

Comments on the XML file and its edits:

From the Zehr2017.arb file, data was exported in XML format. In order to reformat for dada2's assign taxonomy function, each sequence should have the following taxonomic information (where known).

Domain; Phylum; Class; Order; Family; Genus

If some of the taxonomic levels are unknown, they can be left blank. For example, the taxonomy of "Bacteroidales bacterium Barb6XT" (acc: OAV67900.1) is only known to the Order rank.

Bacteria; Bacteroidetes; Bacteroidia; Bacteroidales;

The taxonomy cannot skip ranks. If the genus is known but the family is unknown, as in *Desulfuribacillus alkaliarsenatis* (OEF96273.1), it's taxonomy would be:

Bacteria; Firmicutes; Bacilli; Bacillales; Bacillales incertae sedis; Desulfuribacillus

In the XML file, each parent node (<species>) contains the taxonomy (<tax>) and sequence (<data>) as child nodes. The text proceeding the taxonomy should match the "full_taxon_name" entry exactly, as this is used in the fasta generating script to remove the text proceeding the taxonomy. Only exact matches are removed. For example, for "*Crocospaera watsonii* WH 0401", the exact text found in its "full_taxon_name" proceeds the start of the taxonomy.

<full_taxon_name>**Crocospaera watsonii WH 0401**</full_taxon_name>

<tax>**Crocospaera watsonii WH 0401** Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Aphanothecaceae; *Crocospaera*

Documentation:

The details below document changes that were made to the original XML file generated from Zehr2017.arb. Some changes are solely to facilitate the dada2 database generation (e.g. removing subclass, groups, complexes or adding missing taxonomic ranks), and other changes are updates or corrections to the taxonomy based on the NCBI database for associated accession number. Changes are grouped by taxonomy.

Phylum/Class	Original XML/ARB File Taxonomy in <tax> node	Updated taxonomy in nifH2017_mod2.xml	Comments
Proteobacteria			
Alphaproteobacteria	Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Rhizobiaceae; Rhizobium/Agrobacterium group; Agrobacterium	Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Rhizobiaceae; Agrobacterium	Removed Rhizobium/Agrobacterium group
Alphaproteobacteria	Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Rhizobiaceae; Rhizobium/Agrobacterium group; Rhizobium	Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Rhizobiaceae; Rhizobium	Removed Rhizobium/Agrobacterium group
Alphaproteobacteria	Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Rhizobiaceae; Sinorhizobium/Ensifer group; Sinorhizobium	Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Rhizobiaceae; Sinorhizobium	Removed Sinorhizobium/Ensifer group
Alphaproteobacteria	Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Rhizobiaceae; Sinorhizobium/Ensifer group; Ensifer	Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Rhizobiaceae; Ensifer	Removed Sinorhizobium/Ensifer group
Alphaproteobacteria	Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Rhizobiaceae; Rhizobium/Agrobacterium group; Neorhizobium	Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Rhizobiaceae; Neorhizobium	Removed Rhizobium/Agrobacterium group
Alphaproteobacteria	Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Rhizobiaceae; Rhizobium/Agrobacterium group; Agrobacterium; Agrobacterium tumefaciens complex;	Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Rhizobiaceae; Agrobacterium	Removed Rhizobium/Agrobacterium group and Agrobacterium tumefaciens complex
Alphaproteobacteria	Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Beijerinckiaceae	Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Beijerinckiaceae; Methylovirgula	Genus missing for acc # CAR92466.1 and CBW47548.1
Alphaproteobacteria	Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Cohaesibacteraceae	Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Cohaesibacteraceae; Cohaesibacter	Genus missing acc # SFN62151.1
Alphaproteobacteria	Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Methyloceanibacter	Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Rhizobiales incertae sedis; Methyloceanibacter	Family missing for all Methyloceanibacter entries
Alphaproteobacteria	Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Methylocystaceae	Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Methylocystaceae; Methylogaea	Updated taxonomy and taxon name for Methanotroph E10. Acc # ACF21003.1
Alphaproteobacteria	Bacteria; Proteobacteria; Alphaproteobacteria; Hartmannibacter	Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales; Rhizobiales incertae sedis	Added missing order and family
Alphaproteobacteria	Bacteria; Proteobacteria; Magnetococcus	Bacteria; Proteobacteria; Alphaproteobacteria; Magnetococcales; Magnetococcaceae; Magnetococcus	Added missing class, order, and family
Betaproteobacteria	Bacteria; Proteobacteria; Betaproteobacteria; Burkholderiales; Burkholderiaceae; Burkholderia; Burkholderia cepacia complex	Bacteria; Proteobacteria; Betaproteobacteria; Burkholderiales; Burkholderiaceae; Burkholderia	Removed complex information
Betaproteobacteria	Bacteria; Proteobacteria; Betaproteobacteria; Burkholderiales; Aquabacterium	Bacteria; Proteobacteria; Betaproteobacteria; Burkholderiales; Burkholderiales incertae sedis; Aquabacterium	Added missing family
Betaproteobacteria	Bacteria; Proteobacteria; Betaproteobacteria; Burkholderiales; Ideonella	Bacteria; Proteobacteria; Betaproteobacteria; Burkholderiales; Burkholderiales incertae sedis; Ideonella	Added missing family
Betaproteobacteria	Bacteria; Proteobacteria; Betaproteobacteria; Burkholderiales; Leptothrix	Bacteria; Proteobacteria; Betaproteobacteria; Burkholderiales; Burkholderiales incertae sedis; Leptothrix	Added missing family
Betaproteobacteria	Bacteria; Proteobacteria; Betaproteobacteria; Burkholderiales; Roseateles	Bacteria; Proteobacteria; Betaproteobacteria; Burkholderiales; Burkholderiales incertae sedis; Roseateles	Added missing family
Betaproteobacteria	Bacteria; Proteobacteria; Betaproteobacteria; Burkholderiales; Rubrivivax	Bacteria; Proteobacteria; Betaproteobacteria; Burkholderiales;	Added missing family

		Burkholderiales incertae sedis; Rubrivivax	
Betaproteobacteria	Bacteria; Proteobacteria; Betaproteobacteria; Burkholderiales; Sphaerotilus	Bacteria; Proteobacteria; Betaproteobacteria; Burkholderiales; Burkholderiales incertae sedis; Sphaerotilus	Added missing family
Betaproteobacteria	Bacteria; Proteobacteria; Betaproteobacteria; Candidatus Accumulibacter	Bacteria; Proteobacteria; Betaproteobacteria; Betaproteobacteria incertae sedis; Candidatus Accumulibacter	Added missing order and family
Betaproteobacteria	Bacteria; Proteobacteria; Betaproteobacteria; Ferrovum	Bacteria; Proteobacteria; Betaproteobacteria; Ferrovaales; Ferrovaceae; Ferrovum	Added missing order and family
Betaproteobacteria	Gallionellales bacterium (full taxon name) Bacteria; Proteobacteria; Betaproteobacteria; Nitrosomonadales	Bacteria; Proteobacteria; Betaproteobacteria; Nitrosomonadales; unclassified Nitrosomonadales; Gallionellales.	Added missing order and genus
Deltaproteobacteria	Bacteria; Proteobacteria; Deltaproteobacteria; Myxococcales; Cystobacterineae;	Bacteria; Proteobacteria; Deltaproteobacteria; Myxococcales;	Removed suborder Cystobacterineae
Deltaproteobacteria	Bacteria; Proteobacteria; Deltaproteobacteria; Candidatus Adiutrix;	Bacteria; Proteobacteria; Deltaproteobacteria; Deltaproteobacteria incertae sedis; Deltaproteobacteria incertae; Candidatus Adiutrix	Added missing order and family
Deltaproteobacteria	Bacteria; Proteobacteria; Deltaproteobacteria; Desulfamplus;	Bacteria; Proteobacteria; Deltaproteobacteria; Desulfobacterales; Desulfobacteraceae; Desulfamplus	Added missing order and family
Deltaproteobacteria	Bacteria; Proteobacteria; Deltaproteobacteria; Dissulfuribacter;	Bacteria; Proteobacteria; Deltaproteobacteria; Deltaproteobacteria incertae sedis; Deltaproteobacteria incertae sedis; Dissulfuribacter	Added missing order and family
Deltaproteobacteria	Bacteria; Proteobacteria; Deltaproteobacteria; Myxococcales; Cystobacterineae; Myxococcaceae; Anaeromyxobacter	Bacteria; Proteobacteria; Deltaproteobacteria; Myxococcales; Anaeromyxobacteraceae; Anaeromyxobacter	Removed suborder Cystobacterineae and updated Family to Anaeromyxobacteraceae
Gammaproteobacteria	Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacterales; Enterobacteriaceae; Enterobacter; Enterobacter cloacae complex	Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacterales; Enterobacteriaceae; Enterobacter	Removed complex information
Gammaproteobacteria	Bacteria; Proteobacteria; Gammaproteobacteria; sulfur-oxidizing symbionts; Candidatus Thiodiazotropha	Bacteria; Proteobacteria; Gammaproteobacteria; Gammaproteobacteria incertae sedis; sulfur-oxidizing symbionts; Candidatus Thiodiazotropha	Added order “Gammaproteobacteria incertae sedis”
Gammaproteobacteria	Bacteria; Proteobacteria; Gammaproteobacteria; Oceanospirillales; unclassified Oceanospirillales; Gynuella	Bacteria; Proteobacteria; Gammaproteobacteria; Oceanospirillales; Saccharospirothaceae; Gynuella; </tax>	Updated unclassified family as “Saccharospirothaceae”(acc #AJQ93954.1)
Gammaproteobacteria	Bacteria; Proteobacteria; Gammaproteobacteria; Celerinatantimonadaceae; Celerinatantimonas;	Bacteria; Proteobacteria; Gammaproteobacteria; Gammaproteobacteria incertae sedis; Celerinatantimonadaceae; Celerinatantimonas	Added order “Gammaproteobacteria incertae sedis”
Gammaproteobacteria	Bacteria; Proteobacteria; Gammaproteobacteria; Competibacteraceae; Candidatus Contendobacter;	Bacteria; Proteobacteria; Gammaproteobacteria; Gammaproteobacteria incertae sedis; Candidatus Competibacteraceae; Candidatus Contendobacter	Added order “Gammaproteobacteria incertae sedis”
Gammaproteobacteria	Bacteria; Proteobacteria; Gammaproteobacteria; Oceanospirillales; Amphritea;	Bacteria; Proteobacteria; Gammaproteobacteria; Oceanospirillales; Oceanospirillaceae; Amphritea	Added missing family
Gammaproteobacteria	Bacteria; Proteobacteria; Gammaproteobacteria; Sedimenticola;	Bacteria; Proteobacteria; Gammaproteobacteria; Gammaproteobacteria incertae sedis; Gammaproteobacteria incertae sedis; Sedimenticola;	Added order and family “Gammaproteobacteria incertae sedis”
Gammaproteobacteria	Bacteria; Proteobacteria; Gammaproteobacteria; sulfur-oxidizing symbionts;	Bacteria; Proteobacteria; Gammaproteobacteria; Gammaproteobacteria incertae sedis; sulfur-oxidizing symbionts	Added order “Gammaproteobacteria incertae sedis”

Gammaproteobacteria	Bacteria; Proteobacteria; Gammaproteobacteria; Thiotrichales; Thioflexothrix	Bacteria; Proteobacteria; Gammaproteobacteria; Thiotrichales; Thiotrichales incertae sedis; Thioflexothrix	Added family "Thiotrichales incertae sedis"
Gammaproteobacteria	Alteromonadales bacterium C7 (full taxon name) Bacteria; Proteobacteria; Gammaproteobacteria; Alteromonadales;	Bacteria; Proteobacteria; Gammaproteobacteria; Gammaproteobacteria incertae sedis; Celerinatantimonadace; Celerinatantimonas	Taxonomy and acc number mismatch. Updated information based on NCBI files for this sequence and acc # AEC46862.1
Gammaproteobacteria	Bacteria; Proteobacteria; Gammaproteobacteria; Alteromonadales; Alteromonadales genera incertae sedis; Teredinibacter	Bacteria; Proteobacteria; Gammaproteobacteria; Cellvibrionales; Cellvibrionaceae; Teredinibacter	Updated order and family names
Gammaproteobacteria	Bacteria; Proteobacteria; Gammaproteobacteria; Xanthomonadales; Xanthomonadaceae; Stenotrophomonas; Stenotrophomonas maltophilia group	Bacteria; Proteobacteria; Gammaproteobacteria; Xanthomonadales; Xanthomonadaceae; Stenotrophomonas; Stenotrophomonas maltophilia group	Removed species group
Gammaproteobacteria	Bacteria; Proteobacteria; Gammaproteobacteria; Oceanospirillales; Marinobacterium	Bacteria; Proteobacteria; Gammaproteobacteria; Oceanospirillales; Oceanospirillaceae; Marinobacterium	Added missing family
Gammaproteobacteria	Bacteria; Proteobacteria; Gammaproteobacteria; Oceanospirillales; Marinospirillum	Bacteria; Proteobacteria; Gammaproteobacteria; Oceanospirillales; Oceanospirillaceae; Marinospirillum	Added missing family
Gammaproteobacteria	Bacteria; Proteobacteria; Gammaproteobacteria; Oceanospirillales; Nitrincola	Bacteria; Proteobacteria; Gammaproteobacteria; Oceanospirillales; Oceanospirillaceae; Nitrincola	Added missing family
Epsilonproteobacteria	Bacteria; Proteobacteria; Epsilonproteobacteria; Sulfurovum	Bacteria; Proteobacteria; Epsilonproteobacteria; Epsilonproteobacteria incertae sedis; Epsilonproteobacteria incertae sedis; Sulfurovum	Added order and family "Epsilonproteobacteria incertae sedis"
Firmicutes			
Clostridia	Bacteria; Firmicutes; Clostridia; Thermoanaerobacterales; Thermoanaerobacterales Family III. Incertae Sedis; Caldicellulosiruptor	Bacteria; Firmicutes; Clostridia; Thermoanaerobacterales; Thermoanaerobacterales Family III Incertae Sedis; Caldicellulosiruptor	Removed period after family numerals
Clostridia	Bacteria; Firmicutes; Clostridia; Clostridiales; Clostridiales Family XI. Incertae Sedis; Peptoniphilus	Bacteria; Firmicutes; Clostridia; Clostridiales; Clostridiales Family XI Incertae Sedis; Peptoniphilus	Removed period after family numerals
Clostridia	Bacteria; Firmicutes; Clostridia; Clostridiales; Clostridiales Family XIII. Incertae Sedis; Mogibacterium	Bacteria; Firmicutes; Clostridia; Clostridiales; Clostridiales Family XIII Incertae Sedis; Mogibacterium	Removed period after family numerals
Clostridia	Bacteria; Firmicutes; Clostridia; Clostridiales; Clostridiales Family XVI. Incertae Sedis; Carboxydocella	Bacteria; Firmicutes; Clostridia; Clostridiales; Clostridiales Family XVI Incertae Sedis; Carboxydocella	Removed period after family numerals
Clostridia	Eubacterium ATCC XXXXX Bacteria; Firmicutes; Clostridia; Clostridiales; Clostridiales Family XIII Incertae Sedis.	Bacteria; Firmicutes; Clostridia; Clostridiales; Clostridiales Family XIII Incertae Sedis; Eubacterium	Genus missing in taxonomy but present in sample taxon name for Eubacterium samples: ATCC 35585, ATCC 33099
Clostridia	Bacteria; Firmicutes; Clostridia; Clostridiales; Intestinimonas;	Bacteria; Firmicutes; Clostridia; Clostridiales; Clostridiales incertae sedis; Intestinimonas	Added family "Clostridiales incertae sedis"
Clostridia	Bacteria; Firmicutes; Clostridia; Clostridiales; Blautia;	Bacteria; Firmicutes; Clostridia; Clostridiales; Lachnospiraceae; Blautia	Added missing family
Clostridia	Bacteria; Firmicutes; Clostridia; Clostridiales; Epulopiscium;	Bacteria; Firmicutes; Clostridia; Clostridiales; Lachnospiraceae Epulopiscium;	Added missing family
Clostridia	Bacteria; Firmicutes; Clostridia; Clostridiales; Gottschalkia;	Bacteria; Firmicutes; Tissierellia; Tissierellales; Gottschalkiaceae; Gottschalkia	Added missing family, updated class and order
Clostridia	Bacteria; Firmicutes; Clostridia; Clostridiales; Flavonifractor;	Bacteria; Firmicutes; Clostridia; Clostridiales; Ruminococcaceae Flavonifractor;	Added missing family

Clostridia	Clostridium stercorarium Bacteria; Firmicutes; Clostridia; Clostridiales; Ruminococcaceae; unclassified Ruminococcaceae;	Bacteria; Firmicutes; Clostridia; Clostridiales; Hungateiclostridiaceae; Thermoclostridium;	Updated taxonomy. Clostridium stercorarium is Thermoclostridium stercorarium, and family is Hungateiclostridiaceae
Clostridia	Bacteria; Firmicutes; Clostridia; Thermoanaerobacterales; Thermoanaerobacteraceae; Moorella group; Moorella	Bacteria; Firmicutes; Clostridia; Thermoanaerobacterales; Thermoanaerobacteraceae; Moorella	Removed group
Bacilli	Bacteria; Firmicutes; Bacillales; Bacillaceae; Bacillus; Bacillus cereus group.	Bacteria; Firmicutes; Bacilli; Bacillales; Bacillaceae; Bacillus;	Remove Bacillus cereus group and add in Bacilli (Class)
Bacilli	Firmicutes; Bacillales; Bacillaceae;	Firmicutes; Bacilli; Bacillales; Bacillaceae;	add in Bacilli (Class)
Bacilli	Bacteria; Firmicutes; Bacillales; Paenibacillaceae; Paenibacillus;	Bacteria; Firmicutes; Bacilli; Bacillales; Paenibacillaceae; Paenibacillus	Added missing class
Bacilli	Bacteria; Firmicutes; Bacilli; Bacillales; Desulfuribacillus	Bacteria; Firmicutes; Bacilli; Bacillales; Bacillales incertae sedis; Desulfuribacillus	Added family “Bacillales incertae sedis
Bacilli	Bacteria; Firmicutes; Bacilli; Bacillales; Staphylococcus;	Bacteria; Firmicutes; Bacilli; Bacillales; Staphylococcaceae; Staphylococcus;	Added missing family
Bacilli	Bacteria; Firmicutes; Bacilli; Bacillales; Bacillaceae; Bacillus; Bacillus amyloliquefaciens group	Bacteria; Firmicutes; Bacilli; Bacillales; Bacillaceae; Bacillus	Removed species group
Bacilli	Bacteria; Firmicutes; Bacilli; Bacillales; Paenibacillaceae; Aneurinibacillus group; Aneurinibacillus	Bacteria; Firmicutes; Bacilli; Bacillales; Paenibacillaceae; Aneurinibacillus	Removed group
Tissierellia	Bacteria; Firmicutes; Tissierellia; Dethiosulfatibacter;	Bacteria; Firmicutes; Tissierellia; Tissierellia incertae sedis; Tissierellia incertae sedis; Dethiosulfatibacter	Added order and family “Tissierellia incertae sedis
Tissierellia	Bacteria; Firmicutes; Tissierellia; Tepidimicrobium;	Bacteria; Firmicutes; Tissierellia; Tissierellales; Tissierellaceae; Tepidimicrobium	Added missing order and family
Negativicutes	Bacteria; Firmicutes; Negativicutes; Selenomonadales; Veillonellaceae; Centipeda;	Bacteria; Firmicutes; Negativicutes; Selenomonadales; Selenomonadaceae; Centipeda	Updated family name
Negativicutes	Bacteria; Firmicutes; Negativicutes; Selenomonadales; Veillonellaceae; Mitsuokella	Bacteria; Firmicutes; Negativicutes; Selenomonadales; Selenomonadaceae; Mitsuokella	Updated family name
Negativicutes	Bacteria; Firmicutes; Negativicutes; Selenomonadales; Veillonellaceae; Pelosinus	Bacteria; Firmicutes; Negativicutes; Selenomonadales; Sporomusaceae; Pelosinus	Updated family name
Negativicutes	Bacteria; Firmicutes; Negativicutes; Selenomonadales; Veillonellaceae; Selenomonas	Bacteria; Firmicutes; Negativicutes; Selenomonadales; Selenomonadaceae; Selenomonas	Updated family name
Actinobacteria			
Actinobacteria	Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales; Frankineae; Frankiaceae; Frankia	Bacteria; Actinobacteria; Actinobacteria; Frankiales; Frankiaceae; Frankia	Updated Actinobacteria taxonomy, with Actinobactiera as Class and Frankiales as Order
Actinobacteria	Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales; Frankineae; Frankiaceae; Frankia	Bacteria; Actinobacteria; Actinobacteria; Frankiales; Frankiaceae; Frankia;	Updated Actinobacteria taxonomy, with Actinobactiera as Class and Frankiales as Order
Actinobacteria	Bacteria; Actinobacteria; Frankiales; Frankiaceae; Frankia	Bacteria; Actinobacteria; Actinobacteria; Frankiales; Frankiaceae; Frankia;	Added missing class Actinobactiera
Actinobacteria	Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales; Micrococcineae; Micrococcaceae; Micrococcus	Bacteria; Actinobacteria; Actinobacteria; Micrococcales; Micrococcaceae; Micrococcus	Updated Actinobacteria taxonomy, with Actinobactiera as Class and Micrococcales as Order
Actinobacteria	Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales; Micrococcineae; Micrococcaceae; Rothia	Bacteria; Actinobacteria; Actinobacteria; Micrococcales; Micrococcaceae; Rothia	Updated Actinobacteria taxonomy, with Actinobactiera as Class and Micrococcales as Order
Actinobacteria	Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales; Micrococcineae; Brevibacteriaceae; Brevibacterium	Bacteria; Actinobacteria; Actinobacteria; Micrococcales; Brevibacteriaceae; Brevibacterium	Updated Actinobacteria taxonomy, with Actinobactiera as Class and Micrococcales as Order
Actinobacteria	Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales; Micromonosporineae; Micromonosporaceae; Micromonospora	Bacteria; Actinobacteria; Actinobacteria; Micromonosporales; Micromonosporaceae; Micromonospora	Updated Actinobacteria taxonomy, with Actinobactiera as Class and Micromonosporales as Order

Actinobacteria	Bacteria; Actinobacteria; Micromonosporales; Micromonosporaceae; Micromonospora	Bacteria; Actinobacteria; Actinobacteria; Micromonosporales; Micromonosporaceae; Micromonospora	Added missing class Actinobacteria
Actinobacteria	Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales; Micrococcineae; Microbacteriaceae; Microbacterium	Bacteria; Actinobacteria; Actinobacteria; Micrococcales; Microbacteriaceae; Microbacterium	Updated Actinobacteria taxonomy, with Actinobacteria as Class and Micrococcales as Order
Actinobacteria	Bacteria; Actinobacteria; Micrococcales; Microbacteriaceae; Microbacterium;	Bacteria; Actinobacteria; Actinobacteria; Micrococcales; Microbacteriaceae; Microbacterium	Added class Actinobacteria
Actinobacteria	Actinobacteria; Actinobacteridae; Actinomycetales; Streptomycineae; Streptomycetaceae; Streptomyces	Actinobacteria; Actinobacteria; Streptomycetales; Streptomycetaceae; Streptomyces	Updated Actinobacteria taxonomy, with Actinobacteria as Class and Streptomycetales as Order
Actinobacteria	Bacteria; Actinobacteria; Streptomycetales; Streptomycetaceae; Streptomyces	Bacteria; Actinobacteria; Actinobacteria; Streptomycetales; Streptomycetaceae; Streptomyces	Updated Actinobacteria taxonomy, with Actinobacteria as Class and Streptomycetales as Order
Actinobacteria	Actinobacteria; Actinobacteridae; Actinomycetales; Micrococcineae; Micrococcaceae; Arthrobacter	Actinobacteria; Actinobacteria; Micrococcales; Micrococcaceae; Arthrobacter; </tax>	Updated Actinobacteria taxonomy, with Actinobacteria as Class and Micrococcales as Order
Actinobacteria	Bacteria; Actinobacteria; Micrococcales; Micrococcaceae; Arthrobacter;	Bacteria; Actinobacteria; Actinobacteria; Micrococcales; Micrococcaceae; Arthrobacter;	Added missing class Actinobacteria
Actinobacteria	Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales; Propionibacterineae; Nocardiodaceae; Nocardioidea	Bacteria; Actinobacteria; Actinobacteria; Propionibacteriales; Nocardiodaceae; Nocardioidea	Updated Actinobacteria taxonomy, with Actinobacteria as Class and Propionibacteriales as Order
Actinobacteria	Bacteria; Actinobacteria; Propionibacteriales; Nocardiodaceae; Nocardioidea	Bacteria; Actinobacteria; Actinobacteria; Propionibacteriales; Nocardiodaceae; Nocardioidea	Added missing class Actinobacteria
Actinobacteria	Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales; Streptosporangineae; Thermomonosporaceae	Bacteria; Actinobacteria; Actinobacteria; Streptosporangiales; Thermomonosporaceae	Updated Actinobacteria taxonomy, with Actinobacteria as Class
Actinobacteria	Actinobacteria; Actinobacteridae; Actinomycetales; Micrococcineae; Micrococcaceae	Actinobacteria; Actinobacteria; Micrococcales; Micrococcaceae	Updated Actinobacteria taxonomy, with Actinobacteria as Class
Actinobacteria	Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales; Corynebacterineae; Gordoniaceae; Gordonia	Bacteria; Actinobacteria; Actinobacteria; Corynebacteriales; Gordoniaceae; Gordonia	Updated Actinobacteria taxonomy, with Actinobacteria as Class
Actinobacteria	Bacteria; Actinobacteria; Actinobacteridae; Actinomycetales; Micrococcineae; Intrasporangiaceae; Tetrasphaera	Bacteria; Actinobacteria; Actinobacteria; Micrococcales; Intrasporangiaceae; Tetrasphaera	Updated Actinobacteria taxonomy, with Actinobacteria as Class
Actinobacteria	Bacteria; Actinobacteria; Corynebacteriales; Dietziaceae; Dietzia;	Bacteria; Actinobacteria; Actinobacteria; Corynebacteriales; Dietziaceae; Dietzia;	Added missing class Actinobacteria
Actinobacteria	Bacteria; Actinobacteria; Propionibacteriales; Propionibacteriaceae; Propionibacterium;	Bacteria; Actinobacteria; Actinobacteria; Propionibacteriales; Propionibacteriaceae; Propionibacterium;	Added missing class Actinobacteria
Actinobacteria	Bacteria; Actinobacteria; Actinobacteridae; Frankineae; Frankiaceae; Frankia;	Bacteria; Actinobacteria; Actinobacteria; Frankiales; Frankiaceae; Frankia	Updated Actinobacteria taxonomy, with Actinobacteria as Class and Frankiales as Order
Coriobacteriia	Bacteria; Actinobacteria; Coriobacteridae; Coriobacteriales; Coriobacterineae; Coriobacteriaceae; Gordonibacter	Bacteria; Actinobacteria; Coriobacteriia; Eggerthellales; Eggerthellaceae; Gordonibacter	Updated Actinobacteria taxonomy, with Coriobacteriia as Class and Eggerthellales as Order
Coriobacteriia	Bacteria; Actinobacteria; Coriobacteridae; Coriobacteriales; Coriobacterineae; Coriobacteriaceae; Olsenella	Bacteria; Actinobacteria; Coriobacteriia; Coriobacteriales; Atopobiaceae; Olsenella	Updated taxonomy with Coriobacteriia as Class, Coriobacteriales as Order, and Atopobiaceae as Family
Coriobacteriia	Bacteria; Actinobacteria; Coriobacteridae; Coriobacteriales; Coriobacterineae; Coriobacteriaceae; Slackia	Bacteria; Actinobacteria; Coriobacteriia; Eggerthellales; Eggerthellaceae; Slackia	Updated Actinobacteria taxonomy, with Coriobacteriia as Class and Eggerthellales as Order
Cyanobacteria			
Cyanophyceae	For all entries with Oscillatorioleaceae Bacteria; Cyanobacteria; Oscillatorioleaceae; ...	Bacteria; Cyanobacteria; Cyanophyceae; ...	For all entries with subclass Oscillatorioleaceae, replaced with class Cyanophyceae. **Note that further comments assume this change has been made

Cyanophyceae	For all entries with Cyanobacteria; Chroococcales Bacteria; Cyanobacteria; Chroococcales; ...	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; ...	Add missing class, Cyanophyceae for all entries with "Cyanobacteria; Chroococcales" **Note that further comments assume this change has been made
Cyanophyceae	For all entries with Cyanobacteria; Pleurocapsales Bacteria; Cyanobacteria; Pleurocapsales; ...	Bacteria; Cyanobacteria; Cyanophyceae; Pleurocapsales; ...	Add missing class, Cyanophyceae for all entries with "Cyanobacteria; Pleurocapsales" **Note that further comments assume this change has been made
Cyanophyceae	For all entries with Cyanobacteria; Nostocales Bacteria; Cyanobacteria; Nostocales; ...	Bacteria; Cyanobacteria; Cyanophyceae; Nostocales; ...	Add missing class, Cyanophyceae for all entries with "Cyanobacteria; Nostocales" **Note that further comments assume this change has been made
Cyanophyceae	For all entries with Cyanobacteria; Synechococcales Bacteria; Cyanobacteria; Synechococcales; ...	Bacteria; Cyanobacteria; Cyanophyceae; Synechococcales; ...	Add missing class, Cyanophyceae for all entries with "Cyanobacteria; Synechococcales" **Note that further comments assume this change has been made
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Pleurocapsales; Pleurocapsa	Bacteria; Cyanobacteria; Cyanophyceae; Pleurocapsales; Hyellaceae; Pleurocapsa	Added missing family
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Pleurocapsales; Myxosarcina	Bacteria; Cyanobacteria; Cyanophyceae; Pleurocapsales; Hyellaceae; Myxosarcina	Added missing family
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Pleurocapsales; Stanieria	Bacteria; Cyanobacteria; Cyanophyceae; Pleurocapsales; Dermocarpellaceae; Stanieria	Added missing family
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Pleurocapsales; Xenococcus	Bacteria; Cyanobacteria; Cyanophyceae; Pleurocapsales; Xenococcaceae; Xenococcus	Added missing family
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Pleurocapsales; Chroococcidiopsis	Bacteria; Cyanobacteria; Cyanophyceae; Pleurocapsales; Xenococcaceae; Chroococcidiopsis	Added missing family
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Pleurocapsales; Hyella	Bacteria; Cyanobacteria; Cyanophyceae; Pleurocapsales; Hyellaceae ; Hyella	Added missing family
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Crocosphaera	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Aphanothecaceae; Crocosphaera	Added missing family
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Acaryochloris	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Acaryochloridaceae; Acaryochloris	Added missing family
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Cyanobacterium	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Cyanobacteriaceae; Cyanobacterium	Added missing family
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Halothece cluster; Halothece	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Aphanothecaceae; Halothece	Added missing family
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Candidatus Atelocyanobacterium	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Aphanothecaceae; Candidatus Atelocyanobacterium	Added missing family
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Neosynechococcus	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Leptolyngbyaceae; Neosynechococcus	Added missing family
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Aphanocapsa	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Merismopediaceae; Aphanocapsa	Added missing family
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Gloeotheca	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Aphanothecaceae; Gloeotheca	Added missing family
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Gloeocapsa	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Chroococcaceae; Gloeocapsa	Added missing family
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Aphanothece;	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Aphanothecaceae; Aphanothece	Added missing family

Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Gloeocapsopsis	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Chroococcaceae Gloeocapsopsis	Added missing family
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Cyanothece	Bacteria; Cyanobacteria; Cyanophyceae; Oscillatoriales; Cyanothecaceae; Cyanothece	Updated order and added missing family
Cyanophyceae	Bacteria; Cyanobacteria; Oscillatoriales; Trichodesmium or Bacteria; Cyanobacteria; Cyanophyceae; Oscillatoriales; Trichodesmium	Bacteria; Cyanobacteria; Cyanophyceae; Oscillatoriales; Microcoleaceae; Trichodesmium	Added missing family
Cyanophyceae	Bacteria; Cyanobacteria; Oscillatoriales; Microcoleaceae; Trichodesmium;	Bacteria; Cyanobacteria; Cyanophyceae; Oscillatoriales; Microcoleaceae; Trichodesmium	Added missing class
Cyanophyceae	Bacteria; Cyanobacteria; Oscillatoriales; Microcoleus	Bacteria; Cyanobacteria; Cyanophyceae; Oscillatoriales; Microcoleaceae; Microcoleus	Added missing class and family
Cyanophyceae	Bacteria; Cyanobacteria; Oscillatoriales; Symploca	Bacteria; Cyanobacteria; Cyanophyceae; Oscillatoriales; Microcoleaceae; Symploca	Added missing class and family
Cyanophyceae	Bacteria; Cyanobacteria; Oscillatoriales; Lyngbya	Bacteria; Cyanobacteria; Cyanophyceae; Oscillatoriales; Oscillatoriaceae; Lyngbya	Added missing class
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Oscillatoriales; Lyngbya	Bacteria; Cyanobacteria; Cyanophyceae; Oscillatoriales; Oscillatoriaceae; Lyngbya	Added missing family
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Oscillatoriales; Microcoleus	Bacteria; Cyanobacteria; Cyanophyceae; Oscillatoriales; Microcoleaceae; Microcoleus	Added missing family
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Oscillatoriales; Okeania;	Bacteria; Cyanobacteria; Cyanophyceae; Oscillatoriales; Oscillatoriaceae; Okeania;	Added missing family
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Oscillatoriales; Plectonema	Bacteria; Cyanobacteria; Cyanophyceae; Oscillatoriales; Oscillatoriaceae; Plectonema	Added missing family
Cyanophyceae	Bacteria; Cyanobacteria; Oscillatoriales; Blennothrix	Bacteria; Cyanobacteria; Cyanophyceae; Oscillatoriales; Oscillatoriaceae; Blennothrix	Added missing class and family
Cyanophyceae	Bacteria; Cyanobacteria; Oscillatoriales; Hydrocoleum	Bacteria; Cyanobacteria; Cyanophyceae; Oscillatoriales; Microcoleaceae; Hydrocoleum	Added missing class and family
Cyanophyceae	Bacteria; Cyanobacteria; Oscillatoriales; Katagnymene	Bacteria; Cyanobacteria; Cyanophyceae; Oscillatoriales; Gomontiellaceae; Katagnymene	Added missing class and family
Cyanophyceae	Bacteria; Cyanobacteria; Oscillatoriales; Oscillatoria	Bacteria; Cyanobacteria; Cyanophyceae; Oscillatoriales; Oscillatoriaceae; Oscillatoria	Added missing class and family
Cyanophyceae	Bacteria; Cyanobacteria; Oscillatoriales; Phormidium	Bacteria; Cyanobacteria; Cyanophyceae; Oscillatoriales; Oscillatoriaceae; Phormidium	Added missing class and family
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Oscillatoriales; Leptolyngbya;	Bacteria; Cyanobacteria; Cyanophyceae; Synechococcales; Leptolyngbyaceae; Leptolyngbya	Added missing family and updated order
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Oscillatoriales; Pseudanabaena;	Bacteria; Cyanobacteria; Cyanophyceae; Synechococcales; Pseudanabaenaceae; Pseudanabaena	Added missing family and updated order
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Synechococcus;	Bacteria; Cyanobacteria; Cyanophyceae; Synechococcales; Synechococcaceae; Synechococcus	Added missing family and updated order
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Chroococcales; Synechocystis;	Bacteria; Cyanobacteria; Cyanophyceae; Synechococcales; Merismopediaceae; Synechocystis	Added missing family and updated order
Cyanophyceae	Bacteria; Cyanobacteria; Oscillatoriales; Leptolyngbya	Bacteria; Cyanobacteria; Cyanophyceae; Synechococcales; Leptolyngbyaceae; Leptolyngbya	Added missing class and family
Cyanophyceae	Oscillatoriales cyanobacterium hensonii Bacteria; Cyanobacteria; Cyanophyceae; Oscillatoriales; unclassified Oscillatoriales;	Bacteria; Cyanobacteria; Cyanophyceae; Synechococcales; Leptolyngbyaceae; Leptolyngbya	Updated taxonomy for acc# OLP16677.1 Leptolyngbya sp. 'hensonii'
Cyanophyceae	cyanobacterium scsio T2 Bacteria; Cyanobacteria; Cyanophyceae; Oscillatoriales; unclassified Oscillatoriales;	Bacteria; Cyanobacteria; Cyanophyceae; Synechococcales; Leptolyngbyaceae; Marileptolyngbya	Updated taxonomy for acc# ALC78854.1 Marileptolyngbya sina SCSIO T-2
Cyanophyceae	Bacteria; Cyanobacteria; Stigonematales; Chlorogloeopsis	Bacteria; Cyanobacteria; Cyanophyceae; Nostocales; Chlorogloeopsidaceae; Chlorogloeopsis	Added missing class and family

Cyanophyceae	Bacteria; Cyanobacteria; Stigonematales; Fischerella	Bacteria; Cyanobacteria; Cyanophyceae; Nostocales; Hapalosiphonaceae; Fischerella	Added missing class and family
Cyanophyceae	Bacteria; Cyanobacteria; Stigonematales; Hapalosiphon	Bacteria; Cyanobacteria; Cyanophyceae; Nostocales; Hapalosiphonaceae; Hapalosiphon	Added missing class and family
Cyanophyceae	Bacteria; Cyanobacteria; Stigonematales; Mastigocladus	Bacteria; Cyanobacteria; Cyanophyceae; Nostocales; Hapalosiphonaceae; Mastigocladus	Added missing class and family
Cyanophyceae	Bacteria; Cyanobacteria; Stigonematales; Nostochopsis	Bacteria; Cyanobacteria; Cyanophyceae; Nostocales; Hapalosiphonaceae; Nostochopsis	Added missing class and family
Cyanophyceae	Bacteria; Cyanobacteria; Stigonematales; Stigonema	Bacteria; Cyanobacteria; Cyanophyceae; Nostocales; Stigonemataceae; Stigonema	Added missing class and family
Cyanophyceae	Bacteria; Cyanobacteria; Stigonematales; Westiellopsis	Bacteria; Cyanobacteria; Cyanophyceae; Nostocales; Hapalosiphonaceae; Westiellopsis	Added missing class and family
Cyanophyceae	Bacteria; Cyanobacteria; Stigonematales; Mastigocoleus	Bacteria; Cyanobacteria; Cyanophyceae; Nostocales; Hapalosiphonaceae; Mastigocoleus	Added missing class and family
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Nostocales; Nostocaceae; Dolichospermum; Dolichospermum planctonicum	Bacteria; Cyanobacteria; Cyanophyceae; Nostocales; Aphanizomenonaceae; Dolichospermum	Removed species name and updated family name
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Nostocales; Nostocaceae; Dolichospermum; Dolichospermum planctonicum	Bacteria; Cyanobacteria; Cyanophyceae; Nostocales; Aphanizomenonaceae; Dolichospermum	Removed species name and updated family name
Cyanophyceae	Bacteria; Cyanobacteria; Cyanophyceae; Nostocales; Nostocaceae; Dolichospermum; Dolichospermum flos-aquae	Bacteria; Cyanobacteria; Cyanophyceae; Nostocales; Aphanizomenonaceae; Dolichospermum	Removed species name and updated family name
Cyanophyceae	Bacteria; Cyanobacteria; Nostocales; Nostocaceae; Dolichospermum; Dolichospermum circinale	Bacteria; Cyanobacteria; Cyanophyceae; Nostocales; Aphanizomenonaceae; Dolichospermum	Removed species name and updated family name
Chlorobi			
Chlorobia	Bacteria; Chlorobi; Chlorobia; Chlorobiales; Chlorobiaceae; Chlorobium/Pelodictyon group; Chlorobium	Bacteria; Chlorobi; Chlorobia; Chlorobiales; Chlorobiaceae; Chlorobium	Removed Chlorobium/Pelodictyon group
Chlorobia	Bacteria; Chlorobi; Chlorobia; Chlorobiales; Chlorobiaceae; Chlorobium/Pelodictyon group; Pelodictyon	Bacteria; Chlorobi; Chlorobia; Chlorobiales; Chlorobiaceae; Pelodictyon	Removed Chlorobium/Pelodictyon group
Chloroflexi			
Chloroflexia	Bacteria; Chloroflexi; Chloroflexales; Chloroflexaceae; Roseiflexus;	Bacteria; Chloroflexi; Chloroflexia; Chloroflexales; Roseiflexaceae;	Missing class and updated family name
Chloroflexia	Bacteria; Chloroflexi; Chloroflexales; Oscillochloridaceae; Oscillochloris;	Bacteria; Chloroflexi; Chloroflexia; Chloroflexales; Oscillochloridaceae; Oscillochloris;	Missing class
Chloroflexia	Bacteria; Chloroflexi; Dehalococcoidetes; Dehalococcoides;	Bacteria; Chloroflexi; Dehalococcoidia; Dehalococcoidales; Dehalococcoidaceae; Dehalococcoides	Incorrect class and missing order and family
Chloroflexia	Bacteria; Chloroflexi; Dehalococcoidia; Dehalogenimonas;	Bacteria; Chloroflexi; Dehalococcoidia; Dehalococcoidales; Dehalococcoidales incertae sedis; Dehalogenimonas	Missing order and family
Bacteroidetes			
Bacteroidia	Bacteria; Bacteroidetes; Bacteroidia; Bacteroidales; Candidatus Azobacteroides;	Bacteria; Bacteroidetes; Bacteroidia; Bacteroidales; Bacteroidales incertae sedis; Candidatus Azobacteroides	Missing family
Bacteroidia	Bacteria; Bacteroidetes; Sunxiuqinia;	Bacteria; Bacteroidetes; Bacteroidia; Marinilabiales; Prolixibacteraceae; Mangrovibacterium	Error in taxonomy. Updated based on NCBI information for acc KC160502.1. Also missing 2 nucleotides from beginning of sequence.
Bacteroidia	Bacteria; Bacteroidetes; Bacteroidia; Marinilabiales; Marinifilaceae; unclassified Marinifilaceae;	Bacteria; Bacteroidetes; Bacteroidia; Marinilabiales; Marinifilaceae; Labilibaculum	BAX79254.1 Updated taxonomy
Fusobacteria			
Fusobacteriia	Bacteria; Fusobacteria; Fusobacteriales; Fusobacteriaceae; Fusobacterium	Bacteria; Fusobacteria; Fusobacteriia; Fusobacteriales; Fusobacteriaceae; Fusobacterium	Added missing class
Fusobacteriia	Bacteria; Fusobacteria; Fusobacteriales; Fusobacteriaceae; Ilyobacter	Bacteria; Fusobacteria; Fusobacteriia; Fusobacteriales; Fusobacteriaceae; Ilyobacter	Added missing class
Nitrospirae			
Nitrospira	Bacteria; Nitrospirae; Nitrospirales; Nitrospiraceae	Bacteria; Nitrospirae; Nitrospira; Nitrospirales; Nitrospiraceae	Added missing class

Nitrospira	Bacteria; Nitrospirinae/Tectomicrobia group; Nitrospirinae;	Bacteria; Nitrospirinae; unclassified Nitrospirinae	Removed group, included unclassified class
Nitrospira	Bacteria; Nitrospirae; or Bacteria; Nitrospirinae; unclassified Nitrospirinae;	Bacteria; Nitrospirae; Nitrospira; Nitrospirales; Nitrospiraceae	Phylum Nitrospirae only contains 1 class, 1 order and 1 family. Added class, order and family to the following “Nitrospirae bacterium” acc# KPK35085.1, OGW20163.1, OGW22760.1, OGW27708.1, OGW31804.1, OGW35411.1, OGW43908.1, OGW45220.1, OGW63033.1, OGW66041.1, OGW78351.1
Deferribacteres			
Deferribacterales	Bacteria; Deferribacteres; Deferribacterales; Deferribacteraceae; Denitrovibrio	Bacteria; Deferribacteres; Deferribacteres; Deferribacterales; Deferribacteraceae; Denitrovibrio	Added missing class
Deferribacterales	Bacteria; Deferribacteres; Deferribacterales; Deferribacteraceae	Bacteria; Deferribacteres; Deferribacteres; Deferribacterales; Deferribacteraceae; Calditerrivibrio	Added missing class and genus
Verrucomicrobia			
Spartobacteria	Bacteria; Verrucomicrobia; Spartobacteria; Terrimicrobium;	Bacteria; Verrucomicrobia; Spartobacteria; Spartobacteria incertae sedis; Spartobacteria incertae sedis; Terrimicrobium;	Added order and family “Spartobacteria incertae sedis”
Spartobacteria	Bacteria; Verrucomicrobia; unclassified Verrucomicrobia; Methylacidiphilum;	Bacteria; Verrucomicrobia; Methylacidiphilae; Methylacidiphilales; Methylacidiphilaceae; Methylacidiphilum	Updated taxonomy with class, order and family
Chrysiogenetes			
Chrysiogenales	Bacteria; Chrysiogenetes; Chrysiogenales; Chrysiogenaceae; Desulfurispirillum;	Bacteria; Chrysiogenetes; Chrysiogenetes; Chrysiogenales; Chrysiogenaceae	Added missing class
Planctomycetes			
Planctomycetia	planctomycete KSU-1 Bacteria; Planctomycetes; Planctomycetia; Planctomycetales; Planctomycetaceae	Bacteria; Planctomycetes; Candidatus Brocadiae; Candidatus Brocadiales; Candidatus Brocadiaceae; Candidatus Jettenia	Updated taxonomy for acc# GAB63165.1
Thermodesulfobacteria			
Thermodesulfobacteria	Bacteria; Thermodesulfobacteria; Thermodesulfobacteriales	Bacteria; Thermodesulfobacteria; Thermodesulfobacteria; Thermodesulfobacteriales;	Added missing class
Fibrobacteres			
Fibrobacteria	Bacteria; Fibrobacteres; Fibrobacterales; Fibrobacteraceae; Fibrobacter	Bacteria; Fibrobacteres; Fibrobacteria; Fibrobacterales; Fibrobacteraceae; Fibrobacter	Added missing class
Spirochaetes			
Spirochaetia	Bacteria; Spirochaetes; Spirochaetales; Spirochaetaceae	Bacteria; Spirochaetes; Spirochaetia; Spirochaetales; Spirochaetaceae;	Added missing class
Candidatus Melainabacteria			
Candidatus Melainabacteria	Bacteria; Candidatus Melainabacteria; unclassified Melainabacteria	Bacteria; Candidatus Melainabacteria; unclassified Candidatus Melainabacteria	Updated class name with Candidatus Melainabacteria
Elusimicrobia			
Elusimicrobia	Bacteria; Elusimicrobia	Bacteria; Elusimicrobia; unclassified Elusimicrobia	Added class unclassified Elusimicrobia
Aquificae			
Aquificae	Bacteria; Aquificae; Aquificales	Bacteria; Aquificae; Aquificae; Aquificales;	Added missing class
Euryarchaeota			
Methanomicrobia	Archaea; Euryarchaeota; Methanomicrobia; Methanosarcinales; ANME-2 cluster; Candidatus Syntrophoarchaeum	Archaea; Euryarchaeota; Methanomicrobia; Methanosarcinales; unclassified Methanosarcinales; Candidatus Syntrophoarchaeum	Removed cluster name (ANME-2) and added Family “unclassified Methanosarcinales”
Methanomicrobia	Archaea; Euryarchaeota; Methanomicrobia; Methanomicrobiales; Genera incertae sedis; Candidatus Methanoregula	Archaea; Euryarchaeota; Methanomicrobia; Methanomicrobiales; Methanoregulaceae; Methanoregula	Updated family and genus name

Methanomicrobia	Archaea; Euryarchaeota; Methanomicrobia; Methanomicrobiales; Genera incertae sedis; Methanosphaerula	Archaea; Euryarchaeota; Methanomicrobia; Methanomicrobiales; Methanoregulaceae; Methanosphaerula	Updated family
Methanomicrobia	Archaea; Euryarchaeota; Methanomicrobia; Methanomicrobiales; Genera incertae sedis; Methanolinea	Archaea; Euryarchaeota; Methanomicrobia; Methanomicrobiales; Methanoregulaceae; Methanolinea	Updated family
Thermoplasmata	Candidatus Methanomethylophilus alvus Mx1201 Archaea; Euryarchaeota; Candidatus Methanomethylophilus	Candidatus Methanomethylophilus alvus Mx1201 Archaea; Euryarchaeota; Thermoplasmata; Methanomassiliicoccales; Candidatus Methanomethylophilaceae; Candidatus Methanomethylophilus	Added missing Class, Order, and Family
Thermoplasmata	Archaea; Euryarchaeota; Methanomicrobia; unclassified Methanomicrobia; Methanomassiliicoccus	Archaea; Euryarchaeota; Thermoplasmata; Methanomassiliicoccales; Methanomassiliicoccaceae; Methanomassiliicoccus	Updated Class, Order and Family
Candidatus Methanofastidiosa	Archaea; Euryarchaeota; Methanomicrobia; unclassified Methanomicrobia; Arc I group	Archaea; Euryarchaeota; Candidatus Methanofastidiosa; Methanofastidiosa incertae sedis; Methanofastidiosa incertae sedis; Candidatus Methanofastidiosum	Updated Arc I group name and included updated class name (KYC45613.1, KYC47736.1, KYC50507.1, KYC53007.1, KYC55465.1, KYC57611.1, KYC58500.1)
Eukaryota			
Rhodophyta	Eukaryota; Rhodophyta; Florideophyceae; Corallinophycidae; Corallinales; Sporolithaceae; Sporolithon;	plasmid	This sequence is from a plasmid of a red algae plastid. It is related to Cyanobacteria. Remove for now until taxonomy can be improved.
Rhodophyta	Eukaryota; Rhodophyta; Bangiophyceae; Bangiales; Bangiaceae; Pyropia	plasmid	This sequence is from a plasmid of a red algae plastid. It is related to Cyanobacteria. Remove for now until taxonomy can be improved.
Viridiplantae	Eukaryota; Viridiplantae; Chlorophyta; Chlorophyceae; Chaetopeltidales; Chaetopeltidaceae; Koshicola;	chloroplast	This sequence is from a chloroplast of a green algae. Remove for now until taxonomy can be improved.
Basidiomycota	Eukaryota; Fungi; Dikarya; Basidiomycota; Agaricomycotina; Tremellomycetes; Tremellales; mitosporic Tremellales; Cryptococcus.	Eukaryota; Basidiomycota; Tremellomycetes; Tremellales; Tremellaceae; Cryptococcus;	Removed Kingdom and subdivision from taxonomy to conform with the rest of the file