Update of the bacterial taxonomy in the classification lists of COGEM

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Update of the bacterial taxonomy in the classification lists of COGEM

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Foreword

COGEM advises the Dutch government on classifications of bacteria, and publishes listings of pathogenic and non-pathogenic bacteria that are updated regularly. These lists of bacteria originate from 2011, when COGEM petitioned a research project to evaluate the classifications of bacteria in the former GMO regulation and to supplement this list with bacteria that have been classified by other governmental organizations. The resulting pathogenicity classification lists have subsequently been updated in 2013, 2014 and 2017 with new bacterial species that have been classified.

Over the years, the bacterial taxonomy has been subjected to many revisions mainly due to developments in sequencing technology. In the 2017 update of the bacterial pathogenicity classifications, COGEM stated that new insights in taxonomy have not yet been processed in the COGEM listings, and that a taxonomic revision of the list would be conducted at a later stage. The present report builds upon this advice, and contains a thorough taxonomic revision of the lists of pathogenic and non-pathogenic bacteria.

The research has been performed by dr. Pascale van Rooij and dr. Patrick Rüdelsheim, who have diligently and meticulously gone through the lists of over 2,000 bacterial species and genera to document any inconsistencies with the current taxonomy. A variety of sources and databases have been accessed and any typographic errors and reclassifications were registered. This research also proves that taxonomic revisions can be ambiguous, and in some cases no consensus is reached on the official nomenclature. Differences between databases can further complicate decisions about naming. In case of such uncertainties, the authors have provided detailed information to facilitate the final decision making by COGEM.

Taxonomy is an ever changing field; phenotypic characteristics are no longer the sole defining properties and development of novel molecular techniques creates new insights into the bacterial phylogeny. The supervisory committee is pleased with the research report, and the cooperation was prosperous. The authors have provided an extensive and detailed description of taxonomic changes, which serves as a valuable contribution to the COGEM as a knowledge base of phylogeny and for revision of the pathogenicity classification lists.

Prof. dr. J.P.M. van Putten
Chair of the Advisory Committee
Chair of the Medical Veterinary subcommittee of COGEM

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Summary

A taxonomic review was performed encompassing all pathogenic and apathogenic bacteria listed in the classification lists of COGEM. This report identifies a substantial amount of cases for which a name change should be considered: 294 out of 1360 studied pathogenic taxa and 192 out of 976 apathogenic taxa. The main rationale for a proposed name change was either a typographical correction of a genus name or epithet, or a reclassification due to new insights into bacterial taxonomy. The report identifies several taxa for which one or more synonyms are being used, due to lack of consensus among bacteriologists about the naming, or because no official authority has as yet indicated the correct name. Furthermore, a limited number of taxa remains with an uncertain nomenclature due to lack of scientific information that would enable proper revision or rigid classification. All nomenclatural changes, proposals for amendment and ambiguities are documented in detail in order to allow final decision-making by the COGEM (Annexes 1a-h and 2a-h). Revised listings of apathogenic and pathogenic bacteria are proposed in Annexes 3 and 4. Finally, some observations on risk classifications are documented.

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Samenvatting

Een taxonomische doorlichting werd uitgevoerd van alle pathogene en apathogene bacteriën die zijn opgenomen in de classificatielijsten van de COGEM. Dit rapport identificeert een aanzienlijk aantal gevallen waarvoor een naamsverandering dient in overweging te worden genomen: 294 van de 1360 bestudeerde pathogene taxa, en 192 van de 976 apathogene taxa. De voornaamste onderliggende redenen om een naamswijziging voor te stellen zijn ofwel een typografische correctie van een genusnaam of epitheton, of een herclassificatie door een nieuw inzicht in de bacteriële taxonomie. Het rapport identificeert verschillende taxa waarvoor één of meerdere synoniemen in gebruik zijn door een gebrek aan eensgezindheid onder bacteriologen over de naamgeving, of doordat geen officiële autoriteit een formeel besluit neemt over welke de correcte naam moet zijn. Daarnaast zijn er verschillende taxa met een onzekere naamgeving waarvoor de nodige wetenschappelijke informatie ontbreekt voor een grondige herziening of herindeling. Alle naamswijzigingen, voorstellen tot wijziging en onduidelijkheden worden uitvoerig gedocumenteerd om tot een vlotte besluitvorming te komen met de COGEM (Annexen 1a-h en 2a-h). Herziene lijsten van apathogene en pathogene bacteria worden voorgesteld in Annexen 3 en 4. Tot slot, documenteert dit rapport een aantal vaststellingen in verband met de pathogeniteitsclassificatie.

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Abbreviations and symbols

≡	No official decision about nomenclature: the synonym(s) may be equally used
=	Synonym (old name)
→	Referral to new (accepted) name
*	Uncertain nomenclature; needs to be reconsidered by the COGEM
°	Accepted name
16S rRNA	16S ribosomal RNA or RNA of the small subunit of a bacterial ribosome
23S rRNA	23S ribosomal RNA or RNA of the large subunit of a bacterial ribosome
AFLP	Amplified fragment length polymorphism
ANI	Average nucleotide identity
ATCC	American Type Culture Collection (USA)
atpD gene	Gene encoding the beta subunit of adenosine triphosphate synthase
BacDive	Bacterial Diversity Metadatabase
BCCM/LMG	Belgian Coordinated Collections of Microorganisms/Laboratory of Microbiology, Ghent University (Belgium)
Biovar	Biological variant
CCUG	*Culture Collection, University of Gothenburg* (Sweden)
CGM	COGEM/ Commission on Genetic Modification
CIP	The Collection of Institut Pasteur (France)
Comb. nov.	Appropriate abbreviation for 'combinatio nova' (new combination)
cpn60 gene	Gene encoding the 60kDa chaperonin protein
DDH	DNA-DNA hybridization
DSM	Strain reference number used by DSMZ
DSMZ	Deutsche Sammlung von Mikroorganismen und Zellkulturen (Germany)
EHEC	Enterohemorrhagic *Escherichia coli*
EPEC	Enteropathogenic *Escherichia coli*
EPPO	European and Mediterranean Plant Protection Organization
ETEC	Enterotoxigenic *Escherichia coli*
FOEN	Federal Office for the Environment (Switzerland)
GC or G+C	Guanine-cytosine content
Gen.	Genitive case
Gen. nov	Appropriate abbreviation for 'genus novum' (new genus)
glnII gene	Gene encoding the glutamine synthetase II protein
groESL gene	Gene encoding the large protein of an *Escherichia coli* chaperonin
gyrB gene	Gene encoding the beta subunit of DNA gyrase
HGE	Human granulocytic ehrlichiosis
hsp60 gene	Gene encoding the 60kDa heat shock protein
HUSEC	Hemolytic uremic syndrome–associated enterohemorrhagic *Escherichia coli*
IJSB	International Journal of Systematic Bacteriology
IJSEM	International Journal of Systematics and Evolutionary Microbiology
infB gene	Gene encoding the translation initiation factor IF-2
ITS	Internal transcribed spacer
JCM	Japan Collection of Microorganisms (Japan)

LPSN	List of Prokaryotic names with Standing in Nomenclature
MALDI-TOF/MS	Matrix assisted laser desorption/ionization time-of-flight mass spectrometry
MLSA	Multi Locus Sequence Analysis
MLST	Multi Locus Sequence Typing
n.	noun
N.L.	Neo-Latin (a word treated and used as a Latin word)
NCBI	National Centre for Biotechnology Information (USA)
NCTC	National Collection of Type Cultures (Public Health England)
ompA gene	Gene encoding the outer membrane protein A
PCC	Pasteur Culture Collection of Cyanobacteria (France)
PFGE	Pulsed-field gel electrophoresis
phoE gene	Gene encoding the outer membrane phosphoporin protein E
PubMed	Public/publisher MEDLINE (medical journal article database)
pyrH gene	Gene encoding UMP (uridylate) kinase
RC	Risk class
recA gene	Gene encoding a recombinase for DNA repair
RIVM	Rijksinstituut voor Volksgezondheid en Milieu (National Institute for Public Health and the Environment, The Netherlands)
rpoD gene	Gene encoding the RNA polymerase sigma D factor
S1 nuclease	Endonuclease degrading single stranded DNA and RNA
Sap analysis	Analysis of surface layer proteins
SBB	Service Biosafety and Biotechnology, of Sciensano (Belgium)
SDS-PAGE	Sodium dodecyl sulfate polyacrylamide gel electrophoresis
See	(Partial) reclassification of a genus: referral to the former genus name
SOD	Superoxide dismutase
Sp. nov	Appropriate abbreviation for ‘species nova’ (new species)
STEC	Shiga-toxin producing *Escherichia coli*
Subsp. nov	Appropriate abbreviation for ‘subspecies nova’ (new subspecies)
tbd	To be determined
TRBA	Technische Regeln für Biologische Arbeitsstoffe
UPEC	Uropathogenic *Escherichia coli*
VLAREM	Vlaams Reglement betreffende de Milieuvergunning (Order of the Flemish Government concerning Environmental Licences, Belgium)
WFCC	World Federation for Culture Collections
WHO	World Health Organization
ZKBS	Zentrale Kommission für die Biologische Sicherheit (Germany)

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Introduction

COGEM publishes risk classifications of organisms, based on their pathogenicity, in the scope of authorization procedures for activities with GMO's. Since 2011, COGEM has published risk classifications of numerous apathogenic and pathogenic bacteria[1-7]. These listings have been updated in 2013, 2014 and 2017. During the last update, in 2017, it was noticed that the names of several bacteria had changed. During the past years, several taxonomic changes have taken place that need to be reflected in these listings. Risk classifications that are up-to-date with the current taxonomy are crucial since incorrect nomenclature may lead to an erroneous risk assessment or an incorrect containment level of a certain pathogen.

1 Purpose of the study

The main purpose of this study was to identify cases for which the risk classification lists of both pathogenic and apathogenic bacteria may need to be updated in line with the current taxonomy. To obtain this goal, the last published COGEM-listing dating from 2017 (CGM/170929-03[2]), supplemented with bacterial species from all recommendations published since October 2017 to February 2018[3-7], was thoroughly checked on nomenclatural changes.

Although not in the original scope of the project, the performers of this project, as agreed with the Advisory Committee, indicated findings on discrepancies in the risk classification with other listings, whenever these were noted.

2 Methods

First, all previously published COGEM-listings (as specified in **Table 1**) were merged into one work list encompassing 1360 and 976 bacterial taxa classified as repectively pathogenic and apathogenic.

Table 1: Overview of the total amount of bacterial taxa to be verified on nomenclatural changes

Ref. COGEM-listing	# pathogenic taxa	# apathogenic taxa
CGM/170929-03	1360	969
CGM/171121-01	/	1
CGM/171221-01	/	1
CGM/171222-01	/	3
CGM/180110-01	/	1
CGM/180216-01	/	1
TOTAL	**1360**	**976**

In order to establish a systematic approach for identifying taxonomic changes, a workflow of successive consultations of literature sources was developed and was agreed upon with the Advisory Committee (**Figure 1)**.

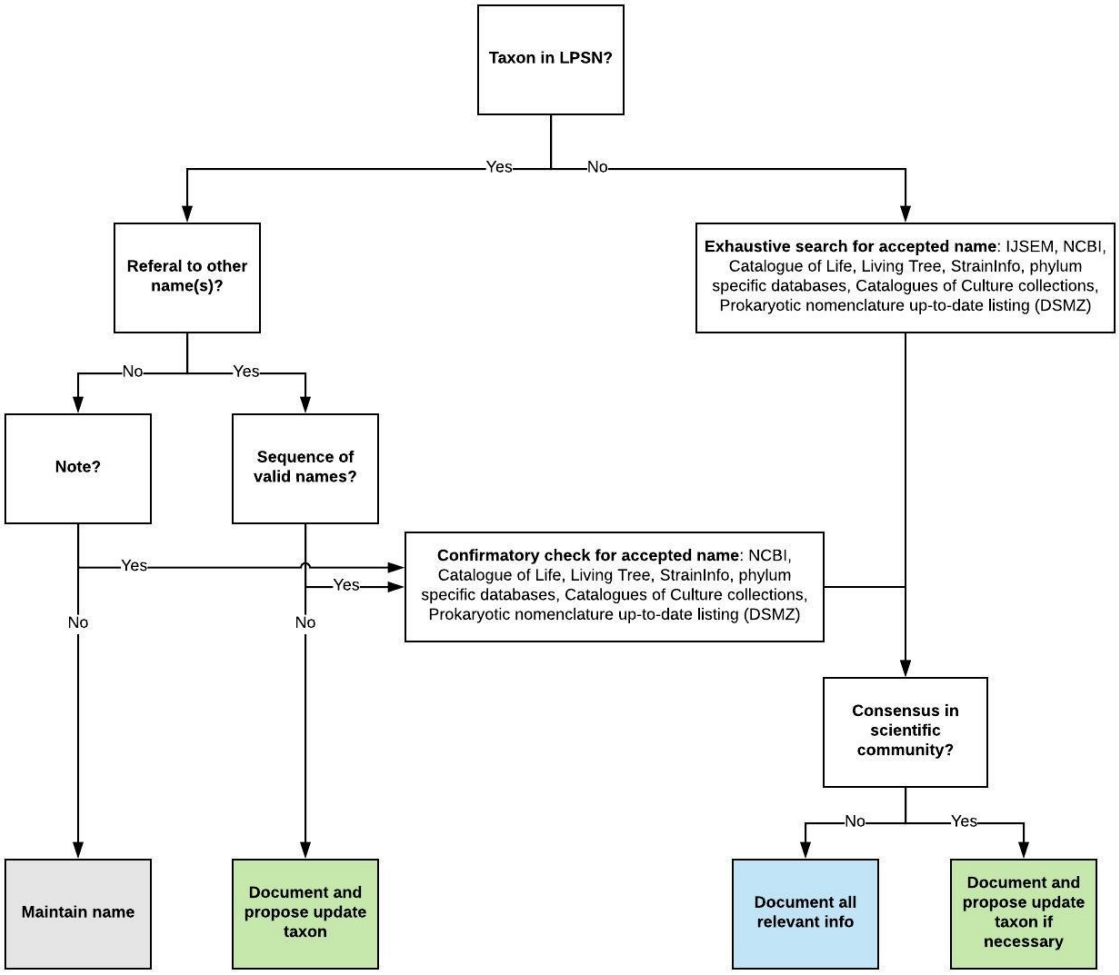

Figure 1: Workflow for revision of bacterial taxonomy, with an overview of actions and main consulted literature sources

For each name, an initial search was performed in the List of Prokaryotic names with Standing in Nomenclature (LPSN)[8]. LPSN is an online tool, gathering information about the current taxonomical status of a bacterial name, its history, recent proposals for name changes and its correct spelling. LPSN only publishes information on validly published bacterial names, *i.e.* the bacterial name has been published in the 'International Journal of Systematics and Evolutionary Microbiology' (IJSEM)[9] or in the 'Approved List of Bacterial Names'[10-11]. LPSN is updated monthly, with each publication of a new edition of IJSEM.

In taxonomy, there is a general consensus about descent (phylogeny) and radiation of taxa. The nomenclature given to bacteria is also greatly regulated. However, there is a lot of debate about the splitting of taxa (*i.e.* dividing a taxon into multiple new taxa) and the lumping of taxa (*i.e.* considering several taxa as synonyms)[12-13]. Even though IJSEM and LPSN document official name changes, the scientific community may still be using the old name or may be divided in different 'camps' using diverse synonyms. In order to find the commonly used scientific name of a specific bacterium, several sources were consulted (summarized in **Table 2**) and all relevant information was recorded to inform decision-making by the GOGEM. For bacterial names that are effectively used but that not have been validly published (and for which no information could be retrieved from LPSN or IJSEM), the same methodology was followed.

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Table 2: Overview of the consulted databases and literature sources. Superscripts refer to the reference list (§5) where corresponding URL's can be found.

Source	Brief description
Algaebase[15]	*Global algal database, including Cyanobacteria*
ATCC-catalogue[16]	*Catalogue of the American Type Culture Collection (USA), a microbial culture repository*
BacDive (DSMZ)[17]	*Bacterial database from the 'Deutsche Sammlung von Mikroorganismen und Zellkulturen' (Germany), providing strain-linked information about bacterial and archaeal biodiversity*
BCCM/LMG-catalogue[18]	*Catalogue of the Belgian Coordinated Collections of Microorganisms/Laboratory of Microbiology (Ghent University, Belgium), a bacterial culture repository*
Catalogue of Life[19]	*Online database gathering the accepted names from all known species*
CCUG-catalogue[20]	*Catalogue of the Culture Collection at the University of Gothenburg (Sweden), a microbial culture repository*
CIP-catalogue[21]	*Catalogue of the Collection of Institut Pasteur (France), a bacterial culture repository*
Cyanotype[22]	*Cyanobacteria-specific database*
DSMZ-catalogue[23]	*Catalogue of the 'Deutsche Sammlung von Mikroorganismen und Zellkulturen' (Germany), a microbial culture repository*
IJSEM[9]	*International Journal of Systematics and Evolutionary Microbiology: official journal of record for novel prokaryotic taxa*
Index fungorum[24]	*Global fungal nomenclature database*
JCM-catalogue[25]	*Catalogue of the Japan Collection of Microorganisms (Japan), a microbial culture repository*
Living Tree (the 'All-species Living Tree' project)[26]	*Curated 16S and 23S rRNA datasets from all sequenced type strains of the hitherto classified species of Archaea and Bacteria*
LPSN[8]	*List of Prokaryotic names with Standing in Nomenclature: nomenclature database of validly published prokaryotic names*
MycoBank[27]	*Online database documenting mycological nomenclatural novelties (new names and combinations) and associated data*
NCBI Taxonomy Browser[28]	*Database from the National Centre for Biotechnology Information (USA), gathering phylogenetic and taxonomic knowledge from published literature, web-based databases, scientists submitting DNA-sequences and outside taxonomy experts*
NCTC-catalogue[29]	*Catalogue of the National Collection of Type Cultures (Public Health England), a bacterial culture repository*
PCC-catalogue[30]	*Catalogue of the Pasteur Culture Collection of Cyanobacteria (France), a cyanobacterial culture repository*
Prokaryotic nomenclature up-to-date (DSMZ)[14]	*Compilation of all bacterial names which have been validly published since 1980 and nomenclatural changes which have been validly published since (update September 2017)*
PubMed[31]	*Public/publisher MEDLINE: a medical journal article database*
RIVM[32]	*Rijksinstituut voor Volksgezondheid en Milieu (National Institute for Public Health and the Environment, The Netherlands: Dutch institution with an advisory role concerning public health*
StrainInfo[33]	*Search engine gathering information from over 60 culture collection into a 'passport' for each microbial species*
WFCC[34]	*World Federation for Culture Collections: a global catalogue of microorganisms*

Name changes or changes in classification were documented with (1) the relevant publication(s), (2) a brief motivation of the proposed changes, and (3) additional remarks in case of ambiguity or doubt.

For problematic taxa, the COGEM-listing from 2011 was consulted (CGM 2011-07)[1] as well as a recent update of the prokaryotic nomenclature issued by the DSMZ[14].

3 Results

All detailed results are captured in the tables attached in **Annexes 1a-1h** concerning the pathogenic species and **Annexes 2a-2h** concerning the apathogenic species. In the subsequent paragraphs the reasons for the proposed changes and the issues or difficulties encountered will be briefly described and discussed; several representative cases will be highlighted as an example. For an overview, we refer to the revised listings of apathogenic (**Annex 3**) and pathogenic bacteria (**Annex 4**).

3.1 Pathogenic bacteria

3.1.1 Taxa without name change (Annex 1a)

The majority of the bacterial taxa (1042 out of 1360) did not need a nomenclatural revision.

It needs to be noted that for several taxa limited to very limited information was found. However, the available records did not indicate that revision was necessary. This concerns *Mycobacterium ratisbonense*, which is an unpublished name, and *Butyribacterium methylotrophicum, Cytophaga allerginae, Leptotrichia amnionii, Mycobacterium hackensackense, Nocardiopsis ignorata* and *Treponema vincenti*, which have all been effectively but not validly published (see **Annex 1a**).

3.1.2 Taxa to be deleted and/or transferred to other COGEM-listings (Annex 1b)

Two taxa should be removed from the list, since they are cited under both their correct name and incorrect name (due to a typographical error). This concerns *Atopodium minutum*, incorrectly cited as '*Atopodium minutus'* and *Tsukamurella inchonensis*, incorrectly cited as '*Tsukamurella incho*'.

Three taxa were identified as fungi and should therefore be deleted from the listing of bacteria. This concerns *Apiosporina morbosa, Issatchenkia orientalis* and *Rhodotorula mucilaginosa.*

- *Apiosporina morbosa* is currently not present in the COGEM-listings of pathogenic fungi (CGM/111024-03 and CGM/180430-01)[35-36], although it is an important fungal plant pathogen[24-27] and is considered as a quarantine pest[37]. See further remark in § 3.1.6 (observations on risk classifications).
- No further actions are required for *Issatchenkia orientalis,* since it is already included in the GOGEM listing of human and animal pathogenic fungi (CGM/111024-03)[35].
- Also, *Rhodotorula mucilaginosa* has already been included in the COGEM-listing of (a)pathogenic fungi CGM/180430-01[36]. See further remark in § 3.1.6 (observations on risk classifications).

3.1.3 Taxa with corrected names (Annex 1c)

The names of 27 taxa were incorrect due to typographical errors in previous COGEM-listings and were corrected.

The names of 6 taxa were incorrect due to errors in Latin grammar, made by the author who described and published the taxon. The past years, several of these errors were officially rectified by publication in IJSEM. These errors were corrected accordingly. A particular case is *Rickettsia prowazekii*, which was named after Stanislav von Prowazek. According to Latin grammar, the epithet should be '*prowazeki*' as mentioned in the COGEM-listing. However, the officially published (but incorrect name) is '*prowazekii'.*

3.1.4 Taxa with taxonomic changes (Annexes 1d-g)

- **Taxa with a name change due to taxonomic revision (Annex 1d)**
  For 161 taxa a name change should be considered. Each name change is supported by unambigous information and a clear motivation, as summarized in **Annex 1d.**

  It is important to note that *Rickettsia tsutsugamushi,* a severe pathogen causing scrub typhus*,* has been renamed as *Orientia tsutsugamushi.*

- **Taxa with a name change due to division into subspecies or serotypes (Annex 1e)**
  For a total of 64 taxa a name change should be considered, due to division into subspecies or serotypes. As a consequence, all new subspecies or serotypes should be included into the COGEM-listing, accompanied by an appropiate risk classification.

  In particular for *Gluconobacter oxydans* and *Clavibacter michiganensis* this may prove challenging, since these species were divided into 5 and 9 subspecies respectively, of which some were anew lifted to species level.

  It is important to note that *Mycobacterium bovis* and *Francisella tularensis*, two severe pathogens belonging to risk class 3, were also divided into subspecies. *Mycobacterium bovis,* the causative agent of tuberculosis in cattle, was divided into the subspecies *Mycobacterium bovis* subsp*. caprae* and *Mycobacterium bovis* subsp. *bovis.* However, LPSN[8] states that if an author accepts that *Mycobacterium bovis* subsp*. caprae* is a new species (= *Mycobacterium caprae*), then *Mycobacterium bovis* subsp. *bovis* should be designated simply as *Mycobacterium bovis.* As a consequence*, Mycobacterium caprae* should be incorporated in the COGEM-listing. See further remarks in § 3.1.6 (observations on risk classifications). *Francisella tularensis*, the causative agent of tularemia, was divided into *Francisella tularensis* subsp. *holarctica*, *Francisella tularensis* subsp. *mediasiatica*, *Francisella tularensis* subsp. *novicida* and *Francisella tularensis* subsp. *tularensis.*

  Subdivision into serotypes only concerns *Escherichia coli*. In response to the COGEM advise CGM/170828-01[38] concerning the risk classification of *E. coli*, the last COGEM-listing (CGM/170929-03)[2] made a distinction between *E. coli* strains belonging to risk class 2 and hemolytic uremic syndrome–associated enterohemorrhagic *E. coli*, or HUSEC, which are classified as risk class 3 agents. In analogy with the classification lists from Flanders (Belgium)[39], Switzerland[40] and Germany[41], one may consider broadening up the definition of *E. coli* risk class 2 to include most pathogenic serotypes (EPEC, ETEC and UPEC) and to broaden up the definition of *E. coli* risk class 3 to include all Shiga-toxin producing *E. coli* (STEC, including HUSEC and EHEC).

- **Taxa for which there is no consensus about naming (Annex 1f)**
  In total, 20 taxa were identified for which there is no consensus among scientists about the naming. For these taxa, a broad range of sources was consulted (summarized in **Table 2**) and all relevant information was recorded to facilitate decision-making (see **Annex 1f**).

  One of the focal points that needs careful dissection is the nomenclature of the *Agrobacterium - Rhizobium* complex. Although LPSN[8] indicates which names should be used, the old names remain in use. For example, the names *Rhizobium radiobacter, Rhizobium rubi and Rhizobium vitis* should be used according LPSN. However, DSMZ, one of the leading biological resource centers, retains the use of *Agrobacterium radiobacter, Agrobacterium rubi* and *Agrobacterium vitis*[14-13]*.*

  Another example is *Rhodococcus equi.* Since the type strains of both *Corynebacterium hoagii* (DSM 20295T) and *Rhodococcus equi* (DSM 20307T) belong to the same species, a new combination was made into *Rhodococcus hoagii.* However, *Rhodococcus equi* is still considered to be the accepted name by various sources and is until present day cited as such in veterinary[42] as well as human medical case reports[43-44].

- **Taxa for which there is no official decision about naming (Annex 1g)**
  A total of 16 taxa were identified for which there is no official decision about their naming. As a consequence, a microbiologst may choose to her/his scientific opinion which species concept or nomenclature she/he adopts. The taxa in this category either belong to *Salmonella* or to *Brucella.*

  Several *Salmonella* species have been reclassified as serovars of *Salmonella enterica* subsp. *enterica.* For example, *Salmonella gallinarum* has been reclassified as *Salmonella enterica* subsp. e*nterica* serovar Gallinarum. Both names are correct.

  Brucella abortus, Brucella canis, Brucella ovis and *Brucella suis* are synonyms for *B. mellitensis*. LPSN[8] clearly states that a bacteriologist is free to use the one-species or the six-species concept. For this issue, no information could be retrieved from culture collections, since none of them, except from NCTC[29], accept pathogens of risk class 3 for storage.

3.1.5 Taxa with uncertain nomenclature (Annex 1h)

A total of 19 taxa was classified into this category, since (a) it was not certain whether a name change is relevant (synonymy is mentioned by one/two sources, but the official proposal for name change could not be retrieved), or (b) the names were not traceable (the names listed as such could not be found in any of the consulted databases and literature sources, most likely due to a typographical error).

3.1.6 Observations on risk classifications

During the screening of bacterial nomenclature, it was observed that the risk classes of some bacterial species as adopted by COGEM differ from those published by other institutions.

In the current GOGEM-listing, the obligate intracellular pathogen *Chlamydophila psittaci* is categorized as a risk class 2 pathogen (see **Annex 1a**). However, in the Belgian legislation concerning contained use of GMOs and pathogens, *Chlamydophila psittaci* is divided into avian and non-avian strains, with the avian strains being categorized as risk class 3 and the non-avian strains as risk class 2 [39,45]. In Germany, all *C. psittaci* strains are categorized into risk class 3[41]. Avian strains may cause zoonotic disease (psittacosis) in humans, with variable symptoms ranging from asymptomatic disease to an influenza-like disease, pneumonia, sepsis and multiple organ failure. Transmission usually originates from inhalation of contaminated aerosols that carry fecal matter, or direct contact with contaminated feces. Non-avian strains from domestic animals (cattle, sheep, swine, horses, cats, rodents, and goats) and wild-life are less to not virulent and are not transmitted to humans. *C. psittaci* is classified into 10 genotypes, designated A to G (avian hosts), WC (cattle), E/B (ducks), and M56 (rodents). A real-time PCR assay detecting differences in the ompA gene, as well as MLST allow differentiation of the various genotypes[46].

As discussed earlier, *Mycobacterium bovis* can be divided into *Mycobacterium bovis* subsp. *bovis* and *Mycobacterium bovis* subsp. caprae. If *Mycobacterium bovis* subsp. *caprae* (or *Mycobacterium caprae* according to some authors) is incorporated in the COGEM-listing, its risk class should be evaluated independently. Depending on the source of information *M. bovis* subsp. *caprae* is considered a risk class 2 [39] or 3 pathogen[40, 41, 45-47].

Likewise, the risk classes of the fungi *Apiosporina morbosa* and *Rhodotorula mucilaginosa* should be re-evaluated. In COGEM-listing CGM/170929-03 *A. morbosa* is categorized as a class 2 pathogen, but by the Swiss FOEN[40] as a class 3 pathogen. *R. mucilaginosa* is considered both apathogenic [37,39,41] and pathogenic[2,40] depending on the source of information.

3.2 Apathogenic bacteria

3.2.1 Taxa without name change (Annex 2a)

The majority of bacterial taxa (777 out of 976) did not need a nomenclatural revision.

It needs to be noted that for 3 invalidly published taxa, i.e. *Thermincola potens*, *Clostridium autoethanogenum* and *Treponema refringens*, limited records were found. However, the available records did not indicate that revision was necessary. Furthermore, it is noticed that *Bacteroides xylanisolvens* strain DSM 23964 is not available anymore in the DSMZ catalogue[23]; in addition, no records were found in StrainInfo[33]. However, this strain is often used in recent research aiming at unravelling the pectinolytic properties of *B. xylanisolvens*[31]. The specific comments on several of these bacterial taxa without revision are catalogued in **Annex 2a**.

3.2.2 Taxa with corrected names (Annex 2b)

The names of 6 taxa were incorrect due to typographical errors in the COGEM-listing and were corrected.

Hallella seregens appears both in the listing of pathogenic and apathogenic bacteria. *H. seregens* is correctly listed as pathogenic, but incorrectly listed as apathogenic (as '*Hahella seregens'* with a typographical error).

The names of 4 taxa were incorrect due to errors in Latin grammar, made by the author who described and published the taxon. The past years, several of these errors were officially rectified by publication in IJSEM[9]. These errors were corrected accordingly.

3.2.3 Taxa with taxonomic changes (Annexes 2c-g)

- **Taxa with a name change due to taxonomic revision (Annex 2c)**
  For 54 taxa a name change should be considered. Each name change is supported by unambigous information and a clear motivation, as summarized in **Annex 2c**.

- **Taxa with a name change due to division into subspecies (Annex 2d)**
  For only 3 taxa a name change should be considered, due to division into subspecies. As a consequence, all new subspecies should be included into the COGEM-listing and accompanied by an appropiate risk classification whenever relevant.

- **Taxa with a name change due to reclassification into other genera (Annex 2e)**
  For 110 taxa a name change (only at genus level) should be considered, due to reclassification of one or several species into another genus or several other genera. For example, several species belonging to the genus *Geobacillus* were reclassified into either *Caldibacillus, Aeribacillus* or *Anoxybacillus*. As a consequence, all new genera should be included into the COGEM-listing and accompanied by an appropiate risk classification whenever relevant.

- **Taxa for which there is no consensus about naming (Annex 2f)**
  In total, 13 taxa were identified for which there is no consensus among scientists about the naming. For these taxa, a broad range of sources was consulted (summarized in **Table 2**) and all relevant information to facilitate decision-making was recorded (see **Annex 2f**). Not all taxa will be discussed in this section, and only the focal points will be discussed into more detail.

  As discussed earlier, the nomenclature of the *Rhizobium* complex needs careful consideration. Also, for several apathogenic representatives of *Rhizobium* there is no consensus about the naming. For example, several *Rhizobium* species have been reclassified as *Neorhizobium* or *Bradyrhizobium*. These changes are supported by e.g. DSMZ[23], NCBI[28] and the new names

are used in recent publications[31]. However, e.g. LPSN[8] and StrainInfo[33] do not mention any nomenclatural changes.

Recently the genus *Burkholderia* was divided into the emended genus *Burkholderia* containing pathogenic organisms and a new genus *Paraburkholderia* harboring environmental species. This division is supported by e.g. DSMZ[23], BCCM/LMG[18] and NCBI[28]. However, LPSN[8] does not mention any nomenclatural changes, although all *Paraburkholderia* species have been validly published.

- **Taxa for which there is no official decision about naming (Annex 2g)**
  Only *Salmonella* Typhi belongs to this category. As already discussed for the pathogenic *Salmonella* species (see § 3.1.4), a microbiologist may choose to her/his scientific opinion which nomenclature she/he adopts and whether she/he uses *Salmonella* Typhi or *Salmonella enterica* subsp*. enterica* serovar Typhi (or even *Salmonella typhi*).

3.2.4 Taxa with uncertain nomenclature (Annex 2h)

Only 7 taxa were classified into this category, since (a) it was not certain whether a name change is relevant (synonymy is mentioned by one/two sources, but the official proposal for name change could not be retrieved), or (b) the names were not traceable (the names listed as such could not be found in any of the consulted databases and literature sources, most likely due to a typographical error).

3.2.5 Observations on risk classifications

Not applicable

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4 Discussion & recommendations

A taxonomic revision was performed encompassing all pathogenic and apathogenic bacteria listed in the classification lists of COGEM. A systematic workflow for verifying different information sources was established and performed for each individual taxon in the list.

This study identifed several cases for which a name change should be considered: 294 out of 1360 studied pathogenic taxa and 192 out of 976 apathogenic taxa (**Table 3**). Furthermore, a limited number of taxa remains with an uncertain nomenclature due to lack of information.

Table 3: Overview of the proposed actions for an up-to-date classification list of pathogenic and apathogenic bacteria

Action	**#Taxa**	
	Pathogenic	**Apathogenic**
Unchanged	1042	777
Name change proposed	294	192
Proposed to delete or transfer to other lists	5	0
Uncertain nomenclature	19	7
TOTAL	***1360***	***976***

Table 4 indicates the main rationale for a name change proposal: typographical correction of a genus name or epithet and reclassification due to new insights into bacteria taxonomy. The report identifies several taxa for which one or more synonyms are being used, due to lack of consensus among bacteriologists about the naming, or because no official authority indicates the correct name.

Table 4: Main motivations for name changes in pathogenic bacteria and apathogenic bacteria

Category	**Motivation name change**	**#Taxa**	
		Pathogenic	**Apathogenic**
Corrections	Correction typo	27	6
	Official correction name	6	4
	Listed as both apathogenic and pathogenic	-	1
Taxonomic changes	Taxonomic revision	161	54
	Division into subspecies/serotypes	64	3
	Reclassification into other genera	-	110
	No consensus about naming	20	13
	No official decision about naming	16	1
TOTAL		***294***	***192***

All nomenclatural changes, proposals for amendment and ambiguities have been documented in detail in **Annexes 1a-h** and **2a-h** to allow final decision making by the COGEM. All information from these annexes was merged into revised listings of apathogenic and pathogenic bacteria (**Annexes 3** and **4**). Finally, some observations on risk classifications were documented.

Bacterial taxonomy was founded at the end of the 19th century, with bacteria being classified based on phenotypic features such as morphology, staining, growth requirements or pathogenic potential. Later, the physiological properties and biochemical properties of bacteria were also included for this purpose. Between 1960 and 1980, chemotaxonomy (*e.g.* analysis of fatty acids, proteins, carbohydrates, or secondary metabolites) and DNA–DNA hybridization (DDH) techniques were used. DDH estimates the genetic relatedness between bacteria and is still considered as the 'gold standard' criterion for species delineation of prokaryotes. Bacteria with a DDH value of 70% or lower belong to distinct species. Another 'gold standard' in bacterial taxonomy, is the determination of the DNA G+C content, or the proportion of guanine and cytosine within the overall number of nucleotides in the genome[48].

The introduction of DNA amplification and sequencing techniques in the 1980's, and in particular the use of the 16S rRNA gene, has markedly changed the view on bacterial phylogeny and has led to a rapid increase in the number of descriptions of novel species[48]. Since the 1990s, the advent of whole-genome sequencing has given access to the complete genetic information of a strain, and various genome-based methods were developed and proposed for taxonomic purposes, including multilocus sequence analysis (MLSA) and average nucleotide identity (ANI)[49]. MLSA uses partial sequences of housekeeping genes to generate phylogenetic trees that allow to study the position of a species within a genus or genera within a family[50]. ANI compares genetic relatedness among strains; ANI values of ~94% correspond with the traditional 70% DDH standard for species delineation[51]. Currently, bacterial taxonomy relies on a polyphasic approach, combining phenotypic, chemotaxonomic and genotypic data, as well as phylogenetic information[52].

This trend is also observed when identifying grounds for nomenclatural changes (see **Annexes 1a-1h** and **2a-2h**). Sequencing of the 16S rRNA is nowadays by far the most used technique and is nearly always used in combination with mainly phenotypic and chemotaxonomic features, MLSA and DDH. DNA G+C content, AFLP, MALDI-TOF/MS are only exceptionally used. Throughout the **Annexes 1d** and **2c**, only in *Borrelia* and *Clostridium* ANI-values led to separation of the genera and the creation of respectively *Borreliella*[53] and *Paraclostridium*[54]. Although ANI was proposed already 10 years ago as one of the most robust measurements of genomic relatedness between prokaryotic strains, this technique seems not yet to be widely applied in taxonomy[49]. This is equally true for MLSA. However, in combination with traditional biochemical and molecular methods, these whole genome-comparison methods are expected to improve the reliability of the techniques used for bacterial species definition, especially for uncultured bacterial species[51].

Most name changes are due to new insights in taxonomy mainly based on molecular data. However, due to the medical conditions or the pathogenicity associated with a certain species, the name changes proposed on molecular basis are not always implemented in order to avoid confusion in the medical context. As an example, we mention *Yersinia pestis*, the causal agent of plague. Molecular data pinpoint that *Y. pestis* is in fact a clone that evolved from *Yersinia pseudotuberculosis*[55] and should be reclassified as a subspecies. However, because the different epidemiology of *Y. pestis* and *Y. pseudotuberculosis* and given the historical importance of *Y. pestis* for human history, the reclassification of *Y. pestis* and *Y. pseudotuberculosis* has been rejected by medical microbiologists.

From this taxonomic revision several cases were identified in which pathogenicity is one of the main motivations for the (artificial) division of a genus. One of these cases concerns the *Agrobacterium-Rhizobium* complex. Research has shown that the genus *Agrobacterium* is nested in the genus *Rhizobium*. However, *Agrobacterium* was maintained as a genus to cover species causing root and crown gall, while *Rhizobium* includes symbiotic nitrogen-fixing bacteria living in the root nodules of leguminous plants[56]. Separation of both genera, however, has led to much debate. Equally, *Burkholderia* was maintained to gather clinically important species and phytopathogens, while *Paraburkholderia* encompasses environmental species[57].

For approximately 70 taxa, name change is purely based on the rules of nomenclature. This is the case when two different taxa are merged into one since molecular data do not support differentiation. The resulting name is then dictated by the rules of priority; the older validly published scientific name (the earlier synonym) is then retained because it has priority over the newer scientific names. When

a new taxon is officially described, the description is based on a type specimen. This has consequences for synonymy. Synonyms may be homotypic, *i.e.* associated with the same type specimen. Homotypic synonyms consist of different names that have existed in the past for the same type specimen. Synonyms may also be heterotypic, *i.e.* associated with different type specimens. Heterotypic synonyms consist of different names for different type specimens that used to be considered as distinct taxa but are now merged into one taxon.

Taking into account that with the use of new techniques taxonomy is quickly evolving, this review leads to the following recommendations:

- Adoption of all proposed name changes listed in **Annexes 1d-g** and **2c-g**, while keeping at least for a transition period the "old" names in the COGEM-listings for ease of reference.
- (Re)consideration of all taxa with uncertain nomenclature, cataloged in **Annexes 1h** and **2h**, and indicated with an asterisk (*) in **Annexes 3** and **4**.
- Provision of all previously not included genera, subspecies, serotypes of an appropiate risk classification
- (Re)consideration of the risk classes of the bacterial species discussed in § 3.1.6 since divergences have been noted between the classification by COGEM and other institutions. This includes the consideration of broadening up the definition of *E. coli* risk class 2 to include most pathogenic serotypes (EPEC, ETEC and UPEC) and to broaden up the definition of *E. coli* risk class 3 to include all Shiga-toxin producing *E. coli* (STEC, including HUSEC and EHEC).
- Inclusion of *Apiosporina morbosa* in the COGEM-listings of pathogenic fungi since it is an important fungal plant pathogen and quarantine pest.
- Establish a mechanism for keeping track of taxonomic changes and/or schedule similar revisions.

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5 References

1. COGEM (2017a) Research report CGM 2011-07: Classification of bacterial pathogens. Available at: https://www.cogem.net/index.cfm/nl/publicaties/publicatie/classification-of-bacterial-pathogens
2. COGEM (2017b) Advies CGM/170929-03: Actualisatie van de pathogeniteitsclassificaties van een groot aantal bacteriën. Available at: https://www.cogem.net/index.cfm/nl/publicaties/publicatie/actualisatie-van-de-pathogeniteitsclassificaties-groot-aantal-bacterien
3. COGEM (2017c) Advies CGM/171121-01: Pathogeniteitsclassifiactie van de bacterie *Paenibacillus chibensis*. Available at: https://www.cogem.net/index.cfm/nl/publicaties/publicatie/pathogeniteitsclassificatie-van-de-bacterie-em-paenibacillus-chibensis-em
4. COGEM (2017d) Advies CGM/171221-01: Pathogeniteitsclassificatie van de bodembacterie *Desulfitobacterium hafniense.* Available at: https://www.cogem.net/index.cfm/nl/publicaties/publicatie/pathogeniteitsclassificatie-van-de-bodembacterie-em-desulfitobacterium-hafniense-em?order=relevance&q=171221-01&category=&from=30-09-1998&to=17-05-2018&sc=fullcontent
5. COGEM (2017e) Advies CGM/171222-01: Pathogeniteitsclassificatie van de bacteriën *Thermosinus carboxydivorans, Thermincola ferriacetica* en *Thermincola carboxydiphila*. Available at: https://www.cogem.net/index.cfm/nl/publicaties/publicatie/pathogeniteitsclassificatie-van-de-bacterien-em-thermosinus-carboxydivorans-em-em-thermincola-ferriacetica-em-en-em-thermincola-carboxydiphila-em
6. COGEM (2018a) Advies CGM/180110-01: Pathogeniteitsclassificatie van de anaerobe en thermofiele bacterie *Thermincola potens.* Available at: https://www.cogem.net/index.cfm/nl/publicaties/publicatie/pathogeniteitsclassificatie-van-de-anaerobe-thermofiele-bacterie-em-thermincola-potens-em
7. COGEM (2018b) Advies CGM/180216-01: Pathogeniteitsclassificatie van de bodembacterie *Rhodococcus rhodochrous*. Available at: https://www.cogem.net/index.cfm/nl/publicaties/publicatie/pathogeniteitsclassificatie-van-de-bodembacterie-em-rhodococcus-rhodochrous-em?order=relevance&q=CGM%2F180216-01&category=&from=30-09-1998&to=17-05-2018&sc=fullcontent
8. Euzéby, J.P. (1997). List of Bacterial Names with Standing in Nomenclature (LPSN): A Folder Available on the Internet. *International Journal of Systematic Bacteriology,* **47**, 590-592. Available at: http://www.bacterio.net/index.html.
9. Skerman, V.B.D, McGowan,V., Sneath, P.H.A. (eds., 1989) Approved Lists of Bacterial Names (Amended). ASM Press, Washington DC.
10. International Journal of Systematic and Evolutionary Microbiology-Online Journal (IJSEM) (2018) Available at: http://ijs.microbiologyresearch.org/content/journal/ijsem
11. Lapage, S.P., Sneath, P.H.A., Lessel, E.F., Skerman, V.B.D., Seeliger, H.P.R., et al. (eds., 1992) International Code of Nomenclature of Bacteria-Bacteriological Code, 1990 Revision. ASM Press, Washington DC.
12. Staley, J.T., Krieg, N.R. Classification of prokaryotic organisms: an overview. In: Krieg, N.R. & J.G. Holt, J.G. (eds.): Bergey's Manual of Systematic Bacteriology, vol. 1, 1984, The Williams & Wilkins Co., Baltimore, pp. 1-4.
13. Sneath, P.H., Brenner, D.J. (1992) "Official" nomenclature lists. *American Society for Microbiology News*, **58**, 175.
14. Leibniz Institute DSMZ-German Collection of Microorganisms and Cell Cultures, Germany (2017) Prokaryotic Nomenclature Up-to-date (update of September 2017). Available at: http://www.dsmz.de/bacterial-diversity/prokaryotic-nomenclature-up-to-date
15. Guiry, M.D. & Guiry, G.M. (2018) *AlgaeBase*. World-wide electronic publication, National University of Ireland, Galway. Available at: http://www.algaebase.org/.
16. ATCC (2018) Catalogue of bacteria (online). Available at https://www.lgcstandards-atcc.org/en/Products/Cells_and_Microorganisms/Bacteria.aspx

17. Söhngen, C., Bunk, B., Podstawka, A., Gleim, D., Vetcininova, A., Reimer, L.C., Overmann, J. (2015) BacDive - the Bacterial Diversity Metadatabase. *Nucleic Acids Research,* doi: 10.1093/nar/gkv983. Available at: https://bacdive.dsmz.de/
18. BCCM/LMG (2018) BCCM/LMG Bacteria Catalogue (online). Available at https://brclims.pasteur.fr/crbip_catalogue//faces/recherche_catalogue.xhtml
19. Roskov, Y., Abucay, L., Orrell, T., Nicolson, D., Bailly, N., et al. (eds., 2017) Species 2000 & ITIS Catalogue of Life, 2017 Annual Checklist. Species 2000: Naturalis, Leiden, the Netherlands. Available at: www.catalogueoflife.org/annual-checklist/2017
20. CCUG (2018) CCUG database of micro-organisms. Available at: http://jcm.brc.riken.jp/en/catalogue_e
21. CIP (2018) Catalogue of micro-organisms (online). Available at https://catalogue-crbip.pasteur.fr/crbip_catalogue/faces/recherche_catalogue.xhtml
22. Ramos, V., Morais, J., Vasconcelos, V. (2017) A curated database of cyanobacterial strains relevant for modern taxonomy and phylogenetic studies. *Scientific Data*, **4**, 17005. Available at: http://lege.ciimar.up.pt/cyanotype/.
23. DSMZ (2018) Catalogue of Microorganisms (online) Available at: https://www.dsmz.de/catalogues/catalogue-microorganisms.html
24. Index fungorum (2018) The Index fungorum database. Available at http://www.indexfungorum.org/names/names.asp
25. JCM (2018) JCM online catalogue of strains. Available at: http://jcm.brc.riken.jp/en/catalogue_e
26. Yilmaz, P., Parfrey, L.W., Yarza, P., Gerken, J., Pruesse, E., et al. (2014) The SILVA and "All-species Living Tree Project (LTP)" taxonomic frameworks. *Nucleic Acids Research*, **42**, D643-D648. Available at https://www.arb-silva.de/projects/living-tree/
27. Robert, V., Stegehuis, G., Stalpers, J. (2005) The MycoBank engine and related databases. Available at: http://www.MycoBank.org
28. Sayers, E.W., Barrett, T., Benson, D.A., Bryant, S.H., Canese, K., et al. (2009) Database resources of the National Center for Biotechnology Information. *Nucleic Acids Research*, **37**, D5-15. Available at: https://www.ncbi.nlm.nih.gov/Taxonomy/taxonomyhome.html/.
29. NCTC (2018) Catalogue of Bacteria and Mycoplasma's (online). Available at: https://www.phe-culturecollections.org.uk/products/bacteria/search.jsp
30. PCC (2018) Catalogue of Cyanobacteria (online). Available at https://brclims.pasteur.fr/crbip_catalogue//faces/recherche_catalogue.xhtml
31. Canese, K., Weis, S (2013) PubMed: The Bibliographic Database. In: The NCBI Handbook [Internet]. 2nd edition. Bethesda (MD): National Center for Biotechnology Information. Available at https://www.ncbi.nlm.nih.gov/pubmed
32. RIVM (2018) LCI-richtlijn Brucellose. Available at: https://lci.rivm.nl/richtlijnen/brucellose
33. Verslyppe, B., De Smet, W., De Baets, B., De Vos, P., Dawyndt, P. (2014) StrainInfo introduces electronic passports for microorganisms. *Systematic and Applied Microbiology*, **37**, 42-50. Available at: http://www.straininfo.net/
34. WFCC (2018) WFCC global catalogue of microorganisms. Available at: http://gcm.wfcc.info
35. COGEM (2011) Advies CGM/111024-03 : classificatie van pathogene schimmels. Available at: https://www.cogem.net/index.cfm/nl/publicaties/publicatie/classificatie-pathogene-schimmels
36. COGEM (2018) Advies CGM/180430-01: Actualisatie van de pathogeniteitsclassificaties van een groot aantal aptahogene en pathogene schimmels. Available at: https://www.cogem.net/index.cfm/nl/publicaties/publicatie/actualisatie-van-de-pathogeniteitsclassificaties-van-een-groot-aantal-apathogene-en-pathogene-schimmels-1
37. EPPO (2018) EPPO Global Database. Available at: https://gd.eppo.int
38. COGEM (2017) Advies CGM/170828-01: Pathogeniteitsclassificatie *Escherichia coli.* Available at: https://www.cogem.net/index.cfm/nl/publicaties/publicatie/pathogeniteitsclassificatie-em-escherichia-coli-em?order=relevance&q=E.+coli&category=&from=30-09-1998&to=01-06-2018&sc=fullcontent
39. SBB (2008) List of bacteria and similar organisms presenting at the wild state a biological risk for immunocompetent humans and/or animals and corresponding maximum biological risk. Available at: https://www.biosafety.be/sites/default/files/h_a_bacteries.pdf
40. FOEN (2013) Classification of organisms. Available at: https://www.bafu.admin.ch/bafu/en/home/topics/biotechnology/publications-studies/publications/classification-of-organisms.html
41. TRBA: TRBA 466 „Einstufung von Prokaryonten (Bacteria und Archaea) in Risikogruppen" Ausgabe August 2015 Technische Regeln für Biologische Arbeitsstoffe Available at:

https://www.baua.de/DE/Angebote/Rechtstexte-und-Technische-Regeln/Regelwerk/TRBA/pdf/TRBA-466.pdf?__blob=publicationFile&v=4

42. Nakagawa, R., Moki, H., Hayashi, K., Ooniwa, K., Tokuyama K, et al. (2018) A case report on disseminated *Rhodococcus equi* infection in a Japanese black heifer. *Veterinary Medicine and Science*, **80**, 819-822. Epub ahead of print. doi: 10.1292/jvms.18-0064. Epub 2018 Mar 29.

43. Yamshchikov, A.V., Schuetz, A., Lyon, G.M. (2010) *Rhodococcus equi* infection. *The Lancet Infectious Diseases*, **10**, 350-9. doi: 10.1016/S1473-3099(10)70068-2.

44. Lin, W.V., Kruse, R.L., Yang, K., Musher, D.M. (2018) Diagnosis and management of pulmonary infection due to *Rhodococcus equi. Clinical Microbiology and Infection*. Epub ahead of print. doi: 10.1016/j.cmi.2018.04.033.

45. VLAREM II-bijlagen (2017) Bijlage 5.51.3-Deel 4: Referentielijsten en biologische risicoklassen van bepaalde micro-organismen en organismen (inclusief taxonomische synoniemen) als zodanig of als donor of recipiënt van genen bestemd voor ingeperkt gebruik in het laboratorium. Belgisch Staatsblad 23 februari 2017.

46. Radomski, N., Einenkel, R., Müller, A., Knittler, M.R. (2016) *Chlamydia* – host cell interaction not only from a bird's eyeview: som e lessons from *Chlamydia psittaci*. *Federation of European Biochemical Societies*, **590,** 3920-3940**.**

47. ZKBS-BVL (2018) Datenbank zu sicherheitsbewerteten Organismen. Available at: http://apps2.bvl.bund.de/organismen/organisms.jsf.

48. Chun, J., Rainey, F.A. (2014) Integrating genomics into the taxonomy and systematics of the Bacteria and Archaea. *International Journal of Systematic and Evolutionary Microbiology*, **64**, 316-24. doi: 10.1099/ijs.0.054171-0.

49. Ramasamy, D., Mishra, A.K., Lagier, J.C., Padhmanabhan, R., Rossi, M., et al. (2014) A polyphasic strategy incorporating genomic data for the taxonomic description of novel bacterial species. *International Journal of Systematic and Evolutionary Microbiology,* **64**, 384-91.

50. Glaeser, S.P., Kämpfer, P. (2015) Multilocus sequence analysis (MLSA) in prokaryotic taxonomy. *Systematic and Applied Microbiology*, **38**, 237-45.

51. Zhang, W., Du, P., Zheng, H., Yu, W., Wan, L., Chen, C. (2014) Whole-genome sequence comparison as a method for improving bacterial species definition. *Journal of General and Applied Microbiology,* **60**, 75-78.

52. Schleifer, K.H. (2009) Classification of Bacteria and Archaea: past, present and future. *Systematic and Applied Microbiology*, **32**, 533-42.

53. Adeolu, M. & Gupta, R.S. (2014) A phylogenomic and molecular marker-based proposal for the division of the genus *Borrelia* into two genera: The emended genus *Borrelia* containing only the members of the relapsing fever *Borrelia*, and the genus *Borreliella* gen. nov. containing the members of the Lyme disease. *Antonie van Leeuwenhoek*, **105**, 1049.

54. Sasi Jyothsna, T.L.,Tushar, L., Sasikala, Ch., Ramana, Ch.V. (2016) *Paraclostridium benzoelyticum* gen. nov., sp. nov., isolated from marine sediment and reclassification of *Clostridium bifermentans* as *Paraclostridium bifermentans* comb. nov. Proposal of a new genus *Paeniclostridium* gen. nov. to accommodate *Clostridium sordellii* and *Clostridium ghonii*. *International Journal of Systematic and Evolutionary Microbiology*, **66**, 1268-1274.

55. Achtman, M., Zurth, K., Morelli, G.,Torrea, G., Guiyoule, A.; Carniel, E. (1999) *Yersinia pestis*, the cause of plague, is a recently emerged clone of *Yersinia pseudotuberculosis*. Proceedings of the National Academy of Sciences of the United States of America, **96**, 14043–14048.

56. Young, J. M., Kuykendall, L. D., Martinez-Romero, E., Kerr, A., Sawada, H. (2001) A revision of *Rhizobium* Frank 1889, with an emended description of the genus, and the inclusion of all species of *Agrobacterium* Conn 1942 and *Allorhizobium undicola* de Lajudie et al. 1998 as new combinations: *Rhizobium radiobacter*, *R. rhizogenes*, *R. rubi*, *R. undicola* and *R. vitis*. *International Journal of Systematic and Evolutionary Microbiology,* **51**, 89–103.

57. Sawana, A., Adeolu, M., Gupta, R.S.(2014) 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. Frontiers in Genetics, **1**, 429.

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Genus/species/strain	COGEM classification	Strict plant (P) or animal pathogen (A)	Reference COGEM report	Remarks
Butyribacterium methylotrophicum	2		CGM/170929-03	Is not validly published. Only found in publications (PubMed), NCBI and ATCC.
Chlamydophila psittaci	2		CGM/170929-03	SBB: divided into avian and non-avian strains; avian strains= RC 3!
Cytophaga allerginae	2		CGM/170929-03	Has been effectively published but not validly published under the rules of the International Code of Nomenclature of Bacteria; records found only in NCBI and ATCC
Leptotrichia amnionii	2		CGM/170929-03	Several recent reports on *Leptotrichia amnioni*i in PubMed; present in catalogue of DSMZ; no records found in LPSN, NCBI, Catalogue of Life, ATCC, BCCM/LMG
Mycobacterium hackensackense	2		CGM/170929-03	Effectively published but not validly published; records found in NCBI, StrainInfo, catalogues of DSMZ and ATCC
Mycobacterium manitobense	2		CGM/170929-03	Effectively published but not validly published; records found in NCBI, StrainInfo, catalogues of DSMZ and ATCC
Mycobacterium ratisbonense	2		CGM/170929-03	Records found at NCBI (unpublished name), WFCC, DSMZ, CIP and in several current publications (PubMed)
Nocardiopsis ignorata	2		CGM/170929-03	Effectively published but not validly published; no records found beside the original publication (Rodríguez-Nava et al, J Clin Microbiol, 2005, 43, 6167-70)
Treponema vincentii	2		CGM/170929-03	Not listed in LPSN-not validly published; records found in NCBI, ATCC, several publications in PubMed (dating from 2000 and older) and Tree of LIfe

Genus/species/strain	COGEM classification	Strict plant (P) or animal pathogen (A)	Reference COGEM report	New name	Remarks
Apiosporina morbosa	2		CGM/170929-03		*Apiosporina* is a fungal plant pathogen (Venturiaceae; see Index Fungorum) accepted name according to Catalogue of Life. Risk class screening: TRBA = RC1, FOEN RC= 3, EPPO: quarantine pest; not present in CGM listing pathogenic fungi
Issatchenkia orientalis	2		CGM/170929-03	*Pichia kudriavzevii?*	Belongs to the fungi, Ascomycota, Saccharomycotina. According to Mycobank the current name is *Pichia kudriavzevii;* according to Index Fungorum and Catalogue of Life, *Issatchenkia orientalis is the correct name.* Present in CGM/111024-03 listing of human and animal pathogenic fungi.
Rhodotorula mucilaginosa	2		CGM/170929-03		Yeast; CGM/180430-01: apathogenic fungus (RC 1; in CGM/170929-03: RC2). Risk class screening: SBB + TRBA = RC1; FOEN = RC2

Genus/species/strain	COGEM classification	Strict plant (P) or animal pathogen (A)	Reference COGEM report	New name	Remarks
Atopodium minutus	2		CGM/170929-03	*Atopodium minutum;* delete record	Mentioned twice in CGM/170929-03 (as *A. minutum* and *A. minutus*)
Tsukamurella incho	2		CGM/170929-03	delete from list (see *T. inchonensis)*	

Genus/species/strain	COGEM classification	Strict plant (P) or animal pathogen (A)	Reference COGEM report	New name	Literature reference	Motivation	Remarks
Achromobacter piechadii	2		CGM/170929-03	*Achromobacter piechaudii*	LPSN	Typographical error in CGM-listing	-
Actinomyces neuii subsp. neuli	2		CGM/170929-03	*Actinomyces neuii* subsp. *neuii*	LPSN	Typographical error in CGM-listing	-
Actinomyces vaccimaxilae	2	A	CGM/170929-03	*Actinomyces vaccimaxillae*	LPSN	Typographical error in CGM-listing	-
Aegytianella pullorum	2	A	CGM/170929-03	*Aegyptianella pullorum*	LPSN	Typographical error in CGM-listing	-
Afipia clevalandensis	2		CGM/170929-03	*Afipia clevelandensis*	LPSN	Typographical error in CGM-listing	-
Arthrobacter woluwensi	2		CGM/170929-03	*Arthrobacter woluwensis*	LPSN	Typographical error in CGM-listing	-
Bacteroides cellulosilyticans	2		CGM/170929-03	*Bacteroides cellulosilyticus*	LPSN	Typographical error in CGM-listing	-
Bacteroides salyersia	2		CGM/170929-03	*Bacteroides salyersiae*	LPSN	Typographical error in CGM-listing	-
Borrelia harveyii	2	A	*CGM/170929-03*	*Borrelia harveyi*	*LPSN*	Typographical error in CGM-listing	-
Cellulomonas homins	2		CGM/170929-03	*Cellulomonas hominis*	LPSN	Typographical error in CGM-listing	-
Curtobacterium flaccumfacien	2	P	CGM/170929-03	*Curtobacterium flaccumfaciens*	LPSN	Typographical error in CGM-listing	-
Flavobacterium johnsonae	2	A	CGM/170929-03	*Flavobacterium johnsoniae*	LPSN	Typographical error in CGM-listing	-
Gemella morbilorum	2		CGM/170929-03	*Gemella morbillorum*	LPSN	Typographical error in CGM-listing	-
Gordona aichiensis	2		CGM/170929-03	*Gordonia aichiensis*	LPSN	Typographical error in CGM-listing	-
Gordona bronchialis	2		CGM/170929-03	*Gordonia bronchialis*	LPSN	Typographical error in CGM-listing	-
Gordona effusa	2		CGM/170929-03	*Gordonia effusa*	LPSN	Typographical error in CGM-listing	-
Gordona otitidis	2		CGM/170929-03	*Gordonia otitidis*	LPSN	Typographical error in CGM-listing	-
Gordona sputi	2		CGM/170929-03	*Gordonia sputi*	LPSN	Typographical error in CGM-listing	-
Gordona wrightpattersonensis	2		CGM/170929-03	*Gordonia wrightpattersonensis*	ATCC, DSMZ catalogue	Typographical error in CGM-listing	no records in LPSN; only a record found in the ATCC and DSMZ catalogue
Haemophilus pittmanaie	2		CGM/170929-03	*Haemophilus pittmaniae*	LPSN	Typographical error in CGM-listing	-
Legionella sianthelensi	2		CGM/170929-03	*Legionella sainthelensi*	LPSN	Typographical error in CGM-listing	-
Mycobacterium parascrophulaceum	2		CGM/170929-03	*Mycobacterium parascrofulaceum*	LPSN	Typographical error in CGM-listing	-

Rickettsiella grylii	2	A	CGM/170929-03	*Rickettsiella grylli*	LPSN	Typographical error in CGM-listing	-
Rickettsiella popillae	2	A	CGM/170929-03	*Rickettsiella popilliae*	LPSN	Typographical error in CGM-listing	-
Rothia dentocasriosa	2		CGM/170929-03	*Rothia dentocariosa*	LPSN	Typographical error in CGM-listing	-
Streptomyces steliiscabiei	2	P	CGM/170929-03	*Streptomyces stelliscabiei*	LPSN	typographical error in CGM-listing	-
Yersinis pestis	3		CGM/170929-03	*Yersinia pestis*	LPSN	Typographical error in CGM-listing	-
Anaerorhabdus furcosus	2		CGM/170929-03	*Anaerorhabdus furcosa*	Euzéby and Boemare, IJSEM, 2000, 50, 1691-1692	The original spelling of the specific epithet *furcosus* (sic), has been corrected by Euzéby and Boemare 2000.	-
Helicobacter acinonyx	2	A	CGM/170929-03	*Helicobacter acinonychis*	Trüper and De'Clari, IJSB, 1997, 47, 908-909.	Incorrect epithet (N.L. gen. n. acinonychis, of *Acinonyx*, referring to the feline species *Acinonyx jubatus* (cheetah), from which the organism was isolated)	-
Mycoplasma phocacerebrale	2	A	CGM/170929-03	*Mycoplasma phocicerebrale*	Heldtander Königsson et al, IJSEM, 2001, 51, 1389-1393	The original spelling of the specific epithet *phocacerebrale* (sic), has been corrected by Heldtander Königsson et al. 2001	-
Rickettsia montana	3		CGM/170929-03	*Rickettsia montanensis*	Trüper & De Clari, IJSB, 1998, 48, 615	The original spelling of the specific epithet *montana* (sic), has been corrected	-
Rickettsia prowazeki	3		CGM/170929-03	*Rickettsia prowazekii*	LPSN	-	named after Stanislav von Prowazek; epithet should be *prowazeki;* official name is *prowazekii*
Tannerella forsythensis	2		CGM/170929-03	*Tannerella forsythia*	Maiden et al, IJSEM, 2003, 53, 2111-2112	Correction to *Tannerella forsynthia*	-

Genus/species/strian	**COGEM classification**	**Strict plant (P) or animal pathogen (A)**	**Reference COGEM report**	**New name**	**Literature reference**	**Motivation**	**Remarks**
Abiotrophia adiacens	2		CGM/170929-03	*Granulicatella adiacens*	Collins and Lawson, IJSEM, 2000 50: 365-369	comb. nov./*Abiotrophia* is not monophyletic/16S rRNA	-
Abiotrophia balaenopterae	2		CGM/170929-03	*Granulicatella balaenopterae*	Collins and Lawson, IJSEM, 2000 50: 365-369	comb. nov./*Abiotrophia* is not monophyletic/16S rRNA	-
Abiotrophia elegans	2		CGM/170929-03	*Granulicatella elegans*	Collins and Lawson, IJSEM, 2000 50: 365-369	comb. nov./*Abiotrophia* is not monophyletic/16S rRNA	-
Actinobacillus actinomycetemcomitans	2		CGM/170929-03	*Aggregatibacter actinomycetemcomitans*	Norskov -Lauritsen and Kilian, IJSEM, 2006, 56, 2135-2146	comb. nov. /multilocus sequence analysis + phenotype	-
Actinobacillus muris	2	A	CGM/170929-03	*Muribacter muris*	Nicklas et al, IJSEM, 2015, **65**, 3344-3351	gen. nov./comb.nov./phenotype +16S rRNA, partial rpoB gene and whole-genome sequencing/distinct phylogenetic position, major divergence from other genera within Pasteurellaceae.	-
Actinobaculum schaalii	2		CGM/170929-03	*Actinotignum schaalii*	Yassin et al, 2015, 65, 615-624	gen. nov./comb.nov./dissection of *Actinobaculum* based on chemotaxonomic and 16S rRNA analysis and DNA-DNA hybridization	-
Actinobaculum urinale	2		CGM/170929-03	*Actinotignum urinale*	Yassin et al, 2015, 65, 615-624	gen. nov./comb.nov./dissection of *Actinobaculum* based on chemotaxonomic and 16S rRNA analysis and DNA-DNA hybridization	-
Actinomyces pyogenes	2	A	CGM/170929-03	*Trueperella pyogenes*	Pascual Ramos et al IJSEM, 1997, 47, 46-53; Yassin et al, IJSEM, 2011, 61, 1265-1274	*Actinomyces* was changed in *Arcanobacterium* based on 16S rRNA analysis. However, *Arcanobacterium* is not monophyletic; based on analysis of 16S rRNA, menaquinone and phospholipid compositions Arcanobacterium was divided into *Arcanobacterium* and *Trueperella.*	-
Actinomyces suis	2	A	CGM/170929-03	*Actinobaculum suis*	Yassin et al, IJSEM, 2015, 65, 615-624	reclassification based on 16S rRNA sequence analysis	-
Aeromonas aquariorium	2		CGM/170929-03	*Aeromonas dhakensis*	Beaz-Hidalgo et al, 2013, Syst Appl	Based on 16S rRNA, rpoD or gyrB genes, multilocus phylogenetic	-

					Microbiol, 36, 171-176; Validation List no. 161, IJSEM, 2015, 65, 1-4	and phenotypic analysis *Aeromonas aquariorium* and *Aeromonas hydrophila* subsp. *dhakensis* were synonymized and reclassified as *Aeromonas dhakensis*.	
Aeromonas hydrophila subsp. *proteolytica*	2		CGM/170929-03	*Vibrio proteolyticus*	Baumann et al, Curr Microbiol, 1980, 4, 127-132; Validation List no. 8. IJSB, 1982, 32, 266-268	Comb. nov. *(Aeromonas= Beneckea* into *Vibrio*)/Analysis of SOD and glutamine synthase	-
Aeromonas trota	2		CGM/170929-03	*Aeromonas enteropelogenes*	Collins et al, IJSB, 2002, 52, 1969-1972; see also LPSN and Catalogue of Life	16S rRNA analysis; *Aeromonas enteropelogenes* is an earlier heterotypic synonym of *Aeromonas trota* (LPSN)	Huys et al (IJSEM, 2002, 52, 1969-1972) proposed to use *A. trota* instead of *A. enteropelogenes;* however, this has not been approved by the Judicial Commission of IJSEM.
Aeromonas tructi	2		CGM/170929-03	*Aeromonas enteropelogenes*	Collins et al, IJSB, 2002, 52, 1969-1972; see also LPSN and Catalogue of Life	16S rRNA analysis; *Aeromonas enteropelogenes* is an earlier heterotypic synonym of *Aeromonas trota* (LPSN)	*A. trota* was corrected by Trüper and De' Clari 1997 (IJSB, 47, 908-909) to *tructi* (L. n. tructus i, trout). However, the species name is derived both from the Greek adjective "trotos", meaning "vulnerable". The name *A. trota* is therefore fully correct (Trüper and De 'Clari, IJSB, 1998, 48, 615). A. trota was synomymized with *A. enteropelogenes.*
Agrobacterium larrymoorei	2	P	CGM/170929-03	*Rhizobium larrymoorei*	Young, IJSEM, 2004, 54, 149; Catalogue of Life	Comb. nov./According to Young, *Agrobacterium* is an artificial genus established only on pathogenicity characteristics	-
Agrobacterium radiobacter	2	P	CGM/170929-03	*Rhizobium radiobacter*	Young et al, IJSEM, 2001, 51, 89-103	Comb. nov./16s rRNA/ *Rhizobium* + several *Agrobacterium* spp. constitute a monophyletic group	The new combination *Rhizobium radiobacter* (Beijerinck and van Delden 1902) Young et al. 2001 also encompasses the strains previously allocated to *Agrobacterium tumefaciens* (Smith and Townsend 1907) Conn 1942.
Agrobacterium rhizogenes	2	P	CGM/170929-03	*Rhizobium rhizogenes*	Young et al, IJSEM, 2001, 51, 89-103	Comb. nov./16s rRNA/ *Rhizobium* + several *Agrobacterium* spp. constitute a monophyletic group	-

Agrobacterium rubi	2	P	CGM/170929-03	*Rhizobium rubi*	Young et al, IJSEM, 2001, 51, 89-103	Comb. nov./16s rRNA/ *Rhizobium* + several *Agrobacterium* spp. constitute a monophyletic group	-
Agrobacterium vitis	2	P	CGM/170929-03	*Allorhizobium vitis*	Mousavi et al, Syst Appl Microbiol, 2015, 38, 84-90	Comb. nov./multilocus sequence analysis housekeeping genes/ critical revision of Rhizobium because none of the spp. exhibit robust phylogenetic positions.	-
Alcaligenes defragans	2		CGM/170929-03	*Castellaniella defragrans*	Kämpfer et al, IJSEM, 2006, 56, 815-819	Comb. nov./16s rRNA and phenotypic analysis, DNA-DNA hybridization/*A. defragans*-lineage is clearly distinct from other *Alcaligenes* lineages.	-
Alcaligenes piechaudii	2		CGM/170929-03	*Achromobacter piechaudii*	Yabuuchi et al, Microbiol Immunol, 1998, 42, 429-438; Validation List no. 67, Int J Syst Bacteriol, 1998, 48, 1083-1084	Comb. nov./ GC and 16s rRNA analysis	-
Arachnia propionica	2		CGM/170929-03	*Pseudopropionibacterium propionicum*	Scholz et al, IJSEM, 2016, 66, 4422-4432	Gen. nov./16S rRNA,GC and peptidoglycan analysis	-
Arcanobacterium bernardiae	2		CGM/170929-03	*Trueperella bernardiae*	Pascual Ramos et al IJSEM, 1997, 47, 46-53; Yassin et al, IJSEM, 2011, 61, 1265-1274	Based on analysis of 16S rRNA, menaquinone and phospholipid compositions Arcanobacterium was divided into *Arcanobacterium* and *Trueperella.*	-
Arcanobacterium bialowiezense	2	A	CGM/170929-03	*Trueperella bialowiezensis*	Pascual Ramos et al IJSEM, 1997, 47, 46-53; Yassin et al, IJSEM, 2011, 61, 1265-1274	Based on analysis of 16S rRNA, menaquinone and phospholipid compositions Arcanobacterium was divided into *Arcanobacterium* and *Trueperella.*	-
Arcanobacterium bonasi	2	A	CGM/170929-03	*Trueperella bonasi*	Pascual Ramos et al IJSEM, 1997, 47, 46-53; Yassin et al, IJSEM, 2011, 61, 1265-1274	Based on analysis of 16S rRNA, menaquinone and phospholipid compositions Arcanobacterium was divided into *Arcanobacterium* and *Trueperella.*	-
Arcanobacterium pyogenes	2		CGM/170929-03	*Trueperella pyogenes*	Pascual Ramos et al IJSEM, 1997, 47, 46-53; Yassin et al, IJSEM, 2011, 61, 1265-1274	Based on analysis of 16S rRNA, menaquinone and phospholipid compositions *Arcanobacterium* was divided into *Arcanobacterium* and *Trueperella.*	
Arthrobacter albus	2		CGM/170929-03	*Pseudoglutamicibacter albus*	Wauters et al, J Clin Microbiol, 2000, 38, 2412-2415;	Comb. nov. based on DNA-DNA hybridization, peptidoglycan analysis and phenotype.	-

					Validation List no. 76. IJSEM, 2000, 50, 1699-1700.		
Arthrobacter creatinolyticus	2		CGM/170929-03	*Glutamicibacter creatinolyticus*	Busse, IJSEM, 2016, 66, 9-37	Gen. nov./16S rRNA, peptidoglycan analysis, quinone systems and lipid profiles	-
Bacillus popilliae	2	A	CGM/170929-03	*Paenibacillus popilliae*	Petterson et al, IJSB, 1999, 49, 531-540	Comb. nov. based on 16S rRNA analysis	-
Bacillus sphaericus	2	A	CGM/170929-03	*Lysinibacillus sphaericus*	Ahmed et al, IJSEM, 2007, 57, 1117-1125	Comb. nov. based on distinctive peptidoglycan composition, phylogenetic analyses and physiology	-
Bacteroides capillosus	2		CGM/170929-03	*Pseudoflavonifractor capillosus*	Carlier et al, IJSEM, 2010, 60, 585-590.	Gen. nov. and comb. nov./biochemical properties, phylogenetic position, DNA G+C content and DNA–DNA hybridization	-
Bacteroides distasonis	2		CGM/170929-03	*Parabacteroides distasonis*	Sakamoto et al, IJSEM, 2006, 56, 1599-1605	Gen. nov. and comb. nov./menaquinone composition	-
Bacteroides forsythus	2		CGM/170929-03	*Tannerella forsythia*	Sakamoto et al, IJSEM, 2002, 52, 841-849	Gen. nov. and comb. nov./16S rRNA and whole-cell methanolysates	-
Bacteroides putredinis	2		CGM/170929-03	*Alistipes putredinis*	Rautio et al, Syst Appl Microbiol, 2003, 26, 182-188; Validation List no. 94. IJSEM, 2003, 53, 1701-1702	Comb. nov. based on 16S rRNA analysis, DNA-DNA hybridization, phenotype	-
Bacteroides splanchnicus	2		CGM/170929-03	*Odoribacter splanchnicus*	Hardham et al, IJSEM, 2008, 58, 103-109	Comb.nov./ biochemical, morphological, molecular phylogenetic (16S rRNA), and pathogenic evidence	-
Bacteroides suis	2	A	CGM/170929-03	*Bacteroides pyogenes*	Sakamoto et al, IJSEM, 2010, 60, 2984-2990	heterotypic synonym of *B. pyogenes*/hsp60 and 16S rRNA	-
Bacteroides tectus	2	A	CGM/170929-03	*Bacteroides pyogenes*	Sakamoto et al, IJSEM, 2010, 60, 2984-2990	heterotypic synonym of *B. pyogenes*/hsp60 and 16S rRNA	-
Bacteroides ureolyticus	2		CGM/170929-03	*Campylobacter ureolyticus*	Vandamme et al, IJSEM, 2010, 60, 2016-2022	Comb. nov. /protein profiles, genomic AFLP, 16S rRNA and cpn60 gene sequences; DNA base, respiratory quinone and cellular fatty acid compositions	-

Borrelia burgdorferi	2		CGM/170929-03	*Borreliella burgdorferi*	Adeleolu and Gupta, Antonie van Leeuwenhoek, 2014, 105, 1049-1074; Validation List no. 163, IJSEM, 2015, 65, 1105-1111	Gen. nov./molecular markers, ANI (average nucleotide identity) and phylogenetic studies, the distinct pathogenicity profiles and arthropod vectors	Division of the genus *Borrelia* into two separate genera: an emended genus *Borrelia*, containing the causative agents of relapsing fever and a novel genus, *Borreliella* gen. nov., containing the causative agents of Lyme disease.
Borrelia garinii	2		CGM/170929-03	*Borreliella garinii*	Adeleolu and Gupta, Antonie van Leeuwenhoek, 2014, 105, 1049-1074; Validation List no. 163, IJSEM, 2015, 65, 1105-1111	Gen. nov./molecular markers, ANI (average nucleotide identity) and phylogenetic studies, the distinct pathogenicity profiles and arthropod vectors	Division of the genus *Borrelia* into two separate genera: an emended genus *Borrelia*, containing the causative agents of relapsing fever and a novel genus, *Borreliella* gen. nov., containing the causative agents of Lyme disease.
Borrelia spielmanii	2		CGM/170929-03	*Borreliella spielmanii*	Adeleolu and Gupta, Antonie van Leeuwenhoek, 2014, 105, 1049-1074; Validation List no. 163, IJSEM, 2015, 65, 1105-1111	Gen. nov./molecular markers, ANI (average nucleotide identity) and phylogenetic studies, the distinct pathogenicity profiles and arthropod vectors	Division of the genus *Borrelia* into two separate genera: an emended genus *Borrelia*, containing the causative agents of relapsing fever and a novel genus, *Borreliella* gen. nov., containing the causative agents of Lyme disease.
Brenneria quercina	2	P	CGM/170929-03	*Lonsdalea quercina*	Brady et al, IJSEM, 2012, 62, 1592-1602	comb. nov. /16S rRNA gene sequencing and multilocus sequence analysis (partial sequences of gyrB, rpoB, infB and atpD)	-
Burkholderia andropogonis	2	P	CGM/170929-03	*Robbsia andropogonis*	Lopes-Santos et al, Antonie Van Leeuwenhoek, 2017, 110: 727-736; IJSEM, 2017, 67: 3140-3143	comb.nov./ 16S rRNA and MLSA/recombination given genotypical differences	
Calymmatobacterium granulomatis	2		CGM/170929-03	*Klebsiella granulomatis*	Carter et al, IJSB, 1999, 49, 1695-1700	Comb. nov./based on analysis of 16S rRNA and phoE genes	-
Campylobacter hyoilei	2		CGM/170929-03	*Campylobacter coli*	Vandamme et al, IJSB, 1997, 47, 1055-1060	*Campylobacter hyoilei* is a later heterotypic synonym of *Campylobacter coli*	LPSN: the strains originally described as *Campylobacter hyoilei* may represent a variant of *Campylobacter coli* that is highly adapted for the porcine enteric tract, with pathologic consequences for the animal. Therefore, the epithet *hyoilei* could in principle be reused as an infrasubspecific designation,

							if reliable pathogenic, phenotypic or genetic traits can be determined for identification
Carnobacterium piscicola	2	A	CGM/170929-03	*Carnobacterium maltaromaticum*	Mora et al, IJSEM, 2003, 53, 675-678	According to Mora et al. 2003, *Carnobacterium piscicola* is a later heterotypic synonym of *Lactobacillus maltaromicus*	
Chlamydia pecorum	2	A	CGM/170929-03	*Chlamydophila pecorum*	Everett et al, IJSB, 1999, 49, 415-440	Strains with > 90% 16S rRNA identity were retained in the family Chlamydiaceae and separates other chlamydia-like organisms that have 80--90% 16S rRNA relatedness to the Chlamydiaceae into new families including *Chlamydophila*	
Chlamydophila felis	2		CGM/170929-03	*Chlamydia felis*	Sachse et al, Appl Microbiol, 2014, 38, 99-103; Validation List no. 164, IJSEM, 2015, 65, 2017-2025	Comb. nov./Sachse et al. conclude that 16S rRNA sequence identity cut-off values nor parameters based on genomic similarity consistently separate the two genera and state that the genus *Chlamydophila* is currently not well accepted and not used by a majority of research groups in the field.	
Chryseobacterium meningosepticum	2		CGM/170929-03	*Elizabethkingia meningoseptica*	Kim et al, IJSEM, 2005, 55, 1287-1293	Comb. nov. /phylogenetic analysis, based on 16S rRNA gene sequencing, showed that the strains represent a separate lineage	
Chryseomonas luteola	2		CGM/170929-03	*Pseudomonas luteola*	Anzai et al, IJSB, 1997, 47, 249-251	94% similarity of the 16S rRNA sequence of the type strain of *Chryseomonas luteola* and the type strain of *Pseudomonas aeruginosa,* and thus *Chryseomonas* is a later synonym of *Pseudomonas*	
Chryseomonas polytricha	2		CGM/170929-03	*Pseudomonas luteola*	Holmes et al., IJSB, 1986, 36, 161-165	*Chryseomonas polytricha* is a later heterotypic synonym of *Pseudomonas luteola*	
Clostridium absonum	2		CGM/170929-03	*Clostridium sardiniense*	Wang et al, IJSEM, 2005, 55, 1193-1197	According to Wang et al. 2005, *Clostridium absonum* is a later heterotypic synonym of *Clostridium sardiniense*	

Clostridium bifermentans	2		CGM/170929-03	*Paraclostridium bifermentans*	Sasi Jyothsna et al, IJSEM, 2016, 66, 1268-1274; erratum, 2459	Comb. nov./ANI and DNA-DNA hybridization	
Clostridium difficile	2		CGM/170929-03	*Clostridioides difficile*	Lawson et al, Anaerobe, 2016, 40, 95-99; validation list no. 171, IJSEM, 2016, 3761-3764	Comb. nov. /phenotypic, chemotaxonomic and phylogenetic analyses	
Clostridium ghonii	2		CGM/170929-03	*Paeniclostridium ghonii*	Sasi Jyothsna et al, IJSEM, 2016, 66, 1268-1274; erratum, 2459	Comb. nov./DNA C+C, phenotype, biochemical properties, analysis of fatty acids	
Clostridium glycolicum	2		CGM/170929-03	*Terrisporobacter glycolicus*	Gerritsen et al, IJSEM, 2014, 64, 1600-1616	Gen. nov. and comb. nov/ very low 16S rRNA gene sequence similarity (<85%) to the type strain of *Clostridium butyricum*, the type species of the genus *Clostridium*	
Clostridium hastiforme	2		CGM/170929-03	*Tissierella praeacuta*	BAE et al, IJSEM, 2004, 54, 947-949	According to Bae et al. 2004, *Clostridium hastiforme* is a later heterotypic synonym of *Tissierella praeacuta*	
Clostridium histolyticum	2		CGM/170929-03	*Hathewaya histolytica*	Lawson et al, IJSEM, 2016, 66, 1009-1016	Gen. nov. and comb. nov/ reclassification based 16S rRNA gen analysis	
Clostridium limosum	2		CGM/170929-03	*Hathewaya limosa*	Lawson et al, IJSEM, 2016, 66, 1009-1016	Gen. nov. and comb. nov/ reclassification based 16S rRNA gen analysis	
Clostridium oroticum	2		CGM/170929-03	*Faecalicatena orotica*	Sakamoto et al, IJSEM, 2017, 67, 1219-1227	Comb. nov./16S rRNA and hsp60 gene sequence analysis	
Clostridium sordellii	2		CGM/170929-03	*Paeniclostridium sordellii*	Sasi Jyothsna et al. IJSEM, 2016, 66, 1268-1274; erratum, 2459	Comb. nov./DNA C+C, phenotype, biochemical properties, analysis of fatty acids	
Corynebacterium nigricans	2		CGM/170929-03	*Corynebacterium aurimucosum*	IJSEM, 2005, 55, 7-8 and Daneshvar et al, J Clin Microbiol, 2004, 42, 4189-4198	According to Daneshvar et al. 2004 *Corynebacterium nigricans* is a later heterotypic synonym of *Corynebacterium aurimucosum*	
Cowdria ruminantium	2		CGM/170929-03	*Ehrlichia ruminantium*	Dumler et al, IJSEM, 2001, 51, 2145-2165	comb. nov. /emendation based upon 16S rRNA genes, groESL and surface protein genes	
Cytophaga columnaris	2		CGM/170929-03	*Flavobacterium columnare*	Bernardet et al, IJSEM, 1996, 46, 128-148	*Cytophaga columnaris* is a later homotypic synonym of *Flexibacter*	

						columnaris (= *Flavobacterium columnare*)	
Cytophaga psychrophila	2		CGM/170929-03	*Flavobacterium psychrophilum*	Bernardet et al, IJSEM, 1996, 46, 128-148	*Cytophaga psychrophila* is a later homotypic synonym of *Flexibacter psychrophilus*	
Dermatophilus chelonae	2	A	CGM/170929-03	*Austwickia chelonae*	Hamada et al, J Gen Appl Microbiol, 2010, 56, 427-436; Validation List no. 139, IJSEM, 2011, 61, 1011-1013	gen. nov. and comb. nov./reinvestigation of its taxonomic position because the chemotaxonomic characteristics are not known; reclassification on the basis of distinctive phenotypic characteristics and phylogenetic analysis	
Dickeya dieffenbachiae	2	P	CGM/170929-03	*Dickeya dadantii* subsp. *dieffenbachiae*	Brady et al, IJSEM, 2012, 62, 1592-1602	Synonymy of *Dickeya dadantii* and *Dickeya dieffenbachiae,* based on 16S rRNA gene sequencing and MLSA and partial sequences of gyrB, rpoB, infB and atpD genes. Reclassification of *Dickeya dieffenbachiae* as *Dickeya dadantii* subsp. *dieffenbachiae* comb. nov., with the automatic creation of *Dickeya dadantii* subsp. *dadantii* subsp. nov.	
Eggerthella hongkongensis	2		CGM/170929-03	*Paraeggerthella hongkongensis*	Würdeman et al, IJSEM, 2009, 59, 1405-1415	comb. nov./reclassification based on chemotaxonomic data	
Ehrlichia equi	2		CGM/170929-03	*Anaplasma phagocytophilum*	Dumler et al, IJSEM, 2001, 51, 2145-2165	*Ehrlichia equi* is a later synonym of *Anaplasma phagocytophilum/*emendation of *Anaplasma/*insufficient differences among *E. phagocytophila, Ehrlichia equi* and the human granulocytic ehrlichiosis (HGE) agent to support separate species designations, at least 98.2% similar to any *Anaplasma* species	
Ehrlichia phagocytophila	2		CGM/170929-03	*Anaplasma phagocytophilum*	Dumler et al, IJSEM, 2001, 51, 2145-2165	*Ehrlichia equi* is a later synonym of *Anaplasma phagocytophilum/*emendation of *Anaplasma/*insufficient differences among *E. phagocytophila, Ehrlichia equi* and the human granulocytic ehrlichiosis (HGE) agent to support separate species designations, at	

						least 98.2% similar to any *Anaplasma* species	
Ehrlichia risticii	2		CGM/170929-03	*Neorickettsia risticii*	Dumler et al, IJSEM, 2001, 51, 2145-2166	Comb. nov/ Reclassification based on 16S rRNA genes, groESL and surface protein genes	*Neorickettsia risticii* is not validly published (type specimen was not deposited in 2 collections)
Ehrlichia sennetsu	2		CGM/170929-03	*Neorickettsia sennetsu*	Dumler et al, IJSEM, 2001, 51, 2145-2167	Comb. nov/ Reclassification based on 16S rRNA genes, groESL and surface protein genes	
Enterobacter aerogenes	2		CGM/170929-03	*Klebsiella aerogenes*	Tindall et al, IJSEM, 2017, 67, 502-504	*Enterobacter aerogenes* was a (homotypic) synonym of *Klebsiella mobilis*. However, the latter was illegitimate and is changed into *Klebsiella aerogenes*.	
Enterobacter amnigenus	2		CGM/170929-03	*Lelliottia amnigena*	Brady et al, Syst Appl Microbiol, 2013, 36, 309-319; Validation List no. 154. IJSEM, 2013, 63, 3931-3934	Comb. nov/MLSA	
Enterobacter cowanii	2		CGM/170929-03	*Kosakonia cowanii*	Brady et al, Syst Appl Microbiol, 2013, 36, 309-319; Validation List no. 154. IJSEM, 2013, 63, 3931-3934	Comb. nov/MLSA	
Enterobacter gergoviae	2		CGM/170929-03	*Pluralibacter gergoviae*	Brady et al, Syst Appl Microbiol, 2013, 36, 309-319; Validation List no. 154. IJSEM, 2013, 63, 3931-3934	Comb. nov/MLSA	
Enterobacter nimipressuralis	2	P	CGM/170929-03	*Lelliottia nimipressuralis*	Brady et al, Syst Appl Microbiol, 2013, 36, 309-319; Validation List no. 154. IJSEM, 2013, 63, 3931-3934	Comb. nov/MLSA	
Enterobacter pyrinus	2	P	CGM/170929-03	*Pluralibacter pyrinus*	Brady et al, Syst Appl Microbiol, 2013, 36, 309-319; Validation List no. 154. IJSEM, 2013, 63, 3931-3934	Comb. nov/MLSA	
Enterobacter sakazakii	2		CGM/170929-03	*Cronobacter sakazakii*	Iversen et al, IJSEM, 2008, 58, 1442-1447	Comb. nov. and gen. nov./polyphasic taxonomic analysis has determined that the *E. sakazakii*-group consists of several genomospecies + DNA-DNA hybridisation	

Enterobacter taylorae	2		CGM/170929-03	*Enterobacter cancerogenus*	Schönheyder et al, IJSEM, 1994, 44, 586-587	LPSN: *Enterobacter taylorae* is a later heterotypic synonym of *Enterobacter cancerogenus*	
Enterococcus flavescens	2		CGM/170929-03	*Enterococcus casseliflavus*	Naser et al, IJSEM, 2006, 56, 413-416	*Enterococcus flavescens* is a later heterotypic synonym of *Enterococcus casseliflavus*	
Enterococcus seriolicida	2		CGM/170929-03	*Lactococcus garvieae* subsp. *garvieae*	Teixeira et al, IJSEM, 1996, 46, 664-668; Varsha et al, IJSEM, 2016, 66, 3805-3809	*Enterococcus seriolicida* is a later heterotypic synonym of *Lactococcus garvieae;* in 2016 *Lactococcus garvieae* was divided into the subsp. *garvieae* and *bovis based on 75, 8% DNA-DNA relatedness bovis-garvieae*	
Enterococcus solitarius	2		CGM/170929-03	*Tetragenococcus solitarius*	Ennahar et al, IJSEM, 2005, 55, 589-592	Phylogenetic analysis of 16S rRNA gene sequences revealed that Enterococcus solitarius is not a member of the genus *Enterococcus* but is related to species of the genus *Tetragenococcus*.	
Eperythrozoon ovis	2	A	CGM/170929-03	*Mycoplasma ovis*	Neimark et al, IJSEM, 2004, 54, 365-371	comb. nov./16S rRNA gene sequence analysis shows more close relationship with *Mycoplasma* than with *Rickettsia*	
Eperythrozoon suis	2	A	CGM/170929-03	*Mycoplasma suis*	Neimark et al, IJSEM, 2001, 51, 891-899; IJSEM, 2002, 52, 683; IJSEM, 2002, 52, 691-692	comb. nov./16S rRNA gene sequence analysis shows more close relationship with *Mycoplasma* than with *Rickettsia*	*Eperythrozoon suis* was changed to *Candidatus Mycoplasma haemosuis* and *Mycoplasma haemosuis*, which is illegitimate, and subsequently to *Mycoplasma suis*.
Eperythrozoon wenyonii	2	A	CGM/170929-03	*Mycoplasma wenyonii*	Neimark et al, IJSEM, 2001, 51, 891-899; IJSEM, 2002, 52, 683; IJSEM, 2002, 52, 691-693	comb. nov./16S rRNA gene sequence analysis shows more close relationship with *Mycoplasma* than with *Rickettsia*	*Eperythrozoon wenyonii* was changed to *Candidatus Mycoplasma wenyonii* and subsequently *Mycoplasma wenyonii.*
Erwinia cacticida	2	P	CGM/170929-03	*Pectobacterium cacticida*	Hauben et al, 1998, Syst Appl Microbiol, 1998, 21, 384-397; IJSEM, 1999, 49, 1-3	comb. nov./16S rRNA gene sequence analysis	
Erwinia chrysanthemi	2		CGM/170929-03	*Dickeya chrysanthemi*	Samson et al, IJSEM, 2005, 55, 1415-1427	comb. nov./16S rRNA gene sequence analysis and DNA-DNA hybridization, distinct clade	
Erwinia herbicola	2		CGM/170929-03	*Pantoea agglomerans*	Beji et al, IJSEM, 1988, 38, 77-88;	*Erwinia herbicola* is a later heterotypic synonym of *Enterobacter agglomerans;*	

					Gavini et al, IJSEM, 1989, 39, 337-345	*Enterobacter agglomerans* was changed to *Pantoea agglomerans* based on the results of DNA-DNA hybridization	
Eubacterium aerofaciens	2		CGM/170929-03	*Collinsella aerofaciens*	Kageyama et al, IJSEM, 1999, 49, 557-565	gen. nov and comb. nov./biochemical tests, cell wall peptidoglycal type and 16S rRNA analysis show that the *Eubacterium aeofaciens* group is distinct from other *Eubacteria* and has a unique peptidoglycan type.	
Eubacterium contortum	2		CGM/170929-03	*Faecalicatena contorta*	Sakamoto et al, IJSEM, 2017, 67, 1219-1227	gen. nov and comb. nov./16S rRNA and hsp60 gene sequence analyses/monophyletic cluster	
Eubacterium moniliforme	2		CGM/170929-03	*Clostridium moniliforme*	Lawson et al, 2016, IJSEM, 66, 1009-1016	Comb. nov./reclassification of *Clostridium* based on polyphasic taxonomic analyses (mainly 16S rRNA)	
Eubacterium tarantellae	2	A	CGM/170929-03	*Clostridium tarantellae*	Lawson et al, 2016, IJSEM, 66, 1009-1016	Comb. nov./reclassification of *Clostridium* based on polyphasic taxonomic analyses (mainly 16S rRNA)	
Falcivibrio grandis	2		CGM/170929-03	*Mobiluncus mulieris*	IJSEM, 2005, 55, 7-8; Hoyles et al, 2004, 27, 72-83	*Falcivibrio grandis* is a later heterotypic synonym of *Mobiluncus mulieris/*polyphasic approach	
Falcivibrio vaginalis	2		CGM/170929-03	*Mobiluncus curtisii*	IJSEM, 2005, 55, 7-8; Hoyles et al, 2004, 27, 72-83	*Falcivibrio vaginalis* is a later heterotypic synonym of *Mobiluncus curtisii /*polyphasic approach	
Flavimonas oryzihabitans	2		CGM/170929-03	*Pseudomonas oryzihabitans*	Anzai et al, IJSB, 1997, 47, 249-251	*Flavimonas* is a later heterotypic synonym of *Pseudomonas* and thus the name *Pseudomonas oryzihabitans* should be used for this species.	
Flavobacterium mizutaii	2		CGM/170929-03	*Sphingobacterium mizutaii*	Gherna & Woese, Syst Appl Microbiol, 1992, 15, 513-521; Takeuchi et al, J Gen Appl Microbiol, 1992, 38, 465-482.	The type of the species *Flavobacterium mizutaii* does not group with the type of the genus *Flavobacterium* (*Flavobacterium aquatile*) and is consistent with placement of this species in the genus *Sphingobacterium*	Several notes in LPSN: although the name *Sphingobacterium mizutaii* is not validly published, it is widely accepted (see Catalogue of Life, DSMZ, NCBI)
Flavobacterium yabuuchiae	2		CGM/170929-03	*Sphingobacterium spiritivorum*	Takeuchi & Yokota, J Gen Appl Microbiol, 1992, 38, 465-482	*Flavobacterium yabuuchiae* is a later heterotypic synonym of *Sphingobacterium spiritivorum.*	

Flexibacter columnaris	2	A	CGM/170929-03	*Flavobacterium columnare*	Bernardet et al, IJSB,1996, 46, 128-148	Comb.nov/fatty acid and protein profiles, G+C content DNA-rRNA hybridization show that *Flexibacter* clusters with the type species of *Flavobacterium*	
Flexibacter maritimus	2	A	CGM/170929-03	*Tenacibaculum maritimum*	Suzuki et al, IJSEM, 2001, 51, 1639-1652	comb. nov./gyrB nucleotide sequence, translated peptide sequence (GyrB), 16S rDNA sequence analysis show that *Flexibacter maritimus* and *Flexibacter ovolyticus* group within *Flavobacterium;* phylogenetic, chemotaxonomic and phenotypic characteristics support transfer of these two species to the new genus *Tenacibaculum*.	
Flexibacter ovolyticus	2	A	CGM/170929-03	*Tenacibaculum ovolyticum*	Suzuki et al, IJSEM, 2001, 51, 1639-1652	comb. nov./gyrB nucleotide sequence, translated peptide sequence (GyrB), 16S rDNA sequence analysis show that *Flexibacter maritimus* and *Flexibacter ovolyticus* group within *Flavobacterium;* phylogenetic, chemotaxonomic and phenotypic characteristics support transfer of these two species to the new genus *Tenacibaculum*.	
Flexibacter psychrophilus	2	A	CGM/170929-03	*Flavobacterium psychrophilum*	Bernardet et al, IJSB,1996, 46, 128-148	Comb.nov/fatty acid and protein profiles, G+C content DNA-rRNA hybridization show that *Flexibacter* clusters with the type species of *Flavobacterium*	
Fluoribacter bozemanae	2		CGM/170929-03	*Legionella bozemanae*	Brenner et al, Curr Microbiol, 1980, 4, 111-116	LPSN: '*Fluoribacter bozemanae* is an earlier homotypic synonym of *Legionella bozemanae*. According to his/her scientific opinion, a bacteriologist may use the species names *Fluoribacter bozemanae* or *Legionella bozemanae* corrig. However, *Fluoribacter bozemanae* has never found widespread usage. The same is true for the names *Fluoribacter dumoffii* and *Fluoribacter gormanii.*	*Fluoribacter*: Catalogue of Life, NCBI, DSMZ, Living Tree, ATCC; *Legionella*: PubMed (recent publications)

Fluoribacter dumoffii	2		CGM/170929-03	*Legionella dumoffii*	Brenner et al, Curr Microbiol, 1980, 4, 111-116	LPSN: '*Fluoribacter bozemanae* is an earlier homotypic synonym of *Legionella bozemanae*. According to his/her scientific opinion, a bacteriologist may use the species names *Fluoribacter bozemanae* or *Legionella bozemanae* corrig. However, *Fluoribacter bozemanae* has never found widespread usage. The same is true for the names *Fluoribacter dumoffii* and *Fluoribacter gormanii.*	*Fluoribacter*: Catalogue of Life, NCBI, DSMZ, Living Tree, ATCC; *Legionella*: PubMed (recent publications)
Fluoribacter gormanii	2		CGM/170929-03	*Legionella gormanii*	Brenner et al, Curr Microbiol, 1980, 4, 111-116	LPSN: '*Fluoribacter bozemanae* is an earlier homotypic synonym of *Legionella bozemanae*. According to his/her scientific opinion, a bacteriologist may use the species names *Fluoribacter bozemanae* or *Legionella bozemanae* corrig. However, *Fluoribacter bozemanae* has never found widespread usage. The same is true for the names *Fluoribacter dumoffii* and *Fluoribacter gormanii.*	*Fluoribacter*: Catalogue of Life, NCBI, DSMZ, Living Tree, ATCC; *Legionella*: PubMed (recent publications)
Fusobacterium alocis	2		CGM/170929-03	*Filifactor alocis*	Jalava & Eerola, IJSB, 1999, 49, 1375-1379	Comb. nov. /16S rRNA	
Fusobacterium prausnitzii	2		CGM/170929-03	*Faecalibacterium prausnitzii*	Duncan et al, IJSEM, 2002, 52, 2141-2146	Gen. nov.and comb. nov./creation of a new genus since *Fusobacterium prausnitzii* strains are only distantly related to *Fusobacterium sensu strictu* and are more closely related to members of *Clostridium* cluster IV (the *Clostridium leptum* group).	
Grahamella peromysci	2		CGM/170929-03	*Bartonella peromysci*	Birtles et al, IJSB, 1995, 45, 1-8	comb. nov. /16S rRNA gene sequence analysis evidences a tight monophyletic cluster with *Bartonella*	
Grahamella talpae	2		CGM/170929-03	*Bartonella talpae*	Birtles et al, IJSB, 1995, 45, 1-8	comb. nov. /16S rRNA gene sequence analysis evidences a tight monophyletic cluster with *Bartonella*	
Haemobartonella canis	2	A	CGM/170929-03	*Mycoplasma haemocanis*	Neimark et al, IJSEM, 2001, 51, 891-899; Messick et al, IJSEM, 2002, 52, 693-698	Comb. nov./ Phylogenetic analysis of 16S rRNA sequence data shows that *Haemobartonella canis* is	

						closely related to species in the genus *Mycoplasma.*	
Haemobartonella felis	2	A	CGM/170929-03	*Mycoplasma haemofelis*	Neimark et al, IJSEM, 2002, 52, 683	Comb. nov./ Phylogenetic analysis of 16S rRNA sequence data shows that *Haemobartonella felis* is closely related to species in the genus *Mycoplasma.*	
Haemobartonella muris	2	A	CGM/170929-03	*Mycoplasma haemomuris*	Neimark et al, IJSEM, 2001, 51, 891-899; Messick et al, IJSEM, 2002, 52, 693-698	Comb. nov./ Phylogenetic analysis of 16S rRNA sequence data shows that *Haemobartonella muris* is closely related to species in the genus *Mycoplasma.*	
Haemophilus paraphrophilus	2		CGM/170929-03	*Aggregatibacter aphrophilus*	Norskov-Lauritsen & Kilian, IJSEM, 2006, 56, 2135-2146	*Haemophilus paraphrophilus* was first changed to *Haemophilus aphrophilus* since *H. paraphrophilus* is a later heterotypic synonym of *H. aphrophilus. Later, Haemophilus aphrophilus* was transferred to the genus *Aggregatibacter* as *Aggregatibacter aphrophilus,* comb. nov. (monophyletic group based on MLSA)	
Haemophilus somnus	2		CGM/170929-03	*Histophilus somni*	Angen et al, IJSEM, 2003, 53, 1449-1456	*Histophilus somni* was previously known as "*Histophilus ovis*" or "*Haemophilus agni*" or "*Haemophilus somnus*" or "*Haemophilus somnifer*" (incertae sedis)	
Klebsiella mobilis	2		CGM/170929-03	*Klebsiella aerogenes*	Tindall et al, IJSEM, 2017, 67, 502-504	*Klebsiella mobilis*: illegitimate name; *Enterobacter anaerogenes* and *Klebsiella mobilis* are homotypic synonyms, thus recombination to *Klebsiella anaerogenes*	
Lactobacillus uli	2		CGM/170929-03	*Olsenella uli*	Dewhirst et al, IJSEM, 2001, 51, 1797-1804	Comb. nov./on the basis of phenotypic characteristics and 16S rRNA sequence analysis	
Legionella pitsburghensis	2		CGM/170929-03	*Tatlockia micdadei*	LPSN	LPSN*: Legionella pittsburghensis* is an illegitimate name/*Legionella pittsburghensis* and *Legionella micdadei* are also later homotypic synonyms of *Tatlockia micdadei*. According to Rule 51b (2), an author must use the earliest	Catalogue of Life, DSMZ, NCBI, StrainInfo: *Tatlockia micdadei*

						legitimate epithet available for the taxon (*Tatlockia micdadei*)	
Leifsonia cynodontis	2	P	CGM/170929-03	*Leifsonia xyli* subsp. *cynodontis*	Suzuki et al, J Gen Appl Microbiol, 1999, 45, 253-262; Evtushenko et al, IJSEM, 2000, 50, 371-380	*Leifsonia cynodontis* is a later homotypic synonym of *Leifsonia xyli* subsp. *cynodontis*	
Leifsonia kribbensis	2		CGM/170929-03	*Lysinimonas kribbensis*	Jang et al, IJSEM, 2013, 63,1403-1410	Sp. nov., comb. nov./reclassification based on result from menaquinone, fatty acid and peptidoglycan analysis	
Leifsonia pindariensis	2		CGM/170929-03	*Microterricola pindariensis*	Dhotre e al, IJSEM, 2008, 67, 2766-2772	Comb. nov/ emendation of the genus *Microterricola/* phylogenetic analysis and 16S rRNA gene sequence similarities revealed close relationship with, among others, *Microterricola viridarii*	
Leptospira genomospecies 4	2		CGM/170929-03	*Leptospira terpstrae*	Brenner et al, IJSEM, 1999, 49, 839-858; Smyhte et al, IJSEM, 2013, 63, 1859–1862	Genomospecies 4 and 5 represent unnamed hybridization groups. Since species-level taxa are valid, this was rectified by Smythe et al (2013) and new species names and corresponding type strains were designated	
Leptospira genomospecies 5	2		CGM/170929-03	*Leptospira yanagawae*	Brenner et al, IJSEM, 1999, 49, 839-858; Smyhte et al, IJSEM, 2013, 63, 1859–1862	Genomospecies 4 and 5 represent unnamed hybridization groups. Since species-level taxa are valid, this was rectified by Smythe et al (2013) and new species names and corresponding type strains were designated	
Listonella anguillarum	2	A	CGM/170929-03	*Vibrio anguillarum*	Thompson et al, IJSEM, 2011, 61, 3023-3027	The genus *Listonella* is a later heterotypic synonym of the genus *Vibrio*	
Micromonas micros	2		CGM/170929-03	*Parvimonas micra*	Tindall & Euzéby, IJSEM, 2006, 56, 2711-2713	*Micromonas micros* is illegitimate because of precedence of the algal genus name, *Micromonas*. Consequently, a new species designation *Parvimonas micra* has been validly published by Tindall and Euzéby (2006).	
Mycobacterium paratuberculosis	2		CGM/170929-03	*Mycobacterium avium* subsp. *paratuberculosis*	Thorel et al, IJSB, 1990, 40, 254-260	Based on the outcome of genomic analyses, phenotypic studies, the species was reclassified as a	

						subspecies of *Mycobacterium avium* which correspond to pathogenicity and host range characteristics.	
Mycoplasma suipneumoniae	2	A	CGM/170929-03	*Mycoplasma hyopneumoniae*	Rose et al, IJSB, 1979, 29, 83-91	NCBI: Effectively published but not validly published; *Mycoplasma hyopneumoniae* is an earlier homotypic synonym of *Mycoplasma suipneumoniae*	
Pasteurella haemolytica	2		CGM/170929-03	*Mannheimia haemolytica*	Angen et al, IJSB, 1999, 49, 67-86	gen. nov. and comb. nov./ DNA-DNA hybridization and 16S rRNA analysis demonstrate presence of 5 distinct genetic and phenotypic groups within the *Pasteurella haemolytica* complex; *Mannheimia* contains all trehalose negative strains	
Pasteurella pneumotropica	2		CGM/170929-03	*Rodentibacter pneumotropicus*	Adhikary et al, IJSEM, 2017, 67, 1793-1806	comb. nov./groups all strains isolated from rodents/ based on phenotypic characterization, rpoB and 16S rRNA gene analysis	
Pasteurella trehalosi	2		CGM/170929-03	*Bibersteinia trehalosi*	Blackall et al, IJSEM, 2007, 57, 666-674	gen. nov. and comb. nov./ AFLP, 16S rRNA, distinction from other Pasteurellaceae based on catalase, porphyrin, urease, indole, phosphatase, acid from dulcitol, (+)-d-galactose, (+)-d-mannose and (+)-d-trehalose	
Pectobacterium cypripedii	2	P	CGM/170929-03	*Pantoea cypripedii*	Brady et al, IJSEM, 2010, 60, 2430-2440	Comb. nov./more closely related to *Pantoea* than to *Pectobacterium*/DNA hybridization, MLSA of gyrB, rpoB, atpD and infB genes, 16S rRNA gene sequencing	
Peptostreptococcus asaccharolyticus	2		CGM/170929-03	*Peptoniphilus asaccharolyticus*	Ezaki et al, IJSEM, 2001, 51, 1521-1528	Comb. nov./reclassification of three major phylogenetic groups within *Peptostreptococcus;* separation supported by peptidoglycan structure and biochemical traits	
Peptostreptococcus harei	2		CGM/170929-03	*Peptoniphilus harei*	Ezaki et al, IJSEM, 2001, 51, 1521-1528	Comb. nov./reclassification of three major phylogenetic groups within *Peptostreptococcus;* separation supported by	

						peptidoglycan structure and biochemical traits	
Peptostreptococcus indolicus	2	A	CGM/170929-03	*Peptoniphilus indolicus*	Ezaki et al, IJSEM, 2001, 51, 1521-1528	Comb. nov./reclassification of three major phylogenetic groups within *Peptostreptococcus;* separation supported by peptidoglycan structure and biochemical traits	
Peptostreptococcus ivorii	2		CGM/170929-03	*Peptoniphilus ivorii*	Ezaki et al, IJSEM, 2001, 51, 1521-1528	Comb. nov./reclassification of three major phylogenetic groups within *Peptostreptococcus;* separation supported by peptidoglycan structure and biochemical traits	
Peptostreptococcus lacrimalis	2		CGM/170929-03	*Peptoniphilus lacrimalis*	Ezaki et al, IJSEM, 2001, 51, 1521-1528	Comb. nov./reclassification of three major phylogenetic groups within *Peptostreptococcus;* separation supported by peptidoglycan structure and biochemical traits	
Peptostreptococcus magnus	2		CGM/170929-03	*Finegoldia magna*	Murdoch & Shah, Anaerobe, 1999, 5, 555-559; IJSEM, 2000, 50, 1415-1417	Comb. nov./reclassification based on genetic (16S rRNA) and phenotypic analysis	
Peptostreptococcus prevotii	2		CGM/170929-03	*Anaerococcus prevotii*	Ezaki et al, IJSEM, 2001, 51, 1521-1528	Comb. nov./reclassification of three major phylogenetic groups within *Peptostreptococcus;* separation supported by peptidoglycan structure and biochemical traits	
Peptostreptococcus vaginalis	2		CGM/170929-03	*Anaerococcus vaginalis*	Ezaki et al, IJSEM, 2001, 51, 1521-1528	Comb. nov./reclassification of three major phylogenetic groups within *Peptostreptococcus;* separation supported by peptidoglycan structure and biochemical traits	
Porphyromonas cansulci	2	A	CGM/170929-03	*Porphyromonas crevioricanis*	Sakamoto & Ohkuma, IJSEM, 2013, 63, 454-457	*Porphyromonas cansulc*i is a later heterotypic synonym of *Porphyromonas crevioricanis*	
Prevotella tannerae	2		CGM/170929-03	*Alloprevotella tannerae*	Downes et al, IJSEM, 2013, 63,1214-1218	gen. nov. and comb. nov./based on 16S rRNA analysis, several new isolates + *Prevotella tannerae* formed a new group within the Prevotellaceae	

Propionibacterium acnes	2		CGM/170929-03	*Cutibacterium acnes*	Scholz & Kilian, IJSEM, 2016, 66, 4422-4432	Gen. nov./ supported by phylogenetic analyses, DNA G+C content, peptidoglycan composition and patterns of the gene losses and acquisitions in the cutaneous propionibacteria during their adaptation to the human host	
Propionibacterium avidum	2		CGM/170929-03	*Cutibacterium avidum*	Scholz & Kilian, IJSEM, 2016, 66, 4422-4432	Gen. nov./ supported by phylogenetic analyses, DNA G+C content, peptidoglycan composition and patterns of the gene losses and acquisitions in the cutaneous propionibacteria during their adaptation to the human host	
Propionibacterium granulosum	2		CGM/170929-03	*Cutibacterium granulosum*	Scholz & Kilian, IJSEM, 2016, 66, 4422-4432	Gen. nov./ supported by phylogenetic analyses, DNA G+C content, peptidoglycan composition and patterns of the gene losses and acquisitions in the cutaneous propionibacteria during their adaptation to the human host	
Propionibacterium lymphophilum	2		CGM/170929-03	*Propionimicrobium lymphophilum*	Stackebrandt et al, IJSEM, 2002, 52, 1925-1927	comb. nov./reclassification based on peptidoglycan, fatty acids and base composition of DNA, and phylogenetic position of the 165 rDNA	new name is already present in CGM-listing
Propionibacterium propionicum	2		CGM/170929-03	*Pseudopropionibacterium propionicum*	Scholz & Kilian, IJSEM, 2016, 66, 4422-4432	Gen. nov./ supported by phylogenetic analyses, DNA G+C content, peptidoglycan composition and patterns of the gene losses and acquisitions in the cutaneous Propionibacteria during their adaptation to the human host	
Proteus inconstans	2		CGM/170929-03	*Providencia alcalifaciens*		LPSN: *Proteus inconstans* and *Providencia alcalifaciens* have the same type strain and therefore are homotypic synonyms; the name *Proteus inconstans* is not in current usage	*Providencia alcalifaciens:* NCBI (*P. inconstans* is not validly published), StrainInfo, Catalogue of Life, recent publications in PubMed
Proteus morganii	2		CGM/170929-03	*Morganella morganii* subsp. *morganii*	Jensen et al, IJSB 1992, 42, 613-620	LPSN: *Morganella morganii* and *Proteus morganii* have the same type strain and	*Morganella morganii* subsp. *morganii*: NCBI, StrainInfo,

						therefore are homotypic synonyms	Catalogue of Life, recent publication in PubMed
Rickettsia tsutsugamushi	3		CGM/170929-03	*Orientia tsutsugamushi*	Amura et al, 1995, 45, 589-591	Comb. nov./clearly phenotypic and genotypic different from other species belonging to the genus *Rickettsia*	
Rochalimaea quintana	2		CGM/170929-03	*Bartonella quintana*	Brenner et al, IJSEM, 1993, 43, 777-786	Comb. nov./ reclassification based on DNA hybridization data and 16S rRNA phylogenetic analysis	
Salmonella arizonae	2		CGM/170929-03	*Salmonella enterica* subsp. *arizonae*	Tindall et al, IJSEM, 2005, 55, 521-524	The type species of the genus *Salmonella* is *Salmonella enterica*, and conservation of the epithet *enterica* in *Salmonella enterica* over all earlier epithets that may be applied to this species	
Salmonella cholerasuis	2		CGM/170929-03	*Salmonella enterica*	Tindall et al, IJSEM, 2005, 55, 521-524	*Salmonella choleraesuis* is a heterotypic synonym of *Salmonella enterica*	
Sarcobium lyticum	2		CGM/170929-03	*Legionella lytica*	Hookey et al, IJSB, 1996, 46, 526-531	comb. nov. /transfer to Legionella due to 99,4% sequence identity with a *Legionella*-like amoebal pathogen	
Serpulina hyodysenteriae	2	A	CGM/170929-03	*Brachyspira hyodysenteriae*	Ochiai et al, Microbiol Immunol, 1997, 41, 445-452; IJSB, 1998, 48, 327-328	Comb. nov./ 16S rDNA sequencing shows more than 96% relatedness with *Brachyspira*	
Serpulina intermedia	2	A	CGM/170929-03	*Brachyspira intermedia*	Hampson & La, IJSEM, 2006, 56, 1009-1012	Comb. nov./phenotypic properties, multilocus enzyme electrophoresis, DNA base composition, DNA–DNA relative reassociation values and 16S rRNA gene sequence similarity	
Serpulina pilosicoli	2		CGM/170929-03	*Brachyspira pilosicoli*	Ochiai et al, Microbiol Immunol, 1997, 41, 445-452; IJSB, 1998, 48, 327-328	Comb. nov./ 16S rDNA sequencing shows more than 96% relatedness with *Brachyspira*	
Sphingomonas suberifaciens	2	P	CGM/170929-03	*Rhizorhapis suberifaciens*	Francis et al, IJSEM, 2014, 64, 1340-1350	gen. nov. and comb. nov./reclassification rhizosphere bacteria causing lettuce corking root (currently *Sphingomonas* only contains non-pathogenic strains isolates from lettuce roots)	

Stenotrophomonas africana	2		CGM/170929-03	*Stenotrophomonas maltophilia*	Coenye et al, IJSEM, 2004, 54, 1235-1237	*Stenotrophomonas africana* is a later heterotypic synonym of *Stenotrophomonas maltophilia*	
Streptococcus bovis	2		CGM/170929-03	*Streptococcus equinus*	Poyart et al, IJSEM, 2002, 52, 1247-1255	Data from analysis of manganese-dependent superoxide dismutase gene (sodA) indicate that *Streptococcus bovis* and *Streptococcus equinus* represent a single species;	
Streptomyces caviscabies	2	P	CGM/170929-03	Streptomyces *setonii*	Rong and Huang, IJSEM, 2010, 60, 696-703; KIm et al, IJSEM, 2012, 62, 2978-2985	*Streptomyces caviscabies* is a later heterotypic synonym of *Streptomyces fimicarius, and Streptomyces setonii* is an earlier heterotypic synonym of *Streptomyces fimicarius*	
Vibrio carchariae	2	A	CGM/170929-03	*Vibrio harveyi*	Pedersen et al, IJSB, 1998, 48, 749-758	*Vibrio carchariae* is a later heterotypic synonym of *Vibrio harveyi*; synonymy based on ribotyping and DNA-DNA hybridization	
Vibrio salmonicida	2	A	CGM/170929-03	*Aliivibrio salmonicida*	Urbanczyk et al, IJSEM, 2007, 57, 2823-2829	Comb. nov. /reclassification of of all species within *Vibrio fisheri* group/ analysis of the recA, rpoA, pyrH, gyrB and 16S rRNA gene sequences revealed that the species of the *V. fischeri* group form a tightly clustered clade, distinct from other genera	
Vibrio wodanis	2		CGM/170929-03	*Aliivibrio wodanis*	Urbanczyk et al, IJSEM, 2007, 57, 2823-2829	Comb. nov. /reclassification of of all species within *Vibrio fisheri* group/ analysis of the recA, rpoA, pyrH, gyrB and 16S rRNA gene sequences revealed that the species of the *V. fischeri* group form a tightly clustered clade, distinct from other genera	

Genus/species/strain	**COGEM classification**	**Strict plant (P) or animal pathogen (A)**	**Reference COGEM report**	**New name**	**Literature reference**	**Motivation**	**Remarks**
Actinobacillus equuli	2	A	CGM/170929-03		Christensen et al, IJSEM, 2002, 52, 1569-1576	The subspecies name *Actinobacillus equuli* subsp. *equuli* was automatically created by the valid publication of *Actinobacillus equuli* subsp. *haemolyticus*	Divided into subspecies: *Actinobacillus equuli* subsp. *equuli* and *Actinobacillus equuli* subsp. *haemolyticus*
Campylobacter fetus	2		CGM/170929-03		Fitzgerald et al, IJSEM, 2014, 64, 2944-2948	MALDI-TOF/MS and genomic data from sap analysis, 16S rRNA gene and hsp60 sequence comparison, PFGE, AFLP, DNA–DNA hybridization and whole genome sequencing; differentiation from *C. fetus* subsp. *fetus* and *C. fetus* subsp. *venerealis* only with MALDI-TOF MS	Divided into subspecies *Campylobacter fetus* subsp. *fetus*, *Campylobacter fetus* subsp. *testudinum* and *Campylobacter fetus* subsp. *venerealis*
Campylobacter hyointestinalis	2		CGM/170929-03		On et al, IJSB, 1995, 45, 767-774	Differences in phenotype and DNA base compositions	Divided into subspecies *Campylobacter hyointestinalis* susp. *hyotestinalis and Campylobacter hyointestinalis subsp. lawsonii*
Campylobacter jejuni	2		CGM/170929-03		Steele and Owen, IJSB, 1988, 38, 316-318	Conventional bacteriological tests and DNA-DNA hybridization experiments revealed that these strains form a tight phenotypic and genotypic cluster within C. *jejuni.* However, *C. jejuni* subsp. *doylei* is nitrate negative. *C. jenuni* subsp. *jejuni* was created automatically.	Divided into subspecies *Campylobacter jejuni* subsp. *jejuni* and *Campylobacter jejuni* subsp. *Doylei*
Campylobacter lari	2		CGM/170929-03		Debruyne et al, IJSEM, 2009, 59, 1126-1132	Phenotypic analysis and by 16S rRNA and *hsp60* gene sequence analysis; the description of *C. lari* subsp. *concheus* has the effect of automatically creating the subspecies *C. lari* subsp. l*ari* subsp. nov.	Divided into subspecies *Campylobacter lari* subsp. *lari* and *Campylobacter lari* subsp. *concheus*
Campylobacter sputorum	2		CGM/170929-03		LPSN	-	Divided into subspecies *Campylobacter sputorum* subsp. *mucosalis* = *Campylobacter mucosalis*, *Campylobacter sputorum* subsp. *bubulus*, *Campylobacter sputorum* subsp. *sputorum*
Clavibacter michiganensis	2	P	CGM/170929-03		LPSN; LI et al, IJSEM, 2018, 68, 234-240	-	Divided into several subspecies: *Clavibacter michiganensis* subsp. *californiensis, Clavibacter michiganensis* subsp. *capsici (= Clavibacter capsici), Clavibacter michiganensis* subsp. *chilensis, Clavibacter michiganensis* subsp. *insidiosus (= Clavibacter insidiosus), Clavibacter michiganensis* subsp. *michiganensis, Clavibacter michiganensis* subsp. *nebraskensis (= Clavibacter nebraskensis), Clavibacter michiganensis* subsp.

							phaseoli, Clavibacter michiganensis subsp. *sepedonicus (= Clavibacter sepedonicus), Clavibacter michiganensis* subsp. *tessellarius (= Clavibacter tesselarius)*
Corynebacterium afermentans	2		CGM/170929-03		Riegel et al, IJSB, 1993, 43, 287-292	Subsp. nov./DNA-relatedness experiments (S1 nuclease): less than 40% related to *Corynebacterium* species and other coryneform groups.	Divided into *Corynebacterium afermentans* subsp. *afermentans* and *Corynebacterium afermentans* subsp. *lipophilum*
Cronobacter dublinensis	2		CGM/170929-03		Iversen et al, IJSEM, 2008, 58, 1442-1447	DNA–DNA hybridizations determined that phenotypically different strains belong to *Cronobacter dublinensis* and can be considered as novel subspecies.	Divided into subspecies: *Cronobacter dublinensis* subsp. *dublinensis, Cronobacter dublinensis* subsp. *lactaridi, Cronobacter dublinensis* subsp. *lausannensis*
Dickeya dadantii	2	P	CGM/170929-03		Brady et al, IJSEM, 2012, 62, 1592-1602	Synonymy of *Dickeya dadantii* and *Dickeya dieffenbachiae,* based on 16S rRNA gene sequencing and MLSA and partial sequences of gyrB, rpoB, infB and atpD genes. Reclassification of *Dickeya dieffenbachiae* as *Dickeya dadantii* subsp. *dieffenbachiae* comb. nov., with the automatic creation of *Dickeya dadantii* subsp. *dadantii* subsp. nov.	Divided into subspecies: *Dickeya dadantii* subsp. *dadantii* and *Dickeya dadantii* subsp. *dieffenbachiae*
Enterobacter cloacae	2	P	CGM/170929-03		Hoffmann et al, Syst Appl Microbiol, 2005, 28, 196-205; Validation List no. 104. IJSEM, 2005, 55, 1395-1397	Discrimination between *E. cloacae* and *E. dissolvens* only on the basis of esculin test/ same DNA-DNA relatedness	Divided into *E. cloacae* subsp. *cloacae and E. cloacae* subsp. *dissolvens*
Escherichia coli	2		CGM/170929-03				Listing FOEN: *E. coli* (EPEC, ETEC, UPEC): risk class 2
Escherichia coli, associated with the Hemolytic Uremic Syndrome (HUSEC)	3		CGM/170929-03				STEC and EHEC should also be included (see e.g. classifications FOEN, TRBA)
Francisella novicida	2		CGM/170929-03	*Francisella tularensis* subsp. *novicida*	Huber et al, IJSEM, 2010, 60, 1887-1896	comb. nov. /reclassification since isolates were found to, based on 16S rRNA gene sequence, share more than 99% similarity with strains of *Francisella tularensis*	
Francisella philomiragia	2	A	CGM/170929-03	*Francisella philomiragia* subsp. *philomiragia*	Mikalsen et al, IJSEM, 2007, 57, 1960-1965	*Francisella philomiragia* subsp. *philomiragia was* automatically created by the valid publication of *Francisella philomiragia* subsp. *noatunensis*	Divided into subspecies: *Francisella philomiragia* subsp. *philomiragia* and *Francisella philomiragia* subsp. *noatunensis* (*Francisella noatunensis* subsp. *noatunensis*)
Francisella piscicida	2	A	CGM/170929-03	*Francisella noatunensis* subsp. *noatunensis*	Ottem et al, J Appl Microbiol, 2009, 106, 1231-1243;	*Francisella philomiragia* subsp. *noatunensis* is an earlier heterotypic synonym of *Francisella piscicida*.	Divided into subspecies: *Francisella philomiragia* subsp. *philomiragia* and *Francisella philomiragia* subsp. *noatunensis* (*Francisella noatunensis* subsp. *noatunensis*)

					IJSEM, 2009, 59, 1559-1560.		
Francisella tularensis	3		CGM/170929-03	*Francisella tularensis* subsp. *tularensis*	Olsufjev & Meshcheryakova, 1983, 33, 872-874	With the description of *Francisella tularensis* subsp. *holarctica, Francisella tularensis* subsp. *tularensis* was automatically created.Division into subsp. Is baed on biochemical, pathological, ecological, and geographical characteristics.	Divided into subspecies: *Francisella tularensis* subsp. *holarctica*, *Francisella tularensis* subsp. *mediasiatica*, *Francisella tularensis* subsp. *novicida*, *Francisella tularensis* subsp. *tularensis*
Fusobacterium necrophorum	2		CGM/170929-03	*Fusobacterium necrophorum* subsp. *necrophorum*	Shinjo et al, IJSB, 1991, 41, 395-397	The two newly created subspecies correspond with two biovars (G+C content, DNA-DNA homology)	Divided into subspecies: *Fusobacterium necrophorum* subsp. *funduliforme* and *Fusobacterium necrophorum* subsp. *necrophorum*
Gluconobacter oxydans	2	P	CGM/170929-03		LPSN; Malimas et al, J Gen Appl Microbiol, 2008, 54, 211-220; IJSEM, 2008, 58, 2471-2472		Divided into subspecies: *Gluconobacter oxydans* subsp. *sphaericus* ≡ *Gluconobacter sphaericus*, *Gluconobacter oxydans* subsp. *oxydans* ≡ *Gluconobacter oxydans*, *Gluconobacter oxydans* subsp. *industrius* = *Gluconobacter oxydans*, *Gluconobacter oxydans* subsp. *suboxydans* = *Gluconobacter oxydans*, *Gluconobacter oxydans* subsp. *melanogenes* = *Gluconobacter oxydans*
Klebsiella pneumoniae	2		CGM/170929-03		Orskov, Bergey's Manual of Systematic Bacteriology, first edition, vol. 1, 1984, pp. 461-465	The subspecies name *Klebsiella pneumoniae* subsp. *pneumoniae* is automatically created by the valid publication of *Klebsiella pneumoniae* subsp. *ozaenae* and *Klebsiella pneumoniae* subsp. *rhinoscleromatis* (Trevisan 1887)	Divided into subspecies *Klebsiella pneumoniae* subsp. *ozaenae*, *Klebsiella pneumoniae* subsp. *pneumoniae*, *Klebsiella pneumoniae* subsp. *rhinoscleromatis*
Lactococcus garvieae	2		CGM/170929-03		Varsha & Nampoothiri, IJSEM, 66, 3805-3809	Creation of *Lactococcus garviae* subsp. *bovis*, given low relatedness with *L. garvieae.* Subsequently, *Lactococcus garvieae* subsp. *garvieae* was automatically created.	Divided into subspecies *Lactococcus garvieae* subsp. *bovis* and *Lactococcus garvieae* subsp. *garvieae*
Legionella pneumophila	2		CGM/170929-03		Brenner et al, J Clin Microbiol, 1988, 26, 1695-1703; IJSEM, 1989, 39, 205-206.	*Legionella pneumophila* subsp. *pneumophila* is automatically created by the valid publication of *Legionella pneumophila* subsp. *fraseri* and the valid publication of *Legionella pneumophila* subsp. *pascullei*	Divided into subspecies *Legionella pneumophila* subsp. *fraseri*, *Legionella pneumophila* subsp. *pascullei*, *Legionella pneumophila* subsp. *pneumophila*
Leifsonia xyli	2	P	CGM/170929-03		Suzuki et al, J Gen Appl Microbiol, 1999, 45, 253-262; Evtushenko et al, IJSEM, 2000, 50, 371-380	*Leifsonia cynodontis* is a later homotypic synonym of *Leifsonia xyli* subsp. *cynodontis*	Divided into subspecies *Leifsonia xyli* subsp. *cynodontis*, *Leifsonia xyli* subsp. *xyli*
Listeria ivanovii	2		CGM/170929-03		Boerlin et al, IJSB, 1992, 42, 69-73	The subspecies name *Listeria ivanovii* subsp. *ivanovii* is automatically created by the valid publication of Listeria ivanovii subsp. londoniensis; division into subspecies based on multilocus enzyme electrophoresis at 18 enzyme	Divided into subspecies *Listeria ivanovii* subsp. *ivanovii* and *Listeria ivanovii* subsp. *londoniensis*

						loci, DNA-DNA hybridizations and rRNA gene restriction patterns. Distinction bteween the subspecies is based on the ability to ferment ribose and N-acetyl-β-d-mannosamine	
Morganella morganii	2		CGM/170929-03		Jensen et al, IJSB, 1992, 42, 613-620	The subspecies name *Morganella morganii* subsp. *morganii* is automatically created by the valid publication of *Morganella morgani*i subsp. *sibonii*	Divided into subspecies *Morganella morganii* subsp. *morganii*, *Morganella morganii* subsp. *sibonii*
Mycobacterium abscessus	2		CGM/170929-03		Tortoli et al, IJSEM, 2016, 66, 4471-4479	Based on prior erm(41)-related phenotypic data and current genomic data, *M. abscessus* was didvided into subspecies/phylogenetic distances are insufficient to warrant distinction at the species level, but meet the criteria for differentiation at the subspecies level	Divided into subspecies *Mycobacterium abscessus* subsp. *abscessus*, *Mycobacterium abscessus* subsp. *bolletii*, *Mycobacterium abscessus* subsp. *massiliense*
Mycobacterium avium	2		CGM/170929-03		Thorel et al, IJSB, 1990, 40, 254-260	The subspecies name *Mycobacterium avium* subsp. *avium* was automatically created by the valid publication of *Mycobacterium avium* subsp. *paratuberculosis* and *Mycobacterium avium* subsp. *silvaticum/*Based on the outcome of genomic analyses, phenotypic studies, the species was divided into subspecies which correspond to pathogenicity and host range characteristics.	Divided into subspecies *Mycobacterium avium* subsp. *avium, Mycobacterium avium* subsp. *paratuberculosis*, *Mycobacterium avium* subsp. *silvaticum*
Mycobacterium bovis	3		CGM/170929-03		Niemann et al, IJSEM, **52**, 433-436; Aranaz et al, IJSEM, 2003, 53, 1785-1789	The subspecies *Mycobacterium bovis* subsp. *bovis* was automatically created by the valid publication of *Mycobacterium bovis* subsp. *caprae*	Divided into subspecies. However, if an author accepts that *Mycobacterium bovis* subsp. *caprae* is a new species (= *Mycobacterium caprae*), then *Mycobacterium bovis* subsp. *bovis* (should thereafter be designated simply as *Mycobacterium bovis*. *Mycobacterium caprae* should also be incorporated in the CGM-listing (SBB: RC human & animal=2; FOEN and ZKBS RC=3)
Mycobacterium chelonae	2		CGM/170929-03		Kim et al, IJSEM, IJSEM, 2017, 67, 3882-3887	Subsp. nov./Multilocus sequence typing analysis revealed a phylogenetic cluster within *M. chelonae*	Divided into subspecies *Mycobacterium chelonae* subsp. *abscessus* (≡ *Mycobacterium abscessus* subsp. *abscessus*), *Mycobacterium chelonae* subsp. chelonae, *Mycobacterium chelonae* subsp. *bovis*
Mycobacterium fortuitum	2		CGM/170929-03		Tsukamura et al, Microbiol Immunol, 1986, 30, 97-110; IJSB, 1986, 36, 489	The subspecies name *Mycobacterium fortuitum* subsp. *fortuitum* is automatically created by the valid publication of *Mycobacterium fortuitum* subsp. a*cetamidolyticum/M. fortuitum* subsp. *acetamidolyticum* was created since its mycolic acid pattern is different from that of *M. fortuitum and high degree of* relatedness with *M. fortuitum*	Divided into subspecies *Mycobacterium fortuitum* subsp. *acetamidolyticum*, *Mycobacterium fortuitum* subsp. *fortuitum*

Mycoplasma capricolum	2	A	CGM/170929-03		Leach et al, IJSB, 1993, 43, 603-605	Susp. nov./The subspecies name *Mycoplasma capricolum* subsp. *capricolum* was automatically created by the valid publication of *Mycoplasma capricolum* subsp. capripneumoniae/ based on DNA-DNA relatedness and serology (F38) of *Mycoplasma capricolum* subsp. *capripneumoniae*	Divided into subspecies *Mycoplasma capricolum* subsp. *capricolum and Mycoplasma capricolum* subsp. *capripneumoniae*
Mycoplasma mycoides	2	A	CGM/170929-03		Manso-Silvan et al, IJSEM, 2009, 59, 1353-1358	-	Divided into subspecies *Mycoplasma mycoides* subsp. *capri*, *Mycoplasma mycoides* subsp. m*ycoides* (supported by Catalogue of Life, NCBI, StrainInfo,…). Discussion about whether subsp. *mycoides* and subsp*. capri* represent different serovars rather than subspecies. Manso-Silvan proposes to incorporate susp. *mycoides* into subsp. *capri.*
Neisseria elongata	2		CGM/170929-03		Grant et al, J Clin Microbiol, 1990, 28, 2591-2596; IJSEB, 1991, 41, 580-581	Distinction between subspecies is based on biochemical properties	Divided into subspecies *Neisseria elongata* subsp. *elongata, Neisseria elongata* subsp. *glycolytica, Neisseria elongata* subsp. *nitroreducens*
Nocardiopsis dassonvillei	2		CGM/170929-03		Evtushenko et al, IJSEM, 2000, 50, 73-81; Yassin et al, IJSEM, 1997, 47, 983-988	Division into subspecies is based on menaquinone analysis, cell wall teichoic acid structure, growth and physiological characteristics	Divided into subspecies *Nocardiopsis dassonvillei* subsp. *prasina* (=*Nocardiopsis prasina*), *Nocardiopsis dassonvillei* subsp. albirubida, *Nocardiopsis dassonvillei* subsp. dassonvillei
Pantoea stewartii	2	P	CGM/170929-03		Mergeart et al, IJSEM, 1993, 43, 162-173	Subsp. nov/*Pantoea stewartii strains* can be divided into two subgroups with different DNA relatedness; subspecies can also be differentiated based indole production and fatty acid analysis	Divided into subspecies *Pantoea stewartii* subsp. *indologenes*, *Pantoea stewartii* subsp. *stewartii*
Pasteurella multocida	2		CGM/170929-03		Mutters et al, IJSB, 1985, 35, 309-322	All subsp. show DNA binding levels of 80 and 70%; subspecies are discriminated based on their ability to ferment sorbitol, dulcitol an L-arabinose	Divided into subspecies: *Pasteurella multocida* subsp. *gallicida; Pasteurella multocida* subsp. *multocida, Pasteurella multocida* subsp. *septica*
Pectobacterium carotovorum	2	P	CGM/170929-03		Hauben et al, IJSEM, 1998, 21, 384-397; IJSB, 1999, 49, 1-3; Gardan et al, IJSEM, 2003, 53, 381-391	Comb. nov./reclassification of *Erwinia* subspecies into *Pectobacterium* subspecies, based on 16S RDNA analysis	Divided into subspecies: *Pectobacterium carotovorum* subsp. *carotovorum, Pectobacterium carotovorum* subsp. *odoriferum, Pectobacterium carotovorum* subsp. *atrosepticum (= Pectobacterium atrosepticum), Pectobacterium carotovorum* susbp. *betavasculorum (= Pectbacterium betavascularum), Pectobacterium* subsp. *wasabiae= Pectobacterium wasabiae)*

Photobacterium damselae	2	A	CGM/170929-03		Gauthier et al, IJSB, 1995, 45, 139-144	Comb. nov./reclassification based on a high level of DNA relatedness between *Photobacterium damselae* and *Pasteurella piscicida*, and specific morphological and biochemical characteristics/*Photobacterium damselae* subsp. *damselae* was automatically created by the valid publication of *Photobacterium damselae* subsp. *piscicida;*	Divided into subspecies *Photobacterium damselae* subsp. *damselae, Photobacterium damselae* subsp. *piscicida*
Photorhabdus asymbiotica	2		CGM/170929-03		Akhurst et al, IJSEM, 2004, 54, 1301-1310	Subsp. nov./gyrB gene sequence data, DNA–DNA hybridization and phenotypic data show two groups within *Photorhabdus asymbiotica* (Australian lineage and a US lineage)	Divided into subspecies *Photorhabdus asymbiotica* subsp. *asymbiotica, Photorhabdus asymbiotica* subsp. *australis*
Photorhabdus luminescens	2	A	CGM/170929-03		FIscher-Le Saux et al, IJSB, 1999, 49, 1645-1656; Tailliez et al, IJSEM, 2010, 60, 1921-1937	Subsp. nov. and comb. nov. /several subgroups based on high DNA-DNA relatedness, 16S rDNA branching, phenotypic characters and recA, gyrB, dnaN and gltX, rplB gene fragment analysis	Divided into subspecies *Photorhabdus luminescens* subsp. *akhurstii, Photorhabdus luminescens* subsp. *caribbeanensis, Photorhabdus luminescens* subsp. *hainanensis, Photorhabdus luminescens* subsp. *kayaii Photorhabdus luminescens* subsp. *kleinii, Photorhabdus luminescens* subsp. *laumondii, Photorhabdus luminescens* subsp. *luminescens, Photorhabdus luminescens* subsp. *namnaonensis, Photorhabdus luminescens* subsp. *noenieputensis, Photorhabdus luminescens* subsp. *thracensis (= Photorhabdus temperata* subsp. *thracensis)*
Ralstonia syzygii	2	P	CGM/170929-03		Safni et al, IJSEM, 2014, 64, 3087-3103	Subsp. Nov./16S-23S rRNA ITS gene sequences, 16S–23S rRNA intergenic spacer (ITS) region sequences and partial endoglucanase (egl) gene sequences and DNA–DNA hybridizations/ 3 distinct groups within *R. syzygii.*	Divided into subspecies *Ralstonia syzygii* subsp. *celebesensis, Ralstonia syzygii* subsp. *indonesiensis, Ralstonia syzygii* subsp. *syzygii*
Serratia marcescens	2	P	CGM/170929-03		Ajithkumar et al, IJSEM, 2003, 53, 253-258	The valid publication of *Serratia marcescens* subsp. *sakuensis* (unique endospore forming *Serratia* sp.) automatically creates the subspecies *Serratia marcescens* subsp. *marcescens*	Divided into subspecies *Serratia marcescens* subsp. *marcescens, Serratia marcescens* subsp. *sakuensis*
Serratia proteamaculans	2	P	CGM/170929-03		Grimont et al, Curr Microbiol, 1982, 7, 69-74; IJSB, 1983, 33, 438-440.	Subsp. nov/ based on biochemical characteristics	Divided into subspecies *Serratia proteamaculans* subsp. *quinovora* (=*Serratia quinivorans*), *Serratia proteamaculans* subsp. *proteamaculans*
Staphylococcus aureus	2		CGM/170929-03		De la Fuente et al, IJSB, 1985, 35, 99-102	The subspecies name *Staphylococcus aureus* subsp. *aureus* is automatically created by the valid publication of *Staphylococcus aureus* subsp. a*naerobius; Staphylococcus aureus subsp. anaerobius* is closely related to *S.*	Divided into subspecies *Staphylococcus aureus* subsp. *anaerobius, Staphylococcus aureus* subsp. *aureus*

						aureus, is associated with abscess disease in sheep and grows anaerobically	
Staphylococcus capitis	2		CGM/170929-03		Bannerman & Kloos, IJSB, 1991, 41, 144-147	The subspecies *Staphylococcus capitis* subsp. *capitis* was automatically created by the valid publication of *Staphylococcus capitis* subsp. *urealyticus;* DNA-DNA reassociation reactions demonstrate subsp. *urealyticus* has a close relationship *Staphylococcus capitis* but is, however, significantly divergent	Divided into subspecies *Staphylococcus capitis* subsp. *capitis, Staphylococcus capitis* subsp. *urealyticus*
Staphylococcus cohnii	2		CGM/170929-03		Kloos & Wolfshohl, IJSB, 1991, 284-289	The subspecies name *Staphylococcus cohnii* subsp. *cohnii* was automatically created by the valid publication of *Staphylococcus cohnii* subsp. *urealyticus;* differentiation based on colony size, pigmentation, positive urease, β-glucuronidase, and β-galactosidase activities; delayed alkaline phosphatase activity, ability to produce acid aerobically from α-lactose and fatty acid profile.	Divided into subspecies *Staphylococcus cohnii* subsp. *cohnii, Staphylococcus cohnii* subsp. *Urealyticus; cfr. Staphylococcus capitis* subsp. *urealyticus, because no two subspecies within a genus may bear the same* subspecific epithet *urealyticus* the name *Staphylococcus cohnii* subsp. *urealyticus* will have to be replaced
Staphylococcus hominis	2		CGM/170929-03		Kloos et al, IJSB, 1998, 48, 799-812	The subspecies name *Staphylococcus hominis* subsp. *hominis* was automatically created by the valid publication of *Staphylococcus hominis* subsp. *novobiosepticus;* differentiation based on novobiocin resistance and failure to produce acid aerobically from D-trehalose and N-acetyl-D-glucosamine	Divided into subspecies *Staphylococcus hominis* subsp. *hominis, Staphylococcus hominis* subsp. *novobiosepticus*
Staphylococcus hyicus	2	A	CGM/170929-03		LPSN; Hajek et al, Syst Appl Microbiol, 1986, 8, 169-173	Physiological and chemical data, together with genetic relatedness (DNA-DNA hybridisation)/elevation to species rank	Divided into subspecies *Staphylococcus hyicus* subsp. *chromogenes* (=*Staphylococcus chromogenes; not yet present in CGM-listing), Staphylococcus hyicus* subsp. *hyicus* (= *Staphylococcus hyicus*)
Staphylococcus saprophyticus	2		CGM/170929-03		Hajek et al, IJSB, 1996, 46, 792-796	The subspecies name *Staphylococcus saprophyticus subsp. saprophyticus* was automatically created by the valid publication of *Staphylococcus saprophyticus* subsp. *bovis;* subspecies *bovis i*s differentiated on the basis of phenotypic properties, cell wall composition, and levels of genetic relatedness	Divided into subspecies *Staphylococcus saprophyticus* subsp. *bovis, Staphylococcus saprophyticus* subsp. *saprophyticus*
Staphylococcus schleiferi	2		CGM/170929-03		Igimi et al, IJSB, 1990, 40, 409-411	The subspecies name *Staphylococcus schleiferi subsp. schleiferi* was automatically created by the valid publication of *Staphylococcus schleiferi* subsp. *coagulans;* subspecies *coagulans* is differentiated on the basis a positive test tube coagulase test and different carbohydrate reactions and its etiological importance (frequent isolation from otitis specimens from dogs)	Divided into *Staphylococcus schleiferi* subsp. *coagulans, Staphylococcus schleiferi* subsp. *schleiferi*

Streptococcus anginosus	2		CGM/170929-03		Jensen et al, IJSEM, 63, 2506-2519	*Streptococcus anginosus* subps. *anginosus* is the type subspecies of *Streptococcus anginosus* and contains the type strain; it was automatically created by the description of *Streptococcus anginosus* subsp. *whileyi;* subspecies *whileyi* clusters β-haemolytic, Lancefield group C strains isolated from patients with sore throat	Divided into subspecies *Streptococcus anginosus* subsp. *anginosus, Streptococcus anginosus* subsp. *whileyi*
Streptococcus constellatus	2		CGM/170929-03		Whiley et al, IJSB, 1999, 49, 1443-1449	The subspecies name *Streptococcus constellatus* subsp. *constellatus* was automatically created by the valid publication of *Streptococcus constellatus* subsp. *pharyngis;* subsp. *pharyngis* was created for strains that are genetically and phenotypically distinct and exhibit a predilection for the human throat (pharyngitis).	Divided into subspecies *Streptococcus constellatus* subsp. *constellatus, Streptococcus constellatus* subsp. *pharyngis, Streptococcus constellatus* subsp. *viborgensis*
Streptococcus dysgalactiae	2		CGM/170929-03		Vandamme et al, IJSB, 1996, 46, 774-781	The subspecies name *Streptococcus dysgalactiae* subsp. *dysgalactiae* was automatically created by the valid publication of S*treptococcus dysgalactiae* subsp*. Equisimilis; S. dysgalactiae* subsp. *dysgalactiae* is proposed for strains of animal origin (no *streptokinase activity) and* S. *dysgalactiae* subsp. *equisimilis* is proposed for human isolates (streptokinase activity)	Divided into subspecies *Streptococcus dysgalactiae* subsp*. dysgalactiae, Streptococcus dysgalactiae* subsp. *equisimilis*
Streptococcus equi	2		CGM/170929-03		Farrow & Collins, Syst Appl Microbiol, 1984, 5, 483-493; IJSB, 1985, 35, 223-225; Fernandez et al, IJSEM, 2004, 54, 2291-2296	The subspecies name *Streptococcus equi* subsp. *equi* was automatically created by the valid publication of *Streptococcus equi* subsp*. zooepidemicu*s; the subspecies *equi* and *zooepidemicus* are differentiated on the basis of sugar fermentation; subspecies *ruminatorum* gathers isolates from ovine and caprine mastitis	Divided into subspecies *Streptococcus equi* subsp. *equi, Streptococcus equi* subsp. *ruminatorum, Streptococcus equi* subsp*. zooepidemicus*
Streptococcus gallolyticus	2		CGM/170929-03		Schlegel et al, IJSEM, 2003, 53, 631-645	subsp. nov./delineation by different biochemical traits, limited DNA–DNA relatedness and noticeable divergence in 16S rDNA sequences	Divided into subspecies *Streptococcus gallolyticus* subsp. *gallolyticus, Streptococcus gallolyticus* subsp. *macedonicus, Streptococcus gallolyticus* subsp. *pasteurianus*
Streptococcus oralis	2		CGM/170929-03		Jensen et al, IJSEM, 66, 4803-4820	comb. nov. and subsp. nov./clustering on the basis of core genome phylogenetic analysis; differentiation based on pathology	Divided into subspecies *Streptococcus oralis* subsp. *dentisani, Streptococcus oralis* subsp. *oralis, Streptococcus oralis* subsp. *tigurinus*
Streptococcus phocae	2	A	CGM/170929-03		Avendano-Herrera et al, IJSEM, 64, 1775-1781	subsp. nov./ differentiation based on protein analysis (SDS-PAGE), MALDI-TOF, fatty acids, and analysis of housekeeping gene sequences	Divided into subspecies *Streptococcus phocae* subsp*. phocae, Streptococcus phocae* subsp. *salmonis*
Streptococcus salivarius	2		CGM/170929-03		Farrow & Collins, J Gen Microbiol, 1984, 130, 357-362; IJSB, 1984, 34, 355-357	Comb. nov./the subspecies name *Streptococcus salivarius* subsp. *salivarius* was automatically created by the valid publication of *Streptococcus salivarius* subsp. *thermophilus;* these subspecies possess similar mol % G + C values, long-chain	Divided into subspecies *Streptococcus salivarius* subsp*. salivarius, Streptococcus salivarius* subsp. *thermophilus*

						fatty acid profiles and belong to a single DNA homology group	
Treponema socranskii	2		CGM/170929-03		Smibert et al, IJSB, 1984, 34, 457-462	Subsp. nov./differentiation based on pathology and agglutination tests	Divided into subspecies *Treponema socranskii* subsp. *buccale, Treponema socranskii* subsp. *socranskii, Treponema socranskii* subsp. *paredis*
Xanthomonas alfalfae	2	P	CGM/170929-03		Schaad et al, Syst Appl Microbiol, 2006, 29, 690-695; IJSEM, 2007, 57, 893-897	sp. nov. and nom. rev./reclassification based on serology and pathology	Divided into subspecies *Xanthomonas alfalfae* subsp. *alfalfae and Xanthomonas alfalfae* subsp. *citrumelonis*
Xanthomonas citri	2	P	CGM/170929-03		Schaad et al, Syst Appl Microbiol, 2006, 29, 690-695; IJSEM, 2007, 57, 893-897	sp. nov. and nom. rev./reclassification based on serology and pathology	Divided into subspecies *Xanthomonas citri* subsp. *citri and Xanthomonas citri* subsp. *malvacearum*
Xanthomonas fuscans	2	P	CGM/170929-03		Schaad et al, Syst Appl Microbiol, 2006, 29, 690-695; IJSEM, 2007, 57, 893-897	reclassification based on serology and pathology	Divided into subspecies *Xanthomonas fuscans* subsp. *aurantifolii and Xanthomonas fuscans* subsp. *fuscans*
Xylella fastidiosa	2	P	CGM/170929-03		Schaad et al, Syst Appl Microbiol, 2004, 27, 763; IJSEM, 2009, 59, 923-925	Susbp. nov./based on DNA-DNA relatedness assays and sequenced the 16S–23S intergenic spacer (ITS) region/ subspecies correspond with the 3 genotypes identified	Divided into subspecies *Xylella fastidiosa* subsp. *fastidiosa* and *Xylella fastidiosa* subsp. *multiplex* (and *Xylella fastidiosa* subsp. *pauca* that is not validly published and not recorded in LPSN)
Yersinia enterocolitica	2		CGM/170929-03		Neubauer et al, Int J Med Microbiol, 2000, 290, 61-64; IJSEM, 2000, 50, 1415-1417	Subsp. nov./ based on different DNA-DNA hybridization values and the 16S rRNA gene sequences/the subspecies name *Yersinia enterocolitica* subsp. *enterocolitica* was automatically created by the valid publication of *Yersinia enterocolitica* subsp. *palearctica*	Divided into subspecies *Yersinia enterocolitica* subsp. *enterocolitica and Yersinia enterocolitica* subsp. *palearctica*

Genus/species/strain	**COGEM classification**	**Strict plant (P) or animal pathogen (A)**	**Reference COGEM report**	**New name**	**Literature reference**	**Motivation**	**Remarks**
Aeromonas caviae	2		CGM/170929-03	-	-	-	*Aeromonas caviae* and *Aeromonas punctata* are homotypic synonyms (same type strain). *A. punctata* has priority, but there are problems with the type strain (see LPSN). Catalogue of Life, NCBI, ATCC, DSMZ, Living Tree, LMG only accept *A. caviae*. However, this is not supported by LPSN. *A. punctata* is indicated as a strict animal pathogen, while *A. caviae* is not.
Aeromonas punctata	2	A	CGM/170929-03	-	-	-	*Aeromonas caviae* and *Aeromonas punctata* are homotypic synonyms (same type strain). *A. punctata* has priority, but there are problems with the type strain (see LPSN). Catalogue of Life, NCBI, ATCC, DSMZ, Living Tree, LMG only accept *A. caviae*. However, this is not supported by LPSN. *A. punctata* is indicated as a strict animal pathogen, while *A. caviae* is not.
Agrobacterium tumefaciens	2	P	CGM/170929-03	*Rhizobium radiobacter*	Young et al, IJSEM, 2001, 51, 89-103	Comb. nov./16s rRNA/ *Rhizobium* + several *Agrobacterium* spp. constitute a monophyletic group	*R. radiobacter*: LPSN, Catalogue of Life, ATCC, Wikipedia,… /*Agrobacterium radiobacter*: NCBI, Living tree, DSMZ
Alcaligenes xylosoxidans	2		CGM/170929-03	*Achromobacter xylosoxidans/denitrificans*	Yabuuchi et al, Microbiol Immunol, 1998, 42, 429-438; Validation List no. 67, Int J Syst Bacteriol, 1998, 48, 1083-1084.		Divided into subspecies *Achromobacter xylosoxidans* subsp. *denitrificans* and *Achromobacter xylosoxidans* subsp. x*ylosoxidans;* however, since subsp. *denitrificans* has been changed into *Achromobacter denitrificans (is not validly published)*, subsp. *xylosoxidans* should be changed into *A. xylosoxidans* (see LPSN). Catalogue of life, NCBI, LIving tree and ATCC accept *Achromobacter xylosoxidans* and *Achromobacter denitrificans.* DSMZ uses *Achromobacter denitrificans* and *Achromobacter xylosoxidans* subsp*. xylosoxidans*. *Achromobacter xylosoxidans* was already incorporated in the CGM-listing (CGM/170929-03).
Burkholderia caryophylli	2	P	CGM/170929-03	*Paraburkholderia caryophylli*	Sawana et al. Front Genet, 2014, 5, 429; Oren and Garrity, IJSEM, 2016, 65, 2017–2027	Division of *Burkholderia* into the emended genus *Burkholderia* containing pathogenic organisms and a new genus *Paraburkholderia* gen.	No link between both names in LPSN, altough published in validation list of the IJSEM. *Burkholderia*: StrainInfo, Catalogue of Life, Living Tree, ATCC (perhaps not yet adapted?); *Paraburkholderia*: NCBI & DSMZ

						nov. harboring environmental species.	
Corynebacterium hoagii	2		CGM/170929-03	*Rhodococcus hoagii/Rhodococcus equi/Corynebacterium equi?*	Kämpfer et al, IJSEM, 2014, 64, 755-761	Reclassification of *Corynebacterium hoagii* and *Rhodococcus equi* as *Rhodococcus hoagii* comb. nov./polyphasic taxonomic analysis	Catalogue of Life: syn. of *Rhodococcus equi*; but LPSN: *Rhodococcus equi* is a homotypic synonym of *Corynebacterium equi*; NCBI and DSMZ: *Rhodococcus hoagii;* ATCC*: Corynebacterium hoagii;* StrainInfo: all 3 names are recorded; LPSN: Numerical, phenotypic, mycolic acid, fatty acid, and DNA homology studies indicate that *Corynebacterium hoagii* and *Rhodococcus equi = Corynebacterium equi* represent a single species
Edwardsiella anguillimortifera	2	A	CGM/170929-03	*Edwardsiella tarda or E. anguillimortifera?*		illegitimate name (according DSMZ); no evidence found in LPSN (both are homotypic synonyms)	*E. anguillimortifera* and *E. tarda* have the same type strain and *E. anguillimortifera* is the earlier synonym. However, a request was done to preserve *E. tarda* over *E. anguillimortifera*; request has been withdrawn. Catalogue of Life: *E. ang;* NCBI, DSMZ, ATCC, Living Tree: *E. tarda*. In Pub Med only recent hits with *E. tarda*
Edwardsiella tarda	2		CGM/170929-03	*Edwardsiella tarda or E. anguillimortifera?*			*E. anguillimortifera* and *E. tarda* have the same type strain and *E. anguillimortifera* is the earlier synonym. However, a request was done to preserve *E. tarda* over *E. anguillimortifera*; request has been withdrawn. Catalogue of Life: *E. ang.* NCBI, DSMZ, ATCC, Living Tree: *E. tarda*. In Pub Med only recent hits with *E. tarda*
Enterobacter hormaechei	2		CGM/170929-03		Hoffmann et al, J Clin Microbiol, 2005, 43, 3297-3303 (effectively but not validly published)	3 subsp. correspond with three genetic clusters within *E. hormaechei*, differentiated from each other by using phenotypic tests	Divided into *Enterobacter hormaechei* subsp. *hormaechei*, *Enterobacter hormaechei* subsp. *oharae* and *Enterobacter hormaechei* subsp. steigerwaltii (only applied by DSMZ)*;* no differentiation into subsp. in recent literature (PubMed), LMG, Catalogue of Life, ATCC
Mycobacterium massiliense	2		CGM/170929-03	*Mycobacterium abscessus* subsp. *bolletii?*	Leao et al, 2009, J Clin Microbiol, 47, 2691-2698; Tortoli et al, 2016, IJSEM, 66, 4471-4479		LPSN: *Mycobacterium bolletii* and *Mycobacterium massiliense* have been united. Two subspecies within *Mycobacterium abscessus* were recognized: *Mycobacterium abscessus* subsp. *abscessus* and *Mycobacterium abscessus* subsp. *massiliense*. As the epithet *bolletii* has priority over the epithet *massiliense,* the name *Mycobacterium abscessus* subsp. *massiliense* was illegitimate. In 2011 Leao et al. proposed the correct name *Mycobacterium abscessus* subsp. *bolletii*. Tortoli et al (2016) recognize 3 subspecies: *bolletii, abscessus* and *massiliense*. However, the name *Mycobacterium massiliense* is found in recent literature (see PubMed)
Providencia rettgeri	2		CGM/170929-03	LPSN			*Providencia rettgeri* and *Proteus rettgeri* have the same type strain and therefore are homotypic synonyms; *Provindencia rettgeri* is supported by Catalogue of Life, NCBI, Straininfo and recent publications in PubMed

Pseudomonas beteli	2	P	CGM/170929-03	*Stenotrophomonas maltophilia?*			LPSN states that *Stenotrophomonas maltophilia* and *Pseudomonas beteli* are heterotypic synonyms; according to the Bacteriological Code (1990 revision) the specific epithet beteli (corrig.) has priority. However, *S. maltophila* seems the generally accepted name (see StrainInfo, NCBI, PubMed, DSMZ, ATCC,...)
Pseudomonas flectens	2	P	CGM/170929-03	*Phaseolibacter flectens?*	Halpern et al, IJSEM, 2013, 63, 268-273	Gen nov. and comb. nov./ phenotypic properties and phylogenetic analyses based on 16S rRNA, rpoB and atpD gene sequences/ not related to the genus *Pseudomonas; forms an independent phyletic lineage in all of the phylogenetic analyses and cannot be affiliated to any of the recognized genera within the family Enterobacteriaceae*	Change in name not supported by Catalogue of Life, DSMZ, ATCC, LMG; Name change supported by NCBI, Living Tree, one recent publication in PubMed
Pseudomonas hibiscicola	2	P	CGM/170929-03	*Stenotrophomonas maltophilia*	Van den Mooter & Swings, IJSB, 1990, 40, 348-369	*Pseudomonas hibiscicola*, *Pseudomonas beteli* corrig. and *Xanthomonas maltophilia (=* Stenotrophomonas maltophilia*)* are heterotypic synonyms. According to the Bacteriological Code *Pseudomonas hibiscicola* and *Xanthomonas maltophilia* should be renamed *Xanthomonas beteli* because *X. beteli* is the oldest specific epithet. The authors (Van den Mooter & Swings, 1990) did not feel however the need to formally propose nomenclatural changes	*S. maltophila*: DSMZ, ATCC; *P. hibiscicola*: NCBI, Catalogue of Life
Rhizobium larrymoorei	2	P	CGM/170929-03				*Agrobacterium larrymoorei*: NCBI, DSMZ (listing bacterial names)
Rhizobium radiobacter	2	P	CGM/170929-03				*R. radiobacter*: LPSN, Catalogue of Life, ATCC,… */Agrobacterium radiobacter*: NCBI, Living tree, DSMZ
Rhizobium rubi	2	P	CGM/170929-03	*Agrobacterium rubi*			*Agrobacterium rubi:* DSMZ, NCBI, Tree of Life; PubMed: both names are mentioned
Rhizobium vitis	2	P	CGM/170929-03	*Allorhizobium vitis?*			*Allorhizobium vitis:* DSMZ, Tree of Life

Rhodococcus equi	2		CGM/170929-03	*Rhodococcus hoagii*	Kämpfer et al, 2014, IJSEM, 64, 755-761	comb. nov./polyphasic taxonomic analysis of *Corynebacterium hoagii* DSM 20295T and *Rhodococcus equi* DSM 20307T indicates that the two strains belong to the same species, for which the name *Rhodococcus hoagii* comb. nov. takes priority, according to the Rules of the Bacteriological Code	*Rhodococcus equi* is still used by ATCC, Living Tree, and in numerous recent publications (PubMed), accepted name according Catalogue of Life
Streptococcus intermedius	2		CGM/170929-03	*Streptococcus anginosus?*	Coykendall et al, IJSB, 1987, 37, 222-228	*Streptococcus anginosus* is an earlier heterotypic synonym of *Streptococcus constellatus* and an earlier heterotypic synonym of *Streptococcus intermedius; the taxonomic status of strains classified as Streptococcus anginosus, Streptococcus constellatus* and *Streptococcus intermedius* has been the subject of much debate; analysis of whole-cell protein patterns (Vandamme et al, 1998) supports the viewpoint that these three taxa constitute a single species which should be referred to as *Streptococcus anginosus*. Nevertheless, no formal proposition is made in the paper by Vandamme et al (1998)	*S. anginosus:* LPSN, CCUG, NCTC; *S. intermedius:* ATCC, LMG, NCBI, DSMZ

Genus/species/strain	**COGEM classification**	**Strict plant (P) or animal pathogen (A)**	**Reference COGEM report**	**New name**	**Literature reference**	**Motivation**	**Remarks**
Brucella abortus	3		CGM/170929-03	*Brucella melitensis*	Verger et al, IJSB, 1985, 35, 292-295; Osterman et al, International Committee on Systematics of Prokaryotes Subcommittee on the taxonomy of Brucella. Minutes of the meeting, 17 September 2003, Pamplona, Spain. IJSEM, 2006, 56, 1173-1175.	*B. melitensis* is an earlier synonym of *B. abortus, B. canis, B. ovis* and *B. suis*	LPSN/IJSEM: taxonomic issue: According to his/her scientific opinion, a bacteriologist may use the one species concept (as in Catalogue of Life) or the six species concept (as in NCBI, Living tree, RIVM).
Brucella canis	3		CGM/170929-03	*Brucella melitensis*	Verger et al, IJSB, 1985, 35, 292-295; Osterman et al, International Committee on Systematics of Prokaryotes Subcommittee on the taxonomy of Brucella. Minutes of the meeting, 17 September 2003, Pamplona, Spain. IJSEM, 2006, 56, 1173-1175.	*B. melitensis* is an earlier synonym of *B. abortus, B. canis, B. ovis* and *B. suis*	LPSN/IJSEM: taxonomic issue: According to his/her scientific opinion, a bacteriologist may use the one species concept (as in Catalogue of Life)or the six species concept (as in NCBI, Living tree, RIVM).
Brucella ovis	3		CGM/170929-03	*Brucella melitensis*	Verger et al, IJSB, 1985, 35, 292-295; Osterman et al, International Committee on Systematics of Prokaryotes Subcommittee on the taxonomy of Brucella. Minutes of the meeting, 17 September 2003, Pamplona, Spain. IJSEM, 2006, 56, 1173-1175.	*B. melitensis* is an earlier synonym of *B. abortus, B. canis, B. ovis* and *B. suis*	LPSN/IJSEM: taxonomic issue: According to his/her scientific opinion, a bacteriologist may use the one species concept (as in Catalogue of Life) or the six species concept (as in NCBI, Living tree, RIVM).
Brucella suis	3		CGM/170929-03	*Brucella melitensis*	Verger et al, IJSB, 1985, 35, 292-295; Osterman et al, International Committee on Systematics of Prokaryotes Subcommittee on the taxonomy of Brucella. Minutes of the meeting, 17 September 2003, Pamplona, Spain. IJSEM, 2006, 56, 1173-1175.	*B. melitensis* is an earlier synonym of *B. abortus, B. canis, B. ovis* and *B. suis*	LPSN/IJSEM: taxonomic issue: According to his/her scientific opinion, a bacteriologist may use the one species concept (as in Catalogue of Life)or the six species concept (as in NCBI, Living tree, RIVM).

Salmonella abortusequi	2	A	CGM/170929-03	*Salmonella enterica* subsp. *enterica* serovar Abortusequi	Grimont & Weill, Antigenic formulae of the *Salmonella* serovars, 2007, 9th edition, WHO collaborating centre for reference and research on *Salmonella*, Institut Pasteur		
Salmonella abortusovis	2	A	CGM/170929-03	*Salmonella enterica* subsp. *enterica* serovar Abortusovis	Grimont & Weill, Antigenic formulae of the *Salmonella* serovars, 2007, 9th edition, WHO collaborating centre for reference and research on *Salmonella*, Institut Pasteur		If no change, then *Salmonella* Abortusovis?
Salmonella enterica	2		CGM/170929-03		Tindall et al, IJSEM, 2005, 55, 521-524	The type species of the genus *Salmonella* is *Salmonella enterica*, and conservation of the epithet *enterica* in *Salmonella enterica* over all earlier epithets that may be applied to this species	Divided into subspecies: *Salmonella enterica* subsp. *arizonae, Salmonella enterica* subsp. *diarizonae, Salmonella enterica* subsp. *enterica, Salmonella enterica* subsp. *houtenae, Salmonella enterica* subsp. *indica, Salmonella enterica* subsp. *salamae*
Salmonella enteritidis	2		CGM/170929-03	*Salmonella enterica* subsp. *enterica*	Tindall et al, IJSEM, 2005, 55, 521-524	The type species of the genus *Salmonella* is *Salmonella enterica*, and conservation of the epithet *enterica* in *Salmonella enterica* over all earlier epithets that may be applied to this species	
Salmonella gallinarum	2	A	CGM/170929-03	*Salmonella enterica* subsp. *enterica* serovar Gallinarum	Grimont & Weill, Antigenic formulae of the *Salmonella* serovars, 2007, 9th edition, WHO collaborating centre for reference and research on *Salmonella*, Institut Pasteur		If no change, then *Salmonella* Gallinarum?
Salmonella infantis	2		CGM/170929-03	*Salmonella enterica* subsp. *enterica* serovar Infantis	Grimont & Weill, Antigenic formulae of the *Salmonella* serovars, 2007, 9th edition, WHO collaborating centre for reference and research on *Salmonella*, Institut Pasteur		If no change, then *Salmonella* Infantis?

Salmonella paratyphi	2		CGM/170929-03	*Salmonella enterica* subsp. *enterica* serovar Paratyphi	Tindall et al, IJSEM, 2005, 55, 521-524	*Salmonella paratyphi* is a heterotypic synonym of *Salmonella enterica* subsp. *enterica*	If no change, then *Salmonella* Paratyphi?
Salmonella poona	2		CGM/170929-03	*Salmonella enterica* subsp. *enterica* serovar Poona	Grimont & Weill, Antigenic formulae of the *Salmonella* serovars, 2007, 9th edition, WHO collaborating centre for reference and research on *Salmonella*, Institut Pasteur		If no change, then *Salmonella* Poona?
Salmonella pullorum	2	A	CGM/170929-03	*Salmonella enterica* subsp. *enterica* serovar Pullorum	Grimont & Weill, Antigenic formulae of the *Salmonella* serovars, 2007, 9th edition, WHO collaborating centre for reference and research on *Salmonella*, Institut Pasteur		If no change, then *Salmonella* Pullorum?
Salmonella typhi	3		CGM/170929-03	*Salmonella enterica* subsp. *enterica* serovar Typhi	Tindall et al, IJSEM, 2005, 55, 521-524	*Salmonella typhi* is a heterotypic synonym of *Salmonella enterica* subsp. *enterica*	If no change, then *Salmonella* Typhi?
Salmonella typhimurium	2		CGM/170929-03	Salmonella *enterica* subsp. *enterica* serovar Typhimurium	Grimont & Weill, Antigenic formulae of the *Salmonella* serovars, 2007, 9th edition, WHO collaborating centre for reference and research on *Salmonella*, Institut Pasteur		If no change, then *Salmonella* Typhimurium?
Salmonella typhimurium stam TA1535	2		CGM/170929-03	Salmonella *enterica* subsp. *enterica* serovar Typhimurium	Grimont & Weill, Antigenic formulae of the *Salmonella* serovars, 2007, 9th edition, WHO collaborating centre for reference and research on *Salmonella*, Institut Pasteur		If no change, then *Salmonella* Typhimurium?

Genus/species/strain	COGEM class.	Strict plant (P) or animal pathogen (A)	Reference COGEM report	New name	Literature reference	Motivation	Remarks
Arcanobacterium suis	2		CGM/1709 29-03	*Trueperella abortisuis?*	Pascual Ramos et al IJSEM, 1997, 47, 46-53; Yassin et al, IJSEM, 2011, 6 1, 1265-1274	Based on analysis of 16S rRNA, menaquinone and phospholipid compositions *Arcanobacterium* was divided into *Arcanobacterium* and *Trueperella*	*Arcanobacterium suis* is not recorded in LPSN or elsewhere. Most likely *Arcanobacterium abortisuis*.
Clostridium chitoniae	2		CGM/1709 29-03	*Clostridium citroniae*?			*Clostridium chitoniae*: no records in LPSN; no hits found via Google or Ecosia
Flacobacterium meningosepticum	2		CGM/1709 29-03	*Flavobacterium meningosepticum?* New name*: Elizabethkingia meningoseptica*	Vandamme et al, IJSEM, 1994, 44, 827-831. Kim et al, IJSEM, 2005, 55, 1287-1293	Comb. nov/ phylogenetic analyse based in 16S rRNA gene sequencing data and phenotypic data show that *Chryseobacterium meningosepticum* belongs to a separate lineage within *Chryseobacterium/Flavobacterium*	*Flavobacterium meningosepticum* first changed to *Chryseobacterium meningospeticum* and then to *Elizabethkingia meningosepticum*
Gordona kurumensis	2		CGM/1709 29-03	*Gordonia kurumensis (*not validly published bacterial taxon*)? Geratrigonia kurumensis?*		Typographical error in CGM-listing	no records in LPSN, ATCC, DSMZ, or elsewhere; *Geratrigonia kurumensis*? (mollusc)
Gordona minima	2		CGM/1709 29-03	*Gordonia minima? Gordania minima?*		Typographical error in CGM-listing	no records in LPSN, ATCC, DSMZ or elsewhere; *Gordania minima*? (Crustaceae)
Lactococcus catenaformis	2		CGM/1709 29-03	*Lactobacillus catenaformis?=Eggerthia catenaformis*	Salvetti et al, IJSEM, 2011, 61, 2520-2524	gen. nov., comb./Reclassification based on the phenotypic, chemotaxonomic and phylogenetic data; more closely related to the Clostridia than to *Lactobacillus*	*Lactococcus catenaformis*' in CGM listing 2011, but not found in LPSN (only *Lactobacillus catenaformis*)
Lactococcus psittaci	2		CGM/1709 29-03	*Lactobacillus psittaci?*		Typographical error in CGM-listing	*Lactococcus psittaci*' sic in CGM-listing 2011, no records in LPSN (only *Lactobacillus psittaci*)
Mycobacterium furth	2		CGM/1709 29-03	*Mycobacterium fuerth?* → *Mycobacterium fuerthensis*			*M. furth*': sic in CGM listing 2011. Both *M. fuerth* and *M. fuerthensis* are not listed in LPSN, because not validly published. NCBI: Originally published as *Mycobacterium fuerth* but corrected to *Mycobacterium fuerthensis*. Records found in Living Tree; no records elsewhere.

Mycobacterium togolense	2		CGM/1709 29-03	*Mycobacterium tokaiense?*			*'M. togolense'*: sic in CGM-listing 2011. Not listed in LPSN; no records found
Chromobacterium viscosum	2		CGM/1709 29-03				No records in LPSN, Catalogue of Life; NCBI: effectively published but not validly published under the rules of the International Code of Nomenclature of Bacteria; DSMZ & ATCC: link to *Arthrobacter* (strains originally deposited as *C. viscosum)*
Clostridium putrificum	2		CGM/1709 29-03	rejected name/delete from list?	Olsen et al, IJSB, 1995, 45, 414; IJSB, 1997, 47, 240-241 and IJSB, 1999, 49, 339.	LPSN: rejected name; *Clostridium putrificum, Clostridium botulinum*, and *Clostridium sporogenes* are genetically related at the species level and *Clostridium putrificum* has priority. Olsen et al. 1995, propose rejection of the name *Clostridium putrificum*, and conservation of the name *Clostridium botulinum*, and conservation of the name *Clostridium sporogenes* for the nontoxigenic strains	No records in Catalogue of Life, NCBI, Living tree; catalogue DSMZ *C. putrificum* = *C. sporogenes.* However, ATCC still uses *C. putrificum* and several other culture collections (see StrainInfo)
Eperythrozoon coccoides	2	A	CGM/1709 29-03	*Mycoplasma coccoides*	Neimark et al, IJSEM, 2005, 55(Pt 3):1385-91, but see also Tindall, IJSEM, 2014, 64(Pt 10):3586-7 (the Request for an Opinion that the current use of the genus name *Mycoplasma* be maintained and *Mycoplasma coccoides* be considered a legitimate name is denied.	comb. nov. /analysis of 16S rRNA gene sequences/this wall-less bacterium is not a *Rickettsia* but actually is a *Mycoplasma*.	See LPSN: *Mycoplasma coccoides* was proposed as a comb. nov, but was not validly published + no cultures available; Records of *Mycoplasma coccoides* found at: NCBI, Tree of Life, UniProt, Bergey's Manual of Systematic Bacteriology (Vol. 4), recent publications on diseases in rodents

Mycobacterium concordense	2		CGM/1709 29-03	*Mycobacterium septicum?*			No records in LPSN; NCBI and StrainInfo: linked to *Mycobacterium septicum;* DSMZ: linked to *Mycobacterium porcinum*; no records found elsewhere
Nocardia tsunamiensis	2		CGM/1709 29-03	-			Not in LPSN: not validly published. Records found in DSMZ and JCM catalogue; no records found in PubMed or elsewhere
Proteus shigelloides	2		CGM/1709 29-03	*Plesiomonas shigelloides*?			*Plesiomonas shigelloides*? Synonymy not mentioned by LPSN; no records found elsewhere, except on http://bioweb.uwlax.edu/bio203/s2013/mackesey_brit/classification.htm and in Janda et al (2016) Clin Microb Rev, 29, 349-374
Salmonella suis	2		CGM/1709 29-03	-			No records found (*typhi-suis*? *cholera-suis*?)
Treponema carateum	2		CGM/1709 29-03	-			Not listed in LPSN, no records in NCBI, ATCC, Catalogue of Life, DSMZ; but see Smajs et al, Infect Genet Evol, 2018, 61:92-107: *T. carateum* is an uncultivable treponemal pathogen (cause of pinta in humans)
Vibrio foetidus	2		CGM/1709 29-03	-	-	-	not listed in LPSN, Catalogue of Life, NCBI, StrainInfo, Tree of Life, ATCC, DSMZ, PubMed; or elsewhere (only found in old documents VLAREM-contained use, not in current version)
Vibrio pseudotuberculosis	2		CGM/1709 29-03	-	-	-	Not listed in LPSN, NCBI, Catalogue of Life, Tree of Life, no publications found in PubMed; old synonym for *Yersinia pseudotuberculosis?*

Genus/species/strain	COGEM classification	Strict plant (P) or animal pathogen (A)	Reference COGEM report	Remarks
Bacteroides xylanisolvens strain DSM 23964	1		CGM/170929-03	Not available in DSMZ catalogue; no records found in StrainInfo; still mentioned in recent publications
Clostridium autoethanogenum	1		CGM/170929-03	NCBI: Has been effectively published but not validly published under the rules of the International Code of Nomenclature of Bacteria; records in StrainInfo, DSMZ, Living Tree
Synechococcus sp strain PCC7002	1		CGM/170929-03	belongs to the Cyanobacteria (none of the Cyanobacteria has been validly published): not listed in LPSN; records found in StrainInfo, PCC (Collection of Cyanobacteria, Pasteur Institute) and Cyanotype (= taxonomically accepted name)
Synechocystis sp strain PCC6803	1		CGM/170929-03	belongs to the Cyanobacteria (none of the Cyanobacteria has been validly published): not listed in LPSN; records found in StrainInfo, PCC (Collection of Cyanobacteria, Pasteur Institute) and Cyanotype (= taxonomically accepted name)
Thermincola potens	1		CGM/180110-01	Not validly published: see Byrne-Bailey et al, J Bacteriol, 2010, 192:4078-4079 publication full genome "*Thermincola potens*"
Treponema refringens	1		CGM/170929-03	Not listed in LPSN-not validly published; no records at ATCC, Catalogue of Life, DSMZ; records in NCBI, Tree of Life and several publications in PubMed (dating from 1980's an older)

Genus/species/strain	COGEM classification	Reference COGEM report	New name	Literature reference	Motivation	Remarks
Acadicapsa ligni	1	CGM/170929-03	*Acidicapsa ligni*	LPSN	Typographical error in CGM-listing	also mentioned in the same list (CGM/170929-03) as '*Acidicapsa ligni*': correct name
Haloanaerobacter	1	CGM/170929-03	*Halanaerobacter*	LPSN	Typographical error in CGM-listing	
Haloanaerobium	1	CGM/170929-03	*Halanaerobium*	LPSN	Typographical error in CGM-listing	
Rhizobium elti	1	CGM/170929-03	*Rhizobium etli*	LPSN	Typographical error in GCM-listing	
Simsoniella	1	CGM/170929-03	*Simonsiella*	LPSN	Typographical error in CGM-listing	correct name already in listing
Thioalkalivibrio sulfidophilus	1	CGM/170929-03	*Thioalkalivibrio sulfidiphilus*	LPSN	Typographical error in CGM-listing	
Hahella seregens	1	CGM/170929-03	*Hallella seregens*	LPSN	Typographical error in CGM-listing	See *Hallella seregens* further in list pathogenic bacteria: risk class 2!
Paracoccus yeeii	1	CGM/170929-03	*Paracoccus yeei*	IJSEM, 2003, 53, 935-937	The original spelling of the specific epithet, *yeeii* (sic), has been corrected on validation according to Rule 61	
Pyxicoccus	1	CGM/170929-03	*Pyxidicoccus*	IJSEM, 2007, 57, 893-897	LPSN: The original name, *Pyxicoccus* (sic), has been corrected on validation according to Rule 61	
Thialkalimicrobium	1	CGM/170929-03	*Thiomicrospira*	Boden et al, IJSEM, 2017, 67, 1140-1151	Comb. nov./all *Thioalkalimicrobium* (sic) spp. were reclassified into *Thiomicrospira/* 16S rRNA gene phylogeny, physiology and morphology	correct name already in listing
Thialkalivibrio	1	CGM/170929-03	*Thioalkalivibrio*	De Vos et al, IJSEM, 2005, 55, 525-532	Correction to *Thioalkalivibrio*	correct name already in listing

Genus/species/strain	COGEM classification	Reference COGEM report	New name	Literature reference	Motivation	Remarks
Acetobacter peroxydans	1	CGM/170929-03	*Acetobacter pasteurianus*	Gosselé et al, Syst Appl Microbiol, 1983, 4, 338-369	Synonymy /phenotypic features + protein gel electrophoregrams	-
Acetogenium kivui	1	CGM/170929-03	*Thermoanaerobacter kivui*	Collins et al, Int J Syst Bacteriol, 1994, 44, 812-826.	comb. nov. /16S rRNA + phenotype	-
Actinobispora	1	CGM/170929-03	*Pseudonocardia*	Huang et al, IJSEM, 2002, 52, 977-982	Combination of *Actinobispora* and *Pseudonocardia* in an emended genus *Pseudonocardia* based on DNA-DNA relatedness, 16s rDNA, chemotaxonomic and phenotypic analysis.	-
Aeromonas culicicola	1	CGM/170929-03	*Aeromonas veronii*	Nhung et al, IJSEM, 2007, 57, 1232-1237	*Aeromonas culicicola* is a later heterotypic synonyms of *Aeromonas veronii/* 16srRNA and DNA-DNA hybridisation	-
Agromonas	1	CGM/170929-03	*Bradyrhizobium*	Ramirez-Bahena et al. IJSEM, 2013, 63, 1013-1016.	Transfer of *Agromonas oligotrophica* (the type species of the genus *Agromonas*) to the genus *Bradyrhizobium* as *Bradyrhizobium oligotrophicum.* According to Rule 37a, bacteriologists adhering to this proposal must change the name *Agromonas* to *Bradyrhizobium*.	-
Amorphosporangium	1	CGM/170929-03	*Actinoplanes*	Stackebrandt et al, Syst Appl Microbiol, 1987, 9, 110-114; Validation List no. 26. IJSEM, 1988, 38, 328-329.	Union of the genera *Amorphosporangium, Actinoplanes* and *Ampullariella* into *Actinoplanes* based on phenotype, DNA pairing experiments, rRNA cistron similarity studies and 16S rRNA analysis.	-
Anaerobaculum	1	CGM/170929-03	*Acetomicrobium*	Ben Hania et al, IJSEM, 66, 1506-1509	Comb. nov./emendation of the genus *Acetomicrobium/*16S rRNA gene sequences	All taxa have been reclassified into *Acetomicrobium*
Arthrobacter chlorophenolicus	1	CGM/170929-03	*Pseudarthrobacter chlorophenolicus*	Busse, IJSEM, 2016, 66, 9-37	Gen. nov./16S rRNA, peptidoglycan analysis, quinone systems and lipid profiles	-
Aspromonas	1	CGM/170929-03	*Arenimonas*	ASLAM et al, IJSEM, 2009, 59, 2967-2972	Comb. nov.*/Aspromonas composti* (sole taxon within Aspromonas*)* was reclassified into *Arenimonas composti/*16S rRNA and chemotaxonomic analysis	-
Aureobacterium	1	CGM/170929-03	*Microbacterium*	Takeuchi et al, IJSB, 1998, 48, 739-747.	Based on 16S rRNA, phenotypic and chemotaxonomic analysis, *Aureobacterium* and *Microbacterium* were united.	-
Beneckea	1	CGM/170929-03	*Vibrio*	Baumann et al, Curr Microbiol, 1980, 4, 127-132; Validation	*Vibrio* is an earlier heterotypic synonym of *Beneckea.*	-

				List no. 8. IJSB, 1982, 32, 266-268.		
Bryantella	1	CGM/170929-03	*Marvinbryantia*	Wolin et al, IJSEM, 2008, 58, 742-744	illegitimate name	-
Calderobacterium	1	CGM/170929-03	*Hydrogenobacter*	Stöhr et al. IJSEM, 2001, 51, 1853-1862	According to Stöhr et al. 2001, *Hydrogenobacter* is an earlier heterotypic synonym of *Calderobacterium*	-
Catellibacterium	1	CGM/170929-03	*Gemmobacter*	Chen et al, IJSEM, 2013, 63, 470-478	According to Chen et al. 2013, *Gemmobacter* is an earlier heterotypic synonym of *Catellibacterium*	-
Chelatobacter	1	CGM/170929-03	*Aminobacter*	Kämpfer et al, IJSEM, 2002, 52, 835-839	According to Kämpfer et al. 2002, *Aminobacter* is an earlier heterotypic synonym of *Chelatobacter*	-
Curtobacterium ginsengisoli	1	CGM/170929-03	*Gryllotalpicola ginsengisoli*	Kim et al, IJSEM, 2012, 62, 2363-2370	Comb. nov. /a new genus is proposed on basis of phenotypic, chemotaxonomic and phylogenetic analyses	-
Deinobacter	1	CGM/170929-03	*Deinococcus*	Rainey et al, IJSEM, 1997, 47, 510-514	16s rRNA/ *Deinobacter grandis* (sole species within *Deinobacter*) falls within the radiation of the genus *Deinococcus* and phylogenetically can be considered a member of this genus	-
Desulfomonas	1	CGM/170929-03	*Desulfovibrio*	Loubinoux et al, IJSEM, 2002, 52, 1305-1308	Comb. nov./reclassification based on DNA G+C content and sequences of 16S rDNA and the transcribed 16S-23S rDNA	-
Epilithonimonas	1	CGM/170929-03	*Chryseobacterium*	Hahnke et al, Front Microbiol, 2016, 7, 2003; IJSEM, 2017, 67, 1095-1098	*Epilithonimonas* is nested within the older genus *Chryseobacterium* and without significant phenotypic differences; thus, merging the two genera was proposed	-
Erythromonas	1	CGM/170929-03	*Sphingomonas*	Yabuuchi et al, IJSEM, 2002, 52, 1485-1496	The type species of the genus *Erythromonas* (*Erythromonas ursincola* Yurkov et al. 1997) is a later heterotypic synonym of *Sphingomonas ursincola*	-
Excellospora	1	CGM/170929-03	*Actinomadura*	Zhang et al, 2001, IJSEM, 51, 373-383	comb. nov./analysis of 16S rDNA, 23S rDNA and the 16S-23S internal transcribed spacer (ITS)	-
Fundibacter	1	CGM/170929-03	*Alcanivorax*	Fernandez-Martinez et al, IJSEM, 2003, 53, 331-338	LPSN: '*Fundibacter jadensis* (the type species of the genus *Fundibacter*) was transferred to the genus *Alcanivorax* as *Alcanivorax jadensis*. According to Rule 37a, bacteriologists adhering to this proposal must change the name *Fundibacter* to *Alcanivorax*.'	-
Gluconobacter asaii	1	CGM/170929-03	*Gluconobacter cerinus*	Katsura et al, Int J Syst Evol Microbiol, 2002, 52, 1635-1640	*Gluconobacter asaii* is a later heterotypic synonym of *Gluconobacter cerinus*	-

Haloincola	1	CGM/170929-03	*Halanaerobium*	Rainey et al, Anaerobe, 1995, 1, 185-199; IJSEM, 1995, 45, 879-880.	LPSN: *Haloincola saccharolyticus* (the type species of the genus *Haloincola*) was transferred to the genus *Halanaerobium* as *Halanaerobium saccharolyticum,* comb. nov. According to Rule 37a, bacteriologists adhering to this proposal must change the name *Haloincola* to *Halanaerobium*.	-
Hongiella	1	CGM/170929-03	*Algoriphagus*	Nedashkovskaya et al, IJSEM, 2007, 57, 1988-1994	*Hongiella mannitolivorans* was transferred to the genus *Algoriphagus* as *Algoriphagus mannitolivorans* comb. nov. According to Rule 37a, bacteriologists adhering to this proposal must change the name *Hongiella* to *Algoriphagus*.	-
Kitasatoa	1	CGM/170929-03	*Streptomyces*	Goodfellow et al, Syst Appl Microbiol, 1986, 8, 65-66; IJSB, 1986, 36, 573-576	*Kitasatoa purpurea*, the type species of the genus *Kitasatoa*, was transferred to the genus *Streptomyces* as *Streptomyces purpureus*, comb. nov. According to Rule 37a, bacteriologists adhering to this proposal must change the name *Kitasatoa* to *Streptomyces*.	-
Kitasatospora	1	CGM/170929-03	*Streptomyces*	Wellington et al, IJSB, 1992, 42, 156-160	*Kitasatospora setae,* the type species of the genus *Kitasatospora,* was transferred to the genus *Streptomyces* as *Streptomyces setae*, comb. nov. According to Rule 37a, bacteriologists adhering to this proposal must change the name *Kitasatospora* to *Streptomyces*.	-
Lactosphaera	1	CGM/170929-03	*Trichococcus*	Liu et al, IJSEM, 2002, 52, 1113-1126	Emendation of *Trichococcus* based on analyses of 165 rRNA gene sequences, restriction endonuclease digestion fingerprints of 16S-23S intergenic regions, DNA base compositions, fatty-acid profiles, cell-wall chemistry, cell physiology and fermentation end-product composition, along with other biochemical and phenotypic properties.	-
Marinibacillus	1	CGM/170929-03	*Jeotgalibacillus*	Yoon et al, IJSEM, 2010, 60, 15-20	Reclassification based on 16S rRNA and chemotaxonomic properties	-
Microsphaera	1	CGM/170929-03	*Nakamurella*	Tao et al, IJSEM, 2004, 54, 999-1000	The name *Microsphaera* illegitimate because of precedence of the fungal genus *Microsphaera*. Consequently, a new genus designation *Nakamurella* has been proposed by Tao et al (2004)	-

Muricoccus	1	CGM/170929-03	*Roseomonas*	Sanchez-Porro et al, IJSEM, 2009, 59, 1193-1198	Comb.nov./Reclassification based on 16S rRNA and fatty acid composition	-
Paralactobacillus	1	CGM/170929-03	*Lactobacillus*	Haakensen et al, 2011, 61, 2979-2983	Based on multilocus sequence analysis of the 16S rRNA gene and portions of the cpn60, pheS and rpoA genes, Haakensen et al (2011) propose to transfer *Paralactobacillus selangorensis,* the type species of the genus *Paralactobacillus*, to the genus *Lactobacillus* as *Lactobacillus selangorensis* comb. nov. According to Rule 37a, bacteriologists adhering to this proposal must change the name *Paralactobacillus* to *Lactobacillus*	-
Petrobacter	1	CGM/170929-03	*Tepidiphilus*	Poddar et al, IJSEM, 2014, 64, 228-235	comb.nov./reclassification based on identical fatty acid profiles with *Tepidiphilus margaritifer* and high sequence similarity	The sole taxon (*Petrobacter succinatimandens*) was reclassified into *Tepidiphilus*
Propionibacter	1	CGM/170929-03	*Propionivibrio*	Brune et al, IJSEM, 2002, 52, 441-444	Brune et al (2002) propose to transfer *Propionibacter pelophilus* to the genus *Propionivibrio* as *Propionivibrio pelophilus; a*ccording to Rule 37a, bacteriologists adhering to this proposal must change the name *Propionibacter* to *Propionivibrio*	-
Propionibacterium jensenii	1	CGM/170929-03	*Acidipropionibacterium jensenii*	Scholz & Kilian, IJSEM, 2016, 66, 4422-4432	Gen. nov./ supported by phylogenetic analyses, DNA G+C content, peptidoglycan composition and patterns of the gene losses and acquisitions in the cutaneous Propionibacteria during their adaptation to the human host	-
Rhizobium giardinii	1	CGM/170929-03	*Pararhizobium giardinii*	Mousavi et al, 2015, Syst Appl Microbiol, 38, 84-90	Gen. nov. and comb. nov./MLSA housekeeping genes	-
Rhizobium trifolii	1	CGM/170929-03	*Rhizobium leguminosarum*	Ramirez-Bahena, 2008, IJSEM, 58, 2484-2490	Comb. nov./*Rhizobium trifolii* is a later heterotypic synonym of *Rhizobium leguminosarum/* molecular and phenotypic characteristics	-
Roseomonas fauriae	1	CGM/170929-03	*Azospirillum brasilense*	Helsel et al, IJSEM, 2006, 56, 2753-2755	*Roseomonas fauriae* is a later heterotypic synonym of *Azospirillum brasilense*	-
Ruminococcus productus	1	CGM/170929-03	*Blautia producta*	Liu et al, IJSEM, 2008, 58, 1896-1902	Comb.nov/ 16S rRNA gene sequencing show that is belongs hitherto unknown subline within the clostridial rRNA cluster XIVa	both are homotypic synonyms*: LPSN; Blautia*: DSMZ, StrainInfo, NCBI, Catalogue of Life, Tree of Life

Salibacillus	1	CGM/170929-03	*Virgibacillus*	Heyrman et al, IJSEM, 2003, 53, 501-511	Transfer of *Salibacillus salexigens*, the type species of the genus *Salibacillus*, to the genus *Virgibacillus* as *Virgibacillus salexigens;* according to Rule 37a, bacteriologists adhering to this proposal must change the name *Salibacillus* to *Virgibacillus*	-
Sarcina	1	CGM/170929-03	*Clostridium*	Lawson & Rainey, IJSEM, 2016, 1009-1016	comb.nov/16S rRNA gene/reclassification to *Clostrium* cluster 1	-
Schineria	1	CGM/170929-03	*Ignatzschineria*	Toth et al, IJSEM, 2007, 57, 179-180	The name *Schineria* is illegitimate because of precedence of the genus *Schineria* (Insecta, Tachinidae, Diptera); consequently, a new genus designation *Ignatzschineria* has been proposed by Tóth et al (2007)	-
Silicibacter	1	CGM/170929-03	*Ruegeria*	Yi et al, IJSEM, 2007, 57, 815-819	Transfer *Silicibacter lacuscaerulensis* (the type species of the genus *Silicibacter*) to the genus *Ruegeria* as *Ruegeria lacuscaerulensis*; according to Rule 37a, bacteriologists adhering to this proposal must change the name *Silicibacter* to *Ruegeria*	-
Sinorhizobium	1	CGM/170929-03	*Ensifer*	Young, IJSEM, 2003, 53, 2107-2110	Transfer of *Sinorhizobium fredii*, the type species of the genus *Sinorhizobium*, to the genus *Ensifer* as *Ensifer fredii*; *Sinorhizobium* and *Ensifer* are synonyms; principle of priority would result in the members of the genus *Sinorhizobium* being transferred to the genus *Ensifer*	-
Staleya	1	CGM/170929-03	*Sulfitobacter*	Yoon et al, IJSEM, 2007, 57, 1788-1792	Transfer of *Staleya guttiformis* (the type species of the genus *Staleya*) to the genus *Sulfitobacter* as *Sulfitobacter guttiformis; a*ccording to Rule 37a, bacteriologists adhering to this proposal must change the name *Staleya* to *Sulfitobacter*	-
Stomatococcus	1	CGM/170929-03	*Rothia*	Collins et al, IJSEM, 2000, 50, 1247-1251	Sinces *Stomatococcus mucilaginosus* (the type species of the genus *Stomatococcus*) was transferred to the genus *Rothia* as *Rothia mucilaginosa* bacteriologists adhering to this proposal must change the name *Stomatococcus* to *Rothia*	-
Syntrophospora	1	CGM/170929-03	*Syntrophomonas*	Wu et al, IJSEM, 2006, 56, 2331-2335	Transfer of *Syntrophospora bryantii* (the type species of the genus *Syntrophospora*) to the genus *Syntrophomonas* as *Syntrophomonas bryantii*; according to Rule	-

					37a, bacteriologists adhering to this proposal should change the name *Syntrophospora* to *Syntrophomonas*.	
Teichococcus	1	CGM/170929-03	*Roseomonas*	Sanchez-Porro et al, IJSEM, 2009, 59, 1193-1198	Transfer of *Teichococcus ludipueritiae* (the type species of the genus *Teichococcus*) to the genus *Roseomonas* as *Roseomonas ludipueritiae*; according to Rule 37a, bacteriologists adhering to this proposal must change the name *Teichococcus* to *Roseomonas*	-
Thermoterrabacterium	1	CGM/170929-03	*Carboxydothermus*	Slobodkin et al, IJSEM, 2006, 56, 2349-2351	Transfer of *Thermoterrabacterium ferrireducens* (the type species of the genus *Thermoterrabacterium*) to the genus *Carboxydothermus* as *Carboxydothermus ferrireducens*; according to Rule 37a, bacteriologists adhering to this proposal must change the name *Thermoterrabacterium* to *Carboxydothermus*.	-
Thioalkalimicrobium	1	CGM/170929-03	*Thiomicrospira*	Boden et al, IJSEM, 2017, 67, 1140-1151	Comb. nov./all *Thioalkalimicrobium* (sic) spp. were reclassified into *Thiomicrospira/* 16S rRNA gene phylogeny, physiology and morphology	-
Volcaniella	1	CGM/170929-03	*Halomonas*	Mellado et al, IJSB, 1995, 45, 712-716	Transfer of *Volcaniella eurihalina* (the type species of the genus *Volcaniella*) to the genus *Halomonas* as *Halomonas eurihalina*; according to Rule 37a, bacteriologists adhering to this proposal must change the name *Volcaniella* to *Halomonas*	-
Wautersia paucula	1	CGM/170929-03	*Cupriavidus pauculus*	Vandamme & Coenye, IJSEM, 2004, 54, 2285-2289	comb. nov./ *Wautersia eutropha*, the type species of the genus *Wautersia*, is a later synonym of *Cupriavidus necator*, the type species of the genus *Cupriavidus;* the genus name *Cupriavidus* has priority over the genus name *Wautersia*, and all other members of the genus *Wautersia* are reclassified into *Cupriavidus*	-
Xylanibacter	1	CGM/170929-03	*Prevotella*	Sakamoto & Ohkuma, IJSEM, 2012, 62, 2637-2642	Transfer *Xylanibacter oryzae* (the type species of the genus *Xylanibacter*) to the genus *Prevotella* as *Prevotella oryzae; a*ccording to Rule 37a, bacteriologists adhering to this proposal must change the name *Xylanibacter* to *Prevotella*	-
Yania	1	CGM/170929-03	*Yaniella*	Li et al, IJSEM, 2008, 58, 525-527	The name *Yania halotolerans* is illegitimate because the genus name is illegitimate;	-

					consequently, a new species designation *Yaniella halotolerans* has been proposed by Li et al (2008)	

Genus/species/strain	**COGEM classification**	**Reference COGEM report**	**New name**	**Literature reference**	**Motivation**	**Remarks**
Geobacter sulfurreducens	1	CGM/170929-03	*Geobacter sulfurreducens* subsp. *sulfurreducens*	Viulu et al, J Gen Appl Microbiol, 59, 325–334; IJSEM, 2014, 64, 2184-2187	With the description of *Geobacter sulfurreducens* subsp. *Ethanolicus, Geobacter sulfurreducens* subsp. *sulfurreducens* was automatically created	Divided into subspecies: *Geobacter sulfurreducens* subsp. *ethanolicus* and *Geobacter sulfurreducens* subsp. *sulfurreducens*
Lactobacillus plantarum	1	CGM/170929-03		Bringel et al, IJSEM, 2005, 55, 1629-1634	Since *Lactobacillus plantarum* subsp. *argentoratensis* was created (a homogeneous group of very closely related strains based on phylogenetic analysis of recA and cpn60 genes and phenotype, with an atypical pattern of amplification with a species-specific multiplex-PCR assay), *Lactobacillus plantarum* subsp. *plantarum* was automatically created.	Didived into subspecies *Lactobacillus plantarum* subsp. a*rgentoratensis* and *Lactobacillus plantarum* subsp. *plantarum*
Roseomonas gilardii	1	CGM/170929-03		Han et al, Am J Clin Pathol, 2003, 120, 256-264; IJSEM, 2003, 53, 1701-1702.	Subsp. nov. /sequencing analysis of the 16S ribosomal RNA gene and phenotypic analyses/ subsp. Rosea has pink colonies +characteristic biochemical reactions	Divided in subspecies *Roseomonas gilardii* subsp. *gilardii, Roseomonas gilardii* subsp. *rosea*

Genus/species/strain	COGEM classification	Reference COGEM report	New name	Literature reference	Motivation	Remarks
Acetomicrobium	1	CGM/170929-03				One taxon was reclassified into Caldicoprobacter
Acidiphilium	1	CGM/170929-03				Several taxa were reclassified into *Acidocella*
Aestuariibacter	1	CGM/170929-03				One taxon was reclassified into *Aliiglaciecola*
Alicyclobacillus	1	CGM/170929-03				One taxon was reclassified into *Effusibacillus*
Amoebobacter	1	CGM/170929-03				Subdivided into the genera *Amoebobacter, Thiolamprovum, Thiocapsa, Lamprocystis* (see LPSN)
Amphibacillus	1	CGM/170929-03				One taxon was reclassified into *Pelagirhabdus*
Aquaspirillum	1	CGM/170929-03				Several taxa were reclassified into *Giesbergeria, Simplicispira, Insolitispirillum, Magnetospirillum, Novispirillum, Hylemonella, Prolinoborus, Microvirgula, Curvibacter, Herbaspirillum, Comamonas*
Azospirillum	1	CGM/170929-03				One taxon was reclassified into *Nitrospirillum*
Azotobacter	1	CGM/170929-03				*One taxon was reclassified into Azorhizophilus*
Bacteriovorax	1	CGM/170929-03				*Bacteriovorax* has been divided into *Bacteriovorax, Halobacteriovorax, Peridibacter*
Bdellovibrio	1	CGM/170929-03				*Bdellovibrio* was divided into *Bdellivibrio, Peridibacter* and *Bacteriovorax*
Blastobacter	1	CGM/170929-03				Several taxa within *Blastobacter* were reclassified into *Rhizobium, Pararhizobium, Bradyrhizobium, Blastomonas*
Blastomonas	1	CGM/170929-03				Several taxa were reclassified into *Sphingomonas*
Catellatospora	1	CGM/170929-03				Some taxa were reclassified into *Asanoa, Catelliglobosispora, Micromonospora, Hamadaea*
Caulobacter	1	CGM/170929-03				Some taxa were reclassified into *Brevundimonas, Sphingomonas* and *Maricaulis*
Cellulophaga	1	CGM/170929-03				One taxon was reclassified as *Zobellia*
Chlorobium	1	CGM/170929-03				Several taxa were reclassified into *Chlorobaculum, Prosthecochloris*
Chromatium	1	CGM/170929-03				Several taxa were reclassified into *Isochromatium, Halochromatium, Marichromatium, Thiocystis, Allochromatium, Thermochromatium*
Cystobacter	1	CGM/170929-03				One taxon was reclassified into *Archangium*
Desulfobacterium	1	CGM/170929-03				One taxon was reclassified into *Desulfobacula*
Desulfotomaculum	1	CGM/170929-03				LPSN: One taxon was reclassified into *Desulfosporosinus*

Desulfovibrio	1	CGM/170929-03				LPSN: Several taxa were reclassified into *Halodesulfovibrio, Pseudodesulfovibrio, Desulfarculus, Desulfomicrobium, Desulfobotulus, Thermodesulfobacterium*
Duganella	1	CGM/170929-03				One taxon was reclassified into *Pseudoduganella*
Ectothiorhodospira	1	CGM/170929-03				Several taxa were reclassified into *Halorhodospira*
Erythrobacter	1	CGM/170929-03				One taxon was reclassified into *Altererythrobacter*
Ferroplasma	1	CGM/170929-03				One taxon was reclassified into *Acidiplasma*
Flectobacillus	1	CGM/170929-03				Several taxa were reclassified into *Polaribacter, Cyclobacterium*
Frigoribacterium	1	CGM/170929-03				One taxon was reclassified as *Parafrigoribacterium*
Geobacillus	1	CGM/170929-03				Several taxa were reclassified into *Caldibacillus, Aeribacillus, Anoxybacillus*
Glaciecola	1	CGM/170929-03				Several taxa were reclassified into *Paraglaciecola, Aliiglaciecola*
Gluconacetobacter	1	CGM/170929-03				Several taxa were reclassified into *Komagataeibacter*
Halobacteroides	1	CGM/170929-03				Several taxa were transferred to *Halanaerobacter* and *Halanaerobium*
Halococcus	1	CGM/170929-03				One taxon was transferred to *Haloterrigena*
Halomonas	1	CGM/170929-03				Several taxa were transferred to *Chromohalobacter, Cobetia, Kushneria* and *Salinicola*
Halovibrio	1	CGM/170929-03				One taxon was transferred to *Halomonas*
Herpetosiphon	1	CGM/170929-03				Several taxa were reclassified into *Lewinella*
Hydrogenobacter	1	CGM/170929-03				One taxon was reclassified into *Hydrogenobaculum*
Hyphomicrobium	1	CGM/170929-03				Several taxa were reclassified into *Photobacterium* and *Hyphomonas*
Idiomarina	1	CGM/170929-03				One taxon was reclassified into *Aliidiomarin*
Jannaschia	1	CGM/170929-03				One taxon was reclassified into *Thalassobacter*
Kibdelosporangium	1	CGM/170929-03				One taxon was reclassified into *Allokutzneria*
Lysobacter	1	CGM/170929-03				One taxon was reclassified into Vulcaniibacterium
Marichromatium	1	CGM/170929-03				One taxon was reclassified into *Phaeochromatium*
Marinococcus	1	CGM/170929-03				Several taxa were reclassified into *Salimicrobium, Salinicoccus*
Methylobacter	1	CGM/170929-03				Several taxa were reclassified into *Methylomicrobium*
Methylomonas	1	CGM/170929-03				One taxon was reclassified into *Methylomicrobium*

Microbispora	1	CGM/170929-03				Several taxa were reclassified into *Thermobispora, Sphaerimonospora, Actinomadura*
Micrococcus	1	CGM/170929-03				Several taxa were reclassified into *Arthrobacter, Nesterenkonia, Kocuria, Neomicrococcus, Dermacoccus, Kytococcus*
Micropolyspora	1	CGM/170929-03				Several taxa were reclassified into *Nonomuraea, Nocardia, Saccharopolyspora*
Microtetraspora	1	CGM/170929-03				Several taxa were reclassified into *Nonomuraea, Thermopolyspora, Actinomadura*
Mycoplana	1	CGM/170929-03				Several taxa were reclassified as *Brevundimonas* and *Caulobacter*
Myxococcus	1	CGM/170929-03				Several taxa were reclassified into *Corallococcus* and *Angiococcus.*
Nocardioides	1	CGM/170929-03				One taxon was reclassified into *Aeromicrobium*
Nonomuraea	1	CGM/170929-03				One taxon was reclassified into *Thermopolyspora*
Novosphingobium	1	CGM/170929-03				One taxon was reclassified into *Sphingomonas*
Oceanicola	1	CGM/170929-03				One taxon was reclassified into *Lutimaribacter*
Oceanospirillum	1	CGM/170929-03				Several taxa were reclassified into *Marinomonas, Marinobacterium, Pseudospirillum, Terasakiella* and *Oceanobacter*
Octadecabacter	1	CGM/170929-03				One taxon was reclassified into *Pseudooctadecabacter*
Oerskovia	1	CGM/170929-03				One taxon was reclassified into *Cellulosimicrobium*
Pediococcus	1	CGM/170929-03				Several taxa were reclassified into *Lactobacillus, Tetragenococcus* and *Aerococcus*
Pedobacter	1	CGM/170929-03				One taxon was reclassified into *Pseudopedobacter*
Pelodictyon	1	CGM/170929-03		Imhoff, IJSEM, 2003, 53, 941-951		All taxa have been transferred to *Chlorobium*, with the exception of except *Pelodictyon phaeum* because Imhoff (2003) did not make any proposal regarding the transfer of *Pelodictyon phaeum* to either *Chlorobium* or another genus
Planococcus	1	CGM/170929-03				Several taxa were reclassified into *Planomicrobium, Marinococcus*
Polyangium	1	CGM/170929-03				One taxon was reclassified into *Sorangium*
Promicromonospora	1	CGM/170929-03				Several taxa were reclassified into *Oerskovia, Krasilnikoviella, Xylanimicrobium*
Prosthecomicrobium	1	CGM/170929-03				Several taxa were reclassified into *Bauldia, Vasilyevaea*
Pseudonocardia	1	CGM/170929-03				One taxon was reclassified into *Amycolatopsis*
Rhodobacter	1	CGM/170929-03				Several taxa were reclassified into *Rhodovulum, Gemmobacter, Haematobacter*
Rhodobium	1	CGM/170929-03				One taxon was reclassified into *Afifella*
Rhodocyclus	1	CGM/170929-03				One taxon was reclassified into *Rubrivivax*

Rhodoferax	1	CGM/170929-03				One taxon was reclassified into *Albidiferax*
Rhodopseudomonas	1	CGM/170929-03				Several taxa were reclassified into *Rhodoblastus, Rhodovulum, Rhodobacter, Rubrivivax, Rhodopila, Afifella, Rhodoplanes, Rhodopseudomonas, Blastochloris*
Rhodospirillum	1	CGM/170929-03				Several taxa were reclassified into *Rhodocista, Phaeospirillum, Rhodothalassium, Rhodovibrio, Rhodocyclus*
Roseobacter	1	CGM/170929-03				Several taxa were reclassified into *Marinovum, Phaeobacter*
Roseovarius	1	CGM/170929-03				Several taxa were reclassified into *Aliiroseovarius, Pacificibacter*
Ruegeria	1	CGM/170929-03				Several taxa were reclassified into *Marinovum, Thalassobius*
Saccharococcus	1	CGM/170929-03				One taxon was reclassified into *Geobacillus*
Saccharothrix	1	CGM/170929-03				Several taxa were reclassified into *Lentzea, Lechevalieria, Goodfellowiella, Crossiella, Umezawaea*
Salegentibacter	1	CGM/170929-03				One taxon was reclassified into *Salinimicrobium*
Simonsiella	1	CGM/170929-03				Several taxa were reclassified into *Alysiella* and *Conchiformibius*
Sphingobium	1	CGM/170929-03				Several taxa were reclassified into *Rhizorhapis* and *Sphingomonas*
Sphingopyxis	1	CGM/170929-03				Several taxa were reclassified into *Sphingorhabdus* and *Sphingomonas*
Spirochaeta	1	CGM/170929-03				Several taxa were reclassified into *Alkalispirochaeta, Treponema, Sphaerochaeta, Oceanispirochaeta*
Sporohalobacter	1	CGM/170929-03				One taxon was reclassified into *Orenia*
Sporosarcina	1	CGM/170929-03				Several taxa were reclassified into *Paenisporosarcina, Halobacillus*
Stappia	1	CGM/170929-03				Several taxa were reclassified into *Labrenzia*
Streptomyces	1# (# except plant pathogenic *Streptomyces* spp. and *Streptomyces somaliensis*)	CGM/170929-03				Several taxa were reclassified into *Kitasatospora*
Streptosporangium	1	CGM/170929-03				Several taxa were reclassified into *Kutzneria, Herbidospora, Acrocarpospora, Sphaerisporangium, Streptomyces*
Subtercola	1	CGM/170929-03				One taxon was reclassified into *Agreia*

Sulfobacillus	1	CGM/170929-03				One taxon was reclassified into *Alicyclobacillus*
Thalassomonas	1	CGM/170929-03				Several taxa were reclassified into *Thalassotalea*
Thermoactinomyces	1	CGM/170929-03				Several taxa were reclassified into *Thermoflavimicrobium, Seinonella and Laceyella*
Thermoanaerobacter	1	CGM/170929-03				Several taxa were reclassified into *Caldanaerobacter*
Thermoanaerobacterium	1	CGM/170929-03				Several taxa were reclassified into *Caldanaerobius*
Thermoanaerobium	1	CGM/170929-03				Several taxa were reclassified into *Caldicellulosiruptor* and *Thermoanaerobacter*
Thermobacteroides	1	CGM/170929-03				Several taxa were reclassified into *Thermoanaerobacter, Clostridium* and *Coprothermobacter*
Thermomicrobium	1	CGM/170929-03				One taxon was reclassified into *Thermoleophilum*
Thermomonospora	1	CGM/170929-03				Several taxa were reclassified into *Thermobifida, Actinomadura, Microbispora* and *Sphaerimonospora*
Thermotoga	1	CGM/170929-03				Several taxa were reclassified into *Pseudothermotoga*
Thermus	1	CGM/170929-03				Several taxa were reclassified into *Meiothermus*
Thiobacillus	1	CGM/170929-03				Several taxa were reclassified into *Acidiphilium, Acidithiobacillus, Annwoodia, Acidithiobacillus, Thiomonas, Halothiobacillus, Starkeya, Paracoccus, Thiomicrospira, Paracoccus*
Thiocapsa	1	CGM/170929-03				Several taxa were reclassified into *Thiohalocapsa* and *Thiococcus*
Thiomicrospira	1	CGM/170929-03				Several taxa were reclassified into *Thiomicrorhabdus, Sulfurimonas* and *Hydrogenovibrio*
Thiorhodoccocus	1	CGM/170929-03				One taxon was reclassified into *Imhoffiella*
Virgibacillus	1	CGM/170929-03				Several taxa were reclassified into *Aquibacillus* and *Oceanobacillus*
Weeksella	1	CGM/170929-03				One taxon was reclassified into *Bergeyella*
Wolbachia	1	CGM/170929-03				One taxon was reclassified into *Francisella*
Wolinella	1	CGM/170929-03				Several taxa were reclassified into *Campylobacter*
Xenorhabdus	1	CGM/170929-03				Several taxa were reclassified into *Photorhabdus* and *Xenorhabdus*
Zymophilus	1	CGM/170929-03				Several taxa were reclassified into *Propionispira*

Genus/species/strain	COGEM classification	Reference COGEM report	New name	Literature reference	Motivation	Remarks
Anabaena variablis strain ATCC 29413	1	CGM/170929-03	*Trichormus variabilis?*	Shih et al. (2013), PNAS, 2013, 110(3), 1053-1058.; Howard-Azzeh et al, 2014, Photosynthesis Research 122(2), 171-185.		Confirmed by Cyanotype, Algaebase, NCBI. However, for Catalogue of life, Living Tree and ATCC is *Anabaena variabilis* the accepted name. No records in LPSN because none of the Cyanobacteria has been validly published.
Anaerobacter	1	CGM/170929-03	*Clostridium?*	Rainey et al., 2009, In Bergey's Manual of Systematic Bacteriology, 2nd edn, vol. 3. *The Firmicutes*, pp. 738-828. Edited by de Vos P et al., New York: Springer. VALIDATION LIST no. 172., IJSEM, 2016, 66, 4299–4305.	comb.nov./ 16rRNA	*Anaerobacter polyendosporus* (the only representative of Anaerobacter) has been changed into *Clostridium polyendosporum;* this is supported by NCBI and BacDive. Catalogue of Life, ATCC , however, support *Anaerobacter polyendosporus*.
Burkholderia caribensis	1	CGM/170929-03	*Paraburkholderia caribensis*	Sawana et al. Front Genet, 2014, 5, 429; Oren and Garrity, IJSEM, 2016, 65, 2017–2026	Gen. nov./protein and gene sequences, 16S rRNA and conserved sequence indels	division of this genus into the emended genus *Burkholderia* containing pathogenic organisms and a new genus *Paraburkholderia* gen. nov. harboring environmental species. Validly published; however, no link between both names in LPDN; *Burkholderia*: Catalogue of Life, ATCC, StrainInfo; *Paraburkholderia*: NCBI, DSMZ, BCCM/LMG
Burkholderia graminis	1	CGM/170929-03	*Paraburkholderia graminis*	Sawana et al. Front Genet, 2014, 5, 429; Oren and Garrity, IJSEM, 2016, 65, 2017–2025	Gen. nov./protein and gene sequences, 16S rRNA and conserved sequence indels	division of this genus into the emended genus *Burkholderia* containing pathogenic organisms and a new genus *Paraburkholderia* gen. nov. harboring environmental species. Validly published; however, no link between both names in LPDN; *Burkholderia*: Catalogue of Life, ATCC, StrainInfo; *Paraburkholderia*: NCBI, DSMZ, BCCM/LMG
Burkholderia phymatum	1	CGM/170929-03	*Paraburkholderia phymatum*	Sawana et al. Front Genet, 2014, 5, 429; Oren and Garrity, IJSEM, 2016, 65, 2017–2025	Gen. nov./protein and gene sequences, 16S rRNA and conserved sequence indels	division of this genus into the emended genus *Burkholderia* containing pathogenic organisms and a new genus *Paraburkholderia* gen. nov. harboring environmental species. Validly published;

						however, no link between both names in LPDN; *Burkholderia*: Catalogue of Life, ATCC, StrainInfo; *Paraburkholderia*: NCBI, DSMZ, BCCM/LMG
Burkholderia phytofirmans	1	CGM/170929-03	*Paraburkholderia phytofirmans*	Sawana et al. Front Genet, 2014, 5, 429; Oren and Garrity, IJSEM, 2016, 65, 2017–2025	Gen. nov./protein and gene sequences, 16S rRNA and conserved sequence indels	division of this genus into the emended genus *Burkholderia* containing pathogenic organisms and a new genus *Paraburkholderia* gen. nov. harboring environmental species. Validly published; however, no link between both names in LPDN; Burkholderia: Catalogue of Life, ATCC, StrainInfo; Paraburkholderia: NCBI, DSMZ, BCCM/LMG
Burkholderia tropica	1	CGM/170929-03	*Paraburkholderia tropica*	Sawana et al. Front Genet, 2014, 5, 429; Oren and Garrity, IJSEM, 2016, 65, 2017–2025	Gen. nov./protein and gene sequences, 16S rRNA and conserved sequence indels	division of this genus into the emended genus *Burkholderia* containing pathogenic organisms and a new genus *Paraburkholderia* gen. nov. harboring environmental species. Validly published; however, no link between both names in LPDN; *Burkholderia*: Catalogue of Life, ATCC, StrainInfo; *Paraburkholderia*: NCBI, DSMZ, BCCM/LMG
Burkholderia xenovorans	1	CGM/170929-03	*Paraburkholderia xenovorans*	Sawana et al. Front Genet, 2014, 5, 429; Oren and Garrity, IJSEM, 2016, 65, 2017–2025	Gen. nov./protein and gene sequences, 16S rRNA and conserved sequence indels	division of this genus into the emended genus *Burkholderia* containing pathogenic organisms and a new genus *Paraburkholderia* gen. nov. harboring environmental species. Validly published; however, no link between both names in LPDN; *Burkholderia*: Catalogue of Life, ATCC, StrainInfo; *Paraburkholderia*: NCBI, DSMZ, BCCM/LMG
Rhizobium galegae	1	CGM/170929-03	*Neorhizobium galegae?*	Mousavi et al, 2014, Syst Appl Microbiol, 37, 208-215; IJSEM, 2015, 65, 1-4	Gen nov. and comb. nov./ *R. galegae, R. vignae, R. huautlense,* and *R. alkalisoli* form a separate clade that clearly represented a new genus/MLSA of six protein-coding housekeeping genes	Name change/synonymy not mentioned by LPSN, Catalogue of Life, StrainInfo; name change supported by NCBI, DSMZ, Tree of life, several recent publications in PubMed
Rhizobium huautlense	1	CGM/170929-03	*Neorhizobium huautlense?*	Mousavi et al, 2014, Syst Appl Microbiol, 37, 208-215; IJSEM, 2015, 65, 1-4	Gen nov. and comb. nov./ *R. galegae, R. vignae, R. huautlense,* and *R. alkalisoli* form a separate clade that clearly represented a new genus/MLSA of six protein-coding housekeeping genes	Name change/synonymy not mentioned by LPSN, Catalogue of Life, StrainInfo; name change supported by NCBI, DSMZ, Tree of life, several recent publications in PubMed

Rhizobium lupini	1	CGM/170929-03	*Bradyrhizobium lupini*	Peix et al, 2015, IJSEM, 65, 1213-1219	comb. nov./high similarity between 16S rRNA, recA and glnII gene sequences of *R. lupini* and *Bradyrhizobium canariense*	Name change/synonymy not mentioned by LPSN, Catalogue of Life, StrainInfo; name change supported by NCBI, DSMZ, Tree of life, ATCC
Rhizomonas	1	CGM/170929-03	*Rhizorhapis*	Francis et al, 2014, IJSEM, 64, 1340-1350	LPSN: The name *Rhizomonas* is illegitimate because it is a later homonym of a name of a taxon of protozoa (*Rhizomonas* Kent 1880); however, no proposal for a new genus is given. A new genus name is proposed by Frances et al (2014), based on 16S rRNA gene sequencing, DNA–DNA hybridization, DNA G+C content, whole-cell fatty acid composition, morphology, substrate oxidation, temperature and pH sensitivity, and pathogenicity to lettuce	*Rhizorhapis* is supported by Tree of Life, LMG, DSMZ, NCBI
Zimmermannella	1	CGM/170929-03	*Pseudoclavibacter*		LPSN: The genus name *Zimmermannella* is a later homotypic synonym of the genus name *Pseudoclavibacter; s*trict application of the Rules indicates that the genus name *Zimmermannella* is illegitimate	*Zimmermanella*: LPSN (states synonymy, but no formal name change), Catalogue of Life, ATCC, only 3 hits in PubMed; *Pseudoclavibacter:* NCBI, DSMZ, Tree of Life

Genus/species/strain	COGEM classification	Reference COGEM report	New name	Literature reference	Motivation	Remarks
Salmonella Typhi strain Ty21a	1	CGM/170929-03	*Salmonella enterica* subsp. *enterica* serovar Typhi	Grimont & Weill, Antigenic formulae of the *Salmonella* serovars, 2007, 9th edition, WHO collaborating centre for reference and research on *Salmonella*, Institut Pasteur		Or *Salmonella* Typhi?

Genus/species/strain	COGEM classification	Reference COGEM report	New name	Literature reference	Motivation	Remarks
Cryptobacterium pauculus	1	CGM/170929-03		-	-	no records found (even using Google, Ecosia). Error: *Cupriavidus pauculus*?
Hydrogenothermophilus	1	CGM/170929-03	*Hydrogenophilus?*			Only found trace in DSMZ catalogue; *Hydrogenothermophilus hirschii* is an illegitimate synonym of *Hydrogenophilus hirschii*
Paracolobactrum	1	CGM/170929-03	?			Records found at ATCC (*Paracolobactrum intermedium = Citrobacter youngae*), LPSN (*Paracolobactrum anguillimortiferum = Edwardiella tarda; Paracolobactrum arizonae= Salmonella enterica* subsp. *arizonae*) and in publications dating from 60-70's (PubMed)
Taxeobacter	1	CGM/170929-03	*Hymenobacter?*	Buczolits et al, IJSEM, 2006, 56, 2071-2078		No records found in LPSN, StrainInfo, ATCC, DSMZ, Catalogue of Life; link found to *Hymenobacter* in NCBI; see publication Buczolits et al (2006): several *Taxeobacter* spp. were renamed as *Hymenobacter*
Gariaella	1	CGM/170929-03	*Garciella*? *Gaiella*?		Typographical error?	*Gariaella'*: sic in CGM-listing 2011
Lactococcus rhamnosus	1	CGM/170929-03	*Lactobacillus rhamnosus?*		Typographical error in CGM-listing	*'Lactococcus rhamnosus'*: sic in CGM-listing 2011
Methylophila	1	CGM/170929-03	*Methylopila* or *Methylophilus*? (both are already listed)	-	-	

Nr.	*Genus/species/strain*	COGEM classification	Synonyms	Reference(s) of the report annexes (for further details & motivation)
1	*Aureobacterium* (→ *Microbacterium*)			Annex 2c
2	*Acetitomaculum ruminis*	1		-
3	*Acetoanaerobium*	1		-
4	*Acetobacter aceti*	1		-
5	*Acetobacter cerevisiae*	1		-
6	*Acetobacter cibinongensis*	1		-
7	*Acetobacter estunensis*	1		-
8	*Acetobacter ghanensis*	1		-
9	*Acetobacter indonesiensis*	1		-
10	*Acetobacter lovaniensis*	1		-
11	*Acetobacter malorum*	1		-
12	*Acetobacter nitrogenifigens*	1		-
13	*Acetobacter oeni*	1		-
14	*Acetobacter orientalis*	1		-
15	*Acetobacter orleanensis*	1		-
16	*Acetobacter pasteurianus*	1	= *Acetobacter peroxydans*	Annex 2c
17	*Acetobacter peroxydans* (→ *Acetobacter pasteurianus*)			Annex 2c
18	*Acetobacter pomorum*	1		-
19	*Acetobacter senegalensis*	1		-
20	*Acetobacter syzygii*	1		-
21	*Acetobacter tropicalis*	1		-
22	*Acetobacterium*	1		-
23	*Acetofilamentum*	1		-
24	*Acetogenium kivui* (→ *Thermoanaerobacter kivui*)			Annex 2c
25	*Acetohalobium*	1		-
26	*Acetomicrobium*	1	= *Anaerobaculum;* one taxon was reclassified into *Caldicoprobacter*	Annex 2c, Annex 2e
27	*Acetonema longum*	1		-
28	*Acetothermus*	1		-
29	*Achromatium*	1		-
30	*Acidaminobacter hydrogenoformans*	1		-
31	*Acidicaldus*	1		-
32	*Acidicapsa ligni*	1		Annex 2b
33	*Acidimicrobium ferrooxidans*	1		-
34	*Acidiphilium*	1	Several taxa were reclassified into *Acidocella;* see also *Thiobacillus*	Annex 2e
35	*Acidiplasma*	tbd	See also *Ferroplasma*	Annex 2e
36	*Acidipropionibacterium jensenii*	1	= *Propionibacterium jensenii*	Annex 2c
37	*Acidisphaera*	1		-
38	*Acidithiobacillus*	1	See also *Thiobacillus*	-
39	*Acidobacterium*	1		-
40	*Acidocella*	1	See also *Acidiphilium*	Annex 2e
41	*Acidomonas*	1		-
42	*Acidovorax caeni*	1		-

43	*Acidovorax defluvii*	1		-
44	*Acidovorax delafieldii*	1		-
45	*Acidovorax facilis*	1		-
46	*Acidovorax temperans*	1		-
47	*Acrocarpospora*	1	See also *Streptosporangium*	Annex 2e
48	*Actinoalloteichus*	1		-
49	*Actinobispora* (→ *Pseudonocardia*)			Annex 2c
50	*Actinocorallia*	1		-
51	*Actinokineospora*	1		-
52	*Actinomadura*	1	*= Excellospora;* see also *Microbispora, Microtetraspora, Thermomonospora*	Annex 2c
53	*Actinomyces dentalis*	1		-
54	*Actinoplanes*	1	*= Amorphosporangium*	Annex 2c
55	*Actinopolymorpha*	1		-
56	*Actinopolyspora*	1		-
57	*Actinosynnema*	1		-
58	*Aequorivita*	1		-
59	*Aeribacillus*	tbd	See also *Geobacillus*	Annex 2e
60	*Aerococcus*	tbd	See also *Pediococcus*	Annex 2e
61	*Aeromicrobium*	1	See also *Nocardioides*	Annex 2e
62	*Aeromonas culicicola* (→ *Aeromonas veronii*)			Annex 2c
63	*Aeromonas enteropelogenes*	1		-
64	*Aeromonas veronii*	1	*= Aeromonas culicicola*	Annex 2c
65	*Aestuariibacter*	1	One taxon was reclassified into *Aliiglaciecola*	Annex 2e
66	*Afifella*	tbd	See also *Rhodobium*, *Rhodopseudomonas*	Annex 2e
67	*Afifella*	tbd	See also *Rhodobium*	Annex 2e
68	*Agitococcus*	1		-
69	*Agreia*	1	See also *Subtercola*	Annex 2e
70	*Agrococcus*	1		-
71	*Agromonas* (→ *Bradyrhizobium*)			Annex 2c
72	*Agromyces*	1		-
73	*Ahrensia*	1		-
74	*Akkermansia muciniphilia*	1		-
75	*Albidiferax*	tbd	See also *Rhodoferax*	Annex 2e
76	*Albidovulum*	1		-
77	*Alcanivorax*	1	*= Fundibacter*	Annex 2c
78	*Alcanivorax borkumensis*	1		-
79	*Algibacter*	1		-
80	*Algicola*	1		-
81	*Algoriphagus*	1	*= Hongiella*	Annex 2c
82	*Alicycliphilus*	1		-
83	*Alicyclobacillus*	1	One taxon was reclassified into *Effusibacillus;* see also *Sulfobacillus*	Annex 2e
84	*Aliidiomarina*	tbd	See also *Idiomarina*	Annex 2e
85	*Aliiglaciecola*	tbd	See also *Aestuariibacter*, *Glaciecola*	Annex 2e
86	*Aliiroseovarius*	tbd	See also *Roseovarius*	Annex 2e

87	*Alishewanella*	1		-
88	*Alistipes onderdonkii*	1		-
89	*Alkalibacterium*	1		-
90	*Alkaliphilus*	1		-
91	*Alkalispirillum*	1		-
92	*Alkalispirochaeta*	tbd	See also *Spirochaeta*	Annex 2e
93	*Alkanindiges*	1		-
94	*Allisonella*	1		-
95	*Allochromatium*	1	See also *Chromatium*	Annex 2e
96	*Allofustis*	1		-
97	*Allokutzneria*	1	See also *Kibdelosporangium*	Annex 2e
98	*Altererythrobacter*	tbd	See also *Erythrobacter*	Annex 2e
99	*Alysiella*	1	See also *Simonsiella*	Annex 2e
100	*Aminobacter*	1	*= Chelatobacter*	Annex 2c
101	*Aminobacterium*	1		-
102	*Aminomonas*	1		-
103	*Ammonifex*	1		-
104	*Ammoniphilus*	1		-
105	*Amoebobacter*	1	Subdivided into the genera *Amoebobacter, Thiolamprovum, Thiocapsa, Lamprocystis*	Annex 2e
106	*Amorphosporangium* (→ *Actinoplanes*)			Annex 2c
107	*Amphibacillus*	1	One taxon was reclassified into *Pelagirhabdus*	Annex 2e
108	*Amycolatopsis*	tbd	See also *Pseudonocardia*	Annex 2e
109	*Anabaena variablis* strain ATCC 29413 (→ *Trichormus variabilis*)			Annex 2f
110	*Anaeroarcus*	1		-
111	*Anaerobacter polyendosporum* (→ *Clostridium polyendosporum*)			Annex 2f
112	*Anaerobaculum* (→ *Acetomicrobium*)			Annex 2c
113	*Anaerobranca*	1		-
114	*Anaerococcus murdochii*	1		-
115	*Anaerofilum*	1		-
116	*Anaerolinea*	1		-
117	*Anaeromusa*	1		-
118	*Anaerophaga*	1		-
119	*Anaeroplasma*	1		-
120	*Anaerosinus*	1		-
121	*Anaerostipes*	1		-
122	*Anaerotruncus*	1		-
123	*Anaerovibrio*	1		-
124	*Anaerovorax*	1		-
125	*Ancalomicrobium*	1		-
126	*Ancylobacter*	1		-
127	*Andreprevotia*	1		-
128	*Aneurinibacillus*	1		-
129	*Angiococcus*	1	See also *Myxococcus*	Annex 2e

130	*Angulomicrobium*	1		-
131	*Annwoodia*	tbd	See also *Thiobacillus*	Annex 2e
132	*Anoxybacillus*	1	See also *Geobacillus*	Annex 2e
133	*Anoxynatronum*	1		-
134	*Antarctobacter*	1		-
135	*Aquabacter*	1		-
136	*Aquabacterium*	1		-
137	*Aquamicrobium*	1		-
138	*Aquaspirillum*	1	Several taxa were reclassified into *Giesbergeria, Simplicispira, Insolitispirillum, Magnetospirillum, Novispirillum, Hylemonella, Prolinoborus, Microvirgula, Curvibacter, Herbaspirillum, Comamonas*	Annex 2e
139	*Aquibacillus*	tbd	See also *Virgibacillus*	Annex 2e
140	*Aquicella*	1		-
141	*Aquifex*	1		-
142	*Archangium*	1	See also *Cystobacter*	Annex 2e
143	*Arcicella*	1		-
144	*Arenibacter*	1		-
145	*Arenimonas*	1	*= Aspromonas*	Annex 2c
146	*Arhodomonas*	1		-
147	*Arsenicicoccus*	1		-
148	*Arthrobacter*	tbd	See also *Micrococcus*	Annex 2e
149	*Arthrobacter chlorophenolicus* (→ *Pseudarthrobacter chlorophenolicus*)			Annex 2c
150	*Asaia*	1		-
151	*Asanoa*	1	See also *Catellatospora*	Annex 2e
152	*Aspromonas* (→ *Arenimonas*)			Annex 2c
153	*Asticcacaulis*	1		-
154	*Azoarcus*	1		-
155	*Azomonas*	1		-
156	*Azorhizobium*	1		-
157	*Azorhizophilus*	1	See also *Azotobacter*	Annex 2e
158	*Azospira*	1		-
159	*Azospirillum*	1	One taxon was reclassified into *Nitrospirillum*	Annex 2e
160	*Azospirillum brasilense*	1	*= Roseomonas fauriae*	Annex 2c
161	*Azotobacter*	1	One taxon was reclassified into *Azorhizophilus*	Annex 2e
162	*Bacillus licheniformis*	1		-
163	*Bacteriovorax*	1	*Bacteriovorax* has been divided into *Bacteriovorax, Halobacteriovorax, Peridibacter*; see also *Bdellovibrio*	Annex 2e
164	*Bacteroides xylanisolvens strain DSM 23964**	1		Annex 2a
165	*Balnearium*	1		-
166	*Bauldia*	tbd	See also *Prosthecomicrobium*	Annex 2e
167	*Bdellovibrio*	1	*Bdellovibrio* was divided into *Bdellovibrio, Peridibacter* and *Bacteriovorax*	Annex 2e
168	*Beggiatoa*	1		-
169	*Beijerinckia*	1		-
170	*Belliella*	1		-

171	*Beneckea* (→ *Vibrio*)			Annex 2c
172	*Bergeriella*	1		-
173	*Bergeyella*	tbd	See also *Weeksella*	Annex 2e
174	*Beutenbergia*	1		-
175	*Bifidobacterium adolescentis*	1		-
176	*Bifidobacterium animalis*	1		-
177	*Blastobacter*	1	Several taxa within *Blastobacter* were reclassified into *Rhizobium, Pararhizobium, Bradyrhizobium, Blastomonas*	Annex 2e
178	*Blastochloris*	1		-
179	*Blastochloris*	tbd	See also *Rhodopseudomonas*	Annex 2e
180	*Blastococcus*	1		-
181	*Blastomonas*	1	Several taxa were reclassified into *Sphingomonas*	Annex 2e
182	*Blastopirellula*	1		-
183	*Blattabacterium*	1		-
184	*Blautia producta*	1	*= Ruminococcus productus*	Annex 2c
185	*Bogoriella*	1		-
186	*Bosea*	1		-
187	*Brachybacterium*	1		-
188	*Brachymonas*	1		-
189	*Bradyrhizobium*	1	*= Agromonas;* see also *Blastobacter*	Annex 2c, Annex 2e
190	*Bradyrhizobium lupini* °	1	*= Rhizobium lupini*	Annex 2f
191	*Brevibacillus*	1		-
192	*Brevibacterium casei*	1		-
193	*Brevibacterium epidermidis*	1		-
194	*Brevundimonas*	tbd	See also *Caulobacter* and *Mycoplasma*	Annex 2e
195	*Brochothrix*	1		-
196	*Bryantella* (→ *Marvinbryantia*)			Annex 2c
197	*Budvicia*	1		-
198	*Burkholderia caribensis* (→ *Paraburkholderia caribensis*)			Annex 2f
199	*Burkholderia graminis* (→ *Paraburkholderia graminis*)			Annex 2f
200	*Burkholderia phymatum* (→ *Paraburkholderia phymatum*)			Annex 2f
201	*Burkholderia phytofirmans* (→ *Paraburkholderia phytofirmans*)			Annex 2f
202	*Burkholderia tropica* (→ *Paraburkholderia tropica*)			Annex 2f
203	*Burkholderia xenovorans* (→ *Paraburkholderia xenovorans*)			Annex 2f
204	*Buttiauxella*	1		-
205	*Butyrivibrio*	1		-
206	*Caldanaerobacter*	1	See also *Thermoanaerobacter*	Annex 2e
207	*Caldanaerobius*	tbd	See also *Thermoanaerobacterium*	Annex 2e
208	*Calderobacterium* (→ *Hydrogenobacter*)			Annex 2c
209	*Caldibacillus*	tbd	See also *Geobacillus*	Annex 2e
210	*Caldicellulosiruptor*	1	See also *Thermoanaerobium*	Annex 2e
211	*Caldicoprobacter*	tbd	See also *Acetomicrobium*	Annex 2e
212	*Caldilinea*	1		-
213	*Caldithrix*	1		-

214	*Caloramator*	1		-
215	*Caloranaerobacter*	1		-
216	*Caminibacter*	1		-
217	*Caminicella*	1		-
218	*Campylobacter*	tbd	See also *Wolinella*	Annex 2e
219	*Carbophilus*	1		-
220	*Carboxydocella*	1		-
221	*Carboxydothermus*	1	*= Thermoterrabacterium, Thioalkalimicrobium*	Annex 2c
222	*Caryophanon*	1		-
223	*Catellatospora*	1	Some taxa were reclassified into *Asanoa, Catelliglobosispora, Micromonospora, Hamadaea*	Annex 2e
224	*Catellibacterium* (→ *Gemmobacter*)			Annex 2c
225	*Catelliglobosispora*	tbd	See also *Catellatospora*	Annex 2e
226	*Catenibacterium*	1		-
227	*Catenococcus*	1		-
228	*Catenuloplanes*	1		-
229	*Caulobacter*	1	Some taxa were reclassified into *Brevundimonas, Sphingomonas* and *Maricaulis;* see also *Mycoplasma*	Annex 2e
230	*Cellulomonas denverensis*	1		-
231	*Cellulophaga*	1	One taxon was reclassified as *Zobellia*	Annex 2e
232	*Cellulosimicrobium*	tbd	See also *Oerskovia*	Annex 2e
233	*Cellulosimicrobium cellulans*	1		-
234	*Cellulosimicrobium funkei*	1		-
235	*Cellvibrio*	1		-
236	*Cerasibacillus*	1		-
237	*Cetobacterium ceti*	1		-
238	*Chelatobacter* (→ *Aminobacter*)			Annex 2c
239	*Chelatococcus*	1		-
240	*Chitinibacter*	1		-
241	*Chitinimonas*	1		-
242	*Chitinophaga*	1		-
243	*Chlorobaculum*	1	See also *Chlorobium*	Annex 2e
244	*Chlorobium*	1	Several taxa were reclassified into *Chlorobaculum, Prosthecochloris*	Annex 2e
245	*Chlorobium*	tbd	See also *Pelodictyon*	Annex 2e
246	*Chloroflexus*	1		-
247	*Chondromyces*	1		-
248	*Chromatium*	1	Several taxa were reclassified into *Isochromatium, Halochromatium, Marichromatium, Thiocystis, Allochromatium, Thermochromatium*	Annex 2e
249	*Chromohalobacter*	1	See also *Halomonas*	Annex 2e
250	*Chryseobacterium*	1	*= Epilithonimonas*	Annex 2c
251	*Chrysiogenes*	1		-
252	*Citricoccus*	1		-
253	*Clostridium*	1	*= Sarcina;* see also *Thermobacteroides*	Annex 2c, Annex 2e
254	*Clostridium autoethanogenum*	1		Annex 2a

255	*Clostridium butyricum*	1		-
256	*Clostridium phytofermentans*	1		-
257	*Clostridium polyendosporum°*	1	*= Anaerobacter polyendosporum*	Annex 2f
258	*Cobetia*	1	See also *Halomonas*	Annex 2e
259	*Collimonas*	1		-
260	*Colwellia*	1		-
261	*Comamonas*	tbd	See also *Aquaspirillum*	Annex 2e
262	*Comamonas testosteroni*	1		-
263	*Conchiformibius*	tbd	See also *Simonsiella*	Annex 2e
264	*Conexibacter*	1		-
265	*Coprothermobacter*	1	See also *Thermobacteroides*	Annex 2e
266	*Corallococcus*	tbd	See also *Myxococcus*	Annex 2e
267	*Coriobacterium*	1		-
268	*Couchioplanes*	1		-
269	*Crossiella*	tbd	See also *Saccharothrix*	Annex 2e
270	*Cryobacterium*	1		-
271	*Cryptobacterium pauculus**	1		Annex 2h
272	*Cryptosporangium*	1		-
273	*Cupriavidus basilensis*	1		-
274	*Cupriavidus pauculus*	1	*= Wautersia paucula*	Annex 2c
275	*Curtobacterium albidum*	1		-
276	*Curtobacterium ammoniigenes*	1		-
277	*Curtobacterium citreum*	1		-
278	*Curtobacterium ginsengisoli* (→ *Gryllotalpicola ginsengisoli*)			Annex 2c
279	*Curtobacterium herbarum*	1		-
280	*Curtobacterium luteum*	1		-
281	*Curtobacterium plantarum*	1		-
282	*Curtobacterium pusillum*	1		-
283	*Curvibacter*	tbd	See also *Aquaspirillum*	Annex 2e
284	*Cyclobacterium*	1	See also *Flectobacillus*	Annex 2e
285	*Cystobacter*	1	One taxon was reclassified into *Archangium*	Annex 2e
286	*Dactylosporangium*	1		-
287	*Dechloromonas*	1		-
288	*Deferribacter*	1		-
289	*Dehalobacter*	1		-
290	*Deinobacter* (→ *Deinococcus*)			Annex 2c
291	*Deinococcus*	1	*= Deinobacter*	Annex 2c
292	*Demetria*	1		-
293	*Dendrosporobacter*	1		-
294	*Denitrobacterium*	1		-
295	*Denitrovibrio*	1		-
296	*Dermabacter*	1		-
297	*Dermacoccus*	1	See also *Micrococcus*	Annex 2e
298	*Derxia*	1		-

299	*Desemzia*	1		-
300	*Desulfacinum*	1		-
301	*Desulfarculus*	tbd	See also *Desulfovibrio*	Annex 2e
302	*Desulfatibacillum*	1		-
303	*Desulfitobacterium*	1		-
304	*Desulfitobacterium hafniense*	1		-
305	*Desulfobacca*	1		-
306	*Desulfobacter*	1		-
307	*Desulfobacterium*	1	One taxon was reclassified into *Desulfobacula*	Annex 2e
308	*Desulfobacula*	1	See also *Desulfobacterium*	Annex 2e
309	*Desulfobotulus*	tbd	See also *Desulfovibrio*	Annex 2e
310	*Desulfobulbus*	1		-
311	*Desulfocapsa*	1		-
312	*Desulfocella*	1		-
313	*Desulfococcus*	1		-
314	*Desulfofaba*	1		-
315	*Desulfofrigus*	1		-
316	*Desulfofustis*	1		-
317	*Desulfohalobium*	1		-
318	*Desulfomicrobium*	tbd	See also *Desulfovibrio*	Annex 2e
319	*Desulfomonas* (→ *Desulfovibrio*)			Annex 2c
320	*Desulfomonile*	1		-
321	*Desulfonatronovibrio*	1		-
322	*Desulfonatronum*	1		-
323	*Desulfonauticus*	1		-
324	*Desulfonema*	1		-
325	*Desulfonispora*	1		-
326	*Desulforegula*	1		-
327	*Desulforhabdus*	1		-
328	*Desulforhopalus*	1		-
329	*Desulfosarcina*	1		-
330	*Desulfospira*	1		-
331	*Desulfosporosinus*	1		-
332	*Desulfotalea*	1		-
333	*Desulfotignum*	1		-
334	*Desulfotomaculum*	1	One taxon was reclassified into *Desulfosporosinus*	Annex 2e
335	*Desulfovibrio*	1	= *Desulfomonas;* several taxa were reclassified into *Halodesulfovibrio, Pseudodesulfovibrio, Desulfarculus, Desulfomicrobium, Desulfobotulus, Thermodesulfobacterium*	Annex 2c, Annex 2e
336	*Desulfovirga*	1		-
337	*Desulfurella*	1		-
338	*Desulfurobacterium*	1		-
339	*Desulfuromonas*	1		-
340	*Desulfuromusa*	1		-

341	*Dethiosulfovibrio*	1		-
342	*Devosia*	1		-
343	*Diaphorobacter*	1		-
344	*Dichotomicrobium*	1		-
345	*Dictyoglomus*	1		-
346	*Dietzia cinnamea*	1		-
347	*Dinoroseobacter*	1		-
348	*Dinoroseobacter shibae*	1		-
349	*Dolosicoccus*	1		-
350	*Dorea*	1		-
351	*Duganella*	1	One taxon was reclassified into *Pseudoduganella*	Annex 2e
352	*Dyadobacter*	1		-
353	*Ectothiorhodospira*	1	Several taxa were reclassified into *Halorhodospira*	Annex 2e
354	*Effusibacillus*	tbd	See also *Alicyclobacillus*	Annex 2e
355	*Enhygromyxa*	1		-
356	*Ensifer*	1	*= Sinorhizobium*	Annex 2c
357	*Enterococcus columbae*	1		-
358	*Enterovibrio*	1		-
359	*Epilithonimonas* (→ *Chryseobacterium*)			Annex 2c
360	*Eremococcus*	1		-
361	*Erythrobacter*	1	One taxon was reclassified into *Altererythrobacter*	Annex 2e
362	*Erythromicrobium*	1		-
363	*Erythromonas* (→ *Sphingomonas*)			Annex 2c
364	*Escherichia coli B*	1		-
365	*Escherichia coli C*	1		-
366	*Escherichia coli K12*	1		-
367	*Escherichia coli W*	1		-
368	*Excellospora* (→ *Actinomadura*)			Annex 2c
369	*Faecalibacterium prausnitzii*	1		-
370	*Ferrimonas*	1		-
371	*Ferroplasma*	1	One taxon was reclassified into *Acidiplasma*	Annex 2e
372	*Fervidobacterium*	1		-
373	*Filibacter*	1		-
374	*Filomicrobium*	1		-
375	*Flammeovirga*	1		-
376	*Flectobacillus*	1	Several taxa were reclassified into *Polaribacter, Cyclobacterium*	Annex 2e
377	*Flexistipes*	1		-
378	*Flexithrix*	1		-
379	*Formivibrio*	1		-
380	*Formosa*	1		-
381	*Francisella*	tbd	See also *Wolbachia*	Annex 2e
382	*Frankia*	1		-
383	*Frateuria*	1		-
384	*Friedmanniella*	1		-

385	*Frigoribacterium*	1	One taxon was reclassified as *Parafrigoribacterium*	Annex 2e
386	*Fulvimarina*	1		-
387	*Fulvimonas*	1		-
388	*Fundibacter* (→ *Alcanivorax*)			Annex 2c
389	*Fusibacter*	1		-
390	*Gallicola*	1		-
391	*Garciella*	1		-
392	*Gariaella**	1		Annex 2h
393	*Gelidibacter*	1		-
394	*Gemmata*	1		-
395	*Gemmatimonas*	1		-
396	*Gemmobacter*	1	= *Catellibacterium;* see also *Rhodobacter*	Annex 2c, Annex 2e
397	*Geobacillus*	1	Several taxa were reclassified into *Caldibacillus, Aeribacillus, Anoxybacillus*; see also *Saccharococcus*	Annex 2e
398	*Geobacter*	1		-
399	*Geobacter metallireducens*	1		-
400	*Geobacter sulfurreducens* (→ *Geobacter sulfurreducens* subsp. *ethanolicus, Geobacter sulfurreducens* subsp. *sulfurreducens)*	1		Annex 2d
401	*Geobacter sulfurreducens* subsp. *ethanolicus*	tbd	= *Geobacter sulfurreducens*	Annex 2d
402	*Geobacter sulfurreducens* subsp. *sulfurreducens*	tbd	= *Geobacter sulfurreducens*	Annex 2d
403	*Geodermatophilus*	1		-
404	*Georgenia*	1		-
405	*Geothrix*	1		-
406	*Geovibrio*	1		-
407	*Giesbergeria*	tbd	See also *Aquaspirillum*	Annex 2e
408	*Gillisia*	1		-
409	*Glaciecola*	1	Several taxa were reclassified into *Paraglaciecola, Aliiglaciecola*	Annex 2e
410	*Gluconacetobacter*	1	Several taxa were reclassified into *Komagataeibacter*	Annex 2e
411	*Gluconobacter albidus*	1		-
412	*Gluconobacter asaii* (→ *Gluconobacter cerinus*)			Annex 2c
413	*Gluconobacter cerinus*	1		-
414	*Gluconobacter cerinus*	1	= *Gluconobacter asaii*	Annex 2c
415	*Gluconobacter frateurii*	1		-
416	*Gluconobacter japonicus*	1		-
417	*Gluconobacter kanchanaburiensis*	1		-
418	*Gluconobacter kondonii*	1		-
419	*Gluconobacter nephelii*	1		-
420	*Gluconobacter roseus*	1		-
421	*Gluconobacter sphaericus*	1		-
422	*Gluconobacter thailandicus*	1		-
423	*Gluconobacter wancherniae*	1		-
424	*Glycomyces*	1		-
425	*Goodfellowiella*	tbd	See also *Saccharothrix*	Annex 2e
426	*Gracilibacillus*	1		-

427	*Gracilibacter*	1		-
428	*Granulicella aggregans*	1		-
429	*Granulicella arctica*	1		-
430	*Granulicella cerasi*	1		-
431	*Granulicella mallensis*	1		-
432	*Granulicella paludicola*	1		-
433	*Granulicella pectinivorans*	1		-
434	*Granulicella rosea*	1		-
435	*Granulicella sapmiensis*	1		-
436	*Granulicella tundricola*	1		-
437	*Gryllotalpicola ginsengisoli*	1	*= Gryllotalpicola ginsengisoli*	Annex 2c
438	*Gulosibacter*	1		-
439	*Haematobacter*	tbd	See also *Rhodobacter*	Annex 2e
440	*Halanaerobacter*	1	See also *Halobacteroides*	Annex 2b, Annex 2e
441	*Halanaerobium*	1	*= Haloincola;* see also *Halobacteroides*	Annex 2b, Annex 2c, Annex 2e
442	*Haliangium*	1		-
443	*Haliscomenobacter*	1		-
444	*Halobacillus*	1	See also *Sporosarcina*	Annex 2e
445	*Halobacteriovorax*	tbd	See also *Bacteriovorax*	Annex 2e
446	*Halobacteroides*	1	Several taxa were transferred to *Halanaerobacter* and *Halanaerobium*	Annex 2e
447	*Halocella*	1		-
448	*Halochromatium*	1	See also *Chromatium*	Annex 2e
449	*Halococcus*	1	One taxon was transferred to *Haloterrigena*	Annex 2e
450	*Halodesulfovibrio*	tbd	See also *Desulfovibrio*	Annex 2e
451	*Haloincola* (→ *Halanaerobium*)			Annex 2c
452	*Halomonas*	1	*= Volcaniella;* several taxa were transferred to *Chromohalobacter, Cobetia, Kushneria and Salinicola*	Annex 2c, Annex 2e
453	*Halonatronum*	1		-
454	*Halorhodospira*	1	See also *Ectothiorhodospira*	Annex 2e
455	*Haloterrigena*	tbd	See also *Halococcus*	Annex 2e
456	*Halothermothrix*	1		-
457	*Halothiobacillus*	tbd	See also *Thiobacillus*	Annex 2e
458	*Halothiobacillus neapolitanus*	1		-
459	*Halovibrio*	1	One taxon was transferred to *Halomonas*	Annex 2e
460	*Hamadaea*	tbd	See also *Catellatospora*	Annex 2e
461	*Heliobacillus*	1		-
462	*Heliobacterium*	1		-
463	*Heliophilum*	1		-
464	*Heliorestis*	1		-
465	*Herbaspirillum*	tbd	See also *Aquaspirillum*	Annex 2e
466	*Herbaspirillum aquaticum*	1		-
467	*Herbaspirillum autotrophicum*	1		-
468	*Herbaspirillum chlorophenolicum*	1		-
469	*Herbaspirillum frisingense*	1		-

470	*Herbaspirillum hiltneri*	1		-
471	*Herbaspirillum huttiense subsp huttiense*	1		-
472	*Herbaspirillum huttiense subsp putei*	1		-
473	*Herbaspirillum lusitanum*	1		-
474	*Herbaspirillum rhizosphaerae*	1		-
475	*Herbaspirillum seropedicae*	1		-
476	*Herbidospora*	1	See also *Streptosporangium*	Annex 2e
477	*Herpetosiphon*	1	Several taxa were reclassified into *Lewinella*	Annex 2e
478	*Hespellia*	1		-
479	*Hippea*	1		-
480	*Hirschia*	1		-
481	*Holdemania*	1		-
482	*Holophaga*	1		-
483	*Hongiella* (→ *Algoriphagus*)			Annex 2c
484	*Hydrogenobacter*	1	*= Calderobacterium;* one taxon was reclassified into *Hydrogenobaculum*	Annex 2c, Annex 2e
485	*Hydrogenobaculum*	tbd	See also *Hydrogenobacter*	Annex 2e
486	*Hydrogenophaga*	1		-
487	*Hydrogenophilus*	1		-
488	*Hydrogenothermophilus**	1		Annex 2h
489	*Hydrogenothermus*	1		-
490	*Hydrogenovibrio*	1	See also *Thiomicrorhabdus*	Annex 2e
491	*Hylemonella*	1		-
492	*Hylemonella*	tbd	See also *Aquaspirillum*	Annex 2e
493	*Hymenobacter*	1		-
494	*Hyphomicrobium*	1	Several taxa were reclassified into *Photobacterium* and *Hyphomonas*	Annex 2e
495	*Hyphomonas*	1	See also *Hyphomicrobium*	Annex 2e
496	*Idiomarina*	1	One taxon was reclassified into *Aliidiomarina*	Annex 2e
497	*Ignatzschineria*	1	*= Schineria*	Annex 2c
498	*Ilyobacter*	1		-
499	*Imhoffiella*	tbd	See also *Thiorhodoccocus*	Annex 2e
500	*Inquilinus*	1		-
501	*Insolitispirillum*	tbd	See also *Aquaspirillum*	Annex 2e
502	*Intrasporangium*	1		-
503	*Iodobacter*	1		-
504	*Isobaculum*	1		-
505	*Isochromatium*	1	See also *Chromatium*	Annex 2e
506	*Isoptericola*	1		-
507	*Janibacter*	1		-
508	*Jannaschia*	1	One taxon was reclassified into *Thalassobacter*	Annex 2e
509	*Janthinobacterium lividum*	1		-
510	*Jeotgalibacillus*	1		-
511	*Jeotgalibacillus*	1	*= Marinibacillus*	Annex 2c
512	*Kangiella*	1		-
513	*Kibdelosporangium*	1	One taxon was reclassified into *Allokutzneria*	Annex 2e

514	*Kineococcus*	1		-
515	*Kineosphaera*	1		-
516	*Kineosporia*	1		-
517	*Kitasatoa* (→ *Streptomyces*)			Annex 2c
518	*Kitasatospora* (→ *Streptomyces*)			Annex 2c, Annex 2e
519	*Knoellia*	1		-
520	*Kocuria*	1		-
521	*Kocuria*	tbd	See also *Micrococcus*	Annex 2e
522	*Komagataeibacter*	tbd	See also *Gluconacetobacter*	Annex 2e
523	*Kosakonia radicincitans*	1		-
524	*Kozakia*	1		-
525	*Krasilnikoviella*	tbd	See also *Promicromonospora*	Annex 2e
526	*Kribbella*	1		-
527	*Kurthia*	1		-
528	*Kushneria*	tbd	See also *Halomonas*	Annex 2e
529	*Kutzneria*	1	See also *Streptosporangium*	Annex 2e
530	*Kytococcus*	1	See also *Micrococcus*	Annex 2e
531	*Labrenzia*	tbd	See also *Stappia*	Annex 2e
532	*Labrys*	1		-
533	*Laceyella*	tbd	See also *Thermoactinomyces*	Annex 2e
534	*Lachnobacterium*	1		-
535	*Lachnospira*	1		-
536	*Lactobacillus*	1	*= Paralactobacillus;* see also *Pediococcus*	Annex 2c, Annex 2e
537	*Lactobacillus crispatus*	1		-
538	*Lactobacillus gasseri*	1		-
539	*Lactobacillus johnsonii*	1		-
540	*Lactobacillus plantarum* (→ *Lactobacillus plantarum* subsp. *argentoratensis, Lactobacillus plantarum* subsp. *plantarum)*	1	Divided into subspecies *Lactobacillus plantarum* subsp. *argentoratensis* and *Lactobacillus plantarum* subsp. *plantarum*	Annex 2d
541	*Lactobacillus plantarum subsp. argentoratensis*	tbd	= *Lactobacillus plantarum*	Annex 2d
542	*Lactobacillus plantarum subsp. Plantarum*	tbd	= *Lactobacillus plantarum*	Annex 2d
543	*Lactobacillus rhamnosus*	1		Annex 2h
544	*Lactococcus lactis*	1		-
545	*Lactosphaera* (→ *Trichococcus*)			Annex 2c
546	*Lamprocystis*	1	See also *Amoebobacter*	Annex 2e
547	*Lampropedia*	1		-
548	*Laribacter*	1		-
549	*Lautropia*	1		-
550	*Lechevalieria*	1	See also *Saccharothrix*	Annex 2e
551	*Leisingera*	1		-
552	*Leminorella*	1		-
553	*Lentibacillus*	1		-
554	*Lentzea*	1	See also *Saccharothrix*	Annex 2e
555	*Leptolinea*	1		-
556	*Leptonema*	1		-

557	*Leptospirillum*	1		-
558	*Leptothrix*	1		-
559	*Leucobacter*	1		-
560	*Leuconostoc citreum*	1		-
561	*Leuconostoc mesenteroides* subsp. *dextranicum*	1		-
562	*Leuconostoc mesenteroides* subsp. *mesenteroides*	1		-
563	*Leuconostoc pseudomesenteroides*	1		-
564	*Leucothrix*	1		-
565	*Lewinella*	tbd	See also *Herpetosiphon*	Annex 2e
566	*Limnobacter*	1		-
567	*Listeria innocua*	1		-
568	*Loktanella*	1		-
569	*Lonepinella*	1		-
570	*Longispora*	1		-
571	*Luteimonas*	1		-
572	*Luteococcus*	1		-
573	*Lutimaribacter*	tbd	See also *Oceanicola*	Annex 2e
574	*Lysobacter*	1	One taxon was reclassified into *Vulcaniibacterium*	Annex 2e
575	*Macromonas*	1		-
576	*Magnetospirillum*	1	See also *Aquaspirillum*	Annex 2e
577	*Magnetospirillum gryphiswaldense*	1		-
578	*Malonomonas*	1		-
579	*Maribacter*	1		-
580	*Maricaulis*	tbd	See also *Caulobacter*	Annex 2e
581	*Marichromatium*	1	One taxon was reclassified into *Phaeochromatium*; see also *Chromatium*	Annex 2e
582	*Marinibacillus* (→ *Jeotgalibacillus*)			Annex 2c
583	*Marinilabilia*	1		-
584	*Marinilactibacillus*	1		-
585	*Marinithermus*	1		-
586	*Marinitoga*	1		-
587	*Marinobacter*	1		-
588	*Marinobacterium*	1	See also *Oceanospirillum*	Annex 2e
589	*Marinococcus*	1	Several taxa were reclassified into *Salimicrobium, Salinicoccus*; see also *Planococcus*	Annex 2e
590	*Marinomonas*	1	See also *Oceanospirillum*	Annex 2e
591	*Marinospirillum*	1		-
592	*Marinovum*	tbd	See also *Roseobacter*, Ruegeria	Annex 2e
593	*Marmoricola*	1		-
594	*Marvinbryantia*	1	= *Bryantella*	Annex 2c
595	*Massilia*	1		-
596	*Megamonas*	1		-
597	*Meiothermus*	1	See also *Thermus*	Annex 2e
598	*Melittangium*	1		-
599	*Mesonia*	1		-

600	*Mesophilobacter*	1		-
601	*Mesorhizobium*	1		-
602	*Methylobacillus*	1		-
603	*Methylobacter*	1	Several taxa were reclassified into *Methylomicrobium*	Annex 2e
604	*Methylobacterium*	1		-
605	*Methylobacterium mesophilicum*	1		-
606	*Methylocapsa*	1		-
607	*Methylocella*	1		-
608	*Methylocystis*	1		-
609	*Methylomicrobium*	1	See also *Methylobacter*	Annex 2e
610	*Methylomonas*	1	One taxon was reclassified into *Methylomicrobium*	Annex 2e
611	*Methylophaga*	1		-
612	*Methylophilus*	1		-
613	*Methylopila*	1		-
614	*Methylosarcina*	1		-
615	*Methylosinus*	1		-
616	*Methylovorus*	1		-
617	*Microbacterium*	1	*= Aureobacterium*	Annex 2c
618	*Microbispora*	1	Several taxa were reclassified into *Thermobispora, Sphaerimonospora, Actinomadura*; see also *Thermomonospora*	Annex 2e
619	*Microbulbifer*	1		-
620	*Micrococcus*	1	Several taxa were reclassified into *Arthrobacter, Nesterenkonia, Kocuria, Neomicrococcus, Dermacoccus, Kytococcus*	Annex 2e
621	*Microlunatus*	1		-
622	*Micromonospora*	1	See also *Catellatospora*	Annex 2e
623	*Micropolyspora*	1	Several taxa were reclassified into *Nonomuraea, Nocardia, Saccharopolyspora*	Annex 2e
624	*Micropruina*	1		-
625	*Microscilla*	1		-
626	*Microsphaera* (→ *Nakamurella*)			Annex 2c
627	*Microtetraspora*	1	Several taxa were reclassified into *Nonomuraea, Thermopolyspora, Actinomadura*	Annex 2e
628	*Microvirga*	1		-
629	*Microvirgula*	tbd	See also *Aquaspirillum*	Annex 2e
630	*Microvirgula aerodenitrificans*	1		-
631	*Modestobacter*	1		-
632	*Moorella*	1		-
633	*Moritella*	1		-
634	*Muricauda*	1		-
635	*Muricoccus* (→ *Roseomonas*)			Annex 2c
636	*Myceligenerans*	1		-
637	*Mycetocola*	1		-
638	*Mycobacterium neoaurum*	1		-
639	*Mycoplana*	1	Several taxa were reclassified as *Brevundimonas* and *Caulobacter*	Annex 2e
640	*Mycoplasma orale*	1		-
641	*Myxococcus*	1	Several taxa were reclassified into *Corallococcus* and *Angiococcus.*	Annex 2e

642	*Nakamurella*	1	*= Microsphaera*	Annex 2c
643	*Nannocystis*	1		-
644	*Natroniella*	1		-
645	*Natronincola*	1		-
646	*Nautilia*	1		-
647	*Neomicrococcus*	tbd	See also *Micrococcus*	Annex 2e
648	*Neorhizobium galegae°*	1	*= Rhizobium galegae*	Annex 2f
649	*Neorhizobium huautlense°*	1	*= Rhizobium huautlense*	Annex 2f
650	*Neptunomonas*	1		-
651	*Nereida*	1		-
652	*Nesiotobacter*	1		-
653	*Nesterenkonia*	1	See also *Micrococcus*	Annex 2e
654	*Nevskia*	1		-
655	*Nitratireductor*	1		-
656	*Nitrobacter*	1		-
657	*Nitrospirillum*	tbd	See also *Azospirillum*	Annex 2e
658	*Nocardia*	tbd	See also *Micropolyspora*	Annex 2e
659	*Nocardioides*	1	One taxon was reclassified into *Aeromicrobium*	Annex 2e
660	*Nonomuraea*	tbd	See also Microtetraspora, *Micropolyspora*	Annex 2e
661	*Nonomuraea*	1	One taxon was reclassified into *Thermopolyspora*	Annex 2e
662	*Novispirillum*	tbd	See also *Aquaspirillum*	Annex 2e
663	*Novosphingobium*	1	One taxon was reclassified into *Sphingomonas*	Annex 2e
664	*Obesumbacterium*	1		-
665	*Oceanibulbus*	1		-
666	*Oceanicaulis*	1		-
667	*Oceanicola*	1	One taxon was reclassified into *Lutimaribacter*	Annex 2e
668	*Oceanimonas*	1		-
669	*Oceanisphaera*	1		-
670	*Oceanispirochaeta*	tbd	See also *Spirochaeta*	Annex 2e
671	*Oceanithermus*	1		-
672	*Oceanobacillus*	1	See also *Virgibacillus*	Annex 2e
673	*Oceanobacter*	1	See also *Oceanospirillum*	Annex 2e
674	*Oceanospirillum*	1	Several taxa were reclassified into *Marinomonas, Marinobacterium, Pseudospirillum, Terasakiella* and *Oceanobacter*	Annex 2e
675	*Octadecabacter*	1	One taxon was reclassified into *Pseudooctadecabacter*	Annex 2e
676	*Oenococcus*	1		-
677	*Oerskovia*	1	One taxon was reclassified into *Cellulosimicrobium;* see also *Promicromonospora*	Annex 2e
678	*Okibacterium*	1		-
679	*Oleiphilus*	1		-
680	*Oleispira*	1		-
681	*Oligella ureolytica*	1		-
682	*Oligella urethralis*	1		-
683	*Oligotropha*	1		-
684	*Opitutus*	1		-

685	*Orenia*	1		-
686	*Orenia*	tbd	See also *Sporohalobacter*	Annex 2e
687	*Oribacterium*	1		-
688	*Ornithinimicrobium*	1		-
689	*Ottowia*	1		-
690	*Oxalicibacterium*	1		-
691	*Oxalobacter*	1		-
692	*Oxalophagus*	1		-
693	*Oxobacter*	1		-
694	*Pacificibacter*	tbd	See also *Roseovarius*	Annex 2e
695	*Paenibacillus chibensis*	1		-
696	*Paenisporosarcina*	tbd	See also *Sporosarcina*	Annex 2e
697	*Pannonibacter*	1		-
698	*Papillibacter*	1		-
699	*Paraburkholderia caribensis°*	1	*= Burkholderia caribensis*	Annex 2f
700	*Paraburkholderia graminis°*	1	*= Burkholderia graminis*	Annex 2f
701	*Paraburkholderia phymatum°*	1	*= Burkholderia phymatum*	Annex 2f
702	*Paraburkholderia phytofirmans°*	1	*= Burkholderia phytofirmans*	Annex 2f
703	*Paraburkholderia tropica°*	1	*= Burkholderia tropica*	Annex 2f
704	*Paraburkholderia xenovorans°*	1	*= Burkholderia xenovorans*	Annex 2f
705	*Paracoccus*	tbd	See also *Thiobacillus*	Annex 2e
706	*Paracoccus yeei*	1		Annex 2b
707	*Paracolobactrum**	1		Annex 2h
708	*Parafrigoribacterium*	tbd	See also *Frigoribacterium*	Annex 2e
709	*Paraglaciecola*	tbd	See also *Glaciecola*	Annex 2e
710	*Paralactobacillus* (→ *Lactobacillus*)			Annex 2c
711	*Paraliobacillus*	1		-
712	*Paramoritella*	1		-
713	*Pararhizobium*	tbd	See also *Blastobacter*	Annex 2e
714	*Pararhizobium giardinii*	1	*= Rhizobium giardinii*	Annex 2c
715	*Parascardovia*	1		-
716	*Parasporobacterium*	1		-
717	*Parvibaculum*	1		-
718	*Paucimonas*	1		-
719	*Pectinatus*	1		-
720	*Pediococcus*	1	Several taxa were reclassified into *Lactobacillus, Tetragenococcus* and *Aerococcus*	Annex 2e
721	*Pedobacter*	1	One taxon was reclassified into *Pseudopedobacter*	Annex 2e
722	*Pelagirhabdus*	tbd	See also *Amphibacillus*	Annex 2e
723	*Pelczaria*	1		-
724	*Pelobacter*	1		-
725	*Pelodictyon*	1	All taxa have been transferred to *Chlorobium*, except *Pelodictyon phaeum*	Annex 2e
726	*Pelospora*	1		-
727	*Pelotomaculum*	1		-
728	*Peptoniphilus asaccharolyticus*	1		-

729	*Peredibacter*	1	See also *Bacteriovorax, Bdellovibrio*	Annex 2e
730	*Persephonella*	1		-
731	*Persicobacter*	1		-
732	*Petrobacter* (→ *Tepidiphilus*)			Annex 2c
733	*Petrotoga*	1		-
734	*Phaeobacter*	tbd	See also *Roseobacter*	Annex 2e
735	*Phaeochromatium*	tbd	See also *Marichromatium*	Annex 2e
736	*Phaeospirillum*	1	See also *Rhodospirillium*	Annex 2e
737	*Phascolarctobacterium*	1		-
738	*Phenylobacterium*	1		-
739	*Phocoenobacter*	1		-
740	*Photobacterium*	tbd	See also *Hyphomicrobium*	Annex 2e
741	*Photorhabdus*	tbd	See also *Xenorhabdus*	Annex 2e
742	*Phyllobacterium*	1		-
743	*Pigmentiphaga*	1		-
744	*Pilimelia*	1		-
745	*Pirellula*	1		-
746	*Planctomyces*	1		-
747	*Planobispora*	1		-
748	*Planococcus*	1	Several taxa were reclassified into *Planomicrobium, Marinococcus*	Annex 2e
749	*Planomicrobium*	1	See also *Planococcus*	Annex 2e
750	*Planomonospora*	1		-
751	*Planotetraspora*	1		-
752	*Plantibacter*	1		-
753	*Plesiocystis*	1		-
754	*Polaribacter*	1	See also *Flectobacillus*	Annex 2e
755	*Polaromonas*	1		-
756	*Polyangium*	1	One taxon was reclassified into *Sorangium*	Annex 2e
757	*Polynucleobacter necessarius*	1		-
758	*Porphyrobacter*	1		-
759	*Pragia*	1		-
760	*Prauserella*	1		-
761	*Prevotella*	1	*= Xylanibacter*	Annex 2c
762	*Prolinoborus*	tbd	See also *Aquaspirillum*	Annex 2e
763	*Promicromonospora*	1	Several taxa were reclassified into *Oerskovia, Krasilnikoviella, Xylanimicrobium*	Annex 2e
764	*Propionibacter* (→ *Propionivibrio*)			Annex 2c
765	*Propionibacterium jensenii* (→ *Acidipropionibacterium jensenii*)			Annex 2c
766	*Propionicimonas*	1		-
767	*Propioniferax*	1		-
768	*Propionigenium*	1		-
769	*Propionispira*	1	See also *Zymophilus*	Annex 2e
770	*Propionivibrio*	1	*= Propionibacter*	Annex 2c
771	*Prosthecobacter*	1		-
772	*Prosthecochloris*	1		-

773	*Prosthecochloris*	tbd	See also *Chlorobium*	Annex 2e
774	*Prosthecomicrobium*	1	Several taxa were reclassified into *Bauldia, Vasilyevaea*	Annex 2e
775	*Pseudaminobacter*	1		-
776	*Pseudarthrobacter chlorophenolicus*	1	*= Arthrobacter chlorophenolicus*	Annex 2c
777	*Pseudobutyrivibrio*	1		-
778	*Pseudoclavibacter°*	1	*= Zimmermannella*	Annex 2f
779	*Pseudodesulfovibrio*	tbd	See also *Desulfovibrio*	Annex 2e
780	*Pseudoduganella*	tbd	See also *Duganella*	Annex 2e
781	*Pseudomonas fluorescens*	1		-
782	*Pseudomonas fluorescens strain DC454*	1		-
783	*Pseudomonas fluorescens strain MB101*	1		-
784	*Pseudomonas jessenii*	1		-
785	*Pseudomonas jessenii strain RU47*	1		-
786	*Pseudomonas jessenii strain UW4*	1		-
787	*Pseudomonas putida*	1		-
788	*Pseudonocardia*	1	*= Actinobispora*	Annex 2c
789	*Pseudonocardia*	1	One taxon was reclassified into *Amycolatopsis*	Annex 2e
790	*Pseudooctadecabacter*	tbd	See also *Octadecabacter*	Annex 2e
791	*Pseudopedobacter*	tbd	See also *Pedobacter*	Annex 2e
792	*Pseudorhodobacter*	1		-
793	*Pseudospirillum*	1	See also *Oceanospirillum*	Annex 2e
794	*Pseudothermotoga*	tbd	See also *Thermotoga*	Annex 2e
795	*Pseudoxanthomonas*	1		-
796	*Psychroflexus*	1		-
797	*Psychromonas*	1		-
798	*Psychroserpens*	1		-
799	*Pyxidicoccus*	1		-
800	*Pyxidicoccus*	1		Annex 2b
801	*Quinella*	1		-
802	*Rahnella*	1		-
803	*Ramlibacter*	1		-
804	*Raoultella terrigena*	1		-
805	*Rarobacter*	1		-
806	*Rathayibacter caricis*	1		-
807	*Rathayibacter festucae*	1		-
808	*Reinekea*	1		-
809	*Rhabdochromatium*	1		-
810	*Rheinheimera*	1		-
811	*Rhizobium*	tbd	See also *Blastobacter*	Annex 2e
812	*Rhizobium cellulosilyticum*	1		-
813	*Rhizobium daejeonense*	1		-
814	*Rhizobium etli*	1		Annex 2b
815	*Rhizobium galegae* (→ *Neorhizobium galegae*)			Annex 2f
816	*Rhizobium gallicum*	1		-

817	*Rhizobium giardinii* (→ *Pararhizobium giardinii*)			Annex 2c
818	*Rhizobium hainanense*	1		-
819	*Rhizobium huautlense* (→ *Neorhizobium huautlense*)			Annex 2f
820	*Rhizobium indigoferae*	1		-
821	*Rhizobium leguminosarum*	1		-
822	*Rhizobium leguminosarum*	1	= *Rhizobium trifolii*	Annex 2c
823	*Rhizobium loessense*	1		-
824	*Rhizobium lupini* (→ *Bradyrhizobium lupini*)			Annex 2f
825	*Rhizobium lusitanum*	1		-
826	*Rhizobium miluonense*	1		-
827	*Rhizobium mongolense*	1		-
828	*Rhizobium multihospitium*	1		-
829	*Rhizobium phaseoli*	1		-
830	*Rhizobium selenireducens*	1		-
831	*Rhizobium sullae*	1		-
832	*Rhizobium trifolii* (→ *Rhizobium leguminosarum*)			Annex 2c
833	*Rhizobium tropici*	1		-
834	*Rhizobium undicola*	1		-
835	*Rhizobium yanglingense*	1		-
836	*Rhizomonas* (→ *Rhizorhapis*)			Annex 2f
837	*Rhizorhapis°*	1	= *Rhizomonas;* see also *Sphingobium*	Annex 2e, Annex 2f
838	*Rhodobacter*	1	Several taxa were reclassified into *Rhodovulum, Gemmobacter, Haematobacter*; see also *Rhodopseudomonas*	Annex 2e
839	*Rhodobium*	1	One taxon was reclassified into *Afifella*	Annex 2e
840	*Rhodoblastus*	1	See also *Rhodopseudomonas*	Annex 2e
841	*Rhodocista*	1	See also *Rhodospirillium*	Annex 2e
842	*Rhodococcus erythropolis*	1		-
843	*Rhodococcus rhodochrous*	1		-
844	*Rhodocyclus*	1	One taxon was reclassified into *Rubrivivax*; see also *Rhodospirillium*	Annex 2e
845	*Rhodoferax*	1	One taxon was reclassified into *Albidiferax*	Annex 2e
846	*Rhodoglobus*	1		-
847	*Rhodomicrobium*	1		-
848	*Rhodopila*	1	See also *Rhodopseudomonas*	Annex 2e
849	*Rhodopirellula*	1		-
850	*Rhodoplanes*	1	See also *Rhodopseudomonas*	Annex 2e
851	*Rhodopseudomonas*	1	Several taxa were reclassified into *Rhodoblastus, Rhodovulum, Rhodobacter, Rubrivivax, Rhodopila, Afifella, Rhodoplanes, Rhodopseudomonas, Blastochloris*	Annex 2e
852	*Rhodospirillum*	1	Several taxa were reclassified into *Rhodocista, Phaeospirillum, Rhodothalassium, Rhodovibrio, Rhodocyclus*	Annex 2e
853	*Rhodothalassium*	1	See also *Rhodospirillium*	Annex 2e
854	*Rhodothermus*	1		-
855	*Rhodovibrio*	1	See also *Rhodospirillium*	Annex 2e
856	*Rhodovulum*	1	See also *Rhodobacter*, *Rhodopseudomonas*	Annex 2e
857	*Rikenella*	1		-

858	*Robiginitalea*	1		-
859	*Roseateles*	1		-
860	*Roseburia*	1		-
861	*Roseiflexus*	1		-
862	*Roseinatronobacter*	1		-
863	*Roseivivax*	1		-
864	*Roseobacter*	1	Several taxa were reclassified into *Marinovum, Phaeobacter*	Annex 2e
865	*Roseococcus*	1		-
866	*Roseomonas*	1	*= Teichococcus, Muricoccus*	Annex 2c
867	*Roseomonas gilardii* (→ *Roseomonas gilardii* subsp*. gilardii, Roseomonas gilardii* subsp*. rosea)*	1	Divided in subspecies *Roseomonas gilardii* subsp. *gilardii, Roseomonas gilardii* subsp. *rosea*	Annex 2d
868	*Roseomonas cervicalis*	1		-
869	*Roseomonas fauriae* (→ *Azospirillum brasilense*)			Annex 2c
870	*Roseomonas gilardii* subsp. *gilardii*	tbd	*= Roseomonas gilardii*	Annex 2d
871	*Roseomonas gilardii* subsp. *rosea*	tbd	*= Roseomonas gilardii*	Annex 2d
872	*Roseomonas mucosa*	1		-
873	*Roseospira*	1		-
874	*Roseospirillum*	1		-
875	*Roseovarius*	1	Several taxa were reclassified into *Aliiroseovarius, Pacificibacter*	Annex 2e
876	*Rothia*	1	*= Stomatococcus*	Annex 2c
877	*Rubrimonas*	1		-
878	*Rubritepida*	1		-
879	*Rubrivivax*	1	See also *Rhodocyclus*, *Rhodopseudomonas*	Annex 2e
880	*Rubrobacter*	1		-
881	*Ruegeria*	1	*= Silicibacter;* several taxa were reclassified into *Marinovum, Thalassobius*	Annex 2c, Annex 2e
882	*Ruminobacter*	1		-
883	*Ruminococcus productus* (→ *Blautia producta*)			Annex 2c
884	*Runella*	1		-
885	*Saccharibacter*	1		-
886	*Saccharococcus*	1	One taxon was reclassified into *Geobacillus*	Annex 2e
887	*Saccharomonospora*	1		-
888	*Saccharophagus*	1		-
889	*Saccharopolyspora*	tbd	See also *Micropolyspora*	Annex 2e
890	*Saccharopolyspora rectivirgula*	1		-
891	*Saccharospirillum*	1		-
892	*Saccharothrix*	1	Several taxa were reclassified into *Lentzea, Lechevalieria, Goodfellowiella, Crossiella, Umezawaea*	Annex 2e
893	*Sagittula*	1		-
894	*Salana*	1		-
895	*Salegentibacter*	1	One taxon was reclassified into *Salinimicrobium*	Annex 2e
896	*Salibacillus* (→ *Virgibacillus*)			Annex 2c
897	*Salimicrobium*	tbd	See also *Marinococcus*	Annex 2e
898	*Salinibacter*	1		-
899	*Salinibacterium*	1		-

900	*Salinicoccus*	1	See also *Marinococcus*	Annex 2e
901	*Salinicola*	tbd	See also *Halomonas*	Annex 2e
902	*Salinimicrobium*	tbd	See also *Salegentibacter*	Annex 2e
903	*Salinisphaera*	1		-
904	*Salinivibrio*	1		-
905	*Salipiger*	1		-
906	*Salmonella enterica* subsp. *enterica* serovar Typhi strain Ty21a	1	≡ *Salmonella* Typhi strain Ty21a	Annex 2g
907	*Salmonella* Typhi strain Ty21a (→ *Salmonella enterica* subsp. *enterica* serovar Typhi strain Ty21a)			Annex 2g
908	*Saprospira*	1		-
909	*Sarcina* (→ *Clostridium*)			Annex 2c
910	*Scardovia*	1		-
911	*Schineria* (→ *Ignatzschineria*)			Annex 2c
912	*Schlegelella*	1		-
913	*Schwartzia*	1		-
914	*Seinonella*	tbd	See also *Thermoactinomyces*	Annex 2e
915	*Seliberia*	1		-
916	*Serinicoccus*	1		-
917	*Serratia fonticola*	1		-
918	*Shingomonas*	tbd	See also *Blastomonas*	Annex 2e
919	*Silicibacter* (→ *Ruegeria*)			Annex 2c
920	*Simonsiella*	1	Several taxa was reclassified into *Alysiella* and *Conchiformibius*	Annex 2b, Annex 2e
921	*Simplicispira*	tbd	See also *Aquaspirillum*	Annex 2e
922	*Sinorhizobium* (→ *Ensifer*)			Annex 2c
923	*Skermanella*	1		-
924	*Skermania*	1		-
925	*Smithella*	1		-
926	*Sodalis*	1		-
927	*Soehngenia*	1		-
928	*Solirubrobacter*	1		-
929	*Sorangium*	tbd	See also *Polyangium*, *Microbispora*	Annex 2e
930	*Sphaerimonospora*	tbd	See also *Thermomonospora*	Annex 2e
931	*Sphaerisporangium*	tbd	See also *Streptosporangium*	Annex 2e
932	*Sphaerobacter*	1		-
933	*Sphaerochaeta*	tbd	See also *Spirochaeta*	Annex 2e
934	*Sphaerotilus*	1		-
935	*Sphingobium*	1	Several taxa were reclassified into *Rhizorhapis* and *Sphingomonas*	Annex 2e
936	*Sphingomonas*	1	*= Erythromonas;* see also *Caulobacter, Novosphingobium, Sphingobium, Sphingopyxis*	Annex 2c, Annex 2e
937	*Sphingopyxis*	1	Several taxa were reclassified into *Sphingorhabdus* and *Sphingomonas*	Annex 2e
938	*Sphingorhabdus*	tbd	See also *Sphingopyxis*	Annex 2e
939	*Spingomonas wittichii*	1		-
940	*Spirilliplanes*	1		-
941	*Spirillospora*	1		-

942	*Spirillum*	1		-
943	*Spirochaeta*	1	Several taxa were reclassified into *Alkalispirochaeta, Treponema, Sphaerochaeta, Oceanispirochaeta*	Annex 2e
944	*Spirosoma*	1		-
945	*Sporanaerobacter*	1		-
946	*Sporichthya*	1		-
947	*Sporobacter*	1		-
948	*Sporobacterium*	1		-
949	*Sporocytophaga*	1		-
950	*Sporohalobacter*	1	One taxon was reclassified into *Orenia*	Annex 2e
951	*Sporolactobacillus*	1		-
952	*Sporomusa*	1		-
953	*Sporosarcina*	1	Several taxa were reclassified into *Paenisporosarcina, Halobacillus*	Annex 2e
954	*Sporotomaculum*	1		-
955	*Staleya* (→ *Sulfitobacter*)			Annex 2c
956	*Stappia*	1	Several taxa were was reclassified into *Labrenzia*	Annex 2e
957	*Starkeya*	1	See also *Thiobacillus*	Annex 2e
958	*Stella*	1		-
959	*Sterolibacterium*	1		-
960	*Stigmatella*	1		-
961	*Stomatococcus* (→ *Rothia*)			Annex 2c
962	*Streptacidiphilus*	1		-
963	*Streptoalloteichus*	1		-
964	*Streptococcus gordonii*	1		-
965	*Streptococcus oligofermentans*	1		-
966	*Streptomonospora*	1		-
967	*Streptomyces*	1(except plantpathogenic *Streptomyces* spp. and *Streptomyces somaliensis*)	= *Kitasatoa, Kitasatospora*; see also *Streptosporangium*	Annex 2c, Annex 2e
968	*Streptosporangium*	1	Several taxa were reclassified into *Kutzneria, Herbidospora, Acrocarpospora, Sphaerisporangium, Streptomyces*	Annex 2e
969	*Subtercola*	1	One taxon was reclassified into *Agreia*	Annex 2e
970	*Succiniclasticum*	1		-
971	*Succinimonas*	1		-
972	*Succinispira*	1		-
973	*Succinivibrio*	1		-
974	*Sulfitobacter*	1	= *Staleya*	Annex 2c
975	*Sulfobacillus*	1	One taxon was reclassified into *Alicyclobacillus*	Annex 2e
976	*Sulfurihydrogenibium*	1		-
977	*Sulfurimonas*	1	See also *Thiomicrorhabdus*	Annex 2e
978	*Sulfurospirillum*	1		-

979	*Synechococcus sp.* strain PCC7002	1		Annex 2a
980	*Synechocystis sp.* strain PCC6803	1		Annex 2a
981	*Syntrophobacter*	1		-
982	*Syntrophobotulus*	1		-
983	*Syntrophococcus*	1		-
984	*Syntrophomonas*	1	*= Syntrophospora*	Annex 2c
985	*Syntrophospora* (→ *Syntrophomonas*)			Annex 2c
986	*Syntrophothermus*	1		-
987	*Syntrophus*	1		-
988	*Taxeobacter**	1		Annex 2h
989	*Teichococcus* (→ *Roseomonas*)			Annex 2c
990	*Telluria*	1		-
991	*Tepidibacter*	1		-
992	*Tepidimonas*	1		-
993	*Tepidiphilus*	1	*= Petrobacter*	Annex 2c
994	*Terasakiella*	1	See also *Oceanospirillum*	Annex 2e
995	*Terrabacter*	1		-
996	*Terracoccus*	1		-
997	*Tessaracoccus*	1		-
998	*Tetragenococcus*	tbd	See also *Pediococcus*	Annex 2e
999	*Tetrasphaera*	1		-
1000	*Thalassobacter*	tbd	See also *Jannaschia*	Annex 2e
1001	*Thalassobius*	tbd	See also *Ruegeria*	Annex 2e
1002	*Thalassolituus*	1		-
1003	*Thalassomonas*	1	Several taxa were reclassified into *Thalassotalea*	Annex 2e
1004	*Thalassospira*	1		-
1005	*Thalassotalea*	tbd	See also *Thalassotalea*	Annex 2e
1006	*Thauera*	1		-
1007	*Thermacetogenium*	1		-
1008	*Thermaerobacter*	1		-
1009	*Thermanaeromonas*	1		-
1010	*Thermanaerovibrio*	1		-
1011	*Thermicanus*	1		-
1012	*Thermincola carboxydiphila*	1		-
1013	*Thermincola ferriacetica*	1		-
1014	*Thermincola potens*	1		Annex 2a
1015	*Thermithiobacillus*	1		-
1016	*Thermoactinomyces*	1	Several taxa were reclassified into *Thermoflavimicrobium, Seinonella and Laceyella*	Annex 2e
1017	*Thermoanaerobacter*	1	Several taxa were reclassified into *Caldanaerobacter;* see also *Thermobacteroides and* Thermoanaerobium	Annex 2e
1018	*Thermoanaerobacter kivui*	1	*= Acetogenium kivui*	Annex 2c
1019	*Thermoanaerobacterium*	1	Several taxa were reclassified into *Caldanaerobius*	Annex 2e
1020	*Thermoanaerobium*	1	Several taxa were reclassified into *Caldicellulosiruptor* and *Thermoanaerobacter*	Annex 2e

1021	*Thermobacillus*	1		-
1022	*Thermobacteroides*	1	Several taxa were reclassified into *Thermoanaerobacter, Clostridium* and *Coprothermobacter*	Annex 2e
1023	*Thermobifida*	1	See also *Thermomonospora*	Annex 2e
1024	*Thermobispora*	1	See also *Microbispora*	Annex 2e
1025	*Thermobrachium*	1		-
1026	*Thermochromatium*	1	See also *Chromatium*	Annex 2e
1027	*Thermococcus*	1		-
1028	*Thermocrinis*	1		-
1029	*Thermocrispum*	1		-
1030	*Thermodesulfatator*	1		-
1031	*Thermodesulfobacterium*	1	See also *Desulfovibrio*	Annex 2e
1032	*Thermodesulfobium*	1		-
1033	*Thermodesulforhabdus*	1		-
1034	*Thermodesulfovibrio*	1		-
1035	*Thermoflavimicrobium*	tbd	See also *Thermoactinomyces*	Annex 2e
1036	*Thermohydrogenium*	1		-
1037	*Thermoleophilum*	tbd	See also *Thermomicrobium*	Annex 2e
1038	*Thermomicrobium*	1	One taxon was reclassified into *Thermoleophilum*	Annex 2e
1039	*Thermomonas*	1		-
1040	*Thermomonospora*	1	Several taxa were reclassified into *Thermobifida, Actinomadura, Microbispora* and *Sphaerimonospora*	Annex 2e
1041	*Thermonema*	1		-
1042	*Thermopolyspora*	tbd	See also *Microtetraspora* and *Nonomuraea*	Annex 2e
1043	*Thermosinus carboxydivorans*	1		-
1044	*Thermosipho*	1		-
1045	*Thermosyntropha*	1		-
1046	*Thermoterrabacterium* (→ *Carboxydothermus*)			Annex 2c
1047	*Thermotoga*	1	Several taxa were reclassified into *Pseudothermotoga*	Annex 2e
1048	*Thermovibrio*	1		-
1049	*Thermus*	1	Several taxa were reclassified into *Meiothermus*	Annex 2e
1050	*Thioalkalimicrobium* (→ *Carboxydothermus*)			Annex 2c
1051	*Thioalkalimicrobium* (→ *Thiomicrospira*)			Annex 2b
1052	*Thioalkalivibrio*	1		Annex 2b
1053	*Thioalkalivibrio denitrificans*	1		-
1054	*Thioalkalivibrio halophilus*	1		-
1055	*Thioalkalivibrio jannaschii*	1		-
1056	*Thioalkalivibrio nitratireducens*	1		-
1057	*Thioalkalivibrio nitratis*	1		-
1058	*Thioalkalivibrio paradoxus*	1		-
1059	*Thioalkalivibrio sulfidiphilus*	1		Annex 2b
1060	*Thioalkalivibrio thiocyanodenitrificans*	1		-
1061	*Thioalkalivibrio thiocyanoxidans*	1		-
1062	*Thioalkalivibrio versutus*	1		-

1063	*Thiobaca*	1		-
1064	*Thiobacillus*	1	Several taxa were reclassified into *Acidiphilium, Acidithiobacillus, Annwoodia, Acidithiobacillus, Thiomonas, Halothiobacillus, Starkeya, Paracoccus, Thiomicrospira, Paracoccus*	Annex 2e
1065	*Thiocapsa*	1	Several taxa were reclassified into *Thiohalocapsa* and *Thiococcus;* see also *Amoebobacter*	Annex 2e
1066	*Thiococcus*	1	See also *Thiocapsa*	Annex 2e
1067	*Thiocystis*	1	See also *Chromatium*	Annex 2e
1068	*Thiodictyon*	1		-
1069	*Thiohalocapsa*	tbd	See also *Thiocapsa*	Annex 2e
1070	*Thiolamprovum*	1	See also *Amoebobacter*	Annex 2e
1071	*Thiomicrorhabdus*	tbd	See also *Thiomicrorhabdus*	Annex 2e
1072	*Thiomicrospira*	1	= *Thioalkalimicrobium*; several taxa were reclassified into *Thiomicrorhabdus, Sulfurimonas* and *Hydrogenovibrio*; see also *Thiobacillus*	Annex 2b, Annex 2e
1073	*Thiomonas*	1	See also *Thiobacillus*	Annex 2e
1074	*Thiopedia*	1		-
1075	*Thiorhodoccocus*	1	One taxon was reclassified into *Imhoffiella*	Annex 2e
1076	*Thiorhodovibrio*	1		-
1077	*Thiothrix*	1		-
1078	*Tindallia*	1		-
1079	*Tolumonas*	1		-
1080	*Trabulsiella*	1		-
1081	*Treponema*	tbd	See also *Spirochaeta*	Annex 2e
1082	*Treponema minutum*	1		-
1083	*Treponema refringens*	1		-
1084	*Trichococcus*	1	= *Lactosphaera*	Annex 2a, Annex 2c
1085	*Trichormus variabilis°*	1	= *Anabaena variabilis*	Annex 2f
1086	*Turicibacter*	1		-
1087	*Ulvibacter*	1		-
1088	*Umezawaea*	tbd	See also *Saccharothrix*	Annex 2e
1089	*Ureibacillus*	1		-
1090	*Variovorax*	1		-
1091	*Vasilyevaea*	tbd	See also *Prosthecomicrobium*	Annex 2e
1092	*Verrucomicrobium*	1		-
1093	*Verrucosispora*	1		-
1094	*Vibrio*	1	= *Beneckea*	Annex 2c
1095	*Victivallis*	1		-
1096	*Virgibacillus*	1	= *Salibacillus;* several taxa were reclassified into *Aquibacillus* and *Oceanobacillus*	Annex 2c, Annex 2e
1097	*Virgisporangium*	1		-
1098	*Vitreoscilla*	1		-
1099	*Vogesella*	1		-
1100	*Volcaniella* (→ *Halomonas*)			Annex 2c
1101	*Vulcaniibacterium*	tbd	See also *Idiomarina*	Annex 2e
1102	*Vulcanithermus*	1		-

1103	*Wautersia paucula* (→ *Cupriavidus pauculus*)			Annex 2c
1104	*Weeksella*	1	One taxon was reclassified into *Bergeyella*	Annex 2e
1105	*Weissella*	1		-
1106	*Wolbachia*	1	One taxon was reclassified into *Francisella*	Annex 2e
1107	*Wolinella*	1	Several taxa were reclassified into *Campylobacter*	Annex 2e
1108	*Woodsholea*	1		-
1109	*Xanthobacter*	1		-
1110	*Xenophilus*	1		-
1111	*Xenorhabdus*	1	Several taxa were reclassified into *Photorhabdus* and *Xenorhabdus*; see also *Xenorhabdus*	Annex 2e
1112	*Xylanibacter* (→ *Prevotella*)			Annex 2c
1113	*Xylanibacterium*	1		-
1114	*Xylanimicrobium*	1	See also *Promicromonospora*	Annex 2e
1115	*Xylanimonas*	1		-
1116	*Yania* (→ *Yaniella*)			Annex 2c
1117	*Yaniella*	1	*= Yania*	Annex 2c
1118	*Zavarzinia*	1		-
1119	*Zimmermannella* (→ *Pseudoclavibacter*)			Annex 2f
1120	*Zobellia*	1	See also *Cellulophaga*	Annex 2e
1121	*Zoogloea*	1		-
1122	*Zooshikella*	1		-
1123	*Zymobacter*	1		-
1124	*Zymomonas*	1		-
1125	*Zymophilus*	1	Several taxa were reclassified into *Propionispira*	Annex 2e

Abbreviations & symbols

*	Uncertain nomenclature; needs to be reconsidered by the COGEM
°	Accepted name
≡	No official decision about nomenclature: the synonym(s) may be equally used
=	Synonym (old name)
→	Referral to new (accepted) name
See	(Partial) reclassification of a genus: referral to the former genus name
tbd	to be determined

Nr.	Genus/species/strain	COGEM classification	Strict plant (P) or animal pathogen (A)	Synonyms	Reference to the report annexes (for detail & motivation)
1	*Abiotrophia adiacens* (→ *Granulicatella adiacens*)				Annex 1d
2	*Abiotrophia balaenopterae* (→ *Granulicatella balaenopterae*)				Annex 1d
3	*Abiotrophia defectiva*	2			-
4	*Abiotrophia elegans* (→ *Granulicatella elegans*)				Annex 1d
5	*Acetivibrio ethanolgignens*	2	A		-
6	*Acetobacter pasteurianus*	2	P		-
7	*Acholeplasma axanthum*	2	A		-
8	*Acholeplasma granularum*	2	A		-
9	*Acholeplasma hippikon*	2	A		-
10	*Acholeplasma laidlawii*	2	A		-
11	*Acholeplasma modicum*	2	A		-
12	*Acholeplasma oculi*	2	A		-
13	*Achromobacter denitrificans*	tbd		= *Achromobacter xylosoxidans* subsp. *denitrificans*	Annex 1f
14	*Achromobacter piechaudii*	2		= *Alcaligenes piechaudii*	Annex 1c, Annex 1d
15	*Achromobacter xylosoxidans* subsp. *denitrificans* (→ *Achromobacter denitrificans*)				Annex 1f
16	*Achromobacter xylosoxidans* subsp. *xylosoxidans°* (→ *Achromobacter xylosoxidans*)				Annex 1f
17	*Achromobacter xylosoxidans°*	2		= *Alicaligenes xylosidans*, *Achromobacter xylosidans* subsp. *xylosidans*	-
18	*Acidaminococcus fermentans*	2			-
19	*Acidaminococcus intestini*	2			-
20	*Acidovorax anthurii*	2	P		-
21	*Acidovorax avenae*	2	P		-
22	*Acidovorax konjaci*	2	P		-
23	*Acidovorax valerianellae*	2	P		-
24	*Acinetobacter baumannii*	2			-
25	*Acinetobacter calcoaceticus*	2			-
26	*Acinetobacter haemolyticus*	2			-
27	*Acinetobacter johnsonii*	2			-
28	*Acinetobacter junii*	2			-
29	*Acinetobacter lwoffii*	2			-
30	*Acinetobacter parvus*	2			-
31	*Acinetobacter ursingii*	2			-
32	*Actinobacillus actinomycetemcomitans* (→ *Aggregatibacter actinomycetemcomitans*)				Annex 1d
33	*Actinobacillus capsulatus*	2	A		-
34	*Actinobacillus equuli* (→ *Actinobacillus equuli* subsp. *equuli, Actinobacillus equuli* subsp. *haemolyticus)*	2			Annex 1e
35	*Actinobacillus equuli* subsp. *equuli*	tbd	A	= *Actinobacillus equuli*	Annex 1e
36	*Actinobacillus equuli* subsp. *haemolyticus*	tbd		= *Actinobacillus equuli*	Annex 1e

37	*Actinobacillus hominis*	2			-
38	*Actinobacillus lignieresii*	2			-
39	*Actinobacillus muris* (→ *Muribacter muris*)				Annex 1d
40	*Actinobacillus pleuropneumoniae*	2	A		-
41	*Actinobacillus rossii*	2	A		-
42	*Actinobacillus seminis*	2	A		-
43	*Actinobacillus suis*	2			-
44	*Actinobacillus ureae*	2			-
45	*Actinobaculum massiliense*	2			-
46	*Actinobaculum schaalii* (→ *Actinotignum schaalii*)				Annex 1d
47	*Actinobaculum suis*	2	A	= *Actinomyces suis*	Annex 1d
48	*Actinobaculum urinale* (→ *Actinotignum urinale*)				Annex 1d
49	*Actinomadura chibensis*	2			-
50	*Actinomadura latina*	2			-
51	*Actinomadura madurae*	2			-
52	*Actinomadura pelletieri*	2			-
53	*Actinomyces bovis*	2	A		-
54	*Actinomyces bowdenii*	2	A		-
55	*Actinomyces canis*	2	A		-
56	*Actinomyces cardiffensis*	2			-
57	*Actinomyces catuli*	2	A		-
58	*Actinomyces europaeus*	2			-
59	*Actinomyces funkei*	2			-
60	*Actinomyces gerencseriae*	2			-
61	*Actinomyces graevenitzii*	2			-
62	*Actinomyces hongkongensis*	2			-
63	*Actinomyces hordeovulneris*	2	A		-
64	*Actinomyces hyovaginalis*	2	A		-
65	*Actinomyces israelii*	2			-
66	*Actinomyces marimammalium*	2			-
67	*Actinomyces meyeri*	2			-
68	*Actinomyces naeslundii*	2			-
69	*Actinomyces neuii subsp. anitratius*	2			-
70	*Actinomyces neuii* subsp. *neuii*	2			Annex 1c
71	*Actinomyces odontolyticus*	2			-
72	*Actinomyces pyogenes* (→ *Trueperella pyogenes*)				Annex 1d
73	*Actinomyces radicidentis*	2			-
74	*Actinomyces radingae*	2			-
75	*Actinomyces suimastitidis*	2	A		-
76	*Actinomyces suis* (→ *Actinobaculum suis*)				Annex 1d
77	*Actinomyces turicensis*	2			-
78	*Actinomyces vaccimaxillae*	2	A		Annex 1c
79	*Actinomyces viscosus*	2			-
80	*Actinotignum schaalii*	2		= *Actinobaculum schaalii*	Annex 1d

81	*Actinotignum urinale*	2		*= Actinobaculum urinale*	Annex 1d
82	*Aegyptianella pullorum*	2	A		Annex 1c
83	*Aerococcus urinae*	2			-
84	*Aerococcus viridans*	2			-
85	*Aeromonas allosaccharophila*	2			-
86	*Aeromonas aquariorium* (→ *Aeromonas dhakensis*)				Annex 1d
87	*Aeromonas caviae°*	2		*= Aeromonas punctata*	Annex 1f
88	*Aeromonas dhakensis*	2		*= Aeromonas aquariorium*	Annex 1d
89	*Aeromonas enteropelogenes*	2		*= Aeromonas trota, Aeromonas tructi*	Annex 1d
90	*Aeromonas hydrophila* subsp. *anaerogenes*	2			-
91	*Aeromonas hydrophila* subsp. *hydrophila*	2			-
92	*Aeromonas hydrophila* subsp. *proteolytica* (→ *Vibrio proteolyticus*)				Annex 1d
93	*Aeromonas jandaei*	2			-
94	*Aeromonas punctata* (→ *Aeromonas caviae*)		A		Annex 1f
95	*Aeromonas salmonicida* subsp. *masoucida*	2	A		-
96	*Aeromonas salmonicida* subsp. *salmonicida*	2	A		-
97	*Aeromonas salmonicida* subsp. *smithia*	2	A		-
98	*Aeromonas schubertii*	2			-
99	*Aeromonas sobria*	2			-
100	*Aeromonas trota* (→ *Aeromonas enteropelogenes*)				Annex 1d
101	*Aeromonas tructi* (→ *Aeromonas enteropelogenes*)				Annex 1d
102	*Aeromonas veronii*	2			-
103	*Afipia broomeae*	2			-
104	*Afipia clevelandensis*	2			Annex 1c
105	*Afipia felis*	2			-
106	*Aggregatibacter actinomycetemcomitans*	2		*= Actinobacillus actinomycetemcomitans*	Annex 1d
107	*Aggregatibacter aphrophilus*	2		*= Haemophilus paraphrophilus*	Annex 1d
108	*Aggregatibacter segnis*	2			-
109	*Agrobacterium larrymoorei* (→ *Rhizobium larrymoorei*)				Annex 1d
110	*Agrobacterium radiobacter* (→ *Rhizobium radiobacter*)				Annex 1f
111	*Agrobacterium rhizogenes* (→ *Rhizobium rhizogenes*)				Annex 1d
112	*Agrobacterium rubi* (→ *Rhizobium rubi*)				Annex 1d
113	*Agrobacterium tumefaciens* (→ *Rhizobium radiobacter*)				Annex 1f
114	*Agrobacterium vitis* (→ *Allorhizobium vitis*)				Annex 1d
115	*Alcaligenes defragans* (→ *Castellaniella defragrans*)				Annex 1d
116	*Alcaligenes faecalis* subsp. *faecalis*	2			-
117	*Alcaligenes piechaudii* (→ *Achromobacter piechaudii*)				Annex 1d
118	*Alcaligenes xylosoxidans* (→*Achromobacter xylosoxidans*)				Annex 1f
119	*Aliivibrio salmonicida*	2	A	*= Vibrio salmonicida*	Anex 1a, Annex 1d
120	*Aliivibrio wodanis*	2		*= Vibrio wodanis*	Annex 1d
121	*Alistipes putredinis*	2		*= Bacteroides putredinis*	Annex 1d
122	*Alistipes shahii*	2			-
123	*Alloiococcus otitis*	2			-
124	*Alloprevotella tannerae*	2		*= Prevotella tannerae*	Annex 1d

125	*Allorhizobium vitis°*	2	P	*= Agrobacterium vitis, Rhizobium vitis*	Annex 1d
126	*Amycolatopsis benzoatilytica*	2	A		-
127	*Amycolatopsis kentuckyensis*	2	A		-
128	*Amycolatopsis lexintonensis*	2	A		-
129	*Amycolatopsis pretoriensis*	2	A		-
130	*Anaerobiospirillum succiniciproducens*	2			-
131	*Anaerobiospirillum thomasii*	2			-
132	*Anaerococcus prevotii*	2		*= Peptostreptococcus prevotii*	Annex 1d
133	*Anaerococcus vaginalis*	2			-
134	*Anaerococcus vaginalis*	2		*= Peptostreptococcus vaginalis*	Annex 1d
135	*Anaerorhabdus furcosa*	2			Annex 1c
136	*Anaerospora hongkongensis*	2			-
137	*Anaplasma caudatum*	2	A		-
138	*Anaplasma centrale*	2	A		-
139	*Anaplasma marginale*	2	A		-
140	*Anaplasma ovis*	2	A		-
141	*Anaplasma phagocytophilum*	2		*= Ehrlichia phagocytophila, Ehrlichia equi*	Annex 1d
142	*Anaplasma platys*	2	A		-
143	*Arachnia propionica* (→ *Pseudopropionibacterium propionicum*)				Annex 1d
144	*Arcanobacterium abortisuis* (→ *Trueperella abortisuis*)				Annex 1h
145	*Arcanobacterium bernardiae* (→ *Trueperella bernardiae*)				Annex 1d
146	*Arcanobacterium bialowiezense* (→ *Trueperella bialowiezensis*)				Annex 1d
147	*Arcanobacterium bonasi* (→ *Trueperella bonasi*)				Annex 1d
148	*Arcanobacterium haemolyticum*	2			-
149	*Arcanobacterium phocae*	2	A		-
150	*Arcanobacterium pyogenes* (→ *Trueperella pyogenes*)				Annex 1d
151	*Arcobacter butzleri*	2			-
152	*Arcobacter cibarius*	2			-
153	*Arcobacter cryaerophilus*	2			-
154	*Arthrobacter albus* (→ *Pseudoglutamicibacter albus*)				Annex 1d
155	*Arthrobacter creatinolyticus* (→ *Glutamicibacter creatinolyticus*)				Annex 1d
156	*Arthrobacter gandavensis*	2	A		-
157	*Arthrobacter luteolus*	2			-
158	*Arthrobacter woluwensis*	2			Annex 1c
159	*Atopobium fossor*	2	A		-
160	*Atopobium minutum*	2			-
161	*Atopobium parvulum*	2			-
162	*Atopobium rimae*	2			-
163	*Atopobium vaginae*	2			-
164	*Avibacterium endocarditidis*	2	A		-
165	*Avibacterium gallinarum*	2			-
166	*Avibacterium paragallinarum*	2	A		-
167	*Bacillus anthracis*	3			-
168	*Bacillus cereus*	2			-

169	*Bacillus idriensis*	2			-
170	*Bacillus infantis*	2			-
171	*Bacillus megaterium*	2	P		-
172	*Bacillus popilliae* (→ *Paenibacillus popilliae*)				Annex 1d
173	*Bacillus pumilus*	2	P		-
174	*Bacillus sphaericus* (→ *Lysinibacillus sphaericus*)				Annex 1d
175	*Bacillus thuringiensis*	2	A		-
176	*Bacteroides caccae*	2			-
177	*Bacteroides capillosus* (→ *Pseudoflavonifractor capillosus*)				Annex 1d
178	*Bacteroides cellulosilyticus*	2			Annex 1c
179	*Bacteroides coagulans*	2			-
180	*Bacteroides distasonis* (→ *Parabacteroides distasonis*)				Annex 1d
181	*Bacteroides eggerthii*	2			-
182	*Bacteroides forsythus* (→*Tannerella forsythia*)				Annex 1d
183	*Bacteroides fragilis*	2			-
184	*Bacteroides helcogenes*	2	A		-
185	*Bacteroides massiliensis*	2			-
186	*Bacteroides nordii*	2			-
187	*Bacteroides ovatus*	2			-
188	*Bacteroides putredinis* (→ *Alistipes putredinis*)				Annex 1d
189	*Bacteroides pyogenes*	2	A	*= Bacteroides tectus, Bacteroides suis*	Annex 1d
190	*Bacteroides salyersiae*	2			Annex 1c
191	*Bacteroides splanchnicus* (→ *Odoribacter splanchnicus*)				Annex 1d
192	*Bacteroides stercoris*	2			-
193	*Bacteroides suis* (→ *Bacteroides pyogenes*)				Annex 1d
194	*Bacteroides tectus* (→ *Bacteroides pyogenes*)				Annex 1d
195	*Bacteroides thetaiotaomicron*	2			-
196	*Bacteroides uniformis*	2			-
197	*Bacteroides ureolyticus* (→ *Campylobacter ureolyticus*)				Annex 1d
198	*Bacteroides vulgatus*	2			-
199	*Bacteroides xylanisolvens*	2			-
200	*Balneatrix alpica*	2			-
201	*Bartonella alsatica*	2			-
202	*Bartonella bacilliformis*	2			-
203	*Bartonella birtlesii*	2	A		-
204	*Bartonella bovis*	2	A		-
205	*Bartonella capreoli*	2	A		-
206	*Bartonella clarridgeiae*	2			-
207	*Bartonella doshiae*	2	A		-
208	*Bartonella grahamii*	2			-
209	*Bartonella henselae*	2			-
210	*Bartonella peromysci*	2		*= Grahamella peromysci*	Annex 1d
211	*Bartonella quintana*	2		*= Rochalimaea quintana*	Annex 1d
212	*Bartonella schoenbuchensis*	2			-

213	*Bartonella talpae*	2		*= Grahamella talpae*	Annex 1d
214	*Bartonella tribocorum*	2			-
215	*Bergeyella zoohelcum*	2			-
216	*Bibersteinia trehalosi*	2		*= Pasteurella trehalosi*	Annex 1d
217	*Bifidobacterium dentium*	2			-
218	*Bilophila wadsworthia*	2			-
219	*Bordetella avium*	2	A		-
220	*Bordetella bronchiseptica*	2			-
221	*Bordetella hinzii*	2			-
222	*Bordetella holmesii*	2			-
223	*Bordetella parapertussis*	2			-
224	*Bordetella pertussis*	2			-
225	*Bordetella trematum*	2			-
226	*Borrelia afzelii*	2			-
227	*Borrelia anserina*	2	A		-
228	*Borrelia baltazardii*	2			-
229	*Borrelia brasiliensis*	2	A		-
230	*Borrelia burgdorferi* (→ *Borreliella burgdorferi*)				Annex 1d
231	*Borrelia caucasica*	2			-
232	*Borrelia coriaceae*	2	A		-
233	*Borrelia crocidurae*	2			-
234	*Borrelia dugesii*	2	A		-
235	*Borrelia duttonii*	2			-
236	*Borrelia garinii* (→ *Borreliella garinii*)				Annex 1d
237	*Borrelia graingeri*	2			-
238	*Borrelia harveyi*	2	A		Annex 1c
239	*Borrelia hermsii*	2			-
240	*Borrelia hispanica*	2			-
241	*Borrelia latyschewii*	2			-
242	*Borrelia mazzottii*	2			-
243	*Borrelia miyamotoi*	2			-
244	*Borrelia parkeri*	2			-
245	*Borrelia persica*	2			-
246	*Borrelia recurrentis*	2			-
247	*Borrelia spielmanii* (→ *Borreliella spielmanii*)				Annex 1d
248	*Borrelia theileri*	2	A		-
249	*Borrelia tillae*	2	A		-
250	*Borrelia turicatae*	2			-
251	*Borrelia valaisiana*	2			-
252	*Borrelia venezuelensis*	2			-
253	*Borreliella burgdorferi*	2		*= Borrelia burgdorferi*	Annex 1d
254	*Borreliella garinii*	2		*= Borrelia garinii*	Annex 1d
255	*Borreliella spielmanii*	2		*= Borrelia spielmanii*	Annex 1d
256	*Brachyspira aalborgi*	2			-

257	*Brachyspira alvinipulli*	2	A		-
258	*Brachyspira hyodysenteriae*	2	A	= *Serpulina hyodysenteriae*	Anex 1a, Annex 1d
259	*Brachyspira innocens*	2			-
260	*Brachyspira intermedia*	2	A	= *Serpulina intermedia*	Annex 1d
261	*Brachyspira pilosicoli*	2		= *Serpulina pilosicoli*	Annex 1d
262	*Brackiella oedipodis*	2	A		-
263	*Brenneria alni*	2	P		-
264	*Brenneria nigrifluens*	2	P		-
265	*Brenneria quercina* (→ *Lonsdalea quercina*)				Annex 1d
266	*Brenneria rubrifaciens*	2	P		-
267	*Brenneria salicis*	2	P		-
268	*Brevibacterium avium*	2	A		-
269	*Brevibacterium mcbrellneri*	2			-
270	*Brevibacterium otitidis*	2			-
271	*Brevibacterium paucivorans*	2			-
272	*Brevibacterium sanguinis*	2			-
273	*Brevinema andersonii*	2	A		-
274	*Brevundimonas vesicularis*	2			-
275	*Brucella abortus* (→ *Brucella melitensis*)				Annex 1g
276	*Brucella canis* (→ *Brucella melitensis*)				Annex 1g
277	*Brucella melitensis*	3		≡ *Brucella abortus, Brucella canis, Brucella ovis, Brucella suis*	Annex 1g
278	*Brucella ovis* (→ *Brucella melitensis*)				Annex 1g
279	*Brucella suis* (→ *Brucella melitensis*)				Annex 1g
280	*Bulleidia extructa*	2			-
281	*Burkholderia ambifaria*	2			-
282	*Burkholderia andropogonis* (→ *Robbsia andropogonis*)				Annex 1d
283	*Burkholderia caryophylli* (→ *Paraburkholderia caryophylli*)				Annex 1f
284	*Burkholderia cenocepacia*	2			-
285	*Burkholderia cepacia*	2	P		-
286	*Burkholderia dolosa*	2			-
287	*Burkholderia gladioli*	2	P		-
288	*Burkholderia glumae*	2	P		-
289	*Burkholderia mallei*	3			-
290	*Burkholderia multivorans*	2			-
291	*Burkholderia plantarii*	2	P		-
292	*Burkholderia pseudomallei*	3			-
293	*Burkholderia stabilis*	2			-
294	*Burkholderia thailandensis strain E264*	2	A		-
295	*Burkholderia vietnamensis*	2			-
296	*Butyribacterium methylotrophicum*	2			Annex 1a
297	*Calymmatobacterium granulomatis* (→ *Klebsiella granulomatis*)				Annex 1d
298	*Campylobacter coli*	2		= *Campylobacter hyoilei*	Annex 1d
299	*Campylobacter concisus*	2			-

300	*Campylobacter curvus*	2			-
301	*Campylobacter fetus* (→ *Campylobacter fetus* subsp. *fetus, Campylobacter fetus* subsp. *testudinum, Campylobacter fetus* subsp. *venerealis)*	2			Annex 1e
302	*Campylobacter fetus* subsp. *fetus*	tbd		= *Campylobacter fetus*	Annex 1e
303	*Campylobacter fetus* subsp. *testudinum*	tbd		= *Campylobacter fetus*	Annex 1e
304	*Campylobacter fetus* subsp. *venerealis*	tbd		= *Campylobacter fetus*	Annex 1e
305	*Campylobacter gracilis*	2			-
306	*Campylobacter hyoilei* (→ *Campylobacter coli*)				Annex 1d
307	*Campylobacter hyointestinalis* (→ *Campylobacter hyointestinalis* subsp. *Hyotestinalis, Campylobacter hyointestinalis* subsp. *Lawsonii)*	2			Annex 1e
308	*Campylobacter hyointestinalis* subsp. *hyotestinalis*	tbd		= *Campylobacter hyointestinalis*	Annex 1e
309	*Campylobacter hyointestinalis* subsp. *lawsonii*	tbd		= *Campylobacter hyointestinalis*	Annex 1e
310	*Campylobacter jejuni* (→ *Campylobacter jejuni* subsp. *jejuni, Campylobacter jejuni* subsp. *doylei)*	2			Annex 1e
311	*Campylobacter jejuni* subsp. *doylei*	tbd		= *Campylobacter jejuni*	Annex 1e
312	*Campylobacter jejuni* subsp. *jejuni*	tbd		= *Campylobacter jejuni*	Annex 1e
313	*Campylobacter lari* (→ *Campylobacter lari* subsp. *lari, Campylobacter lari* subsp. *concheus)*	2			Annex 1e
314	*Campylobacter lari* subsp. *concheus*	tbd		= *Campylobacter lari*	Annex 1e
315	*Campylobacter lari* subsp. *lari*	tbd		= *Campylobacter lari*	Annex 1e
316	*Campylobacter mucosalis*	2	A	= *Campylobacter sputorum* subsp. *mucosalis*	Annex 1e
317	*Campylobacter rectus*	2			-
318	*Campylobacter sputorum* (→ *Campylobacter sputorum* subsp. *mucosalis, Campylobacter sputorum* subsp. *bubulus, Campylobacter sputorum* subsp. *sputorum*)	2			Annex 1e
319	*Campylobacter sputorum* subsp. *bubulus*	tbd		= *Campylobacter sputorum*	Annex 1e
320	*Campylobacter sputorum* subsp. *mucosalis* (→ *Campylobacter mucosalis*)	tbd		= *Campylobacter sputorum*	Annex 1e
321	*Campylobacter sputorum* subsp. *sputorum*	tbd		= *Campylobacter sputorum*	Annex 1e
322	*Campylobacter upsaliensis*	2			-
323	*Campylobacter ureolyticus*	2		= *Bacteroides ureolyticus*	Annex 1d
324	*Capnocytophaga canimorsus*	2			-
325	*Capnocytophaga cynodegmi*	2			-
326	*Capnocytophaga gingivalis*	2			-
327	*Capnocytophaga granulosa*	2			-
328	*Capnocytophaga haemolytica*	2			-
329	*Capnocytophaga ochracea*	2			-
330	*Capnocytophaga sputigena*	2			-
331	*Cardiobacterium hominis*	2			-
332	*Cardiobacterium valvarum*	2			-
333	*Carnobacterium maltaromaticum*	2	A	= *Carnobacterium piscicola*	Annex 1d
334	*Carnobacterium piscicola* (→ *Carnobacterium maltaromaticum*)				Annex 1d
335	*Castellaniella defragrans*	2		= *Alcaligenes defragans*	Annex 1d
336	*Catonella morbi*	2			-
337	*Cedecea davisae*	2			-

338	*Cedecea lapagei*	2			-
339	*Cedecea neteri*	2			-
340	*Cellulomonas hominis*	2			Annex 1c
341	*Centipeda periodontii*	2			-
342	*Chlamydia felis*	2		*= Chlamydophila felis*	Annex 1d
343	*Chlamydia muridarum*	2	A		-
344	*Chlamydia pecorum* (→ *Chlamydophila pecorum*)				Annex 1d
345	*Chlamydia trachomatis*	2			-
346	*Chlamydophila abortus*	2			-
347	*Chlamydophila caviae*	2	A		-
348	*Chlamydophila felis* (→ *Chlamydia felis*)				Annex 1d
349	*Chlamydophila pecorum*	2	A	*= Chlamydia pecorum*	Annex 1d
350	*Chlamydophila pneumoniae*	2			-
351	*Chlamydophila psittaci*	2*			Annex 1a
352	*Chromobacterium haemolyticum*	2			-
353	*Chromobacterium violaceum*	2			-
354	*Chromobacterium viscosum**	2			Annex 1h
355	*Chryseobacterium gleum*	2			-
356	*Chryseobacterium indologenes*	2			-
357	*Chryseobacterium meningosepticum* (→ *Elizabethkingia meningoseptica*)				Annex 1d
358	*Chryseobacterium scophthalmum*	2	A		-
359	*Chryseomonas luteola* (→ *Pseudomonas luteola*)				Annex 1d
360	*Chryseomonas polytricha* (→ *Pseudomonas luteola*)				Annex 1d
361	*Citrobacter amalonaticus*	2			-
362	*Citrobacter braakii*	2			-
363	*Citrobacter farmeri*	2			-
364	*Citrobacter freundii*	2			-
365	*Citrobacter gillenii*	2			-
366	*Citrobacter koseri*	2			-
367	*Citrobacter murliniae*	2			-
368	*Citrobacter rodentium*	2	A		-
369	*Citrobacter sedlakii*	2			-
370	*Citrobacter werkmanii*	2			-
371	*Citrobacter youngae*	2			-
372	*Clavibacter capsici*	tbd		*= Clavibacter michiganensis* subsp. *capsici*	Annex 1e
373	*Clavibacter insidiosus*	tbd		*= Clavibacter michiganensis* subsp. *insidiosus*	Annex 1e
374	*Clavibacter michiganensis* (→ *Clavibacter michiganensis* subsp. *californiensis, Clavibacter michiganensis* subsp. *capsici, Clavibacter michiganensis* subsp. *chilensis, Clavibacter michiganensis* subsp. *insidiosus, Clavibacter michiganensis* subsp. *michiganensis, Clavibacter michiganensis* subsp. *nebraskensis, Clavibacter michiganensis* subsp. *phaseoli, Clavibacter michiganensis* subsp. *sepedonicus, Clavibacter michiganensis* subsp. *tessellarius)*	2	P		Annex 1e
375	*Clavibacter michiganensis* subsp. *californiensis*	tbd		*= Clavibacter michiganensis*	Annex 1e
376	*Clavibacter michiganensis* subsp. *capsici* (→ *Clavibacter capsici*)			*= Clavibacter michiganensis*	Annex 1e

377	*Clavibacter michiganensis* subsp. *chilensis*	tbd		= *Clavibacter michiganensis*	Annex 1e
378	*Clavibacter michiganensis* subsp. *insidiosus* (→ *Clavibacter insidiosus*)			= *Clavibacter michiganensis*	Annex 1e
379	*Clavibacter michiganensis* subsp. *michiganensis*	tbd		= *Clavibacter michiganensis*	Annex 1e
380	*Clavibacter michiganensis* subsp. *nebraskensis* (→ *Clavibacter nebraskensis*)			= *Clavibacter michiganensis*	Annex 1e
381	*Clavibacter michiganensis* subsp. *phaseoli*	tbd		= *Clavibacter michiganensis*	Annex 1e
382	*Clavibacter michiganensis* subsp. *sepedonicus* (→ *Clavibacter sepedonicus*)			= *Clavibacter michiganensis*	Annex 1e
383	*Clavibacter michiganensis* subsp. *tessellarius* (→ *Clavibacter tesselarius*)			= *Clavibacter michiganensis*	Annex 1e
384	*Clavibacter nebraskensis*	tbd		= *Clavibacter michiganensis* subsp. *nebraskensis*	Annex 1e
385	*Clavibacter sepedonicus*	tbd		= *Clavibacter michiganensis* subsp. *sepedonicus*	Annex 1e
386	*Clavibacter tesselarius*	tbd		= *Clavibacter michiganensis* subsp. *tessellarius*	Annex 1e
387	*Clostridioides difficile*	2		= *Clostridium difficile*	Annex 1d
388	*Clostridium absonum* (→ *Clostridium sardiniense*)				Annex 1d
389	*Clostridium aldenense*	2			-
390	*Clostridium argentinense*	2			-
391	*Clostridium baratii*	2			-
392	*Clostridium bifermentans* (→ *Paraclostridium bifermentans*)				Annex 1d
393	*Clostridium botulinum*	2			-
394	*Clostridium cadaveris*	2			-
395	*Clostridium carnis*	2			-
396	*Clostridium chauvoei*	2			-
397	*Clostridium citroniae*	2			Annex 1h
398	*Clostridium clostridioforme*	2			-
399	*Clostridium colinum*	2	A		-
400	*Clostridium difficile* (→ *Clostridioides difficile*)				Annex 1d
401	*Clostridium fallax*	2			-
402	*Clostridium frigidicarnis*	2			-
403	*Clostridium ghonii* (→ *Paeniclostridium ghonii*)				Annex 1d
404	*Clostridium glycolicum* (→ *Terrisporobacter glycolicus*)				Annex 1d
405	*Clostridium haemolyticum*	2			-
406	*Clostridium hastiforme* (→ *Tissierella praeacuta*)				Annex 1d
407	*Clostridium histolyticum* (→ *Hathewaya histolytica*)				Annex 1d
408	*Clostridium indolis*	2			-
409	*Clostridium innocuum*	2			-
410	*Clostridium limosum* (→ *Hathewaya limosa*)				Annex 1d
411	*Clostridium malenominatum*	2			-
412	*Clostridium moniliforme*	2		= *Eubacterium moniliforme*	Annex 1d
413	*Clostridium novyi*	2			-
414	*Clostridium oroticum* (→ *Faecalicatena orotica*)				Annex 1d
415	*Clostridium paraputrificum*	2			-
416	*Clostridium perfringens*	2			-
417	*Clostridium piliforme*	2	A		-
418	*Clostridium puniceum*	2	P		-
419	*Clostridium putrificum**	2			Annex 1h
420	*Clostridium ramosum*	2			-

421	*Clostridium sardiniense*	2		*= Clostridium absonum*	Annex 1d
422	*Clostridium schirmacherense*	2			-
423	*Clostridium septicum*	2			-
424	*Clostridium sordellii* (→ *Paeniclostridium sordellii*)				Annex 1d
425	*Clostridium sphenoides*	2			-
426	*Clostridium sporogenes*	2			-
427	*Clostridium subterminale*	2			-
428	*Clostridium symbiosum*	2			-
429	*Clostridium tarantellae*	2	A	*= Eubacterium tarantellae*	Annex 1d
430	*Clostridium tertium*	2			-
431	*Clostridium tetani*	2			-
432	*Collinsella aerofaciens*	2		*= Eubacterium aerofaciens*	Annex 1d
433	*Comamonas aquatica*	2			-
434	*Comamonas kerstersii*	2			-
435	*Comamonas terrigena*	2			-
436	*Corynebacterium accolens*	2			-
437	*Corynebacterium afermentans* (→ *Corynebacterium afermentans* subsp. afermentans, *Corynebacterium afermentans* subsp. *lipophilum)*	2			Annex 1e
438	*Corynebacterium afermentans* subsp. *afermentans*	tbd		*= Corynebacterium afermentans*	Annex 1e
439	*Corynebacterium afermentans* subsp. *lipophilum*	tbd		*= Corynebacterium afermentans*	Annex 1e
440	*Corynebacterium amycolatum*	2			-
441	*Corynebacterium argentoratense*	2			-
442	*Corynebacterium aurimucosum*	2		*= Corynebacterium nigricans*	Annex 1d
443	*Corynebacterium auris*	2			-
444	*Corynebacterium auriscanis*	2	A		-
445	*Corynebacterium beticola*	2	P		-
446	*Corynebacterium bovis*	2			-
447	*Corynebacterium camporealensis*	2	A		-
448	*Corynebacterium caspium*	2			-
449	*Corynebacterium confusum*	2			-
450	*Corynebacterium coyleae*	2			-
451	*Corynebacterium cystitidis*	2	A		-
452	*Corynebacterium diphteriae*	2			-
453	*Corynebacterium falsenii*	2			-
454	*Corynebacterium felinum*	2			-
455	*Corynebacterium freneyi*	2			-
456	*Corynebacterium glucuronolyticum*	2			-
457	*Corynebacterium hansenii*	2			-
458	*Corynebacterium hoagii* (→ *Rhodococcus hoagii*)				Annex 1f
459	*Corynebacterium imitans*	2			-
460	*Corynebacterium jeikeium*	2			-
461	*Corynebacterium macginleyi*	2			-
462	*Corynebacterium mastitidis*	2	A		-
463	*Corynebacterium matruchotii*	2			-

464	*Corynebacterium minutissimum*	2			-
465	*Corynebacterium mucifaciens*	2			-
466	*Corynebacterium mycetoides*	2			-
467	*Corynebacterium nigricans* (→ *Corynebacterium aurimucosum*)				Annex 1d
468	*Corynebacterium phocae*	2			-
469	*Corynebacterium propinquum*	2			-
470	*Corynebacterium pseudodiphteriticum*	2			-
471	*Corynebacterium pseudotuberculosis*	2			-
472	*Corynebacterium renale*	2	A		-
473	*Corynebacterium resistens*	2			-
474	*Corynebacterium riegelii*	2			-
475	*Corynebacterium simulans*	2			-
476	*Corynebacterium striatum*	2			-
477	*Corynebacterium suicordis*	2	A		-
478	*Corynebacterium sundsvallense*	2			-
479	*Corynebacterium testudinoris*	2			-
480	*Corynebacterium thomssenii*	2			-
481	*Corynebacterium tuberculostearicum*	2			-
482	*Corynebacterium tuscaniense*	2			-
483	*Corynebacterium ulcerans*	2			-
484	*Corynebacterium urealyticum*	2			-
485	*Corynebacterium ureicelerivorans*	2			-
486	*Corynebacterium xerosis*	2			-
487	*Corynebactrium pilosum*	2			-
488	*Cowdria ruminantium* (→ *Ehrlichia ruminantium*)				Annex 1d
489	*Coxiella burnetii*	3			-
490	*Cronobacter dublinensis* (→ *Cronobacter dublinensis* subsp. *dublinensis, Cronobacter dublinensis* subsp. *lactaridi, Cronobacter dublinensis* subsp. *lausannensis*	2			Annex 1e
491	*Cronobacter dublinensis* subsp. *dublinensis*	tbd		= *Cronobacter dublinensis*	Annex 1e
492	*Cronobacter dublinensis* subsp. *lactaridi*	tbd		= *Cronobacter dublinensis*	Annex 1e
493	*Cronobacter dublinensis* subsp. *lausannensis*	tbd		= *Cronobacter dublinensis*	Annex 1e
494	*Cronobacter malonaticus*	2			-
495	*Cronobacter muytjensii*	2			-
496	*Cronobacter sakazakii*	2			-
497	*Cronobacter sakazakii*	2		= *Enterobacter sakazakii*	Annex 1d
498	*Cronobacter turicensis*	2			-
499	*Crossiella equi*	2	A		-
500	*Cupriavidus respiraculi*	2			-
501	*Curtobacterium flaccumfaciens*	2	P		Annex 1c
502	*Cutibacterium acnes*	2		= *Propionibacterium acnes*	Annex 1d
503	*Cutibacterium avidum*	2		= *Propionibacterium avidum*	Annex 1d
504	*Cutibacterium granulosum*	2		= *Propionibacterium granulosum*	Annex 1d
505	*Cytophaga allerginae*	2			Annex 1a

506	*Cytophaga columnaris* (→ *Flavobacterium columnare*)				Annex 1d
507	*Cytophaga psychrophila* (→ *Flavobacterium columnare*)				Annex 1d
508	*Delftia acidovorans*	2			-
509	*Dermatophilus chelonae* (→ *Flavobacterium columnare*)				Annex 1d
510	*Dermatophilus congolensis*	2			-
511	*Desulfomicrobium orale*	2			-
512	*Dialister invisus*	2			-
513	*Dialister pneumosintes*	2			-
514	*Dichelobacter nodosus*	2	A		-
515	*Dickeya chrysanthemi*	2	P		-
516	*Dickeya chrysanthemi*	2		= *Erwinia chrysanthemi*	Annex 1d
517	*Dickeya dadantii* (→ *Dickeya dadantii subsp. dadantii, Dickeya dadantii* subsp. *dieffenbachiae)*	2	P		Annex 1e
518	*Dickeya dadantii* subsp. *dadantii*	tbd		= *Dickeya dadantii*	Annex 1e
519	*Dickeya dadantii* subsp. *dieffenbachiae*	tbd		= *Dickeya dadantii*	Annex 1e
520	*Dickeya dadantii subsp. dieffenbachiae*	2	P	= *Dickeya dieffenbachiae*	Annex 1d
521	*Dickeya dianthicola*	2	P		-
522	*Dickeya dieffenbachiae* (→ *Dickeya dadantii* subsp. *dieffenbachiae*)				Annex 1d
523	*Dickeya paradisiaca*	2	P		-
524	*Dickeya zeae*	2	P		-
525	*Dolosigranulum pigrum*	2			-
526	*Edwardsiella anguillimortifera* (→ *Edwardsiella tarda*)	2	A		Annex 1f
527	*Edwardsiella ictaluri*	2	A		-
528	*Edwardsiella tarda°*	2		= *Edwardsiella anguillimortifera*	Annex 1f
529	*Eggerthella hongkongensis* (→ *Paraeggerthella hongkongensis*)				Annex 1d
530	*Eggerthella lenta*	2			-
531	*Eggerthella sinensis*	2			-
532	*Eggerthia catenaformis*	2		= *Lactobacillus catenaformis*	Annex 1h
533	*Ehrlichia canis*	2			-
534	*Ehrlichia chaffeensis*	2			-
535	*Ehrlichia equi* (→ *Anaplasma phagocytophilum*)				Annex 1d
536	*Ehrlichia ewingii*	2			-
537	*Ehrlichia phagocytophila* (→ *Anaplasma phagocytophilum*)				Annex 1d
538	*Ehrlichia risticii* (→ *Neorickettsia risticii*)				Annex 1d
539	*Ehrlichia ruminantium*	2		= *Cowdria ruminantium*	Annex 1d
540	*Ehrlichia sennetsu* (→ *Neorickettsia sennetsu*)				Annex 1d
541	*Eikenella corrodens*	2			-
542	*Elizabethkingia meningoseptica*	2		= *Chryseobacterium meningosepticum*	Annex 1d
543	*Empedobacter brevis*	2			-
544	*Enterobacter aerogenes* (→ *Klebsiella aerogenes*)				Annex 1d
545	*Enterobacter amnigenus* (→ *Lelliottia amnigena*)				Annex 1d
546	*Enterobacter asburiae*	2			-
547	*Enterobacter cancerogenus*	2	P		-
548	*Enterobacter cancerogenus*	2		= *Enterobacter taylorae*	Annex 1d

549	*Enterobacter cloacae* (→ *Enterobacter cloacae* subsp. *cloacae, Enterobacter cloacae* subsp. *dissolvens)*	2	P		Annex 1e
550	*Enterobacter cloacae* subsp. *cloacae*	tbd		*= Enterobacter cloacae*	Annex 1e
551	*Enterobacter cloacae* subsp. *dissolvens*	tbd		*= Enterobacter cloacae*	Annex 1e
552	*Enterobacter cowanii* (→ *Kosakonia cowanii*)				Annex 1d
553	*Enterobacter gergoviae* (→ *Pluralibacter gergoviae*)				Annex 1d
554	*Enterobacter hormaechei (→ Enterobacter hormaechei* subsp. *hormaechei, Enterobacter hormaechei* subsp. *oharae, Enterobacter hormaechei* subsp. *steigerwaltii)*	2			Annex 1f
555	*Enterobacter hormaechei* subsp. *hormaechei°*	tbd		*= Enterobacter hormaechei*	Annex 1f
556	*Enterobacter hormaechei* subsp. *oharae°*	tbd		*= Enterobacter hormaechei*	Annex 1f
557	*Enterobacter hormaechei* subsp. *steigerwaltii°*	tbd		*= Enterobacter hormaechei*	Annex 1f
558	*Enterobacter kobei*	2			-
559	*Enterobacter nimipressuralis* (→ *Lelliottia nimipressuralis*)				Annex 1d
560	*Enterobacter pyrinus* (→ *Pluralibacter pyrinus*)				Annex 1d
561	*Enterobacter sakazakii* (→ *Cronobacter sakazakii*)				Annex 1d
562	*Enterobacter taylorae* (→ *Enterobacter cancerogenus*)				Annex 1d
563	*Enterococcus avium*	2			-
564	*Enterococcus casseliflavus*	2		*= Enterococcus flavescens*	Annex 1d
565	*Enterococcus dispar*	2			-
566	*Enterococcus durans*	2			-
567	*Enterococcus faecalis*	2			-
568	*Enterococcus faecium*	2			-
569	*Enterococcus flavescens* (→ *Enterococcus casseliflavus*)				Annex 1d
570	*Enterococcus gallinarum*	2			-
571	*Enterococcus hirae*	2			-
572	*Enterococcus pseudoavium*	2	A		-
573	*Enterococcus raffinosus*	2			-
574	*Enterococcus ratti*	2	A		-
575	*Enterococcus seriolicida* (→ *Lactococcus garvieae* subsp. *garvieae*)				Annex 1d
576	*Enterococcus solitarius* (→ *Tetragenococcus solitarius*)				Annex 1d
577	*Enterococcus villorum*	2	A		-
578	*Eperythrozoon coccoides* (→ *Mycoplasma coccoides*)				Annex 1h
579	*Eperythrozoon ovis* (→ *Mycoplasma ovis*)				Annex 1d
580	*Eperythrozoon parvum*	2	A		-
581	*Eperythrozoon suis* (→ *Mycoplasma suis*)				Annex 1d
582	*Eperythrozoon wenyonii* (→ *Mycoplasma wenyonii*)				Annex 1d
583	*Erwinia amylovora*	2	P		-
584	*Erwinia cacticida* (→ *Pectobacterium cacticida*)				Annex 1d
585	*Erwinia chrysanthemi* (→*Dickeya chrysanthemi*)				Annex 1d
586	*Erwinia herbicola* (→ *Pantoea agglomerans*)				Annex 1d
587	*Erwinia mallotivora*	2	P		-
588	*Erwinia papayae*	2	P		-
589	*Erwinia persicina*	2	P		-

590	*Erwinia psidii*	2	P		-
591	*Erwinia pyrifoliae*	2	P		-
592	*Erwinia rhapontici*	2	P		-
593	*Erwinia tracheiphila*	2	P		-
594	*Erysipelothrix rhusiopathiae*	2			-
595	*Erysipelothrix tonsillarum*	2	A		-
596	*Escherichia albertii*	2			-
597	*Escherichia coli* *	2			Annex 1e
598	*Escherichia coli,* associated with the Hemolytic Uremic Syndrome (HUSEC)*	3			Annex 1e
599	*Escherichia fergusonii*	2			-
600	*Escherichia hermannii*	2			-
601	*Escherichia vulneris*	2			-
602	*Eubacterium aerofaciens* (→ *Collinsella aerofaciens*)				Annex 1d
603	*Eubacterium brachy*	2			-
604	*Eubacterium combesii*	2			-
605	*Eubacterium contortum* (→ *Faecalicatena contorta*)				Annex 1d
606	*Eubacterium infirmum*	2			-
607	*Eubacterium limosum*	2			-
608	*Eubacterium minutum*	2			-
609	*Eubacterium moniliforme* (→ *Clostridium moniliforme*)				Annex 1d
610	*Eubacterium nitritogenes*	2			-
611	*Eubacterium nodatum*	2			-
612	*Eubacterium saphenum*	2			-
613	*Eubacterium sulci*	2			-
614	*Eubacterium tarantellae* (→ *Clostridium tarantellae*)				Annex 1d
615	*Eubacterium tenue*	2			-
616	*Eubacterium tortuosum*	2			-
617	*Eubacterium ventriosum*	2			-
618	*Eubacterium yurii*	2			-
619	*Ewingella americana*	2	P		-
620	*Facklamia hominis*	2			-
621	*Faecalibacterium prausnitzii*	2		*= Fusobacterium prausnitzii*	Annex 1d
622	*Faecalicatena contorta*	2		*= Eubacterium contortum*	Annex 1d
623	*Faecalicatena orotica*	2		*= Clostridium oroticum*	Annex 1d
624	*Falcivibrio grandis* (→ *Mobiluncus mulieris*)				Annex 1d
625	*Falcivibrio vaginalis* (→ *Mobiluncus curtisii*)				Annex 1d
626	*Filifactor alocis*	2			-
627	*Filifactor alocis*	2		*= Fusobacterium alocis*	Annex 1d
628	*Finegoldia magna*	2		*= Peptostreptococcus magnus*	Annex 1d
629	*Flavimonas oryzihabitans* (→ *Pseudomonas oryzihabitans*)				Annex 1d
630	*Flavobacterium branchiophilum*	2	A		-
631	*Flavobacterium columnare*	2	A	*= Cytophaga columnaris, Cytophaga psychrophila,Dermatophilus chelonae, Flexibacter columnaris*	Annex 1d

632	*Flavobacterium hydatis*	2			-
633	*Flavobacterium johnsoniae*	2	A		Annex 1c
634	*Flavobacterium meningosepticum* (→ *Chryseobacterium meningosepticum*)				Annex 1h
635	*Flavobacterium mizutaii* (→ *Sphingobacterium mizutaii*)				Annex 1d
636	*Flavobacterium psychrophilum*	2	A	= *Flexibacter psychrophilus*	Annex 1d
637	*Flavobacterium yabuuchiae* (→ *Sphingobacterium spiritivorum*)				Annex 1d
638	*Flexibacter columnaris* (→ *Flavobacterium columnare*)				Annex 1d
639	*Flexibacter maritimus* (→ *Tenacibaculum maritimum*)				Annex 1d
640	*Flexibacter ovolyticus* (→ *Tenacibaculum ovolyticum*)				Annex 1d
641	*Flexibacter psychrophilus* (→ *Flavobacterium psychrophilum*)				Annex 1d
642	*Fluoribacter bozemanae* (→ *Legionella bozemanae*)				Annex 1d
643	*Fluoribacter dumoffii* (→ *Legionella dumoffii*)				Annex 1d
644	*Fluoribacter gormanii* (→ *Legionella gormanii*)				Annex 1d
645	*Francisella noatunensis* subsp. *noatunensis*	tbd		= *Francisella philomiragia* subsp. n*oatunensis,* Francisella piscicida*)*	Annex 1e
646	*Francisella novicida* (→ *Francisella tularensis* subsp. *novicida*)				Annex 1e
647	*Francisella philomiragia* (→ *Francisella philomiragia* subsp. p*hilomiragia, Francisella philomiragia* subsp. *noatunensis)*	2	A		Annex 1e
648	*Francisella philomiragia* subsp. *noatunensis* (→ *Francisella noatunensis* subsp. *noatunensis*)	tbd		= *Francisella philomiragia*	Annex 1e
649	*Francisella philomiragia* subsp. *philomiragia*	tbd		= *Francisella philomiragia*	Annex 1e
650	*Francisella piscicida* (→ *Francisella noatunensis* subsp. *noatunensis*)	2	A		Annex 1e
651	*Francisella tularensis* (→ *Francisella tularensis* subsp. *holarctica, Francisella tularensis* subsp. *mediasiatica, Francisella tularensis* subsp. *novicida, Francisella tularensis* subsp. *tularensis*	3			Annex 1e
652	*Francisella tularensis* subsp. *holarctica*	tbd		= *Francisella tularensis*	Annex 1e
653	*Francisella tularensis* subsp. *mediasiatica*	tbd		= *Francisella tularensis*	Annex 1e
654	*Francisella tularensis* subsp. *novicida*	2		= *Francisella novicida, Francisella tularensis*	Annex 1e
655	*Francisella tularensis* subsp. *tularensis*	tbd		= *Francisella tularensis*	Annex 1e
656	*Fusobacterium alocis* (→ *Filifactor alocis*)				Annex 1d
657	*Fusobacterium canifelinum*	2			-
658	*Fusobacterium equinum*	2	A		-
659	*Fusobacterium gonidiaformans*	2			-
660	*Fusobacterium mortiferum*	2			-
661	*Fusobacterium naviforme*	2			-
662	*Fusobacterium necrogenes*	2			-
663	*Fusobacterium necrophorum* (→ *Fusobacterium necrophorum* subsp. *Funduliforme, Fusobacterium necrophorum* subsp. *necrophorum*)	2			Annex 1e
664	*Fusobacterium necrophorum* subsp. *funduliforme*	tbd		= *Fusobacterium necrophorum*	Annex 1e
665	*Fusobacterium necrophorum* subsp. *necrophorum*	tbd		= *Fusobacterium necrophorum*	Annex 1e
666	*Fusobacterium periodonticum*	2			-
667	*Fusobacterium prausnitzii* (→ *Faecalibacterium prausnitzii*)				Annex 1d
668	*Fusobacterium russii*	2			-
669	*Fusobacterium ulcerans*	2			-

670	*Gallibacterium anatis*	2	A		-
671	*Gardnerella vaginalis*	2			-
672	*Gemella bergeri*	2			-
673	*Gemella cuniculi*	2	A		-
674	*Gemella haemolysans*	2			-
675	*Gemella morbillorum*	2			Annex 1c
676	*Gemella sanguinis*	2			-
677	*Globicatella sanguinis*	2			-
678	*Globicatella sulfidifaciens*	2	A		-
679	*Gluconobacter oxydans* (→ *Gluconobacter oxydans* subsp. *sphaericus, Gluconobacter oxydans* subsp. *oxydans, Gluconobacter oxydans* subsp. *industrius, Gluconobacter oxydans* subsp. *suboxydans, Gluconobacter oxydans* subsp. *melanogenes*)	2	P		Annex 1e
680	*Gluconobacter oxydans* subsp. *industrius* (→ *Gluconobacter oxydans*)			= *Gluconobacter oxydans*	Annex 1e
681	*Gluconobacter oxydans* subsp. *melanogenes* (→ *Gluconobacter oxydans*)			= *Gluconobacter oxydans*	Annex 1e
682	*Gluconobacter oxydans* subsp. *oxydans* (→ *Gluconobacter oxydans*)			= *Gluconobacter oxydans*	Annex 1e
683	*Gluconobacter oxydans* subsp. *sphaericus* (→ *Gluconobacter sphaericus*)			= *Gluconobacter oxydans*	Annex 1e
684	*Gluconobacter oxydans* subsp. *suboxydans* (→ *Gluconobacter oxydans*)			= *Gluconobacter oxydans*	Annex 1e
685	*Gluconobacter sphaericus*	tbd		= *Gluconobacter oxydans* subsp. *sphaericus*	Annex 1e
686	*Glutamicibacter creatinolyticus*	2		= *Arthrobacter creatinolyticus*	Annex 1d
687	*Gordonia aichiensis*	2			Annex 1c
688	*Gordonia bronchialis*	2			Annex 1c
689	*Gordonia effusa*	2			Annex 1c
690	*Gordonia kurumensis**	2			Annex 1h
691	*Gordonia minima**	2			Annex 1h
692	*Gordonia otitidis*	2			Annex 1c
693	*Gordonia sputi*	2			Annex 1c
694	*Gordonia wrightpattersonensis*	2			Annex 1c
695	*Grahamella peromysci* (→ *Bartonella peromysci*)				Annex 1d
696	*Grahamella talpae* (→ *Bartonella talpae*)				Annex 1d
697	*Granulicatella adiacens*	2		= *Abiotrophia adiacens*	Annex 1d
698	*Granulicatella balaenopterae*	2		= *Abiotrophia balaenopterae*	Annex 1d
699	*Granulicatella elegans*	2		= *Abiotrophia elegans*	Annex 1d
700	*Grimontia hollisae*	2			-
701	*Haemobartonella canis* (→ *Mycoplasma haemocanis*)				Annex 1d
702	*Haemobartonella felis* (→ *Mycoplasma haemofelis*)				Annex 1d
703	*Haemobartonella muris* (→ *Mycoplasma haemomuris*)				Annex 1d
704	*Haemophilus aegyptius*	2			-
705	*Haemophilus ducreyi*	2			-
706	*Haemophilus felis*	2	A		-
707	*Haemophilus haemoglobinophilus*	2			-
708	*Haemophilus haemolyticus*	2			-
709	*Haemophilus influenzae*	2			-
710	*Haemophilus paracuniculus*	2	A		-

711	*Haemophilus parahaemolyticus*	2			-
712	*Haemophilus parainfluenzae*	2			-
713	*Haemophilus paraphrohaemolyticus*	2			-
714	*Haemophilus paraphrophilus* (→ *Aggregatibacter aphrophilus*)				Annex 1d
715	*Haemophilus parasuis*	2	A		-
716	*Haemophilus piscium*	2	A		-
717	*Haemophilus pittmaniae*	2			Annex 1c
718	*Haemophilus somnus* (→ *Histophilus somni*)				Annex 1d
719	*Hafnia alvei*	2			-
720	*Hallella seregens*	2			-
721	*Hathewaya histolytica*	2		= *Clostridium histolyticum*	Annex 1d
722	*Hathewaya limosa*	2		= *Clostridium limosum*	Annex 1d
723	*Helcococcus kunzii*	2			-
724	*Helcococcus ovis*	2	A		-
725	*Helicobacter acinonychis*	2	A		Annex 1c
726	*Helicobacter canis*	2			-
727	*Helicobacter cinaedi*	2			-
728	*Helicobacter fennelliae*	2			-
729	*Helicobacter hepaticus*	2			-
730	*Helicobacter mustelae*	2			-
731	*Helicobacter pullorum*	2			-
732	*Helicobacter pylori*	2			-
733	*Helicobacter suis*	2			-
734	*Herbaspirillum rubrisubalbicans*	2	P		-
735	*Histophilus somni*	2		= *Haemophilus somnus*	Annex 1d
736	*Ignavigranum ruoffiae*	2			-
737	*Janthinobacterium agaricidamnosum*	2	P		-
738	*Johnsonella ignava*	2			-
739	*Jonesia denitrificans*	2	A		-
740	*Kerstersia gyiorum*	2			-
741	*Kingella denitrificans*	2			-
742	*Kingella kingae*	2			-
743	*Kingella oralis*	2			-
744	*Kingella potus*	2			-
745	*Klebsiella aerogenes*	2		= *Enterobacter aerogenes*	Annex 1d
746	*Klebsiella aerogenes*	2		= *Klebsiella mobilis*	Annex 1d
747	*Klebsiella granulomatis*	2		= *Calymmatobacterium granulomatis*	Annex 1d
748	*Klebsiella mobilis* (→ *Klebsiella aerogenes*)				Annex 1d
749	*Klebsiella oxytoca*	2			-
750	*Klebsiella pneumoniae* (→ *Klebsiella pneumoniae* subsp. *ozaenae, Klebsiella pneumoniae* subsp. *pneumoniae, Klebsiella pneumoniae* subsp. *rhinoscleromatis)*	2			Annex 1e
751	*Klebsiella pneumoniae* subsp. *ozaenae*	tbd		= *Klebsiella pneumoniae*	Annex 1e
752	*Klebsiella pneumoniae* subsp. *pneumoniae*	tbd		= *Klebsiella pneumoniae*	Annex 1e

753	*Klebsiella pneumoniae* subsp. *rhinoscleromatis*	tbd		= *Klebsiella pneumoniae*	Annex 1e
754	*Klebsiella variicola*	2			-
755	*Kluyvera ascorbata*	2			-
756	*Kluyvera cryocrescens*	2			-
757	*Kluyvera intermedia*	2			-
758	*Kosakonia cowanii*	2		= *Enterobacter cowanii*	Annex 1d
759	*Lactobacillus catenaformis* (→ *Eggerthia catenaformis*)				Annex 1h
760	*Lactobacillus psittaci*	2			Annex 1h
761	*Lactobacillus uli* (→ *Olsenella uli*)				Annex 1d
762	*Lactococcus garvieae* (→ *Lactococcus garvieae* subsp. b*ovis, Lactococcus garvieae* subsp. *garvieae*)	2			Annex 1e
763	*Lactococcus garvieae* subsp*. bovis*	tbd		= *Lactococcus garvieae*	Annex 1e
764	*Lactococcus garvieae* subsp. *garvieae*	2		= *Enterococcus seriolicida*	Annex 1d
765	*Lactococcus garvieae* subsp. *garvieae*	tbd		= *Lactococcus garvieae*	Annex 1e
766	*Lawsonia intracellularis*	2	A		-
767	*Leclercia adecarboxylata*	2			-
768	*Legionella anisa*	2			-
769	*Legionella birminghamensis*	2			-
770	*Legionella bozemanae*	2		= *Fluoribacter bozemanae*	Annex 1d
771	*Legionella cincinnatiensis*	2			-
772	*Legionella dumoffii*	2		= *Fluoribacter dumoffii*	Annex 1d
773	*Legionella feeleii*	2			-
774	*Legionella gormanii*	2		= *Fluoribacter gormanii*	Annex 1d
775	*Legionella hackeliae*	2			-
776	*Legionella impletisoli*	2			-
777	*Legionella jordanis*	2			-
778	*Legionella lansingensis*	2			-
779	*Legionella longbeachae*	2			-
780	*Legionella lytica*	2		= *Sarcobium lyticum*	Annex 1d
781	*Legionella oakridgensis*	2			-
782	*Legionella pitsburghensis* (→ *Tatlockia micdadei*)				Annex 1d
783	*Legionella pneumophila* (→ *Legionella pneumophila* subsp*. fraseri, Legionella pneumophila* subsp*. pascullei, Legionella pneumophila* subsp*. pneumophila)*	2			Annex 1e
784	*Legionella pneumophila* subsp*. fraseri*	tbd		= *Legionella pneumophila*	Annex 1e
785	*Legionella pneumophila* subsp. *pascullei*	tbd		= *Legionella pneumophila*	Annex 1e
786	*Legionella pneumophila* subsp. *pneumophila*	tbd		= *Legionella pneumophila*	Annex 1e
787	*Legionella sainthelensi*	2			Annex 1c
788	*Legionella tucsonensis*	2			-
789	*Legionella wadsworthii*	2			-
790	*Legionella yabuuchiae*	2			-
791	*Leifsonia antartica*	2			-
792	*Leifsonia aquatica*	2			-
793	*Leifsonia bigeumensis*	2			-
794	*Leifsonia cynodontis* (→*Leifsonia xyli* subsp. *cynodontis*)				Annex 1d

795	*Leifsonia kafniensis*	2			-
796	*Leifsonia kribbensis* (→ *Lysinimonas kribbensis*)				Annex 1d
797	*Leifsonia lichenia*	2			-
798	*Leifsonia naganoensis*	2			-
799	*Leifsonia pindariensis* (→*Microterricola pindariensis*)				Annex 1d
800	*Leifsonia poae*	2			-
801	*Leifsonia psychrotolerans*	2			-
802	*Leifsonia rubra*	2			-
803	*Leifsonia shinshuensis*	2			-
804	*Leifsonia soli*	2			-
805	*Leifsonia xyli* (→ *Leifsonia xyli* subsp. *cynodontis, Leifsonia xyli* subsp. *xyli)*	2	P		Annex 1e
806	*Leifsonia xyli* subsp. *cynodontis*	2	P	= *Leifsonia cynodontis, Leifsonia xyli*	Annex 1d, Annex 1d
807	*Leifsonia xyli* subsp. *xyli*	tbd		= *Leifsonia xyli*	Annex 1e
808	*Lelliottia amnigena*	2		= *Enterobacter amnigenus*	Annex 1d
809	*Lelliottia nimipressuralis*	2	P	= *Enterobacter nimipressuralis*	Annex 1d
810	*Leptospira alexanderi*	2			-
811	*Leptospira borgpetersenii*	2			-
812	*Leptospira* genomospecies 4 (→ *Leptospira terpstrae*)				Annex 1d
813	*Leptospira* genomospecies 5 (→ *Leptospira yanagawae*)				Annex 1d
814	*Leptospira inadai*	2			Annex 1a
815	*Leptospira interrogans*	2			-
816	*Leptospira kirschneri*	2			-
817	*Leptospira noguchii*	2			-
818	*Leptospira santarosai*	2			-
819	*Leptospira terpstrae*	2		= *Leptospira* genomospecies 4	Annex 1d
820	*Leptospira weilii*	2			-
821	*Leptospira yanagawae*	2		= *Leptospira* genomospecies 5	Annex 1d
822	*Leptotrichia amnionii*	2			Annex 1a
823	*Listeria ivanovii* (→ *Listeria ivanovii* subsp. *Ivanovii, Listeria ivanovii* subsp. *londoniensis)*	2			Annex 1e
824	*Listeria ivanovii* subsp. *ivanovii*	tbd		= *Listeria ivanovii*	Annex 1e
825	*Listeria ivanovii* subsp. *londoniensis*	tbd		= *Listeria ivanovii*	Annex 1e
826	*Listeria monocytogenes*	2			-
827	*Listonella anguillarum* (→ *Vibrio anguillarum*)				Annex 1d
828	*Lonsdalea quercina*	2	P	= *Brenneria quercina*	Annex 1d
829	*Lysinibacillus sphaericus*	2	A	= *Bacillus sphaericus*	Annex 1d
830	*Lysinimonas kribbensis*	2		= *Leifsonia kribbensis*	Annex 1d
831	*Macrococcus caseolyticus*	2	A		-
832	*Mannheimia glucosida*	2			-
833	*Mannheimia granulomatis*	2	A		-
834	*Mannheimia haemolytica*	2			-
835	*Mannheimia haemolytica*	2		= *Pasteurella haemolytica*	Annex 1d
836	*Mannheimia ruminalis*	2			-
837	*Mannheimia varigena*	2	A		-

838	*Megasphaera elsdenii*	2			-
839	*Melissococcus plutonius*	2	A		-
840	*Microbacterium resistens*	2			-
841	*Micromonas micros* (→ *Parvimonas micra*)				Annex 1d
842	*Microterricola pindariensis*	2		*= Leifsonia pindariensis*	Annex 1d
843	*Mitsuokella multacida*	2			-
844	*Mobiluncus curtisii*	2		*= Falcivibrio vaginalis*	Annex 1d
845	*Mobiluncus mulieris*	2		*= Falcivibrio grandis*	Annex 1d
846	*Mogibacterium neglectum*	2			-
847	*Mogibacterium pumilum*	2			-
848	*Mogibacterium timidum*	2			-
849	*Mogibacterium vescum*	2			-
850	*Moraxella atlantae*	2			-
851	*Moraxella caprae*	2			-
852	*Moraxella catarrhalis*	2			-
853	*Moraxella equi*	2	A		-
854	*Moraxella lacunata*	2			-
855	*Moraxella nonliquefaciens*	2			-
856	*Moraxella osloensis*	2			-
857	*Moraxella ovis*	2	A		-
858	*Moraxella saccharolytica*	2			-
859	*Morganella morganii* (→ *Morganella morganii* subsp. *morganii, Morganella morganii* subsp. *sibonii*)	2			Annex 1e
860	*Morganella morganii* subsp. *morganii*	2		*= Proteus morganii*	Annex 1d
861	*Morganella morganii* subsp. m*organii*	tbd		*= Morganella morganii*	Annex 1e
862	*Morganella morganii* subsp. *sibonii*	tbd		*= Morganella morganii*	Annex 1e
863	*Morganella psychrotolerans*	2			-
864	*Morococcus cerebrosus*	2			-
865	*Moryella indoligenes*	2			-
866	*Muribacter muris*	2	A	*= Actinobacillus muris*	Annex 1d
867	*Mycobacterium abscessus* (→ *Mycobacterium abscessus* subsp. *abscessus, Mycobacterium abscessus* subsp. *bolletii, Mycobacterium abscessus* subsp. *massiliense)*	2			Annex 1e
868	*Mycobacterium abscessus* subsp. *abscessus*	tbd		= *Mycobacterium abscessus*, *Mycobacterium chelonae* subsp. a*bscessus, Mycobacterium massiliense*	Annex 1e, Annex 1f
869	*Mycobacterium abscessus* subsp. *bolletii*	tbd		= *Mycobacterium abscessus*, *Mycobacterium massiliense*	Annex 1e, Annex 1f
870	*Mycobacterium abscessus* subsp. *massiliense*	tbd		= *Mycobacterium abscessus*, *Mycobacterium massiliense*	Annex 1e, Annex 1f
871	*Mycobacterium africanum*	3			-
872	*Mycobacterium arosiense*	2			-
873	*Mycobacterium arupense*	2			-
874	*Mycobacterium asiaticum*	2			-
875	*Mycobacterium austroafricanum*	2			-

876	*Mycobacterium avium* (→ *Mycobacterium avium* subsp. *avium, Mycobacterium avium* subsp. *paratuberculosis, Mycobacterium avium* subsp. *silvaticum)*	2			Annex 1e
877	*Mycobacterium avium* subsp. *avium*	tbd		= *Mycobacterium avium*	Annex 1e
878	*Mycobacterium avium* subsp. *paratuberculosis*	tbd		= *Mycobacterium avium*	Annex 1e
879	*Mycobacterium avium subsp. paratuberculosis*	2		= *Mycobacterium paratuberculosis*	Annex 1d
880	*Mycobacterium avium* subsp. *silvaticum*	tbd		= *Mycobacterium avium*	Annex 1e
881	*Mycobacterium boenickei*	2			-
882	*Mycobacterium bovis* (→ *Mycobacterium bovis* subsp. *bovis, Mycobacterium bovis* subsp. *caprae*)	3			Annex 1e
883	*Mycobacterium bovis* subsp. *bovis*	3		≡ *Mycobacterium bovis*	Annex 1e
884	*Mycobacterium bovis* subsp. *caprae* (→ *Mycobacterium caprae*)			= *Mycobacterium caprae*	Annex 1e
885	*Mycobacterium branderi*	2			-
886	*Mycobacterium brisbanense*	2			-
887	*Mycobacterium canariasense*	2			-
888	*Mycobacterium caprae*	tbd		≡ *Mycobacterium caprae*	Annex 1e
889	*Mycobacterium celatum*	2			-
890	*Mycobacterium chelonae* (→ *Mycobacterium chelonae subsp. abscessus, Mycobacterium chelonae subsp. chelonae, Mycobacterium chelonae subsp. Bovis*	2			Annex 1e
891	*Mycobacterium chelonae* subsp. *abscessus* (→ *Mycobacterium abscessus* subsp. *abscessus*)			= *Mycobacterium chelonae*	Annex 1e
892	*Mycobacterium chelonae* subsp. *bovis*	tbd		= *Mycobacterium chelonae*	Annex 1e
893	*Mycobacterium chelonae* subsp. *chelonae*	tbd		= *Mycobacterium chelonae*	Annex 1e
894	*Mycobacterium chimaera*	2			-
895	*Mycobacterium colombiense*	2			-
896	*Mycobacterium conceptionense*	2			-
897	*Mycobacterium concordense**	2			Annex 1h
898	*Mycobacterium conspicuum*	2			-
899	*Mycobacterium cosmeticum*	2			-
900	*Mycobacterium elephantis*	2			-
901	*Mycobacterium farcinogenes*	2	A		-
902	*Mycobacterium flavescens*	2			-
903	*Mycobacterium fortuitum* (→ *Mycobacterium fortuitum* subsp. *acetamidolyticum, Mycobacterium fortuitum* subsp. *fortuitum)*	2			Annex 1e
904	*Mycobacterium fortuitum* subsp. a*cetamidolyticum*	tbd		= *Mycobacterium fortuitum*	Annex 1e
905	*Mycobacterium fortuitum* subsp. *fortuitum*	tbd		= *Mycobacterium fortuitum*	Annex 1e
906	*Mycobacterium fuerth* (→ *Mycobacterium fuerthensis*)				Annex 1h
907	*Mycobacterium fuerthensis*	2		= *Mycobacterium fuerth*	Annex 1h
908	*Mycobacterium gastri*	2			-
909	*Mycobacterium genavense*	2			-
910	*Mycobacterium goodii*	2			-
911	*Mycobacterium gordonae*	2			-
912	*Mycobacterium hackensackense*	2			Annex 1a

913	*Mycobacterium haemophilum*	2			-
914	*Mycobacterium heckeshornense*	2			-
915	*Mycobacterium heidelbergense*	2			-
916	*Mycobacterium houstonense*	2			-
917	*Mycobacterium immunogenum*	2			-
918	*Mycobacterium insubricum*	2			-
919	*Mycobacterium interjectum*	2			-
920	*Mycobacterium intermedium*	2			-
921	*Mycobacterium intracellulare*	2			-
922	*Mycobacterium kansasii*	2			-
923	*Mycobacterium kubicae*	2			-
924	*Mycobacterium kumamotonense*	2			-
925	*Mycobacterium lentiflavum*	2			-
926	*Mycobacterium leprae*	3			-
927	*Mycobacterium lepraemurium*	2	A		-
928	*Mycobacterium malmoense*	2			-
929	*Mycobacterium manitobense*	2			Annex 1a
930	*Mycobacterium marinum*	2			-
931	*Mycobacterium massiliense* (→*Mycobacterium abscessus* subsp. *abscessus*, *Mycobacterium abscessus* subsp. *bolletii*, *Mycobacterium abscessus* subsp. *massiliense)*	2			Annex 1f
932	*Mycobacterium microti*	3			-
933	*Mycobacterium monacense*	2			-
934	*Mycobacterium montefiorense*	2	A		-
935	*Mycobacterium mucogenicum*	2			-
936	*Mycobacterium neworleansense*	2			-
937	*Mycobacterium novocastrense*	2			-
938	*Mycobacterium palustre*	2			-
939	*Mycobacterium parascrofulaceum*	2			Annex 1c
940	*Mycobacterium paraseoulense*	2			-
941	*Mycobacterium paratuberculosis* (→ *Mycobacterium avium* subsp. *paratuberculosis*)				Annex 1d
942	*Mycobacterium peregrinum*	2			-
943	*Mycobacterium phocaicum*	2			-
944	*Mycobacterium porcinum*	2			-
945	*Mycobacterium pseudoshottsii*	2	A		-
946	*Mycobacterium ratisbonense*	2			Annex 1a
947	*Mycobacterium salmoniphilum*	2	A		-
948	*Mycobacterium saskatchewanense*	2			-
949	*Mycobacterium scrofulaceum*	2			-
950	*Mycobacterium senegalense*	2	A		-
951	*Mycobacterium senuense*	2			-
952	*Mycobacterium seoulense*	2			-
953	*Mycobacterium septicum*	2			-

954	*Mycobacterium setense*	2			-
955	*Mycobacterium shimoidei*	2			-
956	*Mycobacterium shottsii*	2	A		-
957	*Mycobacterium simiae*	2			-
958	*Mycobacterium smegmatis*	2			-
959	*Mycobacterium szulgai*	2			-
960	*Mycobacterium togolense**	2			Annex 1h
961	*Mycobacterium triplex*	2			-
962	*Mycobacterium tuberculosis*	3			-
963	*Mycobacterium ulcerans*	3			-
964	*Mycobacterium vaccae*	2			-
965	*Mycobacterium wolinskyi*	2			-
966	*Mycobacterium xenopi*	2			-
967	*Mycoplasma adleri*	2	A		-
968	*Mycoplasma agalactiae*	2	A		-
969	*Mycoplasma alkalescens*	2	A		-
970	*Mycoplasma anatis*	2	A		-
971	*Mycoplasma arginini*	2	A		-
972	*Mycoplasma arthritidis*	2	A		-
973	*Mycoplasma bovigenitalium*	2	A		-
974	*Mycoplasma bovirhinis*	2	A		-
975	*Mycoplasma bovis*	2	A		-
976	*Mycoplasma bovoculi*	2	A		-
977	*Mycoplasma buteonis*	2	A		-
978	*Mycoplasma californicum*	2	A		-
979	*Mycoplasma canadense*	2	A		-
980	*Mycoplasma canis*	2	A		-
981	*Mycoplasma capricolum* (→ *Mycoplasma capricolum* subsp. *capricolum, Mycoplasma capricolum* subsp. *capripneumoniae*)	2	A		Annex 1e
982	*Mycoplasma capricolum* subsp. *capricolum*	tbd		= *Mycoplasma capricolum*	Annex 1e
983	*Mycoplasma capricolum* subsp. *capripneumoniae*	tbd		= *Mycoplasma capricolum*	Annex 1e
984	*Mycoplasma caviae*	2	A		-
985	*Mycoplasma cloacale*	2	A		-
986	*Mycoplasma coccoides*	2	A		-
987	*Mycoplasma coccoides**	2	A	= *Eperythrozoon coccoides*	Annex 1h
988	*Mycoplasma collis*	2	A		-
989	*Mycoplasma columbinasale*	2	A		-
990	*Mycoplasma conjunctivae*	2	A		-
991	*Mycoplasma corogypsi*	2	A		-
992	*Mycoplasma cynos*	2	A		-
993	*Mycoplasma dispar*	2	A		-
994	*Mycoplasma edwardii*	2	A		-
995	*Mycoplasma equigenitalium*	2	A		-
996	*Mycoplasma equirhinis*	2	A		-

997	*Mycoplasma falconis*	2	A		-
998	*Mycoplasma felis*	2	A		-
999	*Mycoplasma fermentans*	2			-
1000	*Mycoplasma flocculare*	2	A		-
1001	*Mycoplasma gallinarum*	2	A		-
1002	*Mycoplasma gallisepticum*	2	A		-
1003	*Mycoplasma gallopavonis*	2	A		-
1004	*Mycoplasma gateae*	2	A		-
1005	*Mycoplasma genitalium*	2			-
1006	*Mycoplasma glycophilum*	2	A		-
1007	*Mycoplasma gypis*	2	A		-
1008	*Mycoplasma haemocanis*	2	A		-
1009	*Mycoplasma haemocanis*	2	A	*= Haemobartonella canis*	Annex 1d
1010	*Mycoplasma haemofelis*	2	A	*= Haemobartonella felis*	Annex 1d
1011	*Mycoplasma haemomuris*	2	A	*= Haemobartonella muris*	Annex 1d
1012	*Mycoplasma hominis*	2			-
1013	*Mycoplasma hyopneumoniae*	2	A	*= Mycoplasma suipneumoniae*	Annex 1d
1014	*Mycoplasma hyorhinis*	2	A		-
1015	*Mycoplasma hyosynoviae*	2	A		-
1016	*Mycoplasma imitans*	2	A		-
1017	*Mycoplasma iowae*	2	A		-
1018	*Mycoplasma lipofaciens*	2	A		-
1019	*Mycoplasma maculosum*	2	A		-
1020	*Mycoplasma meleagridis*	2	A		-
1021	*Mycoplasma microti*	2	A		-
1022	*Mycoplasma mycoides* (→ *Mycoplasma mycoides* subsp. *capri, Mycoplasma mycoides* subsp. *mycoides)*	2	A		Annex 1e
1023	*Mycoplasma mycoides* subsp. *capri*	tbd		*= Mycoplasma mycoides*	Annex 1e
1024	*Mycoplasma mycoides* subsp. *mycoides*	tbd		*= Mycoplasma mycoides*	Annex 1e
1025	*Mycoplasma neurolyticum*	2	A		-
1026	*Mycoplasma ovis*	2	A	*= Eperythrozoon ovis*	Annex 1d
1027	*Mycoplasma phocarhinis*	2	A		-
1028	*Mycoplasma phocicerebrale*	2	A		Annex 1c
1029	*Mycoplasma phocidae*	2	A		-
1030	*Mycoplasma pneumoniae*	2			-
1031	*Mycoplasma pulmonis*	2	A		-
1032	*Mycoplasma putrefaciens*	2	A		-
1033	*Mycoplasma salivarium*	2			-
1034	*Mycoplasma spumans*	2	A		-
1035	*Mycoplasma sturni*	2	A		-
1036	*Mycoplasma suipneumoniae* (→ *Mycoplasma hyopneumoniae*)				Annex 1d
1037	*Mycoplasma suis*	2	A	*= Eperythrozoon suis*	Annex 1d
1038	*Mycoplasma synoviae*	2	A		-
1039	*Mycoplasma verecundum*	2	A		-

1040	*Mycoplasma wenyonii*	2	A	*= Eperythrozoon wenyonii*	Annex 1d
1041	*Myroides odoratus*	2			-
1042	*Neisseria elongata* (→ *Neisseria elongata* subsp. *elongata, Neisseria elongata* subsp. *glycolytica, Neisseria elongata* subsp. *nitroreducens)*	2			Annex 1e
1043	*Neisseria elongata* subsp. *elongata*	tbd		*= Neisseria elongata*	Annex 1e
1044	*Neisseria elongata* subsp. *glycolytica*	tbd		*= Neisseria elongata*	Annex 1e
1045	*Neisseria elongata* subsp. *nitroreducens*	tbd		*= Neisseria elongata*	Annex 1e
1046	*Neisseria flavescens*	2			-
1047	*Neisseria gonorrhoeae*	2			-
1048	*Neisseria iguanae*	2	A		-
1049	*Neisseria lactamica*	2			-
1050	*Neisseria meningitidis*	2			-
1051	*Neisseria mucosa*	2			-
1052	*Neisseria subflava*	2			-
1053	*Neisseria weaveri*	2			-
1054	*Neorickettsia risticii*	2		*= Ehrlichia risticii*	Annex 1d
1055	*Neorickettsia sennetsu*	2		*= Ehrlichia sennetsu*	Annex 1d
1056	*Nocardia abscessus*	2			-
1057	*Nocardia africana*	2			-
1058	*Nocardia altamirensis*	2			-
1059	*Nocardia araoensis*	2			-
1060	*Nocardia arthritidis*	2			-
1061	*Nocardia asiatica*	2			-
1062	*Nocardia asteroides*	2			-
1063	*Nocardia blacklockiae*	2			-
1064	*Nocardia brasiliensis*	2			-
1065	*Nocardia concava*	2			-
1066	*Nocardia cyriacigeorgica*	2			-
1067	*Nocardia elegans*	2			-
1068	*Nocardia exalbida*	2			-
1069	*Nocardia farcinica*	2			-
1070	*Nocardia higoensis*	2			-
1071	*Nocardia ignorata*	2			-
1072	*Nocardia kruczakiae*	2			-
1073	*Nocardia mexicana*	2			-
1074	*Nocardia niigatensis*	2			-
1075	*Nocardia ninae*	2			-
1076	*Nocardia nova*	2			-
1077	*Nocardia otitidiscaviarum*	2			-
1078	*Nocardia paucivorans*	2			-
1079	*Nocardia pneumoniae*	2			-
1080	*Nocardia pseudobrasiliensis*	2			-
1081	*Nocardia salmonicida*	2	A		-
1082	*Nocardia seriolae*	2	A		-

1083	*Nocardia terpenica*	2			-
1084	*Nocardia transvalensis*	2			-
1085	*Nocardia tsunamiensis**	2			Annex 1h
1086	*Nocardia vaccinii*	2	P		-
1087	*Nocardia veterana*	2			-
1088	*Nocardia wallacei*	2			-
1089	*Nocardia yamanashiensis*	2			-
1090	*Nocardiopsis dassonvillei* (→ *Nocardiopsis dassonvillei* subsp. *prasina, Nocardiopsis dassonvillei* subsp. *albirubida, Nocardiopsis dassonvillei* subsp. d*assonvillei*)	2			Annex 1e
1091	*Nocardiopsis dassonvillei* subsp. *albirubida*	tbd		= *Nocardiopsis dassonvillei*	Annex 1e
1092	*Nocardiopsis dassonvillei* subsp. *dassonvillei*	tbd		= *Nocardiopsis dassonvillei*	Annex 1e
1093	*Nocardiopsis dassonvillei* subsp. *prasina* (→*Nocardiopsis prasina*)	tbd		= *Nocardiopsis dassonvillei*	Annex 1e
1094	*Nocardiopsis ignorata*	2			Annex 1a
1095	*Nocardiopsis prasina*	tbd		= *Nocardiopsis dassonvillei* subsp. *prasina*	Annex 1e
1096	*Ochrobactrum anthropi*	2			-
1097	*Ochrobactrum intermedium*	2			-
1098	*Odoribacter splanchnicus*	2		= *Bacteroides splanchnicus*	Annex 1d
1099	*Olsenella profusa*	2			-
1100	*Olsenella uli*	2		= *Lactobacillus uli*	Annex 1d
1101	*Orientia tsutsugamushi*	3		= *Rickettsia tsutsugamushi*	Annex 1d
1102	*Ornithobacterium rhinotracheale*	2	A		-
1103	*Paenibacillus larvae*	2	A		-
1104	*Paenibacillus lentimorbus*	2	A		-
1105	*Paenibacillus popilliae*	2	A	= *Bacillus popilliae*	Annex 1d
1106	*Paeniclostridium ghonii*	2		= *Clostridium ghonii*	Annex 1d
1107	*Paeniclostridium sordellii*	2		= *Clostridium sordellii*	Annex 1d
1108	*Pandoraea apista*	2			-
1109	*Pandoraea pnomenusa*	2			-
1110	*Pandoraea pulmonicola*	2			-
1111	*Pandoraea sputorum*	2			-
1112	*Pantoea agglomerans*	2		= *Erwinia herbicola*	Annex 1d
1113	*Pantoea ananatis*	2	P		-
1114	*Pantoea cypripedii*	2	P	= *Pectobacterium cypripedii*	Annex 1d
1115	*Pantoea stewartii* (→ *Pantoea stewartii* subsp. *indologenes, Pantoea stewartii* subsp. *stewartii)*	2	P		Annex 1e
1116	*Pantoea stewartii* subsp. *indologenes*	tbd		= *Pantoea stewartii*	Annex 1e
1117	*Pantoea stewartii* subsp. *stewartii*	tbd		= *Pantoea stewartii*	Annex 1e
1118	*Parabacteroides distasonis*	2		= *Bacteroides distasonis*	Annex 1d
1119	*Paraburkholderia caryophylli*	2	P	= *Burkholderia caryophylli*	Annex 1f
1120	*Paraclostridium bifermentans*	2		= *Clostridium bifermentans*	Annex 1d
1121	*Paraeggerthella hongkongensis*	2		= *Eggerthella hongkongensis*	Annex 1d
1122	*Parvimonas micra*	2		= *Micromonas micros*	Annex 1d
1123	*Pasteurella aerogenes*	2			-

1124	*Pasteurella bettyae*	2			-
1125	*Pasteurella caballi*	2			-
1126	*Pasteurella canis*	2			-
1127	*Pasteurella dagmatis*	2			-
1128	*Pasteurella haemolytica* (→ *Mannheimia haemolytica*)				Annex 1d
1129	*Pasteurella lymphangitidis*	2	A		-
1130	*Pasteurella mairii*	2	A		-
1131	*Pasteurella multocida* (→*Pasteurella multocida* subsp. *gallicida, Pasteurella multocida* subsp. *multocida, Pasteurella multocida* subsp. *septica*)	2			Annex 1e
1132	*Pasteurella multocida* subsp. *gallicida*	tbd		= *Pasteurella multocida*	Annex 1e
1133	*Pasteurella multocida* subsp. *multocida*	tbd		= *Pasteurella multocida*	Annex 1e
1134	*Pasteurella multocida* subsp. *septica*	tbd		= *Pasteurella multocida*	Annex 1e
1135	*Pasteurella pneumotropica* (→ *Rodentibacter pneumotropicus*)				Annex 1d
1136	*Pasteurella stomatis*	2			-
1137	*Pasteurella testudinis*	2	A		-
1138	*Pasteurella trehalosi* (→ *Bibersteinia trehalosi*)				Annex 1d
1139	*Pectbacterium betavascularum*	tbd		= *Pectobacterium carotovorum* subsp. *betavasculorum*	Annex 1e
1140	*Pectobacterium atrosepticum*	2	P	= *Pectobacterium carotovorum* subsp. *atrosepticum*	Annex 1e
1141	*Pectobacterium betavasculorum*	2	P		-
1142	*Pectobacterium cacticida*	2	P	= *Erwinia cacticida*	Annex 1d
1143	*Pectobacterium carotovorum* (→ *Pectobacterium carotovorum* subsp. *carotovorum, Pectobacterium carotovorum* subsp. *odoriferum, Pectobacterium carotovorum* subsp. *atrosepticum, Pectobacterium carotovorum* susbp. *betavasculorum, Pectobacterium carotovorum* subsp. *wasabiae)*	2	P		Annex 1e
1144	*Pectobacterium carotovorum* subsp. *atrosepticum* (→*Pectobacterium atrosepticum*)			= *Pectobacterium carotovorum*	Annex 1e
1145	*Pectobacterium carotovorum* subsp. *betavasculorum* (→*Pectbacterium betavascularum*)			= *Pectobacterium carotovorum*	Annex 1e
1146	*Pectobacterium carotovorum* subsp. *carotovorum*	tbd		= *Pectobacterium carotovorum*	Annex 1e
1147	*Pectobacterium carotovorum* subsp. *odoriferum*	tbd		= *Pectobacterium carotovorum*	Annex 1e
1148	*Pectobacterium carotovorum* subsp. *wasabiae* (→ *Pectobacterium wasabiae*)			= *Pectobacterium carotovorum*	Annex 1e
1149	*Pectobacterium cypripedii* (→ *Pantoea cypripedii*)				Annex 1d
1150	*Pectobacterium wasabiae*	2	P		-
1151	*Pectobacterium wasabiae*	tbd		= *Pectobacterium carotovorum* subsp. *wasabiae*	Annex 1e
1152	*Peptococcus niger*	2			-
1153	*Peptoniphilus asaccharolyticus*	2		= *Peptostreptococcus asaccharolyticus*	Annex 1d
1154	*Peptoniphilus gorbachii*	2			-
1155	*Peptoniphilus harei*	2		= *Peptostreptococcus harei*	Annex 1d
1156	*Peptoniphilus indolicus*	2	A	= *Peptostreptococcus indolicus*	Annex 1d
1157	*Peptoniphilus ivorii*	2		= *Peptostreptococcus ivorii*	Annex 1d
1158	*Peptoniphilus lacrimalis*	2		= *Peptostreptococcus lacrimalis*	Annex 1d
1159	*Peptoniphilus olsenii*	2			-
1160	*Peptostreptococcus anaerobius*	2			-
1161	*Peptostreptococcus asaccharolyticus* (→ *Peptoniphilus asaccharolyticus*)				Annex 1d

1162	*Peptostreptococcus harei* (→ *Peptoniphilus harei*)				Annex 1d
1163	*Peptostreptococcus indolicus* (→ *Peptoniphilus indolicus*)				Annex 1d
1164	*Peptostreptococcus ivorii* (→ *Peptoniphilus ivorii*)				Annex 1d
1165	*Peptostreptococcus lacrimalis* (→ *Peptoniphilus lacrimalis*)				Annex 1d
1166	*Peptostreptococcus magnus* (→ *Finegoldia magna*)				Annex 1d
1167	*Peptostreptococcus prevotii* (→ *Anaerococcus prevotii*)				Annex 1d
1168	*Peptostreptococcus vaginalis* (→*Anaerococcus vaginalis*)				Annex 1d
1169	*Phaseolibacter flectens* (→ *Pseudomonas flectens*)				Annex 1f
1170	*Photobacterium damselae* (→ *Photobacterium damselae* subsp. *damselae, Photobacterium damselae* subsp. *piscicida)*	2	A		Annex 1e
1171	*Photobacterium damselae* subsp. *damselae*	tbd		= *Photobacterium damselae*	Annex 1e
1172	*Photobacterium damselae* subsp. *piscicida*	tbd		= *Photobacterium damselae*	Annex 1e
1173	*Photorhabdus asymbiotica* (→ *Photorhabdus asymbiotica* subsp. *asymbiotica, Photorhabdus asymbiotica* subsp. *australis)*	2			Annex 1e
1174	*Photorhabdus asymbiotica* subsp. *asymbiotica*	tbd		= *Photorhabdus asymbiotica*	Annex 1e
1175	*Photorhabdus asymbiotica* subsp. *australis*	tbd		= *Photorhabdus asymbiotica*	Annex 1e
1176	*Photorhabdus luminescens* (→ *Photorhabdus luminescens* subsp. *akhurstii, Photorhabdus luminescens* subsp. *caribbeanensis, Photorhabdus luminescens* subsp. *hainanensis, Photorhabdus luminescens* subsp. *kayaii, Photorhabdus luminescens* subsp. *kleinii, Photorhabdus luminescens* subsp. *laumondii, Photorhabdus luminescens* subsp. *luminescens, Photorhabdus luminescens* subsp. *namnaonensis, Photorhabdus luminescens* subsp. *noenieputensis, Photorhabdus luminescens* subsp. *thracensis (= Photorhabdus temperata* subsp. *thracensis)*	2	A		Annex 1e
1177	*Photorhabdus luminescens* subsp. *akhurstii*	tbd		= *Photorhabdus luminescens*	Annex 1e
1178	*Photorhabdus luminescens* subsp. *caribbeanensis*	tbd		= *Photorhabdus luminescens*	Annex 1e
1179	*Photorhabdus luminescens* subsp. *hainanensis*	tbd		= *Photorhabdus luminescens*	Annex 1e
1180	*Photorhabdus luminescens* subsp. *kayaii*	tbd		= *Photorhabdus luminescens*	Annex 1e
1181	*Photorhabdus luminescens* subsp. *kleinii*	tbd		= *Photorhabdus luminescens*	Annex 1e
1182	*Photorhabdus luminescens* subsp. *laumondii*	tbd		= *Photorhabdus luminescens*	Annex 1e
1183	*Photorhabdus luminescens* subsp. *luminescens*	tbd		= *Photorhabdus luminescens*	Annex 1e
1184	*Photorhabdus luminescens* subsp. *namnaonensis*	tbd		= *Photorhabdus luminescens*	Annex 1e
1185	*Photorhabdus luminescens* subsp. *noenieputensis*	tbd		= *Photorhabdus luminescens*	Annex 1e
1186	*Photorhabdus luminescens* subsp. *thracensis* (→ *Photorhabdus temperata* subsp. *thracensis*)			= *Photorhabdus luminescens*	Annex 1e
1187	*Photorhabdus temperata* subsp. *thracensis*	tbd		= *Photorhabdus luminescens* subsp. *thracensis*	Annex 1e
1188	*Piscirickettsia salmonis*	2	A		-
1189	*Plesiomonas shigelloides*	2			-
1190	*Pluralibacter gergoviae*	2		= *Enterobacter gergoviae*	Annex 1d
1191	*Pluralibacter pyrinus*	2	P	= *Enterobacter pyrinus*	Annex 1d
1192	*Porphyromonas asaccharolytica*	2			-
1193	*Porphyromonas cangingivalis*	2	A		-
1194	*Porphyromonas canoris*	2	A		-
1195	*Porphyromonas cansulci* (→ *Porphyromonas crevioricanis*)				Annex 1d

1196	*Porphyromonas circumdentaria*	2	A		-
1197	*Porphyromonas crevioricanis*	2	A	*= Porphyromonas cansulci*	Annex 1d
1198	*Porphyromonas endodontalis*	2			-
1199	*Porphyromonas gingivalis*	2			-
1200	*Porphyromonas gulae*	2	A		-
1201	*Porphyromonas levii*	2			-
1202	*Porphyromonas macacae*	2	A		-
1203	*Prevotella albensis*	2			-
1204	*Prevotella bergensis*	2			-
1205	*Prevotella bivia*	2			-
1206	*Prevotella brevis*	2			-
1207	*Prevotella bryantii*	2			-
1208	*Prevotella buccae*	2			-
1209	*Prevotella buccalis*	2			-
1210	*Prevotella corporis*	2			-
1211	*Prevotella denticola*	2			-
1212	*Prevotella disiens*	2			-
1213	*Prevotella intermedia*	2			-
1214	*Prevotella loescheii*	2			-
1215	*Prevotella melaninogenica*	2			-
1216	*Prevotella nanceiensis*	2			-
1217	*Prevotella nigrescens*	2			-
1218	*Prevotella oralis*	2			-
1219	*Prevotella oris*	2			-
1220	*Prevotella pallens*	2			-
1221	*Prevotella tannerae* (→ *Alloprevotella tannerae*)				Annex 1d
1222	*Propionibacterium acnes* (→ *Cutibacterium acnes*)				Annex 1d
1223	*Propionibacterium australiense*	2	A		-
1224	*Propionibacterium avidum* (→ *Cutibacterium avidum*)				Annex 1d
1225	*Propionibacterium granulosum* (→ *Cutibacterium granulosum*)				Annex 1d
1226	*Propionibacterium lymphophilum* (→ *Propionimicrobium lymphophilum*)				Annex 1d
1227	*Propionibacterium propionicum* (→ *Pseudopropionibacterium propionicum*)				Annex 1d
1228	*Propionimicrobium lymphophilum*	2		*= Propionibacterium lymphophilum*	Annex 1d
1229	*Proteus hauseri*	2			-
1230	*Proteus inconstans* (→ *Providencia alcalifaciens*)				Annex 1d
1231	*Proteus mirabilis*	2			-
1232	*Proteus morganii* (→ *Morganella morganii* subsp. *morganii*)				Annex 1d
1233	*Proteus penneri*	2			-
1234	*Proteus rettgeri* (→ *Providencia rettgeri*)				Annex 1f
1235	*Proteus shigelloides**	2			Annex 1h
1236	*Proteus vulgaris*	2			-
1237	*Providencia alcalifaciens*	2		*= Proteus inconstans*	Annex 1d
1238	*Providencia rettgeri°*	2		*= Proteus rettgeri*	Annex 1f
1239	*Providencia rustigianii*	2			-

1240	*Providencia stuartii*	2			-
1241	*Pseudoalteromonas piscicida*	2	A		-
1242	*Pseudoflavonifractor capillosus*	2		*= Bacteroides capillosus*	Annex 1d
1243	*Pseudoglutamicibacter albus*	2		*= Arthrobacter albus*	Annex 1d
1244	*Pseudomonas aeruginosa*	2			-
1245	*Pseudomonas agarici*	2	P		-
1246	*Pseudomonas alcaligenes*	2			-
1247	*Pseudomonas amygdali*	2	P		-
1248	*Pseudomonas anguilliseptica*	2	A		-
1249	*Pseudomonas asplenii*	2	P		-
1250	*Pseudomonas avellanae*	2	P		-
1251	*Pseudomonas beteli* (→*Stenotrophomonas maltophila*)		P*		Annex 1f
1252	*Pseudomonas cannabina*	2	P		-
1253	*Pseudomonas caricapapayae*	2	P		-
1254	*Pseudomonas cichorii*	2	P		-
1255	*Pseudomonas cissicola*	2	P		-
1256	*Pseudomonas corrugata*	2	P		-
1257	*Pseudomonas costantinii*	2	P		-
1258	*Pseudomonas ficuserectae*	2	P		-
1259	*Pseudomonas flectens*	2	P	*= Pseudomonas flectens*	Annex 1f
1260	*Pseudomonas fuscovaginae*	2	P		-
1261	*Pseudomonas hibiscicola* (→ *Stenotrophomonas maltophila*)		P*		Annex 1f
1262	*Pseudomonas luteola*	2		*= Chryseomonas luteola, Chryseomonas polytricha*	Annex 1d
1263	*Pseudomonas marginalis*	2	P		-
1264	*Pseudomonas mediterranea*	2	P		-
1265	*Pseudomonas meliae*	2	P		-
1266	*Pseudomonas mendocina*	2			-
1267	*Pseudomonas oryzihabitans*	2		*= Flavimonas oryzihabitans*	Annex 1d
1268	*Pseudomonas otitidis*	2			-
1269	*Pseudomonas palleroniana*	2	P		-
1270	*Pseudomonas plecoglossicida*	2			-
1271	*Pseudomonas salomonii*	2	P		-
1272	*Pseudomonas savastanoi*	2	P		-
1273	*Pseudomonas simiae*	2			-
1274	*Pseudomonas stutzeri*	2			-
1275	*Pseudomonas syringae*	2	P		-
1276	*Pseudomonas tolaasii*	2	P		-
1277	*Pseudomonas tremae*	2	P		-
1278	*Pseudomonas viridiflava*	2	P		-
1279	*Pseudopropionibacterium propionicum*	2		*= Arachnia propionica, Propionibacterium propionicum*	Annex 1d
1280	*Pseudoramibacter alactolyticus*	2	A		-
1281	*Psychrobacter phenylpyruvicus*	2			-
1282	*Psychrobacter pulmonis*	2			-
1283	*Ralstonia mannitolytica*	2			-

1284	*Ralstonia pickettii*	2			-
1285	*Ralstonia solanacearum*	2	P		-
1286	*Ralstonia syzygii* (→ *Ralstonia syzygii* subsp. *celebesensis, Ralstonia syzygii* subsp. *indonesiensis, Ralstonia syzygii* subsp. *syzygii*)	2	P		Annex 1e
1287	*Ralstonia syzygii* subsp. *celebesensis*	tbd		= *Ralstonia syzygii*	Annex 1e
1288	*Ralstonia syzygii* subsp. *indonesiensis*	tbd		= *Ralstonia syzygii*	Annex 1e
1289	*Ralstonia syzygii* subsp. *syzygii*	tbd		= *Ralstonia syzygii*	Annex 1e
1290	*Raoultella ornithinolytica*	2			-
1291	*Rathayibacter iranicus*	2	P		-
1292	*Rathayibacter rathayi*	2	P		-
1293	*Rathayibacter toxicus*	2	P		-
1294	*Rathayibacter tritici*	2	P		-
1295	*Renibacterium salmoninarum*	2	A		-
1296	*Rhizobacter dauci*	2	P		-
1297	*Rhizobium larrymoorei*°	2	P	= *Agrobacterium larrymoorei*	Annex 1d
1298	*Rhizobium radiobacter*°	2	P	= *Agrobacterium tumefaciens, Agrobacterium radiobacter*	Annex 1d, Annex 1f
1299	*Rhizobium rhizogenes*°	2	P	= *Agrobacterium rhizogenes*	Annex 1d
1300	*Rhizobium rubi*°	2	P	= *Agrobacterium rubi*	Annex 1d
1301	*Rhizobium vitis* (→ *Allorhizobium vitis*)				Annex 1f
1302	*Rhizorhapis suberifaciens*	2	P	= *Sphingomonas suberifaciens*	Annex 1d
1303	*Rhodococcus equi*°	2		= *Rhococcus hoagii*	Annex 1f
1304	*Rhodococcus fascians*	2	P		-
1305	*Rhodococcus gordoniae*	2			-
1306	*Rhodococcus hoagii* (→ *Rhodococcus equi*)			= *Corynebacterium hoagii*	Annex 1f
1307	*Rickettsia aeschlimannii*	3			-
1308	*Rickettsia africae*	3			-
1309	*Rickettsia akari*	3			-
1310	*Rickettsia australis*	3			-
1311	*Rickettsia bellii*	3			-
1312	*Rickettsia canadensis*	3			-
1313	*Rickettsia conorii*	3			-
1314	*Rickettsia felis*	3			-
1315	*Rickettsia honei*	3			-
1316	*Rickettsia japonica*	3			-
1317	*Rickettsia montanensis*	3			Annex 1c
1318	*Rickettsia prowazekii*	3			Annex 1c
1319	*Rickettsia rickettsii*	3			-
1320	*Rickettsia tsutsugamushi* (→ *Orientia tsutsugamushi*)				Annex 1d
1321	*Rickettsia typhi*	3			-
1322	*Rickettsiella chironomi*	2	A		-
1323	*Rickettsiella grylli*	2	A		Annex 1c
1324	*Rickettsiella popilliae*	2	A		Annex 1c
1325	*Riemerella anatipestifer*	2	A		-

1326	*Riemerella columbina*	2	A		-
1327	*Robbsia andropogonis*	2	P	*= Burkholderia andropogonis*	Annex 1d
1328	*Rochalimaea quintana* (→ *Bartonella quintana*)				Annex 1d
1329	*Rodentibacter pneumotropicus*	2		*= Pasteurella pneumotropica*	Annex 1d
1330	*Rothia dentocariosa*	2			Annex 1c
1331	*Rothia mucilaginosa*	2			-
1332	*Salmonella* Abortusequi (→ *Salmonella enterica* subsp. *enterica* serovar Abortusequi)				Annex 1g
1333	*Salmonella* Abortusovis (→ *Salmonella enterica* subsp. *enterica* serovar Abortusovis)				Annex 1g
1334	*Salmonella arizonae* (→ *Salmonella enterica* subsp. *arizonae*)				Annex 1d
1335	*Salmonella bongori*	2			-
1336	*Salmonella cholerasuis* (→ *Salmonella enterica*)				Annex 1d
1337	*Salmonella enterica*	2		*= Salmonella cholerasuis*	Annex 1d
1338	*Salmonella enterica* (→ *Salmonella enterica* subsp. *enterica*)				Annex 1g
1339	*Salmonella enterica* subsp. *arizonae*	2		*= Salmonella arizonae*	Annex 1d
1340	*Salmonella enterica* subsp. *enterica*	2		≡ *Salmonella enterica, '= Salmonella enteriditis*	Annex 1g
1341	*Salmonella enterica* subsp. *enterica* serovar Abortusequi	2	A	≡ *Salmonella* Abortusequi	Annex 1g
1342	*Salmonella enterica* subsp. *enterica* serovar Abortusovis	2	A	≡ *Salmonella* Abortusovis	Annex 1g
1343	*Salmonella enterica* subsp. *enterica* serovar Gallinarum	2	A	≡ *Salmonella* Gallinarum	Annex 1g
1344	*Salmonella enterica* subsp. *enterica* serovar Infantis	2		≡ *Salmonella* Infantis	Annex 1g
1345	*Salmonella enterica* subsp. *enterica* serovar Paratyphi	2		≡ *Salmonella* Paratyphi	Annex 1g
1346	*Salmonella enterica* subsp. *enterica* serovar Poona	2		≡ *Salmonella* Poona	Annex 1g
1347	*Salmonella enterica* subsp. *enterica* serovar Pullorum	2	A	≡ *Salmonella* Pullorum	Annex 1g
1348	*Salmonella enterica* subsp. *enterica* serovar Typhi	3		≡ *Salmonella* Typhi	Annex 1g
1349	*Salmonella enterica* subsp. e*nterica* serovar Typhimurium	2		≡ *Salmonella* Typhimurium	Annex 1g
1350	*Salmonella enterica* subsp. *enterica* serovar Typhimurium strain TA1535	2		≡ *Salmonella* Typhimurium	Annex 1g
1351	*Salmonella enteritidis* (→ *Salmonella enterica* subsp. e*nterica*)				Annex 1g
1352	*Salmonella* Gallinarum (→ *Salmonella enterica* subsp. *enterica* serovar Gallinarum)				Annex 1g
1353	*Salmonella* Infantis (→ *Salmonella enterica* subsp. *enterica* serovar Infantis)				Annex 1g
1354	*Salmonella* Paratyphi (→ *Salmonella enterica* subsp. *enterica* serovar Paratyphi)				Annex 1g
1355	*Salmonella* Poona (→ *Salmonella enterica* subsp. *enterica* serovar Poona)				Annex 1g
1356	*Salmonella* Pullorum (→ *Salmonella enterica* subsp. *enterica* serovar Pullorum)				Annex 1g
1357	*Salmonella suis**	2			Annex 1h
1358	*Salmonella* Typhi (→ *Salmonella enterica* subsp. *enterica* serovar Typhi)				Annex 1g
1359	*Salmonella* Typhimurium (→ *Salmonella enterica* subsp. *enterica* serovar Typhimurium)				Annex 1g
1360	*Salmonella* Typhimurium strain TA1535 (→ *Salmonella enterica* subsp. *enterica* serovar Typhimurium)				Annex 1g
1361	*Samsonia erythrinae*	2	P		-
1362	*Sanguibacter inulinus*	2			-
1363	*Sanguibacter keddieii*	2			-

1364	*Sanguibacter suarezii*	2			-
1365	*Sarcobium lyticum* (→ *Legionella lytica*)				Annex 1d
1366	*Sedimentibacter hongkongensis*	2			-
1367	*Segniliparus rotundus*	2			-
1368	*Segniliparus rugosus*	2			-
1369	*Selenomonas artemidis*	2			-
1370	*Selenomonas dianae*	2			-
1371	*Selenomonas flueggei*	2			-
1372	*Selenomonas infelix*	2			-
1373	*Selenomonas noxia*	2			-
1374	*Serpulina hyodysenteriae* (→ *Brachyspira hyodysenteriae*)				Annex 1d
1375	*Serpulina intermedia* (→ *Brachyspira intermedia*)				Annex 1d
1376	*Serpulina pilosicoli* (→ *Brachyspira pilosicoli*)				Annex 1d
1377	*Serratia grimesii*	2			-
1378	*Serratia liquefaciens*	2			-
1379	*Serratia marcescens* (→ *Serratia marcescens* subsp. *marcescens, Serratia marcescens* subsp. *sakuensis)*	2	P		Annex 1e
1380	*Serratia marcescens* subsp. m*arcescens*	tbd		= *Serratia marcescens*	Annex 1e
1381	*Serratia marcescens* subsp. *sakuensis*	tbd		= *Serratia marcescens*	Annex 1e
1382	*Serratia proteamaculans* (→ *Serratia proteamaculans* subsp. *quinovorans, Serratia proteamaculans* subsp. *proteamaculans)*	2	P		Annex 1e
1383	*Serratia proteamaculans* subsp. *proteamaculans*	tbd		= *Serratia proteamaculans*	Annex 1e
1384	*Serratia proteamaculans* subsp. *quinovorans* (→ *Serratia quinivorans*)	tbd		= *Serratia proteamaculans*	Annex 1e
1385	*Serratia quinivorans*	tbd		= *Serratia proteamaculans* subsp. *quinovorans*	Annex 1e
1386	*Serratia rubidaea*	2	A		-
1387	*Shewanella algae*	2			-
1388	*Shewanella oneidensis*	2			-
1389	*Shewanella putrefaciens*	2			-
1390	*Shigella boydii*	2			-
1391	*Shigella dysenteriae*	3			-
1392	*Shigella flexneri*	2			-
1393	*Shigella sonnei*	2			-
1394	*Shuttleworthia satelles*	2			-
1395	*Slackia exigua*	2			-
1396	*Sphingobacterium mizutaii*	2		= *Flavobacterium mizutaii*	Annex 1d
1397	*Sphingobacterium multivorum*	2			-
1398	*Sphingobacterium spiritivorum*	2		= *Flavobacterium yabuuchiae*	Annex 1d
1399	*Sphingobacterium thalpophilum*	2			-
1400	*Sphingomonas melonis*	2	P		-
1401	*Sphingomonas parapaucimobilis*	2			-
1402	*Sphingomonas paucimobilis*	2			-
1403	*Sphingomonas suberifaciens* (→ *Rhizorhapis suberifaciens*)				Annex 1d
1404	*Spiroplasma apis*	2	A		-
1405	*Spiroplasma citri*	2	P		-

1406	*Spiroplasma kunkelii*	2	P		-
1407	*Spiroplasma melliferum*	2	A		-
1408	*Spiroplasma mirum*	2	A		-
1409	*Spiroplasma phoeniceum*	2	P		-
1410	*Staphylococcus aureus* (→ *Staphylococcus aureus* subsp. *anaerobius, Staphylococcus aureus* subsp. *aureus)*	2			Annex 1e
1411	*Staphylococcus aureus* subsp. *anaerobius*	tbd		= *Staphylococcus aureus*	Annex 1e
1412	*Staphylococcus aureus* subsp. *aureus*	tbd		= *Staphylococcus aureus*	Annex 1e
1413	*Staphylococcus capitis* (→ *Staphylococcus capitis* subsp. *capitis, Staphylococcus capitis* subsp. *urealyticus*)	2			Annex 1e
1414	*Staphylococcus capitis* subsp. *capitis*	tbd		= *Staphylococcus capitis*	Annex 1e
1415	*Staphylococcus capitis* subsp. *urealyticus*	tbd		= *Staphylococcus capitis*	Annex 1e
1416	*Staphylococcus caprae*	2			-
1417	*Staphylococcus chromogenes*	tbd		= *Staphylococcus hyicus* subsp. *chromogenes*	Annex 1e
1418	*Staphylococcus cohnii* (→ *Staphylococcus cohnii* subsp. *cohnii, Staphylococcus cohnii* subsp. *urealyticus)*	2			Annex 1e
1419	*Staphylococcus cohnii* subsp. *cohnii*	tbd		= *Staphylococcus cohnii*	Annex 1e
1420	*Staphylococcus cohnii* subsp. *urealyticus*	tbd		= *Staphylococcus cohnii*	Annex 1e
1421	*Staphylococcus epidermidis*	2			-
1422	*Staphylococcus felis*	2	A		-
1423	*Staphylococcus haemolyticus*	2			-
1424	*Staphylococcus hominis* (→*Staphylococcus hominis* subsp. *hominis, Staphylococcus hominis* subsp. *novobiosepticus)*	2			Annex 1e
1425	*Staphylococcus hominis* subsp. *hominis*	tbd		= *Staphylococcus hominis*	Annex 1e
1426	*Staphylococcus hominis* subsp. *novobiosepticus*	tbd		= *Staphylococcus hominis*	Annex 1e
1427	*Staphylococcus hyicus* (→ *Staphylococcus hyicus subsp. chromogenes , Staphylococcus hyicus subsp. hyicus)*	2	A		Annex 1e
1428	*Staphylococcus hyicus* subsp. *chromogenes* (→ *Staphylococcus chromogenes*)			= *Staphylococcus hyicus*	Annex 1e
1429	*Staphylococcus hyicus subsp. hyicus*	tbd		= *Staphylococcus hyicus*	Annex 1e
1430	*Staphylococcus intermedius*	2	A		-
1431	*Staphylococcus lugdunensis*	2			-
1432	*Staphylococcus lutrae*	2	A		-
1433	*Staphylococcus nepalensis*	2			-
1434	*Staphylococcus saccharolyticus*	2			-
1435	*Staphylococcus saprophyticus* (→ *Staphylococcus saprophyticus* subsp. *bovis, Staphylococcus saprophyticus* subsp. *saprophyticus*)	2			Annex 1e
1436	*Staphylococcus saprophyticus* subsp. *bovis*	tbd		= *Staphylococcus saprophyticus*	Annex 1e
1437	*Staphylococcus saprophyticus* subsp. *saprophyticus*	tbd		= *Staphylococcus saprophyticus*	Annex 1e
1438	*Staphylococcus schleiferi* (→ *Staphylococcus schleiferi* subsp. *coagulans, Staphylococcus schleiferi* subsp. *schleiferi*)	2			Annex 1e
1439	*Staphylococcus schleiferi* subsp. *coagulans*	tbd		= *Staphylococcus schleiferi*	Annex 1e
1440	*Staphylococcus schleiferi* subsp. *schleiferi*	tbd		= *Staphylococcus schleiferi*	Annex 1e
1441	*Staphylococcus simiae*	2	A		-
1442	*Staphylococcus simulans*	2			-

1443	*Staphylococcus xylosus*	2			-
1444	*Stenotrophomonas africana* (→ *Stenotrophomonas maltophilia*)				Annex 1d
1445	*Stenotrophomonas maltophilia*	2		= *Pseudomonas beteli*, *Pseudomonas hibiscicola*, *Stenotrophomonas africana*	Annex 1d
1446	*Streptobacillus moniliformis*	2			-
1447	*Streptococcus acidominimus*	2			-
1448	*Streptococcus agalactiae*	2			-
1449	*Streptococcus anginosus* (→ *Streptococcus anginosus* subsp. *anginosus, Streptococcus anginosus* subsp. *whileyi*)	2		= *Streptococcus intermedius*	Annex 1f, Annex 1e
1450	*Streptococcus anginosus* subsp. *anginosus*	tbd		= *Streptococcus anginosus*	Annex 1e
1451	*Streptococcus anginosus* subsp. *whileyi*	tbd		= *Streptococcus anginosus*	Annex 1e
1452	*Streptococcus bovis* (→ *Streptococcus equinus*)				Annex 1d
1453	*Streptococcus caballi*	2			-
1454	*Streptococcus canis*	2			-
1455	*Streptococcus castoreus*	2			-
1456	*Streptococcus constellatus* (→ *Streptococcus constellatus* subsp. *constellatus, Streptococcus constellatus* subsp. *pharyngis, Streptococcus constellatus* subsp. *viborgensis)*	2			Annex 1e
1457	*Streptococcus constellatus* subsp. *constellatus*	tbd		= *Streptococcus constellatus*	Annex 1e
1458	*Streptococcus constellatus* subsp. *pharyngis*	tbd		= *Streptococcus constellatus*	Annex 1e
1459	*Streptococcus constellatus* subsp. *viborgensis*	tbd		= *Streptococcus constellatus*	Annex 1e
1460	*Streptococcus didelphis*	2	A		-
1461	*Streptococcus dysgalactiae* (→ *Streptococcus dysgalactiae* subsp. *dysgalactiae, Streptococcus dysgalactiae* subsp. *equisimilis)*	2			Annex 1e
1462	*Streptococcus dysgalactiae* subsp. *dysgalactiae*	tbd		= *Streptococcus dysgalactiae*	Annex 1e
1463	*Streptococcus dysgalactiae* subsp. *equisimilis*	tbd		= *Streptococcus dysgalactiae*	Annex 1e
1464	*Streptococcus equi* (→ *Streptococcus equi* subsp. *equi, Streptococcus equi* subsp. *ruminatorum, Streptococcus equi* subsp. *zooepidemicus*)	2			Annex 1e
1465	*Streptococcus equi* subsp. *equi*	tbd		= *Streptococcus equi*	Annex 1e
1466	*Streptococcus equi* subsp. *ruminatorum*	tbd		= *Streptococcus equi*	Annex 1e
1467	*Streptococcus equi* subsp. *zooepidemicus*	tbd		= *Streptococcus equi*	Annex 1e
1468	*Streptococcus equinus*	2		= *Streptococcus bovis*	Annex 1d
1469	*Streptococcus gallinaceus*	2			-
1470	*Streptococcus gallolyticus* (→ *Streptococcus gallolyticus* subsp. *gallolyticus, Streptococcus gallolyticus* subsp. *macedonicus, Streptococcus gallolyticus* subsp. *Pasteurianus)*	2			Annex 1e
1471	*Streptococcus gallolyticus* subsp. *gallolyticus*	tbd		= *Streptococcus gallolyticus*	Annex 1e
1472	*Streptococcus gallolyticus* subsp. *macedonicus*	tbd		= *Streptococcus gallolyticus*	Annex 1e
1473	*Streptococcus gallolyticus* subsp. *pasteurianus*	tbd		= *Streptococcus gallolyticus*	Annex 1e
1474	*Streptococcus halichoeri*	2			-
1475	*Streptococcus henryi*	2			-
1476	*Streptococcus iniae*	2			-
1477	*Streptococcus intermedius* (→ *Streptococcus anginosus*)				Annex 1f
1478	*Streptococcus lutetiensis*	2			-

1479	*Streptococcus massiliensis*	2			-
1480	*Streptococcus mitis*	2			-
1481	*Streptococcus mutans*	2			-
1482	*Streptococcus oralis* (→ *Streptococcus oralis* subsp*. dentisani, Streptococcus oralis* subsp. *oralis, Streptococcus oralis* subsp. *tigurinus*)	2			Annex 1e
1483	*Streptococcus oralis* subsp*. dentisani*	tbd		= *Streptococcus oralis*	Annex 1e
1484	*Streptococcus oralis* subsp. *oralis*	tbd		= *Streptococcus oralis*	Annex 1e
1485	*Streptococcus oralis* subsp*. tigurinus*	tbd		= *Streptococcus oralis*	Annex 1e
1486	*Streptococcus ovis*	2	A		-
1487	*Streptococcus parasanguinis*	2			-
1488	*Streptococcus phocae* (→ *Streptococcus phocae* subsp*. phocae, Streptococcus phocae* subsp. *salmonis)*	2	A		Annex 1e
1489	*Streptococcus phocae* subsp. *phocae*	tbd		= *Streptococcus phocae*	Annex 1e
1490	*Streptococcus phocae* subsp. *salmonis*	tbd		= *Streptococcus phocae*	Annex 1e
1491	*Streptococcus pluranimalium*	2	A		-
1492	*Streptococcus pneumoniae*	2			-
1493	*Streptococcus porcinus*	2			-
1494	*Streptococcus pseudopneumoniae*	2			-
1495	*Streptococcus pseudoporcinus*	2			-
1496	*Streptococcus pyogenes*	2			-
1497	*Streptococcus salivarius* (→ *Streptococcus salivarius* subsp*. salivarius, Streptococcus salivarius* subsp*. thermophilus)*	2			Annex 1e
1498	*Streptococcus salivarius* subsp. s*alivarius*	tbd		= *Streptococcus salivarius*	Annex 1e
1499	*Streptococcus salivarius* subsp*. thermophilus*	tbd		= *Streptococcus salivarius*	Annex 1e
1500	*Streptococcus sanguinis*	2			-
1501	*Streptococcus sinensis*	2			-
1502	*Streptococcus sobrinus*	2			-
1503	*Streptococcus suis*	2			-
1504	*Streptococcus uberis*	2			-
1505	*Streptomyces acidiscabies*	2	P		-
1506	*Streptomyces albidoflavus*	2	P		-
1507	*Streptomyces candidus*	2	P		-
1508	*Streptomyces caviscabies* (→ *Streptomyces setonii*)				Annex 1d
1509	*Streptomyces collinus*	2	P		-
1510	*Streptomyces europaeiscabiei*	2	P		-
1511	*Streptomyces intermedius*	2	P		-
1512	*Streptomyces ipomoeae*	2	P		-
1513	*Streptomyces luridiscabiei*	2	P		-
1514	*Streptomyces niveiscabiei*	2	P		-
1515	*Streptomyces puniciscabiei*	2	P		-
1516	*Streptomyces reticuliscabei*	2	P		-
1517	*Streptomyces scabiei*	2	P		-
1518	*Streptomyces setonii*	2	P		-
1519	*Streptomyces setonii*	2	P	= *Streptomyces caviscabies*	Annex 1d

1520	*Streptomyces somaliensis*	2			-
1521	*Streptomyces stelliscabiei*	2	P		Annex 1c
1522	*Streptomyces turgidiscabies*	2	P		-
1523	*Streptomyces wedmorensis*	2	P		-
1524	*Sutterella wadsworthensis*	2			-
1525	*Suttonella indologenes*	2			-
1526	*Tannerella forsythia*	2		*= Bacteroides forsythus*	Annex 1c, Annex 1d
1527	*Tatlockia maceachernii*	2			-
1528	*Tatlockia micdadei*	2		*= Legionella pitsburghensis*	Annex 1d
1529	*Tatumella ptyseos*	2			-
1530	*Taylorella equigenitalis*	2	A		-
1531	*Tenacibaculum maritimum*	2	A	*= Flexibacter maritimus*	Annex 1d
1532	*Tenacibaculum ovolyticum*	2	A	*= Flexibacter ovolyticus*	Annex 1d
1533	*Terrisporobacter glycolicus*	2		*= Clostridium glycolicum*	Annex 1d
1534	*Tetragenococcus solitarius*	2		*= Enterococcus solitarius*	Annex 1d
1535	*Tissierella praeacuta*	2		*= Clostridium hastiforme*	Annex 1d
1536	*Treponema amylovorum*	2			-
1537	*Treponema brennaborense*	2	A		-
1538	*Treponema carateum**	2			Annex 1h
1539	*Treponema denticola*	2			-
1540	*Treponema lecithinolyticum*	2			-
1541	*Treponema maltophilum*	2			-
1542	*Treponema medium*	2			-
1543	*Treponema pallidum*	2			-
1544	*Treponema paraluiscuniculi*	2	A		-
1545	*Treponema parvum*	2			-
1546	*Treponema pectinovorum*	2			-
1547	*Treponema pertenue*	2			-
1548	*Treponema socranskii* (→ *Treponema socranskii* subsp. *buccale, Treponema socranskii* subsp. *socranskii, Treponema socranskii* subsp. *paredis*)	2			Annex 1e
1549	*Treponema socranskii* subsp. *buccale*	tbd		*= Treponema socranskii*	Annex 1e
1550	*Treponema socranskii* subsp. *paredis*	tbd		*= Treponema socranskii*	Annex 1e
1551	*Treponema socranskii* subsp. *socranskii*	tbd		*= Treponema socranskii*	Annex 1e
1552	*Treponema vincentii*	2			Annex 1a
1553	*Tropheryma whipplei*	2			-
1554	*Trueperella abortisuis*	2		*= Arcanobacterium abortisuis*	Annex 1h
1555	*Trueperella bernardiae*	2		*= Arcanobacterium bernardiae*	Annex 1d
1556	*Trueperella bialowiezensis*	2	A	*= Arcanobacterium bialowiezense*	Annex 1d
1557	*Trueperella bonasi*	2	A	*= Arcanobacterium bonasi*	Annex 1d
1558	*Trueperella pyogenes*	2	A	*= Actinomyces pyogenes, Arcanobacterium pyogenes*	Annex 1d
1559	*Tsukamurella inchonensis*	2			-
1560	*Tsukamurella pulmonis*	2			-
1561	*Tsukamurella tyrosinosolvens*	2			-
1562	*Turicella otitidis*	2			-

1563	*Ureaplasma diversum*	2	A		-
1564	*Ureaplasma gallorale*	2	A		-
1565	*Ureaplasma parvum*	2			-
1566	*Ureaplasma urealyticum*	2			-
1567	*Uruburuella suis*	2	A		-
1568	*Vagococcus lutrae*	2			-
1569	*Vagococcus salmoninarum*	2	A		-
1570	*Varibaculum cambriense*	2			-
1571	*Veillonella denticariosi*	2			-
1572	*Vibrio aestuarianus*	2	A		-
1573	*Vibrio alginolyticus*	2			-
1574	*Vibrio anguillarum*	2	A	*= Listonella anguillarum*	Annex 1d
1575	*Vibrio carchariae* (→ *Vibrio harveyi*)				Annex 1d
1576	*Vibrio cholerae*	2			-
1577	*Vibrio cincinnatiensis*	2			-
1578	*Vibrio fluvialis*	2			-
1579	*Vibrio foetidus**	2			Annex 1h
1580	*Vibrio harveyi*	2	A		-
1581	*Vibrio harveyi*	2	A	*= Vibrio carchariae*	Annex 1d
1582	*Vibrio ichthyoenteri*	2	A		-
1583	*Vibrio metchnikovii*	2			-
1584	*Vibrio mimicus*	2			-
1585	*Vibrio ordalii*	2	A		-
1586	*Vibrio parahaemolyticus*	2			-
1587	*Vibrio penaeicida*	2	A		-
1588	*Vibrio proteolyticus*	2		= *Aeromonas hydrophila* subsp. *proteolytica*	Annex 1d
1589	*Vibrio pseudotuberculosis**	2			Annex 1h
1590	*Vibrio salmonicida* (→ *Aliivibrio salmonicida*)				Annex 1d
1591	*Vibrio splendidus*	2	A		-
1592	*Vibrio vulnificus*	2			-
1593	*Vibrio wodanis* (→ *Aliivibrio wodanis*)				Annex 1d
1594	*Volucribacter amazonae*	2	A		-
1595	*Volucribacter psittacicida*	2	A		-
1596	*Waddlia chondrophila*	2			-
1597	*Williamsia deligens*	2			-
1598	*Xanthomonas albilineans*	2	P		-
1599	*Xanthomonas alfalfae* (→*Xanthomonas alfalfae* subsp. *alfalfae, Xanthomonas alfalfae* subsp. *citrumelonis)*	2	P		Annex 1e
1600	*Xanthomonas alfalfae* subsp. *alfalfae*	tbd		= *Xanthomonas alfalfae*	Annex 1e
1601	*Xanthomonas alfalfae* subsp. *citrumelonis*	tbd		= *Xanthomonas alfalfae*	Annex 1e
1602	*Xanthomonas arboricola*	2	P		-
1603	*Xanthomonas axonopodis*	2	P		-
1604	*Xanthomonas bromi*	2	P		-
1605	*Xanthomonas campestris*	2	P		-

1606	*Xanthomonas cassavae*	2	P		-
1607	*Xanthomonas citri* (→ *Xanthomonas citri* subsp. *citri, Xanthomonas citri* subsp. *malvacearum)*	2	P		Annex 1e
1608	*Xanthomonas citri* subsp. *citri*	tbd		= *Xanthomonas citri*	Annex 1e
1609	*Xanthomonas citri* subsp. *malvacearum*	tbd		= *Xanthomonas citri*	Annex 1e
1610	*Xanthomonas codiaei*	2	P		-
1611	*Xanthomonas curcurbitae*	2	P		-
1612	*Xanthomonas cynarae*	2	P		-
1613	*Xanthomonas euvesicatoria*	2	P		-
1614	*Xanthomonas fragariae*	2	P		-
1615	*Xanthomonas fuscans* (→ *Xanthomonas fuscans* subsp. *aurantifolii, Xanthomonas fuscans* subsp. *fuscans)*	2	P		Annex 1e
1616	*Xanthomonas fuscans* subsp. *aurantifolii*	tbd		= *Xanthomonas fuscans*	Annex 1e
1617	*Xanthomonas fuscans* subsp. *fuscans*	tbd		= *Xanthomonas fuscans*	Annex 1e
1618	*Xanthomonas gardneri*	2	P		-
1619	*Xanthomonas hortorum*	2	P		-
1620	*Xanthomonas hyacinthi*	2	P		-
1621	*Xanthomonas melonis*	2	P		-
1622	*Xanthomonas oryzae*	2	P		-
1623	*Xanthomonas perforans*	2	P		-
1624	*Xanthomonas pisi*	2	P		-
1625	*Xanthomonas populi*	2	P		-
1626	*Xanthomonas sacchari*	2	P		-
1627	*Xanthomonas theicola*	2	P		-
1628	*Xanthomonas translucens*	2	P		-
1629	*Xanthomonas vasicola*	2	P		-
1630	*Xanthomonas vesicatoria*	2	P		-
1631	*Xylella fastidiosa* (→ *Xylella fastidiosa subsp. fastidiosa and Xylella fastidiosa subsp. multiplex*)	2	P		Annex 1e
1632	*Xylella fastidiosa* subsp. *fastidiosa*	tbd		= *Xylella fastidiosa*	Annex 1e
1633	*Xylella fastidiosa* subsp. *multiplex*	tbd		= *Xylella fastidiosa*	Annex 1e
1634	*Xylophilus ampelinus*	2	P		-
1635	*Yersinia aleksiciae*	2			-
1636	*Yersinia enterocolitica* (→ *Yersinia enterocolitica* subsp. *enterocolitica, Yersinia enterocolitica* subsp. *palearctica*)	2			Annex 1e
1637	*Yersinia enterocolitica* subsp. *enterocolitica*	tbd		= *Yersinia enterocolitica*	Annex 1e
1638	*Yersinia enterocolitica* subsp. *palearctica*	tbd		= *Yersinia enterocolitica*	Annex 1e
1639	*Yersinia frederiksenii*	2			-
1640	*Yersinia intermedia*	2			-
1641	*Yersinia kristensenii*	2			-
1642	*Yersinia pestis*	3			Annex 1c
1643	*Yersinia pseudotuberculosis*	2			-
1644	*Yersinia ruckeri*	2	A		-
1645	*Yersinia similis*	2			-

1646	*Yokenella regensburgei*	2			-

Abbreviations & symbols

*	Uncertain nomenclature; needs to be reconsidered by the COGEM
°	Accepted name
≡	No official decision about nomenclature: the synonym(s) may be equally used
=	Synonym (old name)
→	Referral to new (accepted) name
See	(Partial) reclassification of a genus: referral to the former genus name
tbd	to be determined