Current text	Proposed new text	Comments	References (to be added at the end of the document)
APPENDIX 9. ORTHOGRAPHY[1]	**APPENDIX 9. ORTHOGRAPHY[1]**		
Footnote: 1. This appendix is adapted from Trüper and Euzéby 2009.	Footnote: 1. This appendix is adapted from Trüper and Euzéby 2009.		
~~When naming an organism, authors should be aware of the fact that there is no guarantee that all strains of a newly named species or all species of a newly named genus possess the property or properties used for the formation of that name.~~			
A. Formation of Compound Names			
(1) Compound names are formed by combining two or more words or word elements of Latin and/or Greek origin into one generic name or specific epithet. In most cases two word elements are used (e.g. *Thio/bacillus*, *thio/parus*), but up to four elements may be found (e.g. *Ecto/thio/rhodo/spira*). The combination of word elements follows four basic rules:	(1) Compound names are formed by combining two or more words or word elements of Latin and/or Classical Greek origin into one generic name or specific epithet. In most cases, two word elements are used (e.g., *Thio/bacillus*, *thio/philus*) although, as many as four elements may be found (e.g., *Ecto/thio/rhodo/spira*). A name or epithet that combines elements derived from two or more Greek or Latin words should be formed, as far as practicable, in accordance with classical usage. The combination of word elements follows four basic rules:	The old example *thioparus* may be formally correct but *thioparans* (as used in *Bacillus / Mesobacillus thioparans*) is to be preferred, the Editorial Board changed the example to *thiophilus*, also an epithet used for a *Thiobacillus* species.	**Oren A, Schink B.** Use of Greek in the prokaryotic nomenclature: proposal to change Principle 3, Recommendation 6, Rule 7, Rule 65 and Appendix 9 of the International Code of Nomenclature. *Int J Syst Evol Microbiol* 2020;70:3559-3560. **Oren A, Chuvochina M, Schink B.** The use of Greek and Latin prepositions and

(a) Except for the last word element only the word stems are to be used. (b) The connecting vowel is -o- when the preceding word element is of Greek origin, it is -i- when the preceding word element is of Latin origin. Greek is more flexible than Latin about the connecting vowel, and other connecting vowels than -o- may be used if a precedent is found in Greek. Example: *Corynebacterium*.	(a) The word stems are to be used, except for the last word element. (b) For compound names that contain a noun or adjective in a non-final position, the connecting vowel is -i- if the preceding word element is of Latin origin; -o- if the preceding word element is of Greek origin. Greek is more flexible than Latin about the connecting vowel, and other connecting vowels than -o- may be used if a precedent is found in Greek. Example: *Corynebacterium*. Compound specific or subspecific epithets of prokaryotes based on localities can be formed by concatenating the genitives of the components, if the name of the locality lends itself to translation into Latin. In such names, the basic noun comes first and is followed by the descriptive word, which can be an adjective or a noun. Examples for a noun followed by an adjective: *marisnigri*, *lacusekhoensis*; for two nouns: *vallismortis*, *lacuslunae*. Binomial names of plants or animals can be treated in a similar way.	Comment from the Editor-in-Chief of the ICNP: the word 'stem' may not be fully correct as in many cases the root rather than the stem is used, and these are often not identical. For example, the stems of nouns (masculine, neuter) of the second Latin declension end in –o, so this should give genus names such as "Soloimicrobium" instead of Solimicrobium (from Latin neut. n. solum, genitive soli, grammatical stem: solo-!) or epithets such as equoirhinis instead of equirhinis (from Latin masc. n. equus, grammatical stem equo-) . Some time ago, Aharon OrenOren wrote up a draft manuscript on this and discussed it with Bernhard Schink. We decided then to abandon this project as being too technical. If there is interest, the authors can work again on this manuscript.	prefixes in compound names: proposed emendation of Appendix 9 of the International Code of Nomenclature of Prokaryotes. *Int J Syst Evol Microbiol* 2019;69:1831-1832. **Oren A, Schink B.** Further guidelines for the formation of compound specific and subspecific epithets. A proposal to emend Appendix 9 of the International Code of Nomenclature of Prokaryotes. *Int J Syst Evol Microbiol* 2019;70:3561-3562.

(c) A connecting vowel is dropped when the following word element starts with a vowel. (d) Hyphens and diacritic signs are not allowed (see Rules 12a and 64, respectively).	Example: *Sphingomonas bovisgrunnientis* (c) The connecting vowel is dropped when the following word element starts with a vowel. (d) Hyphens and diacritic signs are not allowed (see Rules 12a and 64, respectively).		
(2) Exemptions from these regulations exist only for the following cases: (a) When well-established word elements from chemistry or physics are used, their use in these sciences must be followed. Examples: thio- for sulfur does not lose the -o- in combinations such as *Thioalkalibacter* and *thiooxidans* (following the usage in chemistry: thioether, thioester); likewise radio- would not lose the -o- in combinations such as '*Radioalkalibacter*' or '*radioegens*' (following the usage in physics: radioactive). (b) As in inorganic chemistry the vowels -o and -i are used to indicate different oxidation levels of cations (e.g. ferro, ferri, cupro, cupri, etc.); they do not fall under the Greek/Latin ruling for connection vowels when used in prokaryote names.	(2) Exemptions from these regulations exist only for the following cases: (a) When well-established word elements from chemistry or physics are used, their use in these sciences must be followed. Examples: *thio*- for sulfur does not lose the -o- in combinations such as *Thioalkalibacter* and *thiooxidans* (following the usage in chemistry: thioether, thioester); likewise *radio*- would not lose the -o- in combinations such as '*Radioalkalibacter*' or '*radioegens*' (following the usage in physics: radioactive). (b) As in inorganic chemistry, the vowels -i and -o are used to indicate different oxidation levels of cations (e.g. ferri, ferro, cupri, cupro, etc.), they do not fall under the Greek/Latin rules for connection vowels when used in prokaryote names.	For consistency in the use of italic type.	

Examples: *Ferroglobus* is an Fe^{2+} oxidizer, while *Ferrimonas* is an Fe^{3+} reducer. (c) In word components like bio-, geo-, halo-, neo-, macro-, micro-, etc., the connecting vowel -o- may be kept when a component follows that begins with a vowel (for reasons of clarity or of previous usage).	Examples: *Ferrimonas* is an Fe^{3+} reducer, while *Ferroglobus* is an Fe^{2+} oxidizer. (c) In word components such as allo-, bio-, geo-, halo-, hetero-, iso-, meso-, neo-, macro-, micro-, etc., the connecting vowel -o- may be retained when a component follows that begins with a vowel (for reasons of clarity or of previous usage). (d) Greek prepositions and prefixes are not followed by a connecting vowel. Examples: *Metakosakonia*, *Paracoccus*. When Greek prepositions and prefixes that end in a vowel (e.g., epi, kata, meta, para) are attached to word elements that begin with a vowel, the final vowel is elided. Examples: *Eperythrozoon*, *Paralcaligenes*, *Parendozoicomonas*, *Vibrio metoecus*. Exceptions are the prepositions peri and pro, which do not elide. Example: *Fusobacterium periodonticum*. Prepositions formed from Greek adjectives (e.g., poly, mega) and adverbs (e.g., exo and eu) also do not elide.		**Oren A, Chuvochina M, Schink B.** The use of Greek and Latin prepositions and prefixes in compound names: proposed emendation of Appendix 9 of the International Code of Nomenclature of Prokaryotes. *Int J Syst Evol Microbiol* 2019;69:1831-1832.

	Examples: *Polyangium*, *Clostridium polyendosporum*. (e) Latin prepositions and prefixes are not followed by a connecting vowel. When Latin prepositions and prefixes that end in a vowel are attached to word elements that begin with a vowel, the final vowel is not elided, conforming to the usage in classical Latin. Adverbs are rarely used in compound words and more extensive use is not encouraged. For Latin adverbs, the connecting vowel -i- may be used; it is dropped if the following word element starts with a vowel. Examples: *Paenibacillus*, *Paenalcaligenes*.		
B. Generic (and Subgeneric) Names	**B. Generic (and Subgeneric) Names**		
1) The name of a genus (or subgenus) is a Latin noun (substantive) in the nominative case. If adjectives or participles are chosen to form generic names they have to be transformed into substantives (nouns) and handled as such. In some cases the substantivation has already happened in classical Latin (e.g. *Serpens*). Examples: (i) genuine nouns: *Bacillus*, *Streptococcus*, *Escherichia*, *Azotobacter*; (ii) substantivated adjectives: *Ammoniphilus*, *Halorubrum*,	1) The name of a genus (or subgenus) is a Latin noun (substantive) in the nominative case. If adjectives or participles are chosen to form generic names, they have to be transformed into substantives (nouns) and handled as such. In some cases, the nominalisation has already happened in classical Latin (e.g., *Serpens*). Examples: (i) genuine nouns: *Bacillus*, *Streptococcus*, *Escherichia*, *Azotobacter*; (ii) substantivised adjectives: *Ammoniphilus*, *Halorubrum*,	‘nominalisaton’ is probably the correct term. nominalized?	

Methanosalsum, *Rubritepida*; (iii) substantivated participles of the present: *Agarivorans*, *Myceligenerans*, *Serpens*; (iv) substantivated participles of the perfect: *Amycolata*, *Aquiflexum*, *Gemmata*, *Microlunatus*, *Pectinatus*.	*Methanosalsum*, *Rubritepida*; (iii) substantivated participles of the present: *Agarivorans*, *Myceligenerans*, *Serpens*; (iv) substantivised participles of the perfect: *Amycolata*, *Aquiflexum*, *Gemmata*, *Microlunatus*, *Pectinatus*.	nominalized? nominalized?	
(2) Both Latin and Greek know three genders, i.e. contain nouns of masculine, feminine and neuter gender. Adjectives associated with nouns follow these in gender. For the correct formation of specific epithets (as adjectives) it is therefore necessary to know the gender of the genus name or of its last component, ~~as appropriate.~~ Examples for some last components in compound generic names are: (i) of masculine gender: -*arcus*, -*bacillus*, -*bacter*, -*coccus*, -*ger*, -*globus*, -*myces*, -*philus*, -*planes*, -*sinus* and -*vibrio*; (ii) of feminine gender: -*arcula*, -*cystis*, -*ella*, -*ia*, -*illa*, -*ina*, -*musa*, -*monas*, -*opsis*, -*phaga*, -*pila*, -*rhabdus*, -*sarcina*, -*sphaera*, -*spira*, -*spina*, -*spora*, -*thrix* and -*toga*; (iii) of feminine or masculine gender: -*cola* (-*incola*); (iv) of neuter gender: -*bacterium*, -*bactrum*, -*baculum*, -*filamentum*, -*filum*, -*genium*, -*microbium*, -*nema*, -	(2) Both Latin and Greek know three genders, i.e., contain nouns of masculine, feminine and neuter gender. Adjectives associated with nouns follow these in gender. For the correct formation of specific epithets (as adjectives) it is, therefore, necessary to know the gender of the genus name or of its last component. Examples for some last components in compound generic names are: (i) of masculine gender: -*arcus*, -*bacillus*, -*bacter*, -*coccus*, -*ger*, -*globus*, -*myces*, -*philus*, -*planes*, -*sinus* and -*vibrio*; (ii) of feminine gender: -*arcula*, -*cystis*, -*ella*, -*ia*, -*illa*, -*ina*, -*musa*, -*monas*, -*opsis*, -*phaga*, -*pila*, -*rhabdus*, -*sarcina*, -*sphaera*, -*spira*, -*spina*, -*spora*, -*thrix* and -*toga*; (iii) of feminine or masculine gender: -*cola* (-*incola*); (iv) of neuter gender: -*bacterium*, -*bactrum*, -*baculum*, -*filamentum*, -*filum*, -*genium*, -*microbium*, -*nema*, -*plasma*, -*spirillum*, -*sporangium* and -*tomaculum*;		

plasma, *-spirillum*, *-sporangium* and *-tomaculum*; (v) of masculine or feminine or neuter gender: *-ferax*, *-fex* and *-vorax*.	(v) of masculine or feminine or neuter gender: *-ferax*, *-fex* and *-vorax*. Names ending in *–oides* are formed by adding that suffix to the stem of the preceding word or word element and have the neuter gender. Names ending in *–opsis* (from Gr. fem. n. *opsis* aspect, appearance) must be treated as feminine. However, generic names ending in *–oides* or *–opsis* assigned to different genders by the authors cannot be corrected retroactively. Examples: *Bacteroides* and *Nocardiopsis* are masculine;.	Note: *Nocardiopsis* was described as masculine and cannot retroactively be changed to feminine.	**Oren A, Schink B.** Formation of names of genera of prokaryotes that end on *–oides* or *–opsis*: A proposal for addenda to Rule 65(2) and to Appendix 9 of the International Code of Nomenclature of Prokaryotes. *Int J Syst Evol Microbiol* 2016;66:2452-2453.
(3) The gender of a new genus must be indicated with the etymology given in the description.	(3) The gender of a new genus must be indicated with the etymology given in the description.		
C. Specific (and Subspecific) Epithets	**C. Specific (and Subspecific) Epithets**		
(1) Rule 12c of the Code demands that specific (or subspecific) epithets must be treated in one of ~~the~~ three following ways: (a) as an adjective that must agree in gender with the generic name; (b) as a substantive (noun) in apposition in the nominative case; (c) as a substantive (noun) in the genitive case.	(1) Rule 12c of the Code demands that specific (or subspecific) epithets must be treated in one of three following ways: (a) as an adjective that must agree in gender with the generic name; (b) as a substantive (noun) in apposition in the nominative case; (c) as a substantive (noun) in the genitive case.		
Examples: (a) *Staphylococcus aureus* (adjective: 'golden'); (b) *Desulfovibrio gigas* (nominative noun: 'the giant'); (c)	Examples: (a) *Staphylococcus aureus* (adjective: 'golden'); (b) *Desulfovibrio gigas* (nominative noun: 'the giant'); (c)		

Escherichia coli (genitive noun: 'of the colum=colon').	*Escherichia coli* (genitive noun: 'of the colum=colon').		
(2) *Adjectives and participles as specific epithets* (a) Latin adjectives belong to the 1st, 2nd or 3rd declension. Those of the 1st and 2nd declension have different endings in the three genders. In the 3rd declension the situation is more complicated, as there are adjectives ~~that~~ don't change with gender, others that do and some that are identical in the masculine and feminine gender and different in the neuter. Table 1 gives some examples. Note that comparative adjectives are also listed. It is recommended always to look up an adjective in a dictionary before using it for the formation of a name. (b) Participles are treated as if they are adjectives, i.e. they fall under Rule 12c (1) of the Code. (c) Infinitive (also named 'present') participles in the singular do not change with gender. According to the four conjugations of Latin they end in -*ans* (first conjugation, e.g. *vorans* devouring, from *vorare* to devour, *voro* I devour), -*ens* (second conjugation, e.g. *inhibens* inhibiting, from *inhibere* to inhibit, *inhibeo* I inhibit), -*ens* (third	(2) *Adjectives and participles as specific epithets* (a) Latin adjectives belong to the 1st, 2nd or 3rd declension. Those of the 1st and 2nd declension have different endings in the three genders. For adjectives in the 3rd declension, the situation is more complicated, as some adjectives don't change with gender, some that do change with gender, and some that are identical in the masculine and feminine gender and different in the neuter. Table 1 gives some examples. Note that comparative adjectives are also listed. It is recommended always to look up an adjective in a dictionary before using it for the formation of a name. (b) Participles are treated as if they are adjectives, i.e., they fall under Rule 12c (1) of the Code. (c) Infinitive (also named 'present') participles in the singular do not change with gender. According to the four conjugations of Latin, they end in -*ans* (first conjugation, i.e., *vorans* devouring, from *vorare* to devour, *voro* I devour), -*ens* (second conjugation, i.e., *inhibens* inhibiting, from *inhibere* to inhibit, *inhibeo* I inhibit), -*ens* (third		

conjugation, e.g. *exigens* demanding, from *exigere* to demand, *exigo* I demand), *-iens* (third conjugation, e.g. *faciens* making, from *facere* to make, *facio*, I make), *-iens* (fourth conjugation, e.g. *oboediens* obeying, from *oboedire* to obey, *oboedio* I obey). ~~Note. Knowledge of the ending of the first person singular in the present is decisive.~~ (d) Perfect participles change their endings with gender and are handled like adjectives of the first and second declension, e.g. *aggregatus* (masc.), *aggregata* (fem.), *aggregatum* (neut.) (aggregated, from aggregare to get together), *flexus*, *flexa*, *flexum* (bent, from *flectere* to bend), *latus*, *lata*, *latum* (carried, from the irregular verb *ferre* to carry), *diminutus*, *diminuta*, *diminutum* (smashed, from *diminuere* to smash).	conjugation, i.e., *exigens* demanding, from *exigere* to demand, *exigo* I demand), *-iens* (third conjugation, i.e., *faciens* making, from *facere* to make, *facio*, I make), *-iens* (fourth conjugation, i.e., *oboediens* obeying, from *oboedire* to obey, *oboedio* I obey). (d) Perfect participles change their endings with gender and are handled like adjectives of the first and second declension, e.g., *aggregatus* (masc.), *aggregata* (fem.), *aggregatum* (neut.) (aggregated, from aggregare to get together), *flexus*, *flexa*, *flexum* (bent, from *flectere* to bend), *latus*, *lata*, *latum* (carried, from the irregular verb *ferre* to carry), *diminutus*, *diminuta*, *diminutum* (smashed, from *diminuere* to smash).	The Editorial Board propose deleting this note: based on the examples given it is not clear why *voro* and *exigo* give –*ans* and –*ens*, respectively.	
(3) *Nominative nouns in apposition as specific epithets* (a) Nominative nouns in apposition must make sense to be acceptable. In grammar, apposition means 'the placing of a word or expression beside another so that the second explains	(3) *Nominative nouns in apposition as specific epithets* (a) Nominative nouns in apposition must make sense to be acceptable. In grammar, apposition means 'the placing of a word or expression beside another so that the second explains and		

and has the same grammatical construction as the first'; i.e. the added nominative noun has an explanatory specifying function for the generic name, thus~~, e.g.~~ *Desulfovibrio gigas* may be understood as *Desulfovibrio dictus gigas* and translated as '*Desulfovibrio*, called the giant', which, with reference to the unusual cell size of this species, makes sense. (b) All specific epithets ending with the Latin suffixes -*cola* (derived from *incola*, 'the inhabitant, dweller') and -*cida* ('the killer') fulfil the above-mentioned requirement.	has the same grammatical construction as the first'; i.e., the added nominative noun has an explanatory specifying function for the generic name. Thus, *Desulfovibrio gigas* may be understood as *Desulfovibrio dictus gigas* and translates as '*Desulfovibrio*, called the giant', which, with reference to the unusual cell size of this species, makes sense. (b) All specific epithets ending with the Latin suffixes -*cola* (derived from *incola*, 'the inhabitant, dweller') and -*cida* ('the killer') fulfil the above-mentioned requirement.		
(4) *Genitive nouns as specific epithets* (a) The formation of specific epithets as genitive nouns does not pose problems, as the singular genitive of substantives (nouns) is usually given in dictionaries. (b) If the plural genitive is preferred, as for example in *Lactobacillus plantarum* ('of plants'), one has to find out the declension of the noun, as plural genitives are different in different declensions [see F (3)]. Examples: *Curtobacterium plantarum* (first declension); *Staphylococcus equorum* (second declension); *Bifidobacterium dentium* (third	(4) *Genitive nouns as specific epithets* (a) The formation of specific epithets as genitive nouns does not pose problems, as the singular genitive of substantives (nouns) is usually given in dictionaries. (b) If the plural genitive is preferred, as for example in *Lactobacillus plantarum* ('of plants'), the declension of the noun must be determined, as plural genitives are different in different declensions [see F (3)]. Examples: *Curtobacterium plantarum* (first declension); *Staphylococcus equorum* (second declension); *Bifidobacterium dentium* (third		

declension); examples not yet found of the fourth and fifth declensions.	declension); examples have not yet been found of the fourth and fifth declensions.		
D. Formation of Prokaryote Names from Personal Names	**D. Formation of Prokaryote Names from Personal Names**		
(1) Persons may be honoured by using their name in forming a generic name or a specific epithet. The Code, however, strongly recommends refraining from naming genera (and subgenera) after persons that are not connected with bacteriology or at least with natural science (Recommendation 10a) ~~and, in the case of specific epithets, to ensure that, if taken from the name of a person, it recalls the name of one who discovered or described it, or was in some way connected with it (Recommendation 12c).~~	(1) Persons may be honoured by using their name in forming a generic name or a specific epithet. However, the Code recommends strongly refraining from naming genera, subgenera, species and subspecies after persons that are not connected with bacteriology or, at least, with natural science (Recommendation 10a, 12c).	The Editorial Board added species and subspecies based on the proposal to add this to Recommendation 12c Concerning subgenera: see comments elsewhere.	**Oren A.** Proposal to change Recommendation 12c of the International Code of Nomenclature of Prokaryotes. *Int J Syst Evol Microbiol* 2015;65,4288.
(2) It is good practice to ask the person to be honoured by a scientific name for permission (as long as she/he is alive). Authors should refrain from naming bacteria after themselves or co-authors ~~after each other~~ in the same publication, as this is considered immodest by the majority of the scientific community [see Recommendation 6 (10)].	(2) It is good practice to ask the person to be honoured by a scientific name for permission (if she/he is alive). Authors should refrain from naming bacteria after themselves or co-authors in the same publication, as this is considered immodest by the majority of the scientific community [see Recommendation 6 (10)].		
(3) *Personal names in generic names*	(3) *Personal names in generic names*		

(a) The Code provides two ways to form a generic name from a personal name: either directly by adding the ending *-a*, *-ea*, *-nia* or *-ia* or as a diminutive by adding, usually, the ending *-ella*, *-iella* or *-nella*. Both kinds are always in the feminine gender. Examples are provided in Table 2.	(a) The Code provides three ways to form a generic name from a personal name: (1) directly, by adding the ending *-a*, *-ea*, *-nia* or *–ia*; (2) as a diminutive, by adding, usually, the ending *-ella*, *-iella* or *-nella*. Both kinds are always in the feminine gender. Examples are provided in Table 2; (3) by using the personal name as a word element in a compound name. Table 3 provides guidelines for the formation of compound generic names in which the first word element is derived from a personal name.		**Oren A, Chuvochina M, Schink B.** Formation of compound generic names based on personal names: a proposal for emendation of Appendix 9 of the International Code of Nomenclature of Prokaryotes. *Int J Syst Evol Microbiol* 2019;69:594–596.
(b) Some personal names in Europe were already Latinized before 1800 and kept since. If they end in *-us*, replace the ending by *-a* or *-ella* (diminutive) respectively (e.g. the name Bucerius would result in '*Buceria'* or '*Buceriella'*). Beware, however, of Lithuanian names like Didlaukus, Zeikus, etc. These are not Latinized but genuine forms and would receive the ending -ia according to Table 2.	(b) Some personal names in Europe were already latinized before 1800 and kept since. If they end in *-us*, replace the ending by *-a* or *-ella* (diminutive) respectively (e.g., the name Bucerius would result in '*Buceria'* or '*Buceriella'*). Beware, however, of Lithuanian names like Didlaukus, Zeikus, etc. These are not latinized but genuine forms and would receive the ending -ia according to Table 2.	Latinized? Latinized?	
(c) Not more than one person can be honoured in one generic name or epithet.	(c) It is not recommended to honour more than one person in one generic name or epithet.	About (c) – The Editorial Board proposes making this a recommendation. There are a few recent precedents: *Corynebacterium jeikeium*, *Ruminiclostridium josui*, *Azospirillum baldaniorum*, *Herbinix luporum*. Older names are *Acinetobacter baumannii*, *Bounagaea*, *Epibacterium scottomollicae*, *Lechevalieria*,	
(d) If an organism is named after a person, the name cannot be shortened, e.g. '*Wigglesia'* after	(d) If an organism is named after a person, the name cannot be shortened, e.g., '*Wigglesia'* after Wigglesworth,		

Wigglesworth, '*Stackia'* after Stackebrandt or '*Goodfellia'* after Goodfellow, etc., but must appear fully. Personal titles (Sir, Lord, Duke, Baron, Graf, Conte, etc.) are not included in prokaryote names, although they may belong to the name according to the laws of the respective country. Prefixes and particles should be treated as follows: (i) The Scottish patronymic prefixes 'Mac', 'Mc' ~~and 'M'~~, meaning 'son of', should be written 'mac' and be united with the rest of the name (e.g. '*Macdonellia'* or '*macdonellii'* after MacDonell; *Macginleya* or *macginleyi* after McGinley). (ii) The Irish patronymic prefix 'O' should be united with the rest of the name or omitted (e.g. '*Oconnoria'* or '*Connoria'* or '*oconnorii'* or '*connorii'* after O'Connor). (iii) A prefix consisting of an article (e.g. le, la, l', les, el, il, lo, de), or containing an article (e.g. du, de la, des, del, della, do, da), may be omitted or united to the name (e.g. *Rochalimaea* after da Rocha-Lima; *Leclercia* or '*leclercii'* after Le Clerc; *Leminorella* or *leminorii* after Le Minor; '*Loprestia'* or '*loprestii'* after Lo Presti, *Deleya* or *deleyi* after de Ley, *Devosia* or '*devosii'* after De Vos).	'*Stackia'* after Stackebrandt or '*Goodfellia'* after Goodfellow, etc., but must appear fully. Personal titles (Sir, Lord, Duke, Baron, Graf, Conte, etc.) are not included in prokaryote names, although they may belong to the name according to the laws of the respective country. Prefixes and particles should be treated as follows: (i) The Scottish and Irish patronymic prefixes 'Mac' and 'Mc', meaning 'son of', should be written 'mac' and be united with the rest of the name (e.g., '*Macdonellia'* or '*macdonellii'* after MacDonell; '*Macginleya'* or *macginleyi* after McGinley). (ii) The Irish patronymic prefix 'O' should be united with the rest of the name or omitted (e.g., '*Oconnoria'* or '*Connoria'* or '*oconnorii'* or '*connorii'* after O'Connor). (iii) A prefix consisting of an article (e.g., le, la, l', les, el, il, lo, de), or containing an article (e.g. du, de la, des, del, della, do, da), may be omitted or united to the name (e.g., *Rochalimaea* after da Rocha-Lima; *Leclercia* or '*leclercii'* after Le Clerc; *Leminorella* or *leminorii* after Le Minor; '*Loprestia'* or '*loprestii'* after Lo Presti, *Deleya* or *deleyi* after De Ley, *Devosia* or '*devosii'* after De Vos).	*Leminorella*, *Leminorella grimontii*, and *Brevibacterium mcbrellneri.*	

(iv) The Dutch prefix 'van' and the German prefix 'von' may be omitted or united to the name (e.g. ~~*Escherichia* after von Escherich;~~ *Leeuwenhoekia* after van Leeuwenhoek, *itersonii* after van Iterson, *prowazekii* after von Prowazek, '*Vannielia*' or *vannielii* after van Niel; '*Vandertoornia*' or '*vandertoornii*' or '*Toornia*' or '*toornii*' after van der Toorn, '*Vandammella*' or '*vandammei*' after Vandamme). (v) The adjective Saint (San, Sankt, Santo, -a, Sveti, etc.) as part of some family names may be omitted or united to the name (e.g. '*Exuperya*' or '*exuperyi*' after Saint-Exupéry, ~~'*Sanmartinia*' or '*sanmartinii*' after San Martin~~). (e) Rarely, generic names or specific epithets have been formed from forenames (first names, given names, Christian names), i.e. not from the family name. Examples: *Erwinia* was named after Erwin F. Smith; the first name *Arletta* appears in *Staphylococcus arlettae* (N.L. gen. n. *arlettae* of Arletta, named after Arlette van de Kerckhove). First names may be chosen in order to avoid rather long family names or unusually long (hyphenated) double names.	(iv) The Dutch prefix 'van' and the German prefix 'von' may be omitted or united to the name (e.g., *Leeuwenhoekiella* after van Leeuwenhoek, *itersonii* after van Iterson, *prowazekii* after von Prowazek, '*Vannielia*' or *vannielii* after van Niel; '*Vandertoornia*' or '*vandertoornii*' or '*Toornia*' or '*toornii*' after van der Toorn, '*Vandammella*' or '*vandammei*' after Vandamme). (v) The adjective Saint (San, Sankt, Santo, -a, Sveti, etc.) as part of some family names may be omitted or united to the name (e.g., '*Exuperya*' or '*exuperyi*' after Saint-Exupéry, *santarosai* after Santa Rosa. (e) Rarely, generic names or specific epithets have been formed from forenames (first names, given names, Christian names), i.e., not from the family name. Examples: *Erwinia* was named after Erwin F. Smith; the first name *Arletta* appears in *Staphylococcus arlettae* (N.L. gen. n. *arlettae* of Arletta, named after Arlette van de Kerckhove). First names may be chosen in order to avoid rather long family names or unusually long (hyphenated) double names.	The name was Escherich, not von Escherich; *Leeuwenhoekiella* instead of the previous version *Leeuwenhoekia* (which is a mite!). The Editorial Board replaced a theoretical example with a real epithet (genus *Leptospira santarosai*).	

(f) In cases of very frequent family names where the honoured person is not easily identifiable, first and family name may be contracted without connecting vowel or hyphenation, but otherwise treated like a single family name. Examples: *Owenweeksia*, *Elizabethkingia*.	(f) In cases of very frequent family names where the honoured person is not easily identifiable, first and family name may be contracted without connecting vowel or hyphenation, but otherwise treated like a single family name. Examples: *Owenweeksia*, *Elizabethkingia*.		
(4) Personal names in specific epithets (a) To form specific epithets from personal names there are ~~principally~~ two possibilities: the adjective form and the genitive noun form. The adjective form has no means to recognize the sex of the honoured person, which, in principle, is not necessary for nomenclatural purposes. The personal names receive appropriate endings according to the gender of the generic name as indicated in Table 3. Thus an ~~adjective~~ epithet is formed that has the meaning of 'pertaining/relating/belonging to... (the person)'. (b) When the genitive of a Latinized personal name is formed for a specific epithet, the sex of the person to be honoured may be taken into consideration as indicated in Table 4. On the basis of classical, medieval and Neo-Latin usage, any of the forms of	(4) Personal names in specific epithets (a) Two possibilities exist to form specific epithets from personal names: the adjective form and the genitive noun form. The adjective form has no means to recognize the sex of the honoured person, which, in principle, is not necessary for nomenclatural purposes. The personal names receive appropriate endings according to the gender of the generic name, as indicated in Table 4. Thus, an epithet is formed that has the meaning of 'pertaining/relating/belonging to... (the person)'. (b) When the genitive of a Latinized personal name is formed for a specific epithet, the sex of the person to be honoured may be taken into consideration, as indicated in Table 5. On the basis of classical, medieval and Neo-Latin usage, any of the forms of	latinized?	

Latinization listed in Table 4 may be chosen. As evident from Table 4, the formation of specific epithets from personal names as genitive nouns poses certain problems only with names ending in -*a* and -*o*. (c) The recommendations and rules for genus names as given above [D (3), (c)–(f)] are also applicable for specific epithets. Appropriate examples are given there.	Latinization listed in Table 5 may be chosen. As evident from Table 5, the formation of specific epithets from personal names, as genitive nouns, poses certain problems only with names ending in -*a* and -*o*. (c) The recommendations and rules for genus names, as given above [D (3), (c)–(f)], are also applicable for specific epithets. Appropriate examples are given there.		
E. Formation of Prokaryote Names from Geographical Names	**E. Formation of Prokaryote Names from Geographical Names**		
(1) The formation of prokaryote names from geographical names has no geopolitical meaning, i.e. such names cannot be used to express geopolitical claims.	(1) The formation of prokaryote names from geographical names has no geopolitical meaning, i.e., such names cannot be used to express geopolitical claims.		
(2) Unlike epithets derived from personal names, epithets on the basis of geographical names cannot be formed as substantives in the genitive case. They must be adjectives and are usually constructed by adding the ending –*ensis* (masculine or feminine gender) or -*ense* (neuter gender) to the geographical name in agreement with the latter's gender. Only if the name of the locality ends in -*a* or -*e* or -*en*, these letters are dropped before adding -*ensis*/-*ense* (e.g. *jenensis* from	(2) Unlike epithets derived from personal names, epithets on the basis of geographical names cannot be formed as substantives in the genitive case. They must be adjectives and are usually constructed by adding the ending –*ensis* (masculine or feminine gender) or -*ense* (neuter gender) to the geographical name and in agreement with the latter's gender. Only if the name of the locality ends in -*a* or -*e* or -*en*, are these letters dropped before adding -*ensis*/-*ense* (e.g., *jenensis* from		

Jena, *californiensis* from California, *drentensis* from Drente, *bremensis* from Bremen). If the locality's name ends in -*o*, the ending becomes -*nensis*/-*nense* (e.g. the name of the Japanese city Sapporo: *sapporonensis*, *sapporonense*).	Jena, *californiensis* from California, *drentensis* from Drente, *bremensis* from Bremen). If the locality's name ends in -*o*, the ending becomes -*nensis*/-*nense* (e.g., the name of the Japanese city Sapporo: *sapporonensis*, *sapporonense*).		
(3) Quite a number of localities in the Old World (Europe, Asia, Africa) have classical Greek, Latin or medieval Lati names and adjectives derived from these: *aegyptius* (Egypt), *africanus* (Africa), *arabicus* (Arabia), *asiaticus* (Asia), *balticus* (Baltic Sea), *bavaricus* (Bavaria), *bretonicus* (Brittany), *britannicus* (Britain), *europaeus* (Europe), *frisius* (Friesland), *gallicus* (France), *germanicus* (Germany), *graecus* (Greece), *hellenicus* (Hellas, classical Greece), *helveticus* (Switzerland), *hibernicus* (Ireland), *hispanicus* (Spain), *hungaricus* (Hungary), *ibericus* (Spain/Portugal, the Iberian peninsula), *indicus* (India), *italicus* (Italy), *mediterraneus* (Mediterranean Sea), *persicus* (Persia, Iran), *polonus* (Poland), *rhenanus* (Rhineland), *romanus* (Rome), *saxonicus* (Saxony), etc. ~~Later,~~ Neo-Latin names were also given to many other non-European parts of the world, so adjectives like *americanus*	(3) Quite a number of localities in the Old World (Europe, Asia, Africa) have classical Greek, Latin or medieval Lati names and adjectives derived from these: *aegyptius* (Egypt), *africanus* (Africa), *arabicus* (Arabia), *asiaticus* (Asia), *balticus* (Baltic Sea), *bavaricus* (Bavaria), *bretonicus* (Brittany), *britannicus* (Britain), *europaeus* (Europe), *frisius* (Friesland), *gallicus* (France), *germanicus* (Germany), *graecus* (Greece), *hellenicus* (Hellas, classical Greece), *helveticus* (Switzerland), *hibernicus* (Ireland), *hispanicus* (Spain), *hungaricus* (Hungary), *ibericus* (Spain/Portugal, the Iberian peninsula), *indicus* (India), *italicus* (Italy), *mediterraneus* (Mediterranean Sea), *persicus* (Persia, Iran), *polonus* (Poland), *rhenanus* (Rhineland), *romanus* (Rome), *saxonicus* (Saxony), etc. Neo-Latin names were given also to many other non-European parts of the world, so adjectives like *americanus* (America),		

(America), *antarcticus* (Antarctica), *australicus* (Australia), *cubanus* (Cuba), *mexicanus* (Mexico), *japonicus* (Japan), etc. were introduced. Wherever such older adjectives exist they may be used as specific epithets to indicate geographical origins.	*antarcticus* (‘southern’ in classical Latin) (Antarctica), *australicus* (Australia), *cubanus* (Cuba), *mexicanus* (Mexico), *japonicus* (Japan), etc. were introduced. Wherever such older adjectives exist they may be used as specific epithets to indicate geographical origins.		
(4) European and Mediterranean cities and places of classical times may have had quite different names than today, e.g. *Lucentum* (Alicante, Spain), *Argentoratum* (Strasbourg, France), *Lutetia* (Paris, France), *Traiectum* (Utrecht, Netherlands), *Ratisbona* (Regensburg, Germany), *Eboracum* (York, UK), *Londinium* (London, UK) and *Hafnia* (København, Denmark), which lead to the respective adjectives *lucentensis*, *argentoratensis*, *lutetiensis*, *traiectensis*, *ratisbonensis*, *eboracensis*, *londiniensis* and *hafniensis* but, alternatively, the Neo-Latin adjectives of the modern names may ~~also~~ be used: *alicantensis*, *strasbourgensis*, *parisensis*, *utrechtensis*, *regensburgensis*, *yorkensis*, *londonensis*, *kobenhavnensis*, respectively.	(4) European and Mediterranean cities and places of classical times may have had quite different names than today, e.g., *Lucentum* (Alicante, Spain), *Argentoratum* (Strasbourg, France), *Lutetia* (Paris, France), *Traiectum* (Utrecht, Netherlands), *Ratisbona* (Regensburg, Germany), *Eboracum* (York, UK), *Londinium* (London, UK) and *Hafnia* (København, Denmark), which lead to the respective adjectives *lucentensis*, *argentoratensis*, *lutetiensis*, *traiectensis*, *ratisbonensis*, *eboracensis*, *londiniensis* and *hafniensis*. Alternatively, the Neo-Latin adjectives of the modern names may be used: *alicantensis*, *strasbourgensis*, *parisensis*, *utrechtensis*, *regensburgensis*, *yorkensis*, *londonensis*, *kobenhavnensis*, respectively.		
(5) Many localities (mostly lakes, rivers, seas, islands, capes, rocks, mountains or valleys, but also some cities and towns) have names that consist of two	(5) Many localities (mostly lakes, rivers, seas, islands, capes, rocks, mountains or valleys, but also some cities and towns) have names that consist of two		

words, usually an adjective and a substantive (noun) (e.g. Deep Lake, Black Sea, Red River, Rio Grande, Long Island, Blue Mountain, Baton Rouge, Santa Cruz, Saint Germain, Sankt Georgen, etc.) or two substantives (e.g. Death Valley, Lake Windermere, Loch Ness, Martha's Vineyard, Ayers Rock, Woods Hole, Cape Cod, Monte Carlo, etc.). The formation of specific epithets from such localities' names may pose a problem, as the use of the adjectival suffix *-ensis*, *-ense* may lead to rather strange looking or awkward constructions, such as '*deeplakensis'* or '*bluemountainense'*, although they would be formally correct. If a name of a locality lends itself to translation into Latin, specific epithets may as well be formed as genitive substantives of the two components and concatenating them without hyphenation, like the existing ones *lacusprofundi* (of Deep Lake), *marisnigri* (of the Black Sea), *marismortui* (of the Dead Sea) or, of two nouns, *vallismortis* (of Death Valley). *Note*. In Latin the basic noun comes first, the determining word (adjective or noun) second.	words, usually an adjective and a substantive (noun) (e.g., Deep Lake, Black Sea, Red River, Rio Grande, Long Island, Blue Mountain, Baton Rouge, Santa Cruz, Saint Germain, Sankt Georgen, etc.) or two substantives (e.g., Death Valley, Lake Windermere, Loch Ness, Martha's Vineyard, Ayers Rock, Woods Hole, Cape Cod, Monte Carlo, etc.). The formation of specific epithets from the names of such localities may pose a problem, as the use of the adjectival suffix *-ensis*, *-ense* may lead to rather strange looking or awkward constructions, such as '*deeplakensis'* or '*bluemountainense'*, although they would be formally correct. If the name of a locality lends itself to translation into Latin, specific epithets may be formed, as well as genitive substantives of the two components and concatenating them without hyphenation, such as the existing *lacusprofundi* (of Deep Lake), *marisnigri* (of the Black Sea), *marismortui* (of the Dead Sea) or, of two nouns, *vallismortis* (of Death Valley). See also Section A (1) (b) above. *Note*. In Latin, the basic noun comes first, the determining word (adjective or noun) second.		

(6) The inclusion of articles (such as *the*, *el*, *o*, *il*, *le*, *la*, *a*, *de*, *der*, *die*, *das*, *den*, *het* or their plurals *the*, *los*, *las*, *os*, *as*, *les*, *ils*, *gli*, *le*, *de*, *die*,*s'*, etc.) as they are used for locations in several languages (e.g. La Paz, El Ferrol, El Alamein, Le Havre, The Netherlands, Die Schweiz, Den Haag, s' Hertogenbosch, Los Angeles, etc.) should be avoided. Articles would unnecessarily elongate names without adding information.	(6) The inclusion of articles (such as, *the*, *el*, *o*, *il*, *le*, *la*, *a*, *de*, *der*, *die*, *das*, *den*, *het* or their plurals *the*, *los*, *las*, *os*, *as*, *les*, *ils*, *gli*, *le*, *de*, *die*, *'s*, etc.) as they are used for locations in several languages (e.g., La Paz, El Ferrol, El Alamein, Le Havre, The Netherlands, Die Schweiz, Den Haag, 's Hertogenbosch, Los Angeles, etc.) should be avoided. Articles would unnecessarily elongate names without adding information.		
F. Formation of Names for Prokaryotes Living in Association or Symbiosis with Other Biota	**F. Formation of Names for Prokaryotes Living in Association or Symbiosis with Other Biota**		
(1) For the formation of names for prokaryotes that live in association or symbiosis with plants, fungi, animals or other prokaryotes it is important to know the exact meaning of the nomenclatural name of such a partner and how it was formed (adjective, genitive noun, etc.).	(1) For the formation of names for prokaryotes that live in association or symbiosis with plants, fungi, animals or other prokaryotes, it is important to know the exact meaning of the nomenclatural name of such a partner and how it was formed (adjective, genitive noun, etc.).		
(2) The easiest way of forming such specific epithets is the use of the genitive case of the generic name of the associated organism in question, e.g. *suis*, *equi*, *bovis*, *muscae*, *muris*, *aquilae*, *falconis*, *gypis*, *elephantis* (of the pig, horse, cow, fly, mouse, eagle, falcon, vulture, elephant), or *fagi*,	(2) The easiest way of forming such specific epithets is the use of the genitive case of the generic name of the associated organism in question, e.g., *suis*, *equi*, *bovis*, *muscae*, *muris*, *aquilae*, *falconis*, *gypis*, *elephantis* (of the pig, horse, cow, fly, mouse, eagle, falcon, vulture, elephant), or *fagi*,		

quercus (4th declension genitive, spoken with long u), *castaneae*, *aesculi*, *rosae*, *liliae* (of the beech, oak, chestnut, horse chestnut, rose, lily).	*quercus* (4th declension genitive, spoken with long u), *castaneae*, *aesculi*, *rosae*, *liliae* (of the beech, oak, chestnut, horse chestnut, rose, lily).		
(3) Alternatively the genitive of the plural is recommendable, especially if several species of the associated (usually) eukaryotic genus house the prokaryote species in question. To form the plural genitive one needs to know the stem and declension of the word. The following examples may be of ~~some~~ assistance: (a) 1st declension: -*arum* (*muscarum*, of flies, *rosarum*, of roses); (b) 2nd declension: -*orum* (*equorum*, of horses, *pinorum*, of pines); (c) 3rd declension (consonant stems): -*um* (*leonum*, of lions, *leguminum*, of legumes); (d) 3rd declension (vocal and mixed stems): -*ium* (*felium*, of cats, *ruminantium*, of ruminants); (e) 4th declension: -*um* (*quercum*, of oaks); (f) 5th declension: -*rum* (scabierum, of different forms of scabies, a skin desease). *Note*. Be aware of irregular forms such as *bos* (the cow), genitive *bovis*, plural genitive *boum*; *canis* (the dog), genitive	(3) Alternatively, the genitive of the plural is recommended, especially if several species of the associated (usually) eukaryotic genus house the prokaryote species in question. To form the plural genitive, one needs to know the stem and declension of the word. The following examples may be of assistance: (a) 1st declension: -*arum* (*muscarum*, of flies, *rosarum*, of roses); (b) 2nd declension: -*orum* (*equorum*, of horses, *pinorum*, of pines); (c) 3rd declension (consonant stems): -*um* (*leonum*, of lions, *leguminum*, of legumes); (d) 3rd declension (vocal and mixed stems): -*ium* (*felium*, of cats, *ruminantium*, of ruminants); (e) 4th declension: -*um* (*quercum*, of oaks); (f) 5th declension: -*rum* (scabierum, of different forms of scabies, a skin desease). *Note*. Be aware of irregular forms such as *bos* (the cow), genitive *bovis*, plural genitive *boum*; *canis* (the dog), genitive		

canis, plural genitive *canum*. Use dictionaries.	*canis*, plural genitive *canum*. Use dictionaries.		
G. Names Originating from Languages Other than Latin or Greek	**G. Names Originating from Languages Other than Latin or Classical Greek**		
(1) As the Code defined Latin or, better, Neo-Latin as the language of prokaryote nomenclature, names should not be taken from other languages as long as they may be constructed from Latin or Greek word stems [Recommendation 6 (3)]. Only Latin gender endings are permitted. Greek endings must be transformed into Latin endings. Example: The formation of the epithet simbae from the East African Swahili word simba, lion, for a *Mycoplasma* species was not necessary because in this genus the corresponding Latin epithet *leonis* (of the lion) had not been used before.	(1) As the Code defined Latin or, better, Neo-Latin as the language of prokaryote nomenclature, names should not be taken from other languages as long as they may be constructed from Latin or Classical Greek word stems [Recommendation 6 (3)]. Only Latin gender endings are permitted. Greek endings must be transformed into Latin endings. Example: The formation of the epithet simbae from the East African Swahili word simba, lion, for a *Mycoplasma* species was not necessary because the corresponding Latin epithet *leonis* (of the lion) had not been used in this genus.		**Oren A, Schink B.** Use of Greek in the prokaryotic nomenclature: proposal to change Principle 3, Recommendation 6, Rule 7, Rule 65 and Appendix 9 of the International Code of Nomenclature. *Int J Syst Evol Microbiol* 2020;70:3559-3560.
(2) When it becomes unavoidable to use a word from another language the word stem must be identified before Latinization. Example: The Arabic word 'alkali' (*al-qaliy*, the ashes of saltwort) from which the element kalium (K; English, potassium) received its name. As the *-i*	(2) When it becomes unavoidable to use a word from another language the word stem must be identified before Latinization. Example: The Arabic word 'alkali' (*al-qaliy*, the ashes of saltwort) from which the element kalium (K; English, potassium) received its name. Since the	latinization?	

at the end of the word belongs to the stem it is wrong to speak and write of alcalophilic instead of alkaliphilic microbes.	-*i* at the end of the word belongs to the stem, it is wrong to speak and write, of alcalophilic, instead of alkaliphilic microbes.		
(3) Typical usages of the other language should not be carried over into Latin. Example: The English suffix -philic (e.g. hydrophilic: friendly to water, water-loving) is an English transformation of the Latin -*philus*, -*a*, -*um* (originating from Greek *philos*, friendly). Therefore the ending -*philicus* must be avoided and -*philus* be used instead.	(3) Typical usages of other languages should not be carried over into Latin. Example: The English suffix -philic (e.g., hydrophilic: friendly to water, water-loving) is an English transformation of the Latin -*philus*, -*a*, -*um* (originating from Greek *philos*, friendly). Therefore, the ending -*philicus* must be avoided and -*philus* should be used instead.		
(4) National foods or fermentation products (e.g. sake, tofu, miso, yogurt, kvas, kefir, pombe, pulque, aiva, etc.) often do not have equivalent Latin names and if typical micro-organisms found in them or causing their fermentations are described, they may be named after them. These names cannot be used unaltered just as specific epithets in the form of nominative substantives in apposition. They are properly Latinized by forming a neuter substantive ~~from them~~ by adding -*um* (e.g. *sakeum*, *tofuum*, *kefirum*, *pombeum*, etc.) and the use of the genitive of that (ending -*i*) in the specific epithet (e.g. *sakei*, *tofui*, *kefiri*, *pombei*, etc.).	(4) National foods or fermentation products (e.g., sake, tofu, miso, yogurt, kvas, kefir, pombe, pulque, aiva, etc.) often do not have equivalent Latin names, although microorganisms may be named after such foods or food products if found in them or cause fermentations, they may be named after them. These names cannot be used unaltered just as specific epithets in the form of nominative substantives in apposition. They are properly latinized by forming a neuter substantive by adding -*um* (e.g., *sakeum*, *tofuum*, *kefirum*, *pombeum*, etc.) and the use of the genitive of that (ending -*i*) in the specific epithet (e.g., *sakei*, *tofui*, *kefiri*, *pombei*, etc.).	Latinized or latinized?	

H. Formation of Prokaryote Names from Names of Elements and Compounds Used in Chemistry and Pharmacy	**H. Formation of Prokaryote Names from Names of Elements and Compounds Used in Chemistry and Pharmacy**		
(1) The vast majority of names of chemicals are Latinized as neuter nouns of the 2nd declension with nominatives ending -*um*, genitives in -*i*. The following groups belong in this category: (a) Most of the chemical elements with the exception of carbon (L. *carbo*, *carbonis*) phosphorus (L. *phosphorus*, *phosphori*) and sulfur (L. *sulfur*, *sulfuris*) have the ending -(*i*)*um* with the genitive ending in -(*i*)*i*; nitrogen may also be called *azotum* besides *nitrogenium*, *calcium* may also be called calx (genitive *calcis*). (b) Names of chemical and biochemical compounds ending in -ide (including anions), -in, -*ane*, -*ene*, -*one*, -*ol* (only non-alcoholic compounds), -*ose* (sugars), -*an* (polysaccharides) and -*ase* (enzymes) are Latinized by adding the ending -*um* or by replacing the -*e* at the end by -*um* as appropriate. (c) Acids are named by *acidum* (L. neuter noun, acid), followed by a descriptive neuter adjective, e.g. sulfurous acid *acidum sulfurosum*,	(1) The vast majority of names of chemicals are latinized as neuter nouns of the 2nd declension with nominatives ending -*um*, genitives in -*i*. The following groups belong in this category: (a) Most of the chemical elements with the exception of carbon (L. *carbo*, *carbonis*) phosphorus (L. *phosphorus*, *phosphori*) and sulfur (L. *sulfur*, *sulfuris*) have the ending -(*i*)*um* with the genitive ending in -(*i*)*i*; nitrogen may also be called *azotum* besides *nitrogenium*, *calcium* may also be called calx (genitive *calcis*). (b) Names of chemical and biochemical compounds ending in -ide (including anions), -in, -*ane*, -*ene*, -*one*, -*ol* (only non-alcoholic compounds), -*ose* (sugars), -*an* (polysaccharides) and -*ase* (enzymes) are latinized by adding the ending -*um* or by replacing the -*e* at the end by -*um* as appropriate. (c) Acids are named by *acidum* (L. neuter noun, acid), followed by a descriptive neuter adjective, e.g., sulfurous acid *acidum sulfurosum*,	Latinized? Latinized?	

sulfuric acid *acidum sulfuricum*, acetic acid *acidum aceticum*.	sulfuric acid *acidum sulfuricum*, acetic acid *acidum aceticum*.		
(2) The second largest category of chemicals are treated as neuter nouns of the 3rd declension: These are those ending in *-ol* (the alcohols), *-al* (aldehydes), *-er* (ethers, esters) and *-yl* (organic radicals); Latinization does not change their names at the end, whereas the genitive is formed by adding *-is*.	(2) The second largest category of chemicals are treated as neuter nouns of the 3rd declension: These end in *-ol* (the alcohols), *-al* (aldehydes), *-er* (ethers, esters) and *-yl* (organic radicals); latinization does not change their names at the end, whereas the genitive is formed by adding *-is*.	Latinization?	
(3) Anions ending in *-ite* and *-ate* are treated as masculine nouns of the 3rd declension. The English ending *-ite* is Latinized to *-is*, with the genitive *-itis*, e.g. nitrite becomes *nitris*, *nitritis*. The English ending *-ate* is Latinized to *-as*, with the genitive *-atis*, e.g. nitrate becomes *nitras*, *nitratis*.	(3) Anions ending in *-ite* and *-ate* are treated as masculine nouns of the 3rd declension. The English ending *-ite* is latinized to *-is*, with the genitive *-itis*, e.g., nitrite becomes *nitris*, *nitritis*. The English ending *-ate* is latinized to *-as*, with the genitive *-atis*, e.g., nitrate becomes *nitras*, *nitratis*.	Latinized?	
(4) Only a few chemicals have names that are Latinized in the 1st declension as feminine nouns, ending in *-a* with a genitive in *-ae*. Besides chemicals that always had names ending in *-a* (like urea), these are drugs found in classical and medieval Latin, such as gentian (*gentiana*) and camphor (*camphora*), and further modern drugs, whose Latin names were formed by adding -a, like the French ergot becoming *ergota* in Latin. An important group of this	(4) Only a few chemicals have names that are latinized in the 1st declension as feminine nouns, ending in *-a* with a genitive in *-ae*. Besides chemicals that always had names ending in *-a* (like urea), these are chemicals found in classical and medieval Latin, such as gentian (*gentiana*) and camphor (*camphora*), as well as modern drugs, wherein the Latin names were formed by adding -a, such as the French ergot, becoming *ergota* in Latin. An important	Latinized?	

category are alkaloids and other organic bases, such as nucleic acid bases and amino acids with English names ending in *-ine*. In Neo-Latin this ending is *-ina*, with the genitive *-inae*. Examples: *betaina*, *-ae*; *atropina*, *-ae*; *adenina*, *-ae*; *alanina*, *-ae*.	group of this category are alkaloids and other organic bases, such as nucleic acid bases and amino acids with English names ending in *-ine*. In Neo-Latin this ending is *-ina*, with the genitive *-inae*. Examples: *betaina*, *-ae*; *atropina*, *-ae*; *adenina*, *-ae*; *alanina*, *-ae*.		
(5) Names of pharmaceutical and chemical products or their registered or unregistered trade names are Latinized following the instructions given above.	(5) Names of pharmaceutical and chemical products or their registered or unregistered trade names are latinized following the instructions given above.	Latinized?	
(6) For their use in prokaryote generic names and specific epithets, word stems and genitives of Latinized chemical names are the basis. In principle they are then treated like any other word elements.	(6) The word stems and genitives of latinized chemical names are the basis for their use in prokaryote generic names and specific epithets. In principle, they are then treated like any other word elements.	Latinized?	
I. Arbitrary Names	**I. Arbitrary Names**		
(1) The basis for arbitrary names are Rules 10a and 12c of the Code: 'genus names or specific epithets may be taken from any source and may even be composed in an arbitrary manner'. They must, however, be treated as Latin. Often they are vocalized abbreviations or contractions of names. Examples: *Cedecea*, *Afipia*, *Kordia*, *Kribbella*, *Waddlia* and *Desemzia*, that were derived from the acronyms CDC (Centers for Disease	(1) The basis for arbitrary names are Rules 10a and 12c of the Code: 'genus names or specific epithets may be taken from any source and may even be composed in an arbitrary manner'. They must, however, be treated as Latin. Often they are vocalized abbreviations or contractions of names. Examples: *Cedecea*, *Afipia*, *Kordia*, *Kribbella*, *Waddlia* and *Desemzia*, that were derived from the acronyms CDC (Centers for Disease Control), AFIP		**Oren A, Garrity GM, Schink B, Ventura S.** 'Localimania' revisited: guidelines for the formation of specific epithets for names of prokaryotes based on names of institutions or their acronyms. A proposal for emendation of Appendix 9 to the International Code of

Control), AFIP (Armed Forces Institute of Pathology), KORDI (Korea Ocean Research and Development Institute), KRIBB (Korean Research Institute of Bioscience and Biotechnology), WADDL (Washington Animal Disease Diagnostic Laboratory) and DSMZ (Deutsche Sammlung von Mikroorganismen und Zellkulturen), respectively. Another example is *Simkania* (contracted from the name Simona Kahane). Examples for arbitrary specific epithets are (*Burkholderia*) *unamae*, derived from the acronym UNAM (Universidad Nacional Autónoma de México), (*Brevundimonas*) *nasdae*, derived from the acronym NASDA (National Space Development Agency of Japan), and (*Flavobacterium*) *micromati* derived from the abbreviation MICROMAT (MICROMAT project 'Biodiversity of Microbial Mats in Antarctica').	(Armed Forces Institute of Pathology), KORDI (Korea Ocean Research and Development Institute), KRIBB (Korean Research Institute of Bioscience and Biotechnology), WADDL (Washington Animal Disease Diagnostic Laboratory) and DSMZ (Deutsche Sammlung von Mikroorganismen und Zellkulturen), respectively. Another example is *Simkania* (contracted from the name Simona Kahane). Examples for arbitrary specific epithets are (*Burkholderia*) *unamae*, derived from the acronym UNAM (Universidad Nacional Autónoma de México), (*Brevundimonas*) *nasdae*, derived from the acronym NASDA (National Space Development Agency of Japan), and (*Flavobacterium*) *micromati* derived from the abbreviation MICROMAT (MICROMAT project 'Biodiversity of Microbial Mats in Antarctica'). Arbitrary specific epithets based on acronyms, e.g., of names of research institutions, universities, etc. are preferentially formed as substantives (nouns) in the genitive case. Use of adjectives with -(*i*)*anus*, -(*i*)*ana*, (*i*)*anum* endings is possible, as well. The ending -*ensis*/-*ense*, prescribed for geographical locations must be avoided in such cases.		Nomenclature of Prokaryotes. *Int J Syst Evol Microbiol* 2017;67:1618–1619.

(2) When proposing arbitrary names or epithets, authors should aim at short, elegant, easily spelled and pronounced ones. *Note*. With arbitrary genus names the gender must also be indicated.	(2) When proposing arbitrary names or epithets, authors should aim at short, elegant, easily spelled and pronounced ones. *Note*. With arbitrary genus names, the gender must also be indicated.		
REFERENCES[5]	**REFERENCES**[5]		
Footnote: 5. This list of literature is intended to be informative and helpful, but is not an official part of Appendix 9.	Footnote: 5. This list of literature is intended to be informative and helpful, but is not an official part of Appendix 9.		
Buchanan RE. Chemical terminology and microbiological nomenclature. *Int J Syst Bacteriol* 1994;44:566–590. **MacAdoo TO.** Nomenclatural literacy. In: Goodfellow M and O'Donnell AG (eds). *Handbook of New Bacterial Systematics.* London: Academic Press; 1993. pp. 339–358.	**Buchanan RE.** Chemical terminology and microbiological nomenclature. *Int Bull Bacteriol Nomencl Taxon* 1960;10:16-22; Reprinted: *Int J Syst Bacteriol* 1994;44:588–590. **MacAdoo TO.** Nomenclatural literacy. In: Goodfellow M and O'Donnell AG (eds). *Handbook of New Bacterial Systematics.* London: Academic Press; 1993. pp. 339–358. **Oren A, Schink B.** Formation of names of genera of prokaryotes that end on –*oides* or –*opsis*: A proposal for addenda to Rule 65(2) and to Appendix 9 of the International Code of Nomenclature of Prokaryotes. *Int J Syst Evol Microbiol* 2016;66:2452–2453.		

	Oren A, Schink B. Use of Greek in prokaryotic nomenclature: proposal to change Principle 3, Recommendation 6, Rule 7, Rule 65 and Appendix 9 of the International Code of Nomenclature of Prokaryotes. *Int J Syst Evol Microbiol* 2020;70:3559–3560. **Oren A, Schink B.** Further guidelines for the formation of compound specific and subspecific epithets. A proposal to emend Appendix 9 of the International Code of Nomenclature of Prokaryotes. *Int J Syst Evol Microbiol* 2020;70:3561–3562. **Oren A, Vandamme P, Schink B.** Notes on the use of Greek roots in the genus and species names of prokaryotes. *Int J Syst Evol Microbiol* 2016;66:2129–2140. **Oren A, Garrity GM, Schink B, Ventura S.** 'Localimania' revisited: guidelines for the formation of specific epithets for names of prokaryotes based on names of institutions or their acronyms. A proposal for emendation of Appendix 9 to the International Code of Nomenclature of Prokaryotes. *Int J Syst Evol Microbiol* 2017;67:1618–1619.		

	Oren A, Chuvochina M, Schink B. The use of Greek and Latin prepositions and prefixes in compound names: proposed emendation of Appendix 9 of the International Code of Nomenclature of Prokaryotes. *Int J Syst Evol Microbiol* 2019;69:1831–1832. **Oren A, Chuvochina M, Ventura S.** Formation of compound generic names based on personal names: a proposal for emendation of Appendix 9 of the International Code of Nomenclature of Prokaryotes. *Int J Syst Evol Microbiol* 2019;69:594–596.		
Trüper HG. Help! Latin! How to avoid the most common mistakes while giving Latin names to newly discovered prokaryotes. *Microbiologia* 1996;12:473–475.	**Trüper HG.** Help! Latin! How to avoid the most common mistakes while giving Latin names to newly discovered prokaryotes. *Microbiologia* 1996;12:473–475.		
Trüper HG. How to name a prokaryote? Etymological considerations, proposals and practical advice in prokaryote nomenclature. *FEMS Microbiol Rev* 1999;23:231–249.	**Trüper HG.** How to name a prokaryote? Etymological considerations, proposals and practical advice in prokaryote nomenclature. *FEMS Microbiol Rev* 1999;23:231–249.		
Trüper HG. Etymology in nomenclature of procaryotes. In: Boone DR, Castenholz RW and Garrity GM. (eds)	**Trüper HG.** Etymology in nomenclature of procaryotes. In: Boone DR, Castenholz RW and Garrity GM. (eds)		

Bergey's Manual of Systematic Bacteriology, 2nd edn, vol. 1, New York: Springer; 2001. pp. 89–99. **Trüper HG.** The use of Neolatin in biological nomenclature. *Neulateinisches Jahrb J Neo-Latin Lang Lit* 2004;6:318–327. **Trüper HG.** Is 'localimania' becoming a fashion for prokaryote taxonomists? *Int J Syst Evol Microbiol* 2005;55:1753. **Trüper HG.** Neo-Latinists worldwide willing to help microbiologists. *Int J Syst Evol Microbiol* 2007;57:1164–1166. **Trüper HG, Euzéby JP.** International Code of Nomenclature of Prokaryotes. Appendix 9: Orthography. **Int J Syst Evol Microbiol** 2009;59:2107–2113.	*Bergey's Manual of Systematic Bacteriology*, 2nd edn, vol. 1, New York: Springer; 2001. pp. 89–99. **Trüper HG.** The use of Neolatin in biological nomenclature. *Neulateinisches Jahrb J Neo-Latin Lang Lit* 2004;6:318–327. **Trüper HG.** Is 'localimania' becoming a fashion for prokaryote taxonomists? *Int J Syst Evol Microbiol* 2005;55:1753. **Trüper HG.** Neo-Latinists worldwide willing to help microbiologists. *Int J Syst Evol Microbiol* 2007;57:1164–1166. **Trüper HG, Euzéby JP.** International Code of Nomenclature of Prokaryotes. Appendix 9: Orthography. **Int J Syst Evol Microbiol** 2009;59:2107–2113.		
		For future consideration, the Editorial Board may think again about inconsistencies in the use of -i- as connecting vowel e.g. in species epithets that are in fact noun phrases rather than nouns: (*Candidatus*) *audaxviator*, *marismortui, marisrubri, marisflavi, aquaemaris* which are used instead of a compound noun built by concatenating roots (*mortimaris, rubrimaris,*	

		flavimaris etc). Examples that were discussed by the nomenclature reviewers of the IJSEM in recent months: *aegraelactucae* (of diseased lettuce) and *musaesoli* (of banana soil).	

Table 1. *Examples of Latin adjectives*

Masculine	Feminine	Neuter	English translation
1st and 2nd declension			
*bonus**	*bona*	*bonum*	good
*aureus**	*aurea*	*aureum*	golden
miser	*misera*	*miserum*	wretched
piger	*pigra*	*pigrum*	fat, lazy
ruber	*rubra*	*rubrum*	red
pulcher	*pulchra*	*pulchrum*	beautiful
3rd declension			
puter	*putris*	*putre*	rotten
celer	*celeris*	*celere*	rapid
*facilis**	*facilis*	*facile*	easy
facilior	*facilior*	*facilius*	easier
maior	*maior*	*maius*	more
minor	*minor*	*minus*	less
simplex	*simplex*	*simplex*	simple
egens†	*egens*	*egens*	needy

*Most common types.

†Infinitive participle used as adjective.

New version of Table 1:

Table 1. *Examples of Latin adjectives*

Masculine	**Feminine**	**Neuter**	**English translation**
1st and 2nd declension			
*bonus**	*bona*	*bonum*	good
*aureus**	*aurea*	*aureum*	golden

miser	*misera*	*miserum*	wretched
piger	*pigra*	*pigrum*	fat, lazy
ruber	*rubra*	*rubrum*	red
pulcher	*pulchra*	*pulchrum*	beautiful
3rd declension			
puter	*putris*	*putre*	rotten
celer	*celeris*	*celere*	rapid
*facilis**	*facilis*	*facile*	easy
facilior	*facilior*	*facilius*	easier
maior	*maior*	*maius*	more
minor	*minor*	*minus*	less
simplex	*simplex*	*simplex*	simple
egens†	*egens*	*egens*	needy

*Most common types.

†Infinitive (present) participle used as adjective

Table 2. *Ways to form generic names from personal names*[2]

Personal name ending in	Person	Direct formation		Diminutive formation	
		Add ending	Example	Diminutive ending	Example
-a	da Rocha Lima	-ea	*Rochalimaea*	drop a, add -ella	*Rochalimella*
-e	Benecke	-a	*Beneckea*	-lla	*Beneckella*
	Burke	-ia	*Burkeia*	-lla	*Burkella*
-i	Nevski	-a	*Nevskia*	-ella	*Nevskiella*
-o	Beggiato	-a	*Beggiatoa*	-nella	*Beggiatonella*
	Cato	-nia	*Catonia*	-nella	*Catonella*
-u	Manescu	-ia	*Manescuia*	-ella	*Manescuella*
-y	Deley	-a	*Deleya*	-ella	*Deleyella*
-er	Buchner	-a	*Buchnera*	-ella	*Buchnerella*
	Lister	-ia	*Listeria*	-iella	*Listeriella*
Any consonant	Cabot	-ia	*Cabotia*	-(i)ella	*Cabot(i)ella*
	Wang	-ia	*Wangia*	-(i)ella	*Wang(i)ella*
	Salmon	-ia	*Salmonia*	-ella	*Salmonella*
	Escherich	-ia	*Escherichia*	-(i)ella	*Escherich(i)ella*
	Zeikus*	-ia	*Zeikusia*	-(i)ella	*Zeikus(i)ella*

*This name of Lithuanian origin is not a genuine Latinized name. If it were, the genus names *'Zeikia'* or *'Zeik(i)ella'* might have been possible.

Table 2. *Ways to form generic names from personal names*

Personal name ending in	Person	Direct formation		Person	Diminutive formation	
		Add ending	Example		Diminutive ending	Example
-a	da Rocha Lima	-ea	*Rochalimaea*	Shiga	drop a, add -ella	*Shigella*
-e	Benecke	-a	*Beneckea*	Bruce	-lla	*Brucella*
	Hoppe	-ia	*Hoppeia*			
-i	Nevski	-a	*Nevskia*	Terasaki	-ella	*Terazakiella*
-o	Beggiato	-a	*Beggiatoa*	Seino	-nella	*Seinonella*
	Kozako	-nia	*Kozakonia*			
-u	Simidu	-ia	*Simiduia*	Shimazu	-ella	*Shimazuella*
-y	Euzéby	-a	*Euzebya*	Bergey	-ella	*Bergeyella*
-er	Buchner	-a	*Buchnera*	Stanier	-ella	*Stanierella*
	Lister	-ia	*Listeria*	Turner	-iella	*Turneriella*
Any consonant	Nocard	-ia	*Nocardia*	Klebs	-(i)ella	*Klebsiella*
	De Vos	-ia	*Devosia*	Salmon	-(i)ella	*Salmonella*
	Escherich	-ia	*Escherichia*	Sneath	-(i)ella	*Sneathiella*

The Editorial Board changed hypothetical examples given in the previous version of the Code to 'real' names with standing in the nomenclature.

Table 3. *Formation of compound generic names in which the first word element is derived from a personal name. Existing generic names with standing in nomenclature are printed in italic type; hypothetical names provided as examples are in roman type. (m) and (f) refer to names of male and female persons, respectively. gen. = genitive.*

Ending of name	Examples of names and latinized equivalents	Examples of compound names
-a	Ōhara (m) → Oharaeus, gen. Oharaei (or Oharaus, gen. Oharai) (or Oharaius, gen. Oharaii) Volta (m) → Voltaus, gen. Voltai Johanna (f) → Johanna, gen. Johannae Mateka (f) → Matekaia, gen. Matekaiae Julia (f) → Juliaea, gen. Juliaeae	*Oharaeibacter* Oharaisarcina Oharaiispirillum Voltaimonas Johannicoccus Matekaiibacterium Juliaeirhabdus
-e, -é	Pace (m) → Paceus, gen. Pacei Curie (f) → Curiea, gen. Curieae	*Paceibacter* Curieibacterium
-i	Terasaki (m) → Terasakius, gen. Terasakii Yabuuchi (f) → Yabuuchia, gen. Yabuuchiae	*Terasakiispira* Yabuuchiispira
-o	Augusto Franco-Mora (m) → Franco, gen. Franconis (m) Alternative: Franco → Franconius, gen. Franconii Cato (f) → Catonia, gen. Catoniae	*Franconibacter* Franconiimonas Catoniispirillum
-u	Le Testu (m) → Letestuius, gen. Letestuii Plateau-Quénu (f) → Quenuia, gen. Quenuiae	Letestuiinema (more correct than *Letestuinema*) Quenuiibaculum
-y	Ráthay (m) → Rathayus, gen. Rathayi Betty (f) → Bettya, gen. Bettyae	*Rathayibacter* Bettyisarcina
-er	Rubner (m) → Rubnerus, gen. Rubneri Geitler (m) → Geitlerus, gen. Geitleri Koehler (f) → Koehlera, gen. Koehlerae	*Rubneribacter* *Geitlerinema* Koehlerimicrobium
Any other letter	Rummel (m) → Rummelius, gen. Rummelii Young (m) → Youngius, gen. Youngii Young (f) → Youngia, gen. Youngiae	*Rummeliibacillus* Youngiitalea *Youngiibacter*

Oren A, Chuvochina M, Schink B. Formation of compound generic names based on personal names: a proposal for emendation of Appendix 9 of the International Code of Nomenclature of Prokaryotes. *Int J Syst Evol Microbiol* 2019;69:594–596.

Table 3. *Formation of specific epithets from personal names in the adjective form*[3]

Ending of name	Example family name	Add the endings for gender		
		Masculine	Feminine	Neuter
consonant	Grant	-ianus	-iana	-ianum
-a	Kondratieva	-nus	-na	-num
-e	Lee	-anus	-ana	-anum
-i	Bianchi	-anus	-ana	-anum
-o	Guerrero	-anus	-ana	-anum

2. Some names may be hypothetical examples.
3. Some names may be hypothetical examples.

cont.

Ending of name	Example family name	Add the endings for gender		
		Masculine	Feminine	Neuter
-u	Manescu	-anus	-ana	-anum
-y	Bergey	-anus	-ana	-anum

Table 4. *Formation of specific epithets from personal names as genitive nouns*[4]

Ending of name	Add for female	Example female person	Add for male	Example male person
-a	-e (1st declension)	Catarina, *catarinae*	-e (classic)	Komagata, *komagatae*
				Volta, *voltae*
	–	–	-i	Thomalla, *thomallai*
	-ea	Julia, *juliaeae*	-ei	Poralla, *porallaei*
	-iae	Mateka, *matekaiae*	-ii	Ventosa, *ventosaii*
-e	-ae	Hesse, *hesseae*	-i	Stille, *stillei*
-i	-ae	Kinski, *kinskiae*	-i	Suzuki, *suzukii*
-o	-niae	Cleo, *cleoniae*	-nis	Otto, *ottonis*
-u	-iae	Feresu, *feresuiae*	-ii	Manescu, *manescuii*
-y	-ae	Macy, *macyae*	-i	Deley, *deleyi*
-as	drop -as, add -ae	Thomas, *thomae*	drop -as, add -ae	Cosmas, *cosmae*
	-iae	Thomas, *thomasiae*	-ii	Cosmas, *cosmasii*
-er	-ae	Miller, millerae	-i	Stutzer, stutzeri
				Stanier, stanieri
any other letter	-iae	Gordon, gordoniae	-ii	Pfennig, pfennigii
				Zeikus, zeikusii

Table 4. *Formation of specific epithets from personal names in the adjective form*[1]

[1]Names in quotation marks are hypothetical examples.

Ending of name	**Example family name**	**Add the endings for gender**			**Examples**
		Masculine	**Feminine**	**Neuter**	
consonant	Brock Colwell Pasteur	-ianus	-iana	-ianum	*Thermus brockianus* *Alteromonas colwelliana* *Clostridium pasteurianum*
-a	Migula Loya	-nus	-na	-num	*Aneurinibacillus migulanus* *Thalassomonas loyana*
-e	Love	-anus	-ana	-anum	*Porphyromonas loveana*
-i	Palleroni Li	-anus	-ana	-anum	*Pseudomonas palleroniana* *Cyclobacterium lianum*
-o	'Guerrero'	-anus	-ana	-anum	'guerreroanus'
-u	'Manescu'	-anus	-ana	-anum	'manescuanus'
-y	Olley	-anus	-ana	-anum	*Shewanella olleyana*

This table was updated by using as much as possible examples of names with standing in the nomenclature.

Table 5. *Formation of specific epithets from personal names as genitive nouns*[4]

[3]Names in quotation marks are hypothetical examples.

Ending of name	Add for female	Example female person	Add for male	Example male person
-a	-e (1st declension)	Yano Ikuya, *yanoikuyae*	-e (classic)	Volta, *voltae*
	-eae	Pamela Lee Oxley, *pameleae*	-i	Oshima, *oshimai*
	-iae	Mateka, '*matekaiae*'	-ei	Mukohata, *mukohataei*
			-ii	Vora, *voraii*
-e, -é	-ae	Curie, *curieae*	-i	Beveridge, *beveridgei*
-i	-ae	Yabuuchi, *yabuuchiae*	-i	Giovannoni, *giovannonii*
-o	-niae	Cato, *catoniae*	-nis	Hirano, *hiranonis*
-u	-iae	Plateau-Quénu, *quenuiae*	-ii	Brisou, *brisouii*
-y	-ae	Olley, *olleyae*	-i	De Ley, *deleyi*
-as	drop -as, add -ae	Thomas, '*thomae*'	drop -as, add -ae	Cosmas, '*cosmae*'
	-iae	Liceras de Hidalgo, *liceasiae*	-ii	Chagas, *chagasii*
-er	-ae	Miller, *millerae*	-i	Stutzer, *stutzeri*
any other letter	-iae	Gordon, *gordoniae*	-ii	Pfennig, *pfennigii*

This table was updated by using as much as possible examples of names with standing in the nomenclature.