

Lists of names of prokaryotic *Candidatus* taxa

Aharon Oren^{1,*}, George M. Garrity^{2,3}, Charles T. Parker³, Maria Chuvochina⁴ and Martha E. Trujillo⁵

Abstract

We here present annotated lists of names of *Candidatus* taxa of prokaryotes with ranks between subspecies and class, proposed between the mid-1990s, when the provisional status of *Candidatus* taxa was first established, and the end of 2018. Where necessary, corrected names are proposed that comply with the current provisions of the International Code of Nomenclature of Prokaryotes and its Orthography appendix. These lists, as well as updated lists of newly published names of *Candidatus* taxa with additions and corrections to the current lists to be published periodically in the *International Journal of Systematic and Evolutionary Microbiology*, may serve as the basis for the valid publication of the *Candidatus* names if and when the current proposals to expand the type material for naming of prokaryotes to also include gene sequences of yet-uncultivated taxa is accepted by the International Committee on Systematics of Prokaryotes.

Introduction of the category called *Candidatus* was first proposed by Murray and Schleifer in 1994 [1]. The provisional status *Candidatus* was intended for putative taxa of any rank that could not be described in sufficient details to warrant establishment of a novel taxon, usually because of the absence of a pure culture. Following discussions of the International Committee on Systematics of Bacteria (ICSB; now the International Committee on Systematics of Prokaryotes, ICSP) [2], further guidelines were published for *Candidatus* taxa in 1995 [3]. Although the rules of the International Code of Nomenclature of Prokaryotes (the Prokaryotic Code, formerly named the Bacteriological Code) do not apply to the nomenclature of *Candidatus* taxa, in its meetings in 1996 the ICSP adopted the proposal by Murray and Stackebrandt [3] with minor modifications as an Appendix to the Code [4]. It is found as Appendix 11 in the current version of the Prokaryotic Code [5].

Based on the guidelines given in Appendix 11 of the Prokaryotic Code, a list in the form of a codified record of organisms of the status *Candidatus* must be kept by the Judicial Commission of the ICSP in cooperation with the Editorial Board of the *International Journal of Systematic and Evolutionary Microbiology* (IJSEM) and published in that journal in appropriate intervals. The items for inclusion in this codified record include information about the name of the taxon, its phylogenetic lineage, cultivation conditions (if applicable),

morphology, basis of assignment as *Candidatus*, habitat, metabolism and more. However, no such lists have yet been published in the journal.

Currently, the nomenclature of *Candidatus* taxa is not covered by the rules of the Prokaryotic Code. However, in 2016 it was proposed that type material for naming of prokaryotes be expanded to include gene sequences, allowing for the stability of naming of *Candidatus* taxa, endosymbionts and uncultivated prokaryotes [6]. An extended version of this proposal was published in 2019 [7].

To comply at least in part with the guidelines of Appendix 11, we here present an inventory of *Candidatus* taxa we compiled from the literature. In the tables below we present the names (if necessary corrected based on the rules of the Code), etymologies and references to the publications in which the names were proposed of *Candidatus* taxa with ranks between subspecies and class published between the mid-1990s when the rank of *Candidatus* was first established and the end of 2018. Table 1 presents the proposed higher taxa between family and class. Names of genus-level *Candidatus* taxa are given in Table 2. In the many cases where descriptions of *Candidatus* taxa gave species-level names only, we added proposals for new *Candidatus* genera. Species-level *Candidatus* taxa are listed in Table 3 (for *Candidatus* species belonging to *Candidatus* genera listed in Table 2) and in Table 4 (for *Candidatus*

Author affiliations: ¹The Institute of Life Sciences, The Hebrew University of Jerusalem, The Edmond J. Safra Campus, 9190401 Jerusalem, Israel; ²Department of Microbiology & Molecular Genetics, Biomedical Physical Sciences, Michigan State University, East Lansing, MI 48824-4320, USA; ³NamesforLife, LLC, PO Box 769, Okemos MI 48805-0769, USA; ⁴Australian Centre for Ecogenomics, University of Queensland, St. Lucia QLD 4072, Brisbane, Australia; ⁵Departamento de Microbiología y Genética, Campus Miguel de Unamuno, Universidad de Salamanca, 37007, Salamanca, Spain.

*Correspondence: Aharon Oren, aharon.oren@mail.huji.ac.il

Keywords: list; names; *Candidatus*.

species belonging to genera with validly published names). Table 5 lists a number of subspecies-level *Candidatus* taxa. The total number of names listed in Tables 1–5 is 1091: one higher taxon of undefined rank, seven classes, one subclass, 12 orders, 25 families, 329 genera, 706 species and 10 subspecies.

Based on the guidelines for the establishment of *Candidatus* taxa, when an organism of the status *Candidatus* is later on isolated and the pure culture sufficiently described, it has to be classified and named according to the Rules of the Code. The name of the former *Candidatus* taxon is then deleted from the *Candidatus* taxa list. We identified two order-level taxa, two family-level taxa, 16 genus-level taxa and 34 species-level taxa that were earlier described as *Candidatus* and later obtained status in the nomenclature as validly published names. These are listed in Table 6. Finally, Table 7 lists 36 taxa that were described as *Candidatus* at a time pure cultures were available, but they had not been deposited in two culture collections.

The tables deal only with the taxonomic levels currently covered by the rules of the Code; we did not include names of *Candidatus* phyla. Recently, a large number of *Candidatus* phylum names were proposed in the literature, mainly based on gene sequences identified in metagenomic studies. Most of these names do not follow the guidelines of the nomenclature rules of the Code and its Orthography appendix (Appendix 9). A proposal to include the rank of phylum under the rules of the Code is waiting to be discussed by the ICSP, and this proposal also includes guidelines for naming phyla [8, 9]. If this proposal is approved, a thorough evaluation of the phylum names in current use and the many new names proposed in recent years will be necessary to enable the preparation of a list of phylum names for validation under the rules of the Code.

As *Candidatus* names could not be validated in the past, there also was no nomenclatural quality control for the proposed names. Therefore it is not surprising that many names are malformed based on the current rules of the Prokaryotic Code. Taking into account the possibility that the *Candidatus* names will need to be validated if and when the pending proposals [6, 7] are approved, we have suggested corrections for many names listed in Tables 1–5, expanding the number of corrections proposed earlier in a ‘plea for linguistic accuracy also for *Candidatus* taxa’ [10]. All these changes are proposals only, and in many cases alternative corrected names are possible. Some of the proposed corrections of generic names are needed in view of the current version of Principle 2 of the Code: starting January 2001 it is no longer possible to propose new names of prokaryote genera that have homonyms in the botanical or in the zoological nomenclature. Future validation of such existing *Candidatus* names will therefore not be possible. Therefore we propose changing *Navis* to *Navoides*, *Blochmannia* to *Blochmanniella*, *Turnera* to *Ruthturnera* (as also *Turnerella* already exists), *Brownia* to *Spencerbrownia*, and *Baumannia* to *Palibaumannia*, as the generic names *Baumannia* and *Baumanniella* have standing in the botanical nomenclature and *Baumannella* is the name of an insect genus. Other corrections were required because of Rule 6 and its attached recommendations. According to Rule 6, scientific

names of taxa must be treated as Latin. The epithet in *Nanopelagicus limnes* is formed based on Greek and not on Latin declensions, and therefore we propose *limnae* instead [11]. According to Recommendation 6(3), words from languages other than Latin or Greek should be avoided as long as equivalents exist in Latin or Greek. Therefore we propose *Bartonella bettongiae* to replace *Bartonella woyliei*, *Bartonella peramelis* to replace *Bartonella bandicootii*, *Parastrichiophilus* instead of *Benitsuchiphilus*, and *Typhincola* instead of *Rohrkolberia*. Finding a Latin equivalent for the epithet in *Endowatersipora palomitas* (‘popcorn’ in Spanish) was challenging. We here propose *glebosa* (‘clumpy’), but we are open for more attractive proposals. All generic names with standing in the prokaryotic nomenclature are in the nominative case. Although this is not yet specified in the Code, a proposal to modify Rule 10a accordingly was submitted to the ICSP [12]. Therefore, we propose the generic name *Consessor* to replace *Consessoris*. In the case of ‘*Candidatus* Epulopiscium’, for which we propose the corrected name *Epulonipiscium* (see below), the authors incorrectly translated the genitive plural *piscium* to ‘of a fish’. As the ending *-um* can also be used for a neuter Latin noun of the second declension in the nominative case, we propose *Epulonipiscium* as N.L. neut. n. Implementation of Rule 12 led to the correction of many specific epithets. As adjectives used as specific epithets must agree in gender with the generic name, we corrected *Roseilinea gracile* to *gracilis*, *Wolinella africanus* to *africana*, *Electronema palustris* to *palustre*, and *Methanomethylicus mesodigestum* to *mesodigestus*. There are more such cases in the tables. As adverbs cannot be used as specific epithets, we propose correcting *Pelagibacter ubique* to *Pelagibacter communis*. An intriguing case is *Ovatusbacter* (to be corrected to *Ovatibacter*) *abovo*. For *abovo*, the authors gave the following etymology: (ab.o’vo. L. pref. *ab* from; L. neut. n. *ovum* egg; *ab ovo* from the egg, mythological allusion to one of the two eggs of Leda which was the primary cause of the Trojan War; expression used to indicate an ancient origin). As a noun in the ablative case does not qualify based on Rule 12c, we propose *Ovatibacter antiquus*, but we are looking forward to other suggestions. Further corrections were made based on the guidelines given in Appendix 9 for the connecting vowel in compound names: *-o-* when the preceding word element is Greek, *-i-* when the preceding word element is Latin (so: *Arcanibacter* instead of *Arcano-bacter*) and dropping the connecting vowel before a word element that starts with a vowel (so: *Caldarchaeum* instead of *Caldiararchaeum*). For compound names, except for the last word element the word stems are to be used. Therefore we propose *haemato-* (from Greek *haima*, genitive *haimatos*) instead of *hemo-* or *haemo-* in many compound names. For the same reason we corrected *Epulopiscium* to *Epulonipiscium*. For similar reasons, the corrected version of the name *Bacteroides pericalifornicus* (meant to refer to periodontitis in California) should be *Bacteroides periodontitidicalifornicus*. However, such a name contravenes Recommendations 6(1) and 6(2): ‘Avoid names or epithets that are very long or difficult to pronounce’ and ‘Make names or epithets that have an agreeable form that is easy to pronounce when latinized’. We welcome better alternatives. We also changed a number of

names that are correctly formed but make very little sense. Examples are *Profftia adelgis* and *Blochmanniella myrmotrichis* to replace *Profftia virida* (sic) and *Blochmannia rufipes*. These bacteria are not green or do not possess red legs, but those are properties of their hosts (*Adelges viridis* and *Myrmothrix rufipes*, respectively) [10]. However, in view of the large number of *Candidatus* species in the validly published genera *Burkholderia* and *Paraburkholderia* (61 are listed in Table 4), we did not propose alternative epithets for these species.

The tables here are not to be considered to be an 'Approved Lists' of names analogous to the 1980 Approved Lists of Bacterial Names [13] or lists that will automatically serve as Validation Lists if and when the ICSP decides to include *Candidatus* taxa under the rules of the Prokaryotic Code. Many of the papers in which *Candidatus* taxa were proposed do not contain a satisfactory description of the taxon, and in some cases the name is only incidentally mentioned and no further information about the taxon is supplied. We have marked many such cases with an asterisk in the tables below. It must be noted that lack of an asterisk does not imply that a full protologue with detailed characteristics of the taxon was provided.

These tables and the periodic updates of newly published *Candidatus* taxa planned to be published in the IJSEM will only serve to implement the recommendations of Appendix 11 and are a first attempt toward an inventory of *Candidatus* names. To complete and if necessary correct the current lists, we will need the help of the entire community of microbiologists and we therefore are looking forward to additions, corrections and other suggestions. Also comments on the sometimes far-reaching proposed name changes made are welcomed as long as alternative names comply with the rules and the recommendations of the Code and its Appendix 9.

In the future we intend to publish periodic lists, similar in style to the tables below, that will include newly published *Candidatus* names, older names of *Candidatus* taxa that were not included in the tables below, and corrections to the current lists*. Entries for these periodic updates can be sent directly to the List Editors (aharon.oren@mail.huji.ac.il and garrity@msu.edu) with a copy to the IJSEM editorial office (ijsem@editorialoffice.co.uk). In addition, the List Editors will keep searching the literature for more new *Candidatus* names.

* *Candidatus* List no. 2 will include *Candidatus* names of five classes, five orders, six families, 13 genera, and 21 species published prior to 2019 that were not listed in the tables below.

Table 1. Higher taxa (family to class)

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
RANK NOT DEFINED			
<i>Abyssobacteria</i>	<i>Abyssobacteria</i>	(A.bys.so.bac.te'ri.a. Gr. masc. n. <i>abyssos</i> abyss; N.L. neut. n. <i>bacterium</i> a rod; N.L. pl. neut. n. <i>Abyssobacteria</i> rods from the abyss); proposed as candidate lineage without defined rank within the candidate phylum <i>Hydrogenedentes</i>	Momper et al. 2018 [14]
CLASS			
<i>Fermentibacteria</i>		(Fer.men.ti.bac.te'ri.a. N.L. masc. n. <i>Fermentibacter</i> a (<i>Candidatus</i>) bacterial genus; <i>-ia</i> ending to denote a class; N.L. pl. neut. n. <i>Fermentibacteria</i> the <i>Fermentibacter</i> class)	Kirkegaard et al. 2016 [15]
<i>Mariprofundia</i>	<i>Zetaproteobacteria</i> , ζ- <i>Proteobacteria</i>	We propose correcting the name of the class to <i>Mariprofundia</i> based on the validly published generic name <i>Mariprofundus</i> (Ma.ri.pro.fun'di.a. N.L. masc. n. <i>Mariprofundus</i> a bacterial genus; <i>-ia</i> ending to denote a class; N.L. pl. neut. n. <i>Mariprofundia</i> the <i>Mariprofundus</i> class)	Emerson et al. 2007; Makita et al. 2017 [16, 17]
<i>Methanofastidiosia</i>	<i>Methanofastidiosa</i>	We propose correcting the name of the class to <i>Methanofastidiosia</i> (Me.tha.no.fas.ti.di.o'si.a. N.L. neut. n. <i>Methanofastidiosum</i> a bacterial genus; <i>-ia</i> ending to denote a class; N.L. pl. neut. n. <i>Methanofastidiosia</i> the <i>Methanofastidiosum</i> class)	Nobu et al. 2016 [18]
<i>Methanomethylicia</i>	<i>Methanomethylia</i>	As also suggested by [19], we propose correcting the name to <i>Methanomethylicia</i> (Me.tha.no.me.thy.li'ci.a. N.L. masc. n. <i>Methanomethylicus</i> a (<i>Candidatus</i>) methane-producing organism; <i>-ia</i> ending to denote a class; N.L. pl. neut. n. <i>Methanomethylicia</i> the <i>Methanomethylicus</i> class)	Berghuis et al. 2019; Vanwonterghem et al. 2016 [19, 20]
<i>Moduliflexia</i>		(Mo.du.li.fle'xi.a. N.L. masc. n. <i>Moduliflexus</i> a (<i>Candidatus</i>) genus; <i>-ia</i> ending to denote a class; N.L. pl. neut. n. <i>Moduliflexia</i> the <i>Moduliflexus</i> class); the name was also misspelled <i>Modulilexia</i> in the description of the taxon by Sekiguchi et al.	Sekiguchi et al. 2015 [21]
<i>Thermofontia</i>	<i>Thermofonsia</i>	We propose correcting the name to <i>Thermofontia</i> (Ther.mo.fon'ti.a. Gr. masc. adj. <i>thermos</i> hot; L. masc. n. <i>fons</i> , <i>fontis</i> a spring; N.L. pl. neut. n. <i>Thermofontia</i> organisms from hot springs)	Ward 2017, Ward et al. 2018 [22, 23]
<i>Vecturitrichia</i>		(Vec.tu.ri.tri'chi.a. N.L. fem. n. <i>Vecturithrix</i> a (<i>Candidatus</i>) genus; <i>-ia</i> ending to denote a class; N.L. pl. neut. n. <i>Vecturitrichia</i> the <i>Vecturithrix</i> class); the name was also misspelled <i>Vecturatrichia</i> by Sekiguchi et al.	Sekiguchi et al. 2015 [21]
SUBCLASS			
<i>Actinomariniadae</i>		(Ac.ti.no.ma.ri'ni.dae. N.L. fem. n. <i>Actinomarina</i> a (<i>Candidatus</i>) bacterial genus; <i>-idae</i> ending to denote a subclass; N.L. fem. pl. n. <i>Actinomariniadae</i> the <i>Actinomarina</i> subclass)	Ghai et al. 2013 [24]
ORDER			
<i>Actinomarinales</i>		(Ac.ti.no.ma.ri.na'les. N.L. fem. n. <i>Actinomarina</i> a (<i>Candidatus</i>) bacterial genus name; <i>-ales</i> ending to denote an order; N.L. fem. pl. n. <i>Actinomarinales</i> the <i>Actinomarina</i> order)	Ghai et al. 2013 [24]

Continued

Table 1. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Altarchaeales*</i>	<i>Altiarchaeales</i>	We propose correcting the order name to <i>Altarchaeales</i> (Alt.ar.chae.a'les. N.L. neut. n. <i>Altarchaeum</i> a (<i>Candidatus</i>) genus name; <i>-ales</i> ending to denote an order; N.L. fem. pl. n. <i>Altarchaeales</i> the <i>Altarchaeum</i> order)	Probst et al. 2014 [25]
<i>Brocadiales</i>		(Bro.ca.di.a'les. N.L. fem. n. <i>Brocadia</i> a (<i>Candidatus</i>) bacterial genus name; <i>-ales</i> ending to denote an order; N.L. fem. pl. n. <i>Brocadiales</i> the <i>Brocadia</i> order)	Jetten et al. 2011 [26]
<i>Fermentibacterales</i>		(Fer.men.ti.bac.te.ra'les. N.L. masc. n. <i>Fermentibacter</i> a (<i>Candidatus</i>) bacterial genus name; <i>-ales</i> ending to denote an order; N.L. fem. pl. n. <i>Fermentibacterales</i> the <i>Fermentibacter</i> order)	Kirkegaard et al. 2016 [15]
<i>Gastranaerophilales</i>		(Gastr.an.ae.ro.phi.la'les. N.L. masc. n. <i>Gastranaerophilus</i> a (<i>Candidatus</i>) bacterial genus name; <i>-ales</i> ending to denote an order; N.L. fem. pl. n. <i>Gastranaerophilales</i> the <i>Gastranaerophilus</i> order); formerly candidate order 'YS2'	Di Rienzi et al. 2013, Soo et al. 2014 [27, 28]
<i>Methanomethyliales</i>	<i>Methanomethyliales</i>	As also suggested by [19], we propose correcting the name to <i>Methanomethyliales</i> (Me.tha.no.me.thy.li.ca'les. N.L. masc. n. <i>Methanomethylicus</i> a (<i>Candidatus</i>) archaeal genus name; <i>-ales</i> ending to denote a class; N.L. pl. neut. n. <i>Methanomethyliales</i> the <i>Methanomethylicus</i> order)	Berghuis et al. 2019, Vanwonterghem et al. 2016 [19, 20]
<i>Moduliflexales</i>		(Mo.du.li.fle.xa'les. N.L. masc. n. <i>Moduliflexus</i> a (<i>Candidatus</i> genus name; <i>-ales</i> ending to denote an order; N.L. pl. fem. n. <i>Moduliflexales</i> the <i>Moduliflexus</i> order)	Sekiguchi et al. 2015 [21]
<i>Nanopelagicales</i>		(Na.no.pe.la.gi.ca'les. N.L. masc. n. <i>Nanopelagicus</i> a (<i>Candidatus</i>) bacterial genus name; <i>-ales</i> ending to denote an order; N.L. fem. pl. n. <i>Nanopelagicales</i> the <i>Nanopelagicus</i> order)	Neuenschwander et al. 2018 [29]
<i>Nitrosocaldales</i>		(Ni.tro.so.cal.da'les. <i>Nitrosocaldus</i> a (<i>Candidatus</i>) archaeal genus name; <i>-ales</i> ending to denote an order; N.L. fem. pl. n. <i>Nitrosocaldales</i> the <i>Nitrosocaldus</i> order)	de la Torre et al. 2008 [30]
<i>Nitrosotaleales</i>		(Ni.tro.so.ta.le.a'les. N.L. fem. n. <i>Nitrosotalea</i> an archaeal genus name; <i>-ales</i> ending to denote an order; N.L. fem. pl. n. <i>Nitrosotaleales</i> the <i>Nitrosotalea</i> order)	Prosser and Nicol 2016 [31]
<i>Pelagibacterales</i>		(Pe.la.gi.bac.te.ra'les. N.L. masc. n. <i>Pelagibacter</i> a (<i>Candidatus</i>) bacterial genus name; <i>-ales</i> ending to denote an order; N.L. fem. pl. n. <i>Pelagibacterales</i> the <i>Pelagibacter</i> order)	Grote et al. 2012 [32]
<i>Vecturitrichales</i>		(Vec.tu.ri.tri.cha'les. N.L. fem. n. <i>Vecturithrix</i> a (<i>Candidatus</i>) genus name; <i>-ales</i> ending to denote an order; N.L. pl. fem. n. <i>Vecturitrichales</i> the <i>Vecturithrix</i> order); the name was also misspelled <i>Vecturatrachales</i> by Sekiguchi et al.	Sekiguchi et al. 2015 [21]
FAMILY			
<i>Actinomarinceae</i>		(Ac.ti.no.ma.ri.na.ce'ae. N.L. fem. n. <i>Actinomarina</i> a (<i>Candidatus</i>) bacterial genus name; <i>-aceae</i> ending to denote a family; N.L. fem. pl. n. <i>Actinomarinceae</i> the <i>Actinomarina</i> family)	Ghai et al. 2013 [24]

Continued

Table 1. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Altarchaeaceae</i> *	<i>Altiarchaeaceae</i>	We propose correcting the family name to <i>Altarchaeaceae</i> (Alt.ar.chae.a.ce'ae. N.L. neut. n. <i>Altarchaeum</i> a (<i>Candidatus</i>) genus name; - <i>aceae</i> ending to denote a family; N.L. fem. pl. n. <i>Altarchaeaceae</i> the <i>Altarchaeum</i> family)	Probst et al. 2014 [25]
<i>Brocadiaceae</i>		(Bro.ca.di.a.ce'ae. N.L. fem. n. <i>Brocadia</i> a (<i>Candidatus</i>) bacterial genus name; - <i>aceae</i> ending to denote a family; N.L. fem. pl. n. <i>Brocadiaceae</i> the <i>Brocadia</i> family)	Jetten et al. 2011 [33]
<i>Clavichlamydiaceae</i>		(Cla.vi.chla.my.di.a.ce'ae. N.L. fem. n. <i>Clavichlamydia</i> a (<i>Candidatus</i>) bacterial genus name; - <i>aceae</i> ending to denote a family; N.L. fem. n. <i>Clavichlamydiaceae</i> the <i>Clavichlamydia</i> family)	Horn 2011 [34]
<i>Competibacteraceae</i>		(Com.pe.ti.bac.te.ra.ce'ae. N.L. masc. n. <i>Competibacter</i> a (<i>Candidatus</i>) bacterial genus name; - <i>aceae</i> ending to denote a family; N.L. fem. pl. n. <i>Competibacteraceae</i> the <i>Competibacter</i> family)	McIlroy et al. 2014 [35]
<i>Criblamydiaceae</i>		(Crib.la.my.di.a.ce'ae. N.L. fem. n. <i>Criblamydia</i> a (<i>Candidatus</i>) bacterial genus name; - <i>aceae</i> ending to denote a family; N.L. fem. pl. n. <i>Criblamydiaceae</i> the <i>Criblamydia</i> family)	Thomas et al. 2006 [36]
<i>Desulfofervidaceae</i>		(De.sul.fo.fer.vi.da.ce'ae. N.L. masc. n. <i>Desulfofervidus</i> a (<i>Candidatus</i>) bacterial genus name; - <i>aceae</i> ending to denote a family; N.L. fem. pl. n. <i>Desulfofervidaceae</i> the <i>Desulfofervidus</i> family)	Krukenberg et al. 2016 [37]
<i>Fermentibacteraceae</i>		(Fer.men.ti.bac.te.ra.ce'ae. N.L. masc. n. <i>Fermentibacter</i> a (<i>Candidatus</i>) bacterial genus name; - <i>aceae</i> ending to denote a family; N.L. fem. pl. n. <i>Fermentibacteraceae</i> the <i>Fermentibacter</i> family)	Kirkegaard et al. 2016 [15]
<i>Hepatincolaceae</i>		(He.pat.in.co.la.ce'ae. N.L. masc. n. <i>Hepatincola</i> a (<i>Candidatus</i>) bacterial genus name; - <i>aceae</i> ending to denote a family; N.L. fem. pl. n. <i>Hepatincolaceae</i> the <i>Hepatincola</i> family)	Szokoli et al. 2016 [38]
<i>Homeothermaceae</i>		(Ho.me.o.ther.ma.ce'ae. N.L. masc. n. <i>Homeothermus</i> a (<i>Candidatus</i>) bacterial genus name; - <i>aceae</i> ending to denote a family; N.L. fem. pl. n. <i>Homeothermaceae</i> the <i>Homeothermus</i> family)	Ormerod et al. 2016 [39]
<i>Methanoflorentaceae</i>		(Me.tha.no.flo.ren.ta.ce'ae. N.L. masc. n. <i>Methanoflorens</i> a (<i>Candidatus</i>) methanogen genus name; - <i>aceae</i> ending to denote a family; N.L. fem. pl. n. <i>Methanoflorentaceae</i> the <i>Methanoflorens</i> family)	Mondav et al. 2014 [40]
<i>Methanomethylaceae</i>	<i>Methanomethylaceae</i>	As also suggested by [19], we propose correcting the name to <i>Methanomethylaceae</i> (Me.tha.no.me.thy.li.ca.ce'ae. N.L. masc. n. <i>Methanomethylicus</i> a (<i>Candidatus</i>) archaeal genus name; - <i>aceae</i> ending to denote a family; N.L. fem. pl. n. <i>Methanomethylaceae</i> the <i>Methanomethylicus</i> family)	Berghuis et al. 2019, Vanwonterghem et al. 2016 [19, 20]
<i>Methanoperedentaceae</i>	<i>Methanoperedenaceae</i>	(Me.tha.no.per.e.den.ta.ce'ae. N.L. masc. n. <i>Methanoperedens</i> a (<i>Candidatus</i>) bacterial genus name; - <i>aceae</i> ending to denote a family; N.L. fem. pl. n. <i>Methanoperedentaceae</i> the <i>Methanoperedens</i> family)	Haroon et al. 2013 [41]

Continued

Table 1. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Midichloriaceae</i>		(Mi.di.chlo.ri.a.ce'ae. N.L. fem. n. <i>Midichloria</i> a (<i>Candidatus</i>) bacterial genus name; -aceae ending to denote a family; N.L. fem. pl. n. <i>Midichloriaceae</i> the <i>Midichloria</i> family)	Montagna et al. 2013 [42]
<i>Moduliflexaceae</i>		(Mo.du.li.fle.xa.ce'ae. N.L. masc. n. <i>Moduliflexus</i> a (<i>Candidatus</i>) bacterial genus name; -aceae ending to denote a family; N.L. pl. fem. n. <i>Moduliflexaceae</i> the <i>Moduliflexus</i> family)	Sekiguchi et al. 2015 [21]
<i>Nanopelagicaceae</i>		(Na.no.pe.la.gi.ca.ce'ae. N.L. masc. n. <i>Nanopelagicus</i> a (<i>Candidatus</i>) bacterial genus name; -aceae ending to denote a family; N.L. pl. fem. n. <i>Nanopelagicaceae</i> the <i>Nanopelagicus</i> family)	Neuenschwander et al. 2018 [29]
<i>Nitrosocaldaceae</i>		(Ni.tro.so.cal.da.ce'ae. N.L. masc. n. <i>Nitrosocaldus</i> a (<i>Candidatus</i>) archaeal genus name; -aceae ending to denote a family; N.L. fem. pl. n. <i>Nitrosocaldaceae</i> the <i>Nitrosocaldus</i> family)	de la Torre et al. 2008 [30]
<i>Nitrosotenuaceae</i>		(Ni.tro.so.te.nu.a.ce'ae. N.L. masc. n. <i>Nitrosotenuis</i> a (<i>Candidatus</i>) archaeal genus name; -aceae ending to denote a family; N.L. fem. pl. n. <i>Nitrosotenuaceae</i> the <i>Nitrosotenuis</i> family)	Herbold et al. 2016 [43]
<i>Paracaedibacteraceae</i>		(Pa.ra.cae.di.bac.te.ra.ce'ae. N.L. masc. n. <i>Paracaedibacter</i> a (<i>Candidatus</i>) bacterial genus name; -aceae ending to denote a family; N.L. fem. pl. n. <i>Paracaedibacteraceae</i> the <i>Paracaedibacter</i> family)	Hess et al. 2016 [44]
<i>Parilichlamydiaceae</i>		(Pa.ri.li.chla.my.di.a.ce'ae. N.L. fem. n. <i>Parilichlamydia</i> a (<i>Candidatus</i>) bacterial genus name; -aceae ending to denote a family; N.L. fem. pl. n. <i>Parilichlamydiaceae</i> the <i>Parilichlamydia</i> family)	Stride et al. 2013 [45]
<i>Pelagibacteraceae</i>		(Pe.la.gi.bac.te.ra.ce'ae. N.L. masc. n. <i>Pelagibacter</i> a (<i>Candidatus</i>) bacterial genus name; -aceae ending to denote a family; N.L. fem. pl. n. <i>Pelagibacteraceae</i> the <i>Pelagibacter</i> family)	Thrash et al. 2011 [46]
<i>Phaeoamarinibacteraceae</i>	<i>Phaeoamarinobacteraceae</i>	We propose correcting the name to <i>Phaeoamarinibacteraceae</i> (Phae.o.ma.ri.ni.bac.te.ra.ce'ae. N.L. masc. n. <i>Phaeoamarinibacter</i> a (<i>Candidatus</i>) bacterial genus name; -aceae ending to denote a family; N.L. fem. pl. n. <i>Phaeoamarinibacteraceae</i> the <i>Phaeoamarinibacter</i> family)	Dittami et al. 2014 [47]
<i>Piscichlamydiaceae</i>		(Pis.ci.chla.my.di.a.ce'ae. N.L. fem. n. <i>Piscichlamydia</i> a (<i>Candidatus</i>) bacterial genus name; -aceae ending to denote a family; N.L. fem. pl. n. <i>Piscichlamydiaceae</i> the <i>Piscichlamydia</i> family)	Horn 2011 [48]
<i>Tenuibacteraceae</i>		(Te.nu.i.bac.te.ra.ce'ae. N.L. masc. n. <i>Tenuibacter</i> a (<i>Candidatus</i>) bacterial genus name; -aceae ending to denote a family; N.L. fem. pl. n. <i>Tenuibacteraceae</i> the <i>Tenuibacter</i> family)	Kroer et al. 2016 [49]
<i>Vecturitrachaceae</i>		(Vec.tu.ri.tri.cha.ce'ae. N.L. fem. n. <i>Vecturithrix</i> a (<i>Candidatus</i>) genus name; -aceae ending to denote a family; N.L. pl. fem. n. <i>Vecturitrachaceae</i> the <i>Vecturithrix</i> family); the name was also misspelled <i>Vecturatrachaceae</i> by Sekiguchi et al.	Sekiguchi et al. 2015 [21]

*The description of the *Candidatus* taxon is deficient and/or based on insufficient supporting data.

Table 2. Proposed *Candidatus* genus-level names

The table includes genus-level names proposed in the literature only as part of binomial species-level names.

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Accumulibacter</i>		(Ac.cu.mu.li.bac'ter. L. v. <i>accumulo</i> to accumulate; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Accumulibacter</i> an accumulating rod)	Hesselmann et al. 1999 [50]
<i>Acetithermum</i>	Also given as <i>Acetothermus</i>	We propose correcting the name to <i>Acetithermum</i> (A.ce.ti.ther'mum. L. neut. n. <i>acetum</i> vinegar; Gr. masc. adj. <i>thermos</i> hot; N.L. neut. n. <i>Acetithermum</i> a vinegar organism that lives in hot places); the name is confusing as the generic name <i>Acetothermus</i> Dietrich et al. 1988 was validly published. See further Hao et al. 2018 [51].	Takami et al. 2012 [52]
<i>Aciduliprofundum</i>		(A.ci.du.li.pro.fun'dum. L. masc. adj. <i>acidulus</i> sourish; L. masc. adj. <i>profundus</i> deep; N.L. neut. n. <i>Aciduliprofundum</i> an acid-loving organism from the deep)	Reysenbach et al. 2006 [53]
<i>Actinochlamydia</i>		(Ac.ti.no.chla.my'di.a. Gr. n. <i>aktis</i> , <i>aktinos</i> ray; N.L. fem. n. <i>Chlamydia</i> a bacterial genus; N.L. fem. n. <i>Actinochlamydia</i> ray <i>Chlamydia</i>)	Steigen et al. 2013 [54]
<i>Actinomarina</i>		(Ac.ti.no.ma.ri'na. Gr. n. <i>aktis</i> , <i>aktinos</i> , ray; L. fem. adj. <i>marina</i> from the sea; N.L. fem. n. <i>Actinomarina</i> a ray organism from the sea)	Ghai et al. 2013 [24]
<i>Adiacens</i>	<i>Adiaceo</i>	We propose correcting the name to <i>Ad.ia.cens</i> . (Ad.ia'cens. L. masc. n. (based on L. part. adj.) <i>Ad'ia.cens</i> . lying near, adjacent)	Darby et al. 2005 [55]
<i>Adiutrix</i>		(Ad.iu'trix. L. fem. n. <i>Adiutrix</i> assistant, helper)	Ikeda-Ohtsubo et al. 2016 [56]
<i>Aenigmataarchaeum</i>	<i>Aenigmarchaeum</i>	We propose correcting the name to <i>Aenigmataarchaeum</i> (Ae.nig.mat.ar.chae'um. Gr. neut. n. <i>ainigma</i> riddle; N.L. neut. n. <i>archaeum</i> archaeon; N.L. neut. n. <i>Aenigmataarchaeum</i> enigmatic archaeon)	Rinke et al. 2013 [57]
<i>Aerophobus</i>		(A.e.ro.pho'bus. Gr. masc. or fem. n. <i>aer</i> air; Gr. masc. n. <i>phobos</i> fear; N.L. masc. n. <i>Aerophobus</i> an organism fearing air)	Rinke et al. 2013 [57]
<i>Alcium</i>		(Al'ci.um. N.L. neut. n. <i>Alcium</i> derived from N.L. masc. n. <i>Alces</i> moose)	Solden et al. 2017 [58]
<i>Allobeggiatoa</i>		(Al.lo.beg.gi.a'to.a. Gr. masc. adj. <i>allos</i> other; N.L. fem. n. <i>Beggiatoa</i> a bacterial genus; N.L. fem. n. <i>Allobeggiatoa</i> another <i>Beggiatoa</i>)	Hinck et al. 2011 [59]
<i>Allocryptoplasma</i>	<i>Cryptoplasma</i>	The generic name <i>Cryptoplasma</i> is in use in the zoological nomenclature; therefore we propose correcting the name to <i>Allocryptoplasma</i> (Al.lo.cryp.to.plas'ma. Gr. masc. adj. <i>allos</i> other; Gr. adj. <i>kryptos</i> hidden; Gr. neut. n. <i>plasma</i> anything formed, image, figure; N.L. neut. n. <i>Allocryptoplasma</i> another thing (bacterium) of hidden form)	Eshoo et al. 2015 [60]
<i>Allospironema</i>	<i>Spironema</i>	The generic name <i>Spironema</i> is in use in the botanical nomenclature; therefore we propose correcting the name to <i>Allospironema</i> (Al.lo.spi.ro.ne'ma. Gr. masc. adj. <i>allos</i> other; Gr. fem. n. <i>speira</i> a coil; Gr. neut. n. <i>nema</i> a thread; N.L. neut. n. <i>Allospironema</i> another coiled thread)	Paster and Dewhirst 2000; Šikutová et al. 2010 [61, 62]
<i>Altarchaeum*</i>	<i>Altiaarchaeum</i>	We propose correcting the name to <i>Altarchaeum</i> (Alt.ar.chae'um. L. masc. adj. <i>altus</i> high, deep; N.L. neut. n. <i>archaeum</i> archaeon; N.L. neut. n. <i>Altarchaeum</i> an archaeon from the deep)	Probst et al. 2014 [25]
<i>Altamarinus</i>		(Al.ti.ma.ri'nus. L. masc. adj. <i>altus</i> high, deep; L. masc. adj. <i>marinus</i> marine; N.L. masc. n. <i>Altamarinus</i> an organism from the deep sea)	Rinke et al. 2013 [57]
<i>Aminicenans</i>		(A.mi.ni.ce'nans. N.L. neut. n. <i>aminum</i> an amine; L. pres. part. <i>cenans</i> eating; N.L. part. adj. used as N.L. masc. n. <i>Aminicenans</i> an organism degrading amino acids)	Rinke et al. 2013 [57]
<i>Amoebinatus</i>		(A.moe.bi.na'tus. N.L. fem. n. <i>amoeba</i> (from Gr. fem. n. <i>amoibê</i> change, transformation) amoeba; L. perf. part. <i>natus</i> born; N.L. masc. n. <i>Amoebinatus</i> born from an amoeba)	Greub et al. 2004 [63]

Continued

Table 2. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Amoebophilus</i>		(A.moe.bo'phi.lus. Gr. fem. n. <i>amoibê</i> change, transformation; N.L. masc. adj. <i>philus</i> (from Gr. masc. adj. <i>philos</i>) loving; N.L. masc. n. <i>Amoebophilus</i> amoeba-loving)	Horn et al. 2001 [64]
<i>Amphibiichlamydia</i>		(Am.phi.bi.i.chla.my'di.a. N.L. pl. neut. n. <i>Amphibia</i> a class of animals, amphibians; N.L. fem. n. <i>Chlamydia</i> a bacterial genus; N.L. fem. n. <i>Amphibiichlamydia</i> a <i>Chlamydia</i> from amphibians)	Martel et al. 2012 [65]
<i>Anadelfobacter</i>		(An.a.del.fo.bac'ter. Gr. masc. adj. <i>anadelphos</i> without brother or sister; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Anadelfobacter</i> a rod without brother or sister)	Vannini et al. 2010 [66]
<i>Anammoxiglobus</i>	<i>Anammoxoglobus</i>	We propose correcting the name to <i>Anammoxiglobus</i> (An.amm.o.xi.glo'bus. N.L. n. <i>anammox</i> acronym for anaerobic ammonia oxidation; L. masc. n. <i>globus</i> a sphere; N.L. masc. n. <i>Anammoxiglobus</i> a sphere that oxidizes ammonia anaerobically)	Jetten et al. 2011, Kartal et al. 2007 [33, 67]
<i>Anammoximicrobium</i>		(An.amm.o.xi.mi.cro'bi.um. N.L. n. <i>anammox</i> acronym for anaerobic ammonia oxidation; N.L. neut. n. <i>microbium</i> a microbe; N.L. neut. n. <i>Anammoximicrobium</i> a microbe that oxidizes ammonia anaerobically)	Khramenkov et al. 2013 [68]
<i>Ancillula</i>		(An.cil'lu.la. L. fem. n. <i>Ancillula</i> a young female slave)	Strassert et al. 2012 [69]
<i>Aquiluna</i>		(A.qui.lu'na. L. fem. n. <i>aqua</i> water; L. fem. n. <i>luna</i> moon; N.L. fem. n. <i>Aquiluna</i> selenoid organism from water)	Hahn 2009 [70]
<i>Aquirestis</i>		(A.qui.res'tis. L. fem. n. <i>aqua</i> water; L. fem. n. <i>restis</i> a rope; N.L. fem. n. <i>Aquirestis</i> a rope from water)	Hahn and Schauer 2007 [71]
<i>Aquirickettsiella</i>		(A.qui.rick.ett.si.el'la. L. fem. n. <i>aqua</i> water; N.L. fem. n. <i>Rickettsia</i> a bacterial genus; N.L. dim. fem. n. <i>Aquirickettsiella</i> an aquatic small <i>Rickettsia</i>)	Bojko et al. 2018 [72]
<i>Arcanibacter*</i>	<i>Arcanobacter</i>	We propose correcting the name to <i>Arcanibacter</i> (Ar.ca.ni.bac'ter. L. adj. <i>arcanus</i> secret, hidden, secretive; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Arcanibacter</i> a secretive rod)	Martijn et al. 2015 [73]
<i>Armantifilum</i>		(Ar.man.ti.fi'lum. L. part. adj. <i>armans</i> arming; L. neut. n. <i>filum</i> thread; N.L. neut. n. <i>Armantifilum</i> an arming filament)	Desai et al. 2010 [74]
<i>Aschnera</i>		(Asch'ne.ra. N.L. fem. n. <i>Aschnera</i> named after Manfred Ashner who first described the endosymbionts of nycteribiid bat flies)	Hosokawa et al. 2012 [75]
<i>Atelocyanobacterium</i>		(A.te.lo.cy.a.no.bac.te'ri.um. Gr. adj. <i>ateles</i> without end, incomplete; N.L. neut. n. <i>cyanobacterium</i> a type of phototrophic prokaryote; N.L. neut. n. <i>Atelocyanobacterium</i> an incomplete cyanobacterium)	Thompson et al. 2012 [76]
<i>Azobacteroides</i>		(A.zo.bac.te.ro'i.des. N.L. neut. n. <i>azotum</i> from Fr. n. <i>azote</i> (from Gr. prep. <i>a</i> not; Gr. n. <i>zôê</i> life; N.Gr. n. <i>azôê</i> not sustaining life), nitrogen; N.L. masc. n. <i>Bacteroides</i> a bacterial genus; N.L. masc. n. <i>Azobacteroides</i> a nitrogen (fixing) <i>Bacteroides</i>)	Hongoh et al. 2008 [77]
<i>Bacilliplasma</i>	<i>Bacilloplasma</i>	We propose correcting the genus name to <i>Bacilliplasma</i> (Ba.cil.li.plas'ma. L. masc. n. <i>bacillus</i> a small staff; Gr. neut. n. <i>plasma</i> something formed or moulded, a form; N.L. neut. n. <i>Bacilliplasma</i> a rod-like form)	Kostanjšek et al. 2007 [78]
<i>Bandiella</i>		(Ban.di.el'la. N.L. fem. dim. n. <i>Bandiella</i> named after Claudio Bandi, an Italian microbiologist)	Senra et al. 2016 [79]
<i>Bealeia</i>		(Bea.lei'a. N.L. fem. n. <i>Bealeia</i> named after Geoffrey Herbert Beale, a British geneticist who did seminal work on <i>Paramecium</i> and its symbionts)	Szokoli et al. 2016 [38]
<i>Berkiella</i>		(Ber.ki.el'la. N.L. dim. fem. n. <i>Berkiella</i> named after Sharon G. Berk for her contributions to the study of interactions between protozoa and bacteria)	Mehari et al. 2016 [80]

Continued

Table 2. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Bipolaricaulis</i>		(Bi.po.la.ri.cau'lis. L. adv. num. <i>bis</i> twice; N.L. masc. adj. <i>polaris</i> polar; L. masc. n. <i>caulis</i> a stalk; N.L. masc. n. <i>Bipolaricaulis</i> an organism with stalks at both poles)	Hao et al. 2018 [51]
<i>Blochmanniella</i>	<i>Blochmannia</i>	The generic name <i>Blochmannia</i> is in use in the botanical nomenclature; we therefore propose correcting the name to <i>Blochmanniella</i> (Bloch. man.ni.el'la. N.L. fem. n. <i>Blochmanniella</i> named after F. Blochmann who described a close association of 'bacteria-like structures' with the tissues of the mid-gut and the ovaries of the ant species)	Sauer et al. 2000 [81]
<i>Branchiomonas</i>		(Bran.chi.o.mo'nas. Gr. neut. n. <i>branchion</i> gill; L. fem. n. <i>monas</i> a monad, unit; N.L. fem. n. <i>Branchiomonas</i> a monad from gills)	Toenshoff et al. 2012 [82]
<i>Brevifilum</i>	<i>Brevefilum</i>	We propose correcting the name to <i>Brevifilum</i> (Bre.vi.fi'lum. L. masc. adj. <i>brevis</i> short; L. neut. n. <i>filum</i> a thread; N.L. neut. n. <i>Brevifilum</i> a short thread)	McIlroy et al. 2017 [83]
<i>Brocadia</i>		(Bro.ca'di.a. N.L. fem. n. <i>Brocadia</i> named after the Gist Brocades factory)	Jetten et al. 2001 [84]
<i>Caenarcanum</i>		(Caen.ar.ca'num. L. neut. n. <i>caenum</i> mud, sludge; L. neut. n. <i>arcanum</i> a secret; N.L. neut. n. <i>Caenarcanum</i> a bacterium hidden in sludge)	Soo et al. 2014 [28]
<i>Caldarchaeum</i>	<i>Caldiarchaeum</i>	We propose correcting the name to <i>Caldarchaeum</i> (Cald.ar.chae'um. L. masc. adj. <i>calidus</i> warm; N.L. neut. n. <i>archaeum</i> archaeon; N.L. neut. n. <i>Caldarchaeum</i> a warm archaeon)	Nunoura et al. 2011 [85]
<i>Caldatribacterium</i>		(Cald.a.tri.bac.te'ri.um. L. masc. adj. <i>calidus</i> warm; L. masc. adj. <i>ater</i> black, dark; N.L. neut. n. <i>bacterium</i> a rod; N.L. neut. n. <i>Caldatribacterium</i> a rod from hot dark matter)	Dodsworth et al. 2013 [86]
<i>Calditenuis</i>		(Cal.di.te'nu.is. L. masc. adj. <i>calidus</i> warm; L. masc. adj. <i>tenuis</i> thin, slender; N.L. masc. n. <i>Calditenuis</i> a warm and slender organism)	Beam et al. 2016 [87]
<i>Calescibacterium</i>		(Ca.les.ci.bac.te'ri.um. L. v. <i>calesco</i> to become warm; N.L. neut. n. <i>bacterium</i> a rod; N.L. neut. n. <i>Calescibacterium</i> a bacterium from a warm environment)	Rinke et al. 2013 [57]
<i>Captivus</i>		(Cap.ti'vus. L. masc. n. <i>Captivus</i> prisoner)	Baker et al. 2003 [88]
<i>Carbonibacillus</i>	<i>Carbobacillus</i>	We propose correcting the name to <i>Carbonibacillus</i> (Car.bo.ni.ba.cil'lus. L. masc. n. <i>carbo</i> , <i>carbonis</i> coal; L. masc. n. <i>bacillus</i> a small staff; N.L. masc. n. <i>Carbonibacillus</i> a little rod from coal)	Kadnikov et al. 2018 [89]
<i>Cardinium</i>		(Car.di'ni.um. L. masc. n. <i>cardo</i> , <i>cardinis</i> the main axis of a Roman town; N.L. neut. n. <i>Cardinium</i> named for the brush-like microfilament-like structure within the bacteria, resembling the main axis of a Roman town typically flanked by columns)	Zchori-Fein et al. 2004 [90]
<i>Carsonella</i>		(Car.so.nel'la. N.L. dim. fem. n. <i>Carsonella</i> named after Rachel Carson, an American naturalist and author of <i>Silent Spring</i>)	Thao et al. 2000 [91]
<i>Catenimonas</i>		(Ca.te.ni.mo'nas. L. fem. n. <i>catena</i> chain; L. fem. n. <i>monas</i> unit, monad; N.L. fem. n. <i>Catenimonas</i> a chain-forming monad)	Levantesi et al. 2004 [92]
<i>Cenarchaeum</i>		(Cen.ar.chae'um. Gr. adj. <i>kainos</i> recent, and Gr. adj. <i>koinos</i> common; N.L. neut. n. <i>archaeum</i> archaeon; N.L. neut. n. <i>Cenarchaeum</i> a relatively recent and common archaeon)	Preston et al. 1996 [93]
<i>Chloranaerofilum</i>		(Chlor.an.ae.ro.fi'lum. Gr. masc. adj. <i>chloros</i> green; Gr. pref. <i>an</i> not; Gr. masc. or fem. n. <i>aer</i> air; L. neut. n. <i>filum</i> thread; N.L. neut. n. <i>Chloranaerofilum</i> a green anaerobic thread)	Thiel et al. 2016 [94]
<i>Chloroploca</i>		(Chlo.ro.plo'ca. Gr. masc. adj. <i>chloros</i> green; Gr. fem. n. <i>ploke</i> a twist, anything twisted, a braid; N.L. fem. n. <i>Chloroploca</i> a green braid)	Gorlenko et al. 2014 [95]

Continued

Table 2. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Chlorotrichoides</i>	<i>Chlorothrix</i>	The genus name <i>Chlorothrix</i> is used in the botanical nomenclature; we therefore propose correcting the name to <i>Chlorotrichoides</i> (Chlo.ro.tri.cho'i.des. Gr. masc. adj. <i>chloros</i> green; Gr. fem. n. <i>thrix</i> , <i>trichos</i> hair; L. suff. <i>-oides</i> (from Gr. suff. <i>-eides</i> that which is seen, form, shape, figure) resembling; N.L. neut. n. <i>Chlorotrichoides</i> resembling a green hair)	Klappenbach and Pierson 2004 [96]
<i>Chryseopegocella</i>	<i>Chrysopegis</i>	We propose correcting the name to a generic name in the nominative case (Chry.se.o.pe.go.cel'la. Gr. masc. adj. <i>chryseos</i> golden; Gr. fem. n. <i>pege</i> a spring; L. fem. n. <i>cella</i> a store-room, chamber, and in biology, a cell; N.L. fem. n. <i>Chryseopegocella</i> a cell from a golden spring)	Eloe-Fadrosch et al. 2016 [97]
<i>Clavichlamydia</i>		(Cla.vi.chla.my'di.a. L. fem. n. <i>clava</i> , cudgel, club; N.L. fem. n. <i>Chlamydia</i> a bacterial genus; N.L. fem. n. <i>Clavichlamydia</i> a club-shaped <i>Chlamydia</i>)	Horn 2011; Karlsen et al. 2008 [98, 99]
<i>Cloacimonas</i>	<i>Cloacamonas</i>	We propose correcting the name to <i>Cloacimonas</i> (Clo.a.ci.mo'nas. L. fem. n. <i>cloaca</i> sewer; L. fem. n. <i>monas</i> unit, monad; N.L. fem. n. <i>Cloacimonas</i> a monad from a sewer)	Pelletier et al. 2008 [100]
<i>Cochliopodiophilus</i>	<i>Cochliophilus</i>	We propose correcting the name to <i>Cochliopodiophilus</i> (Coch.li.o.po.di.i'phi.us. N.L. neut. n. <i>Cochliopodium</i> a protist genus; N.L. masc. adj. <i>philus</i> (from Gr. masc. adj. <i>philos</i>) loving; N.L. masc. n. <i>Cochliopodiophilus</i> loving <i>Cochliopodium</i>)	Tsao et al. 2017 [101]
<i>Comborthrix</i>		(Com'bo.thrix. Gr. masc. n. <i>kombos</i> band, girth; Gr. fem. n. <i>thrix</i> hair, thread; N.L. fem. n. <i>Comborthrix</i> a thread with knots)	Levantesi et al. 2004 [92]
<i>Comitans</i>	<i>comitans</i>	We propose correcting the name to <i>Comitans</i> (Co'mi.tans. L. part. adj. used as L. masc. n. <i>Comitans</i> accompanying)	Jacobi et al. 1996 [102]
<i>Competibacter</i>		(Com.pe.ti.bac'ter. L. v. <i>competo</i> to strive after something; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Competibacter</i> a competing rod)	Crocetti et al. 2002 [103]
<i>Consessor</i>	<i>Consessoris</i>	We propose correcting the genus name to <i>Consessor</i> (Con.ses'sor. L. masc. n. <i>Consessor</i> a neighbour)	Darby et al. 2005 [55]
<i>Contendibacter*</i>	<i>Contendobacter</i>	(Con.ten.di.bac'ter. L. v. <i>contendo</i> to fight, compete; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Contendibacter</i> a competing rod)	McIlroy et al. 2014 [35]
<i>Contubernalis</i>		(Con.tu.ber.na'lis. L. masc. n. <i>Contubernalis</i> companion)	Zhilina et al. 2005 [104]
<i>Criblamydia</i>		(Crib.la.my.di.a. N.L. fem. n. <i>Criblamydia</i> name arbitrarily formed from CRIB (acronym for Centre for Research on Intracellular Bacteria) and <i>Chlamydia</i>)	Thomas et al. 2006 [36]
<i>Cryptoprodota</i>	<i>Cryptoprodotis</i>	We propose correcting the name to <i>Cryptoprodota</i> (Cryp.to.pro.do'ta. Gr. masc. adj. <i>kryptos</i> hidden; Gr. adj. <i>prodotes</i> treacherous; N.L. masc. n. <i>Cryptoprodota</i> a hidden treacherous organism)	Ferrantini et al. 2009 [105]
<i>Curculioniphilus</i>		(Cur.cu.li.o.ni'phi.us. N.L. masc. n. <i>Curculio</i> a genus of weevils; N.L. masc. adj. <i>philus</i> (from Gr. masc. adj. <i>philos</i>) loving; N.L. masc. n. <i>Curculioniphilus</i> an organism loving weevils of the genus <i>Curculio</i>)	Toju et al. 2010 [106]
<i>Cyrtobacter</i>		(Cyr.to.bac'ter. Gr. masc. adj. <i>kyrtos</i> humped; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Cyrtobacter</i> a humped rod)	Vannini et al. 2010 [66]
<i>Dactylopiibacterium</i>		(Dac.ty.lo.pi.i.bac.te'ri.um. N.L. masc. n. <i>Dactylopius</i> an insect genus; N.L. neut. n. <i>bacterium</i> a rod; N.L. neut. n. <i>Dactylopiibacterium</i> a rod from the insect genus <i>Dactylopius</i>)	Ramírez-Puebla et al. 2010 [107]
<i>Defluviella</i>		(De.flu.vi.el'la. L. neut. n. <i>defluvium</i> sewage; N.L. fem. dim. n. <i>Defluviella</i> an organism from sewage)	Boscaro et al. 2013 [108]
<i>Desulfofervidus</i>		(De.sul.fo.fer'vi.dus. L. pref. <i>de</i> from; N.L. pref. <i>sulfo-</i> prefix used for N.L. masc. n. <i>sulfas</i> , <i>-atis</i> sulfate; L. masc. adj. <i>fervidus</i> hot, burning; N.L. masc. n. <i>Desulfofervidus</i> a hot sulfate-reducer)	Krukenberg et al. 2016 [37]

Continued

Table 2. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Desulfonatronobulbus</i>		(De.sul.fo.na.tro.no.bul'bus. L. prep. <i>de</i> from; N.L. pref. <i>sulfo</i> - prefix used for N.L. masc. n. <i>sulfas</i> , - <i>atis</i> sulfate; N.Gr. n. <i>natron</i> , arbitrarily derived from the Arabic n. <i>natrun</i> or <i>natron</i> soda; L. masc. n. <i>bulbus</i> a bulb, an onion; N.L. masc. n. <i>Desulfonatronobulbus</i> an onion-shaped natronophilic sulfate reducer)	Sorokin and Chernyh 2016 [109]
<i>Desulforudis</i>		(De.sul.fo.ru'dis. L. prep. <i>de</i> from; N.L. pref. <i>sulfo</i> - prefix used for N.L. masc. n. <i>sulfas</i> , - <i>atis</i> sulfate; L. fem. n. <i>rudis</i> a slender rod; N.L. fem. n. <i>Desulforudis</i> a sulfate-reducing slender rod)	Chivian et al. 2008 [110]
<i>Dichloromethanomonas</i>		(Di.chlo.ro.me.tha.no.mo'nas. N.L. neut. n. <i>dichloromethanum</i> dichloromethane; N.L. pref. <i>methano</i> - pertaining to methane; L. fem. n. <i>monas</i> unit, monad; N.L. fem. n. <i>Dichloromethanomonas</i> a monad eating dichloromethane)	Kleindienst et al. 2017 [111]
<i>Doolittlea</i>		(Doo.litt.le'a. N.L. fem. n. <i>Doolittlea</i> named after W. Ford Doolittle, a Canadian evolutionary biologist)	Husnik and McCutcheon 2016 [112]
<i>Dwaynesavagella</i>	<i>Savagella</i>	As the generic name <i>Savagella</i> is in use in the zoological nomenclature we propose correcting the name to <i>Dwaynesavagella</i> (Dwayne.sa.vag.el'la. N.L. fem. n. <i>Dwaynesavagella</i> named after Dwayne Savage, an American gut microbiologist who first described the group)	Thompson et al. 2012 [113]
<i>Ecksteinia</i>		(Eck.stei'ni.a. N.L. fem. n. <i>Ecksteinia</i> named after Karl Eckstein, the German entomologist)	Toenshoff et al. 2012 [114]
<i>Electronema</i>		(E.lec.tro.ne'ma. Gr. neut. n. <i>electron</i> amber; Gr. neut. n. <i>nema</i> a thread; N.L. neut. n. <i>Electronema</i> an electric wire)	Trojan et al. 2016 [115]
<i>Electrothrix</i>		(E.lec'tro.thrix. Gr. neut. n. <i>electron</i> amber; Gr. fem. n. <i>thrix</i> a hair; N.L. fem. n. <i>Electrothrix</i> an electric hair)	Trojan et al. 2016 [115]
<i>Endecteinascidia</i>	<i>Endoecteinascidia</i>	We suggest correcting the name to <i>Endecteinascidia</i> (End.ec.te.in.as.ci'di.a. Gr. pref. <i>endo</i> within; N.L. fem. n. <i>Ecteinascidia</i> a squirt genus; N.L. fem. n. <i>Endecteinascidia</i> an organism within <i>Ecteinascidia</i>)	Moss et al. 2003 [116]
<i>Endobugula</i>		(En.do.bu'gu.la. Gr. pref. <i>endo</i> within; N.L. fem. n. <i>Bugula</i> a genus of bryozoa; N.L. fem. n. <i>Endobugula</i> an organism within <i>Bugula</i>)	Haygood and Davidson 1997 [117]
<i>Endolissoclinum</i>		(En.do.lis.so.cli'num. Gr. pref. <i>endo</i> within; N.L. fem. n. <i>Lissoclinum</i> an ascidian genus; N.L. neut. n. <i>Endolissoclinum</i> an organism within <i>Lissoclinum</i>)	Kwan et al. 2012 [118]
<i>Endonucleibacter</i>	<i>Endonucleobacter</i>	We propose correcting the name to <i>Endonucleibacter</i> (En.do.nu.cle.i.bac'ter. Gr. pref. <i>endo</i> within; L. masc. n. <i>nucleus</i> a little nut and in biology, a nucleus; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Endonucleibacter</i> a rod inside the nucleus)	Zielinski et al. 2009 [119]
<i>Endoriftia</i>		(En.do.rif'ti.a. Gr. pref. <i>endo</i> within; N.L. fem. n. <i>Riftia</i> a genus of tube worms; N.L. fem. n. <i>Endoriftia</i> an organism within <i>Riftia</i>)	Robidart et al. 2008 [120]
<i>Endowatersipora</i>		(En.do.wa.ter.si.po'ra. Gr. pref. <i>endo</i> within; N.L. fem. n. <i>Watersipora</i> a genus of bryozoa; N.L. fem. n. <i>Endowatersipora</i> an organism within <i>Watersipora</i>)	Anderson and Haygood 2007 [121]
<i>Entotheonella</i>		(En.to.the.o.ne'l'a. Gr. adv. and prep. <i>entos</i> within; N.L. fem. n. <i>Theonella</i> a sponge genus; N.L. fem. n. <i>Entotheonella</i> an organism within <i>Theonella</i>)	Schmidt et al. 2000 [122]
<i>Epifloribacter</i>	<i>Epiflobacter</i>	We propose correcting the name to <i>Epifloribacter</i> (E.pi.flo.ri.bac'ter. N.L. fem. n. <i>epiflora</i> attached growth; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Epifloribacter</i> a rod from the epiflora)	Xia et al. 2008 [123]

Continued

Table 2. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Epixenosoma</i> *		(E.pi.xe.no.so'ma. Gr. pref. <i>epi-</i> on; Gr. masc. adj. <i>xenos</i> foreign; Gr. neut. n. <i>soma</i> body; N.L. neut. n. <i>Epixenosoma</i> an outside foreign body)	Cho et al. 2010 [124] (an incidental mention. The name is attributed to Bauer et al. (unpublished) [125] via AJ966881 <i>hsp70</i> gene sequence, isolated from <i>Euplotidium itoi</i> strain N20)
<i>Epulonipiscioides</i>	<i>Epulopisciides</i>	We propose correcting the name to <i>Epulonipiscioides</i> (E.pu.lo.ni.pis.ci.o'i. des. N.L. neut. n. <i>Epulonipiscium</i> a (<i>Candidatus</i>) bacterial genus name; L. suff. <i>-oides</i> (from Gr. suff. <i>-eides</i> that which is seen, form, shape, figure), resembling; N.L. neut. n. <i>Epulonipiscioides</i> resembling <i>Epulonipiscium</i>)	Ngugi et al. 2017 [126]
<i>Epulonipiscium</i>	<i>Epulopiscium</i>	(E.pu.lo.ni.pis'ci.um. L. masc. n. <i>epulo</i> , <i>-onis</i> a guest at a banquet; L. masc. n. <i>piscis</i> fish; N.L. neut. n. <i>Epulonipiscium</i> banquet of fish); Note: Montgomery and Pollack Montgomery and Pollack 1988 [127] gave as etymology: 'From the Latin ' <i>epulo</i> ', guest at a banquet, and ' <i>piscium</i> ' of a fish'. As <i>piscium</i> is a genitive plural form and as a generic name must be in the nominative case, we here propose <i>Epulonipiscium</i> as a singular noun of the neuter gender	Montgomery and Pollak 1988 [127]
<i>Fermentibacter</i>		(Fer.men.ti.bac'ter. L. neut. n. <i>fermentum</i> that which causes fermentation; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Fermentibacter</i> a rod that causes fermentation)	Kirkegaard et al. 2016 [15]
<i>Fervidibacter</i>		(Fer.vi.di.bac'ter. L. masc. adj. <i>fervidus</i> hot, steaming; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Fervidibacter</i> a hot rod)	Rinke et al. 2013 [57]
<i>Finniella</i>		(Fin.ni.el'la. N.L. fem. dim. n. <i>Finniella</i> pertaining to Finland, referring to the 'Finnish spirit' present during the characterization of the taxon)	Hess et al. 2016 [44]
<i>Flaviluna</i>		(Fla.vi.lu'na. L. masc. adj. <i>flavus</i> yellow; L. fem. n. <i>luna</i> moon; N.L. fem. n. <i>Flaviluna</i> a yellow moon-shaped organism)	Hahn 2009 [70]
<i>Fodinibacter</i>	<i>Fodinabacter</i>	We propose correcting the name to <i>Fodinibacter</i> (Fo.di.ni.bac'ter. L. fem. n. <i>fodina</i> mine, pit; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Fodinibacter</i> a rod from a mine)	Bertin et al. 2011 [128]
<i>Fokinia</i>		(Fo.ki'ni.a. N.L. fem. n. <i>Fokinia</i> named after Sergei I. Fokin, a prominent specialist in the study of bacterial symbionts of ciliates)	Szokoli et al. 2016, Szokoli et al. 2016 [38, 129]
<i>Frackibacter</i> *		(Fra.cki.bac'ter. N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Frackibacter</i> a rod from fracking (hydraulic fracturing))	Booker et al. 2017 [130]
<i>Fritschea</i>		(Frit'sche.a. N.L. fem. n. <i>Fritschea</i> named after Thomas R. Fritsche)	Everett et al. 2005 [131]
<i>Fukatsuia</i>		(Fu.ka.tsu'i.a. N.L. fem. n. <i>Fukatsuia</i> named after Takema Fukatsu, the Japanese entomologist who contributed to the study of aphid biology and that of their endosymbionts)	Manzano-Marín et al. 2017 [132]
<i>Galacturonatibacter</i>	<i>Galacturonibacter</i>	We propose correcting the name to <i>Galacturonatibacter</i> (Ga.lac.tu.ro.na.ti.bac'ter. N.L. neut. n. <i>galacturonatum</i> galacturonate; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Galacturonatibacter</i> a rod eating galacturonate)	Valk et al. 2018 [133]
<i>Gastranaerophilus</i>		(Gastr.an.ae.ro'phi.lus. Gr. fem. n. <i>gaster</i> belly, gut; Gr. pref. <i>an</i> not; Gr. masc. or fem. n. <i>aer</i> air; N.L. masc. adj. <i>philus</i> (from Gr. masc. adj. <i>philos</i>) loving; N.L. masc. n. <i>Gastranaerophilus</i> organism loving anaerobic gastric environments)	Soo et al. 2014 [28]

Continued

Table 2. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Gigantorickettsia</i>	<i>Gigarickettsia</i>	We propose correcting the name to <i>Gigantorickettsia</i> (Gi.gan.to.rick.ett'si.a. Gr. masc. n. <i>gigantos</i> , <i>gigantis</i> giant; N.L. fem. n. <i>Rickettsia</i> a bacterial genus; N.L. fem. n. <i>Gigantorickettsia</i> a giant <i>Rickettsia</i>)	Vannini et al. 2014 [134]
<i>Gigantothauma</i>	<i>Giganthauma</i>	We propose correcting the name to <i>Gigantothauma</i> (Gi.gan.to.thau'ma. Gr. masc. n. <i>gigas</i> , <i>gigantos</i> a giant; Gr. neut. n. <i>thauma</i> wonder; N.L. neut. n. <i>Gigantothauma</i> a large member of the <i>Thaumarchaeota</i>)	Muller et al. 2010 [135]
<i>Gillettella</i>		(Gil.let.tel'li.a. N.L. fem. dim. n. <i>Gillettella</i> named after Clarence P. Gillette the entomologist who first described adelgid species); note that the names <i>Gillettia</i> and <i>Gillettella</i> exist in zoology and in botany, respectively	Toenshoff et al. 2012 [136]
<i>Glomeribacter</i>		(Glo.me.ri.bac'ter. L. neut. n. <i>glomus</i> , <i>glomeris</i> a ball; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Glomeribacter</i> a ball-shaped rod)	Bianciotto et al. 2003 [137]
<i>Goertzia</i>	<i>Gortzia</i>	We propose correcting the name to <i>Goertzia</i> (Goer'tzi.a. N.L. fem. n. <i>Goertzia</i> named after Hans-Dieter Görtz who played an important role in elucidating the relationship between prokaryotes and ciliates)	Boscaro et al. 2013 [138]
<i>Gullanella</i>		(Gul.la.nel'la. N.L. fem. dim. n. <i>Gullanella</i> named after Penny J. Gullan, the Australian entomologist, for her contribution to mealybug biology and taxonomy)	Husnik and McCutcheon 2016 [112]
<i>Haematobacterium</i>	<i>Hemobacterium</i>	We propose correcting the name to <i>Haematobacterium</i> (Hae.ma.to.bac.te'ri.um. Gr. neut. n. <i>haema</i> , <i>haematos</i> blood; N.L. neut. n. <i>bacterium</i> a rod; N.L. neut. n. <i>Haematobacterium</i> a rod from blood)	Zhang and Rikihisa 2004 [139]
<i>Halectosymbiota</i>	<i>Haloectosymbiotes</i>	We propose correcting the name to <i>Halectosymbiota</i> (Hal.ec.to.sym.bi.o'ta. Gr. masc. n. <i>hals</i> , <i>halos</i> salt, salt water; Gr. prep. <i>ektos</i> outside; N.L. masc. n. <i>symbiota</i> (from Gr. n. <i>symbiotes</i>) one who lives with a companion, partner; N.L. masc. n. <i>Halectosymbiota</i> an ectosymbiont from salt water organisms)	Filker et al. 2014 [140]
<i>Haloredivivus</i>		(Ha.lo.re.di.vi'vus. Gr. masc. n. <i>hals</i> , <i>halos</i> salt; L. masc. adj. <i>redivivus</i> reconstructed; N.L. masc. n. <i>Haloredivivus</i> a reconstructed salty organism)	Ghai et al. 2011 [141]
<i>Halysiomicrobium</i>	<i>Alysiomicrobium</i>	We propose correcting the name to <i>Halysiomicrobium</i> (Ha.ly.si.o.mi.cro'bi.um. Gr. fem. n. <i>halysis</i> chain; N.L. neut. n. <i>microbium</i> a microbe; N.L. neut. n. <i>Halysiomicrobium</i> a microbe that grows in chains)	Levantesi et al. 2004 [92]
<i>Halysiosphaera</i>	<i>Alysiosphaera</i>	We propose correcting the name to <i>Halysiosphaera</i> (Ha.ly.si.o.sphae'ra. Gr. fem. n. <i>halysis</i> chain; L. fem. n. <i>sphaera</i> a sphere; N.L. fem. n. <i>Halysiosphaera</i> a sphere that grows in chains)	Levantesi et al. 2004 [92]
<i>Heliomonas</i>		(He.li.o.mo'nas. Gr. masc. n. <i>helios</i> the sun; L. fem. n. <i>monas</i> unit, monad; N.L. fem. n. <i>Heliomonas</i> the solar unit); note: <i>Heliomonas</i> cannot be considered an orthographic variant of <i>Heliomonas</i> , a validly published bacterial genus name with a different etymology	Asao et al. 2012 [142]
<i>Hemicellulosilyticus</i>	<i>Hemicellulyticus</i>	We propose correcting the name to <i>Hemicellulosilyticus</i> (He.mi.cel.lu.lo.si.ly'ti.cus. N.L. neut. n. <i>hemicellulosum</i> hemicellulose; N.L. masc. adj. <i>lyticus</i> (from Gr. masc. adj. <i>lytikos</i> dissolving); N.L. masc. n. <i>Hemicellulosilyticus</i> a hemicellulose dissolving organism)	Solden et al. 2017 [58]
<i>Hemipteriphilus</i>		(He.mi.pte.ri'phi.lus. N.L. pl. neut. n. <i>Hemiptera</i> an order of insects; N.L. masc. adj. <i>philus</i> (from Gr. masc. adj. <i>philos</i>) loving; N.L. masc. n. <i>Hemipteriphilus</i> an organism loving <i>Hemiptera</i>)	Bing et al. 2013 [143]
<i>Hepaticola</i>		(He.pat.in'co.la. Gr. neut. n. <i>hepar</i> , <i>hepatos</i> liver; L. masc. or fem. n. <i>incola</i> inhabitant, dweller; N.L. masc. n. <i>Hepaticola</i> a dweller of the liver)	Wang et al. 2004 [144]
<i>Hepatobacter</i>		(He.pa.to.bac'ter. Gr. neut. n. <i>hepar</i> , <i>hepatos</i> liver; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Hepatobacter</i> a rod from the liver)	Nunan et al. 2013 [145]

Continued

Table 2. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Hepatoplasma</i>		(He.pa.to.plas'ma. Gr. neut. n. <i>hepar</i> , <i>hepatos</i> liver; Gr. neut. n. <i>plasma</i> anything formed or moulded, image, figure; N.L. neut. n. <i>Hepatoplasma</i> a form from the liver)	Wang et al. 2004 [146]
<i>Hoaglandella</i>		(Hoag.land.el'la. N.L. fem. dim. n. <i>Hoaglandella</i> named after the biochemist Mahlon B. Hoagland for his contributions to understanding the genetic code)	Husnik and McCutcheon 2016 [112]
<i>Hodgkinia</i>		(Hodg.ki'ni.a. N.L. fem. n. <i>Hodgkinia</i> named after the biochemist Dorothy Crowfoot Hodgkin)	McCutcheon et al. 2009 [147]
<i>Homeothermus</i>		(Ho.me.o.ther'mus. Gr. masc. adj. <i>homoios</i> similar; Gr. fem. n. <i>therme</i> heat; N.L. masc. n. <i>Homeothermus</i> an organism of homeothermic origin)	Ormerod et al. 2016 [39]
<i>Huberarchaeum</i>	<i>Huberiarchaeum</i>	(Hu.ber.ar.chae'um. N.L. neut. n. <i>archaeum</i> an archaeon; N.L. neut. n. <i>Huberarchaeum</i> an archaeon named after the microbiologist Robert Huber); the name was misspelled <i>Huberiarchaeum</i> by Schwank et al. (2019)	Probst et al. 2018, Schwank et al. 2019 [148, 149]
<i>Hydrogenedens</i>		(Hy.dro.gen.e'dens. N.L. neut. n. <i>hydrogenum</i> hydrogen; L. pres. part. <i>edens</i> eating; N.L. part. adj. used as N.L. masc. n. <i>Hydrogenedens</i> eating hydrogen)	Rinke et al. 2013 [57]
<i>Iainarchaeum</i>		(I.ain.ar.chae'um. N.L. neut. n. <i>archaeum</i> archaeon; N.L. neut. n. <i>Iainarchaeum</i> an archaeon named after the genome biologist Iain Anderson)	Rinke et al. 2013 [57]
<i>Intestinibacterium</i>	<i>Intestinusbacter</i>	As the generic name <i>Intestinibacter</i> is in use, we propose correcting the name to <i>Intestinibacterium</i> (In.tes.ti.ni.bac.te'ri.um. L. neut. n. <i>intestinum</i> the intestine; N.L. neut. n. <i>bacterium</i> a rod; N.L. neut. n. <i>Intestinibacterium</i> an intestinal rod)	Dirren and Posch 2016 [150]
<i>Ishikawella</i>	<i>Ishikawaella</i>	We propose correcting the name to <i>Ishikawella</i> (I.shi.ka.wel'la. N.L. fem. dim. n. <i>Ishikawella</i> named after Hajime Ishikawa who pioneered molecular biological studies on insect symbiosis)	Hosokawa et al. 2006 [151]
<i>Isobeggiatoa</i>		(I.so.beg.gi.a'to.a. Gr. adj. <i>isos</i> equal, like, similar; N.L. fem. n. <i>Beggiatoa</i> a bacterial genus; N.L. fem. n. <i>Isobeggiatoa</i> a genus similar to <i>Beggiatoa</i>)	Salman et al. 2011 [152]
<i>Izemoplasma</i>	<i>Izimaplasma</i>	We suggest correcting the name to <i>Izemoplasma</i> (I.ze.mo.plas'ma. Gr. neut. n. <i>izema</i> a settling down, sediment; Gr. neut. n. <i>plasma</i> anything formed or moulded, image, figure; N.L. neut. n. <i>Izemoplasma</i> a form from sediment); the name <i>Izemoplasma</i> is also found in Wasmund et al. [153]	Skenneron et al. 2016 [154]
<i>Jettenia</i>		(Jet.te'ni.a. N.L. fem. n. <i>Jettenia</i> named after Mike S.M. Jetten for his contributions to anammox microbiology)	Quan et al. 2008 [155]
<i>Jidaibacter</i>		(Ji.da.i.bac'ter. N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Jidaibacter</i> a rod associated with Jidai, derived from Japanese 'Era' and resembling a character name (the Jedi) in George Lucas' <i>Star Wars</i> saga)	Schulz et al. 2016 [156]
<i>Johnevsania</i>	<i>Evansia</i>	The generic names <i>Evansia</i> and <i>Evansiella</i> exist in the botanical and in the zoological nomenclature, respectively; we therefore propose correcting the name to <i>Johnevsania</i> (John.e.van'si.a. N.L. fem. n. <i>Johnevsania</i> named after John William Evans for his pioneering work on bacteriomes in moss bugs)	Kuechler et al. 2013 [157]
<i>Kapaibacterium</i>	<i>Kapabacteria</i>	We propose correcting the name to <i>Kapaibacterium</i> (Ka.pa.i.bac.te'ri.um. <i>Kapa</i> based on Motse Kapa, the name of Cape Town in the Sesotho language; N.L. neut. n. <i>bacterium</i> a rod; N.L. neut. n. <i>Kapaibacterium</i> a rod from Cape Town)	Kantor et al. 2015 [158]

Continued

Table 2. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Karelsulcia</i>	<i>Sulcia</i>	The generic name <i>Sulcia</i> exists in the zoological nomenclature; we therefore propose correcting the name to <i>Karelsulcia</i> (Ka.rel.sul'ci.a. N.L. fem. n. <i>Karelsulcia</i> named after Vytváření Karel Šulc, a Moravian embryologist at University of Brno who, while studying cicadas in 1909, was one of the first biologists to recognize the bacteriome of an insect as an organ containing micro-organisms)	Moran et al. 2005 [159]
<i>Kentrum</i>	<i>Kentron</i>	We propose correcting the name to <i>Kentrum</i> (Ken'trum. N.L. neut. n. <i>kentrum</i> (from Gr. neut. n. <i>kentron</i>) a spine)	Seah et al. 2017 [160]
<i>Kinetoplastidibacterium</i>	<i>Kinetoplastibacterium</i>	We propose correcting the name to <i>Kinetoplastidibacterium</i> (Ki.ne.to. plas.ti.di.bac.te'ri.um. N.L. pl. neut. n. <i>Kinetoplastida</i> a class of protists; N.L. neut. n. <i>bacterium</i> a rod; N.L. neut. n. <i>Kinetoplastidibacterium</i> a rod from <i>Kinetoplastida</i>)	Teixeira et al. 2011 [161]
<i>Kleidoceria</i>		(Klei.do.ce'ri.a. N.L. fem. n. <i>Kleidoceria</i> an organism associated with the birch catkin bug <i>Kleidocerys</i>)	Küchler et al. 2010 [162]
<i>Kopriimonas</i>		(Ko.pri.i.mo'nas. L. fem. n. <i>monas</i> unit, monad; N.L. fem. n. <i>Kopriimonas</i> a monad from KOPRI, acronym for Korea Polar Research Institute)	Quinn et al. 2012 [163]
<i>Korarchaeum</i>		(Kor.ar.chae'um. Gr. masc. n. <i>koros</i> young man; N.L. neut. n. <i>archaeum</i> archaeon; N.L. neut. n. <i>Korarchaeum</i> young archaeon – because of the early divergence of the group)	Elkins et al. 2008 [164]
<i>Kotejella*</i>		(Ko.te.jel'la. N.L. fem. dim. n. <i>Kotejella</i> named after Jan Koteja, the Polish coccidologist, for his contribution to our knowledge on the biology and phylogeny of scale insects)	Michalik et al. 2018 [165]
<i>Kryptobacter</i>		(Kryp.to.bac'ter. Gr. masc. adj. <i>kryptos</i> hidden; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Kryptobacter</i> a hidden rod)	Eloe-Fadrosh et al. 2016 [97]
<i>Kryptonium</i>		(Kryp.to'ni.um. Gr. masc. adj. <i>kryptos</i> hidden; N.L. neut. n. <i>Kryptonium</i> a hidden life form)	Eloe-Fadrosh et al. 2016 [97]
<i>Kuenenia</i>		(Kue.ne'ni.a. N.L. fem. n. <i>Kuenenia</i> named after J. Gijs Kuenen for his contributions leading to the discovery of the anammox process)	Schmid et al. 2000 [166]
<i>Lariskella</i>		(La.ris.kel'la. N.L. fem. dim. n. <i>Lariskella</i> named after the Russian animation character Lariska)	Matsuura et al. 2012 [167]
<i>Latescibacter</i>		(La.tes.ci.bac'ter. L. v. <i>latesco</i> to hide; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Latescibacter</i> a hiding rod)	Rinke et al. 2013 [57]
<i>Limnoluna</i>		(Lim.no.lu'na. Gr. fem. n. <i>limne</i> lake; L. fem. n. <i>luna</i> moon; N.L. fem. n. <i>Limnoluna</i> a selenoid organism from a lake)	Hahn 2009 [70]
<i>Lokiarchaeum</i>	<i>Lokiarchaeon</i>	(Lo.ki.ar.chae'um. N.L. neut. n. <i>archaeon</i> an archaeon; N.L. neut. n. <i>Lokiarchaeum</i> archaeon named after the Loki's Castle hydrothermal vents); the first publication had the name <i>Lokiarchaeum</i> without <i>Candidatus</i> , a later publication had <i>Candidatus</i> <i>Lokiarchaeon</i>	Spang et al. 2015 [168]; Sousa et al. 2016 [169]
<i>Lumbricidiphila*</i>	<i>Lumbricidophila</i>	(Lum.bri.ci.di'phi.la. N.L. fem. pl. n. <i>Lumbricidae</i> a family of earthworms; N.L. fem. adj. <i>phila</i> (from Gr. fem. adj. <i>phile</i>) loving; N.L. fem. n. <i>Lumbricidiphila</i> loving lumbricid earthworms)	Lund et al. 2018 [170]
<i>Lumbricincola</i>		(Lum.bric.in'co.la. L. masc. n. <i>lumbricus</i> a worm; L. masc. or fem. n. <i>incola</i> an inhabitant, dweller; N.L. masc. n. <i>Lumbricincola</i> a dweller of worms)	Nechitaylo et al. 2009 [171]
<i>Macropleicola</i>		(Ma.cro.ple.i'co.la. N.L. fem. n. <i>Macroplea</i> a genus of beetles; L. suff. <i>-cola</i> (from L. masc. or fem. n. <i>incola</i>) dweller; N.L. masc. n. <i>Macropleicola</i> a dweller of <i>Macroplea</i>)	Kölsch et al. 2009 [172]
<i>Magnetananas*</i>		(Ma.gnet.a'na.nas. Gr. n. <i>magnes</i> , <i>-etos</i> , a magnet; N.L. pref. <i>magneto-</i> pertaining to a magnet; N.L. masc. n. <i>Ananas</i> the pineapple genus; N.L. masc. n. <i>Magnetananas</i> pineapple-like magnetic organism)	Chen et al. 2015 [173]

Continued

Table 2. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Magnetobacterium</i>		(Ma.gne.to.bac.te'ri.um. Gr. n. <i>magnes</i> , -etos a magnet; N.L. pref. <i>magneto</i> - pertaining to a magnet; N.L. neut. n. <i>bacterium</i> a rod; N.L. neut. n. <i>Magnetobacterium</i> a magnetic rod)	Murray and Stackebrandt 1995 [3]
<i>Magnetoglobus</i>		(Ma.gne.to.glo'bus. Gr. n. <i>magnes</i> , -etos a magnet; N.L. pref. <i>magneto</i> - pertaining to a magnet; L. masc. n. <i>globus</i> a sphere; N.L. masc. n. <i>Magnetoglobus</i> magnetic sphere)	Abreu et al. 2007 [174]
<i>Magnetominusculus*</i>		(Ma.gne.to.mi.nus'cu.lus. Gr. n. <i>magnes</i> , -etos a magnet; N.L. pref. <i>magneto</i> pertaining to a magnet; L. masc. adj. <i>minusculus</i> rather small; N.L. masc. n. <i>Magnetominusculus</i> a rather small magnetic organism)	Lin et al. 2017 [175]
<i>Magnetomorum</i>		(Ma.gne.to.mo'rum. Gr. n. <i>magnes</i> , -etos a magnet; N.L. pref. <i>magneto</i> - pertaining to a magnet; L. neut. n. <i>morum</i> a mulberry; N.L. neut. n. <i>Magnetomorum</i> a magnetic mulberry-like organism)	Wenter et al. 2009 [176]
<i>Magnetovum</i>	<i>Magnetoovum</i>	We propose correcting the name to <i>Magnetovum</i> (Ma.gnet.o'vum. Gr. n. <i>magnes</i> , -etos a magnet; N.L. pref. <i>magneto</i> - pertaining to a magnet; L. neut. n. <i>ovum</i> an egg; N.L. neut. n. <i>Magnetovum</i> a magnetic egg)	Lefèvre et al. 2011 [177]
<i>Magnispira</i>	<i>Magnospira</i>	We propose correcting the name to <i>Magnispira</i> (Mag.ni.spi'ra. L. masc. adj. <i>magnus</i> big; L. fem. n. <i>spira</i> a spiral, coil; N.L. fem. n. <i>Magnispira</i> a large coil)	Snaidr et al. 1999 [178]
<i>Mancarchaeum</i>		(Manc.ar.chae'um. L. masc. adj. <i>mancus</i> crippled, maimed; N.L. neut. n. <i>archaeum</i> an archaeon; N.L. neut. n. <i>Mancarchaeum</i> a crippled archaeon, an archaeon with absence of many pathways in the genome)	Golyshina et al. 2017 [179]
<i>Maribeggiatoa</i>		(Ma.ri.beg.gi.a'to.a. L. neut. n. <i>mare</i> the sea; N.L. fem. n. <i>Beggiatoa</i> a bacterial genus; N.L. fem. n. <i>Maribeggiatoa</i> a <i>Beggiatoa</i> from the sea)	Salman et al. 2011 [152]
<i>Maribrachyspira</i>		(Ma.ri.bra.chy.spi'ra. L. neut. n. <i>mare</i> the sea; N.L. fem. n. <i>Brachyspira</i> a bacterial genus; N.L. fem. n. <i>Maribrachyspira</i> a marine <i>Brachyspira</i>)	Matsuyama et al. 2017 [180]
<i>Marinarcus*</i>	<i>Arcomarinus</i>	We propose correcting the name to <i>Marinarcus</i> (Ma.rin.ar'cus. L. masc. adj. <i>marinus</i> marine, from the sea; L. masc. n. <i>arcus</i> a bow; N.L. masc. n. <i>Marinarcus</i> a bow from the sea)	Pérez-Cataluña et al. 2018 [181]
<i>Marithioploca</i>		(Ma.ri.thi.o.plo'ca. L. neut. n. <i>mare</i> the sea; N.L. fem. n. <i>Thioploca</i> a bacterial genus; N.L. fem. n. <i>Marithioploca</i> a <i>Thioploca</i> from the sea)	Salman et al. 2011 [152]
<i>Marithrix</i>		(Ma'ri.thrix. L. neut. n. <i>mare</i> the sea; Gr. fem. n. <i>thrix</i> hair; N.L. fem. n. <i>Marithrix</i> a hair from the sea)	Salman et al. 2011 [152]
<i>Medusoplasma</i>		(Me.du.so.plas'ma. Gr. fem. n. <i>Medusa</i> a Gorgon in Greek mythology; N.L. fem. n. <i>medusa</i> jellyfish; Gr. neut. n. <i>plasma</i> anything formed or moulded, image, figure; N.L. neut. n. <i>Medusoplasma</i> a shape living in jellyfish)	Viver et al. 2017 [182]
<i>Megaera</i>	<i>Megaira</i>	We propose correcting the name to <i>Megaera</i> (Me.gae'ra. N.L. fem. n. <i>Megaera</i> (from Gr. fem. n. <i>Megaira</i>) 'the jealous, envious one', one of the furies (Erinyes) in Greek mythology)	Schrallhammer et al. 2013 [183]
<i>Mesochlamydia</i>		(Me.so.chla.my'di.a. Gr. masc. adj. <i>mesos</i> middle; N.L. fem. n. <i>Chlamydia</i> a bacterial genus; N.L. fem. n. <i>Mesochlamydia</i> middle (intermediate genus level lineage) <i>Chlamydia</i>)	Corsaro et al. 2013 [184]
<i>Methanofastidiosum</i>		(Me.tha.no.fas.ti.di.o'sum. N.L. pref. <i>methano</i> - pertaining to methane; L. masc. adj. <i>fastidiosus</i> fastidious; N.L. neut. n. <i>Methanofastidiosum</i> a fastidious methanogen)	Nobu et al. 2016 [18]
<i>Methanoflorens</i>		(Me.tha.no.flo'rens. N.L. pref. <i>methano</i> - pertaining to methane; L. pres. part. <i>florens</i> blooming, abundant; N.L. masc. n. <i>Methanoflorens</i> an abundant methane-producing organism)	Mondav et al. 2014 [40]
<i>Methanogranum</i>		(Me.tha.no.gra'num. N.L. pref. <i>methano</i> - pertaining to methane; L. neut. n. <i>granum</i> grain, seed; N.L. neut. n. <i>Methanogranum</i> a methane-producing grain-like organism)	Iino et al. 2013 [185]

Continued

Table 2. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Methanohalarchaeum</i>		(Me.tha.no.hal.ar.chae'um. N.L. pref. <i>methano-</i> pertaining to methane; Gr. masc. n. <i>hals</i> , <i>halos</i> salt; N.L. neut. n. <i>archaeum</i> archaeon; N.L. neut. n. <i>Methanohalarchaeum</i> a methane producing archaeon growing in salt)	Sorokin et al. 2017, Sorokin et al. 2018 [186, 187]
<i>Methanomethylicus</i>		(Me.tha.no.me.thy'li.cus. N.L. pref. <i>methano-</i> pertaining to methane; N.L. masc. adj. <i>methylicus</i> pertaining to the methyl group; N.L. masc. n. <i>Methanomethylicus</i> methane producing organism growing on methyl groups)	Vanwonterghem et al. 2016 [20]
<i>Methanomethylophilus</i>		(Me.tha.no.me.thy.lo'phi.lus. N.L. pref. <i>methano-</i> pertaining to methane; N.L. pref. <i>methylo-</i> pertaining to the methyl group; N.L. masc. adj. <i>philus</i> (from Gr. masc. adj. <i>philos</i>) loving; N.L. masc. n. <i>Methanomethylophilus</i> methane producing organism loving methyl groups)	Borrel et al. 2012 [188]
<i>Methanoperedens</i>		(Me.tha.no.per.e'dens. N.L. pref. <i>methano-</i> pertaining to methane; L. pres. part. <i>peredens</i> devouring; N.L. masc. n. <i>Methanoperedens</i> a methane-devouring organism)	Haroon et al. 2013 [41]
<i>Methanoplasma</i>		(Me.tha.no.plas'ma. N.L. pref. <i>methano-</i> pertaining to methane; Gr. neut. n. <i>plasma</i> anything formed or moulded, image, figure; N.L. neut. n. <i>Methanoplasma</i> a methane-producing form)	Lang et al. 2015 [189]
<i>Methanosuratincola</i>	<i>Methanosuratus</i>	We propose correcting the name to <i>Methanosuratincola</i> (Me.tha.no.su.rat.in'co.la. N.L. pref. <i>methano-</i> pertaining to methane; L. masc. or fem. n. <i>incola</i> inhabitant, dweller; N.L. masc. n. <i>Methanosuratincola</i> methane organism inhabiting the Surat Basin)	Vanwonterghem et al. 2016 [20]
<i>Methylacidiphilum</i>		(Me.thyl.a.ci.di'phi.lum. N.L. pref. <i>methylo-</i> pertaining to the methyl group; L. masc. adj. <i>acidus</i> sour; L. neut. adj. <i>philum</i> (from Gr. neut. adj. <i>philon</i>) loving; N.L. neut. n. <i>Methylacidiphilum</i> a methyl- and acid loving organism)	Hou et al. 2008 [190]
<i>Methylaffinis</i>	<i>Methyloaffinis</i>	We propose correcting the name to <i>Methylaffinis</i> (Me.thyl.af.fi'nis. N.L. pref. <i>methylo-</i> pertaining to the methyl group; L. masc. adj. <i>affinis</i> associated with; N.L. masc. n. <i>Methylaffinis</i> associated with the methyl group)	Pratscher et al. 2018 [191]
<i>Methylocucumis</i>		(Me.thy.lo.cu'cu.mis. N.L. pref. <i>methylo-</i> pertaining to the methyl group; L. masc. n. <i>cucumis</i> cucumber; N.L. masc. n. <i>Methylocucumis</i> methyl-utilizing cucumber-shaped organism); the organism was brought into culture and the name was validly published in 2019	Pandit et al. 2018; Pandit and Rahalkar 2019 [192, 193]
<i>Methylomirabilis</i>		(Me.thy.lo.mi.ra'bi.lis. N.L. pref. <i>methylo-</i> pertaining to the methyl group; L. fem. adj. <i>mirabilis</i> wonderful; N.L. fem. n. <i>Methylomirabilis</i> a wonderful methyl (group oxidizing) organism)	Ettwig et al. 2010 [194]
<i>Methylopumilus</i>		(Me.thy.lo.pu'mi.lus. N.L. pref. <i>methylo-</i> pertaining to the methyl group; L. masc. adj. <i>pumilus</i> dwarfish; N.L. masc. n. <i>Methylopumilus</i> dwarfish methyl (group oxidizing) organism)	Salcher et al. 2015 [195]
<i>Methylospira</i>		(Me.thy.lo.spi'ra. N.L. pref. <i>methylo-</i> pertaining to the methyl group; L. fem. n. <i>spira</i> a spiral; N.L. fem. n. <i>Methylospira</i> a methyl (using) spiral)	Danilova et al. 2016 [196]
<i>Methylumidiphilus</i>	<i>Methyloumidiphilus</i>	We propose correcting the name to <i>Methylumidiphilus</i> (Me.thyl.u.mi.di'phi.lus. N.L. pref. <i>methylo-</i> pertaining to the methyl group; L. masc. adj. <i>umidus</i> moist; N.L. masc. adj. <i>philus</i> (from Gr. masc. adj. <i>philos</i>) loving; N.L. masc. n. <i>Methylumidiphilus</i> loving methyl compounds and wet environments)	Rissanen et al. 2018 [197]
<i>Micrarchaeum*</i>		(Micr.ar.chae'um. Gr. masc. adj. <i>mikros</i> small; N.L. neut. n. <i>archaeum</i> archaeon; N.L. neut. n. <i>Micrarchaeum</i> a small archaeum)	Baker et al. 2010 [198]
<i>Microgenomatus</i>		(Mi.cro.ge.no.ma'tus. Gr. masc. adj. <i>mikros</i> small; N.L. neut. n. <i>genomum</i> genome; N.L. masc. n. <i>Microgenomatus</i> organism with a small genome)	Rinke et al. 2013 [57]

Continued

Table 2. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Micropelagius</i>	<i>Micropelagos</i>	We propose correcting the name to <i>Micropelagius</i> (Mi.cro.pe.la'gi.us. Gr. masc. adj. <i>mikros</i> small; Gr. masc. adj. <i>pelagios</i> of the sea; N.L. masc. n. <i>Micropelagius</i> a small cell from the pelagic zone)	Jimenez-Infante et al. 2014 [199]
<i>Midichloria</i>		(Mi.di.chlo'ri.a. N.L. fem. n. <i>Midichloria</i> name composed arbitrarily from the midichlorians, organisms within the fictional Star Wars universe)	Sassera et al. 2006 [200]
<i>Mikella</i>		(Mi.kel'la. N.L. dim. fem. n. <i>Mikella</i> named after the Canadian biochemist Michael W. Gray for his contributions to our understanding of organelle evolution)	Husnik and McCutcheon 2016 [112]
<i>Moanibacter</i>	<i>Moanabacter</i>	We propose correcting the name to <i>Moanibacter</i> (Mo.a.ni.bac'ter. Marquesan n. <i>moana</i> ocean; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Moanibacter</i> a rod from the ocean)	Vosseberg et al. 2018 [201]
<i>Moduliflexus</i>		(Mo.du.li.fle'xus. L. v. <i>modulus</i> to attune; L. masc. adj. <i>flexus</i> bent; N.L. masc. n. <i>Moduliflexus</i> a bent organism attuned to its surroundings)	Sekiguchi et al. 2015 [21]
<i>Moeniiplasma</i>		(Moe.ni.i.plas'ma. L. neut. pl. n. <i>moenia</i> walls, fortifications; Gr. neut. n. <i>plasma</i> anything formed or moulded, image, figure; N.L. neut. n. <i>Moeniiplasma</i> a shape surrounded by walls)	Naito et al. 2017 [202]
<i>Monilibacter</i>		(Mo.ni.li.bac'ter. L. neut. n. <i>monile</i> a necklace; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Monilibacter</i> a necklace-forming rod)	Levantesi et al. 2004 [92]
<i>Moranella</i>		(Mo.ra.nel'la. N.L. fem. dim. n. <i>Moranella</i> named after Nancy A. Moran, the American evolutionary biologist)	McCutcheon and von Dohlen 2011 [203]
<i>Muiribacterium</i>	<i>Muirbacterium</i>	We propose correcting the name to <i>Muiribacterium</i> (Mui.ri.bac'te'ri.um. N.L. neut. n. <i>bacterium</i> a rod; N.L. neut. n. <i>Muiribacterium</i> a rod named after John Muir, the American conservationist for his contributions to the protection of natural areas in California)	Barnum et al. 2018 [204]
<i>Nanobsidianus</i>		(Na.no.ob.si.di.a'nus. Gr. masc. n. <i>nanos</i> a dwarf; L. masc. n. <i>obsidianus</i> obsidian; N.L. masc. n. <i>Nanobsidianus</i> a small organism from Obsidian Pool)	Castelle et al. 2015 [205]
<i>Nanopelagicus</i>		(Na.no.pe.la'gi.cus. Gr. masc. n. <i>nanos</i> a dwarf; L. masc. adj. <i>pelagicus</i> of the sea; N.L. masc. n. <i>Nanopelagicus</i> a dwarf organism from the sea)	Neuenschwander et al. 2018 [29]
<i>Nanopetraeus*</i>	<i>Nanopetramus</i>	We propose correcting the name to <i>Nanopetraeus</i> (Gr. masc. n. <i>nanos</i> a dwarf; Gr. masc. adj. <i>petraios</i> growing among rocks; N.L. masc. n. <i>Nanopetraeus</i> small organism growing among rocks)	Crits-Christoph et al. 2016 [206]
<i>Nanopusillus</i>		(Na.no.pu.sil'lus. Gr. masc. n. <i>nanos</i> a dwarf; L. masc. adj. <i>pusillus</i> very small; N.L. masc. n. <i>Nanopusillus</i> a very small member of the <i>Nanoarchaeota</i>)	Wurch et al. 2016 [207]
<i>Nanosalina</i>		(Na.no.sa.li'na. Gr. masc. n. <i>nanos</i> a dwarf; N.L. masc. adj. <i>salinus</i> saline; N.L. fem. n. <i>Nanosalina</i> a dwarf saline organism)	Narasingarao et al. 2012 [208]
<i>Nanosalimicola</i>	<i>Nanosalinarum</i>	We propose correcting the name to <i>Nanosalimicola</i> (Na.no.sa.li.ni'co.la. Gr. masc. n. <i>nanos</i> a dwarf; L. fem. pl. n. <i>salinae</i> saltworks; L. suff. <i>-cola</i> (from L. masc. or fem. n. <i>incola</i>) inhabitant, dweller; N.L. masc. n. <i>Nanosalimicola</i> a dwarf-sized organism inhabiting saltworks)	Narasingarao et al. 2012 [208]
<i>Nardonella</i>		(Nar.do.nel'la. N.L. dim. fem. n. <i>Nardonella</i> named after Professor Paul Nardon, who first characterized endosymbionts in <i>Metamasius</i> and <i>Cosmopolites</i>)	Lefèvre et al. 2004 [209]
<i>Nasuia</i>		(Na.su'i.a. N.L. fem. n. <i>Nasuia</i> named after Socho Nasu, who first described this bacterium by electron microscopy)	Noda et al. 2012 [210]

Continued

Table 2. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Navoides</i>	<i>Navis</i>	The generic name <i>Navis</i> exists in the zoological nomenclature; we therefore propose <i>Navoides</i> (Na.vo'i.des. L. fem. n. <i>navis</i> a ship; L. suff. <i>-oides</i> (from Gr. suff. <i>-eides</i> that which is seen, form, shape, figure) resembling; N.L. neut. n. <i>Navoides</i> an organism resembling a ship)	Schuster and Bright 2016 [211]
<i>Nebulibacter</i>	<i>Nebulobacter</i>	We propose correcting the genus name to <i>Nebulibacter</i> (Ne.bu.li. bac'ter. L. fem. n. <i>nebula</i> fog; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Nebulibacter</i> a misty rod)	Boscaro et al. 2012 [212]
<i>Neoarhromitus</i>	<i>Arhromitus</i>	The generic name <i>Arhromitus</i> nom. rev. (<i>ex</i> Leidy 1849) exists in the botanical nomenclature; we therefore propose replacing the name with <i>Neoarhromitus</i> (Ne.o.ar.thro.mi'tus. Gr. masc. adj. <i>neos</i> new; Gr. neut. n. <i>arhron</i> a joint; Gr. masc. n. <i>mitos</i> a thread; N.L. masc. n. <i>Neoarhromitus</i> a new joined thread)	Snel et al. 1995 [213]
<i>Neoehrlichia</i>		(Ne.o.ehr.li'chi.a. Gr. masc. adj. <i>neos</i> new; N.L. fem. n. <i>Ehrlichia</i> a bacterial genus; N.L. fem. n. <i>Neoehrlichia</i> a new <i>Ehrlichia</i>)	Kawahara et al. 2004 [214]
<i>Neomarinimicrobium</i>	<i>Marinimicrobium</i>	We propose correcting the name to <i>Neomarinimicrobium</i> as the name <i>Marinimicrobium</i> Lim et al. 2006 emend. Yoon et al. 2009 is in use for a member of the <i>Gammaproteobacteria</i> (Ne.o.ma.ri.ni.mi.cro'bi.um. Gr. masc. adj. <i>neos</i> new; L. masc. adj. <i>marinus</i> marine; N.L. neut. n. <i>microbium</i> a microbe; N.L. neut. n. <i>Neomarinimicrobium</i> a new marine microbe)	Rinke et al. 2013 [57]
<i>Neomicrothrix</i>	<i>Microthrix</i>	The generic name <i>Microthrix</i> is in use in the zoological nomenclature. Therefore we propose correcting the name to <i>Neomicrothrix</i> (Ne.o.mi'cro. thrix. Gr. masc. adj. <i>neos</i> new; Gr. masc. adj. <i>mikros</i> small; Gr. fem. n. <i>thrix</i> a hair; N.L. fem. n. <i>Neomicrothrix</i> a new small hair)	Blackall et al. 1996 [215]
<i>Nephrothrix</i>		(Ne'phro.thrix. Gr. masc. n. <i>nephros</i> kidney; Gr. fem. n. <i>thrix</i> hair; N.L. fem. n. <i>Nephrothrix</i> a hair from a kidney)	Møller et al. 2015 [216]
<i>Neptunichlamydia</i>	<i>Neptunochlamydia</i>	We propose correcting the name to <i>Neptunichlamydia</i> (Nep.tu.ni.chla. my'di.a. L. masc. n. <i>Neptunus</i> god of the sea; N.L. fem. n. <i>Chlamydia</i> a bacterial genus; N.L. fem. n. <i>Neptunichlamydia</i> a <i>Chlamydia</i> from the sea)	Pizzetti et al. 2016 [217]
<i>Nitromaritima</i> *		(Ni.tro.ma.ri'ti.ma. N.L. pref. <i>nitro-</i> pertaining to nitrate; L. masc. adj. <i>maritimus</i> marine; N.L. fem. n. <i>Nitromaritima</i> a nitrate-forming organism from the sea)	Ngugi et al. 2016 [218]
<i>Nitrosocaldus</i>		(Ni.tro.so.cal'dus. L. masc. adj. <i>nitrosus</i> full of natron, here intended to mean nitrous; N.L. pref. <i>nitroso-</i> pertaining to nitrite; L. masc. adj. <i>caldus</i> hot; N.L. masc. n. <i>Nitrosocaldus</i> a hot nitrous bacterium)	de la Torre et al. 2008 [30]
<i>Nitrosocosmicus</i>		(Ni.tro.so.cos'mi.cus. L. masc. adj. <i>nitrosus</i> full of natron, here intended to mean nitrous; N.L. pref. <i>nitroso-</i> pertaining to nitrite; Gr. masc. adj. <i>kosmikos</i> belonging to the world; N.L. masc. n. <i>Nitrosocosmicus</i> a nitrous organism belonging to the world)	Jung et al. 2016; Lehtovirta-Morley et al. 2016 [219, 220]
<i>Nitrosoglobus</i>		(Ni.tro.so.glo'bus. L. masc. adj. <i>nitrosus</i> full of natron, here intended to mean nitrous; N.L. pref. <i>nitroso-</i> pertaining to nitrite; L. masc. n. <i>globus</i> a sphere; N.L. masc. n. <i>Nitrosoglobus</i> a sphere producing nitrite)	Hayatsu et al. 2017 [221]
<i>Nitrosomarinus</i> *		(Ni.tro.so.ma.ri'nus. L. masc. adj. <i>nitrosus</i> full of natron, here intended to mean nitrous; N.L. pref. <i>nitroso-</i> pertaining to nitrite; L. masc. adj. <i>marinus</i> from the sea; N.L. masc. n. <i>Nitrosomarinus</i> a marine nitrous organism)	Ahlgren et al. 2017 [222]
<i>Nitrosopelagicus</i>		(Ni.tro.so.pe.la'gi.cus. L. masc. adj. <i>nitrosus</i> full of natron, here intended to mean nitrous; N.L. pref. <i>nitroso-</i> pertaining to nitrite; L. masc. n. <i>pelagus</i> the sea; N.L. masc. n. <i>Nitrosopelagicus</i> a marine nitrous organism)	Santoro et al. 2015 [223]

Continued

Table 2. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Nitrosotalea</i>		(Ni.tro.so.ta'le.a. L. masc. adj. <i>nitrosus</i> full of natron, here intended to mean nitrous; N.L. pref. <i>nitroso-</i> pertaining to nitrite; L. fem. n. <i>talea</i> a slender staff, rod, stick; N.L. fem. n. <i>Nitrosotalea</i> a nitrous slender rod)	Lehtovirta-Morley et al. 2011 [224]
<i>Nitrosotenuis</i>		(Ni.tro.so.te'nu.is. L. masc. adj. <i>nitrosus</i> , full of natron, here intended to mean nitrous; N.L. pref. <i>nitroso-</i> pertaining to nitrite; L. masc. adj. <i>tenuis</i> tender; N.L. masc. n. <i>Nitrosotenuis</i> a tender nitrous organism)	Lebedeva et al. 2013 [225]
<i>Nitrotoga</i>		(Ni.tro.to'ga. N.L. pref. <i>nitro-</i> pertaining to nitrate; L. fem. n. <i>toga</i> Roman outer garment; N.L. fem. n. <i>Nitrotoga</i> a nitrate-forming organism with a toga-like sheath)	Alawi et al. 2007 [226]
<i>Nostocoides</i>	<i>Nostocoida</i>	We propose correcting the name to <i>Nostocoides</i> (Nos.toc.o'i.des. N.L. neut. n. <i>Nostoc</i> a cyanobacterial genus; L. suff. <i>-oides</i> (from Gr. suff. <i>-eides</i> that which is seen, form, shape, figure) resembling; N.L. neut. n. <i>Nostocoides</i> resembling <i>Nostoc</i>)	Blackall et al. 2000 [227]
<i>Nucleicoccus</i>	<i>Nucleococcus</i>	We propose correcting the name to <i>Nucleicoccus</i> (Nu.cle.i.coc'cus. L. masc. n. <i>nucleus</i> a little nut and in biology, a nucleus; N.L. masc. n. <i>coccus</i> (from Gr. masc. n. <i>kokkos</i> grain, seed) coccus; N.L. masc. n. <i>Nucleicoccus</i> a coccus of the nucleus)	Sato et al. 2014 [228]
<i>Nucleicultrix</i>		(Nu.cle.i.cul'trix. L. masc. n. <i>nucleus</i> a little nut and in biology, a nucleus; L. fem. n. <i>cultrix</i> inhabitant; N.L. fem. n. <i>Nucleicultrix</i> inhabitant of the nucleus)	Schulz et al. 2014 [229]
<i>Nucleiphilum</i>	<i>Nucleophilum</i>	We propose correcting the name to <i>Nucleiphilum</i> (Nu.cle.i'phi.lum. L. masc. n. <i>nucleus</i> a little nut and in biology, a nucleus; N.L. neut. adj. <i>philum</i> (from Gr. neut. adj. <i>philon</i>) loving; N.L. neut. n. <i>Nucleiphilum</i> loving the nucleus)	Schulz et al. 2015 [230]
<i>Obscuribacter</i>		(Ob.scu.ri.bac'ter. L. masc. adj. <i>obscurus</i> dark, obscure; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Obscuribacter</i> a rod found in the dark)	Soo et al. 2014 [28]
<i>Occultibacter</i>	<i>Occultobacter</i>	We propose correcting the name to <i>Occultibacter</i> (Oc.cul.ti.bac'ter. L. masc. adj. <i>occultus</i> hidden; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Occultibacter</i> a hidden rod)	Schulz et al. 2015 [230]
<i>Odyssella</i>		(O.dys.sel'la. N.L. dim. fem. n. <i>Odyssella</i> pertaining to Odysseus)	Birtles et al. 2000 [231]
<i>Omnitrophus</i>		(Om.ni.tro'phus. L. masc. adj. <i>omnis</i> all; Gr. masc. n. <i>trophos</i> feeder; N.L. masc. n. <i>Omnitrophus</i> eating all)	Rinke et al. 2013 [57]
<i>Ovatibacter</i>	<i>Ovatusbacter</i>	We propose correcting the name to <i>Ovatibacter</i> (O.va.ti.bac'ter. L. masc. adj. <i>ovatus</i> egg-shaped; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Ovatibacter</i> an egg-shaped rod)	Dirren and Posch 2016 [150]
<i>Ovibacter</i>	<i>Ovobacter</i>	We proposed correcting the name to <i>Ovibacter</i> (O.vi.bac'ter. L. neut. n. <i>ovum</i> egg; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Ovibacter</i> an egg-shaped bacterium)	Fenchel and Thar 2004 [232]
<i>Paceibacter</i>		(Pa.ce.i.bac'ter. N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Paceibacter</i> a rod named after Norman Pace, the American evolutionary biologist)	Rinke et al. 2013 [57]
<i>Paenicardinium</i>		(Pae.ni.car.di'ni.um. L. adv. <i>paene</i> almost; N.L. neut. n. <i>Cardinium</i> a (<i>Candidatus</i>) bacterial genus; N.L. neut. n. <i>Paenicardinium</i> almost <i>Cardinium</i>)	Noel and Atibalentja 2006 [233]
<i>Palibaumannia</i>	<i>Baumannia</i>	The generic names <i>Baumannia</i> and <i>Baumannielli</i> are in use in the botanical nomenclature; we therefore propose <i>Palibaumannia</i> (Pa.li.bau.man'ni.a. N.L. fem. n. <i>Palibaumannia</i> named after Paul and Linda Baumann, who were first to apply PCR, gene cloning, and DNA sequencing to characterize endosymbionts of insects)	Moran et al. 2003 [234]
<i>Parabeggiatoa</i>		(Pa.ra.beg.gi.a'to.a. Gr. prep. <i>para</i> next to; N.L. fem. n. <i>Beggiatoa</i> a bacterial genus; N.L. fem. n. <i>Parabeggiatoa</i> a genus next to <i>Beggiatoa</i>)	Salman et al. 2011 [152]

Continued

Table 2. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Paracaedibacter</i>		(Pa.ra.cae.di.bac'ter. Gr. prep. <i>para</i> next to; N.L. masc. n. <i>Caedibacter</i> a bacterial genus; N.L. masc. n. <i>Paracaedibacter</i> a genus next to <i>Caedibacter</i>)	Horn et al. 1999 [235]
<i>Paraholospira</i>		(Pa.ra.ho.lo.spo'ra. Gr. prep. <i>para</i> next to; N.L. fem. n. <i>Holospira</i> a bacterial genus; N.L. fem. n. <i>Paraholospira</i> a genus next to <i>Holospira</i>)	Eschbach et al. 2009 [236]
<i>Paraporphyromonas</i>		(Pa.ra.por.phy.ro.mo'nas. Gr. prep. <i>para</i> next to; N.L. fem. n. <i>Porphyromonas</i> a bacterial genus; N.L. fem. n. <i>Paraporphyromonas</i> a genus next to <i>Porphyromonas</i>)	Naas et al. 2018 [237]
<i>Parastrichiiphilus</i>	<i>Benitsuchiophilus</i>	We propose correcting the name to <i>Parastrichiiphilus</i> (Pa.ra.stri.chi.i'phi. lus. N.L. fem. n. <i>Parastrichia</i> a stinkbug genus (benitsuchi in Japanese); N.L. masc. adj. <i>philus</i> (from Gr. masc. adj. <i>philos</i>) loving; N.L. masc. n. <i>Parastrichiiphilus</i> loving <i>Parastrichia</i> stinkbugs)	Hosokawa et al. 2010 [238]
<i>Parcunitrobacter</i>		(Par.cu.ni.tro.bac'ter. N.L. pref. <i>nitro-</i> pertaining to nitrogen compounds; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Parcunitrobacter</i> a nitrogen-metabolizing rod affiliated with the superphylum 'Parcubacteria')	Castelle et al. 2017 [239]
<i>Parepulonipiscium*</i>	<i>Parepuloipiscium</i>	We propose correcting the name to <i>Parepulonipiscium</i> (Par.e.pu. lo.ni.pis'ci.um. Gr. prep. <i>para</i> next to; N.L. neut. n. <i>Epulonipiscium</i> a (<i>Candidatus</i>) bacterial genus; N.L. neut. n. <i>Parepulonipiscium</i> a genus next to <i>Epulonipiscium</i>)	Ngugi et al. 2017 [126]
<i>Parilichlamydia</i>		(Pa.ri.li.chla.my'di.a. L. masc. adj. <i>parilis</i> equal, alike; N.L. fem. n. <i>Chlamydia</i> a bacterial genus; N.L. fem. n. <i>Parilichlamydia</i> an organism like <i>Chlamydia</i>)	Stride et al. 2013 [45]
<i>Parvarchaeum*</i>		(Parv.ar.chae'um. L. masc. adj. <i>parvus</i> small; N.L. neut. n. <i>archaeum</i> archaeon; N.L. neut. n. <i>Parvarchaeum</i> a small archaeon)	Baker et al. 2010 [198]
<i>Pelagibacter</i>		(Pe.la.gi.bac'ter. L. masc. n. <i>pelagus</i> the sea; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Pelagibacter</i> a rod from the sea)	Rappé et al. 2002 [240]
<i>Phaeomarinibacter</i>	<i>Phaeomarinobacter</i>	We propose correcting the genus name to <i>Phaeomarinibacter</i> (Phae.o.ma. ri.ni.bac'ter. Gr. adj. <i>phaios</i> (Latin transliteration <i>phaeos</i>) brown; L. masc. adj. <i>marinus</i> of the sea; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Phaeomarinibacter</i> a marine rod from brown algae)	Dittami et al. 2014 [47]
<i>Phloeobacter</i>	<i>Phlomobacter</i>	We propose correcting the name to <i>Phloeobacter</i> (Phloe.o.bac'ter. Gr. masc. n. <i>phloios</i> bark; N.L. masc. n. <i>bacter</i> rod; N.L. masc. n. <i>Phloeobacter</i> a rod from bark)	Zreik et al. 1998 [241]
<i>Phosphitivorax</i>		(Phos.phi.ti.vo'rax. N.L. neut. n. <i>phosphitum</i> phosphite; L. masc. adj. <i>vorax</i> voracious; N.L. masc. n. <i>Phosphitivorax</i> a phosphite-devouring organism)	Figuerola et al. 2018 [242]
<i>Photodesmus</i>		(Pho.to.des'mus. Gr. neut. n. <i>phos</i> , <i>photos</i> light; Gr. masc. n. <i>desmos</i> band, cable; N.L. masc. n. <i>Photodesmus</i> a light (emitting) cable)	Hendry and Dunlap 2011 [243]
<i>Phycorickettsia</i>		(Phy.co.rick.ett'si.a. Gr. masc. n. <i>phykos</i> seaweed; N.L. fem. n. <i>Rickettsia</i> a bacterial genus; N.L. fem. n. <i>Phycorickettsia</i> a <i>Rickettsia</i> from seaweed)	Yurchenko et al. 2018 [244]
<i>Phycosocius</i>		(Phy.co.so'ci.us. Gr. masc. n. <i>phykos</i> seaweed; L. masc. n. <i>socius</i> companion; N.L. masc. n. <i>Phycosocius</i> companion of seaweed)	Tanabe et al. 2015 [245]
<i>Phytoplasma</i>		(Phy.to.plas'ma. Gr. neut. n. <i>phyton</i> plant; Gr. neut. n. <i>plasma</i> anything formed or moulded, image, figure; N.L. neut. n. <i>Phytoplasma</i> plant form)	IRPCM 2004 [246] (Although this is the correct reference, the author string should be Firrao et al. 2004, as he is the corresponding author.)

Continued

Table 2. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Piscichlamydia</i>		(Pis.ci.chla.my'di.a. L. masc. n. <i>piscis</i> fish; N.L. fem. n. <i>Chlamydia</i> a bacterial genus; N.L. fem. n. <i>Piscichlamydia</i> a <i>Chlamydia</i> from fish)	Horn 2011; Draghi et al. 2004 [48, 247]
<i>Planktoluna</i>		(Plank.to.lu'na. Gr. masc. adj. <i>planktos</i> wandering; L. fem. n. <i>luna</i> moon; N.L. fem. n. <i>Planktoluna</i> selenoid plankton organism)	Hahn 2009 [70]
<i>Planktomarina</i>		(Plank.to.ma.ri'na. Gr. masc. adj. <i>planktos</i> wandering; L. fem. adj. <i>marina</i> of the sea; N.L. fem. n. <i>Planktomarina</i> belonging to marine plankton)	Giebel et al. 2011; Giebel et al. 2013 [248, 249]
<i>Planktophila</i>		(Plank.to.phi.la. Gr. masc. adj. <i>planktos</i> wandering; N.L. fem. adj. <i>phila</i> (from Gr. fem. adj. <i>phile</i>) loving; N.L. fem. n. <i>Planktophila</i> a plankton-loving organism)	Jezbera et al. 2009 [250]
<i>Poriferisulfidus*</i>	<i>Porisulfidus</i>	We propose correcting the name to <i>Poriferisulfidus</i> (Po.ri.fe.ri.sul'fi.dus. N.L. neut. pl. n. Porifera the phylum of sponges; N.L. neut. n. <i>sulfidum</i> sulfide; N.L. masc. n. <i>Poriferisulfidus</i> a sulfide-oxidizer from sponges)	Lavy et al. 2018 [251]
<i>Portiera</i>		(Por.tie'ra. N.L. fem. n. <i>Portiera</i> named after Paul Portier, the French biologist who made major contributions to the studies and concepts of endosymbiosis)	Thao and Baumann 2004 [252]
<i>Procaibacter</i>	<i>Procabacter</i>	We suggest correcting the name to <i>Procaibacter</i> (Pro.ca.i.bac'ter. N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Procaibacter</i> a rod named after the microbiologist M. Proca-Ciobanu, who was the first to report rod-shaped intracellular symbionts in <i>Acanthamoeba</i>)	Horn et al. 2002 [253]
<i>Proffitella</i>		(Proff.tel.la. N.L. dim. fem. n. <i>Proffitella</i> named after Joachim Proffitt, the German scientist who provided the first comprehensive histological description of psyllid-microbe symbiotic associations)	Nakabachi et al. 2013 [254]
<i>Proffitia</i>		(Proff'ti.a. N.L. fem. n. <i>Proffitia</i> named after Joachim Proffitt, the German scientist who provided the first comprehensive histological description of psyllid-microbe symbiotic associations)	Toenshoff et al. 2012 [114]
<i>Promineifilum*</i>	<i>Promineofilum</i>	We propose correcting the name to <i>Promineifilum</i> (Pro.mi.ne.i.fi'lum. L. v. <i>promineo</i> to project, to jut out; L. neut. n. <i>filum</i> a thread; N.L. neut. n. <i>Promineifilum</i> a protruding thread)	McIlroy et al. 2016 [255]
<i>Protistibacter</i>	<i>Protistobacter</i>	We propose correcting the name to <i>Protistibacter</i> (Pro.tis.ti.bac'ter. N.L. neut. pl. n. <i>Protista</i> protists; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Protistibacter</i> a rod from protists)	Vannini et al. 2013 [256]
<i>Puchtella</i>		(Puch.tel'la. N.L. dim. fem. n. <i>Puchtella</i> named after Otto Puchta who identified the biological role of the human louse symbiont as the provision of B vitamins)	Fukatsu et al. 2009 [257]
<i>Purcellliella</i>		(Pur.cel.li.el'la. N.L. dim. fem. n. <i>Purcellliella</i> named after Alexander H. Purcell for his accomplished research in the ecology and biology of insects and their bacteria, including studies on symbionts of sap-feeding insects)	Bressan et al. 2009 [258]
<i>Regiella</i>		(Re.gi.el'la. N.L. dim. fem. n. <i>Regiella</i> named after the entomologist Reginald F. Chapman, known as 'Reg.' who made outstanding contributions to the study of the functioning of insects, particularly adaptations by herbivorous species for exploiting particular host plants)	Moran et al. 2005 [259]
<i>Renichlamydia</i>		(Re.ni.chla.my'di.a. L. masc. pl. n. <i>renes</i> the kidneys; N.L. fem. n. <i>Chlamydia</i> a bacterial genus; N.L. fem. n. <i>Renichlamydia</i> a <i>Chlamydia</i> from the kidneys)	Corsaro and Work 2012 [260]
<i>Riegeria</i>		(Rie.ge'ri.a. N.L. fem. n. <i>Riegeria</i> named after the zoologist Reinhard Rieger, who described the host genus)	Gruber-Vodicka et al. 2011 [261]

Continued

Table 2. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Riesia</i>		(Rie'si.a. N.L. fem. n. <i>Riesia</i> named after Erich Ries, who first comprehensively investigated the endosymbiotic bacteria system in lice)	Sasaki-Fukatsu et al. 2006 [262]
<i>Roseilinea</i>		(Ro.se.i.li'ne.a. L. masc. adj. <i>roseus</i> rose-coloured; L. fem. n. <i>linea</i> a thread; N.L. fem. n. <i>Roseilinea</i> a rose-coloured thread)	Thiel et al. 2016 [94]
<i>Roseivibrio</i>	<i>Roseovibrio</i>	(Ro.se.i.vi'bri.o. L. masc. adj. <i>roseus</i> rosy; N.L. masc. n. <i>Vibrio</i> a bacterial genus; N.L. masc. n. <i>Roseivibrio</i> a rosy vibrio)	Thiel et al. 2016 [94]
<i>Rosenkranzia</i>		(Ro.sen.kranz'i.a. N.L. fem. n. <i>Rosenkranzia</i> named after Werner Rosenkranz, who first described the symbiotic system of the acanthosomatid stinkbugs)	Kikuchi et al. 2009 [263]
<i>Ruthturnera</i>	<i>Ruthia</i>	The generic names <i>Ruthia</i> , <i>Turnera</i> , and similar names are in use in the botanical and the zoological nomenclature; we therefore propose correcting the name to <i>Ruthturnera</i> (Ruth.tur'ne.ra. N.L. fem. n. <i>Ruthturnera</i> named after Ruth Turner)	Newton et al. 2007 [264]
<i>Saccharimonas*</i>		(Sac.cha.ri.mo'nas. L. neut. n. <i>saccharum</i> sugar; L. fem. n. <i>monas</i> unit, monad; N.L. fem. n. <i>Saccharimonas</i> a monad associated with sugar)	Albertsen et al. 2013 [265]
<i>Scalindua</i>		(Sca.lin'du.a. L. fem. n. <i>scala</i> ladder; L. v. <i>induo</i> to dress out, to fit with; N.L. fem. n. <i>Scalindua</i> fitted with ladders, referring to the ladderane lipids)	Woebken et al. 2008 [266]
<i>Schmidhempelia</i>		(Schmid.hem.pe'li.a. N.L. fem. n. <i>Schmidhempelia</i> named after Paul Schmid-Hempel, who has studied the evolutionary ecology of bumble bee species and associated organisms)	Martinson et al. 2014 [267]
<i>Schneideriella</i>	<i>Schneideria</i>	The generic names <i>Schneideria</i> and <i>Schneiderella</i> exist in botany. Therefore we propose correcting the genus name to <i>Schneideriella</i> (Schnei.de.ri.el'la. N.L. dim. fem. n. <i>Schneideriella</i> named after Gerhard Schneider, who first described the bacteriome and the endosymbiont of <i>Nysius</i> spp.)	Matsuura et al. 2012 [268]
<i>Similichlamydia</i>		(Si.mi.li.chla.my'di.a. L. masc. adj. <i>similis</i> similar; N.L. fem. n. <i>Chlamydia</i> a bacterial genus; N.L. fem. n. <i>Similichlamydia</i> a genus similar to <i>Chlamydia</i>)	Stride et al. 2013 [269]
<i>Sonnebornia</i>		(Son.ne.bor'ni.a. N.L. fem. n. <i>Sonnebornia</i> named after Tracy M. Sonneborn, who first described killer paramecia strains in which kappa particles were found and later confirmed to be cytoplasmic bacterial symbionts)	Gong et al. 2014 [270]
<i>Spencerbrownia</i>	<i>Brownia</i>	The generic names <i>Brownia</i> and <i>Browniella</i> are in use in the zoological nomenclature; we therefore propose correcting the name to <i>Spencerbrownia</i> (Spen.cer.brow'ni.a. N.L. fem. n. <i>Spencerbrownia</i> named after Spencer W. Brown, who was a pioneer of scale insect cytogenetics)	Gruwell et al. 2010 [271]
<i>Sphaeronema*</i>		(Sphae.ro.ne'ma. Gr. fem. n. <i>sphaira</i> a sphere; Gr. neut. n. <i>nema</i> a thread; N.L. neut. n. <i>Sphaeronema</i> a thread-forming sphere)	Levantesi et al. 2004 [92]
<i>Spirobacillus</i>		(Spi.ro.ba.cil'lus. Gr. fem. n. <i>speira</i> a coil; L. masc. n. <i>bacillus</i> a small rod; N.L. masc. n. <i>Spirobacillus</i> a coil-shaped small rod); nomen revictum (<i>Spirobacillus</i> Metchnikoff 1889)	Bresciani et al. 2018 [272]
<i>Stammerella</i>	<i>Stammerula</i>	The generic name <i>Stammerula</i> is in use in zoology; we therefore propose correcting the name to <i>Stammerella</i> (Stam.me.rel'la. N.L. dim. fem. n. <i>Stammerella</i> named after Hans-Jürgen Stammer, who first described bacteria associated with Tephritinae flies)	Mazzon et al. 2008 [273]
<i>Steffania</i>		(Stef.fa'ni.a. N.L. fem. n. <i>Steffania</i> named after the German entomologist August Wilhelm Steffan for his contribution to research on adelgids and their bacterial symbionts)	Toenshoff et al. 2012 [114]
<i>Sulfobium</i>		(Sul.fo'bi.um. L. neut. n. <i>sulfur</i> sulfur; Gr. masc. n. <i>bios</i> life; N.L. neut. n. <i>Sulfobium</i> sulfur life)	Zecchin et al. 2018 [274]

Continued

Table 2. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Sulfuripaludibacter</i>	<i>Sulfopaludibacter</i>	We propose correcting the name to <i>Sulfuripaludibacter</i> (Sul.fu.ri.pa.lu.di.bac'ter. L. neut. n. <i>sulfur</i> sulfur; L. fem. n. <i>palus</i> , <i>paludis</i> a swamp; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Sulfuripaludibacter</i> a sulfur metabolizing rod from a swamp)	Hausmann et al. 2018 [275]
<i>Sulfuritelmatobacter</i>	<i>Sulfotelmatobacter</i>	We propose correcting the name to <i>Sulfuritelmatobacter</i> (Sul.fu.ri.tel.ma.to.bac'ter. L. neut. n. <i>sulfur</i> sulfur; Gr. neut. n. <i>telma</i> , <i>-atos</i> a swamp; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Sulfuritelmatobacter</i> a sulfur metabolizing rod from a swamp)	Hausmann et al. 2018 [275]
<i>Sulfuritelmatomonas</i>	<i>Sulfotelmatomonas</i>	We propose correcting the name to <i>Sulfuritelmatomonas</i> (Sul.fu.ri.tel.ma.to.mo'nas. L. neut. n. <i>sulfur</i> sulfur; Gr. neut. n. <i>telma</i> , <i>-atos</i> a swamp; L. fem. n. <i>monas</i> unit, monad; N.L. fem. n. <i>Sulfuritelmatomonas</i> a sulfur metabolizing monad from a swamp)	Hausmann et al. 2018 [275]
<i>Symbiobacter</i>		(Sym.bi.o.bac'ter. Gr. pref. <i>sym-</i> together; Gr. masc. n. <i>bios</i> life; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Symbiobacter</i> a symbiotic rod)	Liu et al. 2013 [276]
<i>Symbiothrix</i>		(Sym.bi'o.thrix. Gr. pref. <i>sym-</i> together; Gr. masc. n. <i>bios</i> life; Gr. fem. n. <i>thrix</i> hair; N.L. fem. n. <i>Symbiothrix</i> a symbiotic hair)	Hongoh et al. 2007 [277]
<i>Syngnamidia</i>		(Syn.gna.mi'di.a. N.L. masc. n. <i>Syngnatus</i> a genus of pipe fish; N.L. fem. n. <i>Chlamydia</i> a bacterial genus; N.L. fem. n. <i>Syngnamidia</i> a <i>Chlamydia</i> of <i>Syngnatus</i>)	Fehr et al. 2013 [278]
<i>Syntropharchaeum</i>	<i>Syntrophoarchaeum</i>	We propose correcting the name to <i>Syntropharchaeum</i> (Syn.troph.ar.chae'um. Gr. prep. <i>syn-</i> together; Gr. n. <i>trophein</i> to feed; N.L. neut. n. <i>archaeum</i> archaeon; N.L. neut. n. <i>Syntropharchaeum</i> a syntrophic archaeon)	Laso-Pérez et al. 2016 [279]
<i>Syntrophocurvum</i>		(Syn.tro.pho.cur'vum. Gr. prep. <i>syn-</i> together; Gr. n. <i>trophein</i> to feed; L. masc. adj. <i>curvus</i> bent, curved; N.L. neut. n. <i>Syntrophocurvum</i> a curved syntrophic organism)	Sorokin et al. 2016 [280]
<i>Syntrophofaba</i>		(Syn.tro.pho.fa'ba. Gr. prep. <i>syn-</i> together; Gr. n. <i>trophein</i> to feed; L. fem. n. <i>faba</i> bean; N.L. fem. n. <i>Syntrophofaba</i> a bean-shaped syntrophic organism)	Sorokin et al. 2016 [280]
<i>Syntropholuna</i>		(Syn.tro.pho.lu'na. Gr. prep. <i>syn-</i> together; Gr. n. <i>trophein</i> to feed; L. fem. n. <i>luna</i> moon; N.L. fem. n. <i>Syntropholuna</i> crescent-shaped syntrophic organism)	Sorokin et al. 2016 [280]
<i>Syntrophonatronum</i>		(Syn.tro.pho.na.tro'num. Gr. prep. <i>syn-</i> together; Gr. n. <i>trophein</i> to feed; N.Gr. n. <i>natron</i> , arbitrarily derived from Arabic n. <i>natrun</i> or <i>natron</i> , soda; N.L. neut. n. <i>Syntrophonatronum</i> a syntrophic soda organism)	Sorokin et al. 2014 [281]
<i>Tachikawaea</i>		(Ta.chi.ka.wa'e.a. N.L. fem. n. <i>Tachikawaea</i> named after Shuji Tachikawa, the Japanese entomologist who has significantly contributed to systematics and ecology of stinkbugs in Japan including urostylidids)	Kaiwa et al. 2014 [282]
<i>Tammella</i>		(Tam.mel'la. N.L. dim. fem. n. <i>Tammella</i> named after Sydney L. Tamm, a contemporary American cytologist, for his discovery of the symbiosis in which this bacterium confers motility)	Hongoh et al. 2007 [283]
<i>Tenderia</i>		(Ten.de'ri.a. N.L. fem. n. <i>Tenderia</i> named after Leonard M. Tender, the pioneering researcher in the development of microbial electrochemical technologies)	Eddie et al. 2016 [284]
<i>Tenuibacter</i>		(Te.nu.i.bac'ter. L. masc. adj. <i>tenuis</i> tender; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Tenuibacter</i> a tender rod)	Kroer et al. 2016 [49]
<i>Thalassarchaea</i>	<i>Thalassoarchaea</i>	We propose correcting the name to <i>Thalassarchaea</i> (Tha.lass.ar.chae'a. Gr. fem. n. <i>thalassa</i> the sea; N.L. fem. n. <i>archaea</i> archaeon; N.L. fem. n. <i>Thalassarchaea</i> archaeon from the sea); note that <i>Thalassarchaeum</i> (N.L. neut. n.) would be preferable, but that name was used for a different <i>Candidatus</i> taxon by Rinke et al. 2019 [285]	Martin-Cuadrado et al. 2015 [286]

Continued

Table 2. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Thermochlorobacter</i>		(Ther.mo.chlo.ro.bac'ter. Gr. fem. n. <i>therme</i> heat; Gr. masc. adj. <i>chloros</i> green; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Thermochlorobacter</i> a green heat-loving rod)	Liu et al. 2012 [287]
<i>Thermokryptus</i>		(Ther.mo.kryp'tus. Gr. masc. adj. <i>thermos</i> hot; Gr. masc. adj. <i>kryptos</i> hidden; N.L. masc. n. <i>Thermokryptus</i> an organism from a hidden hot place)	Eloe-Fadrosh et al. 2016 [97]
<i>Thermomagnetovibrio</i>		(Ther.mo.ma.gne.to.vi'bri.o. Gr. fem. n. <i>therme</i> heat; Gr. n. <i>magnes</i> , -etos a magnet; N.L. pref. <i>magneto</i> - pertaining to a magnet; N.L. masc. n. <i>vibrio</i> that which vibrates, and also a bacterial genus name of bacteria possessing a curved rod-shape; N.L. masc. n. <i>Thermomagnetovibrio</i> a heat loving magnetic vibrio)	Lefèvre et al. 2010 [288]
<i>Thiobius</i>	<i>Thiobios</i>	We propose correcting the name to <i>Thiobius</i> (Thi.o'bi.us. Gr. neut. n. <i>theion</i> (Latin transliteration: <i>thium</i>) sulfur; Gr. masc. n. <i>bios</i> life. N.L. masc. n. <i>Thiobius</i> life with sulfur)	Rinke et al. 2006 [289]
<i>Thiodiazotropha</i>		(Thi.o.di.a.zo.tro'pha. Gr. neut. n. <i>theion</i> (Latin transliteration: <i>thium</i>) sulfur; N.L. pref. <i>diazo</i> - pertaining to dinitrogen; N.L. fem. n. <i>tropha</i> (from Gr. fem. n. <i>trophe</i>) nourishing, feeding; N.L. fem. n. <i>Thiodiazotropha</i> feeder on sulfur and dinitrogen)	König et al. 2016 [290]
<i>Thioglobus</i>		(Thi.o.glo'bus. Gr. neut. n. <i>theion</i> (Latin transliteration: <i>thium</i>) sulfur; L. masc. n. <i>globus</i> sphere; N.L. masc. n. <i>Thioglobus</i> sulfur sphere)	Marshall and Morris 2013 [291]
<i>Thiolava</i>		(Thi.o.la'va. Gr. neut. n. <i>theion</i> (Latin transliteration: <i>thium</i>) sulfur; N.L. fem. n. <i>lava</i> lava; N.L. fem. n. <i>Thiolava</i> sulfur-containing lava)	Danovaro et al. 2017 [292]
<i>Thiophysa</i>		(Thi.o.phy'sa. Gr. neut. n. <i>theion</i> (Latin transliteration: <i>thium</i>) sulfur; Gr. fem. n. <i>physa</i> bubble; N.L. fem. n. <i>Thiophysa</i> sulfur bubble); proposed as (<i>Candidatus</i>) nomen revictum: (ex Hinze 1903)	Salman et al. 2011 [152]
<i>Thiopilula</i>		(Thi.o.pi'lu.la. Gr. neut. n. <i>theion</i> (Latin transliteration: <i>thium</i>) sulfur; L. fem. n. <i>pilula</i> globule; N.L. fem. n. <i>Thiopilula</i> sulfur globule)	Salman et al. 2011 [152]
<i>Thiosymbium</i>	<i>Thiosymbion</i>	We propose correcting the name to <i>Thiosymbium</i> (Thi.o.sym'bi.um. Gr. neut. n. <i>theion</i> (Latin transliteration: <i>thium</i>) sulfur; Gr. pref. <i>sym</i> -together; Gr. masc. n. <i>bios</i> life; N.L. neut. n. <i>Thiosymbium</i> symbiotic sulfur organism)	Zimmermann et al. 2016 [293]
<i>Thioturbo</i>		(Thi.o.tur'bo. Gr. neut. n. <i>theion</i> (Latin transliteration: <i>thium</i>) sulfur; L. masc. n. <i>turbo</i> a whirl; N.L. masc. n. <i>Thioturbo</i> sulfur whirl)	Muyzer et al. 2005 [294]
<i>Trabutinella</i>		(Tra.bu.ti.nel'la. N.L. dim. fem. n. <i>Trabutinella</i> alluding to the mealybug host <i>Trabutina</i>)	Szabó et al. 2017 [295]
<i>Tremblayella</i>	<i>Tremblaya</i>	The generic name <i>Tremblaya</i> exists in the zoological nomenclature; we therefore propose correcting the name to <i>Tremblayella</i> (Trem.bla.yel'la. N.L. dim. fem. n. <i>Tremblayella</i> named after Ermenegildo Tremblay, an Italian entomologist who has made extensive contributions to our knowledge of endosymbionts of plant sap-sucking insects)	Thao et al. 2002 [296]
<i>Trichorickettsia</i>		(Tri.cho.rick.ett'si.a. Gr. fem. n. <i>thrix</i> , <i>trichos</i> hair; N.L. fem. n. <i>Rickettsia</i> a bacterial genus; N.L. fem. n. <i>Trichorickettsia</i> a hairy <i>Rickettsia</i>)	Vannini et al. 2014 [134]
<i>Troglogloea</i>		(Tro.glo.gloe'a. Gr. fem. n. <i>trogle</i> hole, cave; Gr. fem. n. <i>gloea</i> glue; N.L. fem. n. <i>Troglogloea</i> a cave-dwelling gelatinous formation)	Kostanjšek et al. 2013 [297]
<i>Turbibacter</i>	<i>Turbabacter</i>	We propose correcting the name to <i>Turbibacter</i> (Tur.bi.bac'ter. L. fem. n. <i>turba</i> swarm, mass; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Turbibacter</i> a rod appearing in masses)	Dirren and Posch 2016 [150]
<i>Typhincola</i>	<i>Rohrkolberia</i>	We propose correcting the name to <i>Typhincola</i> (Typh.in'co.la. N.L. fem. n. <i>Typha</i> a botanical genus; L. masc. or gen. n. <i>incola</i> inhabitant, dweller; N.L. fem. n. <i>Typhincola</i> dweller of <i>Typha</i>)	Kuechler et al. 2011 [298]

Continued

Table 2. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Udaeobacter</i> *		(U.dae.o.bac'ter. Gr. masc. adj. <i>oudaios</i> of the earth; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Udaeobacter</i> a rod from the earth)	Brewer <i>et al.</i> 2016 [299]
<i>Uzinuria</i>	<i>Uzinura</i>	We propose correcting the genus name to <i>Uzinuria</i> (U.zi.nu'ri.a. N.L. fem. n. <i>Uzinuria</i> named after Uzi Nur, for his research and writings on scale insect cytogenetics)	Gruwell <i>et al.</i> 2007 [300]
<i>Vallotiella</i>	<i>Vallotia</i>	The generic name <i>Vallotia</i> is in use in the botanical nomenclature; we therefore propose correcting the name to <i>Vallotiella</i> (Val.lo.ti.el'la. N.L. dim. fem. n. <i>Vallotiella</i> named after Jean Nicolas Vallot, who described the host, <i>Adelges laricis</i> , in 1836)	Toenshoff <i>et al.</i> 2012 [136]
<i>Vecturithrix</i>		(Vec.tu'ri.thrix. L. fem. n. <i>vectura</i> transportation; Gr. fem. n. <i>thrix</i> a hair; N.L. fem. n. <i>Vecturithrix</i> a hair-like organisms with many transporter genes); the name was also misspelled <i>Vecturathrix</i> by Sekiguchi <i>et al.</i>	Sekiguchi <i>et al.</i> 2015 [21]
<i>Venteria</i>		(Ven.te'ri.a. N.L. fem. n. <i>Venteria</i> named after the American genome biologist Craig Venter)	Fonseca <i>et al.</i> 2017 [301]
<i>Vesicomydiosocius</i>	<i>Vesicomysocius</i>	We propose correcting the name to <i>Vesicomydiosocius</i> (Ve.si.co.my.i.di.so'ci.us. N.L. fem. pl. n. <i>Vesicomyiidae</i> a family of clams; L. masc. n. <i>socius</i> companion; N.L. masc. n. <i>Vesicomydiosocius</i> a companion of vesicomyd clams)	Kuwahara <i>et al.</i> 2007 [302]
<i>Vestibaculum</i>		(Ves.ti.ba'cu.lum. L. fem. n. <i>vestis</i> clothes, clothing; L. neut. n. <i>baculum</i> stick; N.L. neut. n. <i>Vestibaculum</i> stick-shaped part of the body cover)	Stingl <i>et al.</i> 2004 [303]
<i>Vidania</i>		(Vi.da'ni.a. N.L. fem. n. <i>Vidania</i> named after Carlo Vidano, the Italian auchenorrhynchologist who first described and studied the biology of phytoplasma vectors)	Gonella <i>et al.</i> 2011 [304]
<i>Viridilinea</i>		(Vi.ri.di.li'ne.a. L. masc. adj. <i>viridis</i> green; L. fem. n. <i>linea</i> a line; N.L. fem. n. <i>Viridilinea</i> a green line)	Grouzdev <i>et al.</i> 2018 [305]
<i>Walczuchella</i>		(Walczuch.el'la. N.L. dim. fem. n. <i>Walczuchella</i> named after Adelheid Walczuch, who first described the bacteriomes of Monphlebidae)	Rosas-Pérez <i>et al.</i> 2014 [306]
<i>Westeberhardia</i>		(West.e.ber.har'di.a. N.L. fem. n. <i>Westeberhardia</i> named after Mary Jane West-Eberhard for her research in evolutionary developmental biology)	Klein <i>et al.</i> 2016 [307]
<i>Williamhamiltonella</i>	<i>Hamiltonella</i>	The generic names <i>Hamiltonella</i> and <i>Hamiltonia</i> exist in the zoological nomenclature; we therefore propose correcting the name to <i>Williamhamiltonella</i> (Wil.li.am.ha.mil.to.nel'la. N.L. fem. n. <i>Williamhamiltonella</i> named after William Hamilton, who made major contributions to the understanding of host-pathogen coevolution)	Moran <i>et al.</i> 2005 [259]
<i>Xenohaliotis</i>		(Xe.no.ha.li.o'tis. Gr. masc. adj. <i>xenos</i> foreign; N.L. fem. n. <i>Haliotis</i> genus name of the abalone; N.L. fem. n. <i>Xenohaliotis</i> a foreign organism in the abalone <i>Haliotis</i>)	Friedman <i>et al.</i> 2000 [308]
<i>Xenolissoclinum</i>		(Xe.no.lis.so.cli'num. Gr. masc. adj. <i>xenos</i> foreign; N.L. neut. n. <i>Lissoclinum</i> an ascidian genus; N.L. neut. n. <i>Xenolissoclinum</i> a foreign (symbiont of) <i>Lissoclinum</i>)	Kwan and Schmidt 2013 [309]
<i>Xiphinematobacter</i>		(Xi.phi.ne.ma.to.bac'ter. N.L. neut. n. <i>Xiphinema</i> a genus of nematodes; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Xiphinematobacter</i> a rod from <i>Xiphinema</i>)	Vandekerckhove <i>et al.</i> 2000 [310]
<i>Zinderia</i>		(Zin.de'ri.a. N.L. fem. n. <i>Zinderia</i> named after the American geneticist Norton D. Zinder who discovered the process of genetic transduction)	McCutcheon and Moran 2010 [311]

*The description of the *Candidatus* taxon is deficient and/or based on insufficient supporting data.

Table 3. *Candidatus* species assigned to *Candidatus* genera. For details about the names of the genera see Table 2

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Accumulibacter aalborgensis</i>		(aal.borg.en'sis. N.L. masc. adj. <i>aalborgensis</i> pertaining to Ålborg, a city in the Jutland region of Denmark)	Albertsen et al. 2016 [312]
<i>Accumulibacter phosphatis</i>		(phos.pha'tis. N.L. gen. n. <i>phosphatis</i> of phosphate)	Hesselmann et al. 1999 [50]
<i>Acetithermum autotrophicum</i>		(au.to.tro'phi.cum. Gr. pron. <i>autos</i> self; N.L. neut. adj. <i>trophicum</i> (from Gr. neut. adj. <i>trophikon</i>) nursing, tending; N.L. neut. adj. <i>autotrophicum</i> autotrophic); the name is confusing as the generic name <i>Acetothermus</i> Dietrich et al. 1988 was validly published. See further Hao et al. 2018 [51]	Takami et al. 2012 [52]
<i>Aciduliprofundum boonei</i>		(boo'ne.i. N.L. gen. n. <i>boonei</i> named after the American microbiologist David Boone for his studies of archaeal diversity)	Reysenbach et al. 2006 [53]
<i>Actinochlamydia clariatis</i>	<i>Actinochlamydia clariae</i>	We propose correcting the epithet to <i>clariatis</i> (cla.ri.a'tis. N.L. gen. n. <i>clariatis</i> of the catfish genus <i>Clarias</i>)	Steigen et al. 2013 [54]
<i>Actinochlamydia pangasianodontis</i>	<i>Actinochlamydia pangasiae</i>	We propose correcting the epithet to <i>pangasianodontis</i> (pan.ga.si.an.o.don'tis. N.L. gen. n. <i>pangasianodontis</i> of the fish genus <i>Pangasianodon</i>)	Sood et al. 2018 [313]
<i>Actinomarina minuta</i>		(mi.nu'ta. L. fem. adj. <i>minuta</i> small)	Ghai et al. 2013 [24]
<i>Adiaceous aphidicola</i>	<i>Adiaceo aphidicola</i>	(a.phi.di'co.la. N.L. fem. n. <i>Aphis</i> a genus of aphids; L. suff. <i>-cola</i> (from L. masc. or fem. n. <i>incola</i>) dweller; N.L. masc. n. <i>aphidicola</i> aphid dweller)	Darby et al. 2005 [55]
<i>Adiatrix intracellularis</i>		(in.tru.cel.lu.la'ris. N.L. fem. adj. <i>intracellularis</i> intracellular)	Ikeda-Ohtsubo et al. 2016 [56]
<i>Aenigmataarchaeum subterraneum</i>	<i>Aenigmarchaeum subterraneum</i>	(sub.ter.ra'ne.um. L. neut. n. <i>subterraneum</i> underground)	Rinke et al. 2013 [57]
<i>Aerophobus profundus</i>		(pro.fun'dus. L. masc. adj. <i>profundus</i> deep)	Rinke et al. 2013 [57]
<i>Allobeggiatoa salina</i>		(sa.li'na. N.L. fem. adj. <i>salina</i> salty)	Hinck et al. 2011 [59]
<i>Alloccytoplasma californiense</i>	<i>Cryptoplasma californiense</i>	(ca.li.for.ni.en'se. N.L. neut. adj. <i>californiense</i> pertaining to California)	Eshoo et al. 2015 [60]
<i>Allospironema culicis</i>	<i>Spironema culicis</i>	(cu'li.cis. N.L. gen. n. <i>culicis</i> of the mosquito <i>Culex</i>)	Paster and Dewhirst 2000; Šikutová et al. 2010 [61, 62]
<i>Altarchaeum hamiconexum</i>	<i>Altiaarchaeum hamiconexum</i>	(ha.mi.co.ne'xum. L. masc. n. <i>hamus</i> hook; L. past part. <i>conexus</i> connected; N.L. neut. part. adj. <i>hamiconexum</i> connected by a hook)	Probst et al. 2014 [25]
<i>Altimarimus pacificus</i>		(pa.ci'fi.cus. L. masc. adj. <i>pacificus</i> peaceful, referring to the Pacific Ocean)	Rinke et al. 2013 [57]
<i>Aminicenans sakinawicola</i>		(sa.ki.na.wi'co.la. L. suff. <i>-cola</i> (from L. masc. or fem. n. <i>incola</i>) dweller; N.L. masc. n. <i>sakinawicola</i> dwelling in Sakinaw Lake, British Columbia)	Rinke et al. 2013 [57]
<i>Amoebinatus massiliensis</i>	<i>Amoebinatus massiliae</i>	We propose correcting the epithet to <i>massiliensis</i> (mas.si.li.en'sis. L. masc. adj. <i>massiliensis</i> pertaining to Marseille)	Greub et al. 2004 [63]
<i>Amoebophilus asiaticus</i>		(a.si.a'ti.cus. L. masc. adj. <i>asiaticus</i> Asian)	Horn et al. 2001 [64]
<i>Amphibiichlamydia ranarum</i>		(ra.na'rum. L. gen. pl. n. <i>ranarum</i> of frogs)	Martel et al. 2013 [314]
<i>Amphibiichlamydia salamandrae</i>		(sa.la.man'drae. L. gen. n. <i>salamandrae</i> of a salamander)	Martel et al. 2012 [65]
<i>Anadelfobacter veles</i>		(ve'les. L. masc. n. <i>veles</i> a light-armed forefront soldier, since its description precedes, as a vanguard, those of the bulk of 'Candidatus Midichloria' clade species)	Vannini et al. 2010 [66]

Continued

Table 3. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Anammoxiglobus propionicus</i>	<i>Anammoxoglobus propionicus</i>	(pro.pi.o'ni.cus. N.L. masc. adj. <i>propionicus</i> pertaining to propionic acid)	Kartal et al. 2007 [67]
<i>Anammoximicrobium moscoviense</i>	<i>Anammoximicrobium moscowii</i>	We propose correcting the epithet to <i>moscoviense</i> (mos.co.vi.en'se. N.L. neut. adj. <i>moscoviense</i> pertaining to Moscow)	Khramenkov et al. 2013 [68]
<i>Aquiluna rubra</i>		(ru'bra. L. fem. adj. <i>rubra</i> red)	Hahn 2009 [70]
<i>Aquirestis calciphila</i>		(cal.ci'phi.la. L. fem. n. <i>calx</i> , <i>calcis</i> limestone; N.L. fem. adj. <i>phila</i> (from Gr. fem. adj. <i>phile</i>) loving; N.L. fem. adj. <i>calciphila</i> loving limestone)	Hahn and Schauer 2007 [71]
<i>Aquirickettsiella gammari</i>		(gam'ma.ri. L. gen. n. <i>gammari</i> of a sea-crab, lobster, of the genus <i>Gammarus</i>)	Bojko et al. 2018 [72]
<i>Arcanibacter lacustris*</i>	<i>Arcanobacter lacustris</i>	(la.cus'tris. L. masc. adj. <i>lacustris</i> of a lake)	Martijn et al. 2015 [73]
<i>Armantifilum devescovinae</i>		(de.ves.co'vi.nae. N.L. gen. n. <i>devescovinae</i> of the protist genus <i>Devescovina</i>)	Desai et al. 2010 [74]
<i>Aschnera chinzeii</i>		(chin.ze'i.i. N.L. gen. n. <i>chinzeii</i> named after the Japanese biologist Yasuo Chinzei, who significantly contributed to the biochemistry and microbiology of blood-sucking insects)	Hosokawa et al. 2012 [75]
<i>Atelocyanobacterium thalassae</i>	<i>Atelocyanobacterium thalassa</i>	We propose correcting the epithet to <i>thalassae</i> (tha.las'sae. Gr. fem. n. <i>thalassa</i> the sea; N.L. gen. n. <i>thalassae</i> of the sea)	Thompson et al. 2012 [76]
<i>Azobacteroides pseudotrichonymphae</i>		(pseu.do.tri.cho.nym'phae. N.L. gen. n. <i>pseudotrichonymphae</i> of the flagellate protist genus <i>Pseudotrichonympha</i>)	Hongoh et al. 2008 [77]
<i>Bandiella euplotis</i>	<i>Bandiella woodruffi</i>	We propose correcting the epithet to <i>euplotis</i> (eu.plo'tis. N.L. gen. n. <i>euplotis</i> of <i>Euplotes woodruffi</i>)	Senra et al. 2016 [79]
<i>Bealeia paramacronuclearis</i>		(pa.ra.ma.cro.nu.cle.a'ris. Gr. prep. <i>para</i> beside, like; Gr. masc. adj. <i>makros</i> large; L. masc. n. <i>nucleus</i> a little nut and in biology, a nucleus; N.L. fem. adj. <i>paramacronuclearis</i> next to the macronucleus)	Szokoli et al. 2016 [38]
<i>Berkiella aquae</i>		(a'quae. L. gen. n. <i>aquae</i> of water)	Mehari et al. 2016 [80]
<i>Berkiella cookevillensis</i>		(cooke.vill.en'sis. N.L. fem. adj. <i>cookevillensis</i> pertaining to Cookeville, Tennessee)	Mehari et al. 2016 [80]
<i>Bipolaricaulis anaerobius</i>		(an.ae.ro'bi.us. Gr. pref. <i>an</i> not; Gr. masc. or fem. n. <i>aer</i> air; Gr. masc. n. <i>bios</i> life; N.L. masc. adj. <i>anaerobius</i> anaerobic)	Hao et al. 2018 [51]
<i>Blochmanniella camponoti</i>	<i>Blochmannia herculeanus</i>	We propose correcting the epithet to <i>camponoti</i> (cam.po.no'ti. N.L. gen. n. <i>camponoti</i> of the ant genus <i>Camponotus</i>)	Sauer et al. 2000 [81]
<i>Blochmanniella floridana</i>	<i>Blochmannia floridanus</i>	We propose correcting the epithet to <i>floridana</i> (flo.ri.da'na. N.L. fem. adj. <i>floridana</i> pertaining to Florida, based on the specific epithet of the host animal, the ant <i>Camponotus floridanus</i>)	Sauer et al. 2000 [81]
<i>Blochmanniella myrmotrichis</i>	<i>Blochmannia rufipes</i>	We propose correcting the epithet to <i>myrmotrichis</i> (myr.mo.tri'chis. N.L. gen. n. <i>myrmotrichis</i> of the ant subgenus <i>Myrmothrix</i>)	Sauer et al. 2000 [81]
<i>Blochmanniella pennsylvanica</i>	<i>Blochmannia pennsylvanicus</i>	We propose correcting the epithet to <i>pennsylvanica</i> (penn.syl.va'ni.ca. N.L. fem. adj. <i>pennsylvanica</i> Pennsylvanian)	Degnan et al. 2005 [315]
<i>Blochmanniella vafra</i>	<i>Blochmannia vafer</i>	We propose correcting the epithet to <i>vafra</i> (va'fra. L. fem. adj. <i>vafra</i> sly, cunning - based on the specific epithet of the host <i>Camponotus vafer</i>)	Williams and Wernegreen 2010 [316]
<i>Branchiomonas cystocola</i>	<i>Branchiomonas cysticola</i>	We propose correcting the epithet to <i>cystocola</i> (cys.to'co.la. Gr. fem. n. <i>kystis</i> bladder; L. suff. <i>-cola</i> (from L. masc. or fem. n. <i>incola</i>) inhabitant, dweller; N.L. fem. n. <i>cystocola</i> a dweller of cysts)	Toenshoff et al. 2012 [82]
<i>Brevifilum fermentans</i>	<i>Brevefilum fermentans</i>	(fer.men'tans. L. part. adj. <i>fermentans</i> fermenting)	McIlroy et al. 2017 [83]

Continued

Table 3. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Brocadia anammoxidans</i>		(an.am.m.o'xi.dans. based on the acronym anammox (anaerobic ammonia oxidation); N.L. part. adj. <i>anammoxidans</i> oxidizing ammonia anaerobically)	Jetten et al. 2001 [84]
<i>Brocadia fulgida</i>		(ful'gi.da. L. fem. adj. <i>fulgida</i> shining)	Kartal et al. 2004 [317]
<i>Brocadia sapporonensis</i>	<i>Brocadia sapporoensis</i>	We propose correcting the epithet to <i>sapporonensis</i> (sap.po.ro.nen'sis. N.L. fem. adj. <i>sapporonensis</i> pertaining to Sapporo)	Narita et al. 2017 [318]
<i>Brocadia sinica</i>		(si'ni.ca. N.L. fem. adj. <i>sinica</i> Chinese)	Hu et al. 2010 [319]
<i>Caenarcanum bioreactoricola</i>		(bi.o.re.ac.to.ri'co.la. N.L. suff. <i>-cola</i> (from L. masc. or fem. n. <i>incola</i>) dweller; N.L. neut. n. <i>bioreactoricola</i> living in a bioreactor)	Soo et al. 2014 [28]
<i>Caldarchaeum subterraneum</i>	<i>Caldiarchaeum subterraneum</i>	(sub.ter.ra'ne.um. L. neut. adj. <i>subterraneum</i> underground)	Nunoura et al. 2011 [85]
<i>Caldatribacterium californiense</i>	<i>Caldatribacterium californiense</i>	We propose correcting the epithet to <i>californiense</i> (ca.li.for.ni.en'se. N.L. neut. adj. <i>californiense</i> Californian)	Dodsworth et al. 2013 [86]
<i>Caldatribacterium saccharofermentans</i>		(sac.cha.ro.fer.men'tans. Gr. fem. n. <i>sakchar</i> sugar; L. pres. part. <i>fermentans</i> fermenting; N.L. part. adj. <i>saccharofermentans</i> sugar fermenting)	Dodsworth et al. 2013 [86]
<i>Calditenuis aerorheumatis</i>	<i>Calditenuis aerorheumensis</i>	We propose correcting the epithet to <i>aerorheumatis</i> (a.e.ro.rheu'ma.tis. Gr. masc. or fem. n. <i>aer</i> air; Gr. neut. n. <i>rheuma</i> a flow, a current; N.L. gen. n. <i>aerorheumatis</i> of an air flow)	Beam et al. 2016 [87]
<i>Caescibacterium nevadense</i>		(ne.va.den'se. N.L. neut. adj. <i>nevadense</i> pertaining to Nevada)	Rinke et al. 2013 [57]
<i>Captivus acidiprotistae</i>		(a.ci.di.pro.tis'tae. L. neut. n. <i>acidum</i> acid; N.L. fem. n. <i>protista</i> a protist; N.L. gen. n. <i>acidiprotistae</i> of an acid (-loving) protist)	Baker et al. 2003 [88]
<i>Carbonibacillus altaicus</i>	<i>Carbobacillus altaicus</i>	(al.ta'i.cus. N.L. masc. adj. <i>altaicus</i> pertaining to the Altai mountains)	Kadnikov et al. 2018 [89]
<i>Cardinium hertigii</i>		(her.ti'gi.i. N.L. gen. n. <i>hertigii</i> named after Marshall Hertig, the microbiologist who described <i>Wolbachia</i>)	Zchori-Fein et al. 2004 [90]
<i>Carsonella ruddii</i>		(rud'di.i. N.L. gen. n. <i>ruddii</i> named after Robert L. Rudd, the American naturalist who made significant contributions to cross-disciplinary research in pesticides)	Thao et al. 2000 [91]
<i>Catenimonas italica</i>		(i.ta'li.ca. L. fem. adj. <i>italica</i> Italian)	Levantesi et al. 2004 [92]
<i>Cenarchaeum symbiosum</i>		(sym.bi.o'sum. N.L. neut. adj. <i>symbiosum</i> living together)	Preston et al. 1996 [93]
<i>Chloranaerofilum corporosum</i>		(cor.po.ro'sum. L. neut. adj. <i>corporosum</i> corpulent)	Thiel et al. 2016 [94]
<i>Chloroploca asiatica</i>		(a.si.a'ti.ca. L. fem. adj. <i>asiatica</i> Asian)	Gorlenko et al. 2014 [95]
<i>Chlorotrichoides halophilum</i>	<i>Chlorothrix halophila</i>	We propose correcting the epithet to <i>halophilum</i> (ha.lo'phi.lum. Gr. n. <i>hals</i> , <i>halos</i> salt; N.L. neut. adj. <i>philum</i> (from Gr. neut. adj. <i>philon</i>) loving; N.L. neut. adj. <i>halophilum</i> salt loving)	Klappenbach and Pierson 2004 [96]
<i>Chryseopegocella kryptomonas</i>	<i>Chrysepegis kryptomonas</i>	(kryp.to.mo'nas. Gr. masc. adj. <i>kryptos</i> hidden; Gr. fem. n. <i>monas</i> a unit; N.L. fem. n. <i>kryptomonas</i> a hidden unit)	Eloe-Fadrosch et al. 2016 [97]
<i>Clavichlamydia salmonicola</i>		(sal.mo.ni'co.la. L. masc. n. <i>salmo</i> , <i>salmonis</i> a salmon; L. suff. <i>-cola</i> (from L. masc. or fem. n. <i>incola</i>) dweller; N.L. fem. n. <i>salmonicola</i> salmon dweller)	Karlsen et al. 2008 [99]
<i>Cloacimonas acidaminivorans</i>	<i>Cloacamonas acidaminivorans</i>	(a.cid.a.mi.ni.vo'rans. N.L. neut. n. <i>acidum aminum</i> amino acid; L. pres. part. <i>vorans</i> devouring; N.L. part. adj. <i>acidaminivorans</i> amino acid-devouring)	Pelletier et al. 2008 [100]

Continued

Table 3. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Cochliopodiophilus cryoturris</i>	<i>Cochliophilus cryoturris</i>	(cry.o.tur'ris. Gr. neut. n. <i>kryos</i> icy cold; L. fem. n. <i>turris</i> tower; N.L. gen. n. <i>cryoturris</i> of a cooling tower)	Tsao et al. 2017 [101]
<i>Combthrix italica</i>		(i.ta'li.ca. L. fem. adj. <i>italic</i> Italian)	Levantesi et al. 2004 [92]
<i>Competibacter denitrificans*</i>		(de.ni.tri'fi.cans. N.L. part. adj. <i>denitrificans</i> denitrifying)	McIlroy et al. 2014 [35]
<i>Competibacter phosphatis</i>		(phos.pha'tis. N.L. gen. n. <i>phosphatis</i> of phosphate)	Crocetti et al. 2002 [103]
<i>Consessor aphidicola</i>	<i>Consessoris aphidicola</i>	(a.phi.di'co.la. N.L. fem. n. <i>Aphis</i> a genus of aphids; N.L. suff. <i>-cola</i> (from L. masc. or fem. n. <i>incola</i>) dweller; N.L. masc. n. <i>aphidicola</i> aphid dweller)	Darby et al. 2005 [55]
<i>Contendibacter odensensis*</i>	<i>Contendobacter odensis</i>	We propose correcting the epithet to <i>odensensis</i> (o.den.sen'sis. N.L. masc. adj. <i>odensensis</i> pertaining to Odense, a city in Denmark where the original sample was collected)	McIlroy et al. 2014 [35]
<i>Contubernalis alkaliaceticus</i>	<i>Contubernalis alkaliaceticus</i>	We propose correcting the epithet to <i>alkaliaceticus</i> (al.ka.li.a.ce'ti.cus. N.L. n. <i>alkali</i> (from Arabic n. <i>al-qaliy</i> the ashes of saltwort) alkali; L. neut. n. <i>acetum</i> vinegar; N.L. masc. adj. <i>alkaliaceticus</i> using vinegar under alkaline conditions)	Zhilina et al. 2005 [104]
<i>Criblamydia sequanensis</i>		(se.qua.nen'sis. N.L. fem. adj. <i>sequanensis</i> pertaining to the Seine River)	Thomas et al. 2006 [36]
<i>Cryptoprodota polytropus</i>	<i>Cryptoprodota polytropus</i>	(po.ly.tro'pus. N.L. masc. adj. <i>polytropus</i> (from Gr. masc. adj. <i>polytropos</i>) of variable aspects, resourceful)	Ferrantini et al. 2009 [105]
<i>Curculioniphilus buchneri</i>		(buch'ne.ri. N.L. gen. n. <i>buchneri</i> named after Paul Buchner, who first described the endosymbiotic bacteria of <i>Curculio</i> weevils)	Toju et al. 2010 [106]
<i>Cyrtobacter comes</i>		(co'mes. L. masc. n. <i>comes</i> companion)	Vannini et al. 2010 [66]
<i>Cyrtobacter zanobii</i>		(za.no'bi.i. N.L. gen. n. <i>zanobii</i> of Zanobi, because the first sequence was obtained on the celebration day of Saint Zanobi, bishop of Florence)	Boscaro et al. 2013 [108]
<i>Dactylopiibacterium carminicum</i>		(car.mi'ni.cum. N.L. neut. n. <i>carminium</i> carmine; N.L. neut. adj. <i>carminicum</i> belonging to carmine that is produced by all <i>Dactylopius</i> spp.)	Ramírez-Puebla et al. 2010 [107]
<i>Defluviella procrastinata</i>		(pro.cras.ti.na'ta. L. part. adj. <i>procrastinata</i> delayed)	Boscaro et al. 2013 [108]
<i>Desulfofervidus auxilii</i>		(au.xi'li.i. L. gen. n. <i>auxilii</i> of help, of support, indicating that the organism is capable of a syntrophic life style)	Krukenberg et al. 2016 [37]
<i>Desulfonatronobulbus propionicus</i>		(pro.pi.o'ni.cus. N.L. n. <i>acidum propionicum</i> propionic acid; L. masc. suff. <i>-icus</i> suffix used with the sense of pertaining to; N.L. masc. adj. <i>propionicus</i> pertaining to propionic acid)	Sorokin and Chernyh 2016 [109]
<i>Desulforudis audaxviator</i>		(au.dax.vi.a'tor. L. masc. adj. <i>audax</i> daring, courageous; L. masc. n. <i>viator</i> traveler; N.L. masc. n. <i>audaxviator</i> a courageous traveler); a pure culture was recently obtained, but no culture collection deposit number was reported	Chivian et al. 2008; Karnachuk et al. 2019 [110, 320]
<i>Dichloromethanomonas elyunquensis</i>		(el.yun.quen'sis. N.L. fem. adj. <i>elyunquensis</i> of El Yunque National Forest)	Kleindienst et al. 2017 [111]
<i>Doolittlea endobia</i>		(en.do'bi.a. Gr. prep. <i>endo</i> inside; Gr. masc. n. <i>bios</i> life; N.L. fem. adj. <i>endobia</i> living inside)	Husnik and McCutcheon 2016 [112]
<i>Ecksteinia adelgidicola</i>		(a.del.gi.di'co.la. N.L. masc. n. <i>Adelges</i> a genus of insects; L. suff. <i>-cola</i> (from L. masc. or fem. n. <i>incola</i>) an inhabitant, dweller; N.L. fem. n. <i>adelgidicola</i> a dweller of <i>Adelges</i>)	Toenshoff et al. 2012 [114]
<i>Electronema nielsenii</i>		(niel.se'ni.i. N.L. gen. n. <i>nielsenii</i> named after Lars Peter Nielsen, the Danish microbial ecologist who started the cable bacteria studies by discovering electric currents in the seafloor)	Trojan et al. 2016 [115]

Continued

Table 3. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Electronema palustre</i>	<i>Electronema palustris</i>	We propose correcting the epithet to <i>palustre</i> (pa.lus'tre. L. neut. adj. <i>palustre</i> marshy, swampy)	Trojan et al. 2016 [115]
<i>Electrothrix aarhusensis</i>	<i>Electrothrix aarhusiensis</i>	We propose correcting the epithet to <i>aarhusensis</i> (aar.hus.en'sis. N.L. fem. adj. <i>aarhusensis</i> pertaining to Aarhus, a city in Denmark on the Jutland peninsula, referring to the place of the first discovery of cable bacteria)	Trojan et al. 2016 [115]
<i>Electrothrix communis</i>		(com.mu'nis. L. fem. adj. <i>communis</i> common)	Trojan et al. 2016 [115]
<i>Electrothrix japonica</i>		(ja.po'ni.ca. N.L. fem. adj. <i>japonica</i> Japanese)	Trojan et al. 2016 [115]
<i>Electrothrix marina</i>		(ma.ri'na. L. fem. adj. <i>marina</i> belonging to the sea)	Trojan et al. 2016 [115]
<i>Endecteinascidia fromenterensis</i>	<i>Endoecteinascidia frumentensis</i>	We propose correcting the epithet to <i>fromenterensis</i> (fro.men.te.ren'sis. N.L. fem. adj. <i>fromenterensis</i> pertaining to the Island of Formentera, Spain)	Moss et al. 2003 [116]
<i>Endobugula glebosa</i>		(gle.bo'sa. L. fem. adj. <i>glebosa</i> clumpy)	Lim and Haygood 2004 [321]
<i>Endobugula sertula</i>		(ser'tu.la.; the authors did not provide information about the etymology of the epithet)	Haygood and Davidson 1997 [117]
<i>Endolissoclinum faulkneri</i>		(faulk'ne.ri. N.L. gen. n. <i>faulkneri</i> named after D. John Faulkner, a pioneer in marine symbiosis and secondary metabolism)	Kwan et al. 2012 [118]
<i>Endonucleobacter bathymodioli</i>	<i>Endonucleobacter bathymodioli</i>	(ba.thy.mo.di.o'li. N.L. gen. n. <i>bathymodioli</i> of the mussel genus <i>Bathymodiolus</i>)	Zielinski et al. 2009 [119]
<i>Endoriftia persephoniae</i>	<i>Endoriftia persephone</i>	We propose correcting the epithet to <i>persephoniae</i> (per.se'pho.nae. N.L. gen. n. <i>persephoniae</i> of Persephone)	Robidart et al. 2008 [120]
<i>Endowatersipora glebosa</i>	<i>Endowatersipora palomitas</i>	We propose correcting the epithet to <i>glebosa</i> (gle.bo'sa. L. fem. adj. <i>glebosa</i> clumpy)	Anderson and Haygood 2007 [121]
<i>Endowatersipora rubus</i>		(ru'bus. L. masc. n. <i>rubus</i> raspberry)	Anderson and Haygood 2007 [121]
<i>Entotheonella factor</i>		(fac'tor. L. masc. n. <i>factor</i> producer)	Wilson et al. 2014 [322]
<i>Entotheonella palauensis</i>		(pa.lau.en'sis. N.L. fem. adj. <i>palauensis</i> pertaining to Palau, an archipelago in the Micronesia region of the western Pacific Ocean)	Schmidt et al. 2000 [122]
<i>Entotheonellaserta</i>		(ser'ta. L. part. adj. <i>serta</i> joined, connected)	Ueoka et al. 2015 [323]
<i>Epixenosoma ejectans*</i>		(e.jec'tans. L. part. adj. <i>ejectans</i> ejecting)	An incidental mention. The name is attributed to Bauer et al. (unpublished) [125] via AJ966881 hsp70 gene sequence, isolated from <i>Euplotidium itoi</i> strain N20)
<i>Epulonipiscioides gigas*</i>	<i>Epulopiscioides gigas</i>	(gi'gas. N. masc. n. <i>gigas</i> a giant)	Ngugi et al. 2017 [126]
<i>Epulonipiscioides saccharophilum*</i>	<i>Epulopiscioides saccharus</i>	We propose correcting the epithet to <i>saccharophilum</i> (sac.cha.ro'phi.lum. Gr. fem. n. <i>sakchar</i> sugar; N.L. neut. adj. <i>philum</i> (from Gr. neut. adj. <i>philon</i>) loving; N.L. neut. adj. <i>saccharophilum</i> sugar-loving)	Ngugi et al. 2017 [126]
<i>Epulonipiscium fischelsonii</i>	<i>Epulopiscium fischelsoni</i>	We propose correcting the epithet to <i>fischelsonii</i> (fi.schel.so'ni.i. N.L. gen. n. <i>fischelsonii</i> named after Professor Lev Fishelson, discoverer of the organism, for his multidisciplinary contributions to marine biology and education)	Ngugi et al. 2017; Montgomery and Pollak 1988 [126, 127]
<i>Fermentibacter danicus</i>	<i>Fermentibacter daniensis</i>	(da'ni.cus. L. masc. adj. <i>danicus</i> Danish)	Kirkegaard et al. 2016 [15]

Continued

Table 3. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Fervidibacter sacchari</i>		(sac'cha.ri. Gr. fem. n. <i>sakchar</i> sugar; N.L. gen. n. <i>sacchari</i> of sugar)	Rinke et al. 2013 [57]
<i>Finniella inopinata</i>		(in.o.pi.na'ta. L. fem. adj. <i>inopinata</i> unexpected)	Hess et al. 2016 [44]
<i>Finniella lucida</i>		(lu'ci.da. L. fem. adj. <i>lucida</i> bright, shining)	Hess et al. 2016 [44]
<i>Flaviluna lacus</i>		(la'cus. L. gen. n. <i>lacus</i> of a lake)	Hahn 2009 [70]
<i>Fodinibacter communicans</i>	<i>Fodinabacter communicans</i>	We propose correcting the epithet to <i>communicans</i> (com.mu'ni.cans. L. part. adj. <i>communcans</i> sharing)	Bertin et al. 2011 [128]
<i>Fokinia crypta</i>	<i>Fokinia cryptica</i>	We propose correcting the epithet to <i>crypta</i> (cryp'ta. Gr. masc. adj. <i>kryptos</i> hidden; N.L. fem. adj. <i>crypta</i> hidden)	Szokoli et al. 2016 [38]
<i>Fokinia solitaria</i>		(so.li.ta'ri.a. L. fem. adj. <i>solitaria</i> alone)	Szokoli et al. 2016 [129]
<i>Fritschea bemisiae</i>		(be.mi'si.ae. N.L. gen. n. <i>bemisiae</i> of the whitefly genus <i>Bemisia</i>)	Everett et al. 2005 [131]
<i>Fritschea eriococci</i>		(e.ri.o.coc'ci. N.L. gen. n. <i>eriococci</i> of the scale insect genus <i>Eriococcus</i>)	Everett et al. 2005 [131]
<i>Fukatsuia symbiotica</i>		(sym.bi.o'ti.ca. Gr. pref. <i>sym-</i> together; Gr. masc. n. <i>bios</i> life; N.L. fem. adj. <i>symbiotica</i> symbiotic)	Manzano-Marín et al. 2017 [132]
<i>Galacturonibacter soehngeni</i>	<i>Galacturonibacter soehngeni</i>	(soehn.ge'ni.i. N.L. gen. n. <i>soehngeni</i> named after Nicolaas L. Söhnngen and the Soehngen Institute of Anaerobic Microbiology, Nijmegen)	Valk et al. 2018 [133]
<i>Gastranaerophilus phascolarctica</i>	<i>Gastranaerophilus phascolarctosicola</i>	We propose correcting the epithet to <i>phascolarctica</i> (phas.col.arc.ti'co. la. N.L. masc. n. <i>Phascolarctos</i> the koala genus; N.L. suff. <i>-cola</i> (from L. masc. or fem. n. <i>incola</i>) inhabitant, dweller; N.L. masc. n. <i>phascolarctica</i> dweller of a koala)	Soo et al. 2014 [28]
<i>Gastranaerophilus termiticola</i>		(ter.mi.ti'co.la. L. n. <i>termes</i> , <i>-itis</i> wood-eating worm; N.L. suff. <i>-cola</i> (from L. masc. or fem. n. <i>incola</i>) inhabitant, dweller; N.L. masc. n. <i>termiticola</i> dweller of termites)	Utami et al. 2018 [324]
<i>Gigantorickettsia flagellata</i>	<i>Gigarickettsia flagellata</i>	(fla.gel.la'ta. N.L. fem. adj. <i>flagellata</i> flagellated)	Vannini et al. 2014 [134]
<i>Gigantothauma porcinsulae</i>	<i>Gigantothauma insularporcus</i>	We propose correcting the epithet to <i>porcinsulae</i> (porc.in'su.lae. L. masc. n. <i>porcus</i> pig; L. fem. n. <i>insula</i> island; N.L. gen. n. <i>porcinsulae</i> of pig island, Îlet à Cochons, Guadeloupe)	Muller et al. 2010 [135]
<i>Gigantothauma karukerense</i>	<i>Gigantothauma karukerense</i>	(ka.ru.ker.en'se. N.L. neut. adj. <i>karukerense</i> pertaining to Karukera, the Pre-Columbian name of Guadeloupe)	Muller et al. 2010 [135]
<i>Gillettella adelgis</i>	<i>Gillettella cooleyia</i>	We propose correcting the epithet to <i>adelgis</i> (a.del'gis. N.L. gen. n. <i>adelgis</i> of the aphid <i>Adelges cooleyi</i>)	Toenshoff et al. 2012 [136]
<i>Glomeribacter gigasporarum</i>		(gi.ga.spo.ra'rum. N.L. fem. pl. n. <i>gigasporarum</i> of <i>Gigaspora</i> species)	Bianciotto et al. 2003 [137]
<i>Goertzia shahrazadae</i>	<i>Gortzia shahrazadis</i>	We propose correcting the epithet to <i>shahrazadae</i> (shah.ra.za'dae. N.L. gen. n. <i>shahrazadae</i> of Shahrazad, main character in the 'One Thousand and One Nights')	Serra et al. 2016 [325]
<i>Goertzia infectiva</i>	<i>Gortzia infectiva</i>	(in.fec.ti'va. N.L. fem. adj. <i>infectiva</i> infective)	Boscaro et al. 2013 [138]
<i>Gullanella endobia</i>		(en.do'bi.a. Gr. prep. <i>endo</i> inside; Gr. masc. n. <i>bios</i> life; N.L. fem. adj. <i>endobia</i> living inside)	Husnik and McCutcheon 2016 [112]
<i>Haematobacterium ranarum</i>	<i>Hemobacterium ranarum</i>	(ra.na'rum. L. gen. pl. n. <i>ranarum</i> of frogs)	Zhang and Rikihisa 2004 [139]
<i>Haloectosymbiota riaformosensis</i>	<i>Haloectosymbiotes riaformosensis</i>	(ri.a.for.mo.sen'sis. L. masc. adj. <i>riaformosensis</i> pertaining to Ria Formosa lagoon, Portugal)	Filker et al. 2014 [140]
<i>Halysiomicrobium bavaricum</i>	<i>Alysiomicrobium bavaricum</i>	(ba.va'ri.cum. N.L. neut. adj. <i>bavaricum</i> pertaining to Bavaria)	Levantesi et al. 2004 [92]

Continued

Table 3. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Halysiosphaera europaea</i>	<i>Alysiosphaera europaea</i>	(eu.ro.pae'a. L. fem. adj. <i>europaea</i> of or belonging to Europe)	Levantesi et al. 2004 [92]
<i>Heliomonas lunata</i>		(lu.na'ta. L. part. adj. <i>lunata</i> crescent shaped)	Asao et al. 2012 [142]
<i>Hemipteriphilus asiaticus</i>		(a.si.a'ti.cus. L. masc. adj. <i>asiaticus</i> Asian)	Bing et al. 2013 [143]
<i>Hepatincola porcellionum</i>		(por.cel.li.o'num. N.L. gen. pl. n. <i>porcellionum</i> of wood lice of the genus <i>Porcellio</i>)	Wang et al. 2004 [144]
<i>Hepatobacter penaei</i>		(pe.nae'i. N.L. gen. n. <i>penaei</i> of the prawn genus <i>Penaeus</i>)	Nunan et al. 2013 [145]
<i>Hepatoplasma crinochetorum</i>		(cri.no.che.to'rum. N.L. gen. pl. n. <i>crinochetorum</i> of isopods (<i>Crinocheta</i>))	Wang et al. 2004 [146]
<i>Hoaglandella endobia</i>		(en.do'bi.a. Gr. prep. <i>endo</i> inside; Gr. masc. n. <i>bios</i> life; N.L. fem. adj. <i>endobia</i> living inside)	Husnik and McCutcheon 2016 [112]
<i>Hodgkinia cicadicola</i>		(ci.ca.di'co.la. L. fem. n. <i>cicada</i> the cicada; L. suff. n. <i>-cola</i> (from L. masc. or fem. n. <i>incola</i>) dweller; N.L. fem. n. <i>cicadicola</i> a dweller of cicadas)	McCutcheon et al. 2009 [147]
<i>Homeothermus arabinoxylanisolvens</i>		(a.ra.bi.no.xy.la.ni.sol'vens. N.L. neut. n. <i>arabinoxylanum</i> arabinoxylan; L. pres. part. <i>solvens</i> loosening; N.L. part. adj. <i>arabinixylanisolvens</i> dissolving arabinoxylan)	Ormerod et al. 2016 [39]
<i>Huberarchaeum crystalense</i>		(crys.ta.len'se. N.L. neut. adj. <i>crystalense</i> pertaining to Crystal Geyser, Utah); the name was misspelled <i>Huberiarchoaeum crystalense</i> by Schwank et al. [149]	Probst et al. 2018; Schwank et al. 2019 [148, 149]
<i>Hydrogenedens terephthalicus</i>	<i>Hydrogenedens terephthalicus</i>	We propose correcting the epithet to <i>terephthalaticus</i> (te.re.phtha.la'ti.cus. N.L. masc. adj. <i>terephthalaticus</i> referring to terephthalate)	Rinke et al. 2013 [57]
<i>Iainarchaeum andersonii</i>		(an.der.so'ni.i. N.L. gen. n. <i>andersonii</i> named after Iain Anderson, an American genome biologist)	Rinke et al. 2013 [57]
<i>Intestinibacterium nucleariae</i>	<i>Intestinusbacter nucleariae</i>	(nu.cle.a'ri.ae. N.L. gen. n. <i>nucleariae</i> of the protist genus <i>Nuclearia</i>)	Dirren and Posch 2016 [150]
<i>Ishikawella capsulata</i>	<i>Ishikawaella capsulata</i>	(cap.su.la'ta. N.L. fem. adj. <i>capsulata</i> capsulated)	Hosokawa et al. 2006 [151]
<i>Isobeggiatoa divolgata</i>		(di.vol.ga'ta. L. fem. part. adj. <i>divolgata</i> widespread)	Salman et al. 2011 [152]
<i>Jettenia asiatica</i>		(a.si.a'ti.ca. L. fem. adj. <i>asiatica</i> Asian)	Quan et al. 2008 [155]
<i>Jettenia caeni</i>		(cae'ni. L. gen. n. <i>caeni</i> of sludge)	Ali et al. 2015 [326]
<i>Jettenia ecosi</i>		(e.co'si. N.L. gen. n. <i>ecosi</i> of a BCh-ECOS wastewater treatment station, Krasnodar Krai, Russia)	Botchkova et al. 2018 [327]
<i>Jettenia moscoviensis</i>	<i>Jettenia moscovienalis</i>	We propose correcting the epithet to <i>moscoviensis</i> (mos.co.vi.en'sis. N.L. fem. adj. <i>moscoviensis</i> pertaining to <i>Moscovia</i> , an old name of Moscow)	Nikolaev et al. 2015 [328]
<i>Jidaibacter acanthamoebae</i>	<i>Jidaibacter acanthamoeba</i>	We propose correcting the epithet to <i>acanthamoebae</i> (a.canth.a.moe'bae. N.L. gen. n. <i>acanthamoebae</i> of the protist <i>Acanthamoeba</i>)	Schulz et al. 2016 [156]
<i>Johnevsania muelleri</i>	<i>Evansia muelleri</i>	(muel'le.ri. N.L. gen. n. <i>muelleri</i> named after H. J. Müller who studied the endosymbiotic system of moss bugs)	Kuechler et al. 2013 [157]
<i>Kapaibacterium thiocyanatum</i>	<i>Kapabacteria thiocyanatum</i>	We propose correcting the name to <i>Kapaibacterium thiocyanatum</i> (thi.o.cy.a.na'tum. N.L. neut. adj. <i>thiocyanatum</i> pertaining to thiocyanate)	Kantor et al. 2015 [158]
<i>Karelsulcia muelleri</i>	<i>Sulcia muelleri</i>	(muel'le.ri. N.L. gen. n. <i>muelleri</i> named after H.J. Müller, who studied the symbioses of sap-feeding insects and established that most species contain multiple symbiont types)	Moran et al. 2005 [159]
<i>Kentrum eta</i>	<i>Kentron eta</i>	We propose correcting the name to <i>Kentrum eta</i> (e'ta. Gr. neut. n. <i>eta</i> , the letter <i>eta</i> , Greek progenitor of the Latin letter H)	Seah et al. 2017 [160]

Continued

Table 3. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Kinetoplastidibacterium blastocrithidiae</i>	<i>Kinetoplastibacterium blastocrithidii</i>	We propose correcting the epithet to <i>blastocrithidiae</i> (blas.to.cri.thi'di.ae. N.L. gen. n. <i>blastocrithidiae</i> of the protist genus <i>Blastocrithidia</i>)	Teixeira et al. 2011 [161]
<i>Kinetoplastidibacterium crithidiae</i>	<i>Kinetoplastibacterium crithidii</i>	We propose correcting the epithet to <i>crithidiae</i> (cri.thi'di.ae. N.L. gen. n. <i>crithidiae</i> of the protist genus <i>Crithidia</i>)	Teixeira et al. 2011 [161]
<i>Kinetoplastidibacterium desouzai</i>	<i>Kinetoplastibacterium desouzaii</i>	We propose correcting the epithet to <i>desouzai</i> (de.sou.za'i. N.L. gen. n. <i>desouzai</i> of de Souza, name based on the epithet of the species <i>Angomonas desouzai</i>)	Teixeira et al. 2011 [161]
<i>Kinetoplastidibacterium galati</i>	<i>Kinetoplastibacterium galatii</i>	We propose correcting the epithet to <i>galatii</i> (ga.la'ti.i. N.L. gen. n. <i>galatii</i> name based on the epithet of the species <i>Strigomonas galati</i>)	Teixeira et al. 2011 [161]
<i>Kinetoplastidibacterium kentomonadis</i>	<i>Kinetoplastibacterium sorsogonicusi</i>	We propose correcting the epithet to <i>kentomonadis</i> (ken.to.mo.na'dis. N.L. gen. n. <i>kentomonadis</i> of the protist <i>Kentomonas sorsogonicus</i>)	Silva et al. 2018 [329]
<i>Kinetoplastidibacterium stringomonadis</i>	<i>Kinetoplastibacterium oncopeltii</i>	We propose correcting the epithet to <i>stringomonadis</i> (strin.go.mo.na'dis. N.L. gen. n. <i>stringomonadis</i> of the protist genus <i>Stringomonas</i>)	Teixeira et al. 2011 [161]
<i>Kleidoceria schneideri</i>		(schnei'de.ri. N.L. gen. n. <i>schneideri</i> named after Gerhard Schneider who first described the symbiosis in the seed bug <i>Kleidocerys resedae</i>)	Küchler et al. 2010 [162]
<i>Kopriimonas aquariorum</i>	<i>Kopriimonas aquarianus</i>	We propose correcting the epithet to <i>aquariorum</i> (a.qua.ri.o'rum. L. gen. neut. pl. n. <i>aquariorum</i> of watering places of cattle, and (Neo-Latin) of aquaria)	Quinn et al. 2012 [163]
<i>Korarchaeum cryptofilum</i>		(cryp.to.fi'lum. Gr. adj. <i>kryptos</i> hidden; L. neut. n. <i>filum</i> a thread; N.L. neut. n. <i>cryptofilum</i> a hidden thread)	Elkins et al. 2008 [164]
<i>Kotejella greeniscae</i>		(gree.nis'cae. N.L. gen. n. <i>greeniscae</i> of the scale insect genus <i>Greenisca</i>)	Michalik et al. 2018 [165]
<i>Kryptobacter tengchongensis</i>		(teng.chong.en'sis. N.L. masc. adj. <i>tengchongensis</i> pertaining to Tengchong County, China)	Eloe-Fadrosch et al. 2016 [97]
<i>Kryptonium thompsonii</i>	<i>Kryptonium thompsoni</i>	We propose correcting the epithet to <i>thompsonii</i> (thomp.so'ni.i. N.L. gen. n. <i>thompsonii</i> named after David Thompson, explorer of the region around Dewar Creek)	Eloe-Fadrosch et al. 2016 [97]
<i>Kuenenia stuttgartensis</i>	<i>Kuenenia stuttgartiensis</i>	We propose correcting the epithet to <i>stuttgartensis</i> (stutt.gart.en'sis. N.L. fem. adj. <i>stuttgartensis</i> pertaining to Stuttgart)	Schmid et al. 2000 [166]
<i>Lariskella arthropodorum</i>	<i>Lariskella arthropodarum</i>	We propose correcting the epithet to <i>arthropodorum</i> (ar.thro.po.do'rum. N.L. gen. pl. n. <i>arthropodorum</i> of <i>Arthropoda</i>)	Matsuura et al. 2012 [167]
<i>Latescibacter anaerobius</i>		(an.ae.ro'bi.us. Gr. pref. <i>an</i> not; Gr. masc. or fem. n. <i>aer</i> air; Gr. masc. n. <i>bios</i> life; N.L. masc. adj. <i>anaerobius</i> anaerobic)	Rinke et al. 2013 [57]
<i>Limnoluna rubra</i>		(ru'bra. L. fem. adj. <i>rubra</i> red)	Hahn 2009 [70]
<i>Lumbricidiphila eiseniae</i>	<i>Lumbricidiphila eiseniae</i>	(ei.se'ni.ae. N.L. gen. n. <i>eiseniae</i> of the earthworm genus <i>Eisenia</i>)	Lund et al. 2018 [170]
<i>Macrolepicola chrysomelidarum</i>	<i>Macrolepicola appendiculatae</i>	We propose correcting the epithet to <i>chrysomelidarum</i> (chry.so.me.li.da'rum. N.L. gen. pl. n. <i>chrysomelidarum</i> of the family <i>Chrysomelidae</i>)	Kölsch et al. 2009 [172]
<i>Macrolepicola donaciinarum</i>	<i>Macrolepicola muticae</i>	We propose correcting the epithet to <i>donaciinarum</i> (do.na.ci.i.na'rum. N.L. gen. pl. n. <i>donaciinarum</i> of the subfamily <i>Donaciinae</i>)	Kölsch et al. 2009 [172]
<i>Magnetananas drummondensis*</i>		(drum.mon.den'sis. N.L. masc. adj. <i>drummondensis</i> pertaining to Drummond Island, China)	Chen et al. 2016 [330]
<i>Magnetananas rongchengensis*</i>	<i>Magnetananas rongchenensis</i>	We propose correcting the epithet to <i>rongchengensis</i> (rong.cheng.en'sis. N.L. masc. adj. <i>rongchengensis</i> pertaining to Róngchéng, Shandong Province, China)	Chen et al. 2015 [173]
<i>Magnetananas tsingtaonensis</i>	<i>Magnetananas tsingtaoensis</i>	We propose correcting the epithet to <i>tsingtaonensis</i> (tsing.tao.nen'sis. N.L. masc. adj. <i>tsingtaonensis</i> pertaining to Tsingtao (Qingdao City), China)	Chen et al. 2015 [173]

Continued

Table 3. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Magnetobacterium bavaricum</i>		(ba.va'ri.cum. N.L. neut. n. <i>bavaricum</i> Bavarian)	Spring et al. 1993 [331]
<i>Magnetobacterium casense*</i>	<i>Magnetobacterium casensis</i>	We propose correcting the epithet to <i>casense</i> (cas.en'se. N.L. neut. adj. <i>casense</i> pertaining to CAS, acronym for the Chinese Academy of Sciences)	Lin et al. 2014 [332]
<i>Magnetoglobus multicellularis</i>		(mul.ti.cel.lu.la'ris. N.L. masc. adj. <i>multicellularis</i> multicellular)	Abreu et al. 2007 [174]
<i>Magnetominusculus xianensis*</i>		(xi.an.en'sis. N.L. masc. adj. <i>xianensis</i> pertaining to Xian)	Lin et al. 2017 [175]
<i>Magnetomorum litorale</i>		(li.to.ra'le. L. neut. adj. <i>litorale</i> belonging to the coast)	Wenter et al. 2009 [176]
<i>Magnetomorum rongchengiroseum</i>	<i>Magnetomorum rongchengroseum</i>	We propose correcting the epithet to <i>rongchengiroseum</i> (rong.cheng.i.ro'se.um. L. masc. adj. <i>roseus</i> rosy; N.L. neut. adj. <i>rongchengiroseum</i> rosy and pertaining to Róngchéng, Shandong Province, China)	Zhang et al. 2014 [333]
<i>Magnetomorum tsingtaoniroseum</i>	<i>Magnetomorum tsingtaorseum</i>	We propose correcting the epithet to <i>tsingtaoniroseum</i> (tsing.tao.ni.ro'se.um. L. masc. adj. <i>roseus</i> rosy; N.L. neut. adj. <i>tsingtaoniroseum</i> rosy and pertaining to Tsingtao (Qingdao City), China)	Zhou et al. 2013 [334]
<i>Magnetovum mohavense</i>	<i>Magnetoovum mohavensis</i>	We propose correcting the epithet to <i>mohavense</i> (mo.ha.ven'se. N.L. neut. adj. <i>mohavense</i> pertaining to the Mohave desert)	Lefèvre et al. 2011 [177]
<i>Magnispira bakii</i>	<i>Magnospira bakii</i>	(ba'ki.i. N.L. gen. n. <i>bakii</i> named after Friedhelm Bak who had a great interest in the enrichment and cultivation of morphologically conspicuous bacteria)	Snaidr et al. 1999 [178]
<i>Mancarchaeum acidiphilum</i>		(a.ci.di'phi.lum. L. adj. <i>acidus</i> sour; L. neut. adj. <i>philum</i> (from Gr. neut. adj. <i>philon</i>) loving; N.L. neut. adj. <i>acidiphilum</i> acid loving)	Golyshina et al. 2017 [179]
<i>Maribeggiatoa vulgaris</i>		(vul.ga'ris. L. fem. adj. <i>vulgaris</i> common)	Salman et al. 2011 [152]
<i>Maribrachyspira pinctadae</i>	<i>Maribrachyspira akoyae</i>	We propose correcting the epithet to <i>pinctadae</i> (pinc.ta'dae. N.L. gen. n. <i>pinctadae</i> of <i>Pinctada fucata</i> the Akoya pearl oyster)	Matsuyama et al. 2017 [180]
<i>Marinarcus aquaticus*</i>	<i>Arcomarinus aquaticus</i>	(a.qua'ti.cus. L. masc. adj. <i>aquaticus</i> aquatic)	Pérez-Cataluña et al. 2018 [181]
<i>Marispirochaeta associata</i>		(as.so.ci.a'ta. L. part. adj. <i>associata</i> associated)	Shivani et al. 2016 [335]
<i>Marithioploca araucensis</i>	<i>Marithioploca araucae</i>	We propose correcting the epithet to <i>arauensis</i> (a.rau.cen'sis. N.L. fem. adj. <i>arauensis</i> pertaining to Arauca, Chile)	Salman et al. 2011 [152]
<i>Marithrix sessilis</i>		(ses'si.lis. L. fem. adj. <i>sessilis</i> sessile)	Salman et al. 2011 [152]
<i>Medusoplasma mediterranei</i>		(me.di.ter.ra'ne.i. L. gen. n. <i>mediterranei</i> of [Mare] <i>mediterraneum</i> the Mediterranean)	Viver et al. 2017 [182]
<i>Megaera polyxenophila</i>	<i>Megaira polyxenophila</i>	(po.ly.xe.no'phi.la. Gr. masc. adj. <i>polys</i> many; Gr. masc. adj. <i>xenos</i> foreign, strange; N.L. fem. adj. <i>phila</i> (from Gr. fem. adj. <i>phile</i>) loving; N.L. fem. adj. <i>polyxenophila</i> loving many strange compounds)	Schrallhammer et al. 2013 [183]
<i>Mesochlamydia elodeae</i>		(e.lo.de'ae. N.L. gen. n. <i>elodeae</i> of the waterweed genus <i>Elodea</i>)	Corsaro et al. 2013 [184]
<i>Metachlamydia lacustris</i>		(la.cus'tris. L. fem. adj. <i>lacustris</i> of a lake)	Corsaro et al. 2010 [336]
<i>Methanofastidiosum methylthiophilum</i>	<i>Methanofastidiosum methylthiophilus</i>	We propose correcting the epithet to <i>methylthiophilum</i> (me.thy.lo.thi.o'phi.lum; N.L. pref. <i>methyl-</i> pertaining to the methyl group; Gr. neut. n. <i>theion</i> (transliterated <i>thium</i>) sulfur; N.L. neut. adj. <i>philum</i> (from Gr. neut. adj. <i>philon</i>) loving; N.L. neut. n. <i>methylthiophilum</i> methyl- and sulfur loving)	Nobu et al. 2016 [18]

Continued

Table 3. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Methanoflorens stordalenmirensis</i>		(stor.da.len.mir.en'sis. N.L. masc. adj. <i>stordalenmirensis</i> pertaining to Stordalen mire)	Mondav et al. 2014 [40]
<i>Methanogranum caenicola</i>		(cae.ni'co.la. L. neut. n. <i>caenum</i> mud; L. suff. n. <i>-cola</i> (from L. masc. or fem. n. <i>incola</i>) dweller; N.L. n. <i>caenicola</i> mud-dweller)	Iino et al. 2013 [185]
<i>Methanohalarchaeum thermophilum</i>		(ther.mo'phi.lum. Gr. fem. n. <i>therme</i> heat; N.L. neut. adj. <i>philum</i> (from Gr. neut. adj. <i>philon</i>) loving; N.L. neut. adj. <i>thermophilum</i> heat loving)	Sorokin et al. 2017; Sorokin et al. 2018 [186, 187]
<i>Methanomethylicus mesodigestus</i>	<i>Methanomethylicus mesodigestum</i>	We propose correcting the epithet to <i>mesodigestus</i> (me.so.di.ges'tus. Gr. masc. adj. <i>mesos</i> middle; L. masc. past. part. <i>digestus</i> that has a good digestion; N.L. masc. adj. <i>mesodigestus</i> referring to a mesophilic digester)	Vanwonterghem et al. 2016 [20]
<i>Methanomethylicus oleisabuli</i>	<i>Methanomethylicus oleusabulum</i>	We propose correcting the epithet to <i>oleisabuli</i> (o.le.i.sa'bu.li. L. neut. n. <i>oleum</i> oil; L. neut. n. <i>sabulum</i> sand; N.L. gen. n. <i>oleisabuli</i> of oil sand)	Vanwonterghem et al. 2016 [20]
<i>Methanomethylophilus alvi</i>	<i>Methanomethylophilus alvus</i>	We propose correcting the epithet to <i>alvi</i> (al'vi. L. gen. n. <i>alvi</i> of the bowels)	Borrel et al. 2012 [188]
<i>Methanoperedens nitratireducens</i>	<i>Methanoperedens nitroreducens</i>	We propose correcting the epithet to <i>nitratireducens</i> (ni.tr.a.ti.re.du'cens. N.L. n. <i>nitras</i> , <i>-atis</i> nitrate; L. pres. part. <i>reducens</i> leading back and, in chemistry, reducing; N.L. part. adj. <i>nitratireducens</i> reducing nitrate)	Haroon et al. 2013 [41]
<i>Methanoplasma termitum</i>		(ter'mi.tum. L. gen. pl. n. <i>termitum</i> of worms, of termites)	Lang et al. 2015 [189]
<i>Methanosuratincola petrocarbonis</i>	<i>Methanosuratus petracarbonis</i>	We suggest correcting the epithet to <i>petrocarbonis</i> (pe.tro.car.bo'nis. Gr. fem. n. <i>petra</i> rock; L. masc. n. <i>carbo</i> coal; N.L. gen. n. <i>petrocarbonis</i> of coal from a rock)	Vanwonterghem et al. 2016 [20]
<i>Methylacidiphilum infernorum</i>		(in.fer.no'rum. L. gen. pl. n. <i>infernorum</i> of the shades below)	Hou et al. 2008 [190]
<i>Methylacidiphilum kamchatkense</i>		(kam.chat.ken'se. N.L. neut. adj. <i>kamchatkense</i> pertaining to Kamchatka)	Erikstad and Birkeland 2015; Erikstad et al. 2012 [337, 338]
<i>Methylaffinis lahnbergensis</i>	<i>Methyloaffinis lahnbergensis</i>	We propose correcting the name to <i>Methylaffinis lahnbergensis</i> (lahn.berg.en'sis. N.L. masc. adj. <i>lahnbergensis</i> pertaining to Lahnberge, Germany)	Pratscher et al. 2018 [191]
<i>Methylocucumis oryzae</i>		(o.ry'zae. L. gen. n. <i>oryzae</i> of rice); the organism was brought into culture and the name was validly published in 2019	Pandit et al. 2018; Pandit and Rahalkar 2019 [192, 193]
<i>Methylomirabilis lanthanidiphila</i>		(lan.tha.ni.di'phi.la. N.L. neut. n. <i>lanthanidum</i> lanthanide; N.L. fem. adj. <i>phila</i> (from Gr. fem. adj. <i>phile</i>) loving; N.L. fem. adj. <i>lanthanidiphila</i> loving lanthanides)	Versantvoort et al. 2018 [339]
<i>Methylomirabilis limnetica</i>		(lim.ne'ti.ca. Gr. fem. n. <i>limne</i> lake; N.L. fem. adj. <i>limnetica</i> pertaining to a lake)	Graf et al. 2018 [340]
<i>Methylomirabilis sinica*</i>		(si'ni.ca. N.L. fem. adj. <i>sinica</i> Chinese)	He et al. 2016 [341]
<i>Methylomirabilis oxygeniifera</i>	<i>Methylomirabilis oxyfera</i>	We propose correcting the epithet to <i>oxygeniifera</i> (o.xy.ge.ni.i'fe.ra. N.L. neut. n. <i>oxygenium</i> oxygen; L. v. <i>fero</i> to produce, to bear; N.L. fem. adj. <i>oxygeniifera</i> carrying oxygen)	Ettwig et al. 2010 [194]
<i>Methylopumilus planktonicus</i>		(plank.to'ni.cus. N.L. masc. adj. <i>planktonicus</i> planktonic)	Salcher et al. 2015 [195]
<i>Methylopumilus turicensis</i>		(tu.ri.cen'sis. L. masc. adj. <i>turicensis</i> of or pertaining to Turicum (Zürich))	Salcher et al. 2015 [195]
<i>Methylospira mobilis</i>		(mo'bi.lis. L. fem. adj. <i>mobilis</i> motile)	Danilova et al. 2016 [196]

Continued

Table 3. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Methylumidiphilus alinenensis</i>	<i>Methyloumidiphilus alinensis</i>	(a.li.ne.nen'sis. N.L. masc. adj. <i>alinenensis</i> pertaining to Lake Alinen-Mustajärvi, Finland)	Rissanen et al. 2018 [197]
<i>Micrarchaeum acidiphilum*</i>		(a.ci.di'phi.lum. L. adj. <i>acidus</i> sour; L. neut. adj. <i>philum</i> (from Gr. neut. adj. <i>philon</i>) loving; N.L. neut. adj. <i>acidiphilum</i> acid loving)	Baker et al. 2010 [198]
<i>Microgenomatus auricola</i>		(au.ri'co.la. L. neut. n. <i>aurum</i> gold; L. suff. n. <i>-cola</i> (from L. masc. or fem. n. <i>incola</i>) dweller; N.L. masc. n. <i>auricola</i> dweller on gold)	Rinke et al. 2013 [57]
<i>Micropelagius thuwalensis</i>	<i>Micropelagos thuwalensis</i>	(thu.wal.en'sis. N.L. masc. adj. <i>thuwalensis</i> pertaining to Thuwal, Saudi Arabia)	Jimenez-Infante et al. 2014 [199]
<i>Midichloria mitochondrii</i>		(mi.to.chon'dri.i. N.L. gen. n. <i>mitochondrii</i> of a mitochondrion)	Sassera et al. 2006 [200]
<i>Mikella endobia</i>		(en.do'bi.a. Gr. prep. <i>endo</i> inside; Gr. masc. n. <i>bios</i> life; N.L. fem. adj. <i>endobia</i> living inside)	Husnik and McCutcheon 2016 [112]
<i>Moanibacter tarae</i>	<i>Moanabacter tarae</i>	(ta'rae. N.L. gen. n. <i>tarae</i> of the Tara Oceans project, Tara being the name of a sea goddess in Polynesian mythology)	Vosseberg et al. 2018 [201]
<i>Moduliflexus flocculans</i>		(floc'cu.lans. N.L. part. adj. <i>flocculans</i> flocculating)	Sekiguchi et al. 2015 [21]
<i>Moeniiplasma glomeromycotorum</i>		(glo.me.ro.my.co.to'rum. N.L. gen. pl. n. <i>glomeromycotorum</i> of <i>Glomeromycota</i> fungi)	Naito et al. 2017 [202]
<i>Monilibacter batavus</i>		(ba.ta'vus. L. masc. adj. <i>batavus</i> pertaining to Batavia, Dutch)	Levantesi et al. 2004 [92]
<i>Moranella endobia</i>		(en.do'bi.a. Gr. prep. <i>endo</i> inside; Gr. masc. n. <i>bios</i> life; N.L. fem. adj. <i>endobia</i> living inside)	McCutcheon and von Dohlen 2011 [203]
<i>Muiribacterium halophilum</i>	<i>Muirbacterium halophilum</i> , also given as <i>Muirbacteria halophilum</i>	(ha.lo'phi.lum. Gr. n. <i>hals</i> , <i>halos</i> salt; N.L. neut. adj. <i>philum</i> (from Gr. neut. adj. <i>philon</i>) loving; N.L. neut. adj. <i>halophilum</i> salt loving)	Barnum et al. 2018 [204]
<i>Nanobsidianus stetteri*</i>		(stet'te.ri. N.L. gen. n. <i>stetteri</i> named after the German microbiologist Karl Stetter for his contributions to understanding Archaea systematics and ecology)	Castelle et al. 2015 [205]
<i>Nanopelagicus abundans</i>		(a.bun'dans. L. part. adj. <i>abundans</i> abundant)	Neuenschwander et al. 2018 [29]
<i>Nanopelagicus hibericus</i>		(hi.be'ri.cus. L. masc. adj. <i>hibericus</i> Spanish)	Neuenschwander et al. 2018 [29]
<i>Nanopelagicus limnae</i>	<i>Nanopelagicus limnes</i>	We propose correcting the epithet to <i>limnae</i> (lim'nae. Gr. fem. n. <i>limne</i> , <i>limnes</i> a lake; N.L. gen. n. <i>limnae</i> of a lake)	Neuenschwander et al. 2018 [29]
<i>Nanopusillus acidilobi</i>		(a.ci.di.lo'bi. N.L. gen. n. <i>acidilobi</i> of the archaeal genus <i>Acidilobus</i>)	Wurch et al. 2016 [207]
<i>Nasuia deltocephalincola</i>		(del.to.ce.phal.in'co.la. N.L. masc. n. <i>Deltocephalus</i> a leafhopper genus; L. masc. or gen. n. <i>incola</i> inhabitant, dweller; N.L. fem. n. <i>deltocephalincola</i> a dweller of <i>Deltocephalus</i>)	Noda et al. 2012 [210]
<i>Navoides piranense</i>	<i>Navis piranensis</i>	We propose correcting the epithet to <i>piranense</i> (pi.ran.en'se. N.L. neut. adj. <i>piranense</i> pertaining to Piran, a town in southwestern Slovenia on the Gulf of Piran on the Adriatic Sea)	Schuster and Bright 2016 [211]
<i>Nebulibacter yamunensis</i>	<i>Nebulobacter yamunensis</i>	(ya.mun.en'sis. N.L. masc. adj. <i>yamunensis</i> pertaining to the Yamuna River, India)	Boscaro et al. 2012 [212]
<i>Neoehrlichia arcana</i>		(ar.ca'na. L. fem. adj. <i>arcana</i> hidden)	Gofton et al. 2016 [342]
<i>Neoehrlichia australis</i>		(aus.tra'lis. L. fem. adj. <i>australis</i> southern, referring to Australia)	Gofton et al. 2016 [342]
<i>Neoehrlichia chilensis*</i>		(chi.len'sis. N.L. fem. adj. <i>chilensis</i> pertaining to Chile)	Müller et al. 2018 [343]
<i>Neoehrlichia mikurensis</i>		(mi.kur.en'sis. N.L. fem. adj. <i>mikurensis</i> pertaining to Mikura Island, Japan)	Kawahara et al. 2004 [214]

Continued

Table 3. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Neoehrlichia procyonis</i>	<i>Neoehrlichia lotoris</i>	We propose correcting the epithet to <i>procyonis</i> (pro.cy.o'nis. N.L. gen. n. <i>procyonis</i> of the raccoon <i>Procyon lotor</i>)	Yabsley et al. 2008 [344]
<i>Neomarinimicrobium atlanticum</i>	<i>Marinimicrobium atlanticum</i>	(at.lan'ti.cum. L. neut. adj. <i>atlanticum</i> referring to the Atlantic Ocean)	Rinke et al. 2013 [57]
<i>Neomicrothrix calida</i>	<i>Microthrix calida</i>	(ca'li.da. L. fem. adj. <i>calida</i> warm)	Levantesi et al. 2006 [345]
<i>Neomicrothrix parvicella</i>	<i>Microthrix parvicella</i>	(par.vi.cel'la. L. masc. adj. <i>parvus</i> small; L. fem. n. <i>cella</i> a store-room and in biology a cell; N.L. fem. n. <i>parvicella</i> a small cell)	Blackall et al. 1996 [215]
<i>Nephrothrix davidsoniae</i>	<i>Nephrothrix davidsonii</i>	We propose correcting the epithet to <i>davidsoniae</i> (da.vid.so'ni.ae. N.L. gen. n. <i>davidsoniae</i> named after Seana Davidson, the scientist who first discovered the <i>Flexibacter</i> -like symbionts in earthworms)	Møller et al. 2015 [216]
<i>Neptunichlamydia vexilliferae</i>	<i>Neptunochlamydia vexilliferae</i>	(ve.xil.li'fe.rae. N.L. gen. n. <i>vexilliferae</i> of the protist genus <i>Vexillifera</i>)	Pizzetti et al. 2016 [217]
<i>Nitrosocaldus cavascurensis</i>		(ca.vas.cu.ren'sis. N.L. masc. adj. <i>cavascurensis</i> pertaining to the Terme di Cavascura)	Abby et al. 2018 [346]
<i>Nitrosocaldus islandicus</i>		(is.lan'di.cus. N.L. masc. adj. <i>islandicus</i> from Iceland)	Daebeler et al. 2018 [347]
<i>Nitrosocaldus yellowstonensis</i>	<i>Nitrosocaldus yellowstonii</i>	We propose correcting the epithet to <i>yellowstonensis</i> (yel.low.ston.en'sis. N.L. masc. adj. <i>yellowstonensis</i> pertaining to Yellowstone)	de la Torre et al. 2008 [30]
<i>Nitrosocosmicus defluvii</i>	<i>Nitrosocosmicus exaquare</i>	We propose correcting the epithet to <i>defluvii</i> (de.flu'vi.i. L. gen. n. <i>defluvii</i> of sewage)	Sauder et al. 2017 [348]
<i>Nitrosoglobus terrae</i>		(ter'rae. L. gen. n. <i>terrae</i> of soil)	Hayatsu et al. 2017 [221]
<i>Nitrosomarinus catalinensis*</i>	<i>Nitrosomarinus catalina</i>	We propose correcting the epithet to <i>catalinensis</i> (ca.ta.lin.en'sis. N.L. masc. adj. <i>catalinensis</i> pertaining to Catalina Island)	Ahlgren et al. 2017 [222]
<i>Nitrosopelagicus brevis</i>		(bre'vis. L. masc. adj. <i>brevis</i> short)	Santoro et al. 2015 [223]
<i>Nitrosotalea bavaria</i>		(ba.va'ri.ca. N.L. fem. adj. <i>bavaria</i> Bavarian)	Herbold et al. 2017 [349]
<i>Nitrosotalea okcheonensis</i>		(ok.che.on.en'sis. N.L. fem. adj. <i>okcheonensis</i> pertaining to Okcheon, South Korea)	Herbold et al. 2017 [349]
<i>Nitrosotalea sinensis</i>		(sin.en'sis. N.L. fem. adj. <i>sinensis</i> Chinese)	Herbold et al. 2017 [349]
<i>Nitrosotalea devaniterrae</i>	<i>Nitrosotalea devanaterra</i>	We propose correcting the epithet to <i>devaniterrae</i> (de.va.ni.ter'rae. L. fem. n. <i>Devana</i> the Roman name for Aberdeen; L. fem. n. <i>terra</i> soil; N.L. gen. n. <i>devaniterrae</i> of soil from Aberdeen)	Lehtovirta-Morley et al. 2011 [224]
<i>Nitrosotenuis aquariorum</i>	<i>Nitrosotenuis aquarius</i>	We propose correcting the epithet to <i>aquariorum</i> (a.qua.ri.o'rum. L. gen. neut. pl. n. <i>aquariorum</i> of watering places of cattle, and (Neo-Latin) of aquaria)	Sauder et al. 2018 [350]
<i>Nitrosotenuis chungbukensis</i>		(chung.buk.en'sis. N.L. masc. adj. <i>chungbukensis</i> pertaining to Chungbuk (North Chungcheong Province), a province of South Korea)	Jung et al. 2014 [351]
<i>Nitrosotenuis cloacae</i>		(clo.a'cae. L. gen. n. <i>cloacae</i> of a sewer)	Li et al. 2016 [352]
<i>Nitrosotenuis uzonensis</i>		(u.zon.en'sis. N.L. masc. adj. <i>uzonensis</i> pertaining to Uzon)	Lebedeva et al. 2013 [225]
<i>Nitrotoga arctica</i>		(arc'ti.ca. L. fem. adj. <i>arctica</i> arctic)	Alawi et al. 2007 [226]
<i>Nitrotoga fabula</i>		(fa'bu.la. L. fem. dim. n. <i>fabula</i> a little bean)	Kitzinger et al. 2018 [353]
<i>Nostocoides limicola</i>	<i>Nostocoida limicola</i>	(li.mi'co.la. L. n. <i>limus</i> mud; L. suff. n. <i>-cola</i> (from L. masc. or fem. n. <i>incola</i>) dweller; N.L. masc. or fem. n. <i>limicola</i> mud-dweller)	Blackall et al. 2000 [227]
<i>Nucleococcus kirkbyi</i>	<i>Nucleococcus kirkbyi</i>	(kirk'by.i. N.L. gen. n. <i>kirkbyi</i> named after Harold Kirkby, the microbiologist who discovered the bacteria of <i>Trichonympha</i> protists in termites)	Sato et al. 2014 [228]

Continued

Table 3. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Nucleicoccus trichonymphae</i>	<i>Nucleococcus trichonymphae</i>	(tri.cho.nym'phae. N.L. gen. n. <i>trichonymphae</i> of the flagellate genus <i>Trichonympha</i>)	Sato et al. 2014 [228]
<i>Nucleicultrix amoebiphila</i>		(a.moe.bi'phi.la. N.L. fem. n. <i>amoeba</i> an amoeba; N.L. fem. adj. <i>phila</i> (from Gr. fem. adj. <i>phile</i>) loving; N.L. fem. adj. <i>amoebiphila</i> amoeba-loving)	Schulz et al. 2014 [229]
<i>Nucleophilum amoebae</i>	<i>Nucleophilum amoebae</i>	(a.moe'bae. Gr. fem. n. <i>amoibê</i> change, transformation; amoeba; N.L. gen. n. <i>amoebae</i> of an amoeba)	Schulz et al. 2015 [230]
<i>Obscuribacter phosphatis</i>		(phos.pha'tis. N.L. gen. n. <i>phosphatis</i> of phosphate)	Soo et al. 2014 [28]
<i>Occultibacter vannellae</i>	<i>Occultobacter vannellae</i>	(van.nel'lae. N.L. gen. n. <i>vannellae</i> of the protist genus <i>Vannella</i>)	Schulz et al. 2015 [230]
<i>Odyssella thessalonicensis</i>		(thes.sa.lo.ni.cen'sis. N.L. fem. adj. <i>thessalonicensis</i> pertaining to Thessaloniki, a Greek port city on the Thermaic Gulf of the Aegean Sea)	Birtles et al. 2000 [231]
<i>Omnitrophus fodinae</i>		(fo.di'nae. L. gen. n. <i>fodinae</i> of a mine, coal mine)	Rinke et al. 2013 [57]
<i>Ovatibacter antiquus</i>	<i>Ovatusbacter abovo</i>	The original name <i>abovo</i> (ab.o'vo. L. pref. <i>ab</i> from; L. neut. n. <i>ovum</i> egg; <i>ab ovo</i> from the egg, mythological allusion to one of the two eggs of Leda which was the primary cause of the Trojan War; expression used to indicate an ancient origin) cannot be treated as one of the ways to form a specific epithet based on Rule 12 of the Prokaryotic Code; We propose correcting the epithet to <i>antiquus</i> (an.ti'qu.us. L. masc. adj. <i>antiquus</i> ancient)	Dirren and Posch 2016 [150]
<i>Ovibacter propellens</i>	<i>Ovobacter propellens</i>	(pro.pel'lens. L. part. adj. <i>propellens</i> pushing forward)	Fenchel and Thar 2004 [232]
<i>Paceibacter normanii</i>		(nor.man'i.i. N.L. gen. n. <i>normanii</i> named after Norman Pace, an American biochemist at the University of Colorado, known for his work on RNA processing)	Rinke et al. 2013 [57]
<i>Paenicardinium endonis</i>	<i>Paenicardinium endonii</i>	We propose correcting the epithet to <i>endonis</i> (en.do'nis. N.L. gen. n. <i>endonis</i> named after Burton Yoshiaki Endo, who was the first to study this organism)	Noel and Atibalentja 2006 [233]
<i>Palibaumannia cicadellinicola</i>	<i>Baumannia cicadellinicola</i>	(ci.ca.del.li.ni'co.la. N.L. pl. fem. n. <i>Cicadellinae</i> a subfamily of leafhoppers; L. suff. <i>-cola</i> (from L. masc. or fem. n. <i>incola</i>) a dweller, inhabitant; N.L. fem. n. <i>cicadellinicola</i> a dweller of leafhoppers of the <i>Cicadellinae</i>)	Moran et al. 2003 [234]
<i>Parabeggiatoa communis</i>		(com.mu'nis. L. fem. adj. <i>communis</i> common)	Salman et al. 2011 [152]
<i>Paracaedibacter acanthamoebae</i>		(a.canth.a.moe'bae. N.L. gen. n. <i>acanthamoebae</i> of the protist genus <i>Acanthamoeba</i>)	Horn et al. 1999 [235]
<i>Paracaedibacter symbiosus</i>		(sym.bi.o'sus. Gr. pref. <i>sym-</i> together; Gr. masc. n. <i>bios</i> life; N.L. masc. adj. <i>symbiosus</i> symbiotic)	Horn et al. 1999 [235]
<i>Paraholospira nucleivisitans</i>		(nu.cle.i.vi'si.tans. L. masc. n. <i>nucleus</i> a little nut and in biology, a nucleus; L. pres. part. <i>visitans</i> visiting; N.L. part. adj. <i>nucleivisitans</i> visiting the nucleus)	Eschbach et al. 2009 [236]
<i>Paraporphyromonas polyenzymogenes</i>		(po.ly.en.zy.mo'ge.nes. Gr. adj. <i>polys</i> many; N.L. n. <i>enzyma</i> (from Gr. n. <i>zyme</i> leaven), enzyme; N.L. suff. <i>-genes</i> (from Gr. v. <i>gennaō</i> to produce) producing; N.L. part. adj. <i>polyenzymogenes</i> producing many enzymes)	Naas et al. 2018 [237]
<i>Parastrichiophilus tojonis</i>	<i>Benitsuchiphilus tojoi</i>	We propose correcting the epithet to <i>tojonis</i> (to.jo'nis. N.L. gen. n. <i>tojonis</i> named after Sumio Tojo, who proposed that there is symbiont-mediated uricolytic activity in <i>Parastrachia japonensis</i> during the pre-reproductive nonfeeding period)	Hosokawa et al. 2010 [238]
<i>Parcunitrobacter nitrogeniphilus</i>	<i>Parcunitrobacter nitroensis</i>	We propose correcting the epithet to <i>nitrogeniphilus</i> (ni.tro.ge.ni'phi.lus. N.L. neut. n. <i>nitrogenum</i> nitrogen; N.L. masc. adj. <i>philus</i> (from Gr. masc. adj. <i>philos</i>) loving; N.L. masc. adj. <i>nitrogeniphilus</i> loving nitrogen compounds)	Castelle et al. 2017 [239]

Continued

Table 3. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Parilichlamydia carangidicola</i>		(ca.ran.gi.di'co.la. N.L. fem. pl. n. <i>Carangidae</i> a family of fish; L. suff. -cola (from L. masc. or fem. n. <i>incola</i>) dweller; N.L. fem. n. <i>carangidicola</i> dweller of <i>Carangidae</i> fish)	Stride et al. 2013 [45]
<i>Parvarchaeum acidiphilum</i>		(a.ci.di'phi.lum. N.L. neut. n. <i>acidum</i> (from L. adj. <i>acidus</i> , sour), an acid; N.L. neut. adj. <i>philum</i> (from Gr. neut. adj. <i>philon</i>) loving; N.L. neut. adj. <i>acidiphilum</i> acid-loving)	Baker et al. 2010 [198]
<i>Parvarchaeum paracidiphilum</i>	<i>Parvarchaeum acidophilus</i>	We propose correcting the epithet to <i>paracidiphilum</i> (par.a.ci.di'phi.lum. Gr. prep. <i>para</i> resembling; N.L. neut. n. <i>acidum</i> (from L. masc. adj. <i>acidus</i> , sour) an acid; N.L. neut. adj. <i>philum</i> (from Gr. neut. adj. <i>philon</i>) loving; N.L. neut. adj. <i>paracidiphilum</i> resembling (<i>Parvarchaeum</i> <i>acidiphilum</i>))	Baker et al. 2010 [198]
<i>Pelagibacter communis</i>	<i>Pelagibacter ubique</i>	We propose correcting the epithet to <i>communis</i> (com.mu'nis. L. masc. adj. <i>communis</i> common)	Rappé et al. 2002 [240]
<i>Phaeoarinibacter ectocarpi</i>	<i>Phaeoarinobacter ectocarpi</i>	(ec.to.car'pi. N.L. gen. n. <i>ectocarpi</i> of the algal genus <i>Ectocarpus</i>)	Dittami et al. 2014 [47]
<i>Phloeobacter fragariae</i>	<i>Phlomobacter fragariae</i>	(fra.ga'ri.ae. N.L. gen. n. <i>fragariae</i> of the strawberry plant <i>Fragaria</i>)	Zreik et al. 1998 [241]
<i>Phosphitivorax anaerolimi</i>		(an.ae.ro.li'mi. Gr. pref. <i>an</i> not; Gr. masc. or fem. n. <i>aer</i> air; L. masc. n. <i>limus</i> mud; N.L. gen. n. <i>anaerolimi</i> of anaerobic mud)	Figuroa et al. 2018 [242]
<i>Photodesmus anomalopis</i>	<i>Photodesmus katoptron</i>	We propose correcting the epithet to <i>anomalopis</i> (a.no.ma.lo'pis. N.L. gen. n. <i>anomalopis</i> of the fish <i>Anomalops katoptron</i>)	Hendry and Dunlap 2011 [243]
<i>Photodesmus blepharonis</i>	<i>Photodesmus blepharus</i>	We propose correcting the epithet to <i>blepharonis</i> (ble.pha.ro'nis. N.L. gen. n. <i>blepharonis</i> (from Gr. neut. n. <i>blepharon</i>) of an eyelid)	Hendry and Dunlap 2014 [354]
<i>Phycorickettsia trachydisci</i>		(tra.chy.dis'ci. N.L. gen. n. <i>trachydisci</i> of the algal genus <i>Trachydiscus</i>)	Yurchenko et al. 2018 [244]
<i>Phycosocius bacilliformis</i>		(ba.cil.li.for'mis. L. masc. n. <i>bacillus</i> a small staff; L. fem. n. <i>forma</i> form, shape; N.L. masc. adj. <i>bacilliformis</i> rod-shaped)	Tanabe et al. 2015 [245]
<i>Phytoplasma australamericanum</i>	<i>Phytoplasma sudamericanum</i>	We propose correcting the epithet to <i>australamericanum</i> (aus.tral.a.me.ri.ca'num. L. masc. adj. <i>australis</i> southern; N.L. masc. adj. <i>americanus</i> American; N.L. neut. adj. <i>australamericanum</i> South American)	Davis et al. 2012 [355]
<i>Phytoplasma allocasuarinae</i>		(al.lo.ca.su.a.ri'nae. N.L. gen. n. <i>allocasuarinae</i> of <i>Allocasuarina</i>)	Marcone et al. 2004 [356]
<i>Phytoplasma americanum</i>		(a.me.ri.ca'num. N.L. neut. adj. <i>americanum</i> American)	Lee et al. 2006 [357]
<i>Phytoplasma asteris</i>		(as'te.ris. L. gen. n. <i>asteris</i> of the aster)	Lee et al. 2004 [358]
<i>Phytoplasma australasiaticum</i>	<i>Phytoplasma australasia</i>	We propose correcting the epithet to <i>australasiaticum</i> (aus.tral.a.si.a'ti.cum. N.L. neut. adj. <i>australasiaticum</i> from Australasia)	White et al. 1998 [359]
<i>Phytoplasma australiense</i>		(aus.trali.en'se. N.L. neut. adj. <i>australiense</i> Australian)	Davis et al. 1997 [360]
<i>Phytoplasma balanitis</i>	<i>Phytoplasma balanitae</i>	We propose correcting the epithet to <i>balanitis</i> (ba.la.ni'tis. N.L. gen. n. <i>balanitis</i> of the plant genus <i>Balanites</i>)	Win et al. 2013 [361]
<i>Phytoplasma brasiliense</i>		(bra.si.li.en'se. N.L. neut. adj. <i>brasiliense</i> Brazilian)	Montano et al. 2001 [362]
<i>Phytoplasma caricae</i>		(ca.ri'cae. L. gen. n. <i>caricae</i> of the fig)	Arocha et al. 2005 [363]
<i>Phytoplasma castaneae</i>		(cas.ta'ne.ae. L. gen. n. <i>castaneae</i> of the chestnut)	Jung et al. 2002 [364]
<i>Phytoplasma cirsii</i>		(cir'si.i. N.L. gen. n. <i>cirsii</i> of the thistle)	Šafářová et al. 2016 [365]
<i>Phytoplasma citri</i>	<i>Phytoplasma aurantifolia</i>	We propose correcting the epithet to <i>citri</i> (ci'tri. L. gen. n. <i>citri</i> of a citrus tree)	Zreik et al. 1995 [366]
<i>Phytoplasma convolvuli</i>		(con.vol'vu.li. L. gen. n. <i>convolvuli</i> of bind-weed)	Martini et al. 2012 [367]

Continued

Table 3. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Phytoplasma costaricanum</i>		(cos.ta.ri.ca'num. N.L. neut. adj. <i>costaricanum</i> of Costa Rica)	Lee et al. 2011 [368]
<i>Phytoplasma cynodontis</i>		(cy.no.don'tis. N.L. gen. n. <i>cynodontis</i> of the Bermuda grass <i>Cynodon</i>)	Marcone et al. 2004 [369]
<i>Phytoplasma fragariae</i>		(fra.ga'ri.ae. N.L. gen. n. <i>fragariae</i> of the strawberry plant <i>Fragaria</i>)	Valiunas et al. 2006 [370]
<i>Phytoplasma fraxini</i>		(fra'xi.ni. L. gen. n. <i>fraxini</i> of the ash-tree)	Griffiths et al. 1999 [371]
<i>Phytoplasma graminis</i>		(gra'mi.nis. L. gen. n. <i>graminis</i> of grass)	Arocha et al. 2005 [363]
<i>Phytoplasma hispanicum</i>		(his.pa'ni.cum. L. neut. adj. <i>hispanicum</i> Spanish)	Davis et al. 2016 [372]
<i>Phytoplasma japonicum</i>		(ja.po'ni.cum. N.L. neut. adj. <i>japonicum</i> Japanese)	Sawayanagi et al. 1999 [373]
<i>Phytoplasma luffae</i>		(luf'fae. N.L. gen. n. <i>luffae</i> of the luffa plant)	Davis et al. 2017 [374]
<i>Phytoplasma lycopersici</i>		(ly.co.per'si.ci. N.L. gen. n. <i>lycopersici</i> of the tomato)	Arocha et al. 2007 [375]
<i>Phytoplasma malaysianum</i>		(ma.lay.si.a'num. N.L. neut. adj. <i>malaysianum</i> Malaysian)	Nejat et al. 2013 [376]
<i>Phytoplasma mali</i>		(ma'li. L. gen. n. <i>mali</i> of the apple tree)	Seemüller and Schneider 2004 [377]
<i>Phytoplasma meliae</i>		(me'li.ae. N.L. gen. n. <i>meliae</i> of the chinaberry tree <i>Melia azedarach</i>)	Fernández et al. 2016 [378]
<i>Phytoplasma noviguineense</i>		(no.vi.gui.ne.en'se. N.L. neut. adj. <i>noviguineense</i> pertaining to New Guinea)	Miyazaki et al. 2018 [379]
<i>Phytoplasma omanense</i>		(o.man.en'se. N.L. neut. adj. <i>omanense</i> pertaining to Oman)	Al-Saady et al. 2008 [380]
<i>Phytoplasma oryzae</i>		(o.ry'zae. L. gen. n. <i>oryzae</i> of rice)	Jung et al. 2003b [381]
<i>Phytoplasma palmicola</i>		(pal.mi'co.la. L. fem. n. <i>palmicola</i> a palm; L. suff. <i>-cola</i> (from L. n. <i>incola</i>) inhabitant, dweller; N.L. neut. n. <i>palmicola</i> a dweller of palms)	Harrison et al. 2014 [382]
<i>Phytoplasma phoenicium</i>		(phoe.ni'ci.um. L. neut. adj. <i>phoenicium</i> Phaenician)	Verdin et al. 2003 [383]
<i>Phytoplasma pini</i>		(pi'ni. L. gen. n. <i>pini</i> of the pine tree)	Schneider et al. 2005 [384]
<i>Phytoplasma pruni</i>		(pru'ni. L. gen. n. <i>pruni</i> of the plum tree)	Davis et al. 2013 [385]
<i>Phytoplasma prunorum</i>		(pru.no'rum. L. gen. pl. n. <i>prunorum</i> of plums)	Seemüller and Schneider 2004 [377]
<i>Phytoplasma pyri</i>		(py'ri. L. gen. n. <i>pyri</i> of the pear-tree)	Seemüller and Schneider 2004 [377]
<i>Phytoplasma rhamni</i>		(rham'ni. L. gen. n. <i>rhamni</i> of the buckthorn)	Marcone et al. 2004 [356]
<i>Phytoplasma rubi</i>		(ru'bi. L. gen. n. <i>rubi</i> of the blackberry)	Malembic-Maher et al. 2011 [386]
<i>Phytoplasma solani</i>		(so.la'ni. L. gen. n. <i>solani</i> of the nightshade)	Quaglino et al. 2013 [387]
<i>Phytoplasma spartii</i>		(spar'ti.i. N.L. gen. n. <i>spartii</i> of <i>Spartium</i> , the Spanish broom)	Marcone et al. 2004 [356]
<i>Phytoplasma tamaricis</i>		(ta.ma'ri.cis. L. gen. n. <i>tamaricis</i> of the tamarix)	Zhao et al. 2009 [388]
<i>Phytoplasma trifolii</i>		(tri.fo'li.i. L. gen. n. <i>trifolii</i> of clover, of alfalfa)	Hiruki and Wang 2004 [389]
<i>Phytoplasma ulmi</i>		(ul'mi. L. gen. n. <i>ulmi</i> of the elm)	Lee et al. 2004 [390]
<i>Phytoplasma vitis</i>		(vi'tis. L. gen. n. <i>vitis</i> of the vine)	Marzorati et al. 2006 [391]

Continued

Table 3. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Phytoplasma wodyetiae</i>		(wo.dy.e'ti.ae. N.L. gen. n. <i>wodyetiae</i> of the foxtail palm <i>Wodyetia</i>)	Naderali et al. 2017 [392]
<i>Phytoplasma ziziphi</i>		(zi'zi.phi. N.L. gen. n. <i>ziziphi</i> of the plant genus <i>Ziziphus</i>)	Jung et al. 2003 [393]
<i>Piscichlamydia salmonis</i>		(sal.mo'nis. L. gen. n. <i>salmonis</i> of salmon)	Draghi et al. 2004 [247]
<i>Planktoluna difficilis</i>		(dif.fi'ci.lis. L. fem. adj. <i>difficilis</i> difficult)	Hahn 2009 [70]
<i>Planktophila dulcis</i>		(dul'cis. L. fem. adj. <i>dulcis</i> sweet)	Neuenschwander et al. 2018 [29]
<i>Planktophila lacus</i>		(la'cus. L. gen. n. <i>lacus</i> of a lake)	Neuenschwander et al. 2018 [29]
<i>Planktophila limnetica</i>		(lim.ne'ti.ca. Gr. fem. n. <i>limne</i> lake; N.L. fem. adj. <i>limnetica</i> pertaining to a lake)	Jezbera et al. 2009 [250]
<i>Planktophila sulfonica</i>		(sul.fo'ni.ca. N.L. fem. adj. <i>sulfonica</i> pertaining to sulfonate)	Neuenschwander et al. 2018 [29]
<i>Planktophila vernalis</i>		(ver.na'lis. L. fem. adj. <i>vernalis</i> belonging to the spring)	Neuenschwander et al. 2018 [29]
<i>Planktophila versatilis</i>		(ver.sa'ti.lis. L. fem. adj. <i>versatilis</i> versatile)	Neuenschwander et al. 2018 [29]
<i>Portiera aleyrodidarum</i>		(a.ley.ro.di.da'rum. N.L. gen. pl. n. <i>aleyrodidarum</i> of the whiteflies family <i>Aleyrodidae</i>)	Thao and Baumann 2004 [252]
<i>Procaibacter acanthamoebae</i>	<i>Procabacter acanthamoebae</i>	(a.canth.a.moe'bae. N.L. gen. n. <i>acanthamoebae</i> of the protist genus <i>Acanthamoeba</i>)	Horn et al. 2002 [253]
<i>Profftia armatura</i>		(ar.ma.tu'ra. L. fem. n. <i>armatura</i> armor, indicating the defensive property of the bacteria)	Nakabachi et al. 2013 [254]
<i>Profftia adelgis</i>	<i>Profftia virida</i>	We propose correcting the epithet to <i>adelgis</i> (a.del'gis. N.L. gen. n. <i>adelgis</i> of the insect <i>Adelges viridis</i>)	Toenshoff et al. 2012 [114]
<i>Profftia tarda</i>		(tar'da. L. fem. adj. <i>tarda</i> slow)	Toenshoff et al. 2012 [114]
<i>Promineofilum breve</i>	<i>Promineofilum breve</i>	(bre've. L. neut. adj. <i>breve</i> short)	McIlroy et al. 2016 [255]
<i>Protistibacter heckmannii</i>	<i>Protistobacter heckmannii</i>	We propose correcting the epithet to <i>heckmannii</i> (heck.man'ni.i. N.L. gen. n. <i>heckmannii</i> named after Klaus Heckmann, who first studied the symbiosis between <i>Euplotes</i> and betaproteobacterial symbionts)	Vannini et al. 2013 [256]
<i>Puchtella pediciniphila</i>	<i>Puchtella pedicinophila</i>	We propose correcting the epithet to <i>pediciniphila</i> (pe.di.ci.ni'phi.la. N.L. masc. n. <i>Pedicinus</i> a genus of monkey louse; N.L. fem. adj. <i>phila</i> (from Gr. fem. adj. <i>phile</i> loving); N.L. fem. adj. <i>pediciniphila</i> loving <i>Pedicinus</i> monkey louse)	Fukatsu et al. 2009 [257]
<i>Purcellliella pentastirinorum</i>		(pen.ta.sti.ri.no'rum. N.L. gen. pl. n. <i>pentastirinorum</i> of the planthoppers tribe <i>Pentastirini</i>)	Bressan et al. 2009 [258]
<i>Regiella insecticola</i>		(in.sec.ti'co.la. L. neut. n. <i>insectum</i> insect; L. suff. <i>-cola</i> (from L. masc. or gen. n. <i>incola</i> inhabitant, dweller; N.L. fem. n. <i>insecticola</i> a dweller of insects)	Moran et al. 2005 [259]
<i>Renichlamydia lutjani</i>		(lut.ja'ni. N.L. gen. n. <i>lutjani</i> of the fish genus <i>Lutjanus</i>)	Corsaro and Work 2012 [260]
<i>Rhabdochlamydia porcellionis</i>		(por.cel.li.o'nis. N.L. gen. n. <i>porcellionis</i> of the woodlouse genus <i>Porcellio</i>); Note: the generic name <i>Rhabdochlamydia</i> was effectively published (Horn et al. 2011) but was not yet validated	Kostanjšek et al. 2004 [394]
<i>Rhodoluna planktonica</i>		(plank.to'ni.ca. N.L. fem. adj. <i>planktonica</i> planktonic); the generic name <i>Rhodoluna</i> was validated in 2014	Hahn 2009 [70]

Continued

Table 3. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Riegeria paracatenulae</i>	<i>Riegeria galateiae</i>	We propose correcting the epithet to <i>paracatenulae</i> (pa.ra.ca.te'nu.lae. N.L. gen. n. <i>paracatenulae</i> of the flatworm <i>Paracatenula galateia</i>)	Gruber-Vodicka et al. 2011 [261]
<i>Riesia pediculicola</i>		(pe.di.cu.li'co.la. L. masc. n. <i>pediculus</i> louse; L. suff. <i>-cola</i> (from L. masc. or gen. n. <i>incola</i>) inhabitant, dweller; N.L. fem. n. <i>pediculicola</i> louse dweller)	Sasaki-Fukatsu et al. 2006 [262]
<i>Riesia pediculischaeffi</i>		(pe.di.cu.li.schaeff'i. L. masc. n. <i>pediculus</i> louse; N.L. gen. n. <i>pediculischaeffi</i> of the louse <i>Pediculus schaeffi</i>)	Allen et al. 2007 [395]
<i>Riesia pthiripubis</i>		(pthi.ri.pu'bis. N.L. gen. n. <i>pthiripubis</i> of the louse <i>Pthirus pubis</i>)	Allen et al. 2007 [395]
<i>Roseilinea gracilis</i>	<i>Roseilinea gracile</i>	We propose correcting the epithet to <i>gracilis</i> (gra'ci.lis. L. fem. adj. <i>gracilis</i> thin)	Thiel et al. 2016 [94]
<i>Roseivibrio tepidus</i>	<i>Roseovibrio tepidum</i>	We propose correcting the epithet to <i>tepidus</i> (te'pi.dus. L. masc. adj. <i>tepidus</i> lukewarm)	Thiel et al. 2016 [94]
<i>Rosenkranzia clausisacci</i>	<i>Rosenkranzia clausaccus</i>	We propose correcting the epithet to <i>clausisacci</i> (clau.si.sac'ci. L. past part. <i>clausus</i> closed; L. masc. n. <i>saccus</i> bag or sack; N.L. gen. n. <i>clausisacci</i> of a closed bag)	Kikuchi et al. 2009 [263]
<i>Ruthturnera calyptogenae</i>	<i>Ruthia magnifica</i>	We propose correcting the epithet to <i>calyptogenae</i> (ca.lyp.to'ge.nae. N.L. gen. n. <i>calyptogenae</i> of the mussel <i>Calyptogena magnifica</i>)	Newton et al. 2007 [264]
<i>Saccharimonas aalborgensis*</i>		(aal.borg.en'sis. N.L. fem. adj. <i>aalborgensis</i> pertaining to Aalborg)	Albertsen et al. 2013 [265]
<i>Scalindua arabica</i>		(a.ra'bi.ca. L. fem. adj. <i>arabica</i> Arabic)	Woebken et al. 2008 [266]
<i>Scalindua brodae</i>		(bro'dae. N.L. gen. n. <i>brodae</i> named after Engelbert Broda, the Austrian theoretical chemist who was the first to recognize the possibility of anaerobic ammonia oxidation)	Schmid et al. 2003 [396]
<i>Scalindua flavimaris</i>	<i>Scalindua flavia</i>	We propose correcting the epithet to <i>flavimaris</i> (fla.vi.ma'ris. L. masc. adj. <i>flavus</i> yellow; L. neut. n. <i>mare, maris</i> the sea; N.L. gen. n. <i>flavimaris</i> of the Yellow Sea)	Ahmed et al. 2017 [397]
<i>Scalindua japonica*</i>		(ja.po'ni.ca. N.L. fem. adj. <i>japonica</i> Japanese)	Oshiki et al. 2017 [398]
<i>Scalindua pacifica</i>		(pa.ci'fi.ca. L. fem. adj. <i>pacifica</i> peaceful; Pacific)	Dang et al. 2013 [399]
<i>Scalindua profunda</i>		(pro.fun'da. L. fem. adj. <i>profunda</i> deep)	van de Vossenberget al. 2013 [400]
<i>Scalindua richardsii</i>		(ri.chard'sii. N.L. gen. n. <i>richardsii</i> named after Francis A. Richards, the chemical oceanographer who hypothesized the existence of anaerobic ammonium oxidation based on chemical fluxes)	Fuchsman et al. 2012 [401]
<i>Scalindua rubra</i>		(ru'bra. L. fem. adj. <i>rubra</i> red)	Speth et al. 2017 [402]
<i>Scalindua sorokinii</i>		(so.ro.ki'ni.i. N.L. gen. n. <i>sorokinii</i> named after the Russian microbiologist Yuri Ivanovich Sorokin, a Russian aquatic microbial ecologist who made significant contributions in determining the role of micro-organisms and protozoa in aquatic ecosystems)	Kuypers et al. 2003 [403]
<i>Scalindua wagneri</i>		(wag'ne.ri. N.L. gen. n. <i>wagneri</i> named after Michael Wagner, who has contributed much to the field of microbial ecology and phylogeny of anammox in particular)	Schmid et al. 2003 [396]
<i>Schmidhempelia bombi</i>		(bom'bi. N.L. gen. n. <i>bombi</i> of the bumble bee <i>Bombus impatiens</i>)	Martinson et al. 2014 [267]
<i>Schneideriella nysiicola</i>	<i>Schneideria nysicola</i>	We propose correcting the epithet to <i>nysiicola</i> (ny.si.i'co.la. L. suff. <i>-cola</i> (from L. masc. or gen. n. <i>incola</i>) inhabitant, dweller; N.L. fem. n. <i>nysiicola</i> dweller of the seed bug genus <i>Nysius</i>)	Matsuura et al. 2012 [268]
<i>Similichlamydia epinepheli</i>	<i>Similichlamydia epinepheli</i>	We propose correcting the epithet to <i>epinepheli</i> (e.pi.ne.phe'li. N.L. gen. n. <i>epinepheli</i> of the fish genus <i>Epinephelus</i>)	Taylor-Brown et al. 2017 [404]

Continued

Table 3. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Similichlamydia labri</i>		(la'bri. N.L. gen. n. <i>labri</i> of fish genus <i>Labrus</i>)	Steigen et al. 2015 [405]
<i>Similichlamydia laticola</i>		(la.ti'co.la. L. suff. <i>-cola</i> (from L. masc. or gen. n. <i>incola</i>) inhabitant, dweller; N.L. fem. n. <i>laticola</i> dweller of the fish genus <i>Lates</i>)	Stride et al. 2013 [406]
<i>Similichlamydia latridicola</i>		(la.tri.di'co.la. L. suff. <i>-cola</i> (from L. masc. or gen. n. <i>incola</i>) inhabitant, dweller; N.L. fem. n. <i>latridicola</i> dweller of the fish genus <i>Latris</i>)	Stride et al. 2013 [269]
<i>Sonnebornia yantaiensis</i>		(yan.tai.en'sis. N.L. fem. adj. <i>yantaiensis</i> pertaining to Yantai, China)	Gong et al. 2014 [270]
<i>Spencerbrownia rhizoecinicola</i>	<i>Brownia rhizoecola</i>	We propose correcting the epithet to <i>rhizoecinicola</i> (rhi.zo.e.ci.ni'co.la. N.L. masc. pl. n. <i>Rhizoecini</i> a tribe of mealy bugs; L. suff. <i>-cola</i> (from L. masc. or fem. n. <i>incola</i>) inhabitant, dweller; N.L. fem. n. <i>rhizoecinicola</i> a dweller of <i>Rhizoecini</i>)	Gruwell et al. 2010 [271]
<i>Sphaeronema italicum</i>		(i.ta'li.cum. N.L. neut. adj. <i>italicum</i> Italian)	Levantesi et al. 2004 [92]
<i>Spirobacillus cienkowskii*</i>		(cien.kow'ski.i. N.L. gen. n. <i>cienkowskii</i> named after Lev Semyonovich Tsenkovsky (Leon Cienkowski), a Polish-Ukrainian botanist, protozoologist and bacteriologist who was a pioneer of the ontogenetic method and early contributor to vaccine development)	Bresciani et al. 2018 [272] (based on Metchnikoff 1889 [407])
<i>Stammerella trupaneae</i>	<i>Stammerula trupaneae</i>	(tru.pa'ne.ae. N.L. gen. n. <i>trupaneae</i> of the fruit fly genus <i>Trupanea</i>)	Viale et al. 2015 [408]
<i>Stammerella tephritidis</i>	<i>Stammerula tephritidis</i>	(te.phri'ti.dis. N.L. gen. n. <i>tephritidis</i> of the insect genus <i>Tephritis</i>)	Mazzon et al. 2008 [273]
<i>Steffania adelgicicola</i>		(a.del.gi.di'co.la. N.L. masc. n. <i>Adelgidae</i> a family of insects; L. suff. <i>-cola</i> (from L. masc. or fem. n. <i>incola</i>) an inhabitant, dweller; N.L. fem. n. <i>adelgicicola</i> a dweller of <i>Adelgidae</i>)	Toenshoff et al. 2012 [114]
<i>Sulfobium mesophilum</i>		(me.so'phi.lum. Gr. masc. adj. <i>mesos</i> middle; N.L. neut. adj. <i>philum</i> (from Gr. neut. adj. <i>philon</i>) loving; N.L. neut. adj. <i>mesophilum</i> loving moderate temperatures)	Zecchin et al. 2018 [274]
<i>Sulfurimatobacter kueseliae</i>	<i>Sulfotelmabacter kueseliae</i>	(kue.se'li.ae. N.L. gen. n. <i>kueseliae</i> named after Kirsten Küsel for her work on the geomicrobiology of wetlands)	Hausmann et al. 2018 [275]
<i>Sulfurimatomonas gaucii</i>	<i>Sulfotelmatomonas gaucii</i>	(gau'ci.i. N.L. gen. n. <i>gaucii</i> named after Vincent Gauci for his pioneering work on the interplay of wetland sulfate reduction and global methane emission)	Hausmann et al. 2018 [275]
<i>Sulfurovum sediminum</i>		(se.di.mi'num. L. gen. pl. n. <i>sediminum</i> of sediments)	Park et al. 2012 [409]
<i>Symbiobacter mobilis</i>		(mo'bi.lis. L. masc. adj. <i>mobilis</i> motile)	Liu et al. 2013 [276]
<i>Symbiothrix dinenymphae</i>		(di.ne.nym'phae. N.L. gen. n. <i>dinenympha</i> of the protist genus <i>Dinenympha</i>)	Hongoh et al. 2007 [277]
<i>Syngnamidia medusae</i>		(me.du'sae. N.L. gen. n. <i>medusae</i> of a jellyfish)	Viver et al. 2017 [182]
<i>Syngnamidia salmonis</i>		(sal.mo'nis. L. gen. n. <i>salmonis</i> of a salmon)	Nylund et al. 2015 [410]
<i>Syngnamidia veneta</i>	<i>Syngnamidia venezia</i>	We propose correcting the epithet to <i>veneta</i> (ve.ne'ta. L. fem. adj. <i>veneta</i> Venetian)	Fehr et al. 2013 [278]
<i>Syntropharchaeum butanivorans*</i>	<i>Syntrophoarchaeum butanivorans</i>	(bu.ta.ni.vo'rans. N.L. neut. n. <i>butanum</i> butane; L. pres. part. <i>vorans</i> eating; N.L. part. adj. <i>butanivorans</i> eating butane)	Laso-Pérez et al. 2016 [279]
<i>Syntropharchaeum caldarium*</i>	<i>Syntrophoarchaeum caldarius</i>	We propose correcting the epithet to <i>caldarium</i> (cal.da'ri.um <i>caldarium</i> pertaining to warming)	Laso-Pérez et al. 2016 [279]
<i>Syntrophocurvum alkaliphilum</i>		(al.ka.li'phi.lum. N.L. n. <i>alkali</i> from Arabic n. <i>al-qaliy</i> the ashes of saltwort; N.L. neut. adj. <i>philum</i> (from Gr. neut. adj. <i>philon</i>) loving; N.L. neut. adj. <i>alkaliphilum</i> loving alkali)	Sorokin et al. 2016 [280]
<i>Syntrophofaba alkaliphila</i>		(al.ka.li'phi.la. N.L. n. <i>alkali</i> alkali from Arabic n. <i>al-qaliy</i> the ashes of saltwort; N.L. fem. adj. <i>phila</i> (from Gr. fem. adj. <i>phile</i>) loving; N.L. fem. adj. <i>alkaliphila</i> loving alkali)	Sorokin et al. 2016 [280]

Continued

Table 3. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Syntropholuna alkaliphila</i>		(al.ka.li'phi.la. N.L. n. <i>alkali</i> alkali from Arabic n. <i>al-qaliy</i> the ashes of saltwort; N.L. fem. adj. <i>phila</i> (from Gr. fem. adj. <i>phile</i>) loving; N.L. fem. adj. <i>alkaliphila</i> loving alkali)	Sorokin et al. 2016 [280]
<i>Syntrophonatronum acetoxidans</i>		(a.cet.o'xi.dans. L. neut. n. <i>acetum</i> vinegar; N.L. pres. part. <i>oxidans</i> oxidizing; N.L. part. adj. <i>acetoxidans</i> oxidizing acetate)	Sorokin et al. 2014 [281]
<i>Tachikawaea gelatinosa</i>		(ge.la.ti.no'sa. N.L. fem. adj. <i>gelatinosa</i> gelatinous)	Kaiwa et al. 2014 [282]
<i>Tammella caduceiae</i>		(ca.du.cei'ae. N.L. gen. n. <i>caduceiae</i> of the protist genus <i>Caduceia</i>)	Hongoh et al. 2007 [283]
<i>Tenderia electrophaga</i>		(e.lec.tro'pha.ga. Gr. neut. n. <i>electron</i> amber; Gr. v. <i>phago</i> to eat; N.L. fem. adj. <i>electrophaga</i> eater of electricity)	Eddie et al. 2016 [284]
<i>Tenuibacter priapulorum</i>		(pri.a.pu.lo'rum. N.L. gen. pl. n. <i>priapulorum</i> of members of the worm genus <i>Priapululus</i>)	Kroer et al. 2016 [49]
<i>Thermochlorobacter aerophilus</i>	<i>Thermochlorobacter aerophilum</i>	We propose correcting the epithet to <i>aerophilus</i> (a.e.ro'phi.lus. Gr. masc. or fem. n. <i>aer</i> air; N.L. masc. adj. <i>philus</i> (from Gr. masc. adj. <i>philos</i>) loving; N.L. masc. adj. <i>aerophilus</i> loving air)	Liu et al. 2012 [287]
<i>Thermokryptus mobilis</i>		(mo'bi.lis. L. masc. adj. <i>mobilis</i> motile, moving)	Eloe-Fadrosch et al. 2016 [97]
<i>Thermomagnetovibrio paiutensis</i>		(pai.ut.en'sis. N.L. masc. adj. <i>paiutensis</i> pertaining to the Paiute Indian tribe)	Lefèvre et al. 2010 [288]
<i>Thiobius zoothamniicola</i>	<i>Thiobios zoothamnicoli</i>	We propose correcting the epithet to <i>zoothamniicola</i> (zo.o.tham.ni.i'co.la. L. suff. <i>-cola</i> (from L. masc. or gen. n. <i>incola</i>) inhabitant, dweller; N.L. masc. n. <i>zoothamniicola</i> dweller of the protist <i>Zoothamnium</i>)	Rinke et al. 2006 [289]
<i>Thiodiazotropha endoloripes*</i>		(en.do.lo'ri.pes. Gr. prep. <i>endo</i> inside; N.L. fem. adj. <i>endoloripes</i> inside the bivalve <i>Loripes lucinalis</i>)	Petersen et al. 2017 [411]
<i>Thiodiazotropha endolucinida</i>		(en.do.lu.ci'ni.da. Gr. prep. <i>endo</i> inside; N.L. fem. adj. <i>endolucinida</i> inside the clam family <i>Lucinidae</i>)	König et al. 2016 [290]
<i>Thioglobus perditus*</i>		(per.di'tus. N.L. part. adj. <i>perditus</i> lost)	Callbeck et al. 2018 [412]
<i>Thioglobus thermophilus</i>		(ther.mo'phi.lus. Gr. fem. n. <i>therme</i> heat; N.L. masc. adj. <i>philus</i> (from Gr. masc. adj. <i>philos</i>) loving; N.L. masc. adj. <i>thermophilus</i> heat loving)	Ponnudurai et al. 2017 [413]
<i>Thiolava veneris</i>		(ve'ne.ris. L. gen. n. <i>veneris</i> of Venus)	Danovaro et al. 2017 [292]
<i>Thiophysa hinzei</i>		(hin'ze.i. N.L. gen. n. <i>hinzei</i> named after G. Hinze for his pioneering work on these bacteria)	Salman et al. 2011 [152]
<i>Thiopilula aggregata</i>		(ag.gre.ga'ta. L. fem. part. adj. <i>aggregata</i> aggregated)	Salman et al. 2011 [152]
<i>Thiosymbium laxi*</i>	<i>Thiosymbion oneisti</i>	We propose correcting the name to <i>Thiosymbium laxi</i> (la'xi. N.L. gen. n. <i>laxi</i> of the nematode <i>Laxus oneistus</i>)	Petersen et al. 2017 [411]
<i>Thioturbo danicus</i>		(da'ni.cus. L. masc. adj. <i>danicus</i> Danish)	Muyzer et al. 2005 [294]
<i>Trabutinella endobia</i>		(en.do'bi.a. Gr. prep. <i>endo</i> inside; Gr. masc. n. <i>bios</i> life; N.L. fem. adj. <i>endobia</i> living inside)	Szabó et al. 2017 [295]
<i>Tremblayella princeps</i>	<i>Tremblaya princeps</i>	(prin'ceps. L. fem. adj. <i>princeps</i> first, the most eminent)	Thao et al. 2002 [296]
<i>Tremblayella phenacoccinicola</i>	<i>Tremblaya phenacola</i>	We propose correcting the epithet to <i>phenacoccinicola</i> (phe.na.cocc.in'co.la. N.L. pl. fem. n. <i>Phenacoccinae</i> an insect subfamily; L. masc. or fem. n. <i>incola</i> inhabitant, dweller; N.L. fem. n. <i>phenacoccinicola</i> inhabiting members of the <i>Phenacoccinae</i> insect subfamily)	Gruwell et al. 2010 [271]
<i>Trichorickettsia mobilis</i>		(mo'bi.lis. L. fem. adj. <i>mobilis</i> motile)	Vannini et al. 2014 [134]
<i>Troglogloea absolonii</i>	<i>Troglogloea absoloni</i>	We propose correcting the epithet to <i>absolonii</i> (ab.so.lo'ni.i. <i>absolonii</i> named after Karl Absolon, a Czech researcher of the Balkan Karst, caves, and cave fauna)	Kostanjšek et al. 2013 [297]

Continued

Table 3. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Turbibacter delicatus</i>	<i>Turbabacter delicatus</i>	(de.li.ca'tus. L. masc. adj. <i>delicatus</i> spoilt, delicate)	Dirren and Posch 2016 [150]
<i>Typhincola cinguli</i>	<i>Rohrkolberia cinguli</i>	(cin'gu.li. L. gen. n. <i>cinguli</i> of a belt, referring to the belt-shaped structure of midgut mycetocytes)	Kuechler et al. 2011 [298]
<i>Udaebacter copiosus*</i>		(co.pi.o'sus. L. masc. n. <i>copiosus</i> plentiful)	Brewer et al. 2016 [299]
<i>Uzinuria diaspidicola</i>	<i>Uzinura diaspidicola</i>	We propose correcting the epithet to <i>diaspidicola</i> (di.as.pi.di.di'co.la. N.L. pl. fem. n. <i>Diaspididae</i> a family of scale insects. suff. <i>-cola</i> (from L. masc. or gen. n. <i>incola</i> inhabitant, dweller; N.L. fem. n. <i>diaspidicola</i> a dweller of <i>Diaspididae</i> scale insects)	Gruwell et al. 2007 [300]
<i>Vallotiella adelgidarum</i>	<i>Vallotia virida</i>	We propose correcting the epithet to <i>adelgidarum</i> (a.del.gi.da'rum. N.L. gen. pl. n. <i>adelgidarum</i> of the insect subfamily <i>Adelgidae</i>)	Toenshoff et al. 2012 [136]
<i>Vallotiella adelgis</i>	<i>Vallotia cooleyia</i>	We propose correcting the epithet to <i>adelgis</i> (a.del'gis. N.L. gen. n. <i>adelgis</i> of the insect <i>Adelges cooleyi</i>)	Toenshoff et al. 2012 [136]
<i>Vallotiella hemipterorum</i>	<i>Vallotia tarda</i>	We propose correcting the epithet to <i>hemipterorum</i> (he.mi.pte.ro'rum. N.L. gen. pl. n. <i>hemipterorum</i> of the insect order <i>Hemiptera</i>)	Toenshoff et al. 2012 [136]
<i>Vecturithrix granuli</i>		(gra'nu.li. L. neut. gen. n. <i>granuli</i> of a granule); the name was also misspelled <i>Vecturathrix granuli</i> by Sekiguchi et al. 2015 [21]	Sekiguchi et al. 2015 [21]
<i>Venteria ishoeyi</i>		(i.sho.ey'i. N.L. gen. n. <i>ishoeyi</i> named after Thomas Isohey)	Fonseca et al. 2017 [301]
<i>Vesicomysocius calyptogenae</i>	<i>Vesicomysocius okutanii</i>	We propose correcting the epithet to <i>calyptogenae</i> (ca.lyp.to'ge.nae. N.L. gen. n. <i>calyptogenae</i> of the clam <i>Calyptogena okutanii</i>)	Kuwahara et al. 2007 [302]
<i>Vestibaculum illigatum</i>		(il.li.ga'tum. L. part. adj. <i>illigatum</i> fastened, attached)	Stingl et al. 2004 [303]
<i>Vidania fulgoroideorum</i>	<i>Vidania fulgoroideae</i>	We propose correcting the epithet to <i>fulgoroideorum</i> (ful.go.ro.i.de.o'rum. N.L. gen. pl. n. <i>fulgoroideorum</i> of the planthopper superfamily <i>Fulgoroidea</i>)	Gonella et al. 2011 [304]
<i>Viridilinea medialisalina</i>		(me.di.i.sa.li'na. L. masc. adj. <i>medius</i> middle; N.L. masc. adj. <i>salinus</i> saline; N.L. fem. adj. <i>mediisalina</i> of intermediate salinity)	Grouzdev et al. 2018 [305]
<i>Walczuchella monophlebidarum</i>		(mo.no.phle.bi.da'rum. N.L. gen. pl. n. <i>monophlebidarum</i> of the scale insect family <i>Monophlebidae</i>)	Rosas-Pérez et al. 2014 [306]
<i>Westerberhardia cardiocondylae</i>		(car.di.o.con.dy'lae. N.L. gen. n. <i>cardiocondylae</i> of the ant genus <i>Cardiocondyla</i>)	Klein et al. 2016 [307]
<i>Williamhamiltonella defendens</i>	<i>Hamiltonella defensa</i>	We propose correcting the epithet to <i>defendens</i> (de.fen'dens. L. part. adj. <i>defendens</i> defending)	Moran et al. 2005 [259]
<i>Xenohaliotis californiensis</i>		(ca.li.for.ni.en'sis. N.L. fem. adj. <i>californiensis</i> Californian)	Friedman et al. 2000 [308]
<i>Xenolissoclinum pacificum</i>	<i>Xenolissoclinum pacificensis</i>	We propose correcting the epithet to <i>pacificum</i> (pa.ci'fi.cum. <i>pacificum</i> peaceful, pertaining to the Pacific)	Kwan and Schmidt 2013 [309]
<i>Xiphinematobacter americanus</i>	<i>Xiphinematobacter americanus</i>	We propose correcting the epithet to <i>americanus</i> (a.me.ri.ca'nus. N.L. masc. adj. <i>americanus</i> American, based on the epithet of the host organism <i>Xiphinema americanum</i>)	Vandekerckhove et al. 2000 [310]
<i>Xiphinematobacter longidoridarum</i>	<i>Xiphinematobacter brevicolli</i>	We propose correcting the epithet to <i>longidoridarum</i> (lon.gi.do.ri.da'rum. N.L. gen. pl. n. <i>longidoridarum</i> of the nematode family <i>Longidoridae</i>)	Vandekerckhove et al. 2000 [310]
<i>Xiphinematobacter rivesi</i>		(ri.ve'si. N.L. gen. n. <i>rivesi</i> based on the specific epithet of the nematode host <i>Xiphinema rivesi</i>)	Vandekerckhove et al. 2000 [310]
<i>Zinderia insecticola</i>		(in.sec.ti'co.la. L. neut. n. <i>insectum</i> insect; L. suff. <i>-cola</i> (from L. masc. or gen. n. <i>incola</i> inhabitant, dweller; N.L. fem. n. <i>insecticola</i> a dweller of insects)	McCutcheon and Moran 2010 [311]

*The description of the *Candidatus* taxon is deficient and/or based on insufficient supporting data.

Table 4. Proposed *Candidatus* species assigned to genera with validly published names

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Acaryochloris bahamensis</i>	<i>Acaryochloris bahamiensis</i>	We propose correcting the epithet to <i>bahamensis</i> (ba.ha.men'sis. <i>bahamensis</i> pertaining to the Bahamas); the generic name <i>Acaryochloris</i> was validly published under the provisions of the International Code of Nomenclature for algae, fungi, and plants	López-Legentil et al. 2011 [414]
<i>Achromatium palustre</i>		(pa.lus'tre. L. neut. adj. <i>palustre</i> marshy)	Salman et al. 2016 [415]
<i>Acidianus copahuensis</i>		(co.pa.hu.en'sis. N.L. masc. adj. <i>copahuensis</i> pertaining to Copahue, a stratovolcano in the Andes on the border of Bío Bío Region, Chile and Neuquén Province, Argentina)	Giaveno et al. 2013 [416]
<i>Actinobaculum timonae</i>		(ti.mo'nae. N.L. gen. n. <i>timonae</i> of Timone, referring to l'Hôpital de la Timone, Marseille)	Drancourt et al. 2004 [417]
<i>Anaplasma boleense</i>		(bo.le.en'se. N.L. neut. adj. <i>boleense</i> pertaining to Bole, Xinjiang Uygur Autonomous Region, China)	Guo et al. 2016 [418]
<i>Anaplasma cameli</i> *	<i>Anaplasma cameli</i>	We propose correcting the epithet to <i>cameli</i> (ca.me'li. L. gen. n. <i>cameli</i> of a camel)	Ait Lbacha et al. 2017 [419]
<i>Anaplasma ivorense</i>	<i>Anaplasma ivorensis</i>	We propose correcting the epithet to <i>ivorense</i> (i.vor.en'se. N.L. neut. adj. <i>ivorense</i> pertaining to Côte d'Ivoire)	Ehounoud et al. 2016 [420]
<i>Anaplasma rodmosense</i>		(rod.mos.en'se. N.L. neut. n. <i>rodmosense</i> pertaining to Rodmos); no further information was given about the meaning of the name	Guo et al. 2016 [418]
<i>Anaplasma sphenisci</i>		(sphe.nis'ci. N.L. gen. n. <i>sphenisci</i> of the penguin genus <i>Spheniscus</i>)	Vanstreels et al. 2018 [421]
<i>Arcobacter sulfidicus</i>		(sul.fi'di.cus. N.L. masc. adj. <i>sulfidicus</i> pertaining to sulfide)	Wirsen et al. 2002 [422]
<i>Arsenophonus arthropodicus</i>		(ar.thro.po'di.cus. N.L. masc. adj. <i>arthropodicus</i> pertaining to the phylum <i>Arthropoda</i>)	Dale et al. 2006 [423]
<i>Arsenophonus lipoptenae</i> *	<i>Arsenophonus lipopteni</i>	We propose correcting the epithet to <i>lipoptenae</i> (li.po.pt'e'nae. N.L. gen. n. <i>lipoptenae</i> of the louse fly genus <i>Lipoptena</i>)	Nováková et al. 2016 [424]
<i>Arsenophonus melophagi</i> *		(me.lo.pha'gi. N.L. gen. n. <i>melophagi</i> of the insect genus <i>Melophagus</i>)	Nováková et al. 2015 [425]
<i>Arsenophonus nilaparvatae</i>		(ni.la.par.va'tae. N.L. gen. n. <i>nilaparvatae</i> of the plant hopper genus <i>Nilaparvata</i>)	Fan et al. 2016 [426]
<i>Arsenophonus phytopathogenicus</i>		(phy.to.pa.tho.ge'ni.cus. Gr. neut. n. <i>phyton</i> plant; N.L. masc. adj. <i>pathogenicus</i> pathogenic; N.L. masc. adj. <i>phytopathogenicus</i> phytopathogenic)	Bressan et al. 2012 [427]
<i>Bacteroides periodontitidicalifornicus</i>	<i>Bacteroides pericalifornicus</i>	Although the newly proposed name is long and awkward, we consider it preferable over the incorrectly formed alternative (pe.ri.o.don.ti.ti.di.ca.li.for'ni.cus. Gr. prep. <i>peri</i> around; Gr. masc. n. <i>odous</i> , <i>odontos</i> tooth; N.L. suff. <i>-itis</i> suffix to denote a disease; N.L. masc. adj. <i>californicus</i> Californian; N.L. masc. adj. <i>periodontitidicalifornicus</i> referring to periodontitis in California)	McLean et al. 2015 [428]
<i>Bartonella ancashensis</i>	<i>Bartonella ancashi</i>	As also proposed by Mullins et al. 2015 [430], we have corrected the epithet to <i>ancashensis</i> (an.cash.en'sis. N.L. fem. adj. <i>ancashensis</i> pertaining to Ancash, Peru)	Blazes et al. 2013 [429]; Mullins et al. 2015 [430]
<i>Bartonella antechini</i>		(ant.e'chi.ni. N.L. gen. n. <i>antechini</i> of the marsupial genus <i>Antechinus</i>)	Kaewmongkol et al. 2011 [431]
<i>Bartonella bettongiae</i>	<i>Bartonella woyliei</i>	We propose correcting the epithet to <i>bettongiae</i> (bet.ton'gi.ae. N.L. gen. n. <i>bettongiae</i> of the genus <i>Bettongia</i> , the woylie)	Kaewmongkol et al. 2011 [432]
<i>Bartonella cariotis</i> *	<i>Bartonella rondoniensis</i>	We propose correcting the epithet to <i>cariotis</i> (ca.ri.o'tis. N.L. gen. n. <i>cariotis</i> of the tick <i>Carios rondoniensis</i>)	Laroche et al. 2017 [433]

Continued

Table 4. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Bartonella davoustii</i> *	<i>Bartonella davousti</i>	We propose correcting the epithet to <i>davoustii</i> (da.voust'i.i. N.L. gen. n. <i>davoustii</i> named after Bernard Davoust, a prominent veterinary epidemiologist specialized in tropical infections)	Dahmani et al. 2017 [434]
<i>Bartonella eldjazairii</i> *		(el.dja.zai'ri.i. N.L. gen. n. <i>eldjazairii</i> ; from Arabic: the Algerian)	Identification of <i>Bartonella</i> species including human pathogens and new species (' <i>Candidatus</i> <i>Bartonella eldjazairii</i> ') in fleas from Algeria, Idir Bitam (2017, unpublished), ESSAIA (2017, unpublished)
<i>Bartonella fadhilii</i>	<i>Bartonella fadhilae</i>	We propose correcting the epithet to <i>fadhilii</i> as Fadhil Naqi is a male person (fad.hi'li.i. N.L. gen. n. <i>fadhilii</i> named after engineer Fadhil Naqi, the father of the first author of the study)	Alsarraf et al. 2017 [435]
<i>Bartonella hemsundetensis</i> *	<i>Bartonella hemsundetiensis</i>	We propose correcting the epithet to <i>hemsundetensis</i> (hem.sun.det.en'sis. N.L. fem. adj. <i>hemsundetensis</i> pertaining to Hemsundet in the archipelago of southwestern Finland)	Lilley et al. 2015 [436]
<i>Bartonella marmotae</i>	<i>Bartonella monaxi</i>	We propose correcting the epithet to <i>marmotae</i> (mar.mo'tae. N.L. gen. n. <i>marmotae</i> of the groundhog <i>Marmota monax</i>)	Breitschwerdt et al. 2009 [437]
<i>Bartonella mayotimonensis</i>		(ma.yo.ti.mon.en'sis. N.L. fem. adj. <i>mayotimonensis</i> to recognize the contributing institutions Mayo Clinic and Hôpital de la Timone, Marseille)	Lin et al. 2010 [438]
<i>Bartonella merieuxii</i>		(me.ri.eux'i.i. N.L. gen. n. <i>merieuxii</i> after Charles Mérieux, a French physician, founder of the Mérieux Foundation)	Chomel et al. 2012 [439]
<i>Bartonella ovis</i>		(o'vis. L. gen. n. <i>ovis</i> of a sheep)	Raya et al. 2018 [440]
<i>Bartonella peramelis</i>	<i>Bartonella bandicootii</i>	We propose correcting the epithet to <i>peramelis</i> (pe.ra.me'lis. N.L. gen. n. <i>peramelis</i> of the genus <i>Perameles</i> , the bandicoot)	Kaewmongkol et al. 2011 [432]
<i>Bartonella sanaae</i>		(sa.na'ae. N.L. gen. n. <i>sanaae</i> named after Sanaa Shukur)	Alsarraf et al. 2017 [435]
<i>Bartonella thailandensis</i>		(thai.land.en'sis. N.L. fem. adj. <i>thailandensis</i> pertaining to Thailand)	Saisongkorh et al. 2009 [441]
<i>Bermanella macondensis</i>	<i>Bermanella macondoprimitus</i>	We propose correcting the epithet to <i>macondensis</i> (ma.con.den'sis. N.L. fem. adj. <i>macondensis</i> pertaining to Macondo, to reflect the region from within the Gulf of Mexico where this uncultured organism was obtained; Macondo refers to the Macondo Prospect (Mississippi Canyon Block 252, abbreviated MC252), the site of the Deepwater Horizon drilling rig explosion in 2010. The prospect was named after Macondo, the cursed fictional town in <i>One Hundred Years of Solitude</i>)	Hu et al. 2017 [442]
<i>Borrelia algerica</i>		(al.ge'ri.ca. N.L. fem. adj. <i>algerica</i> pertaining to Algeria)	Fotso Fotso et al. 2015 [443]
<i>Borrelia andersonii</i>		(an.der.so'ni.i. N.L. gen. n. <i>andersonii</i> named after John F. Anderson, an American expert on microbial pathogens carried by ticks and mosquitoes); designated in later papers as a <i>Candidatus</i> taxon; not named as <i>Candatus</i> in the original publication by Marconi et al. 1995 [444]	Marconi et al. 1995; Cutler et al. 2017 [444, 445]

Continued

Table 4. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Borrelia finlandensis</i>		(fin.land.en'sis. N.L. fem. adj. <i>finlandensis</i> pertaining to Finland); designated in later papers as a <i>Candidatus</i> taxon; not named as <i>Candidatus</i> in the original publication by Casjens et al. 2011 [446]	Cutler et al. 2017; Casjens et al. 2011 [445, 446]
<i>Borrelia johnsonii</i>		(john.so'ni.i. N.L. gen. n. <i>johnsonii</i> named after Russell C. Johnson who identified the etiologic agent of Lyme disease and named the genus <i>Borrelia</i>); designated in later papers as a <i>Candidatus</i> taxon; not named as <i>Candidatus</i> but as 'provisional name' in the original publication by Schwan et al. 2009 [447]	Cutler et al. 2017; Schwan et al. 2009 [445, 447]
<i>Borrelia kalaharica</i>		(ka.la.ha'ri.ca. N.L. fem. adj. <i>kalaharica</i> pertaining to the Kalahari desert)	Fingerle et al. 2016 [448]
<i>Borrelia lonestari</i>		(lone.star'i. N.L. gen. n. <i>lonestari</i> , derived from the host organism, the Lone Star tick, <i>Amblyomma americanum</i>); designated in later papers as a <i>Candidatus</i> taxon; not named as <i>Candidatus</i> in the original publication by Barbour et al. 1996 [449]	Cutler et al. 2017; Barbour et al. 1996 [445, 449]
<i>Borrelia mayonii</i>		(ma.yo'ni.i. of Mayo, of the Mayo Clinic)	Pritt 2016 [450]
<i>Borrelia mvumii</i>		(mvu'mi.i. N.L. gen. n. <i>mvumii</i> of Mvumi Hospital, Tanzania); designated in later papers as a <i>Candidatus</i> taxon; not named in the original publication by [451]	Cutler et al. 2017; Mitani et al. 2004 [445, 451]
<i>Borrelia queenslandica</i>		(queens.lan'di.ca. N.L. fem. adj. <i>queenslandica</i> pertaining to Queensland)	Cutler et al. 2017; Carley and Pope 1962 [445, 452]
<i>Borrelia tachyglossi</i>		(ta.chy.glos'si. N.L. gen. n. <i>tachyglossi</i> of the tick <i>Tachyglossus aculeatus</i>)	Loh et al. 2017 [453]
<i>Borrelia texasensis</i>		(te.xas.en'sis. N.L. fem. adj. <i>texasensis</i> pertaining to Texas)	Lin et al. 2005 [454]
<i>Burkholderia alatipes</i> *		(a.la'ti.pes. N.L. masc. n. <i>alatipes</i> name based on the specific epithet of the host plant <i>Psychotria alatipes</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia amboniana</i> *		(am.bo.ni.a'na. N.L. fem. adj. <i>amboniana</i> name based on the specific epithet of the host plant <i>Psychotria amboniana</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia andongensis</i>		(an.dong.en'sis. N.L. fem. adj. <i>andongensis</i> name based on the specific epithet of the host plant <i>Sericanthe andongensis</i>); the taxon was moved to the genus <i>Paraburkholderia</i> as <i>Candidatus</i> <i>Paraburkholderia andongensis</i>	Lemaire et al. 2011, Sawana et al. 2014 [456, 457]
<i>Burkholderia anthocleistifolia</i> *		(an.tho.cleis.ti.fo'li.a. N.L. fem. adj. <i>anthocleistifolia</i> name based on the specific epithet of the host plant <i>Psychotria anthocleistifolia</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia bidentata</i> *		(bi.den.ta'ta. N.L. fem. adj. <i>bidentata</i> name based on the specific epithet of the host plant <i>Pavetta bidentata</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia bifaria</i> *		(bi.fa'ri.a. N.L. fem. adj. <i>bifaria</i> name based on the specific epithet of the host plant <i>Psychotria bifaria</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia brachyantha</i> *		(bra.chy.an'tha. N.L. fem. adj. <i>brachyantha</i> name based on the specific epithet of the host plant <i>Psychotria brachyantha</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia brachyanthoides</i> *		(bra.chy.an.tho'i.des. N.L. fem. adj. <i>brachyanthoides</i> name based on the specific epithet of the host plant <i>Psychotria brachyanthoides</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia brevipaniculata</i> *		(bre.vi.pa.ni.cu.la'ta. N.L. fem. adj. <i>brevipaniculata</i> name based on the specific epithet of the host plant <i>Psychotria brevipaniculata</i>)	Lemaire et al. 2011 [455]

Continued

Table 4. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Burkholderia calva</i>		(cal'va. N.L. fem. adj. <i>calva</i> name based on the specific epithet of the host plant <i>Psychotria calva</i>); the taxon was moved to the genus <i>Paraburkholderia</i> as <i>Candidatus</i> <i>Paraburkholderia calva</i>	Sawana et al. 2014; Van Oevelen et al. 2004 [457, 458]
<i>Burkholderia camerunensis</i> *		(ca.me.run.en'sis. N.L. fem. adj. <i>camerunensis</i> name based on the specific epithet of the host plant <i>Psychotria camerunensis</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia catophylla</i> *		(ca.to.phyl'la. N.L. fem. adj. <i>catophylla</i> name based on the specific epithet of the host plant <i>Pavetta catophylla</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia cooperi</i> *		(coo'pe.ri. N.L. gen. n. <i>cooperi</i> name based on the specific epithet of the host plant <i>Pavetta cooperi</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia crenata</i>		(cre.na'ta. N.L. fem. adj. <i>crenata</i> name based on the specific epithet of the host plant <i>Ardisia crenata</i>); Lemaire et al. 2011 [459] erroneously gave XX00000 instead of the true GenBank accession numbers	Lemaire et al. 2011 [459]
<i>Burkholderia darwiniana</i> *		(dar.wi.ni.a'na. N.L. fem. adj. <i>darwiniana</i> name based on the specific epithet of the host plant <i>Psychotria darwiniana</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia edentula</i> *		(e.den'tu.la. N.L. fem. adj. <i>edentula</i> name based on the specific epithet of the host plant <i>Pavetta edentula</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia expansissima</i> *	<i>Burkholderia expansissima</i>	We propose correcting the epithet to <i>expansissima</i> (ex.pan.sis'si.ma. N.L. fem. adj. <i>expansissima</i> name based on the specific epithet of the host plant <i>Psychotria expansissima</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia eylesii</i> *		(ey.le'si.i. N.L. gen. n. <i>eylesii</i> name based on the specific epithet of the host plant <i>Pavetta eylesii</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia fleuryana</i> *		(fleu.ry.a'na. N.L. fem. adj. <i>fleuryana</i> name based on the specific epithet of the host plant <i>Psychotria fleuryana</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia gardeniifolia</i> *		(gar.de.ni.i.fo'li.a. N.L. fem. adj. <i>gardeniifolia</i> name based on the specific epithet of the host plant <i>Pavetta gardeniifolia</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia hispidae</i>		(his'pi.dae. N.L. gen. n. <i>hispidae</i> of <i>hispida</i> , name based on the specific epithet of the host plant <i>Pavetta hispida</i>); the taxon was moved to the genus <i>Paraburkholderia</i> as <i>Candidatus</i> <i>Paraburkholderia hispidae</i>	Sawana et al. 2014; Lemaire et al. 2012 [457, 460]
<i>Burkholderia holtzii</i> *		(holt'zi.i. N.L. gen. n. <i>holtzii</i> name based on the specific epithet of the host plant <i>Psychotria holtzii</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia humilis</i> *		(hu'mi.lis. N.L. fem. adj. <i>humilis</i> name based on the specific epithet of the host plant <i>Psychotria humilis</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia inandensis</i> *		(in.an.den'sis. N.L. fem. adj. <i>inandensis</i> name based on the specific epithet of the host plant <i>Pavetta inandensis</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia kikwitensis</i> *		(kik.wi.ten'sis. N.L. fem. adj. <i>kikwitensis</i> name based on the specific epithet of the host plant <i>Psychotria kikwitensis</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia kimuenzae</i> *		(ki.mu.en'zae. N.L. gen. n. <i>kimuenzae</i> name based on the specific epithet of the host plant <i>Psychotria kimuenzae</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia kirkii</i>		(kir'ki.i. N.L. gen. n. <i>kirkii</i> name based on the specific epithet of the host plant <i>Psychotria kirkii</i>); the taxon was moved to the genus <i>Paraburkholderia</i> as <i>Candidatus</i> <i>Paraburkholderia kirkii</i>	Sawana et al. 2014; Van Oevelen et al. 2002 [457, 461]
<i>Burkholderia konguensis</i>		(kon.gu.en'sis. N.L. fem. adj. <i>konguensis</i> name based on the specific epithet of the host plant <i>Psychotria konguensis</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia kotzei</i> *		(kot'ze.i. N.L. gen. n. <i>kotzei</i> name based on the specific epithet of the host plant <i>Pavetta kotzei</i>)	Lemaire et al. 2011 [455]

Continued

Table 4. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Burkholderia lanceolata</i> *		(lan.ce.o.la'ta. N.L. fem. adj. <i>lanceolata</i> name based on the specific epithet of the host plant <i>Pavetta lanceolata</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia leptophylla</i> *		(lep.to.phyl'la. N.L. fem. adj. <i>leptophylla</i> name based on the specific epithet of the host plant <i>Psychotria leptophylla</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia letouzeyi</i> *		(le.tou.zey'i. N.L. gen. n. <i>letouzeyi</i> name based on the specific epithet of the host plant <i>Psychotria letouzeyi</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia lokohensis</i> *		(lo.ko.hen'sis. N.L. fem. adj. <i>lokohensis</i> name based on the specific epithet of the host plant <i>Psychotria lokohensis</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia mamillata</i>		(ma.mil.la'ta. N.L. fem. adj. <i>mamillata</i> name based on the specific epithet of the host plant <i>Ardisia mamillata</i>); Lemaire et al. 2011 [459] erroneously gave XX00000 instead of the true GenBank accession numbers	Lemaire et al. 2011 [459]
<i>Burkholderia mannii</i> *		(man'ni.i. N.L. gen. n. <i>mannii</i> name based on the specific epithet of the host plant <i>Psychotria mannii</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia nigropunctata</i>		(ni.gro.punc.ta'ta. N.L. fem. adj. <i>nigropunctata</i> name based on the specific epithet of the host plant <i>Psychotria nigropunctata</i>); the taxon was moved to the genus <i>Paraburkholderia</i> as <i>Candidatus</i> <i>Paraburkholderia nigropunctata</i>	Sawana et al. 2014; Van Oevelen et al. 2004 [457, 458]
<i>Burkholderia pendulothyrsa</i> *		(pen.du.lo.thyr'sa. N.L. fem. adj. <i>pendulothyrsa</i> name based on the specific epithet of the host plant <i>Psychotria pendulothyrsa</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia petitii</i>		(pe.ti'ti.i. N.L. gen. n. <i>petitii</i> name based on the specific epithet of the host plant <i>Sericanthe petitii</i>); the taxon was moved to the genus <i>Paraburkholderia</i> as <i>Candidatus</i> <i>Paraburkholderia petitii</i>	Lemaire et al. 2011; Sawana et al. 2014 [456, 457]
<i>Burkholderia pumila</i> *		(pu'mi.la. N.L. fem. adj. <i>pumila</i> name based on the specific epithet of the host plant <i>Psychotria pumila</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia recurva</i> *		(re.cur'va. N.L. fem. adj. <i>recurva</i> name based on the specific epithet of the host plant <i>Psychotria recurva</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia rhizomatosa</i> *		(rhi.zo.ma.to'sa. N.L. fem. adj. <i>rhizomatosa</i> name based on the specific epithet of the host plant <i>Psychotria rhizomatosa</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia rigidae</i>		(ri'gi.dae. N.L. gen. n. <i>rigidae</i> of <i>rigida</i> , name based on the specific epithet of the host plant <i>Pavetta rigida</i>); the taxon was moved to the genus <i>Paraburkholderia</i> as <i>Candidatus</i> <i>Paraburkholderia rigidae</i>	Sawana et al. 2014; Lemaire et al. 2012 [457, 460]
<i>Burkholderia rubripilis</i> *		(ru.bri.pi'lis. N.L. fem. adj. <i>rubripilis</i> name based on the specific epithet of the host plant <i>Psychotria rubripilis</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia rubristipulata</i> *		(ru.bri.sti.pu.la'ta. N.L. fem. adj. <i>rubristipulata</i> name based on the specific epithet of the host plant <i>Psychotria rubristipulata</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia schumanniana</i>	<i>Burkholderia schumanniana</i>	We propose correcting the epithet to <i>schumanniana</i> (schu.man.ni.a'na. N.L. fem. adj. <i>schumanniana</i> name based on the specific epithet of the host plant <i>Pavetta schumanniana</i>); the taxon was moved to the genus <i>Paraburkholderia</i> as <i>Candidatus</i> <i>Paraburkholderia schumanniana</i>	Sawana et al. 2014; Lemaire et al. 2012 [457, 460]
<i>Burkholderia spithamea</i> *		(spit.ha'me.a. N.L. fem. adj. <i>spithamea</i> name based on the specific epithet of the host plant <i>Psychotria spithamea</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia subpunctata</i> *		(sub.punc.ta'ta. N.L. fem. adj. <i>subpunctata</i> name based on the specific epithet of the host plant <i>Psychotria subpunctata</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia trichardtensis</i> *		(tri.chardt.en'sis. N.L. fem. adj. <i>trichardtensis</i> name based on the specific epithet of the host plant <i>Pavetta trichardtensis</i>)	Lemaire et al. 2011 [455]

Continued

Table 4. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Burkholderia uapacifolia</i> *		(u.a.pa.ci.fo'li.a. N.L. fem. adj. <i>uapacifolia</i> name based on the specific epithet of the host plant <i>Psychotria uapacifolia</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia umbellifera</i> *		(um.bel.li'fe.ra. N.L. fem. adj. <i>umbellifera</i> name based on the specific epithet of the host plant <i>Psychotria umbellifera</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia vanwykii</i> *		(van.wyk'i.i. N.L. gen. n. <i>vanwykii</i> name based on the specific epithet of the host plant <i>Pavetta vanwykii</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia verschuerenii</i> *		(ver.schue.re'ni.i. N.L. gen. n. <i>verschuerenii</i> name based on the specific epithet of the host plant <i>Psychotria verschuerenii</i>)	Lemaire et al. 2011 [455]
<i>Burkholderia virens</i>		(vi'rens. N.L. fem. adj. <i>virens</i> name based on the specific epithet of the host plant <i>Ardisia virens</i>); Lemaire et al. 2011 [459] erroneously gave XX00000 instead of the true GenBank accession numbers	Lemaire et al. 2011 [459]
<i>Caedibacter acanthamoebae</i>		(a.canth.a.moe'bae. N.L. gen. n. <i>acanthamoebae</i> of the protist genus <i>Acanthamoeba</i>)	Horn et al. 1999 [235]
<i>Chlamydia coralli</i>	<i>Chlamydia corallus</i>	We propose correcting the epithet to <i>coralli</i> (co.ral'li. N.L. gen. n. <i>coralli</i> of the emerald tree boa <i>Corallus batesii</i>)	Taylor-Brown et al. 2017 [462]
<i>Chlamydia sanziniiae</i>	<i>Chlamydia sanzinia</i>	We propose correcting the epithet to <i>sanziniiae</i> (san.zi'ni.ae. N.L. gen. n. <i>sanziniiae</i> of the snake genus <i>Sanzinia</i>)	Taylor-Brown et al. 2016 [463]
<i>Chryseobacterium massiliense</i>	<i>Chryseobacterium massiliae</i>	We propose correcting the epithet to <i>massiliense</i> (mas.si.li.en'se. L. neut. adj. <i>massiliense</i> pertaining to Marseille)	Greub et al. 2004 [63]
<i>Chryseobacterium timonae</i>		(ti.mo'nae. N.L. gen. n. <i>timonae</i> of Timone, referring to l'Hôpital de la Timone, Marseille)	Drancourt et al. 2004 [417]
<i>Coxiella avium</i>		(a'vi.um. L. gen. pl. n. <i>avium</i> of birds)	Trinachartvanit et al. 2018 [464] (as <i>Candidatus</i>), described earlier by Shivaprasad et al. 2008 [465]
<i>Coxiella massiliensis</i> *		(mas.si.li.en'sis. L. fem. adj. <i>massiliensis</i> pertaining to Marseille)	Angelakis et al. 2016 [466]
<i>Coxiella mudrowiae</i>		(mu.dro'wi.ae. N.L. gen. n. <i>mudrowiae</i> named after Elizabeth Mudrow who first described symbiotic micro-organisms in <i>Rhipicephalus</i> ticks in 1932)	Gottlieb et al. 2015 [467]
<i>Defluviococcus tetradiiformans</i>	<i>Defluviococcus tetraformis</i>	We propose correcting the epithet to <i>tetradiiformans</i> (te.tra.di.i.for'mans. L. neut. n. <i>tetradium</i> a tetrad; L. pres. part. <i>formans</i> forming; N.L. part. adj. <i>tetradiiformans</i> tetrad-forming)	Nobu et al. 2014 [468]
<i>Dehalogenimonas etheniformans</i>		(e.the.ni.for'mans. N.L. neut. n. <i>ethenum</i> ethane; L. pres. part. <i>formans</i> forming; N.L. part. adj. <i>etheniformans</i> forming ethane)	Yang et al. 2017 [469]
<i>Desulfovibrio trichonymphae</i>		(tri.cho.nym'phae. N.L. gen. n. <i>trichonymphae</i> of the protist genus <i>Trichonympha</i>)	Sato et al. 2009 [470]
<i>Devosia euplotis</i>		(eu.plo'tis. N.L. gen. n. <i>euplotis</i> of the protist genus <i>Euplotes</i>)	Vannini et al. 2004 [471]
<i>Ehrlichia khabarovskensis</i>	<i>Ehrlichia khabarensis</i>	We propose correcting the epithet to <i>khabarovskensis</i> (kha.ba.rovsk.en'sis. N.L. fem. adj. <i>khabarovskensis</i> pertaining to the Khabarovsk area, Russia)	Rar et al. 2015 [472]
<i>Ehrlichia rustica</i>		(rus'ti.ca. L. fem. adj. <i>rustica</i> rural)	Ehounoud et al. 2016 [420]
<i>Ehrlichia urmitei</i>		(ur.mi.te'i. N.L. gen. n. <i>urmitei</i> of the URMITE laboratory, Marseille)	Ehounoud et al. 2016 [420]

Continued

Table 4. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Ehrlichia walkeri</i>	<i>Ehrlichia walkeri</i>	We propose correcting the epithet to <i>walkeri</i> (wal'ke.ri. N.L. gen. n. <i>walkeri</i> named after David H. Walker, an American microbiologist who contributed much to our understanding of rickettsial diseases and <i>Ehrlichia</i> infections)	Brouqui et al. 2003 [473]
<i>Elioraea thermophila</i>		(ther.mo'phi.la. Gr. fem. n. <i>therme</i> heat; N.L. fem. adj. <i>phila</i> (from Gr. fem. adj. <i>phile</i>) loving; N.L. fem. adj. <i>thermophila</i> heat-loving)	Thiel et al. 2016 [94]
<i>Endomicrobium pyrsonymphae</i>		(pyr.so.nym'phae. N.L. gen. n. <i>pyrsonymphae</i> of the protist genus <i>Pyrsonympha</i>)	Stingl et al. 2005 [474]
<i>Endomicrobium trichonymphae</i>		(tri.cho.nym'phae. N.L. gen. n. <i>trichonymphae</i> of the protist genus <i>Trichonympha</i>)	Stingl et al. 2005 [474]
<i>Endozoicomonas cretensis</i>		(cre.ten'sis. L. fem. adj. <i>cretensis</i> pertaining to Crete)	Katharios et al. 2015 [475]
<i>Enterovibrio altilux</i>	<i>Enterovibrio luxaltus</i>	We propose correcting the epithet to <i>altilux</i> (al'ti.lux. L. masc. adj. <i>altus</i> deep; L. fem. n. <i>lux</i> light; N.L. fem. n. <i>altilux</i> deep light)	Hendry et al. 2018 [476]
<i>Enterovibrio escicola</i>	<i>Enterovibrio escacola</i>	We propose correcting the epithet to <i>escicola</i> (es.ci'co.la. L. fem. n. <i>esca</i> food, bait; N.L. suff. <i>-cola</i> (from L. masc. or fem. n. <i>incola</i>) inhabitant, dweller; N.L. masc. n. <i>escicola</i> bait dwelling)	Hendry et al. 2018 [476]
<i>Eperythrozoon haematobovis</i>	<i>Eperythrozoon haemobos</i>	We propose correcting the epithet to <i>haematobovis</i> (hae.ma.to.bo'vis. Gr. neut. n. <i>haema</i> , <i>haematos</i> blood; L. masc. or fem. n. <i>bos</i> , <i>bovis</i> a bull, a cow; N.L. gen. n. <i>haematobovis</i> of cattle blood); <i>Eperythrozoon haemobos</i> is a 'new combination' <i>Mycoplasma haemobos</i> Tagawa et al. 2008 (not validly published) [477] by Gupta et al. 2018. It should probably be interpreted as a replacement name	Gupta et al. 2018 [478]
<i>Eperythrozoon haematolamae</i>	<i>Eperythrozoon haemolamae</i>	We propose correcting the epithet to <i>haematolamae</i> (hae.ma.to.la'mae. Gr. neut. n. <i>haema</i> , <i>haematos</i> blood; N.L. fem. n. <i>Lama</i> genus name of the lama; N.L. gen. n. <i>haematolamae</i> of lama blood); <i>Eperythrozoon haemolamae</i> is 'new combination' <i>Mycoplasma haemolamae</i> Messick et al. 2002 [479] (not validly published) by Gupta et al. 2018 [478]	Gupta et al. 2018 [478]
<i>Eperythrozoon haematominutum</i>	<i>Eperythrozoon haemominutum</i>	We propose correcting the epithet to <i>haematominutum</i> (hae.ma.to.mi.nu'tum. Gr. neut. n. <i>haema</i> , <i>haematos</i> blood; L. masc. adj. <i>minutus</i> small; N.L. neut. adj. <i>haematominutum</i> pertaining to a small organism from blood); <i>Eperythrozoon haemolamae</i> is 'new combination' <i>Mycoplasma haemominutum</i> Foley and Pedersen 2001 [480] (not validly published) by Gupta et al. 2018 [478]	Gupta et al. 2018 [478]
<i>Erwinia dacicola</i>		(da.ci'co.la. N.L. masc. n. <i>Dacus</i> the generic name of the host fly; L. suff. <i>-cola</i> (from L. masc. or fem. n. <i>incola</i>) an inhabitant, dweller; N.L. fem. n. <i>dacicola</i> an inhabitant of <i>Dacus</i>)	Capuzzo et al. 2005 [481]
<i>Fluviicola riflensis</i>		(rif.len'sis. N.L. masc. adj. <i>riflensis</i> pertaining to Rifle, Colorado, USA)	Banfield et al. 2017 [482]
<i>Frankia californiensis</i>		(ca.li.for.ni.en'sis. N.L. fem. adj. <i>californiensis</i> Californian)	Normand et al. 2017 [483]
<i>Frankia datiscae</i>		(da'tis.cae. N.L. gen. n. <i>datiscae</i> of the botanical genus <i>Datisca</i>)	Persson et al. 2011 [484]
<i>Haliscomenobacter calcifugiens</i>		(cal.ci.fu.giens. L. fem. n. <i>calx</i> , <i>calcis</i> limestone; L. pres. part. <i>fugiens</i> escaping; N.L. part. adj. <i>calcifugiens</i> avoiding limestone)	Hahn and Schauer 2007 [71]
<i>Halomonas phosphatis</i>		(phos.pha'tis. N.L. gen. n. <i>phosphatis</i> of phosphate)	Nguyen et al. 2012 [485]

Continued

Table 4. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Helicobacter bovis</i>		(bo'vis. L. gen. n. <i>bovis</i> of cattle)	De Groote <i>et al.</i> [486]
<i>Holospora parva</i>		(par'va. L. fem. adj. <i>parva</i> small)	Lanzoni <i>et al.</i> 2016 [487]
<i>Legionella jeonii</i>		(je.o'ni.i. N.L. gen. n. <i>jeonii</i> named after Kwang W. Jeon who discovered X-bacteria and pioneered the research on endosymbiosis of X-bacteria in <i>Amoeba proteus</i>)	Park <i>et al.</i> 2004 [488]
<i>Liberibacter africanus</i>	originally described as <i>Candidatus</i> <i>Liberibacter africanum</i>	(a.fri.ca'nus. L. masc. adj. <i>africanus</i> African)	Murray and Stackebrandt 1995; Garnier <i>et al.</i> 2000; Jagoueix <i>et al.</i> 1994 [3, 489, 490]
<i>Liberibacter americanus</i>		(a.me.ri.ca'nus. N.L. masc. adj. <i>americanus</i> American)	Teixeira <i>et al.</i> 2005 [491]
<i>Liberibacter asiaticus</i>	originally described as <i>Candidatus</i> <i>Liberibacter asiaticum</i>	(a.si.a'ti.cus. L. masc. adj. <i>asiaticus</i> Asian)	Murray and Stackebrandt 1995; Garnier <i>et al.</i> 2000; Jagoueix <i>et al.</i> 1994 [3, 489, 490]
<i>Liberibacter europaeus</i>		(eu.ro.pae'us. L. masc. adj. <i>europaeus</i> European)	Raddadi <i>et al.</i> 2011 [492]
<i>Liberibacter psyllidaureus</i>	<i>Liberibacter psyllaureus</i>	We propose correcting the epithet to <i>psyllidaureus</i> (psyllid.au're. us. N.L. fem. pl. n. <i>Psyllidae</i> a family of jumping plant louse; L. masc. adj. <i>aureus</i> golden; N.L. masc. adj. <i>psyllidaureus</i> of psyllid yellows)	Hansen <i>et al.</i> 2008 [493]
<i>Liberibacter solanacearum</i>		(so.la.na.ce.a'rum. N.L. gen. pl. n. <i>solanacearum</i> of <i>Solanaceae</i>)	Liefting <i>et al.</i> 2009 [494]
<i>Malacoplasma girerdii</i>		(gi.rer'di.i. N.L. gen. n. <i>girerdii</i> named after Philippe H. Girerd, an obstetrician-gynecologist in Richmond, Virginia); it was earlier named <i>Candidatus</i> <i>Mycoplasma girerdii</i>	Gupta <i>et al.</i> 2018; Fettweis <i>et al.</i> 2014 [478, 495]
<i>Methanoculleus thermohydrogenitrophicus</i>	<i>Methanoculleus thermohydrogenotrophicum</i>	We propose correcting the epithet to <i>thermohydrogenitrophicus</i> (ther.mo.hy.dro.ge.ni.tro'phi.cus. Gr. fem. n. <i>therme</i> heat; N.L. neut. n. <i>hydrogenum</i> hydrogen; N.L. masc. adj. <i>trophicus</i> (from Gr. masc. adj. <i>trophikos</i>) nursing, tending; N.L. masc. adj. <i>thermohydrogenitrophicus</i> feeding on hydrogen at high temperature)	Kougias <i>et al.</i> 2017 [496]
<i>Methanomassiliicoccus intestinalis</i>		(in.tes.ti.na'lis. N.L. masc. adj. <i>intestinalis</i> intestinal)	Borrel <i>et al.</i> 2013 [497]
<i>Methanotherix paradoxa*</i>	<i>Methanotherix paradoxum</i>	We propose correcting the epithet to <i>paradoxa</i> (pa.ra.do'xa. L. fem. adj. <i>paradoxa</i> strange)	Angle <i>et al.</i> 2017 [498]
<i>Mycobacterium leprae felis*</i>		(le.prae.fe'lis. L. fem. n. <i>lepra</i> leprosy; L. fem. n. <i>feles</i> cat; N.L. gen. n. <i>leprae felis</i> of feline leprosy)	O'Brien <i>et al.</i> 2017 [499]
<i>Mycobacterium tarwinense*</i>		(tar.win.en'se. N.L. neut. adj. <i>tarwinense</i> pertaining to Tarwin Lower, Victoria, Australia)	O'Brien <i>et al.</i> 2017 [500]
<i>Mycoplasma aoti</i>		(a.o'ti. N.L. gen. n. <i>aoti</i> of the monkey genus <i>Aotus</i>)	Barker <i>et al.</i> 2011 [501]
<i>Mycoplasma corallicola</i>		(co.ral.li'co.la. L. neut. n. <i>corallum</i> coral; L. suff. <i>-cola</i> (from L. masc. or fem. n. <i>incola</i>) inhabitant; N.L. n. <i>corallicola</i> inhabitant of corals)	Neulinger <i>et al.</i> 2009 [502]

Continued

Table 4. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Mycoplasma girerdii</i>		(gi.rer'di.i. N.L. gen. n. <i>girerdii</i> named after Philippe H. Girerd, an obstetrician-gynecologist in Richmond, Virginia)	Fettweis et al. 2014 [495]
<i>Mycoplasma haematobovis</i>	<i>Mycoplasma haemobos</i>	We propose correcting the epithet to <i>haematobovis</i> (hae.ma.to.bo'vis. Gr. neut. n. <i>haema</i> , <i>haematos</i> blood; L. masc. or fem. n. <i>bos</i> , <i>bovis</i> a bull, a cow; N.L. gen. n. <i>haematobovis</i> of cattle blood); the name was replaced by <i>Candidatus</i> Eperythrozoon <i>haematobovis</i> earlier in this table	Tagawa et al. 2008 [477]
<i>Mycoplasma haematocervi</i>	<i>Mycoplasma haemocervae</i>	We propose correcting the epithet to <i>haematocervi</i> (hae.ma.to.cer'vi. Gr. neut. n. <i>haema</i> , <i>haematos</i> blood; L. masc. n. <i>cervus</i> a deer; N.L. gen. n. <i>haematocervi</i> of deer blood)	Watanabe et al. 2010 [503]
<i>Mycoplasma haematodidelphidis</i>	<i>Mycoplasma haemodidelphidis</i>	We propose correcting the epithet to <i>haematodidelphidis</i> (hae.ma.to.di.del'phi.dis. Gr. neut. n. <i>haema</i> , <i>haematos</i> blood; N.L. fem. n. <i>Didelphis</i> an opossum genus; N.L. gen. n. <i>haematodidelphidis</i> of opossum blood)	Messick et al. 2002 [479]
<i>Mycoplasma haematomominis*</i>	<i>Mycoplasma hemohominis</i>	We propose correcting the epithet to <i>haematomominis</i> (hae.ma.to.ho'mi.nis. Gr. neut. n. <i>haema</i> , <i>haematos</i> blood; L. masc. n. <i>homo</i> a man; N.L. gen. n. <i>haematomominis</i> of human blood)	Millán et al. 2015 [504]
<i>Mycoplasma haematolamae</i>	<i>Mycoplasma haemolamae</i>	We propose correcting the epithet to <i>haematolamae</i> (hae.ma.to.la'mae. Gr. neut. n. <i>haema</i> , <i>haematos</i> blood; N.L. fem. n. <i>Lama</i> genus name of the lama; N.L. gen. n. <i>haematolamae</i> of lama blood); the name was replaced by <i>Candidatus</i> Eperythrozoon <i>haematolamae</i> earlier in this table	Messick et al. 2002 [479]
<i>Mycoplasma haematomacacae</i>	<i>Mycoplasma haemomacacae</i>	We propose correcting the epithet to <i>haematomacacae</i> (hae.ma.to.ma.ca'cae. Gr. neut. n. <i>haema</i> , <i>haematos</i> blood; N.L. fem. n. <i>Macaca</i> genus name of the macaque monkey; N.L. gen. n. <i>haematomacacae</i> of macaque blood)	Maggi et al. 2013 [505]
<i>Mycoplasma haematominipteri*</i>	<i>Mycoplasma hemominipterus</i>	We propose correcting the epithet to <i>haematominipteri</i> (hae.ma.to.mi.ni.o.pte'ri. Gr. neut. n. <i>haema</i> , <i>haematos</i> blood; N.L. masc. n. <i>Miniopterus</i> a bat genus; N.L. gen. n. <i>haematominipteri</i> of blood of the bat genus <i>Miniopterus</i>)	Millán et al. 2015 [504]
<i>Mycoplasma haematominutum</i>	<i>Mycoplasma haemominutum</i>	We propose correcting the epithet to <i>haematominutum</i> (hae.ma.to.mi.nu'tum. Gr. neut. n. <i>haema</i> , <i>haematos</i> blood; L. masc. adj. <i>minutus</i> small; N.L. neut. adj. <i>haematominutum</i> pertaining to a small organism from blood); the name was replaced by <i>Candidatus</i> Eperythrozoon <i>haematominutum</i> earlier in this table	Foley and Pedersen 2001 [480]
<i>Mycoplasma haematoparvum</i>		(hae.ma.to.par'vum. Gr. neut. n. <i>haema</i> , <i>haematos</i> blood; L. masc. adj. <i>parvus</i> small; N.L. neut. adj. <i>haematoparvum</i> a small organism from blood)	Sykes et al. 2005 [506]
<i>Mycoplasma haematovis</i>	<i>Mycoplasma haemovis</i>	We propose correcting the epithet to <i>haematovis</i> (hae.mat.o'vis. Gr. neut. n. <i>haema</i> , <i>haematos</i> blood; L. fem. n. <i>ovis</i> a sheep; N.L. gen. n. <i>haematovis</i> of sheep blood); The organism was described by Hornok et al. (2009) but the authors did not name it; the name <i>Candidatus</i> <i>Mycoplasma haemovis</i> was introduced by later authors	Hornok et al. 2009 [507]
<i>Mycoplasma haematozalophi</i>	<i>Mycoplasma haemozalophi</i>	We propose correcting the epithet to <i>haematozalophi</i> (hae.ma.to.za.lo'phi. Gr. neut. n. <i>haema</i> , <i>haematos</i> blood; N.L. masc. n. <i>Zalophus</i> a genus of sea lions; N.L. gen. n. <i>haematozalophi</i> of blood of the sea lion genus <i>Zalophus</i>)	Volkhov et al. 2011 [508]
<i>Mycoplasma kahanei</i>		(ka.ha'ne.i. N.L. gen. n. <i>kahanei</i> named after Itzhak Kahane, an Israeli scientist who studied mycoplasmal adhesins and host cell receptors)	Neimark et al. 2002 [509]
<i>Mycoplasma ravipulmonis</i>		(ra.vi.pul.mo'nis. L. masc. adj. <i>ravis</i> grey; L. masc. n. <i>pulmo</i> lung; N.L. gen. n. <i>ravipulmonis</i> of a grey lung)	Neimark et al. 1998 [510]

Continued

Table 4. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Mycoplasma turicense</i>	<i>Mycoplasma turicensis</i>	We propose correcting the epithet to <i>turicense</i> (tu.ri.cen'se. L. neut. adj. <i>turicense</i> of or pertaining to Turicum (Zürich))	Willi et al. 2006 [511]
<i>Nitrosarchaeum limnae</i>	<i>Nitrosoarchaeum limnia</i>	We propose correcting the epithet to <i>limnae</i> (lim'nae. Gr. fem. n. <i>limne</i> freshwater; N.L. gen. n. <i>limnae</i> of freshwater)	Blainey et al. 2011 [512]
<i>Nitrosopumilus adriaticus</i>		(a.dri.a'ti.cus. L. masc. adj. <i>adriaticus</i> Adriatic); Note: the name was later validly published by Bayer et al. 2019 [513]	Bayer et al. 2016 [514]
<i>Nitrosopumilus koreensis</i>		(ko.re.en'sis. N.L. masc. adj. <i>koreensis</i> Korean)	Park et al. 2012 [515]
<i>Nitrosopumilus piranensis</i>		(pi.ran.en'sis. N.L. masc. adj. <i>piranensis</i> pertaining to Piran); Note: the name was later validly published by Bayer et al. 2019 [513]	Bayer et al. 2016 [514]
<i>Nitrosopumilus salarius</i>	<i>Nitrosopumilus salaria</i>	We propose correcting the epithet to <i>salarius</i> (sa.la'ri.us. L. masc. adj. <i>salarius</i> belonging to salt)	Mosier et al. 2012 [516]
<i>Nitrosopumilus sediminis</i>		(se.di'mi.nis. L. gen. n. <i>sediminis</i> of sediment)	Park et al. 2012 [517]
<i>Nitrososphaera evergladensis</i>		(e.ver.gla.den'sis. N.L. fem. adj. <i>evergladensis</i> pertaining to the Everglades)	Zhalnina et al. 2014 [518]
<i>Nitrososphaera gargensis</i>		(gar.gen'sis. N.L. fem. adj. <i>gargensis</i> pertaining to the Garga hot spring, Siberia)	Hatzenpichler et al. 2008 [519]
<i>Nitrospira bockiana</i>		(bock.i.a'na. N.L. fem. adj. <i>bockiana</i> named after Eberhard Bock, a German microbiologist who devoted his research to the investigation of nitrifying bacteria)	Lebedeva et al. 2008 [520]
<i>Nitrospira defluvii</i>		(de.flu'vi.i. L. gen. n. <i>defluvii</i> of sewage)	Spieck et al. 2006 [521]
<i>Nitrospira inopinata</i>		(in.o.pi.na'ta. N.L. fem. adj. <i>inopinata</i> unexpected)	Daims et al. 2015 [522]
<i>Nitrospira nitrificans</i>		(ni.tri'fi.cans. N.L. part. adj. <i>nitrificans</i> nitrifying)	van Kessel et al. 2015 [523]
<i>Nitrospira nitrosa</i>		(ni.tro'sa. L. fem. n. <i>nitrosa</i> full of natron)	van Kessel et al. 2015 [523]
<i>Pandoraea novymonadis</i>		(no.vy.mo.na'dis. N.L. gen. n. <i>novymonadis</i> of <i>Novymonas esmeraldas</i>)	Kostygov et al. 2016 [524]
<i>Pantoea carbekii</i>		(car.be'ki.i. N.L. gen. n. <i>carbekii</i> named after Maureen Carter and E. Richard Hoebeke who were the first entomologists to document the invasion of <i>Halyomorpha halys</i>)	Bansal et al. 2014 [525]
<i>Pantoea edessiphila</i>		(e.des.si'phi.la. N.L. fem. n. <i>Edessa</i> a genus of stink bugs; N.L. fem. adj. <i>phila</i> (from Gr. fem. adj. <i>phile</i>) loving; N.L. fem. adj. <i>edessiphila</i> loving <i>Edessa</i>)	Otero-Bravo et al. 2018 [526]
<i>Paraburkholderia andongensis</i>		(an.dong.en'sis. N.L. fem. adj. <i>andongensis</i> name based on the specific epithet of the host plant <i>Sericanthe andongensis</i>); the taxon was moved from the genus <i>Burkholderia</i> as <i>Candidatus</i> <i>Paraburkholderia andongensis</i>	Lemaire et al. 2011; Sawana et al. 2014 [456, 457]
<i>Paraburkholderia calva</i>		(cal'va. N.L. fem. adj. <i>calva</i> name based on the specific epithet of the host plant <i>Psychotria calva</i>); the taxon was moved from the genus <i>Burkholderia</i> as <i>Candidatus</i> <i>Paraburkholderia calva</i>	Sawana et al. 2014; Van Oevelen et al. 2004 [457, 458]
<i>Paraburkholderia hispidae</i>		(his'pi.dae. N.L. gen. n. <i>hispidae</i> of <i>hispidae</i> , name based on the specific epithet of the host plant <i>Pavetta hispida</i>); the taxon was moved from the genus <i>Burkholderia</i> as <i>Candidatus</i> <i>Paraburkholderia hispidae</i>	Sawana et al. 2014; Lemaire et al. 2012 [457, 460]

Continued

Table 4. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Paraburkholderia kirkii</i>		(kir'ki.i. N.L. gen. n. <i>kirkii</i> name based on the specific epithet of the host plant <i>Psychotria kirkii</i>); the taxon was moved from the genus <i>Burkholderia</i> as <i>Candidatus</i> <i>Paraburkholderia kirkii</i>	Sawana et al. 2014; Van Oevelen et al. 2002 [457, 461]
<i>Paraburkholderia nigropunctata</i>		(ni.gro.punc.ta'ta. N.L. fem. adj. <i>nigropunctata</i> name based on the specific epithet of the host plant <i>Psychotria nigropunctata</i>); the taxon was moved from the genus <i>Burkholderia</i> as <i>Candidatus</i> <i>Paraburkholderia nigropunctata</i>	Sawana et al. 2014; Van Oevelen et al. 2004 [457, 458]
<i>Paraburkholderia petittii</i>		(pe.ti'ti.i. N.L. gen. n. <i>petittii</i> name based on the specific epithet of the host plant <i>Sericanthe petittii</i>); the taxon was moved from the genus <i>Burkholderia</i> as <i>Candidatus</i> <i>Paraburkholderia petittii</i>	Lemaire et al. 2011; Sawana et al. 2014 [456, 457]
<i>Paraburkholderia rigidae</i>		(ri'gi.dae. N.L. gen. n. <i>rigidae</i> of <i>rigida</i> , name based on the specific epithet of the host plant <i>Pavetta rigida</i>); the taxon was moved from the genus <i>Burkholderia</i> as <i>Candidatus</i> <i>Paraburkholderia rigidae</i>	Sawana et al. 2014; Lemaire et al. 2012 [457, 460]
<i>Paraburkholderia schumanniana</i>	<i>Paraburkholderia schumanniana</i>	We propose correcting the epithet to <i>schumanniana</i> (schu.man.ni.a'na. N.L. fem. adj. <i>schumanniana</i> name based on the specific epithet of the host plant <i>Pavetta schumanniana</i>); the taxon was moved from the genus <i>Burkholderia</i> as <i>Candidatus</i> <i>Paraburkholderia schumanniana</i>	Sawana et al. 2014; Lemaire et al. 2012 [457, 460]
<i>Pasteuria aldrichii</i>		(a.l.dri'chi.i. N.L. gen. n. <i>aldrichii</i> named after Henry Aldrich for his contributions to research and teaching at the University of Florida)	Giblin-Davis et al. 2011 [527]
<i>Pasteuria usgae</i>		(us'gae. N.L. gen. n. <i>usgae</i> of USGA, acronym of the United States Golf Association)	Giblin-Davis et al. 2003 [528]
<i>Peptostreptococcus massiliensis</i>	<i>Peptostreptococcus massiliae</i>	We propose correcting the epithet to <i>massiliensis</i> (mas.si.li.en'sis. L. fem. adj. <i>massiliensis</i> pertaining to Marseille)	Drancourt et al. 2004 [417]
<i>Prevotella massiliensis</i>		(mas.si.li.en'sis. L. fem. adj. <i>massiliensis</i> pertaining to Marseille)	Drancourt et al. 2004 [417]
<i>Propionivibrio aalborgensis</i>		(aal.borg.en'sis. N.L. masc. adj. <i>aalborgensis</i> pertaining to Aalborg)	Albertsen et al. 2016 [312]
<i>Prosthecochloris corallii*</i>	<i>Prosthecochloris korallensis</i>	We propose correcting the epithet to <i>corallii</i> (co.ral'li.i. L. gen. n. <i>corallii</i> of a coral)	Cai et al. 2017 [529]
<i>Rhizobium massiliense</i>	<i>Rhizobium massiliae</i>	We propose correcting the epithet to <i>massiliense</i> (mas.si.li.en'se. L. neut. adj. <i>massiliense</i> pertaining to Marseille)	Greub et al. 2004 [63]
<i>Rhodobacter oscarella</i>	<i>Rhodobacter lobularis</i>	We propose correcting the epithet to <i>oscarella</i> (os.ca.rel'lae. N.L. gen. n. <i>oscarella</i> of the sponge <i>Oscarella lobularis</i>)	Jourda et al. 2015 [530]
<i>Rickettsia andeana</i>	<i>Rickettsia andeanae</i>	We propose correcting the epithet to <i>andeana</i> (an.de.a'na. N.L. fem. adj. <i>andeana</i> pertaining to the Andes)	Jiang et al. 2005 [531]
<i>Rickettsia angusta</i>	<i>Rickettsia angustus</i>	We propose correcting the epithet to <i>angusta</i> (an.gus'ta. L. fem. adj. <i>angusta</i> narrow; based on the specific epithet of the host <i>Ixodes angustus</i>)	Anstead and Chilton 2013 [532]
<i>Rickettsia anophelis</i>	<i>Rickettsia</i> sp. <i>Anopheles sinensis</i>	We propose correcting the incorrectly formatted epithet to <i>anophelis</i> (a.no'phe.lis. N.L. gen. n. <i>anophelis</i> of the mosquito <i>Anopheles sinensis</i>)	Guo et al. 2016 [418]
<i>Rickettsia antechini</i>		(ant.e'chi.ni. N.L. gen. n. <i>antechini</i> of the marsupial genus <i>Antechinus</i>)	Owen et al. 2006 [533]
<i>Rickettsia barbariae</i>		(bar.ba'ri.ae. L. gen. n. <i>barbariae</i> of <i>Barbaria</i> , the mountains of Sardinia)	Mura et al. 2008 [534]

Continued

Table 4. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Rickettsia colombiense</i>	The organism was originally designated <i>Rickettsia</i> sp. Strain Colombianensi, and later appears in the literature as <i>Candidatus</i> <i>Rickettsia colombianensi</i>	We propose correcting the epithet to <i>colombiense</i> (co.lom.bi.en'sis. N.L. fem. adj. <i>colombiense</i> pertaining to Colombia)	Miranda <i>et al.</i> 2012; Quintero Véles <i>et al.</i> 2017 [535, 536]
<i>Rickettsia culicis</i> (non <i>Rickettsia culicis</i> Brumpt 1938 [537])	<i>Rickettsia</i> sp. <i>Culex tritaeniorhynchus</i>	We propose correcting the incorrectly formatted epithet to <i>culicis</i> (cu'li.cis. N.L. gen. n. <i>culicis</i> of the mosquito <i>Culex tritaeniorhynchus</i>)	Guo <i>et al.</i> 2016 [418]
<i>Rickettsia davoustii</i>	<i>Rickettsia davousti</i>	We propose correcting the epithet to <i>davoustii</i> (da.vous'ti.i. N.L. gen. n. <i>davoustii</i> named after Bernard Davoust, a prominent veterinary epidemiologist specialized in tropical infections); given as a <i>Candidatus</i> taxon in Mediannikov <i>et al.</i> 2007 [538] citing an unpublished work, and given as 'Rickettsia sp. strain Davousti' in Matsumoto <i>et al.</i> 2007 [539]	Mediannikov <i>et al.</i> 2007; Matsumoto <i>et al.</i> 2007 [538, 539]
<i>Rickettsia gannanensis</i>	<i>Rickettsia gannanii</i>	We propose correcting the epithet to <i>gannanensis</i> (gan.nan.en'sis. N.L. fem. adj. <i>gannanensis</i> pertaining to the Gannan Tibetan Autonomous Prefecture on the northeast edge of the Qing-Tibetan Plateau, where the organism was isolated)	Yang <i>et al.</i> 2016 [540]
<i>Rickettsia goldwassereri</i>	<i>Rickettsia goldwasserii</i>	We propose correcting the epithet to <i>goldwassereri</i> (gold.was'se.ri. N.L. gen. n. <i>goldwassereri</i> named after the Israeli Robert A. Goldwasser for his work on rickettsial diseases and development of detection methods.)	Keysary <i>et al.</i> 2011 [541]
<i>Rickettsia haemaphysalidis</i>	<i>Rickettsia longicornii</i>	We propose correcting the epithet to <i>haemaphysalidis</i> (hae.ma.phy.sa'li.dis. N.L. gen. n. <i>haemaphysalidis</i> of the tick <i>Haemaphysalis longicornis</i>)	Jiang <i>et al.</i> 2018 [542]
<i>Rickettsia hebeiensis</i>	<i>Rickettsia hebeii</i>	We propose correcting the epithet to <i>hebeiensis</i> (he.bei.en'sis. N.L. fem. adj. <i>hebeiensis</i> pertaining to Hebei)	Zou <i>et al.</i> 2011 [543]
<i>Rickettsia hungarica</i>		(hun.ga'ri.ca. M.L. fem. adj. <i>hungarica</i> Hungarian)	Hornok <i>et al.</i> 2010 [544]
<i>Rickettsia ixodis</i>	<i>Rickettsia kingi</i>	We propose correcting the epithet to <i>ixodis</i> (i.xo'dis. N.L. gen. n. <i>ixodis</i> of the tick <i>Ixodes kingi</i>)	Anstead and Chilton 2013 [545]
<i>Rickettsia jingxinensis</i>		(jing.xin.en'sis. N.L. fem. adj. <i>jingxinensis</i> pertaining to Jingxin)	Liu <i>et al.</i> 2016 [546]
<i>Rickettsia kellyi</i>		(kel'ly.i. N.L. gen. n. <i>kellyi</i> named after Professor Patrick Kelly, who has greatly contributed to the knowledge of Rickettsiae)	Rolain <i>et al.</i> 2006 [547]
<i>Rickettsia kotlanii</i>		(kot.la'ni.i. N.L. gen. n. <i>kotlanii</i> named after A. Kotlán, a Hungarian pioneer parasitologist)	Sréter-Lancz <i>et al.</i> 2006 [548]
<i>Rickettsia kulagini</i>	<i>Rickettsia kulagini</i>	We propose correcting the epithet to <i>kulagini</i> (ku.la.gi'ni.i. N.L. gen. n. <i>kulagini</i> named after Sergei Mikhailovich Kulagin, a Russian microbiologist)	Merhej and Raoult 2011 [549]
<i>Rickettsia lanei</i>		(la'ne.i. N.L. gen. n. <i>lanei</i> named after Robert S. Lane, an entomologist who contributed to the studies of <i>Rickettsia</i> in ticks)	Eremeeva <i>et al.</i> 2018 [550]
<i>Rickettsia leptotrombidii</i>	<i>Rickettsia leptotrombidium</i>	We propose correcting the epithet to <i>leptotrombidii</i> (lep.to.trom.bi'di.i. N.L. gen. n. <i>leptotrombidii</i> of the mite <i>Leptotrombidium</i>)	Huang <i>et al.</i> 2017 [551]
<i>Rickettsia liberiensis</i>		(li.be.ri.en'sis. N.L. fem. adj. <i>liberiensis</i> pertaining to Liberia)	Mediannikov <i>et al.</i> 2012 [552]
<i>Rickettsia mendelii</i>		(men.de'li.i. N.L. gen. n. <i>mendelii</i> named after Gregor Mendel, the founder of genetics)	Hajduskova <i>et al.</i> 2016 [553]
<i>Rickettsia moyalensis</i>		(mo.ya.len'sis. N.L. fem. adj. <i>moyalensis</i> pertaining to Moyale, Kenya)	Kimita <i>et al.</i> 2016 [554]

Continued

Table 4. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Rickettsia nicoyana</i> *		(ni.co.ya'na. N.L. fem. adj. <i>nicoyana</i> pertaining to Nicoya, Costa Rica)	Moreira-Soto et al. 2017 [555]
<i>Rickettsia principis</i>		(prin'ci.pis. L. gen. n. <i>principis</i> of the prince, collected close to Prince Volkonsky Village, Russia)	Mediannikov et al. 2006 [556]
<i>Rickettsia rara</i>		(ra'ra. L. fem. adj. <i>rara</i> rare)	Mediannikov et al. 2007 [538]
<i>Rickettsia riojensis</i>	<i>Rickettsia rioja</i>	We propose correcting the epithet to <i>riojensis</i> (ri.o.jen'sis. N.L. fem. adj. <i>riojensis</i> pertaining to La Rioja, Spain)	Portillo et al. 2009 [557]
<i>Rickettsia siciliensis</i>		(si.ci.li.en'sis. L. fem. adj. <i>siciliensis</i> pertaining to Sicily)	Eremeeva and Stromdahl 2011 [558]
<i>Rickettsia tarasevichiae</i>		(ta.ra.se.vi'chi.ae. N.L. gen. n. <i>tarasevichiae</i> after Irina Tarasevich, head of the Laboratory of Rickettsial Ecology of the Gamaleya Institute in Moscow)	Shpynov et al. 2003 [559]
<i>Rickettsia tasmaniensis</i>	<i>Rickettsia tasmanensis</i>	We propose correcting the epithet to <i>tasmaniensis</i> (tas.ma.ni.en'sis. N.L. fem. adj. <i>tasmaniensis</i> pertaining to Tasmania)	Izzard et al. 2009 [560]
<i>Rickettsia tibetensis</i>	<i>Rickettsia tibetani</i>	We propose correcting the epithet to <i>tibetensis</i> (ti.bet.en'sis. N.L. fem. adj. <i>tibetensis</i> of or pertaining to Tibet, where the organism was isolated)	Wang et al. 2012 [561]
<i>Rickettsia uilenbergii</i>	<i>Rickettsia uilenbergi</i>	We propose correcting the epithet to <i>uilenbergii</i> (ui.len.ber'gi.i. N.L. gen. n. <i>uilenbergii</i> named after Gerrit Uilenberg, a Dutch expert on tick-borne pathogens); given as a <i>Candidatus</i> taxon in Mediannikov et al. 2007 [538], given as ' <i>Rickettsia</i> sp. strain Uilenbergi' in Matsumoto et al. 2007 [539]	Mediannikov et al. 2007; Matsumoto et al. 2007 [538, 539]
<i>Rickettsia uralica</i>		(u.ra'li.ca. N.L. fem. adj. <i>uralica</i> pertaining to the Ural)	Igolkina et al. 2015 [562]
<i>Rickettsia vini</i>		(vi'ni. L. gen. n. <i>vini</i> of wine)	Palomar et al. 2012 [563]
<i>Rickettsia wissemanni</i>		(wis.se.man'i.i. N.L. gen. n. <i>wissemanni</i> named after Charles Wisseman of the University of Maryland, who worked in the field of rickettsial diseases)	Tahir et al. 2016 [564]
<i>Rickettsiella isopodorum</i>		(i.so.po.do'rum. N.L. gen. pl. n. <i>isopodorum</i> of the crustacean order <i>Isopoda</i>)	Kleespies et al. 2014 [565]
<i>Rickettsiella viridis</i>		(vi'ri.dis. L. fem. adj. <i>viridis</i> green)	Tsuchida et al. 2014 [566]
<i>Roseomonas massiliensis</i>	<i>Roseomonas massiliae</i>	We propose correcting the epithet to <i>massiliensis</i> (mas.si.li.en'sis. L. fem. adj. <i>massiliensis</i> pertaining to Marseille)	Greub et al. 2004 [63]
<i>Smithella cisternae</i>		(cis.ter'nae. L. fem. n. <i>cisternae</i> of a subterranean water reservoir)	Qin et al. 2017 [567]
<i>Sodalis melophagi</i>		(me.lo.pha'gi. N.L. gen. n. <i>melophagi</i> of the insect genus <i>Melophagus</i>)	Chrudimský et al. 2012 [568]
<i>Sodalis pierantonii</i>	<i>Sodalis pierantonius</i>	We propose correcting the epithet to <i>pierantonii</i> (pier.an.to'ni.i. N.L. gen. n. <i>pierantonii</i> named after Umberto Pierantoni who first described the symbiosis in <i>Sitophilus</i> spp. weevils)	Oakeson et al. 2014 [569]
<i>Streptomyces philanthi</i>		(phil.an'thi. N.L. gen. n. <i>philanthi</i> of wasp genus <i>Philanthus</i>)	Kaltenpoth et al. 2006 [570]
<i>Sulfurospirillum diekertiae</i> *		(die.ker'ti.ae. N.L. gen. n. <i>diekertiae</i> of Diekert, named after Gabriele Diekert, Professor of microbiology at the University of Jena, Germany)	Buttet et al. 2018 [571]
<i>Sulfurovum sediminum</i>		(se.di'mi.num. L. gen. pl. n. <i>sediminum</i> of sediments)	Park et al. 2012 [409]

Continued

Table 4. Continued

Proposed name of the <i>Candidatus</i> taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Synechococcus spongiarum</i>		(spon.gi.a'rum. L. gen. pl. n. <i>spongiarum</i> of sponges); The generic name <i>Synechococcus</i> has standing under the provisions of the International Code of Nomenclature for algae, fungi, and plants as a genus of cyanobacteria	Usher et al. 2004 [572]
<i>Tenacibaculum medusae</i>		(me.du'sae. L. gen. n. <i>medusae</i> of a jellyfish)	Viver et al. 2017 [182]
<i>Thalassarchaea marina</i>	<i>Thalassoarchaea marina</i>	(ma.ri'na. L. fem. adj. <i>marina</i> marine, of the sea)	Martin-Cuadrado et al. 2015 [286]
<i>Thalassarchaea mediterranei</i>	<i>Thalassoarchaea mediterranei</i>	We propose correcting the name to <i>Thalassarchaea mediterranei</i> (me.di.ter.ra'ne.i. L. gen. n. <i>mediterranei</i> of the Mediterranean Sea)	Martin-Cuadrado et al. 2015 [286]
<i>Thiodictyon syntrophicum</i>		(syn.tro'phi.cum. Gr. pref. <i>syn-</i> together; Gr. masc. adj. <i>trophikos</i> nursing, tending; N.L. neut. adj. <i>syntrophicum</i> syntrophic)	Peduzzi et al. 2012 [573]
<i>Thiomargarita joergensenii</i>		(joer.gen.se'ni.i. N.L. gen. n. <i>joergensenii</i> named after Bo Barker Jørgensen for his work on large sulfur bacteria.)	Salman et al. 2011 [152]
<i>Thiomargarita nelsonii</i>		(nel.so'ni.i. N.L. gen. n. <i>nelsonii</i> named after Douglas C. Nelson for his work on large sulfur bacteria.)	Salman et al. 2011 [152]
<i>Treponema intracellulare</i>	<i>Treponema intracellularis</i>	We propose correcting the epithet to <i>intracellulare</i> (in.tra.cel.lu.la're. N.L. neut. adj. <i>intracellulare</i> intracellular)	Ohkuma et al. 2015 [574]
<i>Wolbachia blaxteri</i>		(blax'te.ri. N.L. gen. n. <i>blaxteri</i> named after Mark Blaxter in recognition of his molecular studies on nematodes and their associated <i>Wolbachia</i> symbionts)	Ramírez-Puebla et al. 2015 [575]
<i>Wolbachia bourtzisii</i>		(bourt.zi'si.i. N.L. gen. n. <i>bourtzisii</i> named after Kostas Bourtzis as a recognition for his studies on <i>Wolbachia</i> and other bacteria associated with arthropods)	Ramírez-Puebla et al. 2015 [575]
<i>Wolbachia brugii</i>		(bru'gi.i. N.L. gen. n. <i>brugii</i> named after Stephen Lambert Brug, a Dutch parasitologist who first described the filarial nematode <i>Brugia malayi</i> , a model for the study of <i>Wolbachia</i> -nematode relationships)	Ramírez-Puebla et al. 2015 [575]
<i>Wolbachia collembolicola</i>		(col.lem.bo.li'co.la. N.L. pl. neut. n. <i>Collembola</i> a class of springtails; L. suff. <i>-cola</i> (from L. masc. or gen. n. <i>incola</i>) inhabitant, dweller; N.L. fem. n. <i>collembolicola</i> a dweller of <i>Collembola</i>)	Ramírez-Puebla et al. 2015 [575]
<i>Wolbachia ivorensis</i>		(i.vor.en'sis. N.L. fem. adj. <i>ivorensis</i> pertaining to Côte d'Ivoire)	Ehounoud et al. 2016 [420]
<i>Wolbachia multihospitum</i>		(mul.ti.hos'pi.tum. L. masc. adj. <i>multus</i> many; L. masc. n. <i>hospes</i> host; N.L. gen. pl. n. <i>multihospitum</i> of many hosts)	Ramírez-Puebla et al. 2015 [575]
<i>Wolbachia onchocercicola</i>		(on.cho.cer.ci'co.la. N.L. fem. n. <i>Onchocerca</i> a nematode genus; L. suff. <i>-cola</i> (from L. masc. or gen. n. <i>incola</i>) inhabitant, dweller; N.L. fem. n. <i>onchocercicola</i> a dweller of <i>Onchocerca</i> nematodes)	Ramírez-Puebla et al. 2015 [575]
<i>Wolbachia taylorii</i>	<i>Wolbachia taylori</i>	We propose correcting the epithet to <i>taylorii</i> (tay.lo'ri.i. N.L. gen. n. <i>taylorii</i> named after Mark J. Taylor in recognition of his studied on the role of <i>Wolbachia</i> -nematode symbionts in human diseases and his search for treatments)	Ramírez-Puebla et al. 2015 [575]
<i>Wolinella africana</i>	<i>Wolinella africanus</i>	We propose correcting the epithet to <i>africana</i> (a.fri.ca'na. L. fem. adj. <i>africana</i> African)	Bohr et al. 2003; Oxley et al. 2004 [576, 577]

*The description of the *Candidatus* taxon is deficient and/or based on insufficient supporting data.

Table 5. Subspecies-level *Candidatus* taxa

Proposed name of the <i>Candidatus</i> taxon	Etymology and comments	References
<i>Francisella noatunensis</i> subsp. <i>endociliophora</i>	(en.do.ci.li.o'pho.ra. Gr. pref. <i>endo</i> inside; L. fem. pl. n. <i>Ciliophora</i> name of a protist phylum; N.L. fem. adj. <i>endociliophora</i> inside Ciliophora); The species name <i>Francisella noatunensis</i> was validly published	Schrallhammer et al. 2011 [578]
<i>Liberibacter africanus</i> subsp. <i>capensis</i>	(ca.pen'sis. N.L. masc. adj. <i>capensis</i> from the Cape (referring to the epithet of the plant species <i>Calodenron capense</i>); The generic name <i>Liberibacter</i> was validly published; <i>Liberibacter africanus</i> is on the list of species-level <i>Candidatus</i> taxa	Garnier et al. 2000 [489]
<i>Liberibacter africanus</i> subsp. <i>clausenae</i>	(clau.se'nae. N.L. gen. n. <i>clausenae</i> of the tree genus <i>Clausena</i>); The generic name <i>Liberibacter</i> was validly published; <i>Liberibacter africanus</i> is on the list of species-level <i>Candidatus</i> taxa	Roberts et al. 2015 [579]
<i>Liberibacter africanus</i> subsp. <i>vepridis</i>	(ve'pri.dis. N.L. gen. n. <i>vepridis</i> of the tree genus <i>Vepris</i>); The generic name <i>Liberibacter</i> was validly published; <i>Liberibacter africanus</i> is on the list of species-level <i>Candidatus</i> taxa	Roberts et al. 2015 [579]
<i>Liberibacter africanus</i> subsp. <i>zanthoxyli</i>	(zan.tho.xy'li. N.L. gen. n. <i>zanthoxyli</i> of the tree genus <i>Zanthoxylum</i>); The generic name <i>Liberibacter</i> was validly published; <i>Liberibacter africanus</i> is on the list of species-level <i>Candidatus</i> taxa	Roberts et al. 2015 [579]
<i>Mycoplasma haemomuris</i> subsp. <i>musculi</i>	(mus'cu.li. L. gen. n. <i>musculi</i> of a little mouse); The species name <i>Mycoplasma haemomuris</i> was validly published	Harasawa et al. 2015 [580]
<i>Mycoplasma haemomuris</i> subsp. <i>ratti</i>	(rat'ti. L. gen. n. <i>ratti</i> of a rat); The species name <i>Mycoplasma haemomuris</i> was validly published	Harasawa et al. 2015 [580]
<i>Trichorickettsia mobilis</i> subsp. <i>extranuclearis</i>	(ex.tra.nu.cle.a'ris. N.L. fem. adj. <i>extranuclearis</i> extranuclear); <i>Trichorickettsia mobilis</i> is on the list of species-level <i>Candidatus</i> taxa	Sabaneyeva et al. 2018 [581]
<i>Trichorickettsia mobilis</i> subsp. <i>hyperinfectiva</i>	(hy.per.in.fec.ti'va. Gr. prep. <i>hyper</i> beyond; L. v. <i>inficio</i> to infect; N.L. fem. adj. <i>hyperinfectiva</i> hyperinfective); <i>Trichorickettsia mobilis</i> is on the list of species-level <i>Candidatus</i> taxa	Sabaneyeva et al. 2018 [581]
<i>Trichorickettsia mobilis</i> subsp. <i>mobilis</i>	(mo'bi.lis. L. fem. adj. <i>mobilis</i> motile); <i>Trichorickettsia mobilis</i> is on the list of species-level <i>Candidatus</i> taxa	Vannini et al. 2014; Sabaneyeva et al. 2018 [134, 581]

Table 6. Former *Candidatus* taxa whose names were later validly or effectively published and have thus lost the *Candidatus* status

Information about the nomenclatural types and etymology can be found in the effective publication papers, validation lists and in the List of Prokaryotic Names with Standing in the Nomenclature (www.bacterio.net).

Validly published names	Earlier published name of the <i>Candidatus</i> taxon (if different)	Comments	References
Order-level			
<i>Nitrosopumilales</i>			Könneke <i>et al.</i> 2005, Qin <i>et al.</i> 2017 [582, 583]
<i>Nitrososphaerales</i>			Stieglmeier <i>et al.</i> 2014; Tourna <i>et al.</i> 2011 [584, 585]
Family-level			
<i>Nitrosopumilaceae</i>			Könneke <i>et al.</i> 2005, Qin <i>et al.</i> 2017 [582, 583]
<i>Nitrososphaeraceae</i>			Stieglmeier <i>et al.</i> 2014; Tourna <i>et al.</i> 2011 [584, 585]
Genus-level			
<i>Chloracidobacterium</i>		The name was effectively but not validly published as restrictions were placed on the distribution of the type strain of the type species	Bryant <i>et al.</i> 2007, Tank and Bryant 2015 [586, 587]
<i>Endomicrobium</i>			Stingl <i>et al.</i> 2005, Zheng <i>et al.</i> 2016 [475, 588]
<i>Lawsonia</i>	<i>intracellularis</i>		Murray and Stackebrandt 1995; McOrist <i>et al.</i> 1995; Gebhardt <i>et al.</i> 1993 [3, 589, 590]
<i>Liberibacter</i>	<i>Liberobacter</i>		Jagoueix <i>et al.</i> 1994; Fagen <i>et al.</i> 2014 [491, 591]
<i>Magnetococcus</i>			Bazylinski <i>et al.</i> 2013; Lefèvre <i>et al.</i> 2012 [592, 593]
<i>Magnetovibrio</i>			Bazylinski <i>et al.</i> [594]
<i>Marispirochaeta</i>			Shivani <i>et al.</i> 2016; Shivani <i>et al.</i> 2017 [336, 595]
<i>Methanoregula</i>			Bräuer <i>et al.</i> 2006; Bräuer <i>et al.</i> 2011 [596, 597]
<i>Nitrosarchaeum</i>	<i>Nitrosoarchaeum</i>		Blainey <i>et al.</i> 2011; Jung <i>et al.</i> 2018 [512, 598]
<i>Nitrosopumilus</i>			Könneke <i>et al.</i> 2005; Qin <i>et al.</i> 2017 [582, 583]
<i>Nitrososphaera</i>			Stieglmeier <i>et al.</i> 2014; Tourna <i>et al.</i> 2011 [584, 585]

Continued

Table 6. Continued

Validly published names	Earlier published name of the <i>Candidatus</i> taxon (if different)	Comments	References
<i>Planktomarina</i>			Giebel <i>et al.</i> 2011; Giebel <i>et al.</i> 2013 [248, 249]
<i>Protochlamydia</i>			Collingro <i>et al.</i> 2005; Horn 2011 [599, 600]
<i>Rhabdochlamydia</i>			Corsaro <i>et al.</i> 2007; Horn 2011 [601, 602]
<i>Rhodoluna</i>			Hahn 2009; Hahn <i>et al.</i> 2014 [70, 603]
<i>Salinibacter</i>			Antón <i>et al.</i> 2000; Antón <i>et al.</i> 2002 emend. Muñoz <i>et al.</i> 2016 [604–606]
Species-level taxa			
<i>Alistipes ihumii</i>		The name was earlier published as <i>Candidatus</i> <i>Alistipes marseilloanorexicus</i>	Pfleiderer <i>et al.</i> 2013, 2014 [607, 608]; Pfleiderer <i>et al.</i> 2017 [609]
<i>Bacillus massilioanorexicus</i>		The name was earlier published as <i>Bacillus marseilloanorexicus</i>	Pfleiderer <i>et al.</i> 2013; Mishra <i>et al.</i> 2013 [607, 610]
<i>Bacteroides massiliensis</i>	<i>Bacteroides massiliae</i>		Drancourt <i>et al.</i> 2004; Fenner <i>et al.</i> 2005 [418, 611]
<i>Campylobacter hominis</i>			Lawson <i>et al.</i> 1998; Lawson <i>et al.</i> 2001 [612, 613]
<i>Chloracidobacterium thermophilum</i>		The name was effectively but not validly published as restrictions were placed on the distribution of the type strain	Bryant <i>et al.</i> 2007; Tank and Bryant 2015 [586, 587]
<i>Clostridium ihumii</i>		The name was earlier published as <i>Candidatus</i> <i>Clostridium anorexicamassiliense</i>	Pfleiderer <i>et al.</i> 2013; Merhej <i>et al.</i> 2015 [607, 614]
<i>Desulfamplus magnetovallimortis</i>		The name was earlier published as <i>Candidatus</i> <i>Desulfamplus magnetomortis</i>	Descamps <i>et al.</i> 2017; Lefèvre <i>et al.</i> 2011 [615, 616]
<i>Gilliamella apicola</i>			Kwong and Moran 2013; Martinson <i>et al.</i> 2012 [617, 618]
<i>Gloeomargarita lithophora</i>		The name was validly published under the provisions of the International Code of Nomenclature for algae, fungi, and plants	Couradeau <i>et al.</i> 2012; Moreira <i>et al.</i> 2017 [619, 620]
<i>Helicobacter heilmannii</i>			O'Rourke <i>et al.</i> 2004; Smet <i>et al.</i> 2012 [621, 622]
<i>Helicobacter suis</i>			Baele <i>et al.</i> 2008; De Groote <i>et al.</i> 1999 [623, 624]

Continued

Table 6. Continued

Validly published names	Earlier published name of the <i>Candidatus</i> taxon (if different)	Comments	References
<i>Holdemania massiliensis</i>			Pfleiderer <i>et al.</i> 2013; Mishra <i>et al.</i> 2013 [607, 625] Validation List 170
<i>Lawsonia intracellularis</i>	<i>intracellularis</i>		Murray and Stackebrandt 1995; Gebhardt <i>et al.</i> 1993; McOrist <i>et al.</i> 1995 [3, 589, 590]
<i>Magnetococcus marinus</i>			Bazylnski <i>et al.</i> 2013; Lefèvre <i>et al.</i> 2012 [592, 593]
<i>Magnetovibrio blakemorei</i>			Bazylnski <i>et al.</i> 2013; Bazylnsky and Williams 2007 [594, 626]
<i>Methanoregula boonei</i>			Bräuer <i>et al.</i> 2006; Bräuer <i>et al.</i> 2011 [596, 597]
<i>Mycoplasma haemofelis</i>		The proposal of Neimark <i>et al.</i> [627] to reclassify <i>Haemobartonella felis</i> (ex Clark 1942) Kreier and Ristic 1984 as a 'Candidatus' name was not acceptable, as it would cause a validly published name to lose standing in nomenclature. Neimark <i>et al.</i> 2002 [628] subsequently revised the proposal as a new combination, which is now validly published as <i>Mycoplasma haemofelis</i> Neimark <i>et al.</i> 2002	Neimark <i>et al.</i> 2001; Neimark <i>et al.</i> 2002 [627, 628]
<i>Mycoplasma haemomuris</i>		The proposal of Neimark <i>et al.</i> [627] to reclassify <i>Haemobartonella muris</i> (Mayer 1921) Tyzzer and Weinman 1939 [13] as a 'Candidatus' name was not acceptable, as it would cause a validly published name to lose standing in nomenclature. Neimark <i>et al.</i> 2002 [628] subsequently revised the proposal as a new combination, which is now validly published as <i>Mycoplasma haemomuris</i> (Mayer 1921) Neimark <i>et al.</i> 2002	Neimark <i>et al.</i> 2001; Neimark <i>et al.</i> 2002 [627, 628]
<i>Mycoplasma haemosuis</i>		The proposal of Neimark <i>et al.</i> [627] to reclassify <i>Eperythrozoon suis</i> Splitter 1950 [13] as a 'Candidatus' name was not acceptable, as it would cause a validly published name to lose standing in nomenclature. Neimark <i>et al.</i> [628] subsequently revised the proposal as a new combination, which is now validly published as <i>Mycoplasma haemosuis</i> (sic) (Splitter 1950) Neimark <i>et al.</i> 2002, corrected to <i>Mycoplasma suis</i>	Neimark <i>et al.</i> 2001; Neimark <i>et al.</i> 2002 [627, 628]
<i>Mycoplasma wenyonii</i>		The proposal of Neimark <i>et al.</i> [627] to reclassify <i>Eperythrozoon wenyonii</i> Adler and Ellenbogen 1934 [13] as a 'Candidatus' name was not acceptable, as it would cause a validly published name to lose standing in nomenclature. Neimark <i>et al.</i> [628] subsequently revised the proposal as a new combination, which was validly published as <i>Mycoplasma wenyonii</i> (Adler and Ellenbogen 1934) Neimark <i>et al.</i> 2002	Neimark <i>et al.</i> 2001; Neimark <i>et al.</i> 2002 [627, 628]
<i>Nitrosarchaeum koreense</i>	<i>Nitrosoarchaeum koreensis</i>		Jung <i>et al.</i> 2018; Kim <i>et al.</i> 2011 [598, 629]
<i>Nitrosopumilus maritimus</i>			Könneke <i>et al.</i> 2005; Qin <i>et al.</i> 2017 [582, 583]
<i>Nitrososphaera viennensis</i>			Stieglmeier <i>et al.</i> 2014; Tourna <i>et al.</i> 2011 [584, 585]
<i>Planktomarina temperata</i>			Giebel <i>et al.</i> 2011; Giebel <i>et al.</i> 2013 [248, 249]

Continued

Table 6. Continued

Validly published names	Earlier published name of the <i>Candidatus</i> taxon (if different)	Comments	References
<i>Protochlamydia amoebophila</i>			Collingro <i>et al.</i> 2005; Horn 2011 [599, 600]
<i>Rhabdochlamydia crassificans</i>			Corsaro <i>et al.</i> 2007; Horn 2011 [601, 602]
<i>Rhodoluna laticola</i>			Hahn 2009; Hahn <i>et al.</i> 2014 [70, 603]
<i>Rickettsia amblyommatis</i>	<i>Rickettsia amblyommii</i>	<i>Rickettsia amblyommii</i> was not designated a <i>Candidatus</i> in the original publication, but appears as <i>Candidatus</i> in numerous later papers	Karpathy <i>et al.</i> 2016; Labruna <i>et al.</i> 2004 [630, 631]
<i>Rickettsia asemonensis</i>	<i>Rickettsia asemoensis</i>		Jiang <i>et al.</i> 2013; Maina <i>et al.</i> 2016 [632, 633]
<i>Rickettsia gravesii</i>			Abdad <i>et al.</i> 2017; Owen <i>et al.</i> 2006 [634, 635]
<i>Rickettsia hoogstraalii</i>			Duh <i>et al.</i> 2010; Mattila <i>et al.</i> 2007 [636, 637]
<i>Serratia symbiotica</i>			Moran <i>et al.</i> 2005; Sabri <i>et al.</i> 2011 [259, 638]
<i>Siccibacter colletis</i>	Originally named <i>Candidatus</i> <i>Cronobacter colletis</i>		Jackson <i>et al.</i> 2015; Masood <i>et al.</i> 2014 [639, 640]
<i>Snodgrassella alvi</i>			Kwong and Moran 2013; Martinson <i>et al.</i> 2012 [617, 618]

Table 7. Taxa described as *Candidatus* but based on pure cultures, so that *Candidatus* status must be denied

Proposed name of the taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Allofontibacter</i>	<i>fonsibacter</i>	The proposed name <i>fonsibacter</i> or <i>Fonsibacter</i> is malformed and the generic name <i>Fontibacter</i> exists; we therefore propose correcting the name to <i>Allofontibacter</i> (Al.lo.fon.ti.bac'ter. Gr. masc. adj. <i>allos</i> other; L. masc. n. <i>fons, fontis</i> a spring; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Allofontibacter</i> a new rod from a spring); the organism was grown in axenic culture	Henson et al. 2018 [641]
<i>Allofontibacter communis</i>	<i>fonsibacter ubiquis</i>	(com.mu'nis. L. masc. adj. <i>communis</i> common); the organism was grown in axenic culture	Henson et al. 2018 [641]
<i>Anaplasma corsicanum</i>		(cor.si.ca'num. N.L. neut. adj. <i>corsicanum</i> pertaining to Corsica); the description was based on a pure culture	Dahmani et al. 2017 [642]
<i>Anaplasma mediterraneum</i>		(me.di.ter.ra'ne.um. L. neut. adj. <i>mediterraneum</i> Mediterranean); the description was based on a pure culture	Dahmani et al. 2017 [642]
<i>Arsenophonus triatominarum</i>		(tri.a.to.mi.na'rum. N.L. gen. pl. n. <i>triatominarum</i> of the kissing bugs subfamily <i>Triatominae</i>); The authors described an axenic culture, but proposed <i>Candidatus</i> status as the phenotypic tests could not be performed	Hypša and Dale 1997 [643]
<i>Bacteroides timonensis</i>		(ti.mon.en'sis. N.L. masc. adj. <i>timonensis</i> pertaining to the hospital of Timone); the organism was grown in axenic culture	Pfleiderer et al. 2013; Ramasamy et al. 2014 [607, 644]
<i>Bartonella durdenii</i>		(dur.de'ni.i. N.L. gen. n. <i>durdenii</i> named after Lance A. Durden who studies vector-borne diseases at George Southern University); an axenic culture was deposited as ATCC BAA-1452	Breitschwerdt et al. 2009 [438]
<i>Bartonella mastomyi</i>	<i>Bartonella mastomydis</i>	We propose correcting the epithet to <i>mastomyi</i> (mas.to.my'si. N.L. gen. n. <i>mastomyi</i> of the rodent genus <i>Mastomys</i>); the first description was based on a pure culture, and the name was later effectively published with type strain 008, CSUR B643, DSM 28002	Mediannikov et al. 2014; Dahmani et al. 2018; corrig. Dahmani et al. 2019 [642, 645, 646]
<i>Bartonella melophagi</i>		(me.lo.pha'gi. N.L. gen. n. <i>melophagi</i> of the louse fly genus <i>Melophagus</i>); the description was based on a pure culture	Maggi et al. 2009 [647]
<i>Bartonella raoultii</i>		(ra.oult'i.i. N.L. gen. n. <i>raoultii</i> named after Didier Raoult, a French microbiologist for his studies of infectious diseases); the description was based on a pure culture	Mediannikov et al. 2014 [646]
<i>Bartonella sahelensis</i>	<i>Bartonella sahelensis</i>	We propose correcting the specific epithet to <i>sahelensis</i> (sa.hel.en'sis. N.L. fem. adj. <i>sahelensis</i> pertaining to the Sahel); the description was based on a pure culture	Mediannikov et al. 2014 [646]
<i>Bartonella volans</i>		(vo'lans. L. part. adj. <i>volans</i> flying, referring to the isolation from the flying squirrel <i>Glaucomys volans</i>); an axenic culture was deposited as ATCC BAA-1451	Breitschwerdt et al. 2009 [438]
<i>Bartonella washoensis</i> subsp. <i>cynomysi</i>	<i>Bartonella washoensis</i> subsp. <i>cynomysii</i>	We propose correcting the subspecific epithet to <i>cynomysi</i> (cy.no.my'si. N.L. gen. n. <i>cynomysi</i> of the prairie dog <i>Cynomys</i>); an axenic culture was deposited as type strain CL8606co=ATCC BAA-1342=CCUG 53213	Bai et al. 2008 [648]
<i>Blastococcus massiliensis</i>		(mas.si.li.en'sis. L. masc. adj. <i>massiliensis</i> pertaining to Marseille); the organism was grown in axenic culture	Pfleiderer et al. 2013 [607]
<i>Brocadia carolinensis</i>	<i>Brocadia caroliniensis</i>	We propose correcting the epithet to <i>carolinensis</i> (ca.ro.li.nen'sis. N.L. fem. adj. <i>carolinensis</i> pertaining to Carolina); an axenic culture that was deposited as NRRRL B5-286	Magri et al. 2012 [649]
<i>Clostridium anorexicum</i>	<i>Clostridium anorexicus</i>	We propose correcting the epithet to <i>anorexicum</i> (an.o.re'xi.cum. N.L. neut. adj. <i>anorexicum</i> pertaining to anorexia); the organism was grown in axenic culture	Pfleiderer et al. 2013 [607]
<i>Dorea massiliensis</i>		(mas.si.li.en'sis. L. fem. adj. <i>massiliensis</i> pertaining to Marseille); the organism was grown in axenic culture	Pfleiderer et al. 2013 [607]
<i>Ferrisolea massiliensis</i>	<i>Soleaferrea massiliensis</i>	We propose correcting the generic name to <i>Ferrisolea</i> (Fer.ri.so'le.a. L. neut. n. <i>ferrum</i> iron; L. fem. n. <i>solea</i> a sandal; N.L. fem. n. <i>Ferrisolea</i> a horseshoe); (mas.si.li.en'sis. L. fem. adj. <i>massiliensis</i> pertaining to Marseille); the organism was grown in axenic culture	Pfleiderer et al. 2013 [607]
<i>Filomicrobium marinum</i>		(ma.ri'num. L. neut. adj. <i>marinum</i> marine); The organism was grown in axenic culture	Henriques and De Marco 2015 [650]

Continued

Table 7. Continued

Proposed name of the taxon	Published name of the <i>Candidatus</i> taxon (if different from the proposed name)	Etymology and comments	References
<i>Halobonum tyrrellense</i>	<i>Halobonum tyrrellensis</i>	(Ha.lo.bo'num. Gr. masc. n. <i>hals</i> , <i>halos</i> salt; L. masc. adj. <i>bonus</i> good; N.L. neut. n. <i>Halobonum</i> a good salt organism); We propose correcting the epithet to <i>tyrrellense</i> (tyr.rell.en'se. N.L. neut. adj. <i>tyrrellense</i> pertaining to Lake Tyrrell); the organism was grown in axenic culture	Ugalde et al. 2013 [651]
<i>Koribacter versatilis</i>		(Ko.ri.bac'ter. Gr. masc. n. <i>koros</i> young man N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Koribacter</i> a young rod); (ver.sa'ti.lis. L. masc. adj. <i>versatilis</i> versatile); the organism was grown in axenic culture	Ward et al. 2009 [652]
<i>Limnosphaera aquatica</i>		(Lim.no.sphae'ra. Gr. fem. n. <i>limne</i> lake; Gr. fem. n. <i>sphaira</i> a sphere; N.L. fem. n. <i>Limnosphaera</i> a globe from a lake); (a.qua'ti.ca. L. fem. adj. <i>aquatica</i> aquatic); an axenic culture was deposited as IMCC 26207	Kim et al. 2017 [653]
<i>Methylacidiphilum fumarolicum</i>	<i>Methylacidiphilum fumarolicum</i>	We propose correcting the epithet to <i>fumarolicum</i> (fu.ma.ro'li.cum. N.L. neut. adj. <i>fumarolicum</i> belonging to a fumarole); the strain (SolV) described as <i>Candidatus</i> Methylacidiphilum fumarolicum was earlier designated <i>Acidimethylosilex fumarolicum</i> gen. nov., sp. nov., and was isolated in axenic culture.	Khadem et al. 2012; Pol et al. 2007 [654, 655]
<i>Nitrosocosmicus</i>		(Ni.tro.so.cos'mi.cus. L. masc. adj. <i>nitrosus</i> full of natron, here intended to mean nitrous; N.L. pref. <i>nitroso-</i> pertaining to nitrite; Gr. masc. adj. <i>kosmikos</i> belonging to the world; N.L. masc. n. <i>Nitrosocosmicus</i> a nitrous organism belonging to the world); the first two isolates were obtained in axenic culture	Jung et al. 2016; Lehtovirta-Morley et al. 2016 [219, 220]
<i>Nitrosocosmicus franklandianus</i>	<i>Nitrosocosmicus franklandus</i>	We propose correcting the epithet to <i>franklandianus</i> (frank.lan.di.a'nus. N.L. masc. adj. <i>franklandianus</i> named after Percy and Grace Faraday Frankland); the organism was grown in axenic culture	Lehtovirta-Morley et al. 2016 [220]
<i>Nitrosocosmicus oleiphilus</i>	<i>Nitrosocosmicus oleiphilus</i>	We propose correcting the epithet to <i>oleiphilus</i> (o.le.i'phi.lus. L. neut. n. <i>oleum</i> oil; N.L. masc. adj. <i>philus</i> (from Gr. masc. adj. <i>philos</i>) loving; N.L. masc. adj. <i>oleiphilus</i> loving oil); the organism was grown in axenic culture	Jung et al. 2016 [219]
<i>Pectobacterium macerans</i>	<i>Pectobacterium maceratum</i>	We propose correcting the epithet to <i>macerans</i> (ma'ce.rans. L. part. adj. <i>macerans</i> making soft); the organism was grown in axenic culture. It was later included in the species <i>Pectobacterium versatile</i>	Shirshikov et al. 2018; Portier et al. 2019 [656, 657]
<i>Puniceispirillum marinum</i>		(Pu.ni.ce.i.spi.ril'lum. L. masc. adj. <i>puniceus</i> reddish; N.L. neut. n. <i>spirillum</i> a little coil; N.L. neut. n. <i>Puniceispirillum</i> a little reddish coil); (ma.ri'num. L. neut. adj. <i>marinum</i> of the sea); an axenic culture was deposited as IMCC 1322	Oh et al. 2010 [658]
<i>Rickettsia senegalensis</i>		(se.ne.gal.en'sis. N.L. fem. adj. <i>senegalensis</i> pertaining to Senegal); an axenic culture was deposited as CSUR R184 and DSM 2850 but the entry is not currently found in the online DSMZ catalog	Mediannikov et al. 2015 [659]
<i>Solibacter usitatus</i>		(So.li.bac'ter. L. neut. n. <i>solum</i> soil. N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Solibacter</i> a rod from soil); (u.si.ta'tus. L. masc. adj. <i>usitatus</i> common); the organism was grown in axenic culture	Ward et al. 2009 [652]
<i>Stoquefichus massiliensis</i>		The authors did not provide information about the etymology of the generic name; (mas.si.li.en'sis. L. masc. adj. <i>massiliensis</i> pertaining to Marseille); the organism was grown in axenic culture	Pfleiderer et al. 2013 [607]
<i>Streptomyces massiliensis</i>		(mas.si.li.en'sis. L. masc. adj. <i>massiliensis</i> pertaining to Marseille); the organism was grown in axenic culture	Pfleiderer et al. 2013 [607]
<i>Terasakiella magnetica</i>		(mag.ne'ti.ca. L. fem. adj. <i>magnetica</i> magnetic); the organism was grown in axenic culture	Monteil et al. 2018 [660]
<i>Thioglobus autotrophicus</i>	<i>Thioglobus autotrophica</i>	We propose correcting the epithet to <i>autotrophicus</i> (au.to.tro'phi.cus. N.L. masc. n. <i>autotrophicus</i> autotrophic); the organism was grown in axenic culture	Shah and Morris 2015 [661]
<i>Thioglobus singularis</i>		(sin.gu.la'ris. L. masc. adj. <i>singularis</i> solitary); the organism was grown in axenic culture	Marshall and Morris 2013 [291]
<i>Viadribacter manganicus</i>		(Vi.a.dri.bac'ter. L. masc. n. <i>Viadrus</i> the Oder River; N.L. masc. n. <i>bacter</i> a rod; N.L. masc. n. <i>Viadribacter</i> a rod from the Oder); (man.ga'ni.cus. N.L. masc. adj. <i>manganicus</i> pertaining to manganese); an axenic culture was deposited as DSM 25961 and LMG 27107	Braun and Szewzyk 2016 [662]

Funding information

M. C. was supported by the Australian Research Council Laureate Fellowship (FL150100038).

Conflicts of interest

The authors declare that there are no conflicts of interest.

References

- Murray RG, Schleifer KH. Taxonomic notes: a proposal for recording the properties of putative taxa of prokaryotes. *Int J Syst Bacteriol* 1994;44:174–176.
- Frederiksen W. Judicial Commission of the International Committee on Systematic Bacteriology: minutes of the meetings, 2 and 6 July 1994, Prague, Czech Republic. *Int J Syst Bacteriol* 1995;45:195–196.
- Murray RG, Stackebrandt E. Taxonomic note: implementation of the provisional status *Candidatus* for incompletely described prokaryotes. *Int J Syst Bacteriol* 1995;45:186–187.
- Labeda DP. Judicial Commission of the International Committee on Systematic Bacteriology VIIIth international Congress of microbiology and applied bacteriology: minutes of the meetings, 17 and 22 August 1996, Jerusalem, Israel. *Int J Syst Bacteriol* 1997;47:240–241.
- Parker CT, Tindall BJ, Garrity GM. International Code of Nomenclature of Prokaryotes (2008 Revision). *Int J Syst Evol Microbiol* 2019;69:S1–S111.
- Whitman WB. Modest proposals to expand the type material for naming of prokaryotes. *Int J Syst Evol Microbiol* 2016;66:2108–2112.
- Whitman WB, Sutcliffe IC, Rossello-Mora R. Proposal for changes in the International Code of Nomenclature of Prokaryotes: granting priority to *Candidatus* names. *Int J Syst Evol Microbiol* 2019;69:2174–2175.
- Oren A, da Costa MS, Garrity GM, Rainey FA, Rosselló-Móra R et al. Proposal to include the rank of phylum in the International Code of Nomenclature of Prokaryotes. *Int J Syst Evol Microbiol* 2015;65:4284–4287.
- Whitman WB, Oren A, Chuvochina M, da Costa MS, Garrity GM et al. Proposal of the suffix *-ota* to denote phyla. Addendum to 'Proposal to include the rank of phylum in the International Code of Nomenclature of Prokaryotes'. *Int J Syst Evol Microbiol* 2018;68:967–969.
- Oren A. A plea for linguistic accuracy – also for *Candidatus* taxa. *Int J Syst Evol Microbiol* 2017;67:1085–1094.
- Oren A, Vandamme P, Schink B. Notes on the use of Greek word roots in genus and species names of prokaryotes. *Int J Syst Evol Microbiol* 2016;66:2129–2140.
- Oren A. Proposal to modify rule 10A of the International Code of Nomenclature of Prokaryotes. *Int J Syst Evol Microbiol* 2014;64:3919.
- Skerman VBD, Sneath PHA, McGowan V. Approved Lists of bacterial names. *Int J Syst Evol Microbiol* 1980;30:225–420.
- Momper L, Aronson HS, Amend JP. Genomic description of '*Candidatus* Abyssubacteria,' a novel subsurface lineage within the candidate phylum *Hydrogenedentes*. *Front Microbiol* 2018;9:1993.
- Kirkegaard RH, Dueholm MS, McIlroy SJ, Nierychlo M, Karst SM et al. Genomic insights into members of the candidate phylum Hyd24-12 common in mesophilic anaerobic digesters. *ISME J* 2016;10:2352–2364.
- Emerson D, Rentz JA, Lilburn TG, Davis RE, Aldrich H et al. A novel lineage of *Proteobacteria* involved in formation of marine Fe-oxidizing microbial mat communities. *PLoS One* 2007;2:e667.
- Makita H, Tanaka E, Mitsunobu S, Miyazaki M, Nunoura T et al. *Mariprofundus micogutta* sp. nov., a novel iron-oxidizing zetaproteobacterium isolated from a deep-sea hydrothermal field at the Bayonnaise knoll of the Izu-Ogasawara arc, and a description of *Mariprofundales* ord. nov. and *Zetaproteobacteria* classis nov. *Arch Microbiol* 2017;199:335–346.
- Nobu MK, Narihiro T, Kuroda K, Mei R, Liu W-T. Chasing the elusive *Euryarchaeota* class WSA2: genomes reveal a uniquely fastidious methyl-reducing methanogen. *ISME J* 2016;10:2478–2487.
- Berghuis BA, Yu FB, Schulz F, Blainey PC, Woyke T et al. Hydrogenotrophic methanogenesis in archaeal phylum *Verstraearchaeota* reveals the shared ancestry of all methanogens. *Proc Natl Acad Sci USA* 2019;116:5037–5044.
- Vanwonterghem I, Evans PN, Parks DH, Jensen PD, Woodcroft BJ et al. Methylotrophic methanogenesis discovered in the archaeal phylum *Verstraearchaeota*. *Nat Microbiol* 2016;1:16170.
- Sekiguchi Y, Ohashi A, Parks DH, Yamauchi T, Tyson GW et al. First genomic insights into members of a candidate bacterial phylum responsible for wastewater bulking. *PeerJ* 2015;3:e740.
- Ward LM. *Microbial evolution and the rise of oxygen: the roles of contingency and context in shaping the biosphere through time*. Doctoral dissertation, California Institute of Technology; 2017.
- Ward LM, Hemp J, Shih PM, McGlynn SE, Fischer WW. Evolution of phototrophy in the *Chloroflexi* phylum driven by horizontal gene transfer. *Front Microbiol* 2018;9:260.
- Ghai R, Mizuno CM, Picazo A, Camacho A, Rodriguez-Valera F. Metagenomics uncovers a new group of low GC and ultra-small marine actinobacteria. *Sci Rep* 2013;3:2471.
- Probst AJ, Weinmaier T, Raymann K, Perras A, Emerson JB et al. Biology of a widespread uncultivated archaeon that contributes to carbon fixation in the subsurface. *Nat Commun* 2014;5:5497.
- Jetten MSM, Op den Camp HJM, Kuenen JG, Strous M. "*Candidatus* Brocadiales" ord. nov. In: Krieg NR, Staley JT, Brown DR, Hedlund BP and Paster BJ (editors). *Bergey's Manual of Systematic Bacteriology. The Bacteroidetes, Spirochaetes, Tenericutes (Mollicutes), Acidobacteria, Fibrobacteres, Fusobacteria, Dictyoglomi, Gemmatimonadetes, Lentisphaerae, Verrucomicrobia, Chlamydiae, and Planctomycetes*, 4, 2nd ed. New York: Springer; 2011. p. 918.
- Di Rienzi SC, Sharon I, Wrighton KC, Koren O, Hug LA et al. The human gut and groundwater harbor non-photosynthetic bacteria belonging to a new candidate phylum sibling to cyanobacteria. *Elife* 2013;2:e01102.
- Soo RM, Skennerton CT, Sekiguchi Y, Imelfort M, Paech SJ et al. An expanded genomic representation of the phylum *Cyanobacteria*. *Genome Biol Evol* 2014;6:1031–1045.
- Neuenschwander SM, Ghai R, Pernthaler J, Salcher MM. Microdiversification in genome-streamlined ubiquitous freshwater actinobacteria. *ISME J* 2018;12:185–198.
- de la Torre JR, Walker CB, Ingalls AE, Köneke M, Stahl DA. Cultivation of a thermophilic ammonia oxidizing archaeon synthesizing crenarchaeol. *Environ Microbiol* 2008;10:810–818.
- Prosser JI, Nicol G. *Candidatus Nitrosotales*. Chapter obm00123. *Bergey's Manual of Systematics of Archaea and Bacteria*. John Wiley & Sons, Bergey's Manual Trust; 2016.
- Grote J, Thrash JC, Huggett MJ, Landry ZC, Carini P et al. Streamlining and core genome conservation among highly divergent members of the SAR11 clade. *mBio* 2012;3:e00252–12.
- Jetten MSM, Op den Camp HJM, Kuenen JG, Strous M. "*Candidatus* Brocadiaceae" fam. nov. In: Krieg NR, Staley JT, Brown DR, Hedlund BP and Paster BJ (editors). *Bergey's Manual of Systematic Bacteriology. The Bacteroidetes, Spirochaetes, Tenericutes (Mollicutes), Acidobacteria, Fibrobacteres, Fusobacteria, Dictyoglomi, Gemmatimonadetes, Lentisphaerae, Verrucomicrobia, Chlamydiae, and Planctomycetes*, 4, 2nd ed. New York: Springer; 2011. pp. 918–925.
- Horn M. Family II. "*Candidatus* Clavichlamydiaceae". In: Krieg NR, Staley JT, Brown DR, Hedlund BP and Paster BJ (editors). *Bergey's Manual of Systematic Bacteriology. The Bacteroidetes, Spirochaetes, Tenericutes (Mollicutes), Acidobacteria, Fibrobacteres, Fusobacteria, Dictyoglomi, Gemmatimonadetes, Lentisphaerae, Verrucomicrobia, Chlamydiae, and Planctomycetes*, 4, 2nd ed. New York: Springer; 2011. p. 865.

35. McIlroy SJ, Albertsen M, Andresen EK, Saunders AM, Kristiansen R et al. 'Candidatus Competibacter'-lineage genomes retrieved from metagenomes reveal functional metabolic diversity. *ISME J* 2014;8:613–624.
36. Thomas V, Casson N, Greub G. *Criblamydia sequanensis*, a new intracellular *Chlamydiales* isolated from Seine river water using amoebal co-culture. *Environ Microbiol* 2006;8:2125–2135.
37. Krukenberg V, Harding K, Richter M, Glöckner FO, Gruber-Vodicka HR et al. *Candidatus Desulfotomaculum auxilii*, a hydrogenotrophic sulfate-reducing bacterium involved in the thermophilic anaerobic oxidation of methane. *Environ Microbiol* 2016;18:3073–3091.
38. Szokoli F, Castelli M, Sabaneyeva E, Schrollhammer M, Krensek S et al. Disentangling the taxonomy of *Rickettsiales* and description of two novel symbionts ("*Candidatus* Bealeia paramacronuclearis" and "*Candidatus* Fokinia cryptica") sharing the cytoplasm of the ciliate protist *Paramecium biaurelia*. *Appl Environ Microbiol* 2016;82:7236–7247.
39. Ormerod KL, Wood DLA, Lachner N, Gellatly SL, Daly JN et al. Genomic characterization of the uncultured *Bacteroidales* family S24-7 inhabiting the guts of homeothermic animals. *Microbiome* 2016;4:36.
40. Mondav R, Woodcroft BJ, Kim EH, McCalley CK, Hodgkins SB et al. Discovery of a novel methanogen prevalent in thawing permafrost. *Nat Commun* 2014;5:3212.
41. Haroon MF, Hu S, Shi Y, Imelfort M, Keller J et al. Anaerobic oxidation of methane coupled to nitrate reduction in a novel archaeal lineage. *Nature* 2013;500:567–570.
42. Montagna M, Sasser D, Epis S, Bazzocchi C, Vannini C et al. "*Candidatus* Midichloriaceae" fam. nov. (*Rickettsiales*), an ecologically widespread clade of intracellular Alphaproteobacteria. *Appl Environ Microbiol* 2013;79:3241–3248.
43. Herbold CW, Palatinszky M, Wagner M. *Candidatus* Nitrosotenuaceae. Chapter fbm00263. *Bergey's Manual of Systematics of Archaea and Bacteria*. John Wiley & Sons, *Bergey's Manual Trust*; 2016.
44. Hess S, Suthaus A, Melkonian M. "*Candidatus* Finniella" (*Rickettsiales*, *Alphaproteobacteria*), novel endosymbionts of viridiraptorid amoeboflagellates (Cercozoa, Rhizaria). *Appl Environ Microbiol* 2016;82:659–670.
45. Stride MC, Polkinghorne A, Miller TL, Groff JM, Lapatra SE et al. Molecular characterization of "*Candidatus* Parilichlamydia carangidicola," a novel *Chlamydia*-like epitheliocystis agent in yellowtail kingfish, *Seriola lalandi* (Valenciennes), and the proposal of a new family, "*Candidatus* Parilichlamydiaceae" fam. nov. (order *Chlamydiales*). *Appl Environ Microbiol* 2013;79:1590–1597.
46. Thrash JC, Boyd A, Huggett MJ, Grote J, Carini P et al. Phylogenomic evidence for a common ancestor of mitochondria and the SAR11 clade. *Sci Rep* 2011;1:13.
47. Dittami SM, Barbeyron T, Boyen C, Cambefort J, Collet G et al. Genome and metabolic network of "*Candidatus* Phaeoamarinobacter ectocarpi" Ec32, a new candidate genus of *Alphaproteobacteria* frequently associated with brown algae. *Front Genet* 2014;5:241.
48. Horn M. Family V. "*Candidatus* Piscichlamydiaceae". In: Krieg NR, Staley JT, Brown DR, Hedlund BP, Paster BJ et al. (editors). *Bergey's Manual of Systematic Bacteriology. The Bacteroidetes, Spirochaetes, Tenericutes (Mollicutes), Acidobacteria, Fibrobacteres, Fusobacteria, Dictyoglomi, Gemmatimonadetes, Lentisphaerae, Verrucomicrobia, Chlamydiae, and Planctomycetes*, 4, 2nd ed. New York: Springer; 2011. pp. 872–873.
49. Kroer P, Kjeldsen KU, Nyengaard JR, Schramm A, Funch P. A novel extracellular gut symbiont in the marine worm *Priapulidus caudatus* (Priapulida) reveals an alphaproteobacterial symbiont clade of the Ecdysozoa. *Front Microbiol* 2016;7:539.
50. Hesselmann RPX, Werlen C, Hahn D, van der Meer JR, Zehnder AJB. Enrichment, phylogenetic analysis and detection of a bacterium that performs enhanced biological phosphate removal in activated sludge. *Syst Appl Microbiol* 1999;22:454–465.
51. Hao L, McIlroy SJ, Kirkegaard RH, Karst SM, Fernando WEY et al. Novel prosthecate bacteria from the candidate phylum Acetothermia. *ISME J* 2018;12:2225–2237.
52. Takami H, Noguchi H, Takaki Y, Uchiyama I, Toyoda A et al. A deeply branching thermophilic bacterium with an ancient acetyl-CoA pathway dominates a subsurface ecosystem. *PLoS One* 2012;7:e30559.
53. Reysenbach A-L, Liu Y, Banta AB, Beveridge TJ, Kirshtein JD et al. A ubiquitous thermoacidophilic archaeon from deep-sea hydrothermal vents. *Nature* 2006;442:444–447.
54. Steigen A, Nylund A, Karlsbakk E, Akoll P, Fiksdal IU et al. '*Cand.* *Actinochlamydia clariae*' gen. nov., sp. nov., a unique intracellular bacterium causing epitheliocystis in catfish (*Clarias gariepinus*) in Uganda. *PLoS One* 2013;8:e66840.
55. Darby AC, Chandler SM, Welburn SC, Douglas AE. Aphid-symbiotic bacteria cultured in insect cell lines. *Appl Environ Microbiol* 2005;71:4833–4839.
56. Ikeda-Ohtsubo W, Strassert JFH, Köhler T, Mikaelyan A, Gregor I et al. '*Candidatus* *Adiutrix intracellularis*', an endosymbiont of termite gut flagellates, is the first representative of a deep-branching clade of *Deltaproteobacteria* and a putative homoacetogen. *Environ Microbiol* 2016;18:2548–2564.
57. Rinke C, Schwientek P, Sczyrba A, Ivanova NN, Anderson IJ et al. Insights into the phylogeny and coding potential of microbial dark matter. *Nature* 2013;499:431–437.
58. Solden LM, Hoyt DW, Collins WB, Plank JE, Daly RA et al. New roles in hemicellulosic sugar fermentation for the uncultivated *Bacteroidetes* family BS11. *ISME J* 2017;11:691–703.
59. Hinck S, Mußmann M, Salman V, Neu TR, Lenk S et al. Vacuolated *Beggiatoa*-like filaments from different hypersaline environments form a novel genus. *Environ Microbiol* 2011;13:3194–3205.
60. Eshoo MW, Carolan HE, Massire C, Chou DM, Crowder CD et al. Survey of *Ixodes pacificus* ticks in California reveals a diversity of microorganisms and a novel and widespread *Anaplasmataceae* species. *PLoS One* 2015;10:e0135828.
61. Paster BJ, Dewhirst FE. Phylogenetic foundation of spirochetes. *J Mol Microbiol Biotechnol* 2000;2:341–344.
62. Šikutová S, Halouzka J, Mendel J, Knoz J, Rudolf I. Novel spirochetes isolated from mosquitoes and black flies in the Czech Republic. *J Vector Ecol* 2010;35:50–55.
63. Greub G, La Scola B, Raoult D. Amoebae-resisting bacteria isolated from human nasal swabs by amoebal coculture. *Emerg Infect Dis* 2004;10:470–477.
64. Horn M, Harzenetter MD, Linner T, Schmid EN, Müller KD et al. Members of the *Cytophaga-Flavobacterium-Bacteroides* phylum as intracellular bacteria of acanthamoebae: proposal of '*Candidatus* *Amoebophilus asiaticus*'. *Environ Microbiol* 2001;3:440–449.
65. Martel A, Adriaensen C, Bogaerts S, Ducatelle R, Favoreel H et al. Novel *Chlamydiaceae* disease in captive salamanders. *Emerg Infect Dis* 2012;18:1020–1022.
66. Vannini C, Ferrantini F, Schleifer K-H, Ludwig W, Verni F et al. "*Candidatus* *Anadelfobacter veles*" and "*Candidatus* *Cyrtobacter comes*," two new *Rickettsiales* species hosted by the protist ciliate *Euplotes harpa* (Ciliophora, Spirotrichea). *Appl Environ Microbiol* 2010;76:4047–4054.
67. Kartal B, Rattray J, van Niftrik LA, van de Vossen J, Schmid MC et al. '*Candidatus* *Anammoxoglobus propionicus*' a new propionate oxidizing species of anaerobic ammonium oxidizing bacteria. *Syst Appl Microbiol* 2007;30:39–49.
68. Khramenkov SV, Kozlov MN, Kevbrina MV, Dorofeev AG, Kazakova EA et al. A novel bacterium carrying out anaerobic ammonium oxidation in a reactor for biological treatment of the filtrate of wastewater fermented sludge. *Microbiology* 2013;82:628–636.
69. Strassert JFH, Köhler T, Wienemann THG, Ikeda-Ohtsubo W, Faivre N et al. '*Candidatus* *Ancillula trichonymphae*', a novel lineage of endosymbiotic *Actinobacteria* in termite gut flagellates of the genus *Trichonympha*. *Environ Microbiol* 2012;14:3259–3270.

70. Hahn MW. Description of seven candidate species affiliated with the phylum *Actinobacteria*, representing planktonic freshwater bacteria. *Int J Syst Evol Microbiol* 2009;59:112–117.
71. Hahn MW, Schauer M. '*Candidatus Aquirestis calcephila*' and '*Candidatus Haliscosomenobacter calcifugiens*', filamentous, planktonic bacteria inhabiting natural lakes. *Int J Syst Evol Microbiol* 2007;57:936–940.
72. Bojko J, Dunn AM, Stebbing PD, van Aerle R, Bacela-Spychalska K et al. '*Candidatus Aquirickettsiella gammari*' (*Gammmaproteobacteria*: *Legionellales*: *Coxiellaceae*): a bacterial pathogen of the freshwater crustacean *Gammarus fossarum* (Malacostraca: Amphipoda). *J Invertebr Pathol* 2018;156:41–53.
73. Martijn J, Schulz F, Zaremba-Niedzwiedzka K, Viklund J, Step-anauskas R et al. Single-cell genomics of a rare environmental alphaproteobacterium provides unique insights into *Rickettsiaceae* evolution. *ISME J* 2015;9:2373–2385.
74. Desai MS, Strasser JFH, Meuser K, Hertel H, Ikeda-Ohtsubo W et al. Strict cospeciation of devescovinid flagellates and *Bacteroidales* ectosymbionts in the gut of dry-wood termites (Kaltermitidae). *Environ Microbiol* 2010;12:2120–2132.
75. Hosokawa T, Nikoh N, Koga R, Satô M, Tanahashi M et al. Reductive genome evolution, host-symbiont co-speciation and uterine transmission of endosymbiotic bacteria in bat flies. *ISME J* 2012;6:577–587.
76. Thompson AW, Foster RA, Krupke A, Carter BJ, Musat N et al. Unicellular cyanobacterium symbiotic with a single-celled eukaryotic alga. *Science* 2012;337:1546–1550.
77. Hongoh Y, Sharma VK, Prakash T, Noda S, Toh H et al. Genome of an endosymbiont coupling N_2 fixation to cellulolysis within protist cells in termite gut. *Science* 2008;322:1108–1109.
78. Kostanjšek R, Štrus J, Avguštin G. "*Candidatus Bacilloplasma*," a novel lineage of *Mollicutes* associated with the hindgut wall of the terrestrial isopod *Porcellio scaber* (Crustacea: Isopoda). *Appl Environ Microbiol* 2007;73:5566–5573.
79. Senra MVX, Dias RJP, Castelli M, Silva-Neto ID, Verni F et al. A house for two—double bacterial infection in *Euplotes woodruffi* Sq1 (Ciliophora, Euplotia) sampled in southeastern Brazil. *Microb Ecol* 2016;71:505–517.
80. Mehari YT, Jason Hayes B, Redding KS, Mariappan PVG, Gunderson JH et al. Description of '*Candidatus Berkiella aquae*' and '*Candidatus Berkiella cookevillensis*', two intranuclear bacteria of freshwater amoebae. *Int J Syst Evol Microbiol* 2016;66:536–541.
81. Sauer C, Stackebrandt E, Gadau J, Hölldobler B, Gross R. Systematic relationships and cospeciation of bacterial endosymbionts and their carpenter ant host species: proposal of the new taxon *Candidatus Blochmannia* gen. nov. *Int J Syst Evol Microbiol* 2000;50:1877–1886.
82. Toenshoff ER, Kvellestad A, Mitchell SO, Steinum T, Falk K et al. A novel betaproteobacterial agent of gill epitheliocystis in seawater farmed Atlantic salmon (*Salmo salar*). *PLoS One* 2012;7:e32696.
83. McIlroy SJ, Kirkegaard RH, Dueholm MS, Fernando E, Karst SM et al. Culture-independent analyses reveal novel *Anaerolineaceae* as abundant primary fermenters in anaerobic digesters treating waste activated sludge. *Front Microbiol* 2017;8:1134.
84. Jetten MS, Wagner M, Fuerst J, van Loosdrecht M, Kuenen G et al. Microbiology and application of the anaerobic ammonium oxidation ('anammox') process. *Curr Opin Biotechnol* 2001;12:283–288.
85. Nunoura T, Takaki Y, Kakuta J, Nishi S, Sugahara J et al. Insights into the evolution of *Archaea* and eukaryotic protein modifier systems revealed by the genome of a novel archaeal group. *Nucleic Acids Res* 2011;39:3204–3223.
86. Dodsworth JA, Blainey PC, Murugapiran SK, Swingley WD, Ross CA et al. Single-Cell and metagenomic analyses indicate a fermentative and saccharolytic lifestyle for members of the OP9 lineage. *Nat Commun* 2013;4:1854.
87. Beam JP, Jay ZJ, Schmid MC, Rusch DB, Romine MF et al. Ecophysiology of an uncultivated lineage of Aigarchaeota from anoxic, hot spring filamentous 'streamer' community. *ISME J* 2016;10:210–224.
88. Baker BJ, Hugenholtz P, Dawson SC, Banfield JF. Extremely acidophilic protists from acid mine drainage host *Rickettsiales*-lineage endosymbionts that have intervening sequences in their 16S rRNA genes. *Appl Environ Microbiol* 2003;69:5512–5518.
89. Kadnikov VV, Mardanov AV, Ivashenko DA, Antsiferov DV, Beletsky AV et al. Lignite coal burning seam in the remote Altai Mountains harbors a hydrogen-driven thermophilic microbial community. *Sci Rep* 2018;8:6730.
90. Zchori-Fein E, Perlman SJ, Kelly SE, Katzir N, Hunter MS. Characterization of a '*Bacteroidetes*' symbiont in *Encarsia* wasps (Hymenoptera: Aphelinidae): proposal of '*Candidatus Cardinium hertigii*'. *Int J Syst Evol Microbiol* 2004;54:961–968.
91. Thao ML, Moran NA, Abbot P, Brennan EB, Burckhardt DH et al. Cospeciation of psyllids and their primary prokaryotic endosymbionts. *Appl Environ Microbiol* 2000;66:2898–2905.
92. Levantesi C, Beimfohr C, Geurkink B, Rossetti S, Thelen K et al. Filamentous *Alphaproteobacteria* associated with bulking in industrial wastewater treatment plants. *Syst Appl Microbiol* 2004;27:716–727.
93. Preston CM, Wu KY, Molinski TF, DeLong EF. A psychrophilic crenarchaeon inhabits a marine sponge: *Cenarchaeum symbiosum* gen. nov., sp. nov. *Proc Natl Acad Sci USA* 1996;93:6241–6246.
94. Thiel V, Wood JM, Olsen MT, Tank M, Klatt CG et al. The dark side of the Mushroom Spring microbial mat: Life in the shadow of chlorophototrophs. I. Microbial diversity based on 16S rRNA gene amplicons and metagenomics sequencing. *Front Microbiol* 2016;7:919.
95. Gortlenko VM, Bryantseva IA, Kalashnikov AM, Gaisin VA, Sukhacheva MV et al. *Candidatus Chloroploca asiatica* gen. nov., sp. nov., a new mesophilic filamentous anoxygenic phototrophic bacterium. *Microbiology* 2014;83:838–848.
96. Klappenbach JA, Pierson BK. Phylogenetic and physiological characterization of a filamentous anoxygenic photoautotrophic bacterium '*Candidatus Chlorothrix halophila*' gen. nov., sp. nov., recovered from hypersaline microbial mats. *Arch Microbiol* 2004;181:17–25.
97. Eloe-Fadrosch EA, Paez-Espino D, Jarrett J, Dunfield PF, Hedlund BP et al. Global metagenomic survey reveals a new bacterial candidate phylum in geothermal springs. *Nat Commun* 2016;7:10476.
98. Horn M. Genus I. "*Candidatus Clavichlamydia*" corrig. Karlsen, Nylund, Watanabe, Helvik, Nylund and Piarre 2008. In: Krieg NR, Staley JT, Brown DR, Hedlund BP, Paster BJ et al. (editors). *Bergey's Manual of Systematic Bacteriology. The Bacteroidetes, Spirochaetes, Tenericutes (Mollicutes), Acidobacteria, Fibrobacteres, Fusobacteria, Dictyoglomi, Gemmatimonadetes, Lentisphaerae, Verrucomicrobia, Chlamydiae, and Planctomycetes*, 4, 2nd ed. New York: Springer; 2011. pp. 918–919.
99. Karlsen M, Nylund A, Watanabe K, Helvik JV, Nylund S et al. Characterization of '*Candidatus Clavochlamydia salmonicola*': an intracellular bacterium infecting salmonid fish. *Environ Microbiol* 2008;10:208–218.
100. Pelletier E, Kreimeyer A, Bocs S, Rouy Z, Gyapay G et al. "*Candidatus Cloacamonas acidaminovorans*": genome sequence reconstruction provides a first glimpse of a new bacterial division. *J Bacteriol* 2008;190:2572–2579.
101. Tsao H-F, Scheickl U, Volland J-M, Köhler M, Bright M et al. '*Candidatus Cochliophilus cryoturris*' (Coxiellaceae), a symbiont of the testate amoeba *Cochliopodium minus*. *Sci Rep* 2017;7:3394.
102. Jacobi CA, Reichenbach H, Tindall BJ, Stackebrandt E. "*Candidatus comitans*," a bacterium living in coculture with *Chondromyces crocatus* (Myxobacteria). *Int J Syst Bacteriol* 1996;46:119–122.
103. Crocetti GR, Bond PL, Banfield JF, Blackall LL, Keller J. Glycogen-accumulating organisms in laboratory-scale and full-scale wastewater treatment processes. *Microbiology* 2002;148:3353–3364.

104. Zhilina TN, Zavarzina DG, Kolganova TV, Tourova TP, Zavarzin GA. "Candidatus Contubernalis alkalaceticum," an obligately syntrophic alkaliphilic bacterium capable of anaerobic acetate oxidation in a coculture with *Desulfonatronum cooperativum*. *Microbiology* 2005;74:695–703.
105. Ferrantini F, Fokin SI, Modeo L, Andreoli I, Dini F et al. "Candidatus Cryptoprodotis polytropus," a novel *Rickettsia*-like organism in the ciliated protist *Pseudomicrothorax dubius* (Ciliophora, Nassophorea). *J Eukaryot Microbiol* 2009;56:119–129.
106. Toju H, Hosokawa T, Koga R, Nikoh N, Meng XY et al. "Candidatus Curculioniphilus buchneri," a novel clade of bacterial endocellular symbionts from weevils of the genus *Curculio*. *Appl Environ Microbiol* 2010;76:275–282.
107. Ramírez-Puebla ST, Rosenblueth M, Chávez-Moreno CK, de Lyra MCCP, Tecante A et al. Molecular phylogeny of the genus *Dactylopius* (Hemiptera: Dactylopiidae) and identification of the symbiotic bacteria. *Environ Entomol* 2010;39:1178–1183.
108. Boscaro V, Petroni G, Ristori A, Verni F, Vannini C. "Candidatus Defluviella procrastinata" and "Candidatus Cyrtobacter zanobii", two novel ciliate endosymbionts belonging to the "Midichloria clade". *Microb Ecol* 2013;65:302–310.
109. Sorokin DY, Chernyh NA. 'Candidatus Desulfonatronobulbus propionicus': a first haloalkaliphilic member of the order *Syntrophobacteriales* from soda lakes. *Extremophiles* 2016;20:895–901.
110. Chivian D, Brodie EL, Alm EJ, Culley DE, Dehal PS et al. Environmental genomics reveals a single-species ecosystem deep within earth. *Science* 2008;322:275–278.
111. Kleindienst S, Higgins SA, Tsementzi D, Chen G, Konstantinidis KT et al. 'Candidatus Dichloromethanomonas elyunquensis' gen. nov., sp. nov., a dichloromethane-degrading anaerobe of the *Peptococcaceae* family. *Syst Appl Microbiol* 2017;40:150–159.
112. Husnik F, McCutcheon JP. Repeated replacement of an intrabacterial symbiont in the tripartite nested mealybug symbiosis. *Proc Natl Acad Sci USA* 2016;113:E5416–E5424.
113. Thompson CL, Vier R, Mikaelyan A, Wienemann T, Brune A. 'Candidatus Arthromitus' revised: segmented filamentous bacteria in arthropod guts are members of *Lachnospiraceae*. *Environ Microbiol* 2012;14:1454–1465.
114. Toenshoff ER, Penz T, Narzt T, Collingro A, Schmitz-Esser S et al. Bacteriocyte-associated gammaproteobacterial symbionts of the *Adelges nordmannianae/piceae* complex (Hemiptera: Adelgidae). *ISME J* 2012;6:384–396.
115. Trojan D, Schreiber L, Bjerg JT, Bøggild A, Yang T et al. A taxonomic framework for cable bacteria and proposal of the candidate genera *Electrothrix* and *Electronema*. *Syst Appl Microbiol* 2016;39:297–306.
116. Moss C, Green DH, Pérez B, Velasco A, Henríquez R et al. Intracellular bacteria associated with the ascidian *Ecteinascidia turbinata*: phylogenetic and *in situ* hybridisation analysis. *Mar Biol* 2003;143:99–110.
117. Haygood MG, Davidson SK. Small-subunit rRNA genes and *in situ* hybridization with oligonucleotides specific for the bacterial symbionts in the larvae of the bryozoan *Bugula neritina* and proposal of "Candidatus endobugula sertula". *Appl Environ Microbiol* 1997;63:4612–4616.
118. Kwan JC, Donia MS, Han AW, Hirose E, Haygood MG et al. Genome streamlining and chemical defense in a coral reef symbiosis. *Proc Natl Acad Sci USA* 2012;109:20655–20660.
119. Zielinski FU, Pernthaler A, Duperron S, Raggi L, Giere O et al. Widespread occurrence of an intranuclear bacterial parasite in vent and seep bathymodiolin mussels. *Environ Microbiol* 2009;11:1150–1167.
120. Robidart JC, Bench SR, Feldman RA, Novoradovsky A, Podell SB et al. Metabolic versatility of the *Riftia pachyptila* endosymbiont revealed through metagenomics. *Environ Microbiol* 2008;10:727–737.
121. Anderson CM, Haygood MG. Alpha-proteobacterial symbionts of marine bryozoans in the genus *Watersipora*. *Appl Environ Microbiol* 2007;73:303–311.
122. Schmidt EW, Obraztsova AY, Davidson SK, Faulkner DJ, Haygood MG. Identification of the antifungal peptide-containing symbiont of the marine sponge *Theonella swinhoei* as a novel δ -proteobacterium, "Candidatus Entotheonella palauensis". *Marine Biology* 2000;136:969–977.
123. Xia Y, Kong Y, Thomsen TR, Halkjaer Nielsen P, Nielsen PH. Identification and ecophysiological characterization of epiphytic protein-hydrolyzing saprospiraceae ("Candidatus Epiflobacter" spp.) in activated sludge. *Appl Environ Microbiol* 2008;74:2229–2238.
124. Cho JC, Janssen PH, Costa KC, Hedlund BP. Class II. *Opitutae* Choo, Lee, Song and Cho 2007, 535^{VP}. In: Krieg NR, Staley JT, Brown DR, Hedlund BP, Paster BJ (editors). *Bergey's Manual of Systematic Bacteriology. The Bacteroidetes, Spirochaetes, Tenericutes (Mollicutes), Acidobacteria, Fibrobacteres, Fusobacteria, Dictyoglomi, Gemmatimonadetes, Lentisphaerae, Verrucomicrobia, Chlamydiae, and Planctomycetes*, 4, 2nd ed. New York: Springer; 2010. pp. 817–819.
125. Bauer AP, Ludwig W, Schleifer KH, Petroni G. Comparative molecular phylogeny of free-living and symbiotic *Verrucomicrobia* 2005;Unpublished.
126. Ngugi DK, Miyake S, Cahill M, Vinu M, Hackmann TJ et al. Genomic diversification of giant enteric symbionts reflects host dietary lifestyles. *Proc Natl Acad Sci USA* 2017;114:E7592–E7601.
127. Montgomery WL, Pollak PE. *Epulopiscium fishelsoni* n. g., n. sp., a protist of uncertain taxonomic affinities from the gut of a herbivorous reef fish. *J Protozool* 1988;35:565–569.
128. Bertin PN, Heinrich-Salmeron A, Pelletier E, Goulhen-Chollet F, Arsène-Ploetze F et al. Metabolic diversity among main microorganisms inside an arsenic-rich ecosystem revealed by meta- and proteo-genomics. *ISME J* 2011;5:1735–1747.
129. Szokoli F, Sabaneyeva E, Castelli M, Krenek S, Schrollhammer M et al. "Candidatus Fokinia solitaria", a novel "stand-alone" symbiotic lineage of *Midichloriaceae* (*Rickettsiales*). *PLoS One* 2016;11:e0145743.
130. Booker AE, Johnston MD, Daly RA, Wrighton KC, Wilkins MJ. Draft genome sequences of multiple *Frackibacter* strains isolated from hydraulically fractured shale environments. *Genome Announc* 2017;5:e00608–00617.
131. Everett KDE, Thao M, Horn M, Dyszynski GE, Baumann P. Novel chlamydiae in whiteflies and scale insects: endosymbionts 'Candidatus Fritschea bemisiae' strain Falk and 'Candidatus Fritschea eriococci' strain Elm. *Int J Syst Evol Microbiol* 2005;55:1581–1587.
132. Manzano-Marín A, Szabó G, Simon JC, Horn M, Latorre A. Happens in the best of subfamilies: establishment and repeated replacements of co-obligate secondary endosymbionts within *Lachninae* aphids. *Environ Microbiol* 2017;19:393–408.
133. Valk LC, Frank J, de la Torre-Cortés P, van 't Hof M, van Maris AJA et al. Galacturonate metabolism in anaerobic chemostat enrichment cultures: combined fermentation and acetogenesis by the dominant sp. nov. "Candidatus Galacturonibacter soehngenii". *Appl Environ Microbiol* 2018;84:e01370–18.
134. Vannini C, Boscaro V, Ferrantini F, Benken KA, Mironov TI et al. Flagellar movement in two bacteria of the family *Rickettsiaceae*: a re-evaluation of motility in an evolutionary perspective. *PLoS One* 2014;9:e87718.
135. Muller F, Brissac T, Le Bris N, Felbeck H, Gros O. First description of giant *Archaea* (*Thaumarchaeota*) associated with putative bacterial ectosymbionts in a sulfidic marine habitat. *Environ Microbiol* 2010;12:2371–2383.
136. Toenshoff ER, Gruber D, Horn M. Co-evolution and symbiont replacement shaped the symbiosis between adelgids (Hemiptera: Adelgidae) and their bacterial symbionts. *Environ Microbiol* 2012;14:1284–1295.
137. Bianciotto V, Lumini E, Bonfante P, Vandamme P. 'Candidatus Glomeribacter gigasporarum' gen. nov., sp. nov., an endosymbiont of arbuscular mycorrhizal fungi. *Int J Syst Evol Microbiol* 2003;53:121–124.
138. Boscaro V, Fokin SI, Schrollhammer M, Schweikert M, Petroni G. Revised systematics of *Holospora*-like bacteria and characterization

- of "*Candidatus Gortzia infectiva*", a novel macronuclear symbiont of *Paramecium jenningsi*. *Microb Ecol* 2013;65:255–267.
139. Zhang C, Rikihisa Y. Proposal to transfer '*Aegyptianella ranarum*', an intracellular bacterium of frog red blood cells, to the family *Flavobacteriaceae* as '*Candidatus Hemobacterium ranarum*' comb. nov. *Environ Microbiol* 2004;6:568–573.
 140. Filker S, Kaiser M, Rosselló-Móra R, Dunthorn M, Lax G et al. "*Candidatus Haloectosymbiotes riaformosensis*" (*Halobacteriaceae*), an archaeal ectosymbiont of the hypersaline ciliate *Platynematum salinarum*. *Syst Appl Microbiol* 2014;37:244–251.
 141. Ghai R, Pašić L, Fernández AB, Martín-Cuadrado A-B, Mizuno CM et al. New abundant microbial groups in aquatic hypersaline environments. *Sci Rep* 2011;1:135.
 142. Asao M, Takaichi S, Madigan MT. Amino acid-assimilating phototrophic heliobacteria from soda lake environments: *Heliorestis acidaminivorans* sp. nov. and '*Candidatus Heliomonas lunata*'. *Extremophiles* 2012;16:585–595.
 143. Bing XL, Yang J, Zchori-Fein E, Wang XW, Liu SS. Characterization of a newly discovered symbiont of the whitefly *Bemisia tabaci* (Hemiptera: Aleyrodidae). *Appl Environ Microbiol* 2013;79:569–575.
 144. Wang Y, Stingl U, Anton-Erxleben F, Zimmer M, Brune A et al. '*Candidatus Hepatocola porcellionum*' gen. nov., sp. nov., a new, stalk-forming lineage of *Rickettsiales* colonizing the midgut glands of a terrestrial isopod. *Arch Microbiol* 2004;181:299–304.
 145. Nunan LM, Pantoja CR, Gomez-Jimenez S, Lightner DV. '*Candidatus Hepatobacter penaei*', an intracellular pathogenic enteric bacterium in the hepatopancreas of the marine shrimp *Penaeus vannamei* (Crustacea: Decapoda). *Appl Environ Microbiol* 2013;79:1407–1409.
 146. Wang Y, Stingl U, Anton-Erxleben F, Geisler S, Brune A et al. '*Candidatus Hepatoplasma crinochetorum*', a new, stalk-forming lineage of *Mollicutes* colonizing the midgut glands of a terrestrial isopod. *Appl Environ Microbiol* 2004;70:6166–6172.
 147. McCutcheon JP, McDonald BR, Moran NA. Origin of an alternative genetic code in the extremely small and GC-rich genome of a bacterial symbiont. *PLoS Genet* 2009;5:e1000565.
 148. Probst AJ, Ladd B, Jarett JK, Geller-McGrath DE, Sieber CMK et al. Differential depth distribution of microbial function and putative symbionts through sediment-hosted aquifers in the deep terrestrial subsurface. *Nat Microbiol* 2018;3:328–336.
 149. Schwank K, Bornemann TLV, Dombrowski N, Spang A, Banfield JF et al. An archaeal symbiont-host association from the deep terrestrial subsurface. *ISME J* 2019;13:2135–2139.
 150. Dirren S, Posch T. Promiscuous and specific bacterial symbiont acquisition in the amoeboid genus *Nuclearia* (Opisthokonta). *FEMS Microbiol Ecol* 2016;92:fiw105.
 151. Hosokawa T, Kikuchi Y, Nikoh N, Shimada M, Fukatsu T. Strict host-symbiont cospeciation and reductive genome evolution in insect gut bacteria. *PLoS Biol* 2006;4:e337.
 152. Salman V, Amann R, Girth A-C, Polerecky L, Bailey JV et al. A single-cell sequencing approach to the classification of large, vacuolated sulfur bacteria. *Syst Appl Microbiol* 2011;34:243–259.
 153. Wasmund K, Pelikan C, Watzka M, Richter A, Noel AC, et al. DNA-foraging bacteria in the seafloor. *bioRxiv*. doi: <https://doi.org/10.1101/528695>
 154. Skennerton CT, Haroon MF, Briegel A, Shi J, Jensen GJ et al. Phylogenomic analysis of '*Candidatus Izimiplasma*' species: free-living representatives from a *Tenericutes* clade found in methane seeps. *ISME J* 2016;10:2679–2692.
 155. Quan ZX, Rhee SK, Zuo JE, Yang Y, Bae JW et al. Diversity of ammonium-oxidizing bacteria in a granular sludge anaerobic ammonium-oxidizing (anammox) reactor. *Environ Microbiol* 2008;10:3130–3139.
 156. Schulz F, Martijn J, Wascher F, Lagkouvardos I, Kostanjšek R et al. A *Rickettsiales* symbiont of amoebae with ancient features. *Environ Microbiol* 2016;18:2326–2342.
 157. Kuechler SM, Gibbs G, Burckhardt D, Dettner K, Hartung V. Diversity of bacterial endosymbionts and bacteria-host co-evolution in Gondwanan relict moss bugs (Hemiptera: Coleorrhyncha: Peloriidiidae). *Environ Microbiol* 2013;15:2031–2042.
 158. Kantor RS, van Zyl AW, van Hille RP, Thomas BC, Harrison STL et al. Bioreactor microbial ecosystems for thiocyanate and cyanide degradation unravelled with genome-resolved metagenomics. *Environ Microbiol* 2015;17:4929–4941.
 159. Moran NA, Tran P, Gerardo NM. Symbiosis and insect diversification: an ancient symbiont of sap-feeding insects from the bacterial phylum *Bacteroidetes*. *Appl Environ Microbiol* 2005;71:8802–8810.
 160. Seah BKB, Schwaha T, Volland J-M, Huettel B, Dubilier N et al. Specificity in diversity: single origin of a widespread ciliate-bacteria symbiosis. *Proc Biol Sci* 2017;284:20170764.
 161. Teixeira MMG, Borghesan TC, Ferreira RC, Santos MA, Takata CSA et al. Phylogenetic validation of the genera *Angomonas* and *Strigomonas* of trypanosomatids harboring bacterial endosymbionts with the description of new species of trypanosomatids and of proteobacterial symbionts. *Protist* 2011;162:503–524.
 162. Kuechler SM, Dettner K, Kehl S. Molecular characterization and localization of the obligate endosymbiotic bacterium in the birch catkin bug *Kleidocerys resedae* (Heteroptera: Lygaeidae, Ischnorrhynchinae). *FEMS Microbiol Ecol* 2010;73:408–418.
 163. Quinn RA, Metzler A, Tlustý M, Smolowitz RM, Leberg P et al. Lesion bacterial communities in American lobsters with diet-induced shell disease. *Dis Aquat Organ* 2012;98:221–233.
 164. Elkins JG, Podar M, Graham DE, Makarova KS, Wolf Y et al. A korarchaeal genome reveals insights into the evolution of the archaea. *Proc Natl Acad Sci USA* 2008;105:8102–8107.
 165. Michalik A, Schulz F, Michalik K, Wascher F, Horn M et al. Coexistence of novel gammaproteobacterial and *Arsenophonus* symbionts in the scale insect *Greenisca brachypodii* (Hemiptera, Coccoomorpha: Eriococcidae). *Environ Microbiol* 2018;20:1148–1157.
 166. Schmid M, Twachtmann U, Klein M, Strous M, Juretschko S et al. Molecular evidence for genus level diversity of bacteria capable of catalyzing anaerobic ammonium oxidation. *Syst Appl Microbiol* 2000;23:93–106.
 167. Matsuura Y, Kikuchi Y, Meng XY, Koga R, Fukatsu T. Novel clade of alphaproteobacterial endosymbionts associated with stinkbugs and other arthropods. *Appl Environ Microbiol* 2012;78:4149–4156.
 168. Spang A, Saw JH, Jørgensen SL, Zaremba-Niedzwiedzka K, Martijn J et al. Complex archaea that bridge the gap between prokaryotes and eukaryotes. *Nature* 2015;521:173–179.
 169. Sousa FL, Neukirchen S, Allen JF, Lane N, Martin WF. Lokiarchaeon is hydrogen dependent. *Nat Microbiol* 2016;1:16034.
 170. Lund MB, Mogensen MF, Marshall IPG, Albertsen M, Viana F et al. Genomic insights into the *Agromyces*-like symbiont of earthworms and its distribution among host species. *FEMS Microbiol Ecol* 2018;94:fiy068.
 171. Nechitaylo TY, Timmis KN, Golyshin PN. '*Candidatus Lumbricincola*', a novel lineage of uncultured *Mollicutes* from earthworms of family *Lumbricidae*. *Environ Microbiol* 2009;11:1016–1026.
 172. Kölsch G, Matz-Grund C, Pedersen BV. Ultrastructural and molecular characterization of endosymbionts of the reed beetle genus *Macrolea* (Chrysomelidae, Donaciinae), and proposal of '*Candidatus Macrolepicola appendiculatae*' and '*Candidatus Macrolepicola muticae*'. *Can J Microbiol* 2009;55:1250–1260.
 173. Chen YR, Zhang R, Du PHM, Pan H-M, Zhang WY et al. A novel species of ellipsoidal multicellular magnetotactic prokaryotes from lake Yuehu in China. *Environ Microbiol* 2015;17:637–647.
 174. Abreu F, Martins JL, Silveira TS, Keim CN, de Barros HG et al. '*Candidatus Magnetoglobus multicellularis*', a multicellular, magnetotactic prokaryote from a hypersaline environment. *Int J Syst Evol Microbiol* 2007;57:1318–1322.
 175. Lin W, Paterson GA, Zhu Q, Wang Y, Kopylova E et al. Origin of microbial biomineralization and magnetotaxis during the Archean. *Proc Natl Acad Sci USA* 2017;114:2171–2176.
 176. Wenter R, Wanner G, Schüler D, Overmann J. Ultrastructure, tactic behaviour and potential for sulfate reduction of a novel

- multicellular magnetotactic prokaryote from North Sea sediments. *Environ Microbiol* 2009;11:1493–1505.
177. Lefèvre CT, Frankel RB, Abreu F, Lins U, Bazylinski DA. Culture-independent characterization of a novel, uncultivated magnetotactic member of the *Nitrospirae* phylum. *Environ Microbiol* 2011;13:538–549.
 178. Snaidr J, Fuchs B, Wallner G, Wagner M, Schleifer KH et al. Phylogeny and *in situ* identification of a morphologically conspicuous bacterium, *Candidatus Magnospira bakii*, present at very low frequency in activated sludge. *Environ Microbiol* 1999;1:125–135.
 179. Golyshina OV, Toshchakov SV, Makarova KS, Gavrillov SN, Korzhenkov AA et al. 'ARMAN' archaea depend on association with euryarchaeal host in culture and *in situ*. *Nat Commun* 2017;8:60.
 180. Matsuyama T, Yasuike M, Fujiwara A, Nakamura Y, Takano T et al. A spirochaete is suggested as the causative agent of Akoya oyster disease by metagenomic analysis. *PLoS One* 2017;12:e0182280.
 181. Pérez-Cataluña A, Salas-Massó N, Diéguez AL, Balboa S, Lema A et al. Revisiting the taxonomy of the genus *Arcobacter*: getting order from the chaos. *Front Microbiol* 2018;9:2077.
 182. Viver T, Orellana LH, Hatt JK, Urdiain M, Díaz S et al. The low diverse gastric microbiome of the jellyfish *Cotylorhiza tuberculata* is dominated by four novel taxa. *Environ Microbiol* 2017;19:3039–3058.
 183. Schrollhammer M, Ferrantini F, Vannini C, Galati S, Schweikert M et al. '*Candidatus Megaira polyxenophila*' gen. nov., sp. nov.: considerations on evolutionary history, host range and shift of early divergent rickettsiae. *PLoS One* 2013;8:e72581.
 184. Corsaro D, Müller KD, Wingender J, Michel R. '*Candidatus Mesochlamydia elodeae*' (*Chlamydiae: Parachlamydiaceae*), a novel chlamydia parasite of free-living amoebae. *Parasitol Res* 2013;112:829–838.
 185. Iino T, Tamaki H, Tamazawa S, Ueno Y, Ohkuma M et al. *Candidatus Methanogranum caenicola*: a novel methanogen from the anaerobic digested sludge, and proposal of *Methanomassiliicoccaceae* fam. nov. and *Methanomassiliicoccales* ord. nov., for a methanogenic lineage of the class *Thermoplasmata*. *Microbes Environ* 2013;28:244–250.
 186. Sorokin DY, Makarova KS, Abbas B, Ferrer M, Golyshin PN et al. Discovery of extremely halophilic, methyl-reducing euryarchaea provides insights into the evolutionary origin of methanogenesis. *Nat Microbiol* 2017;2:17081.
 187. Sorokin DY, Merkel AY, Abbas B, Makarova KS, Rijpstra WIC et al. *Methanonatronarchaeum thermophilum* gen. nov., sp. nov. and '*Candidatus Methanohalarchaeum thermophilum*', extremely halophilic methyl-reducing methanogens from hypersaline lakes comprising a new euryarchaeal class *Methanonatronarchaeia* classis nov. *Int J Syst Evol Microbiol* 2018;68:2199–2208.
 188. Borrel G, Harris HMB, Tottey W, Mihajlovski A, Parisot N et al. Genome sequence of '*Candidatus Methanomethylphilus alvus*' Mx1201, a methanogenic archaeon from the human gut belonging to a seventh order of methanogens. *J Bacteriol* 2012;194:6944–6945.
 189. Lang K, Schuldes J, Klingl A, Poehlein A, Daniel R et al. New mode of energy metabolism in the seventh order of methanogens as revealed by comparative genome analysis of '*Candidatus Methanoplasma termitum*'. *Appl Environ Microbiol* 2015;81:1338–1352.
 190. Hou S, Makarova KS, Saw JHW, Senin P, Ly BV et al. Complete genome sequence of the extremely acidophilic methanotroph isolate V4, *Methylacidiphilum infernorum*, a representative of the bacterial phylum *Verrucomicrobia*. *Biol Direct* 2008;3:26.
 191. Pratscher J, Vollmers J, Wiegand S, Dumont MG, Kaster AK. Unravelling the identity, metabolic potential and global biogeography of the atmospheric methane-oxidizing upland soil cluster α . *Environ Microbiol* 2018;20:1016–1029.
 192. Pandit PS, Hoppert M, Rahalkar MC. Description of '*Candidatus Methylocucumis oryzae*', a novel Type I methanotroph with large cells and pale pink colour, isolated from an Indian rice field. *Antonie van Leeuwenhoek* 2018;111:2473–2484.
 193. Pandit PS, Rahalkar MC. Renaming of '*Candidatus Methylocucumis oryzae*' as *Methylocucumis oryzae* gen. nov., sp. nov., a novel Type I methanotroph isolated from India. *Antonie van Leeuwenhoek* 2019;111:2473–2484.
 194. Ettwig KF, Butler MK, Le Paslier D, Pelletier E, Mangenot S et al. Nitrite-driven anaerobic methane oxidation by oxygenic bacteria. *Nature* 2010;464:543–548.
 195. Salcher MM, Neuenschwander SM, Posch T, Pernthaler J. The ecology of pelagic freshwater methylotrophs assessed by a high-resolution monitoring and isolation campaign. *ISME J* 2015;9:2442–2453.
 196. Danilova OV, Suzina NE, Van De Kamp J, Svenning MM, Bodrossy L et al. A new cell morphotype among methane oxidizers: a spiral-shaped obligately microaerophilic methanotroph from northern low-oxygen environments. *ISME J* 2016;10:2734–2743.
 197. Rissanen AJ, Saarenheimo J, Tiirola M, Peura S, Aalto SL et al. Gammaproteobacterial methanotrophs dominate methanotrophy in aerobic and anaerobic layers of boreal lake waters. *Aquat Microb Ecol* 2018;81:257–276.
 198. Baker BJ, Comolli LR, Dick GJ, Hauser LJ, Hyatt D et al. Enigmatic, ultrasmall, uncultivated *Archaea*. *Proc Natl Acad Sci USA* 2010;107:8806–8811.
 199. Jimenez-Infante F, Ngugi DK, Alam I, Rashid M, Baalawi W et al. Genomic differentiation among two strains of the PS1 clade isolated from geographically separated marine habitats. *FEMS Microbiol Ecol* 2014;89:181–197.
 200. Sasser D, Beninati T, Bandi C, Bouman EAP, Sacchi L et al. '*Candidatus Midichloria mitochondrii*', an endosymbiont of the tick *Ixodes ricinus* with a unique intramitochondrial lifestyle. *Int J Syst Evol Microbiol* 2006;56:2535–2540.
 201. Vosseberg J, Martijn J, Eetema TJG. Draft genome sequence of '*Candidatus Moanabacter tarae*,' representing a novel marine verrucomicrobial lineage. *Microbiol Resour Announc* 2018;7:e00951–18.
 202. Naito M, Desirò A, González JB, Tao G, Morton JB et al. '*Candidatus Moeniiplasma glomeromycotorum*', an endobacterium of arbuscular mycorrhizal fungi. *Int J Syst Evol Microbiol* 2017;67:1177–1184.
 203. McCutcheon JP, von Dohlen CD. An interdependent metabolic patchwork in the nested symbiosis of mealybugs. *Curr Biol* 2011;21:1366–1372.
 204. Barnum TP, Figueroa IA, Carlström CI, Lucas LN, Engelbrektson AL et al. Genome-resolved metagenomics identifies genetic mobility, metabolic interactions, and unexpected diversity in perchlorate-reducing communities. *ISME J* 2018;12:1568–1581.
 205. Castelle CJ, Wrighton KC, Thomas BC, Hug LA, Brown CT et al. Genomic expansion of domain archaea highlights roles for organisms from new phyla in anaerobic carbon cycling. *Curr Biol* 2015;25:690–701.
 206. Crits-Christoph A, Gelsinger DR, Ma B, Wierzbos J, Ravel J et al. Functional interactions of archaea, bacteria and viruses in a hypersaline endolithic community. *Environ Microbiol* 2016;18:2064–2077.
 207. Wurch L, Giannone RJ, Belisle BS, Swift C, Utturkar S et al. Genomics-informed isolation and characterization of a symbiotic *Nanoarchaeota* system from a terrestrial geothermal environment. *Nat Commun* 2016;7:12115.
 208. Narasingarao P, Podell S, Ugalde JA, Brochier-Armanet C, Emerson JB et al. *De novo* metagenomic assembly reveals abundant novel major lineage of Archaea in hypersaline microbial communities. *ISME J* 2012;6:81–93.
 209. Lefèvre C, Charles H, Vallier A, Delobel B, Farrell B et al. Endosymbiont phylogenesis in the dryophthoridae weevils: evidence for bacterial replacement. *Mol Biol Evol* 2004;21:965–973.
 210. Noda H, Watanabe K, Kawai S, Yukuhiro F, Miyoshi T et al. Bacteriome-associated endosymbionts of the green rice leafhopper *Nephotettix cincticeps* (Hemiptera: Cicadellidae). *Appl Entomol Zool* 2012;47:217–225.

211. Schuster L, Bright M. A novel colonial ciliate *Zoothamnium ignavum* sp. nov. (Ciliophora, Oligohymenophorea) and its ectosymbiont *Candidatus Navis piranensis* gen. nov., sp. nov. from shallow-water wood falls. *PLoS One* 2016;11:e0162834.
212. Boscaro V, Vannini C, Fokin SI, Verni F, Petroni G. Characterization of "*Candidatus Nebulobacter yamunensis*" from the cytoplasm of *Euplotes aediculatus* (Ciliophora, Spirotrichea) and emended description of the family *Francisellaceae*. *Syst Appl Microbiol* 2012;35:432–440.
213. Snel J, Heinen PP, Blok HJ, Carman RJ, Duncan AJ et al. Comparison of 16S rRNA sequences of segmented filamentous bacteria isolated from mice, rats, and chickens and proposal of "*Candidatus Arthromitus*". *Int J Syst Bacteriol* 1995;45:780–782.
214. Kawahara M, Rikihisa Y, Isogai E, Takahashi M, Misumi H et al. Ultrastructure and phylogenetic analysis of '*Candidatus Neoehrlichia mikurensis*' in the family *Anaplasmataceae*, isolated from wild rats and found in *Ixodes ovatus* ticks. *Int J Syst Evol Microbiol* 2004;54:1837–1843.
215. Blackall LL, Stratton H, Bradford D, Dot TD, Sjörup C et al. "*Candidatus Microthrix parvicella*", a filamentous bacterium from activated sludge sewage treatment plants. *Int J Syst Bacteriol* 1996;46:344–346.
216. Møller P, Lund MB, Schramm A. Evolution of the tripartite symbiosis between earthworms, *Verminephrobacter* and *Flexibacter*-like bacteria. *Front Microbiol* 2015;6:529.
217. Pizzetti I, Schulz F, Tysl T, Fuchs BM, Amann R et al. Chlamydial seasonal dynamics and isolation of '*Candidatus Neptunochlamydia vexilliferae*' from a Tyrrhenian coastal lake. *Environ Microbiol* 2016;18:2405–2417.
218. Ngugi DK, Blom J, Stepanauskas R, Stingl U. Diversification and niche adaptations of *Nitrospina*-like bacteria in the polyextreme interfaces of Red Sea brines. *ISME J* 2016;10:1383–1399.
219. Jung MY, Kim JG, Sinninghe Damsté JS, Rijpstra WIC, Madsen EL et al. A hydrophobic ammonia-oxidizing archaeon of the *Nitrosocosmicus* clade isolated from coal tar-contaminated sediment. *Environ Microbiol Rep* 2016;8:983–992.
220. Lehtovirta-Morley LE, Ross J, Hink L, Weber EB, Gubry-Rangin C et al. Isolation of '*Candidatus Nitrosocosmicus franklandus*', a novel ureolytic soil archaeal ammonia oxidiser with tolerance to high ammonia concentration. *FEMS Microbiol Ecol* 2016;92:fiw057.
221. Hayatsu M, Tago K, Uchiyama I, Toyoda A, Wang Y et al. An acid-tolerant ammonia-oxidizing γ -proteobacterium from soil. *ISME J* 2017;11:1130–1141.
222. Ahlgren NA, Chen Y, Needham DM, Parada AE, Sachdeva R et al. Genome and epigenome of a novel marine *Thaumarchaeota* strain suggest viral infection, phosphorothioation DNA modification and multiple restriction systems. *Environ Microbiol* 2017;19:2434–2452.
223. Santoro AE, Dupont CL, Richter RA, Craig MT, Carini P, et al. Genomic and proteomic characterization of "*Candidatus Nitrosopelagicus brevis*": an ammonia-oxidizing archaeon from the open ocean. *Proc Natl Acad Sci USA* 2015;112:1173–8.
224. Lehtovirta-Morley LE, Stoecker K, Vilcinskas A, Prosser JI, Nicol GW. Cultivation of an obligate acidophilic ammonia oxidizer from a nitrifying acid soil. *Proc Natl Acad Sci USA* 2011;108:15892–15897.
225. Lebedeva EV, Hatzenpichler R, Pelletier E, Schuster N, Hanzmayer S et al. Enrichment and genome sequence of the group 1.1a ammonia-oxidizing archaeon "*Ca. Nitrosotenuis uzonensis*" representing a clade globally distributed in thermal habitats. *PLoS One* 2013;8:e80835.
226. Alawi M, Lipski A, Sanders T, Pfeiffer EM, Spieck E. Cultivation of a novel cold-adapted nitrite oxidizing betaproteobacterium from the Siberian Arctic. *ISME J* 2007;1:256–264.
227. Blackall LL, Sevour EM, Bradford D, Rossetti S, Tandoi V et al. '*Candidatus Nostocoida limicola*', a filamentous bacterium from activated sludge. *Int J Syst Evol Microbiol* 2000;50:703–709.
228. Sato T, Kuwahara H, Fujita K, Noda S, Kihara K et al. Intracellular verrucocomicrobial symbionts and evidence of lateral gene transfer to the host protist in the termite gut. *ISME J* 2014;8:1008–1019.
229. Schulz F, Lagkouvardos I, Wascher F, Aistleitner K, Kostanjšek R et al. Life in an unusual intracellular niche: a bacterial symbiont infecting the nucleus of amoebae. *ISME J* 2014;8:1634–1644.
230. Schulz F, Tysl T, Pizzetti I, Dyková I, Fazi S et al. Marine amoebae with cytoplasmic and perinuclear symbionts deeply branching in the *Gammaproteobacteria*. *Sci Rep* 2015;5:13381.
231. Birtles RJ, Rowbotham TJ, Michel R, Pitcher DG, Lascola B et al. '*Candidatus Odysella thessalonicensis*' gen. nov., sp. nov., an obligate intracellular parasite of *Acanthamoeba* species. *Int J Syst Evol Microbiol* 2000;50:63–72.
232. Fenchel T, Thar R. "*Candidatus Ovobacter propellens*": a large conspicuous prokaryote with an unusual motility behaviour. *FEMS Microbiol Ecol* 2004;48:231–238.
233. Noel GR, Atibalentja N. '*Candidatus Paenicardinium endonii*', an endosymbiont of the plant-parasitic nematode *Heterodera glycines* (Nemata: Tylenchida), affiliated to the phylum *Bacteroidetes*. *Int J Syst Evol Microbiol* 2006;56:1697–1702.
234. Moran NA, Dale C, Dunbar H, Smith WA, Ochman H. Intracellular symbionts of sharpshooters (Insecta: Hemiptera: Cicadellinae) form a distinct clade with a small genome. *Environ Microbiol* 2003;5:116–126.
235. Horn M, Fritsche TR, Gautom RK, Schleifer KH, Wagner M. Novel bacterial endosymbionts of *Acanthamoeba* spp. related to the *Paramecium caudatum* symbiont *Caedibacter caryophilus*. *Environ Microbiol* 1999;1:357–367.
236. Eschbach E, Pfannkuchen M, Schweikert M, Drutschmann D, Brümmer F et al. "*Candidatus Paraholospora nucleivisitans*", an intracellular bacterium in *Paramecium sexaurelia* shuttles between the cytoplasm and the nucleus of its host. *Syst Appl Microbiol* 2009;32:490–500.
237. Naas AE, Solden LM, Norbeck AD, Brewer H, Hagen LH et al. "*Candidatus Paraporphyromonas polyenzymogenes*" encodes multi-modular cellulases linked to the type IX secretion system. *Microbiome* 2018;6:44.
238. Hosokawa T, Kikuchi Y, Nikoh N, Meng X-Y, Hironaka M et al. Phylogenetic position and peculiar genetic traits of a midgut bacterial symbiont of the stinkbug *Parastrachia japonensis*. *Appl Environ Microbiol* 2010;76:4130–4135.
239. Castelle CJ, Brown CT, Thomas BC, Williams KH, Banfield JF. Unusual respiratory capacity and nitrogen metabolism in a *Parcubacterium* (OD1) of the candidate phyla radiation. *Sci Rep* 2017;7:40101.
240. Rappé MS, Connon SA, Vergin KL, Giovannoni SJ. Cultivation of the ubiquitous SAR11 marine bacterioplankton clade. *Nature* 2002;418:630–633.
241. Zreik L, Bové JM, Garnier M. Phylogenetic characterization of the bacterium-like organism associated with marginal chlorosis of strawberry and proposition of a *Candidatus* taxon for the organism, '*Candidatus Phlomobacter fragariae*'. *Int J Syst Bacteriol* 1998;48:257–261.
242. Figueroa IA, Barnum TP, Somasekhar PY, Carlström CI, Engelbrektson AL et al. Metagenomics-guided analysis of microbial chemolithoautotrophic phosphite oxidation yields evidence of a seventh natural CO₂ fixation pathway. *Proc Natl Acad Sci USA* 2018;115:E92–E101.
243. Hendry TA, Dunlap PV. The uncultured luminous symbiont of *Anomalopis katoptron* (Beryciformes: Anomalopidae) represents a new bacterial genus. *Mol Phylogenet Evol* 2011;61:834–843.
244. Yurchenko T, Ševčíková T, Příbyl P, El Karkouri K, Klimeš V et al. A gene transfer event suggests a long-term partnership between eustigmatophyte algae and a novel lineage of endosymbiotic bacteria. *ISME J* 2018;12:2163–2175.
245. Tanabe Y, Okazaki Y, Yoshida M, Matsuura H, Kai A et al. A novel alphaproteobacterial ectosymbiont promotes the growth of the hydrocarbon-rich green alga *Botryococcus braunii*. *Sci Rep* 2015;5:10467.

246. IRPCM Phytoplasma/Spiroplasma Working Team--Phytoplasma Taxonomy Group. 'Candidatus Phytoplasma', a taxon for the wall-less, non-helical prokaryotes that colonize plant phloem and insects. *Int J Syst Evol Microbiol* 2004;54:1243–1255.
247. Draghi A, Popov VL, Kahl MM, Stanton JB, Brown CC et al. Characterization of "Candidatus piscichlamydia salmonis" (order Chlamydiales), a chlamydia-like bacterium associated with epitheliocystis in farmed Atlantic salmon (*Salmo salar*). *J Clin Microbiol* 2004;42:5286–5297.
248. Giebel H-A, Kalhoefer D, Lemke A, Thole S, Gahl-Janssen R et al. Distribution of *Roseobacter* RCA and SAR11 lineages in the North Sea and characteristics of an abundant RCA isolate. *ISME J* 2011;5:8–19.
249. Giebel H-A, Kalhoefer D, Gahl-Janssen R, Choo YJ, Lee K et al. *Planktomarina temperata* gen. nov., sp. nov., belonging to the globally distributed RCA cluster of the marine *Roseobacter* clade, isolated from the German Wadden Sea. *Int J Syst Evol Microbiol* 2013;63:4207–4217.
250. Jezbera J, Sharma AK, Brandt U, Doolittle WF, Hahn MW. 'Candidatus Planktophila limnetica', an actinobacterium representing one of the most numerically important taxa in freshwater bacterioplankton. *Int J Syst Evol Microbiol* 2009;59:2864–2869.
251. Lavy A, Keren R, Yu K, Thomas BC, Alvarez-Cohen L et al. A novel Chromatiales bacterium is a potential sulfide oxidizer in multiple orders of marine sponges. *Environ Microbiol* 2018;20:800–814.
252. Thao ML, Baumann P. Evolutionary relationships of primary prokaryotic endosymbionts of whiteflies and their hosts. *Appl Environ Microbiol* 2004;70:3401–3406.
253. Horn M, Fritsche TR, Linner T, Gautom RK, Harzenetter MD et al. Obligate bacterial endosymbionts of *Acanthamoeba* spp. related to the β -Proteobacteria: proposal of 'Candidatus Procabacter acanthamoebae' gen. nov., sp. nov. *Int J Syst Evol Microbiol* 2002;52:599–605.
254. Nakabachi A, Ueoka R, Oshima K, Teta R, Mangoni A et al. Defensive bacteriome symbiont with a drastically reduced genome. *Curr Biol* 2013;23:1478–1484.
255. McIlroy SJ, Karst SM, Nierychlo M, Dueholm MS, Albertsen M et al. Genomic and *in situ* investigations of the novel uncultured *Chloroflexi* associated with 0092 morphotype filamentous bulking in activated sludge. *ISME J* 2016;10:2223–2234.
256. Vannini C, Ferrantini F, Verni F, Petroni G. A new obligate bacterial symbiont colonizing the ciliate *Euplotes* in brackish and freshwater: 'Candidatus Protistobacter heckmanni'. *Aquat Microb Ecol* 2013;70:233–243.
257. Fukatsu T, Hosokawa T, Koga R, Nikoh N, Kato T et al. Intestinal endocellular symbiotic bacterium of the macaque louse *Pedicinus obtusus*: distinct endosymbiont origins in anthropoid primate lice and the old world monkey louse. *Appl Environ Microbiol* 2009;75:3796–3799.
258. Bressan A, Arneodo J, Simonato M, Haines WP, Boudon-Padieu E. Characterization and evolution of two bacteriome-inhabiting symbionts in cixiid planthoppers (Hemiptera: Fulgoromorpha: Pentastirini). *Environ Microbiol* 2009;11:3265–3279.
259. Moran NA, Russell JA, Koga R, Fukatsu T. Evolutionary relationships of three new species of *Enterobacteriaceae* living as symbionts of aphids and other insects. *Appl Environ Microbiol* 2005;71:3302–3310.
260. Corsaro D, Work TM. *Candidatus Renichlamydia lutjani*, a Gram-negative bacterium in internal organs of blue-striped snapper *Lutjanus kasmira* from Hawaii. *Dis Aquat Organ* 2012;98:249–254.
261. Gruber-Vodicka HR, Dirks U, Leisch N, Baranyi C, Stoecker K et al. *Paracatenula*, an ancient symbiosis between thiotrophic *Alphaproteobacteria* and catenulid flatworms. *Proc Natl Acad Sci USA* 2011;108:12078–12083.
262. Sasaki-Fukatsu K, Koga R, Nikoh N, Yoshizawa K, Kasai S et al. Symbiotic bacteria associated with stomach discs of human lice. *Appl Environ Microbiol* 2006;72:7349–7352.
263. Kikuchi Y, Hosokawa T, Nikoh N, Meng X-Y, Kamagata Y et al. Host-symbiont co-speciation and reductive genome evolution in gut symbiotic bacteria of acanthosomatid stinkbugs. *BMC Biol* 2009;7:2.
264. Newton ILG, Woyke T, Auchtung TA, Dilly GF, Dutton RJ et al. The *Calyptogena magnifica* chemoautotrophic symbiont genome. *Science* 2007;315:998–1000.
265. Albertsen M, Hugenholtz P, Skarshewski A, Nielsen KL, Tyson GW et al. Genome sequences of rare, uncultured bacteria obtained by differential coverage binning of multiple metagenomes. *Nat Biotechnol* 2013;31:533–538.
266. Woebken D, Lam P, Kuypers MMM, Naqvi SWA, Kartal B et al. A microdiversity study of anammox bacteria reveals a novel *Candidatus Scalindua* phylotype in marine oxygen minimum zones. *Environ Microbiol* 2008;11:3106–3119.
267. Martinson VG, Magoc T, Koch H, Salzberg SL, Moran NA. Genomic features of a bumble bee symbiont reflect its host environment. *Appl Environ Microbiol* 2014;80:3793–3803.
268. Matsuura Y, Kikuchi Y, Hosokawa T, Koga R, Meng XY et al. Evolution of symbiotic organs and endosymbionts in lygaeid stinkbugs. *ISME J* 2012;6:397–409.
269. Stride MC, Polkinghorne A, Miller TL, Nowak BF. Molecular characterization of "Candidatus Similichlamydia latridicola" gen. nov., sp. nov. (Chlamydiales: "Candidatus Parilichlamydiaceae"), a novel Chlamydia-like epitheliocystis agent in the striped trumpeter, *Latris lineata* (Forster). *Appl Environ Microbiol* 2013;79:4914–4920.
270. Gong J, Qing Y, Guo X, Warren A. "Candidatus Sonnebornia yantaiensis", a member of candidate division OD1, as intracellular bacteria of the ciliated protist *Paramecium bursaria* (Ciliophora, Oligohymenophorea). *Syst Appl Microbiol* 2014;37:35–41.
271. Gruwell ME, Hardy NB, Gullan PJ, Dittmar K. Evolutionary relationships among primary endosymbionts of the mealybug subfamily Phenacoccinae (Hemiptera: Coccoidea: Pseudococcidae). *Appl Environ Microbiol* 2010;76:7521–7525.
272. Bresciani L, Lemos LN, Wale N, Lin JY, Strauss AT et al. Draft genome sequence of "Candidatus *Spirobacillus cienkowskii*", a pathogen of freshwater *Daphnia* species, reconstructed from hemolymph metagenomic reads. *Microbiol Resour Announc* 2018;7:e011175–18.
273. Mazzon L, Piscedda A, Simonato M, Martinez-Sañudo I, Squartini A et al. Presence of specific symbiotic bacteria in flies of the subfamily Tephritinae (Diptera Tephritidae) and their phylogenetic relationships: proposal of 'Candidatus Stammerula tephritidis'. *Int J Syst Evol Microbiol* 2008;58:1277–1287.
274. Zecchin S, Mueller RC, Seifert J, Stingl U, Anantharaman K et al. Rice paddy *Nitrospirae* encode and express genes related to sulfate respiration: proposal of the new genus *Candidatus Sulfo-bium*. *Appl Environ Microbiol* 2018;84:e02224–17.
275. Hausmann B, Pelikan C, Herbold CW, Köstlbacher S, Albertsen M et al. Peatland *Acidobacteria* with a dissimilatory sulfur metabolism. *ISME J* 2018;12:1729–1742.
276. Liu Z, Müller J, Li T, Alvey RM, Vogl K et al. Genomic analysis reveals key aspects of prokaryotic symbiosis in the phototrophic consortium "Chlorochromatium aggregatum". *Genome Biol* 2013;14:R127.
277. Hongoh Y, Sato T, Noda S, Ui S, Kudo T et al. *Candidatus Symbiothrix dinenymphae*: bristle-like *Bacteroidales* ectosymbionts of termite gut protists. *Environ Microbiol* 2007;9:2631–2635.
278. Fehr A, Walther E, Schmidt-Posthaus H, Nufer L, Wilson A et al. *Candidatus Syngnamydia venezia*, a novel member of the phylum *Chlamydiae* from the broad nosed pipefish, *Syngnathus typhle*. *PLoS One* 2013;8:e70853.
279. Laso-Pérez R, Wegener G, Knittel K, Widdel F, Harding KJ et al. Thermophilic archaea activate butane via alkyl-coenzyme M formation. *Nature* 2016;539:396–401.
280. Sorokin DY, Abbas B, Geleijnse M, Kolganova TV, Kleerebezem R et al. Syntrophic associations from hypersaline soda lakes converting organic acids and alcohols to methane at extremely haloalkaline conditions. *Environ Microbiol* 2016;18:3189–3202.
281. Sorokin DY, Abbas B, Tourova TP, Bumazhkin BK, Kolganova TV et al. Sulfate-dependent acetate oxidation under

- extremely natron-alkaline conditions by syntrophic associations from hypersaline soda lakes. *Microbiology* 2014;160:723–732.
282. Kaiwa N, Hosokawa T, Nikoh N, Tanahashi M, Moriyama M et al. Symbiont-supplemented maternal investment underpinning host's ecological adaptation. *Curr Biol* 2014;24:2465–2470.
 283. Hongoh Y, Sato T, Dolan MF, Noda S, Ui S et al. The motility symbiont of the termite gut flagellate *Caduceia versatilis* is a member of the "Synergistes" group. *Appl Environ Microbiol* 2007;73:6270–6276.
 284. Eddie BJ, Wang Z, Malanoski AP, Hall RJ, Oh SD et al. 'Candidatus Tenderia electrophaga', an uncultivated electroautotroph from a biocathode enrichment. *Int J Syst Evol Microbiol* 2016;66:2178–2185.
 285. Rinke C, Rubino F, Messer LF, Youssef N, Parks DH et al. A phylogenomic and ecological analysis of the globally abundant marine group II archaea (Ca. Poseidoniales ord. nov.). *ISME J* 2019;13:663–675.
 286. Martín-Cuadrado A-B, García-Heredia I, Moltó AG, López-Úbeda R, Kimes N et al. A new class of marine Euryarchaeota group II from the Mediterranean deep chlorophyll maximum. *ISME J* 2015;9:1619–1634.
 287. Liu Z, Klatt CG, Ludwig M, Rusch DB, Jensen SI et al. 'Candidatus Thermochlorobacter aerophilum': an aerobic chlorophototrophic member of the phylum *Chlorobi* defined by metagenomics and metatranscriptomics. *ISME J* 2012;6:1869–1882.
 288. Lefèvre CT, Abreu F, Schmidt ML, Lins U, Frankel RB et al. Moderately thermophilic magnetotactic bacteria from hot springs in Nevada. *Appl Environ Microbiol* 2010;76:3740–3743.
 289. Rinke C, Schmitz-Esser S, Stoecker K, Nussbaumer AD, Molnár DA et al. 'Candidatus Thiobios zoothermophilus', an ectosymbiotic bacterium covering the giant marine ciliate *Zoothamnium niveum*. *Appl Environ Microbiol* 2006;72:2014–2021.
 290. König S, Gros O, Heiden SE, Hinzke T, Thürmer A et al. Nitrogen fixation in a chemoautotrophic lucinid symbiosis. *Nat Microbiol* 2016;2:16193.
 291. Marshall KT, Morris RM. Isolation of an aerobic sulfur oxidizer from the SUP05/Arctic96BD-19 clade. *ISME J* 2013;7:452–455.
 292. Danovaro R, Canals M, Tangherlini M, Dell'Anno A, Gambi C et al. A submarine volcanic eruption leads to a novel microbial habitat. *Nat Ecol Evol* 2017;1:0144.
 293. Zimmermann J, Wentrup C, Sadowski M, Blazejak A, Gruber-Vodicka HR et al. Closely coupled evolutionary history of ecto- and endosymbionts from two distantly related animal phyla. *Mol Ecol* 2016;25:3203–3223.
 294. Muyzer G, Yildirim E, van Dongen U, Kühl M, Thar R. Identification of 'Candidatus Thioturbo danicus,' a microaerophilic bacterium that builds conspicuous veils on sulfidic sediments. *Appl Environ Microbiol* 2005;71:8929–8933.
 295. Szabó G, Schulz F, Toenschoff ER, Volland J-M, Finkel OM et al. Convergent patterns in the evolution of mealybug symbioses involving different intrabacterial symbionts. *ISME J* 2017;11:715–726.
 296. Thao ML, Gullan PJ, Baumann P, Secondary BP. Secondary (γ -proteobacteria) endosymbionts infect the primary (β -Proteobacteria) endosymbionts of mealybugs multiple times and coevolve with their hosts. *Appl Environ Microbiol* 2002;68:3190–3197.
 297. Kostanjšek R, Pašić L, Daims H, Sket B. Structure and community composition of sprout-like bacterial aggregates in a dinaric karst subterranean stream. *Microb Ecol* 2013;66:5–18.
 298. Kuechler SM, Dettner K, Kehl S. Characterization of an obligate intracellular bacterium in the midgut epithelium of the bulrush bug *Chilacis typhae* (Heteroptera, Lygaeidae, Artheneinae). *Appl Environ Microbiol* 2011;77:2869–2876.
 299. Brewer TE, Handley KM, Carini P, Gilbert JA, Fierer N. Genome reduction in an abundant and ubiquitous soil bacterium 'Candidatus Udaebacter copiosus'. *Nat Microbiol* 2016;2:16198.
 300. Gruwell ME, Morse GE, Normark BB. Phylogenetic congruence of armored scale insects (Hemiptera: Diaspididae) and their primary endosymbionts from the phylum *Bacteroidetes*. *Mol Phylogenet Evol* 2007;44:267–280.
 301. Fonseca A, Ishoey T, Espinoza C, Pérez-Pantoja D, Manghisi A et al. Genomic features of 'Candidatus Venteria ishoyei', a new sulfur-oxidizing macrobacterium from the Humboldt Sulfuretum off Chile. *PLoS One* 2017;12:e0188371.
 302. Kuwahara H, Yoshida T, Takaki Y, Shimamura S, Nishi S et al. Reduced genome of the thioautotrophic intracellular symbiont in a deep-sea clam, *Calyptogena okutanii*. *Curr Biol* 2007;17:881–886.
 303. Stingl U, Maass A, Radek R, Brune A. Symbionts of the gut flagellate *Staurojoenina* sp. from *Neotermes cubanus* represent a novel, termite-associated lineage of *Bacteroidales*: description of 'Candidatus Vestibaculum illigatum'. *Microbiology* 2004;150:2229–2235.
 304. Gonella E, Negri I, Marzorati M, Mandrioli M, Sacchi L et al. Bacterial endosymbiont localization in *Hyalesthes obsoletus*, the insect vector of bois noir in *Vitis vinifera*. *Appl Environ Microbiol* 2011;77:1423–1435.
 305. Grouzdev DS, Rysina MS, Bryantseva IA, Gorlenko VM, Gaisin VA. Draft genome sequences of 'Candidatus Chloroploca asiatica' and 'Candidatus Viridilinea mediisalina', candidate representatives of the *Chloroflexales* order: phylogenetic and taxonomic implications. *Stand Genomic Sci* 2018;13:24.
 306. Rosas-Pérez T, Rosenblueth M, Rincón-Rosales R, Mora J, Martínez-Romero E. Genome sequence of 'Candidatus Walczuchella monophebidarum' the flavobacterial endosymbiont of *Llaveia axin axin* (Hemiptera: Coccoidea: Monophlebidae). *Genome Biol Evol* 2014;6:714–726.
 307. Klein A, Schrader L, Gil R, Manzano-Marín A, Flórez L et al. A novel intracellular mutualistic bacterium in the invasive ant *Cardiocondyla obscurior*. *ISME J* 2016;10:376–388.
 308. Friedman CS, Andree KB, Beauchamp KA, Moore JD, Robbins TT et al. 'Candidatus Xenohalictis californiensis', a newly described pathogen of abalone, *Haliotis* spp., along the West coast of North America. *Int J Syst Evol Microbiol* 2000;50:847–855.
 309. Kwan JC, Schmidt EW. Bacterial endosymbiosis in a chordate host: long-term co-evolution and conservation of secondary metabolism. *PLoS One* 2013;8:e080822.
 310. Vandekerckhove TT, Willems A, Gillis M, Coomans A. Occurrence of novel verrucomicrobial species, endosymbiotic and associated with parthenogenesis in *Xiphinema americanum*-group species (Nematoda, Longidoridae). *Int J Syst Evol Microbiol* 2000;50:2197–2205.
 311. McCutcheon JP, Moran NA. Functional convergence in reduced genomes of bacterial symbionts spanning 200 My of evolution. *Genome Biol Evol* 2010;2:708–718.
 312. Albertsen M, Mclroy SJ, Stokholm-Bjerregaard M, Karst SM, Nielsen PH. 'Candidatus Propionivibrio aalborgensis': a novel glycogen accumulating organism abundant in full-scale enhanced biological phosphorus removal plants. *Front Microbiol* 2016;7:1033.
 313. Sood N, Pradhan PK, Verma DK, Yadav MK, Dev AK et al. 'Candidatus Actinochlamydia pangasiae' sp. nov. (*Chlamydiales: Actinochlamydiaceae*), a bacterium associated with epitheliocystis in *Pangasianodon hypophthalmus*. *J Fish Dis* 2018;41:281–290.
 314. Martel A, Adriaensen C, Sharifian-Fard M, Vandewoestyne M, Deforce D et al. The novel 'Candidatus Amphibiichlamydia ranarum' is highly prevalent in invasive exotic bullfrogs (*Lithobates catesbeianus*). *Environ Microbiol Rep* 2013;5:105–108.
 315. Degnan PH, Lazarus AB, Wernegreen JJ. Genome sequence of *Blochmannia pennsylvanicus* indicates parallel evolutionary trends among bacterial mutualists of insects. *Genome Res* 2005;15:1023–1033.
 316. Williams LE, Wernegreen JJ. Unprecedented loss of ammonia assimilation capability in a urease-encoding bacterial mutualist. *BMC Genomics* 2010;11:687.
 317. Kartal B, van Niftrik L, Stiekers O, Schmid MC, Schmidt I et al. Application, eco-physiology and biodiversity of anaerobic ammonium-oxidizing bacteria. *Rev Environ Sci Biotechnol* 2004;3:255–264.
 318. Narita Y, Zhang L, Kimura Z-I, Ali M, Fujii T et al. Enrichment and physiological characterization of an anaerobic ammonium-oxidizing

- bacterium 'Candidatus Brocadia sapporoensis'. *Syst Appl Microbiol* 2017;40:448–457.
319. Hu BL, Zheng P, Tang CJ, Chen JW, van der Biezen E et al. Identification and quantification of anammox bacteria in eight nitrogen removal reactors. *Water Res* 2010;44:5014–5020.
320. Karnachuk OV, Frank YA, Lukina AP, Kadnikov VV, Beletsky AV et al. Domestication of previously uncultivated *Candidatus Desulfuridis audaxviator* from a deep aquifer in Siberia sheds light on its physiology and evolution. *ISME J* 2019;13:1947–1959.
321. Lim GE, Haygood MG. "Candidatus Endobugula glebosa," a specific bacterial symbiont of the marine bryozoan *Bugula simplex*. *Appl Environ Microbiol* 2004;70:4921–4929.
322. Wilson MC, Mori T, Rückert C, Uria AR, Helf MJ et al. An environmental bacterial taxon with a large and distinct metabolic repertoire. *Nature* 2014;506:58–62.
323. Ueoka R, Uria AR, Reiter S, Mori T, Karbaum P et al. Metabolic and evolutionary origin of actin-binding polyketides from diverse organisms. *Nat Chem Biol* 2015;11:705–712.
324. Utami YD, Kuwahara H, Murakami T, Morikawa T, Sugaya K et al. Phylogenetic diversity and single-cell genome analysis of "Melainabacteria", a non-photosynthetic cyanobacterial group, in the termite gut. *Microbes Environ* 2018;33:50–57.
325. Serra V, Fokin SI, Castelli M, Basuri CK, Nittla V et al. "Candidatus Gortzia shahrazadis", a novel endosymbiont of *Paramecium multimicronucleatum* and a revision of the biogeographical distribution of *Holospora*-like bacteria. *Front Microbiol* 2016;7:1704.
326. Ali M, Oshiki M, Awata T, Isobe K, Kimura Z et al. Physiological characterization of anaerobic ammonium oxidizing bacterium 'Candidatus Jettenia caeni'. *Environ Microbiol* 2015;17:2172–2189.
327. Botchkova EA, Litt YV, Novikov AA, Grouzdev DS, Bochkareva ES et al. Description of "Candidatus Jettenia ecosi" sp. nov., a new species of anammox bacteria. *Microbiology* 2018;87:766–776.
328. Nikolaev YA, Kozlov MN, Kevbrina MV, Dorofeev AG, Pimenov NV et al. *Candidatus* "Jettenia moscovienalis" sp. nov., a new species of bacteria carrying out anaerobic ammonium oxidation. *Mikrobiologiya (Russian)* 2015;84:236–243.
329. Silva FM, Kostygov AY, Spodareva VV, Butenko A, Tossou R et al. The reduced genome of *Candidatus* Kinetoplastibacterium sorsogonicus, the endosymbiont of *Kentomonas sorsogonicus* (Trypanosomatidae): loss of the haem-synthesis pathway. *Parasitology* 2018;145:1287–1293.
330. Chen YR, Zhang WY, Zhou K, Pan HM, Du HJ et al. Novel species and expanded distribution of ellipsoidal multicellular magnetotactic prokaryotes. *Environ Microbiol Rep* 2016;8:218–226.
331. Spring S, Amann R, Ludwig W, Schleifer KH, van Gernerden H et al. Dominating role of an unusual magnetotactic bacterium in the microaerobic zone of a freshwater sediment. *Appl Environ Microbiol* 1993;59:2397–2403.
332. Lin W, Deng A, Wang Z, Li Y, Wen T et al. Genomic insights into the uncultured genus 'Candidatus Magnetobacterium' in the phylum *Nitrospirae*. *ISME J* 2014;8:2463–2477.
333. Zhang R, Chen YR, Du HJ, Zhang WY, Pan HM et al. Characterization and phylogenetic identification of a species of spherical multicellular magnetotactic prokaryotes that produces both magnetite and greigite crystals. *Res Microbiol* 2014;165:481–489.
334. Zhou K, Zhang WY, Pan HM, Li J-H, Yue HD et al. Adaptation of spherical multicellular magnetotactic prokaryotes to the geochemically variable habitat of an intertidal zone. *Environ Microbiol* 2013;15:1595–1605.
335. Shivani Y, Subhash Y, Sasikala C, Ramana CV. Description of 'Candidatus Marispirochaeta associata' and reclassification of *Spirochaeta bajacaliforniensis*, *Spirochaeta smaragdinae* and *Spirochaeta sinaica* to a new genus *Sediminispirochaeta* gen. nov. as *Sediminispirochaeta bajacaliforniensis* comb. nov., *Sediminispirochaeta smaragdinae* comb. nov. and *Sediminispirochaeta sinaica* comb. nov. *Int J Syst Evol Microbiol* 2016;66:5485–5492.
336. Corsaro D, Michel R, Walochnik J, Müller K-D, Greub G et al. *Saccamoebalacustris*, sp. nov. (Amoebozoa: Lobosea: Hartmannellidae), a new lobose amoeba, parasitized by the novel chlamydia 'Candidatus Metachlamydia lacustris' (Chlamydiae: Parachlamydiaceae). *Eur J Protistol* 2010;46:86–95.
337. Erikstad H-A, Birkeland N-K. Draft genome sequence of "Candidatus Methyloacidiphilum kamchatkense" strain Kam1, a thermoacidophilic methanotrophic verrucomicrobium. *Genome Announc* 2015;3:e00065–15.
338. Erikstad H-A, Jensen S, Keen TJ, Birkeland N-K. Differential expression of particulate methane monooxygenase genes in the verrucomicrobial methanotroph 'Methyloacidiphilum kamchatkense' Kam1. *Extremophiles* 2012;16:405–409.
339. Versantvoort W, Guerrero-Cruz S, Speth DR, Frank J, Gambelli L et al. Comparative genomics of *Candidatus* Methylo-mirabilis lanthanidiphila. *Front Microbiol* 2018;9:1672.
340. Graf JS, Mayr MJ, Marchant HK, Tienken D, Hach PF et al. Bloom of a denitrifying methanotroph, 'Candidatus Methylo-mirabilis limnetica', in a deep stratified lake. *Environ Microbiol* 2018;20:2598–2614.
341. He Z, Cai C, Wang J, Xu X, Zheng P et al. A novel denitrifying methanotroph of the NC10 phylum and its microcolony. *Sci Rep* 2016;6:32241.
342. Gofton AW, Doggett S, Ratchford A, Ryan U, Irwin P. Phylogenetic characterisation of two novel *Anaplasmataceae* from Australian *Ixodes holocyclus* ticks: 'Candidatus Neoehrlichia australis' and 'Candidatus Neoehrlichia arcana'. *Int J Syst Evol Microbiol* 2016;66:4256–4261.
343. Müller A, Monti G, Otth C, Sepúlveda P, Bittencourt P et al. "Candidatus Neoehrlichia chilensis" sp. nov.: Molecular detection and characterization of a novel *Anaplasmataceae* in wild rodents from Valdivia, southern Chile. *Transbound Emerg Dis* 2018;65:357–362.
344. Yabsley MJ, Murphy SM, Luttrell MP, Wilcox BR, Howerth EW et al. Characterization of 'Candidatus Neoehrlichia lotoris' (family *Anaplasmataceae*) from raccoons (*Procyon lotor*). *Int J Syst Evol Microbiol* 2008;58:2794–2798.
345. Levantesi C, Rossetti S, Thelen K, Kragelund C, Krooneman J et al. Phylogeny, physiology and distribution of 'Candidatus Microthrix calida', a new *Microthrix* species isolated from industrial activated sludge wastewater treatment plants. *Environ Microbiol* 2006;8:1552–1563.
346. Abby SS, Melcher M, Kerou M, Krupovic M, Stieglmeier M et al. *Candidatus* Nitrosocaldus cavascurensis, an ammonia oxidizing, extremely thermophilic archaeon with a highly mobile genome. *Front Microbiol* 2018;9:28.
347. Daebeler A, Herbold CW, Vierheilg J, Sedlacek CJ, Pjevac P et al. Cultivation and genomic analysis of "Candidatus Nitrosocaldus islandicus," an obligately thermophilic, ammonia-oxidizing thaumarchaeon from a hot spring biofilm in Graendalur Valley, Iceland. *Front Microbiol* 2018;9:193.
348. Sauder LA, Albertsen M, Engel K, Schwarz J, Nielsen PH et al. Cultivation and characterization of *Candidatus* Nitrosocosmicus exaquare, an ammonia-oxidizing archaeon from a municipal wastewater treatment system. *ISME J* 2017;11:1142–1157.
349. Herbold CW, Lehtovirta-Morley LE, Jung M-Y, Jehmlich N, Hausmann B et al. Ammonia-oxidizing archaea living at low pH: insights from comparative genomics. *Environ Microbiol* 2017;19:4939–4952.
350. Sauder LA, Engel K, Lo C-C, Chain P, Neufeld JD. Cultivation and characterization of *Candidatus* Nitrosotenuis aquarius, an ammonia-oxidizing archaeon from a freshwater aquarium biofilter. *Appl Environ Microbiol* 2018;84:pii: e01430-18.
351. Jung M-Y, Park S-J, Kim S-J, Kim J-G, Sinnighe Damsté JS et al. A mesophilic, autotrophic, ammonia-oxidizing archaeon of thaumarchaeal group I.1a cultivated from a deep oligotrophic soil horizon. *Appl Environ Microbiol* 2014;80:3645–3655.
352. Li Y, Ding K, Wen X, Zhang B, Shen B et al. A novel ammonia-oxidizing archaeon from wastewater treatment plant: its enrichment, physiological and genomic characteristics. *Sci Rep* 2016;6:23747.

353. Kitzinger K, Koch H, Lückner S, Sedlacek CJ, Herbold C et al. Characterization of the first "Candidatus Nitrotoga" isolate reveals metabolic versatility and separate evolution of widespread nitrite-oxidizing bacteria. *mBio* 2018;9:e01186.
354. Hendry TA, Dunlap PV. Phylogenetic divergence between the obligate luminous symbionts of flashlight fishes demonstrates specificity of bacteria to host genera. *Environ Microbiol Rep* 2014;6:331–338.
355. Davis RE, Zhao Y, Dally EL, Jomantiene R, Lee I-M et al. 'Candidatus Phytoplasma sudamericanum', a novel taxon, and strain PassWB-Br4, a new subgroup 16SrIII-V phytoplasma, from diseased passion fruit (*Passiflora edulis* f. *flavicarpa* Deg.). *Int J Syst Evol Microbiol* 2012;62:984–989.
356. Marccone C, Gibb KS, Stretten C, Schneider B. 'Candidatus Phytoplasma spartii', 'Candidatus Phytoplasma rhamnii' and 'Candidatus Phytoplasma allocasuarinae', respectively associated with spartium witches'-broom, buckthorn witches'-broom and allocasuarina yellows diseases. *Int J Syst Evol Microbiol* 2004;54:1025–1029.
357. Lee I-M, Bottner KD, Secor G, Rivera-Varas V. "Candidatus Phytoplasma americanum", a phytoplasma associated with a potato purple top wilt disease complex. *Int J Syst Evol Microbiol* 2006;56:1593–1597.
358. Lee I-M, Gundersen-Rindal DE, Davis RE, Bottner KD, Marccone C et al. 'Candidatus Phytoplasma asteris', a novel phytoplasma taxon associated with aster yellows and related diseases. *Int J Syst Evol Microbiol* 2004;54:1037–1048.
359. White DT, Blackall LL, Scott PT, Walsh KB. Phylogenetic positions of phytoplasmas associated with dieback, yellow crinkle and mosaic diseases of papaya, and their proposed inclusion in 'Candidatus Phytoplasma australiense' and a new taxon, 'Candidatus Phytoplasma australasia'. *Int J Syst Bacteriol* 1998;48:941–951.
360. Davis RE, Dally EL, Gundersen DE, Lee IM, Habili N. "Candidatus Phytoplasma australiense," a new phytoplasma taxon associated with Australian grapevine yellows. *Int J Syst Bacteriol* 1997;47:262–269.
361. Win NKK, Lee SY, Bertaccini A, Namba S, Jung HY. 'Candidatus Phytoplasma balanitae' associated with witches' broom disease of *Balanites triflora*. *Int J Syst Evol Microbiol* 2013;63:636–640.
362. Montano HG, Davis RE, Dally EL, Hogenhout S, Pimentel JP et al. 'Candidatus Phytoplasma brasiliense', a new phytoplasma taxon associated with hibiscus witches' broom disease. *Int J Syst Evol Microbiol* 2001;51:1109–1118.
363. Arocha Y, López M, Piñol B, Fernández M, Picornell B et al. 'Candidatus Phytoplasma graminis' and 'Candidatus Phytoplasma caricae', two novel phytoplasmas associated with diseases of sugarcane, weeds and papaya in Cuba. *Int J Syst Evol Microbiol* 2005;55:2451–2463.
364. Jung HY, Sawayanagi T, Kakizawa S, Nishigawa H, Miyata SI et al. 'Candidatus Phytoplasma castaneae', a novel phytoplasma taxon associated with chestnut witches' broom disease. *Int J Syst Evol Microbiol* 2002;52:1543–1549.
365. Šafářová D, Zemánek T, Válová P, Navrátil M. 'Candidatus Phytoplasma cirsii', a novel taxon from creeping thistle [*Cirsium arvense* (L.) Scop]. *Int J Syst Evol Microbiol* 2016;66:1745–1753.
366. Zreik L, Carle P, Bové JM, Garnier M. Characterization of the mycoplasma-like organism associated with witches'-broom disease of lime and proposition of a 'Candidatus' taxon for the organism, "Candidatus Phytoplasma aurantifolia". *Int J Syst Bacteriol* 1995;45:449–453.
367. Martini M, Marccone C, Mitrović J, Maixner M, Delić D et al. 'Candidatus Phytoplasma convolvuli', a new phytoplasma taxon associated with bindweed yellows in four European countries. *Int J Syst Evol Microbiol* 2012;62:2910–2915.
368. Lee I-M, Bottner-Parker KD, Zhao Y, Villalobos W, Moreira L. 'Candidatus Phytoplasma costaricanum' a novel phytoplasma associated with an emerging disease in soybean (*Glycine max*). *Int J Syst Evol Microbiol* 2011;61:2822–2826.
369. Marccone C, Schneider B, Seemüller E. 'Candidatus Phytoplasma cynodontis', the phytoplasma associated with Bermuda grass white leaf disease. *Int J Syst Evol Microbiol* 2004;54:1077–1082.
370. Valiunas D, Staniulis J, Davis RE. 'Candidatus Phytoplasma fragariae', a novel phytoplasma taxon discovered in yellows diseased strawberry, *Fragaria x ananassa*. *Int J Syst Evol Microbiol* 2006;56:277–281.
371. Griffiths HM, Sinclair WA, Smart CD, Davis RE. The phytoplasma associated with ash yellows and lilac witches'-broom: 'Candidatus Phytoplasma fraxini'. *Int J Syst Bacteriol* 1999;49:1605–1614.
372. Davis RE, Harrison NA, Zhao Y, Wei W, Dally EL. 'Candidatus Phytoplasma hispanicum', a novel taxon associated with Mexican periwinkle virescence disease of *Catharanthus roseus*. *Int J Syst Evol Microbiol* 2016;66:3463–3467.
373. Sawayanagi T, Horikoshi N, Kanehira T, Shinohara M, Bertaccini A et al. 'Candidatus Phytoplasma japonicum', a new phytoplasma taxon associated with Japanese *Hydrangea* phyllody. *Int J Syst Bacteriol* 1999;49:1275–1285.
374. Davis RE, Zhao Y, Wei W, Dally EL, Lee I-M. 'Candidatus Phytoplasma luffae', a novel taxon associated with witches' broom disease of loofah, *Luffa aegyptica* Mill. *Int J Syst Evol Microbiol* 2017;67:3127–3133.
375. Arocha Y, Antesana O, Montellano E, Franco P, Plata G et al. 'Candidatus Phytoplasma lycopersici', a phytoplasma associated with 'hoja de perejil' disease in Bolivia. *Int J Syst Evol Microbiol* 2007;57:1704–1710.
376. Nejat N, Vadamalai G, Davis RE, Harrison NA, Sijam K et al. 'Candidatus Phytoplasma malaysianum', a novel taxon associated with virescence and phyllody of Madagascar periwinkle (*Catharanthus roseus*). *Int J Syst Evol Microbiol* 2013;63:540–548.
377. Seemüller E, Schneider B. 'Candidatus Phytoplasma mali', 'Candidatus Phytoplasma pyri' and 'Candidatus Phytoplasma prunorum', the causal agents of apple proliferation, pear decline and European stone fruit yellows, respectively. *Int J Syst Evol Microbiol* 2004;54:1217–1226.
378. Fernández FD, Galdeano E, Kornowski MV, Arneodo JD, Conci LR. Description of 'Candidatus Phytoplasma meliae', a phytoplasma associated with Chinaberry (*Melia azedarach* L.) yellowing in South America. *Int J Syst Evol Microbiol* 2016;66:5244–5251.
379. Miyazaki A, Shigaki T, Koinuma H, Iwabuchi N, Rauka GB et al. 'Candidatus Phytoplasma noviguineense', a novel taxon associated with Bogia coconut syndrome and banana wilt disease on the island of New Guinea. *Int J Syst Evol Microbiol* 2018;68:170–175.
380. Al-Saady NA, Khan AJ, Calari A, Al-Subhi AM, Bertaccini A. 'Candidatus Phytoplasma omanense', associated with witches'-broom of *Cassia italica* (Mill.) Spreng. in Oman. *Int J Syst Evol Microbiol* 2008;58:461–466.
381. Jung HY, Sawayanagi T, Wongkaew P, Kakizawa S, Nishigawa H et al. 'Candidatus Phytoplasma oryzae', a novel phytoplasma taxon associated with rice yellow dwarf disease. *Int J Syst Evol Microbiol* 2003b;53:1925–1929.
382. Harrison NA, Davis RE, Oropesa C, Helmick EE, Narváez M et al. 'Candidatus Phytoplasma palmicola', associated with a lethal yellowing-type disease of coconut (*Cocos nucifera* L.) in Mozambique. *Int J Syst Evol Microbiol* 2014;64:1890–1899.
383. Verdin E et al. 'Candidatus Phytoplasma phoenicium' sp. nov., a novel phytoplasma associated with an emerging lethal disease of almond trees in Lebanon and Iran. *Int J Syst Evol Microbiol* 2003;53:833–838.
384. Schneider B, Torres E, Martín MP, Schröder M, Behnke H-D et al. 'Candidatus Phytoplasma pini', a novel taxon from *Pinus silvestris* and *Pinus halepensis*. *Int J Syst Evol Microbiol* 2005;55:303–307.
385. Davis RE, Zhao Y, Dally EL, Lee I-M, Jomantiene R et al. 'Candidatus Phytoplasma pruni', a novel taxon associated with X-disease of stone fruits, *Prunus* spp.: multilocus characterization based on 16S rRNA, *secY*, and ribosomal protein genes. *Int J Syst Evol Microbiol* 2013;63:766–776.

386. Malembic-Maher S, Salar P, Filippin L, Carle P, Angelini E et al. Genetic diversity of European phytoplasmas of the 16SrV taxonomic group and proposal of 'Candidatus Phytoplasma rubi'. *Int J Syst Evol Microbiol* 2011;61:2129–2134.
387. Quaglino F, Zhao Y, Casati P, Bulgari D, Bianco PA et al. 'Candidatus Phytoplasma solani', a novel taxon associated with stolbur- and bois noir-related diseases of plants. *Int J Syst Evol Microbiol* 2013;63:2879–2894.
388. Zhao Y, Sun Q, Wei W, Davis RE, Wu W et al. 'Candidatus Phytoplasma tamaricis', a novel taxon discovered in witches'-broom-diseased salt cedar (*Tamarix chinensis* Lour.). *Int J Syst Evol Microbiol* 2009;59:2496–2504.
389. Hiruki C, Wang K. Clover proliferation phytoplasma: 'Candidatus Phytoplasma trifolii'. *Int J Syst Evol Microbiol* 2004;54:1349–1353.
390. Lee I-M, Martini M, Marccone C, Zhu SF. Classification of phytoplasma strains in the elm yellows group (16SrV) and proposal of 'Candidatus Phytoplasma ulmi' for the phytoplasma associated with elm yellows. *Int J Syst Evol Microbiol* 2004;54:337–347.
391. Marzorati M, Alma A, Sacchi L, Pajoro M, Palermo S et al. A novel *Bacteroidetes* symbiont is localized in *Scaphoideus titanus*, the insect vector of flavescence dorée in *Vitis vinifera*. *Appl Environ Microbiol* 2006;72:1467–1475.
392. Naderali N, Nejat N, Vadamalai G, Davis RE, Wei W et al. 'Candidatus Phytoplasma wodyetiae', a new taxon associated with yellow decline disease of foxtail palm (*Wodyetia bifurcata*) in Malaysia. *Int J Syst Evol Microbiol* 2017;67:3765–3772.
393. Jung HY, Sawayanagi T, Kakizawa S, Nishigawa H, Wei W et al. 'Candidatus Phytoplasma ziziphi', a novel phytoplasma taxon associated with jujube witches'-broom disease. *Int J Syst Evol Microbiol* 2003;53:1037–1041.
394. Kostanjšek R, Štrus J, Drobne D, Avguštin G. 'Candidatus Rhabdochlamydia porcellionis', an intracellular bacterium from the hepatopancreas of the terrestrial isopod *Porcellio scaber* (Crustacea: Isopoda). *Int J Syst Evol Microbiol* 2004;54:543–549.
395. Allen JM, Reed DL, Perotti MA, Braig HR. Evolutionary relationships of "Candidatus Riesia spp.," endosymbiotic enterobacteriaceae living within hematophagous primate lice. *Appl Environ Microbiol* 2007;73:1659–1664.
396. Schmid M, Walsh K, Webb R, Rijpstra WI, van de Pas-Schoonen K et al. 'Candidatus Scalindua brodae', sp. nov., 'Candidatus Scalindua wagneri', sp. nov., two new species of anaerobic ammonium oxidizing bacteria. *Syst Appl Microbiol* 2003;26:529–538.
397. Ahmed S, Shakeela Q, Khan I, Nouroz F, Niaz Z. Molecular detection of 'Candidatus Scalindua flavia', study of anammox bacterial community structure, composition in the sediments of the East China Sea and the Yellow Sea. *Indian J Geo Mar Sci* 2017;46:33–47.
398. Oshiki M, Mizuto K, Kimura ZI, Kindaichi T, Satoh H et al. Genetic diversity of marine anaerobic ammonium-oxidizing bacteria as revealed by genomic and proteomic analyses of 'Candidatus Scalindua japonica'. *Environ Microbiol Rep* 2017;9:550–561.
399. Dang H, Zhou H, Zhang Z, Yu Z, Hua E et al. Molecular detection of 'Candidatus Scalindua pacifica' and environmental responses of sediment anammox bacterial community in the Bohai Sea, China. *PLoS One* 2013;8:e61330.
400. van de Vossenberg J, Woebken D, Maalcke WJ, Wessels HJCT, Dutilh BE et al. The metagenome of the marine anammox bacterium 'Candidatus Scalindua profunda' illustrates the versatility of this globally important nitrogen cycle bacterium. *Environ Microbiol* 2013;15:1275–1289.
401. Fuchsman CA, Staley JT, Oakley BB, Kirkpatrick JB, Murray JW. Free-living and aggregate-associated *Planctomycetes* in the Black Sea. *FEMS Microbiol Ecol* 2012;80:402–416.
402. Speth DR, Lagkouvardos I, Wang Y, Qian PY, Dutilh BE et al. Draft genome of *Scalindua rubra*, obtained from the interface above the discovery deep brine in the Red Sea, sheds light on potential salt adaptation strategies in anammox bacteria. *Microb Ecol* 2017;74:1–5.
403. Kuypers MMM, Stiekers AO, Lavik G, Schmid M, Jørgensen BB et al. Anaerobic ammonium oxidation by anammox bacteria in the Black Sea. *Nature* 2003;422:608–611.
404. Taylor-Brown A, Pillonel T, Bridle A, Qi W, Bachmann NL et al. Culture-Independent genomics of a novel chlamydial pathogen of fish provides new insight into host-specific adaptations utilized by these intracellular bacteria. *Environ Microbiol* 2017a;19:1899–1913.
405. Steigen A, Karlsbakk E, Plarre H, Watanabe K, Øvergård A-C et al. A new intracellular bacterium, 'Candidatus Similichlamydia labri' sp. nov. (Chlamydiaceae) producing epitheliocysts in ballan wrasse, *Labrus bergylla* (Pisces, Labridae). *Arch Microbiol* 2015;197:311–318.
406. Stride MC, Polkinghorne A, Powell MD, Nowak BF. 'Candidatus Similichlamydia laticola', a novel *Chlamydia*-like agent of epitheliocystis in seven consecutive cohorts of farmed Australian barramundi, *Lates calcarifer* (Bloch). *PLoS One* 2013;8:e82889.
407. Metchnikoff E. Contributions l'étude du pléomorphisme des bactériens. *Ann Inst Pasteur* 1889;3:61–68.
408. Viale E, Martínez-Sañudo I, Brown JM, Simonato M, Girolami V et al. Pattern of association between endemic Hawaiian fruit flies (Diptera, Tephritidae) and their symbiotic bacteria: Evidence of cospeciation events and proposal of "Candidatus Stammerula trupaneae". *Mol Phylogenet Evol* 2015;90:67–79.
409. Park S-J, Ghai R, Martín-Cuadrado AB, Rodríguez-Valera F, Jung MY et al. Draft genome sequence of the sulfur-oxidizing bacterium "Candidatus Sulfurovum sediminum" AR, which belongs to the *Epsilonproteobacteria*. *J Bacteriol* 2012;194:4128–4129.
410. Nylund S, Steigen A, Karlsbakk E, Plarre H, Andersen L et al. Characterization of 'Candidatus Syngnamydia salmonis' (Chlamydiales, Simkaniaceae), a bacterium associated with epitheliocystis in Atlantic salmon (*Salmo salar* L.). *Arch Microbiol* 2015;197:17–25.
411. Petersen JM, Kemper A, Gruber-Vodicka H, Cardini U, van der Geest M et al. Chemosynthetic symbionts of marine invertebrate animals are capable of nitrogen fixation. *Nat Microbiol* 2017;2:16195.
412. Callbeck CM, Lavik G, Ferdelman TG, Fuchs B, Gruber-Vodicka HR et al. Oxygen minimum zone cryptic sulfur cycling sustained by offshore transport of key sulfur oxidizing bacteria. *Nat Commun* 2018;9:1729.
413. Ponnudurai R, Sayavedra L, Kleiner M, Heiden SE, Thürmer A et al. Genome sequence of the sulfur-oxidizing *Bathymodiolus thermophilus* gill endosymbiont. *Stand Genomic Sci* 2017;12:50.
414. López-Legentil S, Song B, Bosch M, Pawlik JR, Turon X. Cyanobacterial diversity and a new *Acaryochoris*-like symbiont from Bahamian sea-squirts. *PLoS One* 2011;6:e23938.
415. Salman V, Berben T, Bowers RM, Woyke T, Teske A et al. Insights into the single cell draft genome of "Candidatus Achromatium palustre". *Stand Genomic Sci* 2016;11:28.
416. Giaveno MA, Urbieta MS, Ulloa JR, Toril EG, Donati ER. Physiologic versatility and growth flexibility as the main characteristics of a novel thermoacidophilic *Acidianus* strain isolated from Copahue geothermal area in Argentina. *Microb Ecol* 2013;65:336–346.
417. Drancourt M, Berger P, Raoult D. Systematic 16S rRNA gene sequencing of atypical clinical isolates identified 27 new bacterial species associated with humans. *J Clin Microbiol* 2004;42:2197–2202.
418. Guo W-P, Tian J-H, Lin X-D, Ni X-B, Chen X-P et al. Extensive genetic diversity of Rickettsiales bacteria in multiple mosquito species. *Sci Rep* 2016;6:38770.
419. Lbacha HA, Zouagui Z, Alali S, Rhalem A, Petit E et al. "Candidatus Anaplasma camelii" in one-humped camels (*Camelus dromedarius*) in Morocco: a novel and emerging *Anaplasma* species? *Infect Dis Poverty* 2017;6:1.
420. Ehounoud CB, Yao KP, Dahmani M, Achi YL, Amanzougaghene N et al. Multiple pathogens including potential new species in tick vectors in Côte d'Ivoire. *PLoS Negl Trop Dis* 2016;10:e0004367.

421. Vanstreels RET, Yabsley MJ, Parsons NJ, Swanepoel L, Pistorius PA. A novel candidate species of *Anaplasma* that infects avian erythrocytes. *Parasit Vectors* 2018;11:525.
422. Wirsén CO, Sievert SM, Cavanaugh CM, Molyneaux SJ, Ahmad A et al. Characterization of an autotrophic sulfide-oxidizing marine *Arcobacter* sp. that produces filamentous sulfur. *Appl Environ Microbiol* 2002;68:316–325.
423. Dale C, Beeton M, Harbison C, Jones T, Pontes M. Isolation, pure culture, and characterization of "Candidatus *Arsenophonus* arthropodicus," an intracellular secondary endosymbiont from the hippoboscids louse fly *Pseudolynchia canariensis*. *Appl Environ Microbiol* 2006;72:2997–3004.
424. Nováková E, Hypša V, Nguyen P, Husník F, Darby AC. Genome sequence of *Candidatus Arsenophonus lipopteni*, the exclusive symbiont of a blood sucking fly *Lipoptena cervi* (Diptera: Hippoboscidae). *Stand Genomic Sci* 2016;11:72.
425. Nováková E, Husník F, Šochová E, Hypša V. *Arsenophonus* and *Sodalis* symbionts in louse flies: an analogy to the *Wigglesworthia* and *Sodalis* system in tsetse flies. *Appl Environ Microbiol* 2015;81:6189–6199.
426. Fan HW, Lu JB, Ye YX, Xu YP, Zhang CX. Characteristics of the draft genome of "Candidatus *Arsenophonus nilaparvatae*", a facultative endosymbiont of *Nilaparvata lugens*. *Insect Sci* 2016;23:478–486.
427. Bressan A, Terlizzi F, Credi R. Independent origins of vectored plant pathogenic bacteria from arthropod-associated *Arsenophonus* endosymbionts. *Microb Ecol* 2012;63:628–638.
428. McLean JS, Liu Q, Thompson J, Edlund A, Kelley S. Draft genome sequence of "Candidatus *Bacteroides pericocalifornicus*," a new member of the *Bacteroidetes* phylum found within the oral microbiome of periodontitis patients. *Genome Announc* 2015;3:e01485–15.
429. Blazes DL, Mullins K, Smoak BL, Jiang J, Canal E et al. Novel *Bartonella* agent as cause of verruga peruana. *Emerg Infect Dis* 2013;19:1111–1114.
430. Mullins KE, Hang J, Jiang J, Leguia M, Kasper MR, et al. Description of *Bartonella ancashensis* sp. nov., isolated from the blood of two patients with verruga peruana. *Int J Syst Evol Microbiol* 2015;65:3339–3343.
431. Kaewmongkol G, Kaewmongkol S, Owen H, Fleming PA, Adams PJ et al. *Candidatus Bartonella antechini*: a novel *Bartonella* species detected in fleas and ticks from the yellow-footed antechinus (*Antechinus flavipes*), an Australian marsupial. *Vet Microbiol* 2011;149:517–521.
432. Kaewmongkol G, Kaewmongkol S, Burmej H, Bennett MD, Fleming PA et al. Diversity of *Bartonella* species detected in arthropod vectors from animals in Australia. *Comp Immunol Microbiol Infect Dis* 2011;34:411–417.
433. Laroche M, Berenger J-M, Mediannikov O, Raoult D, Parola P. Detection of a potential new *Bartonella* species "Candidatus *Bartonella rondoniensis*" in human biting kissing bugs (Reduviidae: Triatominae). *PLoS Negl Trop Dis* 2017;11:e0005297.
434. Dahmani M, Sambou M, Scandola P, Raoult D, Fenollar F et al. *Bartonella bovis* and *Candidatus Bartonella davousti* in cattle from Senegal. *Comp Immunol Microbiol Infect Dis* 2017a;50:63–69.
435. Alsarraf M, Mohallal EME, Mierzejewska EJ, Behnke-Borowczyk J, Welc-Falęciak R et al. Description of *Candidatus Bartonella fadhilae* n. sp. and *Candidatus Bartonella sanaae* n. sp. (*Bartonellaceae*) from *Dipodillus dasyurus* and *Sekeetamys calurus* (*Gerbillinae*) from the Sinai Massif (Egypt). *Vector Borne Zoonotic Dis* 2017;17:483–494.
436. Lilley TM, Veikkolainen V, Pulliainen AT. Molecular detection of *Candidatus Bartonella hemsundetiensis* in bats. *Vector Borne Zoonotic Dis* 2015;15:706–708.
437. Breitschwerdt EB, Maggi RG, Cadenas MB, de Paiva Diniz PPV, PPVdeP D. A groundhog, a novel *Bartonella* sequence, and my father's death. *Emerg Infect Dis* 2009;15:2080–2086.
438. Lin EY, Tsigrelis C, Baddour LM, Lepidi H, Rolain J-M et al. *Candidatus Bartonella mayotimonensis* and endocarditis. *Emerg Infect Dis* 2010;16:500–503.
439. Chomel BB, McMillan-Cole AC, Kasten RW, Stuckey MJ, Sato S et al. *Candidatus Bartonella merieuxii*, a potential new zoonotic *Bartonella* species in canids from Iraq. *PLoS Negl Trop Dis*;6:e1843.
440. Raya AP, Jaffe DA, Chomel BB, Ota MS, Tsou PM et al. Detection of *Bartonella* species, including *Candidatus Bartonella ovis* sp. nov, in ruminants from Mexico and lack of evidence of *Bartonella* DNA in saliva of common vampire bats (*Desmodus rotundus*) predating on them. *Vet Microbiol* 2018;222:69–74.
441. Saisongkorh W, Wootta W, Sawanpanyalert P, Raoult D, Rolain JM. "Candidatus *Bartonella thailandensis*": A new genotype of *Bartonella* identified from rodents. *Vet Microbiol* 2009;139:197–201.
442. Hu P, Dubinsky EA, Probst AJ, Wang J, Sieber CMK et al. Simulation of *Deepwater Horizon* oil plume reveals substrate specialization within a complex community of hydrocarbon degraders. *Proc Natl Acad Sci USA* 2017;114:7432–7437.
443. Fotso Fotso A, Angelakis E, Mouffok N, Drancourt M, Raoult D. Blood-borne *Candidatus Borrelia algerica* in a patient with prolonged fever in Oran, Algeria. *Am J Trop Med Hyg* 2015;93:1070–1073.
444. Marconi RT, Liveris D, Schwartz I. Identification of novel insertion elements, restriction fragment length polymorphism patterns, and discontinuous 23S rRNA in Lyme disease spirochetes: phylogenetic analyses of rRNA genes and their intergenic spacers in *Borrelia japonica* sp. nov. and genomic group 21038 (*Borrelia andersonii* sp. nov.) isolates. *J Clin Microbiol* 1995;33:2427–2434.
445. Cutler SJ, Ruzic-Sabljić E, Potkonjak A. Emerging borreliae - expanding beyond Lyme borreliosis. *Mol Cell Probes* 2017;31:22–27.
446. Casjens SR, Fraser-Liggett CM, Mongodin EF, Qiu WG, Dunn JJ et al. Whole genome sequence of an unusual *Borrelia burgdorferi sensu lato* isolate. *J Bacteriol* 2011;193:1489–1490.
447. Schwan TG, Raffel SJ, Schrupf ME, Gill JS, Piesman J. Characterization of a novel relapsing fever spirochete in the midgut, coxal fluid, and salivary glands of the bat tick *Carios kelleyi*. *Vector Borne Zoonotic Dis* 2009;9:643–647.
448. Fingerle V, Pritsch M, Wächtler M, Margos G, Ruske S et al. "Candidatus *Borrelia kalaharica*" detected from a febrile traveller returning to Germany from vacation in Southern Africa. *PLoS Negl Trop Dis* 2016;10:e0004559.
449. Barbour AG, Maupin GO, Teltow GJ, Carter CJ, Piesman J. Identification of an uncultivable *Borrelia* species in the hard tick *Amblyomma americanum*: possible agent of a Lyme disease-like illness. *J Infect Dis* 1996;173:403–409.
450. Pritt BS, Mead PS, Johnson DKH, Neitzel DF, Respicio-Kingry LB et al. Identification of a novel pathogenic *Borrelia* species causing Lyme borreliosis with unusually high spirochaetaemia: a descriptive study. *Lancet Infect Dis* 2016;16:556–564.
451. Mitani H, Talbert A, Fukunaga M. New world relapsing fever *Borrelia* found in *Ornithodoros porcinus* ticks in central Tanzania. *Microbiol Immunol* 2004;48:501–505.
452. Carley JG, Pope JH. A new species of *Borrelia* (*B. queenslandica*) from *Rattus villosissimus* in Queensland. *Aust J Exp Biol Med Sci* 1962;40:255–261.
453. Loh S-M, Gillett A, Ryan U, Irwin P, Oskam C. Molecular characterization of 'Candidatus *Borrelia tachyglossi*' (family *Spirochaetaceae*) in echidna ticks, *Bothriocroton concolor*. *Int J Syst Evol Microbiol* 2017;67:1075–1080.
454. Lin T, Gao L, Seyfang A, Oliver JH. 'Candidatus *Borrelia texasensis*', from the American dog tick *Dermacentor variabilis*. *Int J Syst Evol Microbiol* 2005;55:685–693.
455. Lemaire B, Vandamme P, Merckx V, Smets E, Dessein S. Bacterial leaf symbiosis in angiosperms: host specificity without co-speciation. *PLoS One* 2011;6:e24430.
456. Lemaire B, Robbrecht E, van Wyk B, Van Oevelen S, Verstraete B et al. Identification, origin, and evolution of leaf

- nodulating symbionts of *Sericanthe* (Rubiaceae). *J Microbiol* 2011;49:935–941.
457. Sawana A, Adeolu M, Gupta RS. Molecular signatures and phylogenomic analysis of the genus *Burkholderia*: proposal for division of this genus into the emended genus *Burkholderia* containing pathogenic organisms and a new genus *Paraburkholderia* gen. nov. harboring environmental species. *Front Genet* 2014;5:429.
458. Van Oevelen S, De Wachter R, Vandamme P, Robbrecht E, Prinsen E. 'Candidatus Burkholderia calva' and 'Candidatus Burkholderia nigropunctata' as leaf gall endosymbionts of African *Psychotria*. *Int J Syst Evol Microbiol* 2004;54:2237–2239.
459. Lemaire B, Smets E, Dessein S. Bacterial leaf symbiosis in *Ardisia* (Myrsinoideae, Primulaceae): molecular evidence for host specificity. *Res Microbiol* 2011;162:528–534.
460. Lemaire B, Van Oevelen S, De Block P, Verstraete B, Smets E et al. Identification of the bacterial endosymbionts in leaf nodules of *Pavetta* (Rubiaceae). *Int J Syst Evol Microbiol* 2012;62:202–209.
461. Van Oevelen S, De Wachter R, Vandamme P, Robbrecht E, Prinsen E. Identification of the bacterial endosymbionts in leaf galls of *Psychotria* (Rubiaceae, angiosperms) and proposal of 'Candidatus Burkholderia kirkii' sp. nov. *Int J Syst Evol Microbiol* 2002;52:2023–2027.
462. Taylor-Brown A, Spang L, Borel N, Polkinghorne A. Culture-independent metagenomics supports discovery of uncultivable bacteria within the genus *Chlamydia*. *Sci Rep* 2017;7:10661.
463. Taylor-Brown A, Bachmann NL, Borel N, Polkinghorne A. Culture-independent genomic characterisation of *Candidatus Chlamydia sanzina*, a novel uncultivated bacterium infecting snakes. *BMC Genomics* 2016;17:710.
464. Trinachartvanit W, Maneewong S, Kaenkan W, Usananan P, Baimai V et al. *Coxiella*-like bacteria in fowl ticks from Thailand. *Parasit Vectors* 2018;11:670.
465. Shivaprasad HL, Cadenas MB, Diab SS, Nordhausen R, Bradway D et al. *Coxiella*-like infection in psittacines and a toucan. *Avian Dis* 2008;52:426–432.
466. Angelakis E, Mediannikov O, Jos S-L, Berenger J-M, Parola P et al. *Candidatus Coxiella massiliensis* infection. *Emerg Infect Dis* 2016;22:285–288.
467. Gottlieb Y, Lizarz I, Klasson L. Distinctive genome reduction rates revealed by genomic analyses of two *Coxiella*-like endosymbionts in ticks. *Genome Biol Evol* 2015;7:1779–1796.
468. Nobu MK, Tamaki H, Kubota K, Liu W-T. Metagenomic characterization of 'Candidatus Defluviicoccus tetraformis strain TF071', a tetrad-forming organism, predominant in an anaerobic-aerobic membrane bioreactor with deteriorated biological phosphorus removal. *Environ Microbiol* 2014;16:2739–2751.
469. Yang Y, Higgins SA, Yan J, Şimşir B, Chourey K et al. Grape pomace compost harbors organohalide-respiring *Dehalogenimonas* species with novel reductive dehalogenase genes. *ISME J* 2017;11:2767–2780.
470. Sato T, Hongoh Y, Noda S, Hattori S, Ui S et al. *Candidatus Desulfobrevibrio trichonymphae*, a novel intracellular symbiont of the flagellate *Trichonympha agilis* in termite gut. *Environ Microbiol* 2009;11:1007–1015.
471. Vannini C, Rosati G, Verni F, Petroni G. Identification of the bacterial endosymbionts of the marine ciliate *Euplotes magnicirratu* (Ciliophora, Hypotrichia) and proposal of 'Candidatus Devosia euplotis'. *Int J Syst Evol Microbiol* 2004;54:1151–1156.
472. Rar VA, Pukhovskaya NM, Ryabchikova EI, Vysochina NP, Bakhmeteva SV et al. Molecular-genetic and ultrastructural characteristics of 'Candidatus Ehrlichia khabarensis', a new member of the *Ehrlichia* genus. *Ticks Tick Borne Dis* 2015;6:658–667.
473. Brouqui P, Sanogo YO, Caruso G, Merola F, Raoult D. *Candidatus Ehrlichia walkerii*: a new *Ehrlichia* detected in *Ixodes ricinus* tick collected from asymptomatic humans in Northern Italy. *Ann N Y Acad Sci* 2003;990:134–140.
474. Stingl U, Radek R, Yang H, Brune A. 'Endomicrobia': cytoplasmic symbionts of termite gut protozoa form a separate phylum of prokaryotes. *Appl Environ Microbiol* 2005;71:1473–1479.
475. Katharios P, Seth-Smith HMB, Fehr A, Mateos JM, Qi W et al. Environmental marine pathogen isolation using mesocosm culture of sharpnose seabream: striking genomic and morphological features of novel *Endozoicomonas* sp. *Sci Rep* 2015;5:17609.
476. Hendry TA, Freed LL, Fader D, Fenolio D, Sutton TT et al. Ongoing transposon-mediated genome reduction in the luminous bacterial symbionts of deep-sea ceratoid anglerfishes. *mBio* 2018;9:e01033–18.
477. Tagawa M, Matsumoto K, Inokuma H. Molecular detection of *Mycoplasma wenyonii* and 'Candidatus Mycoplasma haemobos' in cattle in Hokkaido, Japan. *Vet Microbiol* 2008;132:177–180.
478. Gupta RS, Sawnani S, Adeolu M, Alnajjar S, Oren A. Phylogenetic framework for the phylum *Tenericutes* based on genome sequence data: proposal for the creation of a new order *Mycoplasmoidales* ord. nov., containing two new families *Mycoplasmoidaceae* fam. nov. and *Metamycoplasmataceae* fam. nov. harbouring *Eperythrozoon*, *Ureaplasma* and five novel genera. *Antonie van Leeuwenhoek* 2018;111:1583–1630.
479. Messick JB, Walker PG, Raphael W, Berent L, Shi X. 'Candidatus Mycoplasma haemodidelphidis' sp. nov., 'Candidatus Mycoplasma haemolamae' sp. nov. and *Mycoplasma haemocanis* comb. nov., haemotrophic parasites from a naturally infected opossum (*Didelphis virginiana*), alpaca (*Lama pacos*) and dog (*Canis familiaris*): phylogenetic and secondary structural relatedness of their 16S rRNA genes to other mycoplasmas. *Int J Syst Evol Microbiol* 2002;52:693–698.
480. Foley JE, Pedersen NC. 'Candidatus Mycoplasma haemominutum', a low-virulence epierithrocytic parasite of cats. *Int J Syst Evol Microbiol* 2001;51:815–817.
481. Capuzzo C, Firrao G, Mazzoni L, Squartini A, Girolami V et al. A coevolved symbiotic bacterium of the olive fly *Bactrocera oleae* (Gmelin). *Int J Syst Evol Microbiol* 2005;55:1641–1647.
482. Banfield JF, Anantharaman K, Williams KH, Thomas BC. Complete 4.55-megabase-pair genome of "Candidatus Fluviicola riflensis," curated from short-read metagenomic sequences. *Genome Announc* 2017;5:e01299:17.
483. Normand P, Nguyen TV, Battenberg K, Berry AM, Heuvel BV et al. Proposal of 'Candidatus Frankia californiensis', the uncultured symbiont in nitrogen-fixing root nodules of a phylogenetically broad group of hosts endemic to western North America. *Int J Syst Evol Microbiol* 2017;67:3706–3715.
484. Persson T, Benson DR, Normand P, Vanden Heuvel B, Pujic P et al. Genome sequence of "Candidatus Frankia daticae" Dg1, the uncultured microsymbiont from nitrogen-fixing root nodules of the dicot *Datisca glomerata*. *J Bacteriol* 2011;193:7017–7018.
485. Nguyen HTT, Nielsen JL, Nielsen PH. 'Candidatus Halomonas phosphatis', a novel polyphosphate-accumulating organism in full-scale enhanced biological phosphorus removal plants. *Environ Microbiol* 2012;14:2826–2837.
486. De Groote D, van Doorn LJ, Ducatelle R, Verschuuren A, Tilmant K et al. Phylogenetic characterization of 'Candidatus Helicobacter bovis', a new gastric helicobacter in cattle. *Int J Syst Bacteriol* 1999;49:1707–1715.
487. Lanzoni O, Fokin SI, Lebedeva N, Migunova A, Petroni G et al. Rare freshwater ciliate *Paramecium chlorelligerum* Kahl, 1935 and its macronuclear symbiotic bacterium "Candidatus Holospora parva". *PLoS One* 2016;11:e0167928.
488. Park M, Yun ST, Kim MS, Chun J, Ahn TI. Phylogenetic characterization of *Legionella*-like endosymbiotic X-bacteria in *Amoeba proteus*: a proposal for 'Candidatus Legionella jeonii' sp. nov. *Environ Microbiol* 2004;6:1252–1263.
489. Garnier M, Jagoueix-Eveillard S, Cronje PR, Le Roux HF, Bové JM. Genomic characterization of a liberibacter present in an ornamental rutaceous tree, *Calodendrum capense*, in the Western Cape province of South Africa. Proposal of 'Candidatus

- Liberibacter africanus subsp. capensis'. *Int J Syst Evol Microbiol* 2000;50:2119–2125.
490. Jagoueix S, Bove JM, Garnier M. The phloem-limited bacterium of greening disease of citrus is a member of the α subdivision of the Proteobacteria. *Int J Syst Bacteriol* 1994;44:379–386.
491. Teixeira DdoC, Saillard C, Eveillard S, Danet JL, da Costa PI et al. 'Candidatus Liberibacter americanus', associated with citrus huanglongbing (greening disease) in São Paulo state, Brazil. *Int J Syst Evol Microbiol* 2005;55:1857–1862.
492. Raddadi N, Gonella E, Camerota C, Pizzinat A, Tedeschi R et al. 'Candidatus Liberibacter europaeus' sp. nov. that is associated with and transmitted by the psyllid *Cacopsylla pyri* apparently behaves as an endophyte rather than a pathogen. *Environ Microbiol* 2011;13:414–426.
493. Hansen AK, Trumble JT, Stouthamer R, Paine TD. A new huanglongbing species, "Candidatus Liberibacter psyllauros," found to infect tomato and potato, is vectored by the psyllid *Bactericera cockerelli* (Sulc). *Appl Environ Microbiol* 2008;74:5862–5865.
494. Liefing LW, Weir BS, Pennycook SR, Clover GRG. 'Candidatus Liberibacter solanacearum', associated with plants in the family Solanaceae. *Int J Syst Evol Microbiol* 2009;59:2274–2276.
495. Fettweis JM, Serrano MG, Huang B, Brooks JP, Glascock AL et al. An emerging mycoplasma associated with trichomoniasis, vaginal infection and disease. *PLoS One* 2014;9:e110943.
496. Kougias PG, Campanaro S, Treu L, Zhu X, Angelidaki I. A novel archaeal species belonging to *Methanoculleus* genus identified via *de novo* assembly and metagenomic binning process in biogas reactors. *Anaerobe* 2017;46:23–32.
497. Borrel G, Harris HMB, Parisot N, Gaci N, Tottey W et al. Genome Sequence of "Candidatus Methanomassiliicoccus intestinalis" Isoire-Mx1, a third *Thermoplasmatales*-related methanogenic archaeon from human feces. *Genome Announc* 2013;1:e00453–13.
498. Angle JC, Morin TH, Solden LM, Narrowe AB, Smith GJ et al. Methanogenesis in oxygenated soils is a substantial fraction of wetland methane emissions. *Nat Commun* 2017;8:1567.
499. O'Brien CR, Malik R, Globan M, Reppas G, McCowan C et al. Feline leprosy due to *Candidatus 'Mycobacterium lepraefelis'*: Further clinical and molecular characterisation of eight previously reported cases and an additional 30 cases. *J Feline Med Surg* 2017;19:919–932.
500. O'Brien CR, Malik R, Globan M, Reppas G, McCowan C et al. Feline leprosy due to *Candidatus 'Mycobacterium tarwinense'*: Further clinical and molecular characterisation of 15 previously reported cases and an additional 27 cases. *J Feline Med Surg* 2017;19:498–512.
501. Barker EN, Helps CR, Neimark H, Peters IR, Peters W et al. A novel haemoplasma species identified in archived primate blood smears. *Vet Microbiol* 2011;149:478–481.
502. Neulinger SC, Gärtner A, Järnegren J, Ludvigsen M, Lochte K et al. Tissue-associated "Candidatus Mycoplasma corallicola" and filamentous bacteria on the cold-water coral *Lophelia pertusa* (Scleractinia). *Appl Environ Microbiol* 2009;75:1437–1444.
503. Watanabe Y, Fujihara M, Obara H, Matsubara K, Yamauchi K et al. Novel hemoplasma species detected in free-ranging sika deer (*Cervus nippon*). *J Vet Med Sci* 2010;72:1527–1530.
504. Millán J, López-Roig M, Delicado V, Serra-Cobo J, Esperón F. Widespread infection with hemotropic mycoplasmas in bats in Spain, including a hemoplasma closely related to "Candidatus Mycoplasma hemohominis". *Comp Immunol Microbiol Infect Dis* 2015;39:9–12.
505. Maggi RG, Mascarelli PE, Balakrishnan N, Rohde CM, Kelly CM et al. "Candidatus Mycoplasma haemomacaque" and *Bartonella quintana* bacteremia in cynomolgus monkeys. *J Clin Microbiol* 2013;51:1408–1411.
506. Sykes JE, Ball LM, Bailiff NL, Fry MM. 'Candidatus Mycoplasma haematoparvum', a novel small haemotropic *Mycoplasma* from a dog. *Int J Syst Evol Microbiol* 2005;55:27–30.
507. Hornok S, Meli ML, Erdos A, Hajtós I, Lutz H et al. Molecular characterization of two different strains of haemotropic mycoplasmas from a sheep flock with fatal haemolytic anaemia and concomitant *Anaplasma ovis* infection. *Vet Microbiol* 2009;136:372–377.
508. Volokhov DV, Norris T, Rios C, Davidson MK, Messick JB et al. Novel hemotropic mycoplasma identified in naturally infected California sea lions (*Zalophus californianus*). *Vet Microbiol* 2011;149:262–268.
509. Neimark H, Barnaud A, Gounon P, Michel J-C, Contamin H. The putative haemobartonella that influences *Plasmodium falciparum* parasitaemia in squirrel monkeys is a haemotropic mycoplasma. *Microbes Infect* 2002;4:693–698.
510. Neimark H, Mitchelmore D, Leach RH. An approach to characterizing uncultivated prokaryotes: the Grey Lung agent and proposal of a *Candidatus* taxon for the organism, 'Candidatus Mycoplasma ravigulmonis'. *Int J Syst Bacteriol* 1998;48:389–394.
511. Willi B, Boretti FS, Baumgartner C, Tasker S, Wenger B et al. Prevalence, risk factor analysis, and follow-up of infections caused by three feline hemoplasma species in cats in Switzerland. *J Clin Microbiol* 2006;44:961–969.
512. Blainey PC, Mosier AC, Potanina A, Francis CA, Quake SR. Genome of a low-salinity ammonia-oxidizing archaeon determined by single-cell and metagenomic analysis. *PLoS One* 2011;6:e16626.
513. Bayer B, Vojvoda J, Reinthaler T, Reyes C, Pinto M, et al. *Nitrosopumilus adriaticus* sp. nov. and *Nitrosopumilus piranensis* sp. nov., two ammonia-oxidizing archaea from the Adriatic Sea and members of the class *Nitrososphaeria*. *Int J Syst Evol Microbiol* 2019;69:1892–1902.
514. Bayer B, Vojvoda J, Offre P, Alves RJE, Elisabeth NH et al. Physiological and genomic characterization of two novel marine thaumarchaeal strains indicates niche differentiation. *ISME J* 2016;10:1051–1063.
515. Park S-J, Kim J-G, Jung M-Y, Kim S-J, Cha I-T et al. Draft genome sequence of an ammonia-oxidizing archaeon, "Candidatus Nitrosopumilus koreensis" AR1, from marine sediment. *J Bacteriol* 2012;194:6940–6941.
516. Mosier AC, Allen EE, Kim M, Ferreira S, Francis CA. Genome sequence of "Candidatus Nitrosopumilus salaria" BD31, an ammonia-oxidizing archaeon from the San Francisco Bay estuary. *J Bacteriol* 2012;194:2121–2122.
517. Park SJ, Kim JG, Jung MY, Kim SJ, Cha IT et al. Draft genome sequence of an ammonia-oxidizing archaeon, "Candidatus Nitrosopumilus sediminis" AR2, from Svalbard in the Arctic circle. *J Bacteriol* 2012;194:6948–6949.
518. Zhainina KV, Dias R, Leonard MT, Dorre de Quadros P, Camargo FAO et al. Genome sequence of *Candidatus Nitrososphaera evergladensis* from group I.1b enriched from Everglades soil reveals novel genomic features of the ammonia-oxidizing archaea. *PLoS One* 2014;9:e101648.
519. Hatzenpichler R, Lebedeva EV, Spieck E, Stoecker K, Richter A et al. A moderately thermophilic ammonia-oxidizing crenarchaeote from a hot spring. *Proc Natl Acad Sci USA* 2008;105:2134–2139.
520. Lebedeva EV, Alawi M, Maixner F, Jozsa P-G, Daims H et al. Physiological and phylogenetic characterization of a novel lithoautotrophic nitrite-oxidizing bacterium, 'Candidatus Nitrospira bockiana'. *Int J Syst Evol Microbiol* 2008;58:242–250.
521. Spieck E, Hartwig C, McCormack I, Maixner F, Wagner M et al. Selective enrichment and molecular characterization of a previously uncultured *Nitrospira*-like bacterium from activated sludge. *Environ Microbiol* 2006;8:405–415.
522. Daims H, Lebedeva EV, Pjevac P, Han P, Herbold C et al. Complete nitrification by *Nitrospira* bacteria. *Nature* 2015;528:504–509.
523. van Kessel MAHJ, Speth DR, Albertsen M, Nielsen PH, Op den Camp HJM et al. Complete nitrification by a single microorganism. *Nature* 2015;528:555–559.
524. Kostygov AY, Dobáková E, Grybchuk-Ieremenko A, Váhala D, Maslov DA et al. Novel trypanosomatid-bacterium association: evolution of endosymbiosis in action. *mBio* 2016;7:e01985–15.

525. Bansal R, Michel AP, Sabree ZL. The crypt-dwelling primary bacterial symbiont of the polyphagous pentatomid pest *Halyomorpha halys* (Hemiptera: Pentatomidae). *Environ Entomol* 2014;43:617–625.
526. Otero-Bravo A, Goffredi S, Sabree ZL. Cladogenesis and genomic streamlining in extracellular endosymbionts of tropical stink bugs. *Genome Biol Evol* 2018;10:680–693.
527. Giblin-Davis RM, Nong G, Preston JF, Williams DS, Center BJ et al. *Candidatus Pasteuria aldrichii*, an obligate endoparasite of the bacterivorous nematode *Bursilla*. *Int J Syst Evol Microbiol* 2011;61:2073–2080.
528. Giblin-Davis RM, Williams DS, Bekal S, Dickson DW, Brito JA et al. *'Candidatus Pasteuria usgae'* sp. nov., an obligate endoparasite of the phytoparasitic nematode *Belonolaimus longicaudatus*. *Int J Syst Evol Microbiol* 2003;53:197–200.
529. Cai L, Zhou G, Tian RM, Tong H, Zhang W et al. Metagenomic analysis reveals a green sulfur bacterium as a potential coral symbiont. *Sci Rep* 2017;7:9320.
530. Jourda C, Santini S, Rocher C, Le Bivic A, Claverie J-M. Draft genome sequence of an alphaproteobacterium associated with the Mediterranean sponge *Oscarella lobularis*. *Genome Announc* 2015;3:e00977–15.
531. Jiang J, Blair PJ, Felices V, Moron C, Cespedes M et al. Phylogenetic analysis of a novel molecular isolate of spotted fever group rickettsiae from northern Peru: *Candidatus Rickettsia andeanae*. *Ann N Y Acad Sci* 2005;1063:337–342.
532. Anstead CA, Chilton NB. A novel *Rickettsia* species detected in vole ticks (*Ixodes angustus*) from Western Canada. *Appl Environ Microbiol* 2013;79:7583–7589.
533. Owen H, Clark P, Stenos J, Robertson I, Fenwick S. Potentially pathogenic spotted fever group rickettsiae present in Western Australia. *Aust J Rural Health* 2006;14:284–285.
534. Mura A, Masala G, Tola S, Satta G, Fois F et al. First direct detection of rickettsial pathogens and a new rickettsia, *'Candidatus Rickettsia barbariae'*, in ticks from Sardinia, Italy. *Clin Microbiol Infect* 2008;14:1028–1033.
535. Miranda J, Portillo A, Oteo JA, Mattar S. *Rickettsia* sp. strain colombianensi (Rickettsiales: Rickettsiaceae): a new proposed *Rickettsia* detected in *Amblyomma dissimile* (Acari: Ixodidae) from iguanas and free-living larvae ticks from vegetation. *J Med Entomol* 2012;49:960–965.
536. Quintero Véles JC, Paternina LE, Uribe AY, Muskus C, Hidalgo M et al. Eco-epidemiological analysis of rickettsial seropositivity in rural areas of Colombia: a multilevel approach. *PLoS Negl Trop Dis* 2017;11:e0005892.
537. Brumpt E. *Rickettsia* intracellulaire stomacale (*Rickettsia culicis* n. sp.) de *Culex fatigans*. *Ann Parasitol Hum Comp* 1938;16:153–158.
538. Mediannikov O, Paddock CD, Parola P. Other rickettsiae of possible or undetermined pathogenicity. In: Raoult D and Parola P (editors). *Rickettsial Diseases*. New York City: Informa Healthcare; 2007. pp. 163–177.
539. Matsumoto K, Parola P, Rolain JM, Jeffery K, Raoult D. Detection of "*Rickettsia* sp. strain Uilenbergi" and "*Rickettsia* sp. strain Davousti" in *Amblyomma tholloni* ticks from elephants in Africa. *BMC Microbiol* 2007;7:74.
540. Yang J, Tian Z, Liu Z, Niu Q, Han R et al. Novel spotted fever group rickettsiae in *Haemaphysalis qinghaiensis* ticks from Gansu, Northwest China. *Parasit Vectors* 2016;9:146.
541. Keysary A, Ereemeeva ME, Leitner M, Din AB, Wikswo ME et al. Spotted fever group rickettsiae in ticks collected from wild animals in Israel. *Am J Trop Med Hyg* 2011;85:919–923.
542. Jiang J, An H, Lee JS, O'Guinn ML, Kim H-C et al. Molecular characterization of *Haemaphysalis longicornis*-borne rickettsiae, Republic of Korea and China. *Ticks Tick Borne Dis* 2018;9:1606–1613.
543. Zou Y, Wang Q, Fu Z, Liu P, Jin H et al. Detection of spotted fever group *Rickettsia* in *Haemaphysalis longicornis* from Hebei Province, China. *J Parasitol* 2011;97:960–962.
544. Hornok S, Meli ML, Perreten A, Farkas R, Willi B et al. Molecular investigation of hard ticks (Acari: Ixodidae) and fleas (Siphonaptera: Pulicidae) as potential vectors of rickettsial and mycoplasmal agents. *Vet Microbiol* 2010;140:98–104.
545. Anstead CA, Chilton NB. Detection of a novel *Rickettsia* (*Alphaproteobacteria: Rickettsiales*) in rotund ticks (*Ixodes kingi*) from Saskatchewan, Canada. *Ticks Tick Borne Dis* 2013;4:202–206.
546. Liu H, Li Q, Zhang X, Li Z, Wang Z et al. Characterization of rickettsiae in ticks in northeastern China. *Parasit Vectors* 2016;9:498.
547. Rolain JM, Mathai E, Lepidi H, Somashekar HR, Mathew LG et al. "*Candidatus Rickettsia kellyi*," India. *Emerg Infect Dis* 2006;12:483–485.
548. Sréter-Lancz Z, Széll Z, Kovács G, Egyed L, Márialigeti K et al. Rickettsiae of the spotted-fever group in ixodid ticks from Hungary: identification of a new genotype (*'Candidatus Rickettsia kotlanii'*). *Ann Trop Med Parasitol* 2006;100:229–236.
549. Merhej V, Raoult D. Rickettsial evolution in the light of comparative genomics. *Biol Rev Camb Philos Soc* 2011;86:379–405.
550. Ereemeeva ME, Weiner LM, Zambrano ML, Dasch GA, Hu R et al. Detection and characterization of a novel spotted fever group *Rickettsia* genotype in *Haemaphysalis leporispalustris* from California, USA. *Ticks Tick Borne Dis* 2018;9:814–818.
551. Huang Y, Zhao L, Zhang Z, Liu M, Xue Z et al. Detection of a novel *Rickettsia* from *Leptotrombidium scutellare* mites (Acari: Trombiculidae) from Shandong of China. *J Med Entomol* 2017;54:544–549.
552. Mediannikov O, Diatta G, Zolia Y, Balde MC, Kohar H et al. Tick-borne rickettsiae in Guinea and Liberia. *Ticks Tick Borne Dis* 2012;3:43–48.
553. Hajduskova E, Literak I, Papousek I, Costa FB, Novakova M et al. *'Candidatus Rickettsia mendelii'*, a novel basal group rickettsia detected in *Ixodes ricinus* ticks in the Czech Republic. *Ticks Tick Borne Dis* 2016;7:482–486.
554. Kimita G, Mutai B, Nyanjom SG, Wamunyokoli F, Waitumbi J. Phylogenetic variants of *Rickettsia africae*, and incidental identification of "*Candidatus Rickettsia moyalensis*" in Kenya. *PLoS Negl Trop Dis* 2016;10:e0004788.
555. Moreira-Soto D, Moreira-Soto A, Corrales-Aguilar E, Calderón-Arguedas Ó, Troyo A. *'Candidatus Rickettsia nicoyana'*: a novel *Rickettsia* species isolated from *Ornithodoros knoxjonesi* in Costa Rica. *Ticks Tick Borne Dis* 2017;8:532–536.
556. Mediannikov O, Sidelnikov Y, Ivanov L, Fournier P-E, Tarasevich I et al. Far eastern tick-borne rickettsiosis: identification of two new cases and tick vector. *Ann N Y Acad Sci* 2006;1078:80–88.
557. Portillo A, Ibarra V, Santibáñez S, Pérez-Martínez L, Blanco JR et al. Genetic characterisation of *ompA*, *ompB* and *gltA* genes from *Candidatus Rickettsia rioja*. *Clin Microbiol Infect* 2009;15:307–308.
558. Ereemeeva ME, Stromdahl EY. Short report: new spotted fever group *Rickettsia* in a *Rhipicephalus turanicus* tick removed from a child in eastern Sicily, Italy. *Am J Trop Med Hyg* 2011;84:99–101.
559. Shpynov S, Fournier PE, Rudakov N, Raoult D. "*Candidatus Rickettsia tarasevichiae*" in *Ixodes persulcatus* ticks collected in Russia. *Ann NY Acad Sci* 2003;990:162–172.
560. Izzard L, Graves S, Cox E, Fenwick S, Unsworth N et al. Novel rickettsia in ticks, Tasmania, Australia. *Emerg Infect Dis* 2009;15:1654–1656.
561. Wang Y, Liu Z, Yang J, Chen Z, Liu J et al. *Rickettsia raoultii*-like bacteria in *Dermacentor* spp. ticks, Tibet, China. *Emerg Infect Dis* 2012;18:1531–1533.
562. Igolkina YP, Rar VA, Yakimenko VV, Malkova MG, Tancev AK et al. Genetic variability of *Rickettsia* spp. in *Ixodes persulcatus*/*Ixodes trianguliceps* sympatric areas from Western Siberia, Russia: Identification of a new *Candidatus Rickettsia* species. *Infect Genet Evol* 2015;34:88–93.
563. Palomar AM, Portillo A, Santibáñez P, Santibáñez S, García-Álvarez L et al. Genetic characterization of *Candidatus Rickettsia*

- vini, a new rickettsia amplified in ticks from La Rioja, Spain. *Ticks Tick Borne Dis* 2012;3:319–321.
564. Tahir D, Socolovschi C, Marié J-L, Ganay G, Berenger J-M et al. New *Rickettsia* species in soft ticks *Ornithodoros hasei* collected from bats in French Guiana. *Ticks Tick Borne Dis* 2016;7:1089–1096.
565. Kleespies RG, Federici BA, Leclerque A. Ultrastructural characterization and multilocus sequence analysis (MLSA) of '*Candidatus* Rickettsiella isopodorum', a new lineage of intracellular bacteria infecting woodlice (Crustacea: Isopoda). *Syst Appl Microbiol* 2014;37:351–359.
566. Tsuchida T, Koga R, Fujiwara A, Fukatsu T. Phenotypic effect of "*Candidatus* Rickettsiella viridis," a facultative symbiont of the pea aphid (*Acyrtosiphon pisum*), and its interaction with a coexisting symbiont. *Appl Environ Microbiol* 2014;80:525–533.
567. Qin Q-S, Feng D-S, Liu P-F, He Q, Li X et al. Metagenomic characterization of *Candidatus* Smithella cisternae strain M82_1, a syntrophic alkane-degrading bacteria, enriched from the Shengli oil field. *Microbes Environ* 2017;32:234–243.
568. Chrudimský T, Husník F, Nováková E, Hypša V. *Candidatus* *Sodalis melophagi* sp. nov.: phylogenetically independent comparative model to the tsetse fly symbiont *Sodalis glossinidius*. *PLoS One* 2012;7:e40354.
569. Oakeson KF, Gil R, Clayton AL, Dunn DM, von Niederhausern AC et al. Genome degeneration and adaptation in a nascent stage of symbiosis. *Genome Biol Evol* 2014;6:76–93.
570. Kaltenpoth M, Goettler W, Dale C, Stubblefield JW, Herzner G et al. '*Candidatus* Streptomyces philanthi', an endosymbiotic streptomycete in the antennae of *Philanthus* digger wasps. *Int J Syst Evol Microbiol* 2006;56:1403–1411.
571. Buttet GF, Murray AM, Goris T, Burion M, Jin B et al. Coexistence of two distinct *Sulfurospirillum* populations respiring tetrachloroethene—genomic and kinetic considerations. *FEMS Microbiol Ecol* 2018;94:fiy018.
572. Usher KM, Fromont J, Sutton DC, Toze S. The biogeography and phylogeny of unicellular cyanobacterial symbionts in sponges from Australia and the Mediterranean. *Microb Ecol* 2004;48:167–177.
573. Peduzzi S, Storelli N, Welsh A, Peduzzi R, Hahn D et al. *Candidatus* "Thiodictyon syntrophicum", sp. nov., a new purple sulfur bacterium isolated from the chemocline of Lake Cadagno forming aggregates and specific associations with *Desulfocapsa* sp. *Syst Appl Microbiol* 2012;35:139–144.
574. Ohkuma M, Noda S, Hattori S, Iida T, Yuki M et al. Acetogenesis from H₂ plus CO₂ and nitrogen fixation by an endosymbiotic spirochete of a termite-gut cellulolytic protist. *Proc Natl Acad Sci USA* 2015;112:10224–10230.
575. Ramírez-Puebla ST, Servín-Garcidueñas LE, Ormeño-Orrillo E, Vera-Ponce de León A, Rosenblueth M et al. Species in *Wolbachia*? Proposal for the designation of '*Candidatus* *Wolbachia* bourtzisii', '*Candidatus* *Wolbachia* onchocercicola', '*Candidatus* *Wolbachia* blaxteri', '*Candidatus* *Wolbachia* brugii', '*Candidatus* *Wolbachia* taylori', '*Candidatus* *Wolbachia* collem-bolicola' and '*Candidatus* *Wolbachia* multihospitum' for the different species within *Wolbachia* supergroups. *Syst Appl Microbiol* 2015;38:390–399.
576. Bohr URM, Segal I, Primus A, Wex T, Hassan H et al. Detection of a putative novel *Wolinella* species in patients with squamous cell carcinoma of the esophagus. *Helicobacter* 2003;8:608–612.
577. Oxley APA, Powell M, McKay DB. Species of the family *Helicobacteraceae* detected in an Australian sea lion (*Neophoca cinerea*) with chronic gastritis. *J Clin Microbiol* 2004;42:3505–3512.
578. Schrrallhammer M, Schweikert M, Vallesi A, Verni F, Petroni G. Detection of a novel subspecies of *Francisella noatunensis* as endosymbiont of the ciliate *Euplotes raikovi*. *Microb Ecol* 2011;61:455–464.
579. Roberts R, Steenkamp ET, Pietersen G. Three novel lineages of '*Candidatus* *Liberibacter africanus*' associated with native rutaceous hosts of *Trioza erythrae* in South Africa. *Int J Syst Evol Microbiol* 2015;65:723–731.
580. Harasawa R, Fujita H, Kadosaka T, Ando S, Rikihisa Y. Proposal for '*Candidatus* *Mycoplasma haemomuris* subsp. musculi' in mice, and '*Candidatus* *Mycoplasma haemomuris* subsp. rattii' in rats. *Int J Syst Evol Microbiol* 2015;65:734–737.
581. Sabaneyeva E, Castelli M, Szokoli F, Benken K, Lebedeva N et al. Host and symbiont intraspecific variability: the case of *Paramecium calkinsi* and "*Candidatus* *Trichorickettsia mobilis*". *Eur J Protistol* 2018;62:79–94.
582. Könneke M, Bernhard AE, de la Torre JR, Walker CB, Waterbury JB et al. Isolation of an autotrophic ammonia-oxidizing marine archaeon. *Nature* 2005;437:543–546.
583. Qin W, Heal KR, Ramdasi R, Kobelt JN, Martens-Habbena W et al. *Nitrosopumilus maritimus* gen. nov., sp. nov., *Nitrosopumilus cobalaminigenes* sp. nov., *Nitrosopumilus oxyclineae* sp. nov., and *Nitrosopumilus ureiphilus* sp. nov., four marine ammonia-oxidizing archaea of the phylum *Thaumarchaeota*. *Int J Syst Evol Microbiol* 2017;67:5067–5079.
584. Stieglmeier M, Klingl A, Alves RJE, Rittmann SK-MR, Melcher M et al. *Nitrososphaera viennensis* gen. nov., sp. nov., an aerobic and mesophilic, ammonia-oxidizing archaeon from soil and a member of the archaeal phylum *Thaumarchaeota*. *Int J Syst Evol Microbiol* 2014;64:2738–2752.
585. Tourna M, Stieglmeier M, Spang A, Könneke M, Schintlmeister A et al. *Nitrososphaera viennensis*, an ammonia oxidizing archaeon from soil. *Proc Natl Acad Sci USA* 2011;108:8420–8425.
586. Bryant DA, Costas AMG, Maresca JA, Chew AGM, Klatt CG et al. *Candidatus* *Chloracidobacterium thermophilum*: an aerobic phototrophic acidobacterium. *Science* 2007;317:523–526.
587. Tank M, Bryant DA. *Chloracidobacterium thermophilum* gen. nov., sp. nov.: an anoxygenic microaerophilic chlorophotoheterotrophic acidobacterium. *Int J Syst Evol Microbiol* 2015;65:1426–1430.
588. Zheng H, Dietrich C, Radek R, Brune A. *Endomicrobium proavitum*, the first isolate of *Endomicrobia* class. nov. (phylum *Elusimicrobia*)—an ultramicrobacterium with an unusual cell cycle that fixes nitrogen with a Group IV nitrogenase. *Environ Microbiol* 2016;18:191–204.
589. Gebhart CJ, Barns SM, McOrist S, Lin GF, Lawson GH. Ileal symbiont *Intracellularis*, an obligate intracellular bacterium of porcine intestines showing a relationship to *Desulfovibrio* species. *Int J Syst Bacteriol* 1993;43:533–538.
590. McOrist S, Gebhart CJ, Boid R, Barns SM. Characterization of *Lawsonia intracellularis* gen. nov., sp. nov., the obligately intracellular bacterium of porcine proliferative enteropathy. *Int J Syst Bacteriol* 1995;45:820–825.
591. Fagen JR, Leonard MT, Coyle JF, McCullough CM, Davis-Richardson AG et al. *Liberibacter crescens* gen. nov., sp. nov., the first cultured member of the genus *Liberibacter*. *Int J Syst Evol Microbiol* 2014;64:2461–2466.
592. Bazylnski DA, Williams TJ, Lefèvre CT, Berg RJ, Zhang CL et al. *Magnetococcus marinus* gen. nov., sp. nov., a marine, magnetotactic bacterium that represents a novel lineage (*Magnetococcaceae* fam. nov., *Magnetococcales* ord. nov.) at the base of the *Alphaproteobacteria*. *Int J Syst Evol Microbiol* 2013;63:801–808.
593. Lefèvre CT, Vioria N, Schmidt ML, Pósfai M, Frankel RB et al. Novel magnetite-producing magnetotactic bacteria belonging to the *Gammaproteobacteria*. *ISME J* 2012;6:440–450.
594. Bazylnski DA, Williams TJ, Lefèvre CT, Trubitsyn D, Fang J et al. *Magnetovibrio blakemorei* gen. nov., sp. nov., a magnetotactic bacterium (*Alphaproteobacteria*: *Rhodospirillaceae*) isolated from a salt marsh. *Int J Syst Evol Microbiol* 2013;63:1824–1833.
595. Shivani Y, Subhash Y, Sasikala C, Ramana CV. Characterisation of a newly isolated member of a *Candidatus* lineage, *Marispirochaeta aestuarii* gen. nov., sp. nov. *Int J Syst Evol Microbiol* 2017;67:3929–3936.

596. Bräuer SL, Cadillo-Quiroz H, Yashiro E, Yavitt JB, Zinder SH. Isolation of a novel acidiphilic methanogen from an acidic peat bog. *Nature* 2006;442:192–194.
597. Bräuer SL, Cadillo-Quiroz H, Ward RJ, Yavitt JB, Zinder SH. *Methanoregula boonei* gen. nov., sp. nov., an acidiphilic methanogen isolated from an acidic peat bog. *Int J Syst Evol Microbiol* 2011;61:45–52.
598. Jung MY, Islam MA, Gwak JH, Kim JG, Rhee SK. *Nitrosarchaeum koreense* gen. nov., sp. nov., an aerobic and mesophilic, ammonia-oxidizing archaeon member of the phylum *Thaumarchaeota* isolated from agricultural soil. *Int J Syst Evol Microbiol* 2018;68:3084–3095.
599. Collingro A, Toenshoff ER, Taylor MW, Fritsche TR, Wagner M et al. 'Candidatus Protochlamydia amoebophila', an endosymbiont of *Acanthamoeba* spp. *Int J Syst Evol Microbiol* 2005;55:1863–1866.
600. Horn M. Genus III. *Protochlamydia* Horn, gen. nov. (previously known as "Candidatus Protochlamydia" Collingro et al. 2005b). In: Krieg NR, Staley JT, Brown DR, Hedlund BP and Paster BJ (editors). *Bergey's Manual of Systematic Bacteriology. The Bacteroidetes, Spirochaetes, Tenericutes (Mollicutes), Acidobacteria, Fibrobacteres, Fusobacteria, Dictyoglomi, Gemmatimonadetes, Lentisphaerae, Verrucomicrobia, Chlamydiae, and Planctomycetes*, 4, 2nd ed. New York: Springer; 2011. pp. 870–872.
601. Corsaro D, Thomas V, Goy G, Venditti D, Radek R et al. 'Candidatus Rhabdochlamydia crassificans', an intracellular bacterial pathogen of the cockroach *Blatta orientalis* (Insecta: Blattodea). *Syst Appl Microbiol* 2007;30:221–228.
602. Horn M. Genus I. *Rhabdochlamydia* Horn, gen. nov. (previously known as "Candidatus Rhabdochlamydia" Kostanjšek, Štrus, Drobne and Avguštin 2004). In: Krieg NR, Staley JT, Brown DR, Hedlund BP, Paster BJ (editors). *Bergey's Manual of Systematic Bacteriology. The Bacteroidetes, Spirochaetes, Tenericutes (Mollicutes), Acidobacteria, Fibrobacteres, Fusobacteria, Dictyoglomi, Gemmatimonadetes, Lentisphaerae, Verrucomicrobia, Chlamydiae, and Planctomycetes*, 4, 2nd ed. New York: Springer; 2011. pp. 873–874.
603. Hahn MW, Schmidt J, Taipale SJ, Doolittle WF, Koll U. *Rhodoluna lacicola* gen. nov., sp. nov., a planktonic freshwater bacterium with stream-lined genome. *Int J Syst Evol Microbiol* 2014;64:3254–3263.
604. Antón J, Rosselló-Mora R, Rodríguez-Valera F, Amann R. Extremely halophilic bacteria in crystallizer ponds from solar saltens. *Appl Environ Microbiol* 2000;66:3052–3057.
605. Antón J, Oren A, Benlloch S, Rodríguez-Valera F, Amann R et al. *Salinibacter ruber* gen. nov., sp. nov., a novel, extremely halophilic member of the *Bacteria* from salttern crystallizer ponds. *Int J Syst Evol Microbiol* 2002;52:485–491.
606. Munoz R, Rosselló-Móra R, Amann R. Revised phylogeny of *Bacteroidetes* and proposal of sixteen new taxa and two new combinations including *Rhodothermaeota* phyl. nov. *Syst Appl Microbiol* 2016;39:281–296.
607. Pfeleiderer A, Lagier J-C, Armougom F, Robert C, Vialettes B et al. Culturomics identified 11 new bacterial species from a single anorexia nervosa stool sample. *Eur J Clin Microbiol Infect Dis* 2013;32:1471–1481.
608. Pfeleiderer A, Mishra AK, Lagier J-C, Robert C, Caputo A et al. Non-contiguous finished genome sequence and description of *Alistipes ihumii* sp. nov. *Stand Genomic Sci* 2014;9:1221–1235.
609. Pfeleiderer A, Mishra AK, Lagier J-C, Robert C, Caputo A. In: Validation List no. 176. List of novel names and novel combinations previously effectively, but not validly, published. *Int J Syst Evol Microbiol* 2017;67:2075–2078.
610. Mishra AK, Pfeleiderer A, Lagier JC, Robert C, Raoult D et al. Non-contiguous finished genome sequence and description of *Bacillus massilianoanorexius* sp. nov. *Stand Genomic Sci* 2013;8:465–479.
611. Fenner L, Roux V, Mallet MN, Raoult D. *Bacteroides massiliensis* sp. nov., isolated from blood culture of a newborn. *Int J Syst Evol Microbiol* 2005;55:1335–1337.
612. Lawson AJ, Linton D, Stanley J. 16S rRNA gene sequences of 'Candidatus Campylobacter hominis', a novel uncultivated species, are found in the gastrointestinal tract of healthy humans. *Microbiology* 1998;144:2063–2071.
613. Lawson AJ, On SL, Logan JM, Stanley J. *Campylobacter hominis* sp. nov., from the human gastrointestinal tract. *Int J Syst Evol Microbiol* 2001;51:651–660.
614. Merhej V, Pfeleiderer A, Ramasamy D, Lagier J-C, Michelle C et al. Non-contiguous finished genome sequence and description of *Clostridium ihumii* sp. nov. *Stand Genomic Sci* 2015;10:63.
615. Descamps ECT, Monteil CL, Menguy N, Ginot N, Pignol D et al. *Desulfamplus magnetovallimortis* gen. nov., sp. nov., a magnetotactic bacterium from a brackish desert spring able to biomineralize greigite and magnetite, that represents a novel lineage in the *Desulfobacteraceae*. *Syst Appl Microbiol* 2017;40:280–289.
616. Lefèvre CT, Menguy N, Abreu F, Lins U, Pósfai M et al. A cultured greigite-producing magnetotactic bacterium in a novel group of sulfate-reducing bacteria. *Science* 2011;334:1720–1723.
617. Kwong WK, Moran NA. Cultivation and characterization of the gut symbionts of honey bees and bumble bees: description of *Snodgrassella alvi* gen. nov., sp. nov., a member of the family *Neisseriaceae* of the *Betaproteobacteria*, and *Gilliamella apicola* gen. nov., sp. nov., a member of *Orbaceae* fam. nov., *Orbales* ord. nov., a sister taxon to the order 'Enterobacteriales' of the *Gammaproteobacteria*. *Int J Syst Evol Microbiol* 2013;63:2008–2018.
618. Martinson VG, Moy J, Moran NA. Establishment of characteristic gut bacteria during development of the honeybee worker. *Appl Environ Microbiol* 2012;78:2830–2840.
619. Couradeau E, Benzerara K, Gérard E, Moreira D, Bernard S et al. An early-branching microbialite cyanobacterium forms intracellular carbonates. *Science* 2012;336:459–462.
620. Moreira D, Tavera R, Benzerara K, Skouri-Panet F, Couradeau E et al. Description of *Gloeomargarita lithophora* gen. nov., sp. nov., a thylakoid-bearing, basal-branching cyanobacterium with intracellular carbonates, and proposal for *Gloeomargaritales* ord. nov. *Int J Syst Evol Microbiol* 2017;67:653–658.
621. O'Rourke JL, Solnick JV, Neilan BA, Seidel K, Hayter R et al. Description of 'Candidatus Helicobacter heilmannii' based on DNA sequence analysis of 16S rRNA and urease genes. *Int J Syst Evol Microbiol* 2004;54:2203–2211.
622. Smet A, Flahou B, D'Herde K, Vandamme P, Cleenwerck I et al. *Helicobacter heilmannii* sp. nov., isolated from feline gastric mucosa. *Int J Syst Evol Microbiol* 2012;62:299–306.
623. Baele M, Decostere A, Vandamme P, Ceelen L, Hellemans A et al. Isolation and characterization of *Helicobacter suis* sp. nov. from pig stomachs. *Int J Syst Evol Microbiol* 2008;58:1350–1358.
624. De Groote D, van Doorn LJ, Ducatelle R, Verschuren A, Haesebrouck F et al. 'Candidatus Helicobacter suis', a gastric Helicobacter from pigs, and its phylogenetic relatedness to other gastrospirilla. *Int J Syst Bacteriol* 1999a;49:1769–1777.
625. Mishra AK, Lagier J-C, Pfeleiderer A, Nguyen TT, Caputo A et al. Non-contiguous finished genome sequence and description of *Holdemania massiliensis* sp. nov. *Stand Genomic Sci* 2013;9:395–409.
626. Bazylinski DA, Williams TJ. Ecophysiology of magnetotactic bacteria. In: Schüler D (editor). *Magnetoreception and Magnetosomes in Bacteria*. Berlin: Springer; 2007. pp. 37–75.
627. Neimark H, Johansson KE, Rikihisa Y, Tully JG. Proposal to transfer some members of the genera *Haemobartonella* and *Eperythrozoon* to the genus *Mycoplasma* with descriptions of 'Candidatus Mycoplasma haemofelis', 'Candidatus Mycoplasma haemomuris', 'Candidatus Mycoplasma haemosuis' and 'Candidatus Mycoplasma wenyonii'. *Int J Syst Evol Microbiol* 2001;51:891–899.
628. Neimark H, Johansson K-E, Rikihisa Y, Tully JG. Revision of haemotrophic *Mycoplasma* species names. *Int J Syst Evol Microbiol* 2002;52:683.

629. Kim BK, Jung MY, Yu DS, Park SJ, Oh TK et al. Genome sequence of an ammonia-oxidizing soil archaeon, "*Candidatus Nitrosoarchaeum koreensis*" MY1. *J Bacteriol* 2011;193:5539–5540.
630. Karpathy SE, Slater KS, Goldsmith CS, Nicholson WL, Paddock CD. *Rickettsia amblyommatis* sp. nov., a spotted fever group *Rickettsia* associated with multiple species of *Amblyomma* ticks in North, Central and South America. *Int J Syst Evol Microbiol* 2016;66:5236–5243.
631. Labruna MB, Whitworth T, Bouyer DH, McBride J, Camargo LMA et al. *Rickettsia bellii* and *Rickettsia amblyommii* in *Amblyomma* ticks from the state of Rondônia, Western Amazon, Brazil. *J Med Entomol* 2004;41:1073–1081.
632. Jiang J, Maina AN, Knobel DL, Cleaveland S, Laudisoit A et al. Molecular detection of *Rickettsia felis* and *Candidatus Rickettsia asemboensis* in fleas from human habitats, Asembo, Kenya. *Vector Borne Zoonotic Dis* 2013;13:550–558.
633. Maina AN, Luce-Fedrow A, Omulo S, Hang J, Chan T-C et al. Isolation and characterization of a novel *Rickettsia* species (*Rickettsia asemboensis* sp. nov.) obtained from cat fleas (*Ctenocephalides felis*). *Int J Syst Evol Microbiol* 2016;66:4512–4517.
634. Abdad MY, Abdallah RA, Karkouri KE, Beye M, Stenos J et al. *Rickettsia gravesii* sp. nov.: a novel spotted fever group *Rickettsia* in Western Australian *Amblyomma triguttatum triguttatum* ticks. *Int J Syst Evol Microbiol* 2017;67:3156–3161.
635. Owen H, Unsworth N, Stenos J, Robertson I, Clark P et al. Detection and identification of a novel spotted fever group rickettsia in Western Australia. *Ann NY Acad Sci* 2006;1078:197–199.
636. Duh D, Punda-Polic V, Avsic-Zupanc T, Bouyer D, Walker DH et al. *Rickettsia hoogstraalii* sp. nov., isolated from hard- and soft-bodied ticks. *Int J Syst Evol Microbiol* 2010;60:977–984.
637. Mattila JT, Burkhardt NY, Hutcheson HJ, Munderloh UG, Kurtti TJ. Isolation of cell lines and a rickettsial endosymbiont from the soft tick *Carios capensis* (Acari: Argasidae: Ornithodorinae). *J Med Entomol* 2007;44:1091–1101.
638. Sabri A, Leroy P, Haubruge E, Hance T, Frère I et al. Isolation, pure culture and characterization of *Serratia symbiotica* sp. nov., the R-type of secondary endosymbiont of the black bean aphid *Aphis fabae*. *Int J Syst Evol Microbiol* 2011;61:2081–2088.
639. Jackson EE, Masood N, Ibrahim K, Urvoy N, Hariri S et al. Description of *Siccibacter colletis* sp. nov., a novel species isolated from plant material, and emended description of *Siccibacter turicensis*. *Int J Syst Evol Microbiol* 2015;65:1335–1341.
640. Masood N, Jackson E, Moore K, Farbos A, Paszkiewicz K et al. Draft genome sequence of "*Candidatus Cronobacter colletis*" NCTC 14934¹, a new species in the genus *Cronobacter*. *Genome Announc* 2014;2:e00585–14.
641. Henson MW, Lanctos VC, Faircloth BC, Thrash JC. Cultivation and genomics of the first freshwater SAR11 (LD12) isolate. *ISME J* 2018;12:1846–1860.
642. Dahmani M, Davoust B, Tahir D, Raoult D, Fenollar F et al. Molecular investigation and phylogeny of *Anaplasmataceae* species infecting domestic animals and ticks in Corsica, France. *Parasit Vectors* 2017;10:302.
643. Hypša V, Dale C. In vitro culture and phylogenetic analysis of "*Candidatus Arsenophonus triatominarum*," an intracellular bacterium from the triatomine bug, *Triatoma infestans*. *Int J Syst Bacteriol* 1997;47:1140–1144.
644. Ramasamy D, Lagier J-C, Rossi-Tamisier M, Pfliegerer A, Michelle C et al. Genome sequence and description of *Bacteroides timonensis* sp. nov. *Stand Genomic Sci* 2014;9:3.
645. Dahmani M, Diatta G, Labas N, Diop A, Bassene H et al. Corrigendum to 'Noncontiguous finished genome sequence and description of *Bartonella mastomydis* sp. nov.' [*New Microbes New Infect* 25 (2018) 60–70]. *New Microbes New Infect* 2019;27:3.
646. Mediannikov O, Aubadie M, Bassene H, Diatta G, Granjon L et al. Three new *Bartonella* species from rodents in Senegal. *Int J Infect Dis* 2014;21:335.
647. Maggi RG, Kosoy M, Mintzer M, Breitschwerdt EB. Isolation of *Candidatus Bartonella melophagi* from human blood. *Emerg Infect Dis* 2009;15:66–68.
648. Bai Y, Kosoy M, Martin A, Ray C, Sheff K et al. Characterization of *Bartonella* strains isolated from black-tailed prairie dogs (*Cynomys ludovicianus*). *Vector Borne Zoonotic Dis* 2008;8:1–6.
649. Magri A, Vanotti MB, Szögi AA. Anammox sludge immobilized in polyvinyl alcohol (PVA) cryogel carriers. *Bioresour Technol* 2012;114:231–240.
650. Henriques AC, De Marco P. Complete genome sequences of two strains of "*Candidatus Filomicrobium marinum*," a methanesulfonate-degrading species. *Genome Announc* 2015;3:e00160–15.
651. Ugalde JA, Narasingarao P, Kuo S, Podell S, Allen EE. Draft Genome sequence of "*Candidatus Halobonum tyrrellensis*" Strain G22, isolated from the hypersaline waters of Lake Tyrrell, Australia. *Genome Announc* 2013;1:e01001–01013.
652. Ward NL, Challacombe JF, Janssen PH, Henrissat B, Coutinho PM et al. Three genomes from the phylum *Acidobacteria* provide insight into the lifestyles of these microorganisms in soils. *Appl Environ Microbiol* 2009;75:2046–2056.
653. Kim S, Kang I, Cho J-C. Genomic analysis of a freshwater actinobacterium, "*Candidatus Limnosphaera aquatica*" strain IMCC26207, isolated from Lake Soyang. *J Microbiol Biotechnol* 2017;27:825–833.
654. Khadem AF, van Teeseling MCF, van Niftrik L, Jetten MSM, Op den Camp HJM et al. Genomic and physiological analysis of carbon storage in the verrucomicrobial methanotroph "*Methylacidiphilum fumarolicum*" SolV. *Front Microbiol* 2012;3:345.
655. Pol A, Heijmans K, Harhangi HR, Tedesco D, Jetten MSM et al. Methanotrophy below pH 1 by a new Verrucomicrobia species. *Nature* 2007;450:874–878.
656. Shirshikov FV, Korzhenkov AA, Miroshnikov KK, Kabanova AP, Barannik AP et al. Draft genome sequences of new genomospecies "*Candidatus Pectobacterium maceratum*" strains, which cause soft rot in plants. *Genome Announc* 2018;6:e00260–18–18.
657. Portier P, Pédrón J, Taghouti G, Fischer-Le Saux M, Caullireau E et al. Elevation of *Pectobacterium carotovorum* subsp. *odoriferum* to species level as *Pectobacterium odoriferum* sp. nov., proposal of *Pectobacterium brasiliense* sp. nov. and *Pectobacterium actinidiae* sp. nov., emended description of *Pectobacterium carotovorum* and description of *Pectobacterium versatile* sp. nov., isolated from streams and symptoms on diverse plants. *Int J Syst Evol Microbiol* 2019;69:3207–3216.
658. Oh HM, Kwon KK, Kang I, Kang SG, Lee JH et al. Complete genome sequence of "*Candidatus Puniceispirillum marinum*" IMCC1322, a representative of the SAR116 clade in the *Alphaproteobacteria*. *J Bacteriol* 2010;192:3240–3241.
659. Mediannikov O, Aubadie-Ladrix M, Raoult D. *Candidatus Rickettsia senegalensis* in cat fleas in Senegal. *New Microbes New Infect* 2015;3:24–28.
660. Monteil CL, Perrière G, Menguy N, Ginet N, Alonso B et al. Genomic study of a novel magnetotactic *Alphaproteobacteria* uncovers the multiple ancestry of magnetotaxis. *Environ Microbiol* 2018;20:4415–4430.
661. Shah V, Morris RM. Genome sequence of "*Candidatus Thioglobus autotrophica*" Strain EF1, a chemoautotroph from the SUP05 clade of marine gammaproteobacteria. *Genome Announc* 2015;3:e01156–15.
662. Braun B, Szewzyk U. Complete genome sequence of "*Candidatus Viadriabacter manganicus*" isolated from a German floodplain area. *Genome Announc* 2016;4:e00897–16.