE

In order to ensure that the figure sizing is consistent across all the articles, we ask that you submit correctly sized illustrations. This means that illustrations should fit either a single column width (86 mm) or a double column width (179 mm). Figures should not exceed 200 mm in height. Labels and legends on figures should not be less than 8 pt and rules/lines should not be narrower than 0.5 pt.

18.3 FIGURES CITATION/NUMBERING

Each figure should be cited in the text and all should be numbered in sequence using Arabic numerals, e.g. "Figure 1" not "Figure 1.1"

All figures must be cited in the text and flagged, i.e. <Figure 1 near here> at the end of the paragraph containing the first citation to the figure.

18.4 FIGURE CAPTIONS

You must provide a descriptive caption for each illustration. Parts of composite figures should be clearly identified by (a) and (b) etc. labels placed at the top left corner of each figure part.

The caption for a composite figure should comprise a title or short description for the overall content of the figure and then a description of each part. All captions should be double-spaced as a separate list at the end of the manuscript.

19. CROSS-REFERENCES



Cross-references to other articles in the Manual significantly enhance the value of each article and will be one of the key features of the online edition of the Manual.

19.1 HOW TO CROSS-REFERENCE

Cross-references can be placed both in the body of an article ('inline cross references') or at the end of the article ('Related Articles'). 'Inline cross references' refer the reader to other articles which give more detailed information on the topic under discussion at that point; 'Related Articles' is a simple list of other articles which you feel the reader would find of interest.

19.1.1 In-Line Cross References

In-line cross-references are cross-references in the main text of an article, in a paragraph, referring readers to other articles which give more detailed information on the topic under discussion at that point.

It is important that articles are cross-referred to by Unique ID, and not by article title or article number. This ensures that the title of the target article will be cited accurately in the final product, even if the article title changes between commissioning and going to press. The unique IDs are supplied in the spreadsheet [Information for Contributors - Bergey's Manual Trust](#).

An in-line cross-reference should take the form (example only, not actual article title):

"Members of this genus are often mistaken for members of the genus *Methanococcus* (see XXX)"

rather than

"Members of this genus are often mistaken for members of the genus *Methanococcus* (see *Methanococcus* chapter)"

where "XXX" is the Unique ID for the article "*Methanococcus*".

19.1.2 Related Articles

The list of related articles should be presented immediately before the references:

Related articles:

gbm0002

gbm0003

20. COPYRIGHT, TRADEMARK, PERMISSIONS AND AI

As the author you're responsible for obtaining permission to use the third-party copyrighted material included in your work and for paying any publication fees required by rightsholders. This might include quotations of substantial length, illustrations, photographs or tables. It's essential that all permission grants are submitted to us together with your manuscript, otherwise publication of your work may be delayed.

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22. CHECKLISTS FOR CHAPTERS ON GENERA, FAMILIES, ORDERS AND HIGHER TAXA

Bergey's Manual of Systematics of Archaea and Bacteria Pre-submission Checklist for Genus Chapters

For an example of a Genus-level article, please see [Information for Contributors - Bergey's Manual Trust](#). All articles must contain the following components, except where noted below:

1. Article title (see Section 5)
2. Defining publication (see Section 9.1 and 15.4)
3. Contributor details (see Section 6)
4. Etymology (see Section 9.2)
5. Abstract (see Section 8)
6. Keywords (see Section 7)
7. Description (see Section 9.3), including the following:
 - DNA % G+C content
 - Type species (see Section 9.3)
 - Number of species with validated names
 - Parent Family (see Section 9.4)
8. Genus articles should contain most of the following sections:
 - Further descriptive information (see Section 9.5)



Morphology, cell wall composition, fine structure, colony or cultural characteristics, life cycles, nutrition and growth conditions, metabolism and metabolic pathways, genomic information, environmental distribution, ecology, and/or clinical importance

- Enrichment/isolation procedures (see Section 9.6)
 - Maintenance procedures (see Section 9.7)
 - Procedures for testing special characters (see Section 9.8)
 - Differentiation from other closely related genera (see Section 9.9)
 - Taxonomic comments (see Section 9.10)
 - Miscellaneous comments (see Section 9.11)
 - Tables to the species (see Section 9.12)
 - Diagnostic table (see Section 9.12.1)
 - Descriptive table (see Section 9.12.2)
 - Phylogenetic tree (see Section 9.13)
 - o Trees should be included at the appropriate taxonomic rank
 - o Trees should include all members of a taxon with validly published names
 - o The following should be included: Bootstrap values or symbols, scale bar, strain names/numbers
 - List of species (see Section 9.14)
 - Intraspecific divisions (see Section 9.15)
 - Species *incertae sedis* (see Section 9.16)
 - Species *candidatus* (see Section 9.17)
 - Species validated in the SeqCode (see Section 9.18)
 - Other organisms (see Section 9.19)
9. Bibliography (see Section 16)

***Bergey's Manual of Systematics of Archaea and Bacteria* Pre-submission Checklist for Family, Order, and Class Chapters**

For an example of a Family-level article, please see [Information for Contributors - Bergey's Manual Trust](#). All articles must contain the following components, except where noted below:

1. Article title (see Section 5)
2. Defining publication (see Section 9.1 and 15.4)
3. Contributor details (see Section 6)
4. Etymology (see Section 9.2)
5. Abstract (see Section 8)
6. Keywords (see Section 7)
7. Description (see Section 10.1)
8. Type genus (see Section 10.1)
9. Family articles should contain most of the following sections:
 - Position in the taxonomic outline
 - Phylogenetic tree (see Section 9.13)
 - o Trees should be included at the appropriate taxonomic rank
 - o Trees should include all members of a taxon with validly published names
 - o The following should be included: bootstrap values or symbols, scale bar, strain names/numbers
 - Phylogenomic comparisons
 - o If a significant number of genomes are available for the constituent genera, authors are encouraged to include a phylogenomic tree and other phylogenomic comparison data (e.g., average nucleotide identity, average amino acid identity matrices).
10. Table to constituent subgroups (see Section 10.4)
11. Bibliography (see Section 16)



***Bergey's Manual of Systematics of Archaea and Bacteria* Pre-submission Checklist for Phylum Chapters**

For an example of a Phylum-level article, please see [Information for Contributors - Bergey's Manual Trust](#). All articles must contain the following components, except where noted below:

1. Article title (see Section 5)
2. Defining publication (see Sections 9.1 and 15.4)
3. Contributor details (see Section 6)
4. Etymology (see Section 9.2)
5. Abstract (see Section 8)
6. Keywords (see Section 7)
7. Description (see Section 11.1)
8. Phylum-level articles should contain most of the following sections:
 - Phylogenetic tree (see Section 9.13)
 - Trees should be included at the appropriate taxonomic rank
 - Trees should include all members of a taxon with validly published names
 - The following should be included: bootstrap values or symbols, scale bar, strain names/numbers
 - Phylogenomic comparisons (see Section 11.3)
 - If a significant number of genomes are available for the constituent genera, authors are encouraged to include a phylogenomic tree and other phylogenomic comparison data (e.g., average nucleotide identity, average amino acid identity matrices).
9. Further comments (optional, see Section 11.5)
 - If any further descriptive material is needed, use any of the same categories used in generic descriptions, following the same order of presentation.
10. Table to constituent subgroups (see Section 11.6)
11. Bibliography (see Section 16)

