

Current text	Proposed new text	Comments	References
Division of a Species into Species or Subspecies, and of a Subspecies into Subspecies	Division of a Species into Multiple Species or Subspecies, and of a Subspecies into Multiple Subspecies	Text clarifications proposed by the Editorial Board	
<p>Rule 40a When a species is divided into two or more species or subspecies, the specific epithet of the original species must be retained for one of the taxa into which the species is divided or, if the epithet has not been retained (in a previous publication), it must be re-established. (See Rule 50a when a subspecies is elevated to a species).</p>	<p>Rule 40a When a species is divided into two or more species or subspecies, the specific epithet of the original species must be retained for one of the taxa into which the species is divided or, if the epithet has not been retained (in a previous publication), it must be re-established. (See Rule 50a when a subspecies is elevated to a species).</p>		
<p>Rule 40b The specific epithet must be retained for the species or subspecies which includes the type strain. When no type was designated, one must be chosen.</p> <p>Example: If the species <i>Bacillus subtilis</i> is divided into subspecies, the subspecies containing the type strain must be named <i>Bacillus subtilis</i> subsp. <i>subtilis</i>.</p>	<p>Rule 40b The specific epithet must be retained for the species or subspecies which includes the type strain. When no type was designated, one must be designated.</p> <p>Example: If the species <i>Bacillus subtilis</i> is divided into subspecies, the subspecies containing the type strain must be named <i>Bacillus subtilis</i> subsp. <i>subtilis</i>.</p>		
<p>Rule 40c The principles of Rules 40a and 40b apply when a subspecies is divided into two or more subspecies, the original subspecies name being retained for that subspecies which contains the type strain.</p>	<p>Rule 40c The provisions of Rules 40a and 40b apply when a subspecies is divided into two or more subspecies, the original subspecies name being retained for that</p>	As the Code has Principles the Editorial Board suggests 'provisions' instead.	

<p><i>Note.</i> Although the specific and subspecific epithets in the name of a type subspecies are the same, they do not contravene Rule 12b because they are based on the same type.</p>	<p>subspecies which contains the type strain.</p> <p><i>Note.</i> Although the specific and subspecific epithets in the name of a type subspecies are the same, they do not contravene Rule 12b because they are based on the same type.</p>		
<p>Rule 40d The valid publication of a subspecific name which excludes the type of the species automatically creates another subspecies which includes the type and whose name bears the same specific and subspecific epithets as the name of the type.</p> <p>Example: Publication of <i>Bacillus subtilis</i> subsp. <i>spizizenii</i> Nakamura et al. 1999 automatically created a new subspecies <i>Bacillus subtilis</i> subsp. <i>subtilis</i>.</p> <p>The author of the species name is to be cited as the author of such an automatically created subspecific name.</p> <p>Example: <i>Vibrio subtilis</i> Ehrenberg to <i>Bacillus subtilis</i> Cohn 1872 comb. nov. to <i>Bacillus subtilis</i> subsp. <i>subtilis</i> Nakamura et al. 1999 subsp. nov. The correct authorship of the subspecies is <i>Bacillus subtilis</i> subsp. <i>subtilis</i> (Ehrenberg 1835)</p>	<p>Rule 40d The valid publication of a subspecific name that does not include the type of the species, automatically creates the subspecies that includes the type of the species and whose name bears the same specific and subspecific epithets as the name of the type.</p> <p>Example: Publication of <i>Bacillus subtilis</i> subsp. <i>spizizenii</i> Nakamura et al. 1999 automatically created a new subspecies <i>Bacillus subtilis</i> subsp. <i>subtilis</i>.</p> <p>The author (s) of the species name will be cited as the author (s) of such an automatically created subspecific name.</p> <p>A consequence of the valid publication of a subspecific name that does not include the type of the species is that another subspecies that includes the type and whose name bears the same specific and subspecific epithets as the name of the</p>	<p>Tindall and Garrity (2008) discussed the possible need to modify the way subspecies names must be cited but did not make clear recommendations as to how to modify the rule. They also stated that the questions apply also to subgenus names.</p> <p>The alternative text was proposed by Tindall (2019). Is there a way this can be formulated in a simpler way? The text is cumbersome.</p>	<p>Tindall BJ, Garrity GM. Should we alter the way that authorship of a subspecies name that is automatically created under Rule 40d of the Bacteriological Code is cited? <i>Int J Syst Evol Microbiol</i> 2008;58:1991-1992.</p> <p>Tindall BJ. Proposed modifications to Rule 40d of the International Code of Nomenclature of Prokaryotes. <i>Int J Syst Evol</i></p>

<p>Nakamura et al. 1999 [Ehrenberg for the epithet and Nakamura for the new subspecies].</p>	<p>type must be validly published. Valid publication of the name at the rank of subspecies, which is based on the same type as that of the species and bears the same specific and subspecific epithets, must be published in conformity with Rules 27, 28b, 32a and 32b.</p> <p>Example: A consequence of the publication of <i>Bacillus subtilis</i> subsp. <i>spizizenii</i> Nakamura et al. 1999 is that the name of a new subspecies <i>Bacillus subtilis</i> subsp. <i>subtilis</i> must be validly published by the same authors that published the species name. This means that Nakamura et al. 1999 are automatically the authors of the name <i>Bacillus subtilis</i> subsp. <i>subtilis</i> (Ehrenberg 1835) Nakamura et al. 1999.</p> <p>2. Names at the rank of subspecies that are based on the same nomenclatural type and whose name bears the same specific and subspecific epithets as the name of the type that were not validly published as specified under Rule 40d (1) may by action of the Judicial Commission be ruled to have been validly published as defined in Rule 46 of the 1975 and 1990 revisions of the International Code of Nomenclature of Bacteria and their</p>		<p><i>Microbiol</i>_2019;99:1519–1520.</p>
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	authorships and dates of valid publication fixed accordingly.		
Transfer of a Species to Another Genus	Transfer of a Species to Another Genus		
<p>Rule 41a</p> <p>When a species is transferred to another genus without any change of rank, the specific epithet must be retained, or if it has not been retained (in a previous publication), it must be re-established, unless (see Rule 23a Note 1):</p> <p>(1) The resulting binary combination would be a later homonym</p> <p>Example: Bernardet <i>et al.</i> [25] proposed <i>Flavobacterium hydatis</i> for <i>Cytophaga aquatilis</i> Strohl and Tait 1978 (Approved Lists 1980) on transfer to <i>Flavobacterium</i> because in that genus the name <i>Flavobacterium aquatile</i> already existed.</p> <p>(2) There is available an earlier validly published and legitimate specific or subspecific epithet.</p> <p>Example: Not yet found.</p>	<p>Rule 41a</p> <p>When a species is transferred to another genus without any change of rank, the specific epithet must be retained, except for necessary changes of gender of adjectives used as specific epithets, to comply with Rule 12c(1), or it must be re-established if it has not been retained (in a previous publication), unless (see Rule 23a Note 1):</p> <p>(1) The resulting binary combination would be a later homonym</p> <p>Example: Bernardet <i>et al.</i> [25] proposed <i>Flavobacterium hydatis</i> for <i>Cytophaga aquatilis</i> Strohl and Tait 1978 (Approved Lists 1980) on transfer to <i>Flavobacterium</i> because the name <i>Flavobacterium aquatile</i> already existed in that genus.</p> <p>(2) There is available an earlier validly published and legitimate specific or subspecific epithet.</p> <p>Example: Not yet found.</p>		
Rule 41b	Rule 41b		

<p>When the name of a genus is changed, the specific epithets of the species included under the original generic name must be retained for the same species if they are transferred to the new genus.</p>	<p>If the name of a genus is changed, the specific epithets of the species included under the original generic name must be retained for the same species, when they are transferred to the new genus, except for necessary changes of gender of adjectives used as specific epithets, to comply with Rule 12c(1)).</p>		
<p>Union of Taxa of Equal Rank</p>	<p>Union of Taxa of Equal Rank</p>		
<p>Rule 42 In the case of subspecies, species, subgenera, and genera, if two or more of those taxa of the same rank are united, the oldest legitimate name or epithet is retained.</p> <p>If the names or epithets are of the same date, the author who first unites the taxa has the right to choose one of them, and his choice must be followed.</p>	<p>Rule 42 In the case of subspecies, species, subgenera, and genera, if two or more of those taxa of the same rank are united, the oldest legitimate name or epithet is retained.</p> <p>If the names or epithets are of the same date, the author (s) who first unite the taxa has the right to choose one of them, and that choice must be followed.</p>	<p>About the proposal to abolish the rank of subgenus (despite there being validly published names of subgenera) see earlier comments.</p> <p>The Editorial Board has a duty to remove gendered language. This also includes Rule 47a, and Appendix 10. There is a regrettable historic use in the report of the 3rd international congress (“his place shall be filled”) but this should not be corrected (although “his [their] place” could be considered).</p>	
<p>Recommendation 42 Authors who have to choose between two generic names of the same date should note the following:</p>	<p>Recommendation 42 Authors who must choose between two generic names of the same date should note the following:</p>		

<p>(1) Prefer the one which is better known.</p> <p>(2) Prefer the one which was first accompanied by the description of a species.</p> <p>(3) If both are accompanied by descriptions of species, prefer the one which includes the larger number of species.</p> <p>(4) In cases of equality from these points of view, prefer the more appropriate name.</p>	<p>(1) Designate the name that is better known.</p> <p>(2) Designate the name that was first accompanied by the description of a species.</p> <p>(3) If both are accompanied by descriptions of species, designate the name that includes the larger number of species.</p> <p>(4) In cases of equality with respect to these considerations, designate the more appropriate name.</p>		
<p>Union of Genera as Subgenera</p>	<p>Union of Genera as Subgenera</p>	<p>About the proposal to abolish the rank of subgenus (despite there being validly published names of subgenera) see earlier comments.</p>	
<p>Rule 43 When several genera are united as subgenera of one genus, the subgenus which includes the type species of the genus under which union takes place must bear the same name as that genus.</p> <p>Example: The subgenus name <i>Lactobacillus</i> Beijerinck 1901 must be used instead of <i>Thermobacterium</i> for the subgenus that contains the type species <i>Lactobacillus delbrueckii</i> (see <i>Bergey's Manual</i>, 7th edn, p. 543 [26], and Opinion 38; Judicial Commission [7]).</p>	<p>Rule 43 When several genera are united as subgenera of one genus, the subgenus that includes the type species of the genus under which union takes place must bear the same name as that genus.</p> <p>Example: The subgenus name <i>Lactobacillus</i> Beijerinck 1901 must be used instead of <i>Thermobacterium</i> for the subgenus that contains the type species <i>Lactobacillus delbrueckii</i> (see <i>Bergey's Manual</i>, 7th edn, p. 543, and Opinion 38 of the Judicial Commission).</p>		

<p>Union of Species of Two or More Genera as a Single Genus</p>	<p>Union of Species of Two or More Genera as a Single Genus</p>		
<p>Rule 44 If two or more species of different genera are brought together to form a genus, and if these species include the type species of one or more genera, the name of the genus is that associated with the type species having the earliest legitimate generic name.</p> <p>If no type species is placed in the genus, a new generic name must be proposed and a type species selected.</p> <p>Example: <i>Brevibacterium</i> Breed 1953. None of the included species was a type species of the genera from which the species were transferred, so a new name, <i>Brevibacterium</i>, was proposed, with <i>Brevibacterium linens</i> as the type species.</p>	<p>Rule 44 If two or more species of different genera are brought together to form a genus and if these species include the type species of one or more genera, the name of the genus is that associated with the type species having the earliest legitimate generic name.</p> <p>If no type species is placed in the genus, a new generic name must be proposed and a type species designated.</p> <p>Example: <i>Brevibacterium</i> Breed 1953. None of the included species was a type species of the genera from which the species were transferred, so a new name, <i>Brevibacterium</i>, was proposed, with <i>Brevibacterium linens</i> as the type species.</p>		
<p>Union of Species as Subspecies</p>	<p>Union of Species as Subspecies</p>		
<p>Rule 45 When several species are united as subspecies under one species, the subspecies which includes the type strain of the species under whose name they are united must be designated by the same epithet as the species.</p>	<p>Rule 45 When several species are united as subspecies under one species, the subspecies that includes the type strain of the species under which name they are united must be designated by the same epithet as the species.</p>		

<p>Example: <i>Streptomyces griseus</i> subsp. <i>griseus</i> (see pp. 214 and 224 in Pridham <i>et al.</i> [27]).</p>	<p>Example: <i>Streptomyces griseus</i> subsp. <i>griseus</i> (see pp. 214 and 224 in Pridham <i>et al.</i> [27]).</p>	<p>Instead of numbered references: Pridham <i>et al.</i>, <i>Int Bull Bacteriol Nomencl Taxon</i> 1965,15:191–237).</p>	
<p>Rule 46 <i>Editorial Note.</i> The former Rule 46 has been relocated as Rule 40d. This rule only remains here only as a placeholder in order to avoid renumbering Rules 47 and above. Rule 46 should not be cited.</p>	<p>Rule 46 <i>Editorial Note.</i> The former Rule 46 has been relocated as Rule 40d. This rule remains here only as a placeholder in order to avoid renumbering Rules 47 and above. Rule 46 should not be cited.</p>		
<p>Union of Taxa above Species under a Higher Taxon</p>	<p>Union of Taxa above Species under a Higher Taxon</p>		
<p>Rule 47a When two or more taxa of the same rank from subtribe to family inclusive are united under a taxon of higher rank, the higherranking taxon should derive its name from the name of the earliest legitimate genus that is a type genus of one of the lowerranking taxa.</p> <p>If, however, the use of this generic name would lead to confusion in bacteriology, then the author may choose as type a genus which, in his opinion, leads to the least confusion and, if in doubt, should refer the matter to the Judicial Commission.</p> <p><i>Note.</i> The type of a taxon above the rank of genus is one of the contained genera (Rule 15). The name of the type subgenus</p>	<p>Rule 47a When two or more taxa of the same rank from tribe through family are united under a taxon of higher rank, the higher-ranking taxon should derive its name from the name of the earliest validly published genus that is a type genus of one of the lower-ranking taxa.</p> <p>However, if the use of this generic name would lead to confusion in prokaryotic nomenclature, the author(s) may designate the genus as type which leads to the least confusion and, if in doubt, should refer the matter to the Judicial Commission.</p> <p><i>Note.</i> The type of a taxon above the rank of genus is one of the contained genera (Rule 15). The name of the type subgenus</p>	<p>Alternative 1: keep the old text with minor changes.</p>	<p>Oren A. Proposal to modify the Rules of the <i>International Code of Nomenclature of Prokaryotes</i> to abolish the taxonomic categories Subfamily, Subtribe and Kingdom <i>Int J Syst Evol Microbiol</i>_2019;69:1524-1525.</p>

<p>is the same as that of the type genus; therefore, only the names of genera need to be considered.</p> <p>Example: Buchanan in Breed <i>et al.</i> [28] followed the law of priority in combining the families <i>Beggiatoaceae</i> Migula 1894 and <i>Vitreoscillaceae</i> Pringsheim 1949 into the new order <i>Beggiatoales</i>, whose type is <i>Beggiatoa</i> Trevisan 1842, which has priority over <i>Vitreoscilla</i> Pringsheim 1949. In contrast, Breed <i>et al.</i> [24] chose <i>Pseudomonas</i> Migula 1894 over <i>Spirillum</i> Ehrenberg 1832 and <i>Nitrobacter</i> Winogradsky 1892 to form the name of a new suborder; <i>Pseudomonadineae</i> Breed <i>et al.</i> 1957.</p>	<p>is the same as that of the type genus; therefore, only the names of genera need to be considered.</p> <p>Example: Buchanan in the publication by Breed <i>et al.</i> (1957) [28] combined the families <i>Beggiatoaceae</i> Migula 1894 and <i>Vitreoscillaceae</i> Pringsheim 1949 into the new order <i>Beggiatoales</i>, which type is <i>Beggiatoa</i> Trevisan 1842 which has priority over <i>Vitreoscilla</i> Pringsheim 1949 and was included in the family. In contrast, Breed <i>et al.</i> (1957) [24] chose <i>Pseudomonas</i> Migula 1894 instead of <i>Spirillum</i> Ehrenberg 1832 and <i>Nitrobacter</i> Winogradsky 1892 to form the name of a new suborder; <i>Pseudomonadineae</i> Breed <i>et al.</i> 1957.</p> <p>Rule 47a <i>Editorial Note.</i> The former Rule 47a has been deleted. This rule remains here only as a placeholder in order to avoid renumbering Rule 47b. Rule 47a should not be cited.</p> <p>Recommendation 47a When two or more taxa of the same rank from subtribe through family, are united under a new taxon of higher rank for which there is no previous validly</p>	<p>The way references are cited, with or without numbered references, will be decided later.</p> <p>Alternative 2 based on Tindall 2016 with a minor proposed edit.</p>	<p>Tindall BJ. The wording and examples given in Rule 47a of the International Code of Nomenclature of Prokaryotes are misleading. <i>Int J Syst Evol Microbiol</i> 2016;66:4913-4914.</p>
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	<p>published name, consideration should be given to selecting the earliest legitimate genus name that is the nomenclatural type of one of the lower-ranking taxa to be the nomenclatural type of the higher-ranking taxon that also derives its name from the name of that genus.</p> <p>Example: Buchanan in the publication by Breed <i>et al.</i> (1957) [28] followed the law of priority in combining combined the families <i>Beggiatoaceae</i> Migula 1894 and <i>Vitreoscillaceae</i> Pringsheim 1949 into the new order <i>Beggiatoales</i>, whose type is <i>Beggiatoa</i> Trevisan 1842, which has priority over <i>Vitreoscilla</i> Pringsheim 1949 and was validly published before <i>Vitreoscilla</i> Pringsheim 1949 and was included in the family. In contrast, Breed <i>et al.</i> (1957) [24] chose <i>Pseudomonas</i> Migula 1894 over <i>Spirillum</i> Ehrenberg 1832 and <i>Nitrobacter</i> Winogradsky 1892 to form the name of a new suborder; <i>Pseudomonadineae</i> Breed <i>et al.</i> 1957.</p>		
<p>Rule 47b If no type genera were placed in the taxon, a new name based on the selected type must be proposed for the taxon.</p> <p>Example: <i>Peptococcaceae</i> Rogosa 1971 (see p. 235 in Rogosa [29]).</p>	<p>Rule 47b If no type genera were placed in the taxon, a new name based on the selected type must be proposed for the taxon.</p> <p>Example: <i>Peptococcaceae</i> Rogosa 1971 (see p. 235 in Rogosa [29]).</p>	<p>The way references are cited, with or without numbered references, needs to be decided.</p>	
<p>Change in Rank</p>	<p>Change in Rank</p>		

<p>Rule 48 When the rank of a taxon between subgenus and order is changed, the stem of the name must be retained and only the suffix altered unless the resulting name must be rejected under the Rules (see Rule 9).</p> <p>Example: Elevation of the tribe <i>Pseudomonadeae</i> to the family <i>Pseudomonadaceae</i></p>	<p>Rule 48 When the rank of a taxon between subgenus and order is changed, the stem of the name must be retained and only the suffix altered unless the resulting name must be rejected under the Rules (see Rule 9).</p> <p>Example: Elevation of the tribe <i>Pseudomonadeae</i> to the family <i>Pseudomonadaceae</i></p>	<p>If the word, 'between' is used here, that would mean that Subgenus and Order are not included, only the taxa between them.</p> <p>About the proposal to abolish the rank of subgenus (despite there being validly published names of subgenera) see earlier comments.</p>	
<p>Rule 49 When a genus is lowered in rank to subgenus, the original name must be retained unless it is rejected under the Rules. This also applies when a subgenus is elevated to a genus.</p> <p>Example: Bøvre [30] lowered the genus <i>Branhamella</i> Catlin 1970 in rank to subgenus, the name of the subgenus is <i>Branhamella</i> (Catlin 1970) Bøvre 1979.</p>	<p>Rule 49 When a genus is lowered in rank to subgenus, the original name must be retained unless it is rejected under the Rules. This also applies when a subgenus is elevated to a genus.</p> <p>Example: Bøvre [30] lowered the genus <i>Branhamella</i> Catlin 1970 in rank to subgenus, the name of the subgenus is <i>Branhamella</i> (Catlin 1970) Bøvre 1979</p>	<p>About the proposal to abolish the rank of subgenus (despite there being validly published names of subgenera) see earlier comments.</p> <p>The way references are cited, with or without numbered references, is to be decided.</p>	