

## The All-Species Living Tree (Release LTPs106):

August 2011

16S rRNA-based phylogenetic tree harboring all type strains of all species with validly published names up to May 2011.

Type species are highlighted in red. Incorrectly affiliated and ungrouped species are indicated by their valid family.

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for further information and downloads:  
[www.elsevier.de/syapm](http://www.elsevier.de/syapm)  
[www.arb-silva.de/projects/living-tree](http://www.arb-silva.de/projects/living-tree)  
[www.arb-home.de](http://www.arb-home.de)  
[www.bacterio.cict.fr](http://www.bacterio.cict.fr)

### References:

R. Munoz, P. Yarza, W. Ludwig, J. Euzéby, R. Amann, K.H. Schleifer, F.O. Glöckner, R. Rosselló-Móra. *Release LTPs104 of the All-Species Living Tree*. Syst. Appl. Microbiol. 34 (2011) 169-170.  
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<http://dx.doi.org/10.1016/j.syapm.2008.07.001>

## Pasteurellaceae (67)

- Haemophilus pittmaniae*, AJ290755, Pasteurellaceae  
*Pasteurella pneumotropica*, AY362924, Pasteurellaceae  
*Haemophilus parainfluenzae*, AY362908, Pasteurellaceae  
*Haemophilus aegyptius*, AY362905, Pasteurellaceae  
*Haemophilus influenzae*, M35019, Pasteurellaceae, type sp.  
*Aggregatibacter actinomycetemcomitans*, M75039, Pasteurellaceae, type sp.  
*Aggregatibacter aphrophilus*, AY362906, Pasteurellaceae  
*Aggregatibacter segnis*, M75043, Pasteurellaceae  
*Actinobacillus seminis*, AY362897, Pasteurellaceae  
*Pasteurella mairii*, AY362923, Pasteurellaceae  
*Pasteurella aerogenes*, U66491, Pasteurellaceae  
*Haemophilus haemoglobinophilus*, AY362907, Pasteurellaceae  
*Actinobacillus indolicus*, AY362891, Pasteurellaceae  
*Haemophilus parasuis*, AY362909, Pasteurellaceae  
*Actinobacillus delphinicola*, AY362889, Pasteurellaceae  
*Actinobacillus scotiae*, Y09653, Pasteurellaceae  
*Actinobacillus rossii*, AY362895, Pasteurellaceae  
*Pasteurella langaaensis*, AY362922, Pasteurellaceae  
*Actinobacillus porcinus*, U65583, Pasteurellaceae  
*Bibersteinia trehalosi*, AY362927, Pasteurellaceae, type sp.  
*Gallibacterium melopsittaci*, EU423985, Pasteurellaceae  
*Gallibacterium trehalosifermentans*, EU339199, Pasteurellaceae  
*Gallibacterium salpingitidis*, L06078, Pasteurellaceae  
*Gallibacterium anatis*, AF228001, Pasteurellaceae, type sp.  
*Avibacterium paragallinarum*, AY498868, Pasteurellaceae  
*Avibacterium gallinarum*, AY362921, Pasteurellaceae, type sp.  
*Avibacterium volantium*, M75070, Pasteurellaceae  
*Avibacterium avium*, M75058, Pasteurellaceae  
*Volucrobacter amazonae*, AY216869, Pasteurellaceae  
*Volucrobacter psittacidia*, AY216868, Pasteurellaceae, type sp.  
*Actinobacillus succinogenes*, AF024525, Pasteurellaceae  
*Histophilus somni*, AF549387, Pasteurellaceae, type sp.  
*Bastia succiniciproducens*, FJ463881, Pasteurellaceae, type sp.  
*Actinobacillus hominis*, AY362890, Pasteurellaceae  
*Actinobacillus suis*, AY362899, Pasteurellaceae  
*Actinobacillus arthritidis*, L06084, Pasteurellaceae  
*Actinobacillus equuli* subsp. *equuli*, AF381186, Pasteurellaceae  
*Actinobacillus equuli* subsp. *haemolyticus*, AF247716, Pasteurellaceae  
*Actinobacillus ureae*, AY362900, Pasteurellaceae  
*Actinobacillus lignieresii*, AY362892, Pasteurellaceae, type sp.  
*Actinobacillus pleuropneumoniae*, M75074, Pasteurellaceae  
*Actinobacillus minor*, AY362893, Pasteurellaceae  
*Haemophilus paraphrohaemolyticus*, M75076, Pasteurellaceae  
*Mannheimia granulomatis*, AF053902, Pasteurellaceae  
*Mannheimia varigena*, AF053893, Pasteurellaceae  
*Mannheimia ruminalis*, AF053900, Pasteurellaceae  
*Mannheimia glucosida*, AF053889, Pasteurellaceae  
*Mannheimia haemolytica*, M75080, Pasteurellaceae, type sp.  
*Pasteurella dagmatis*, AY362920, Pasteurellaceae  
*Pasteurella stomatis*, AY362925, Pasteurellaceae  
*Pasteurella canis*, AY362919, Pasteurellaceae  
*Pasteurella multocida* subsp. *gallicida*, AF294412, Pasteurellaceae  
*Pasteurella multocida* subsp. *multocida*, AF294410, Pasteurellaceae, type sp.  
*Pasteurella multocida* subsp. *septica*, AF294411, Pasteurellaceae  
*Haemophilus felis*, AF224292, Pasteurellaceae  
*Nicoletella semolina*, AY508816, Pasteurellaceae, type sp.  
*Actinobacillus capsulatus*, AY362886, Pasteurellaceae  
*Haemophilus paracuniculus*, M75061, Pasteurellaceae  
*Actinobacillus muris*, AY362894, Pasteurellaceae  
*Pasteurella bettyae*, AY362917, Pasteurellaceae  
*Pasteurella caballi*, AY362918, Pasteurellaceae  
*Lonipinella koalaram*, Y17189, Pasteurellaceae, type sp.  
*Haemophilus ducreyi*, M63900, Pasteurellaceae  
*Phocoenobacter uteri*, X89379, Pasteurellaceae, type sp.  
*Pasteurella skyensis*, AJ243202, Pasteurellaceae  
*Pasteurella testudinis*, AY362926, Pasteurellaceae  
*Chelonobacter oris*, EU331064, Pasteurellaceae, type sp.
- Orbus hercynius*, FJ612598, Unclassified Gammaproteobacteria, type sp.  
*Thorsella anophelis*, AY837748, Enterobacteriaceae, type sp.  
*Arsenophonus nasoniae*, AY264674, Enterobacteriaceae, type sp.  
*Photorhabdus luminescens* subsp. *kayali*, AJ560630, Enterobacteriaceae  
*Photorhabdus luminescens* subsp. *kleinii*, HM072284, Enterobacteriaceae  
*Photorhabdus luminescens* subsp. *laumandii*, AJ007404, Enterobacteriaceae  
*Photorhabdus luminescens* subsp. *hainanensis*, EU930342, Enterobacteriaceae  
*Photorhabdus luminescens* subsp. *akhurstii*, AJ007359, Enterobacteriaceae  
*Photorhabdus luminescens* subsp. *caribbeanensis*, EU930345, Enterobacteriaceae  
*Photorhabdus temperata* subsp. *thracensis*, AJ560634, Enterobacteriaceae  
*Photorhabdus asymbiotica* subsp. *australis*, AY280572, Enterobacteriaceae  
*Photorhabdus temperata* subsp. *chireca*, EU136626, Enterobacteriaceae  
*Photorhabdus temperata* subsp. *khanii*, AY278657, Enterobacteriaceae  
*Photorhabdus temperata* subsp. *staeckebbrandtii*, EF467859, Enterobacteriaceae  
*Photorhabdus temperata* subsp. *tasmaniensis*, EU930339, Enterobacteriaceae  
*Photorhabdus temperata* subsp. *temperata*, AJ007405, Enterobacteriaceae  
*Photorhabdus asymbiotica* subsp. *asymbiotica*, Z76755, Enterobacteriaceae  
*Photorhabdus luminescens* subsp. *luminescens*, X82248, Enterobacteriaceae, type sp.  
*Xenorhabdus beddingii*, AY278675, Enterobacteriaceae  
*Xenorhabdus griffiniae*, DQ211710, Enterobacteriaceae  
*Xenorhabdus poinarii*, D78010, Enterobacteriaceae  
*Xenorhabdus cabanillasii*, AY521244, Enterobacteriaceae  
*Xenorhabdus indica*, AM040494, Enterobacteriaceae  
*Xenorhabdus doucetiae*, DQ211709, Enterobacteriaceae  
*Xenorhabdus romanii*, DQ211717, Enterobacteriaceae  
*Xenorhabdus miraniensis*, DQ211713, Enterobacteriaceae  
*Xenorhabdus mauleonii*, DQ211715, Enterobacteriaceae  
*Xenorhabdus nematophila*, AY278674, Enterobacteriaceae, type sp.  
*Xenorhabdus szentirmaii*, AJ810295, Enterobacteriaceae  
*Xenorhabdus japonica*, D78008, Enterobacteriaceae  
*Xenorhabdus vietnamensis*, DQ205447, Enterobacteriaceae  
*Xenorhabdus bovienii*, AY278673, Enterobacteriaceae  
*Xenorhabdus budapestensis*, AJ810293, Enterobacteriaceae  
*Xenorhabdus ehlersii*, AJ810294, Enterobacteriaceae  
*Xenorhabdus kozodoli*, DQ211716, Enterobacteriaceae  
*Xenorhabdus koppenhoeferi*, DQ205450, Enterobacteriaceae  
*Xenorhabdus innexi*, AJ810292, Enterobacteriaceae  
*Xenorhabdus stockiae*, DQ202309, Enterobacteriaceae  
*Xenorhabdus hominickii*, DQ211719, Enterobacteriaceae  
*Proteus penneri*, DQ885258, Enterobacteriaceae  
*Proteus vulgaris*, DQ885257, Enterobacteriaceae, type sp.  
*Proteus mirabilis*, DQ885256, Enterobacteriaceae  
*Proteus myxofaciens*, DQ885259, Enterobacteriaceae  
*Providencia alcalifaciens*, AJ301684, Enterobacteriaceae, type sp.  
*Providencia rustigianii*, AM040489, Enterobacteriaceae  
*Providencia burhodogranae*, HM038004, Enterobacteriaceae  
*Providencia heimbachae*, AM040490, Enterobacteriaceae  
*Providencia reftgeri*, AM040492, Enterobacteriaceae  
*Providencia vermicola*, AM040495, Enterobacteriaceae  
*Providencia stuartii*, AF008581, Enterobacteriaceae  
*Providencia sneebia*, HM038003, Enterobacteriaceae  
*Morganella morganii* subsp. *morganii*, AJ301681, Enterobacteriaceae, type sp.  
*Morganella morganii* subsp. *sibonii*, DQ358146, Enterobacteriaceae  
*Morganella psychrotolerans*, DQ358135, Enterobacteriaceae  
*Edwardsiella hoshinae*, AB050825, Enterobacteriaceae  
*Edwardsiella tarda*, AB050827, Enterobacteriaceae, type sp.  
*Edwardsiella ictaluri*, AB050826, Enterobacteriaceae  
*Dickeya dieffenbachiae*, AF520712, Enterobacteriaceae  
*Dickeya zeae*, AF520711, Enterobacteriaceae  
*Dickeya chrysanthemi*, AJ233412, Enterobacteriaceae, type sp.

*Dickeya dianthicola*, Z96096, Enterobacteriaceae  
*Dickeya dadantii*, AF520708, Enterobacteriaceae  
*Dickeya rubrifaciens*, AJ233418, Enterobacteriaceae  
*Brenneria quercina*, AJ233416, Enterobacteriaceae  
*Brenneria salicis*, U80210, Enterobacteriaceae, type sp.  
*Biostraticola tofi*, AM774412, Enterobacteriaceae, type sp.  
*Sodalis glossinidius*, M99060, Enterobacteriaceae, type sp.  
*Serratia rubidaea*, AB004751, Enterobacteriaceae  
*Serratia marcescens* subsp. *marcescens*, AJ233431, Enterobacteriaceae, type sp.  
*Serratia marcescens* subsp. *sakuensis*, AB061685, Enterobacteriaceae  
*Serratia nematodiphila*, EU036987, Enterobacteriaceae  
*Cronobacter dublinensis* subsp. *lactaridi*, EF059838, Enterobacteriaceae  
*Cronobacter dublinensis* subsp. *dublinensis*, EF059892, Enterobacteriaceae  
*Cronobacter dublinensis* subsp. *lausannensis*, EF059841, Enterobacteriaceae  
*Cronobacter mytjensii*, EF059845, Enterobacteriaceae  
*Cronobacter tuicensis*, EF059891, Enterobacteriaceae  
*Cronobacter malonaticus*, EF059881, Enterobacteriaceae  
*Cronobacter sakazakii*, EF088379, Enterobacteriaceae, type sp.  
*Trabulsiella guamensis*, AY373830, Enterobacteriaceae, type sp.  
*Trabulsiella odontotermittis*, DQ453129, Enterobacteriaceae  
*Enterobacter gergoviae*, AB004748, Enterobacteriaceae  
*Citrobacter youngae*, AB273741, Enterobacteriaceae  
*Escherichia albertii*, AJ508775, Enterobacteriaceae  
*Escherichia coli*, X80725, Enterobacteriaceae, type sp.  
*Escherichia fergusonii*, AF530475, Enterobacteriaceae  
*Shigella flexneri*, X96963, Enterobacteriaceae  
*Shigella dysenteriae*, X96966, Enterobacteriaceae, type sp.  
*Citrobacter rodentium*, AF025363, Enterobacteriaceae  
*Citrobacter sedlakii*, AF025364, Enterobacteriaceae  
*Citrobacter farmeri*, AF025371, Enterobacteriaceae  
*Salmonella enterica* subsp. *arizonae*, AF008580, Enterobacteriaceae  
*Salmonella enterica* subsp. *indica*, EU014680, Enterobacteriaceae  
*Salmonella enterica* subsp. *houtenae*, EU014684, Enterobacteriaceae  
*Salmonella enterica* subsp. *salamae*, EU014685, Enterobacteriaceae  
*Salmonella enterica* subsp. *diarizonae*, EU014688, Enterobacteriaceae  
*Salmonella enterica* subsp. *enterica*, AE006468, Enterobacteriaceae, type sp.  
*Mangrovibacter plantisponsor*, EF643377, Enterobacteriaceae, type sp.  
*Salmonella bongori*, AF029227, Enterobacteriaceae  
*Enterobacter oryzae*, EF488759, Enterobacteriaceae  
*Enterobacter radicincitans*, AY563134, Enterobacteriaceae  
*Enterobacter cowanii*, AJ508303, Enterobacteriaceae  
*Shimwellia pseudoproteus*, FJ267523, Enterobacteriaceae, type sp.  
*Shimwellia blattae*, FJ267520, Enterobacteriaceae  
*Pantoea gaviniae*, GQ367483, Enterobacteriaceae  
*Pantoea calida*, GQ367478, Enterobacteriaceae  
*Enterobacter pulveris*, DQ273684, Enterobacteriaceae  
*Salmonella subterranea*, AY373829, Enterobacteriaceae  
*Klebsiella singaporensis*, AF250285, Enterobacteriaceae  
*Klebsiella varicicola*, AJ783916, Enterobacteriaceae  
*Klebsiella pneumoniae* subsp. *pneumoniae*, X87276, Enterobacteriaceae, type sp.  
*Klebsiella pneumoniae* subsp. *ozaenae*, AF130982, Enterobacteriaceae  
*Klebsiella pneumoniae* subsp. *rhinoscleromatis*, Y17657, Enterobacteriaceae  
*Enterobacter cloacae* subsp. *dissolvens*, Z96079, Enterobacteriaceae  
*Enterobacter cloacae* subsp. *cloacae*, AJ251469, Enterobacteriaceae, type sp.  
*Enterobacter asburiae*, AB004744, Enterobacteriaceae  
*Erwinia amylovora*, AJ233410, Enterobacteriaceae, type sp.  
*Erwinia pyrifoliae*, EF122435, Enterobacteriaceae  
*Erwinia pitroriginis*, GQ405202, Enterobacteriaceae  
*Erwinia tasmaniensis*, AM055716, Enterobacteriaceae  
*Erwinia persicina*, U80205, Enterobacteriaceae  
*Erwinia rhapontici*, AJ233417, Enterobacteriaceae  
*Erwinia mallotivora*, AJ233414, Enterobacteriaceae  
*Erwinia papayae*, AY131237, Enterobacteriaceae  
*Erwinia psidii*, Z96085, Enterobacteriaceae  
*Erwinia tracheiphila*, Y13250, Enterobacteriaceae  
*Pantoea dispersa*, DQ504305, Enterobacteriaceae  
*Pantoea eucrina*, EU216736, Enterobacteriaceae  
*Pantoea cyripedii*, AJ233413, Enterobacteriaceae  
*Pantoea septica*, EU216734, Enterobacteriaceae  
*Tatumella citrea*, DQ838096, Enterobacteriaceae  
*Pseudomonas flectens*, AB021400, Pseudomonadaceae  
*Tatumella morbiroisi*, EU344769, Enterobacteriaceae  
*Tatumella terreia*, EF688007, Enterobacteriaceae  
*Tatumella physeos*, AJ233437, Enterobacteriaceae, type sp.  
*Tatumella punctata*, FJ756351, Enterobacteriaceae  
*Pantoea agglomerans*, AJ233423, Enterobacteriaceae, type sp.  
*Pantoea anthophila*, EF688010, Enterobacteriaceae  
*Pantoea eucalypti*, EF688009, Enterobacteriaceae  
*Pantoea vagans*, EF688012, Enterobacteriaceae  
*Pantoea deleyi*, EF688011, Enterobacteriaceae  
*Pantoea conspicua*, EU216737, Enterobacteriaceae  
*Pantoea brenneri*, EU216735, Enterobacteriaceae  
*Pantoea allii*, AY530795, Enterobacteriaceae  
*Pantoea ananatis*, U80196, Enterobacteriaceae  
*Pantoea stewartii* subsp. *stewartii*, U80208, Enterobacteriaceae  
*Enterobacter pyrinus*, AJ010486, Enterobacteriaceae  
*Escherichia vulneris*, AF530476, Enterobacteriaceae  
*Enterobacter hormaechei*, AJ508302, Enterobacteriaceae  
*Enterobacter ludwigii*, AJ853891, Enterobacteriaceae  
*Enterobacter cancerogenus*, Z96078, Enterobacteriaceae  
*Enterobacter nimpresuralis*, Z96077, Enterobacteriaceae  
*Buttiauxella agrestis*, AJ233400, Enterobacteriaceae, type sp.  
*Buttiauxella brennerae*, AJ233401, Enterobacteriaceae  
*Buttiauxella ferruginitiae*, AJ233402, Enterobacteriaceae  
*Buttiauxella gaviniae*, AJ233403, Enterobacteriaceae  
*Buttiauxella wamboldiae*, AJ233406, Enterobacteriaceae  
*Buttiauxella noackiae*, AJ233405, Enterobacteriaceae  
*Buttiauxella izardii*, AJ233404, Enterobacteriaceae  
*Enterobacter kobei*, AJ508301, Enterobacteriaceae  
*Yokenella regensburgi*, AB519796, Enterobacteriaceae, type sp.  
*Raoultella terrigena*, Y17658, Enterobacteriaceae  
*Enterobacter amnigenus*, AB004749, Enterobacteriaceae  
*Raoultella ornithinolytica*, U78182, Enterobacteriaceae  
*Raoultella planticola*, AF129443, Enterobacteriaceae, type sp.  
*Citrobacter braakii*, AF025368, Enterobacteriaceae  
*Citrobacter muriniae*, AF025369, Enterobacteriaceae  
*Citrobacter werkmanii*, AF025373, Enterobacteriaceae  
*Citrobacter freundii*, AJ233408, Enterobacteriaceae, type sp.  
*Klebsiella oxytoca*, AF129440, Enterobacteriaceae  
*Citrobacter gillettii*, AF025367, Enterobacteriaceae  
*Kluyvera ascorbata*, AF008579, Enterobacteriaceae, type sp.  
*Kluyvera georgiana*, AF047186, Enterobacteriaceae  
*Kluyvera cryocrescens*, AF310218, Enterobacteriaceae  
*Kluyvera intermedia*, AF310217, Enterobacteriaceae  
*Enterobacter aerogenus*, AB004750, Enterobacteriaceae  
*Serratia ureilytica*, AJ854062, Enterobacteriaceae  
*Brenneria nigrifluens*, U80203, Enterobacteriaceae  
*Brenneria cini*, AJ233409, Enterobacteriaceae  
*Samsonia erythraea*, AF273037, Enterobacteriaceae, type sp.  
*Pectobacterium atrosepticum*, Z96090, Enterobacteriaceae  
*Pectobacterium betavasculorum*, U80198, Enterobacteriaceae  
*Pectobacterium wasabiae*, U80199, Enterobacteriaceae  
*Pectobacterium caeflida*, AJ223409, Enterobacteriaceae  
*Pectobacterium carotovorum* subsp. *odoriferum*, AJ223407, Enterobacteriaceae  
*Pectobacterium carotovorum* subsp. *carotovorum*, AJ233411, Enterobacteriaceae, type sp.  
*Leminorella grimonii*, AJ233421, Enterobacteriaceae, type sp.  
*Pragia fontium*, AJ233424, Enterobacteriaceae, type sp.  
*Cedecea davisae*, AF493976, Enterobacteriaceae, type sp.  
*Cedecea neteri*, AB086230, Enterobacteriaceae  
*Serratia odorifera*, AJ233432, Enterobacteriaceae  
*Serratia entomophila*, AJ233427, Enterobacteriaceae  
*Serratia ficaria*, AJ233428, Enterobacteriaceae  
*Serratia plymuthica*, AJ233433, Enterobacteriaceae  
*Serratia liquefaciens*, AJ306725, Enterobacteriaceae  
*Serratia grimesii*, AJ233430, Enterobacteriaceae  
*Serratia proteamaculans*, AJ233434, Enterobacteriaceae  
*Serratia quinivorans*, AJ233435, Enterobacteriaceae  
*Yersinia pestis*, AF366383, Enterobacteriaceae, type sp.

*Yersinia pseudotuberculosis*, AF366375, Enterobacteriaceae  
*Yersinia similis*, AM182404, Enterobacteriaceae  
*Yersinia ruckeri*, AF366385, Enterobacteriaceae  
*Yersinia aleksiciae*, AJ627597, Enterobacteriaceae  
*Budvicia aquatica*, AJ233407, Enterobacteriaceae, type sp.  
*Yersinia massiliensis*, EF179119, Enterobacteriaceae  
*Yersinia bercovieri*, AF366377, Enterobacteriaceae  
*Yersinia mollaretii*, AF366382, Enterobacteriaceae  
*Yersinia entomophaga*, DQ400782, Enterobacteriaceae  
*Yersinia adovae*, AF366376, Enterobacteriaceae  
*Yersinia frederiksenii*, AF366379, Enterobacteriaceae  
*Yersinia kristensenii*, AF366381, Enterobacteriaceae  
*Yersinia rohdeii*, AF366384, Enterobacteriaceae  
*Yersinia intermedia*, AF366380, Enterobacteriaceae  
*Yersinia enterocolitica* subsp. *enterocolitica*, AF366378, Enterobacteriaceae  
*Yersinia enterocolitica* subsp. *palaearctica*, FJ17344, Enterobacteriaceae  
*Rahnella aquatilis*, AJ233426, Enterobacteriaceae, type sp.  
*Hafnia paralvei*, FM179943, Enterobacteriaceae  
*Hafnia alvei*, M59155, Enterobacteriaceae, type sp.  
*Serratia fonticola*, AJ233429, Enterobacteriaceae  
*Serratia glossinae*, FJ790328, Enterobacteriaceae  
*Plesiomonas shigelloides*, X60418, Enterobacteriaceae, type sp.

**Vibrionaceae (116)**

*Vibrio communis*, GU078672, Vibrionaceae  
*Vibrio owensii*, GU018180, Vibrionaceae  
*Vibrio harveyi*, AY750575, Vibrionaceae  
*Vibrio rotiferianus*, AJ316187, Vibrionaceae  
*Vibrio alginolyticus*, X56576, Vibrionaceae  
*Vibrio campbellii*, X56575, Vibrionaceae  
*Vibrio parahaemolyticus*, AF388386, Vibrionaceae  
*Vibrio sagamiensis*, AB428909, Vibrionaceae  
*Vibrio azureus*, AB428897, Vibrionaceae  
*Vibrio natriegens*, X74714, Vibrionaceae  
*Vibrio diabolicus*, X99762, Vibrionaceae  
*Vibrio mytili*, X99761, Vibrionaceae  
*Vibrio atypicus*, FJ009624, Vibrionaceae  
*Vibrio nigrapulchrutidus*, X74717, Vibrionaceae  
*Vibrio sinoaloensis*, DQ451211, Vibrionaceae  
*Vibrio brasiliensis*, AJ316172, Vibrionaceae  
*Vibrio nereis*, X74716, Vibrionaceae  
*Vibrio proteolyticus*, X74723, Vibrionaceae  
*Vibrio corallilyticus*, AJ440005, Vibrionaceae  
*Vibrio neptunius*, AJ316171, Vibrionaceae  
*Vibrio hepatarius*, AJ345063, Vibrionaceae  
*Vibrio tubiashii*, X74725, Vibrionaceae  
*Vibrio xuii*, AJ316181, Vibrionaceae  
*Vibrio albensis*, EF032499, Vibrionaceae  
*Vibrio cholerae*, X76337, Vibrionaceae, type sp.  
*Vibrio mimicus*, X74713, Vibrionaceae  
*Vibrio porteresiae*, EF488079, Vibrionaceae  
*Vibrio rhizosphaerae*, DQ847123, Vibrionaceae  
*Vibrio ruber*, AF462458, Vibrionaceae  
*Vibrio mangrovi*, EU144014, Vibrionaceae  
*Vibrio gazogenes*, X74705, Vibrionaceae  
*Vibrio fluvialis*, X76335, Vibrionaceae  
*Vibrio furnissii*, X76336, Vibrionaceae  
*Vibrio ponticus*, AJ630103, Vibrionaceae  
*Vibrio orientalis*, X74719, Vibrionaceae  
*Vibrio areninigras*, EU143360, Vibrionaceae  
*Vibrio hispanicus*, AY254040, Vibrionaceae  
*Vibrio diazotrophicus*, X74701, Vibrionaceae  
*Vibrio cincinnatiensis*, X74698, Vibrionaceae  
*Vibrio pacinii*, AJ316194, Vibrionaceae  
*Vibrio metschnikovii*, X74711, Vibrionaceae  
*Listonella anguillarum*, AM235737, Vibrionaceae, type sp.  
*Vibrio ordalii*, X74718, Vibrionaceae  
*Vibrio ichthyenteri*, AJ421445, Vibrionaceae  
*Vibrio scophthalmi*, U46579, Vibrionaceae  
*Vibrio vulnificus*, X76333, Vibrionaceae  
*Vibrio aestuarianus*, X74689, Vibrionaceae  
*Vibrio littoralis*, DQ097523, Vibrionaceae  
*Vibrio rumolensis*, AB013297, Vibrionaceae  
*Vibrio marislaui*, FJ847833, Vibrionaceae  
*Vibrio casei*, FJ968722, Vibrionaceae  
*Vibrio penaeicida*, AJ421444, Vibrionaceae  
*Vibrio tapetis*, Y08430, Vibrionaceae  
*Vibrio pectenica*, Y13830, Vibrionaceae  
*Vibrio mediterranei*, X74710, Vibrionaceae  
*Listonella pelagia*, AJ293802, Vibrionaceae  
*Vibrio fortis*, AJ514916, Vibrionaceae  
*Vibrio chagasi*, AJ316199, Vibrionaceae  
*Vibrio kanaloae*, AM162657, Vibrionaceae  
*Vibrio lentus*, AJ278881, Vibrionaceae  
*Vibrio cyclotrophicus*, AM162656, Vibrionaceae  
*Vibrio splendidus*, AJ515230, Vibrionaceae  
*Vibrio tasmaniensis*, AJ316192, Vibrionaceae  
*Vibrio gigantis*, EF094888, Vibrionaceae  
*Vibrio gallaecicus*, EU541605, Vibrionaceae  
*Vibrio celticus*, EF599162, Vibrionaceae  
*Vibrio crassostreae*, EF094887, Vibrionaceae  
*Vibrio pomeroyi*, AJ491290, Vibrionaceae  
*Vibrio hippocampi*, FN421434, Vibrionaceae  
*Vibrio comitans*, DQ922915, Vibrionaceae  
*Vibrio superstes*, AY155585, Vibrionaceae  
*Vibrio breoganii*, EF599161, Vibrionaceae  
*Vibrio inusitatus*, DQ922920, Vibrionaceae  
*Vibrio rarus*, DQ914239, Vibrionaceae  
*Vibrio neonatus*, AY426979, Vibrionaceae  
*Vibrio ezurae*, AY426980, Vibrionaceae  
*Vibrio halioticoli*, AB000390, Vibrionaceae  
*Vibrio agarivorans*, AJ310647, Vibrionaceae  
*Vibrio hangzhouensis*, EU082035, Vibrionaceae  
*Vibrio gallicus*, AY257972, Vibrionaceae  
*Allivibrio fischeri*, X74702, Vibrionaceae, type sp.  
*Allivibrio finsterrensis*, EU541604, Vibrionaceae  
*Allivibrio logei*, AJ437616, Vibrionaceae  
*Allivibrio salmonicida*, X70643, Vibrionaceae  
*Allivibrio sifiae*, AB464964, Vibrionaceae  
*Allivibrio wodanis*, AJ132227, Vibrionaceae  
*Enterovibrio nigricans*, AM942722, Vibrionaceae  
*Enterovibrio calviensis*, AF118021, Vibrionaceae  
*Enterovibrio norvegicus*, AJ316208, Vibrionaceae, type sp.  
*Enterovibrio coralli*, AJ842343, Vibrionaceae  
*Grimontia hollisae*, AJ514909, Vibrionaceae, type sp.  
*Salinivibrio costicola* subsp. *alcaliphilus*, AJ640132, Vibrionaceae  
*Salinivibrio costicola* subsp. *costicola*, X74699, Vibrionaceae, type sp.  
*Salinivibrio costicola* subsp. *vallismortis*, AF057016, Vibrionaceae  
*Salinivibrio proteolyticus*, DQ092443, Vibrionaceae  
*Salinivibrio siamensis*, AB285018, Vibrionaceae  
*Photobacterium ganghwense*, AY960847, Vibrionaceae  
*Photobacterium halotolerans*, AY551089, Vibrionaceae  
*Photobacterium damsela* subsp. *damsela*, AB032015, Vibrionaceae  
*Photobacterium damsela* subsp. *piscicida*, X78105, Vibrionaceae  
*Photobacterium luffimaris*, DQ534014, Vibrionaceae  
*Photobacterium rosenbergii*, AJ842344, Vibrionaceae  
*Photobacterium gaetbulicola*, GQ260188, Vibrionaceae  
*Photobacterium jeanii*, GU065210, Vibrionaceae  
*Photobacterium leiognathi*, X74686, Vibrionaceae  
*Photobacterium angustum*, D25307, Vibrionaceae  
*Photobacterium iliopiscarium*, AY643710, Vibrionaceae  
*Photobacterium kishitanii*, AY341439, Vibrionaceae  
*Photobacterium phosphoreum*, D25310, Vibrionaceae, type sp.  
*Photobacterium aquimaris*, AB428673, Vibrionaceae  
*Photobacterium indicum*, AB016982, Vibrionaceae  
*Photobacterium aplysiae*, AY781193, Vibrionaceae  
*Photobacterium swingsii*, GQ386822, Vibrionaceae  
*Photobacterium lipolyticum*, AY554009, Vibrionaceae  
*Photobacterium profundum*, D21226, Vibrionaceae

**Aeromonadaceae and Succinivibrionaceae (47)**

- Aeromonas aquariorum, EU085557, Aeromonadaceae
- Aeromonas punctata subsp. caviae, X74674, Aeromonadaceae
- Aeromonas punctata subsp. punctata, X60408, Aeromonadaceae
- Aeromonas hydrophila subsp. dhakensis, AJ508765, Aeromonadaceae
- Aeromonas enteropelogenes, X71121, Aeromonadaceae
- Aeromonas sanarellii, FJ230076, Aeromonadaceae
- Aeromonas taiwanensis, FJ230077, Aeromonadaceae
- Aeromonas hydrophila subsp. ranee, AM262151, Aeromonadaceae
- Aeromonas media, X60410, Aeromonadaceae
- Aeromonas hydrophila subsp. hydrophila, DQ207728, Aeromonadaceae, type sp.**
- Aeromonas popoffii, AJ224308, Aeromonadaceae
- Aeromonas sobria, X60412, Aeromonadaceae
- Aeromonas simiae, AJ536821, Aeromonadaceae
- Aeromonas diversa, GQ365710, Aeromonadaceae
- Aeromonas schubertii, X60416, Aeromonadaceae
- Aeromonas jandaei, X60413, Aeromonadaceae
- Aeromonas fluvialis, FJ230078, Aeromonadaceae
- Aeromonas ichthiosmia, X71120, Aeromonadaceae
- Aeromonas veronii, X60414, Aeromonadaceae
- Aeromonas tecta, AJ458402, Aeromonadaceae
- Aeromonas eucrenophila, X60411, Aeromonadaceae
- Aeromonas bivalvium, DQ504429, Aeromonadaceae
- Aeromonas encheleia, AJ224309, Aeromonadaceae
- Aeromonas salmonicida subsp. salmonicida, AY987751, Aeromonadaceae
- Aeromonas salmonicida subsp. pectinolytica, AF134065, Aeromonadaceae
- Aeromonas bestiarum, X60406, Aeromonadaceae
- Aeromonas salmonicida subsp. masoucida, AB027542, Aeromonadaceae
- Aeromonas salmonicida subsp. achromogenes, X60407, Aeromonadaceae
- Aeromonas salmonicida subsp. smithia, AJ009859, Aeromonadaceae
- Aeromonas piscicola, FM999971, Aeromonadaceae
- Aeromonas molluscorum, AY532690, Aeromonadaceae
- Aeromonas rivuli, FJ976900, Aeromonadaceae

**Succinivibrionaceae (6)**

- Anaerobiospirillum thomasi, AJ420985, Succinivibrionaceae
- Succinatimonas hippei, AB490810, Succinivibrionaceae, type sp.**
- Anaerobiospirillum succiniciproducens, U96412, Succinivibrionaceae, type sp.**
- Succinivibrio dextrinosolvens, Y17600, Succinivibrionaceae, type sp.**
- Ruminobacter amylophilus, Y15992, Succinivibrionaceae, type sp.**
- Succinimonas amylolytica, Y17599, Succinivibrionaceae, type sp.**

- Tolumonas auensis, X92889, Aeromonadaceae, type sp.**
- Aeromonas sharmna, DQ013306, Aeromonadaceae
- Oceanimonas baumannii, AF168367, Aeromonadaceae
- Oceanimonas smimovii, AY538714, Aeromonadaceae
- Oceanimonas doudoroffii, AB019390, Aeromonadaceae, type sp.**
- Zobellella denitrificans, DQ195675, Aeromonadaceae, type sp.**
- Zobellella taiwanensis, DQ195676, Aeromonadaceae
- Oceanisphaera donghaensis, DQ190441, Aeromonadaceae
- Oceanisphaera littoralis, AJ550470, Aeromonadaceae, type sp.**
- Gallacimonas pentaromativorans, FM95224, Unclassified Gammaproteobacteria, type sp.**

**Shewanellaceae (53)**

- Shewanella hallfaxensis, AY579751, Shewanellaceae
- Shewanella pealeana, CP000851, Shewanellaceae
- Shewanella marinintestina, AB081757, Shewanellaceae
- Shewanella sairae, AB081762, Shewanellaceae
- Shewanella benflica, X82131, Shewanellaceae
- Shewanella violacea, D21225, Shewanellaceae
- Shewanella piezotolerans, AJ551090, Shewanellaceae
- Shewanella pneumatophori, AB204519, Shewanellaceae
- Shewanella abyss, AB201475, Shewanellaceae
- Shewanella gelidimarina, U85907, Shewanellaceae
- Shewanella surungensis, AB094597, Shewanellaceae
- Shewanella fidelis, AF420312, Shewanellaceae
- Shewanella schlegeliana, AB081760, Shewanellaceae
- Shewanella kaireitica, AB094598, Shewanellaceae
- Shewanella psychrophila, AJ551089, Shewanellaceae
- Shewanella canadensis, AY579749, Shewanellaceae
- Shewanella sediminis, CP000821, Shewanellaceae
- Shewanella hanedai, X82132, Shewanellaceae
- Shewanella woodyi, CP000961, Shewanellaceae
- Shewanella atlantica, AY579752, Shewanellaceae
- Shewanella aquimarina, AY485225, Shewanellaceae
- Shewanella loihica, DQ286387, Shewanellaceae
- Shewanella marisflavi, AY485224, Shewanellaceae
- Shewanella algidipiscicola, AB205570, Shewanellaceae
- Shewanella colwelliana, AY653177, Shewanellaceae
- Shewanella waksmanii, AY170366, Shewanellaceae
- Shewanella algae, AF005249, Shewanellaceae
- Shewanella haliotis, EF178282, Shewanellaceae
- Shewanella chilensis, FM210033, Shewanellaceae
- Shewanella fodinae, FM203122, Shewanellaceae
- Shewanella corallii, FJ041083, Shewanellaceae
- Shewanella amazonensis, AF005248, Shewanellaceae
- Shewanella marina, EU290154, Shewanellaceae
- Shewanella glacialpiscicola, AB205571, Shewanellaceae
- Shewanella morhuae, AB205576, Shewanellaceae
- Shewanella batlica, AJ000214, Shewanellaceae
- Shewanella onoidensis, AF005251, Shewanellaceae
- Shewanella xiamenensis, FJ589031, Shewanellaceae
- Shewanella putrefaciens, X81623, Shewanellaceae, type sp.**
- Shewanella decolorationis, AJ609571, Shewanellaceae
- Shewanella hafniensis, AB205566, Shewanellaceae
- Shewanella basaltis, EU143361, Shewanellaceae
- Shewanella livingstonensis, AJ300834, Shewanellaceae
- Shewanella vesiculosa, AM980877, Shewanellaceae
- Shewanella frigidimarina, U85903, Shewanellaceae
- Shewanella donghaensis, AY326275, Shewanellaceae
- Shewanella olleyana, AF295592, Shewanellaceae
- Shewanella pacifica, AF500075, Shewanellaceae
- Shewanella japonica, AF145921, Shewanellaceae
- Shewanella denitrificans, AJ311964, Shewanellaceae
- Shewanella gaetbuli, AY190533, Shewanellaceae
- Shewanella irciniae, DQ180743, Shewanellaceae
- Shewanella spongiae, DQ167234, Shewanellaceae

**Moritellaceae (8)**

- Moritella abyss, AJ252022, Moritellaceae
- Moritella yayanosii, AB008797, Moritellaceae
- Moritella japonica, D21224, Moritellaceae
- Moritella viscosa, AJ132226, Moritellaceae
- Moritella dasanensis, EF192283, Moritellaceae
- Moritella profunda, AJ252023, Moritellaceae
- Moritella marina, AB038033, Moritellaceae, type sp.**
- Paramoritella alkaliiphila, AB364966, Moritellaceae, type sp.**

**Psychromonadaceae (14)**

- Psychromonas agarivorans, AB374544, Psychromonadaceae
- Psychromonas heitensis, AB365352, Psychromonadaceae
- Psychromonas hadalis, AB094413, Psychromonadaceae
- Psychromonas profunda, AJ416756, Psychromonadaceae
- Psychromonas marina, AB023378, Psychromonadaceae
- Psychromonas kaikoae, AB052160, Psychromonadaceae
- Psychromonas arctica, AF374385, Psychromonadaceae
- Psychromonas aquimarina, AB304805, Psychromonadaceae
- Psychromonas macrocephali, AB304806, Psychromonadaceae
- Psychromonas ossibalaenae, AB304808, Psychromonadaceae
- Psychromonas japonica, AB304804, Psychromonadaceae
- Psychromonas boydii, FJ822615, Psychromonadaceae
- Psychromonas ingrahamii, U73721, Psychromonadaceae
- Psychromonas antarctica, Y14697, Psychromonadaceae, type sp.**

**Ferrimonadaceae (6)**

- Ferrimonas balearica, X93021, Ferrimonadaceae, type sp.**
- Ferrimonas marina, AB193751, Ferrimonadaceae

- Ferrimonas stentchii, DQ278094, Ferrimonadaceae
- Ferrimonas fulvis, AB245515, Ferrimonadaceae
- Ferrimonas kyonanensis, AB245514, Ferrimonadaceae
- Paraferrimonas sedimenticola, AB252732, Ferrimonadaceae, type sp.**
- Rheinheimera aquatica, GQ168584, Chromatiaceae
- Rheinheimera texasensis, AY701891, Chromatiaceae
- Rheinheimera tangshanensis, DQ874340, Chromatiaceae
- Rheinheimera soli, EF575565, Chromatiaceae
- Rheinheimera chironomi, DQ298025, Chromatiaceae
- Rheinheimera aquimaris, EF076757, Chromatiaceae
- Rheinheimera baltica, AJ441080, Chromatiaceae, type sp.**
- Rheinheimera pacifica, AB073132, Chromatiaceae
- Rheinheimera nanhaiensis, FJ169968, Chromatiaceae
- Alishewanella aestuarii, EF660759, Alteromonadaceae
- Alishewanella jeotgali, EU817498, Alteromonadaceae
- Alishewanella agri, EU909459, Alteromonadaceae
- Alishewanella fetalis, AF144407, Alteromonadaceae, type sp.**
- Rheinheimera perlucida, AM183347, Chromatiaceae
- Alkalimonas amyolytica, AF250323, Unclassified Gammaproteobacteria, type sp.**
- Alkalimonas delamerensis, X92130, Unclassified Gammaproteobacteria
- Alkalimonas collagenimarina, AB270706, Unclassified Gammaproteobacteria

**Pseudoalteromonadaceae (36)**

- Pseudoalteromonas marina, AY563031, Pseudoalteromonadaceae
- Pseudoalteromonas undina, X82140, Pseudoalteromonadaceae
- Pseudoalteromonas haloplanktis, X67024, Pseudoalteromonadaceae, type sp.**
- Pseudoalteromonas antarctica, X98336, Pseudoalteromonadaceae
- Pseudoalteromonas translucida, AY040230, Pseudoalteromonadaceae
- Pseudoalteromonas aliena, AY387858, Pseudoalteromonadaceae
- Pseudoalteromonas nigrificiens, X82146, Pseudoalteromonadaceae
- Pseudoalteromonas distincta, AF082564, Pseudoalteromonadaceae
- Pseudoalteromonas elyakovii, AF082562, Pseudoalteromonadaceae
- Pseudoalteromonas arctica, DQ787199, Pseudoalteromonadaceae
- Pseudoalteromonas paragorgicola, AY040229, Pseudoalteromonadaceae
- Pseudoalteromonas agarivorans, AJ417594, Pseudoalteromonadaceae
- Pseudoalteromonas atlantica, X82134, Pseudoalteromonadaceae
- Pseudoalteromonas espejiana, X82143, Pseudoalteromonadaceae
- Pseudoalteromonas carrageenovora, X82136, Pseudoalteromonadaceae
- Pseudoalteromonas issachenkonii, AF316144, Pseudoalteromonadaceae
- Pseudoalteromonas tetraodonis, AF214730, Pseudoalteromonadaceae
- Pseudoalteromonas mariniglutinos, AJ507251, Pseudoalteromonadaceae
- Pseudoalteromonas prydzensis, U85855, Pseudoalteromonadaceae
- Pseudoalteromonas donghaiensis, FJ754319, Pseudoalteromonadaceae
- Pseudoalteromonas lipolytica, FJ404721, Pseudoalteromonadaceae
- Pseudoalteromonas byunsanensis, DQ011289, Pseudoalteromonadaceae
- Pseudoalteromonas flavipulchra, AF297958, Pseudoalteromonadaceae
- Pseudoalteromonas maricadoris, AF144036, Pseudoalteromonadaceae
- Pseudoalteromonas piscicida, AB090232, Pseudoalteromonadaceae
- Pseudoalteromonas peptidolytica, AF007286, Pseudoalteromonadaceae
- Pseudoalteromonas rubra, X82147, Pseudoalteromonadaceae
- Pseudoalteromonas luteoviolacea, X82144, Pseudoalteromonadaceae
- Pseudoalteromonas ruthenica, AF316891, Pseudoalteromonadaceae
- Pseudoalteromonas spongiae, AY769918, Pseudoalteromonadaceae
- Pseudoalteromonas aurantia, X82135, Pseudoalteromonadaceae
- Pseudoalteromonas citrea, X82137, Pseudoalteromonadaceae
- Pseudoalteromonas phenolica, AF332880, Pseudoalteromonadaceae
- Pseudoalteromonas denitrificans, X82138, Pseudoalteromonadaceae
- Pseudoalteromonas tunicata, Z25522, Pseudoalteromonadaceae
- Pseudoalteromonas ulvae, AF172987, Pseudoalteromonadaceae

**Psychrosphaera saromensis, AB545807, Pseudoalteromonadaceae, type sp.**

**Colwelliaceae (16)**

- Colwellia psychrotropica, U85846, Colwelliaceae
- Colwellia rossensis, U14581, Colwelliaceae
- Colwellia maris, AB002630, Colwelliaceae
- Colwellia piezophila, AB094412, Colwelliaceae
- Colwellia psychrethraea, AB011364, Colwelliaceae, type sp.**
- Colwellia demingiae, U85845, Colwelliaceae
- Colwellia asteriadii, EU599214, Colwelliaceae
- Colwellia polaris, DQ007434, Colwelliaceae
- Colwellia chukchiensis, FJ889599, Colwelliaceae
- Colwellia aestuarii, DQ055844, Colwelliaceae
- Thalassomonas acclinarum, AB369380, Colwelliaceae
- Thalassomonas viitans, AJ294747, Colwelliaceae, type sp.**
- Thalassomonas hallotis, AB369381, Colwelliaceae
- Thalassomonas agarivorans, DQ212914, Colwelliaceae
- Thalassomonas loyana, AY643537, Colwelliaceae
- Thalassomonas ganghwensis, AY194066, Colwelliaceae
- Alagarivorans marinus, FJ167390, Alteromonadaceae, type sp.**
- Alagarivorans taiwanensis, FJ167391, Alteromonadaceae
- Celerinatantimonas diazotrophica, DQ913890, Celerinatantimonadaceae, type sp.**
- Agarivorans albus, AB076561, Alteromonadaceae, type sp.**
- Agarivorans gilvus, GQ200591, Alteromonadaceae

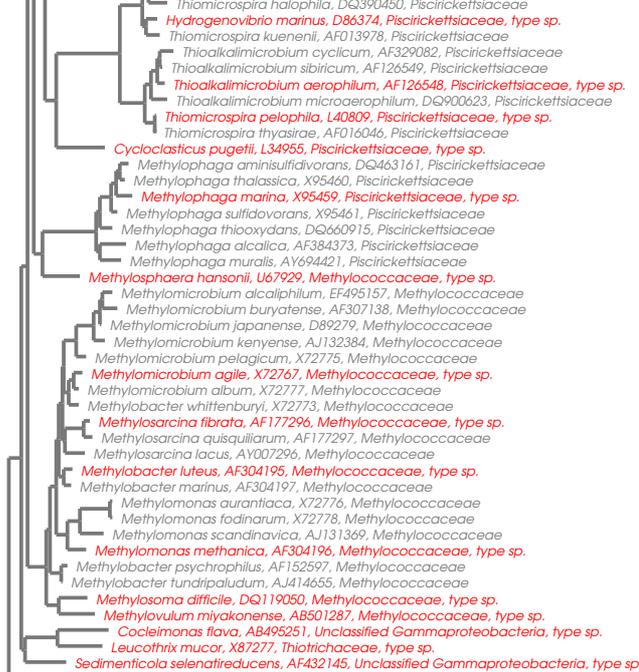
**Idiomarinaceae (18)**

- Idiomarina maritima, EU600203, Idiomarinaceae
- Idiomarina tainanensis, EU423907, Idiomarinaceae
- Idiomarina marina, EU423908, Idiomarinaceae
- Idiomarina donghaiensis, EU600204, Idiomarinaceae
- Idiomarina insulsaiae, FM877003, Idiomarinaceae
- Pseudidiomarina homiensis, DQ342238, Idiomarinaceae
- Pseudidiomarina salinarum, EF486355, Idiomarinaceae
- Idiomarina aestuarii, FJ768737, Idiomarinaceae
- Idiomarina sediminum, EF212001, Idiomarinaceae
- Idiomarina taiwanensis, DQ118948, Idiomarinaceae
- Idiomarina lohiensis, AF288370, Idiomarinaceae
- Idiomarina rambicola, AY526862, Idiomarinaceae
- Idiomarina abyssalis, AF052740, Idiomarinaceae, type sp.**
- Idiomarina zobellii, AF052741, Idiomarinaceae
- Idiomarina seosinensis, AY635468, Idiomarinaceae
- Idiomarina baltica, AJ440214, Idiomarinaceae
- Idiomarina fontislapidosi, AY526861, Idiomarinaceae
- Idiomarina xiamenensis, GU471247, Idiomarinaceae
- Algicola bacteriolytica, D89929, Pseudoalteromonadaceae, type sp.**
- Algicola sagamiensis, AB063324, Pseudoalteromonadaceae

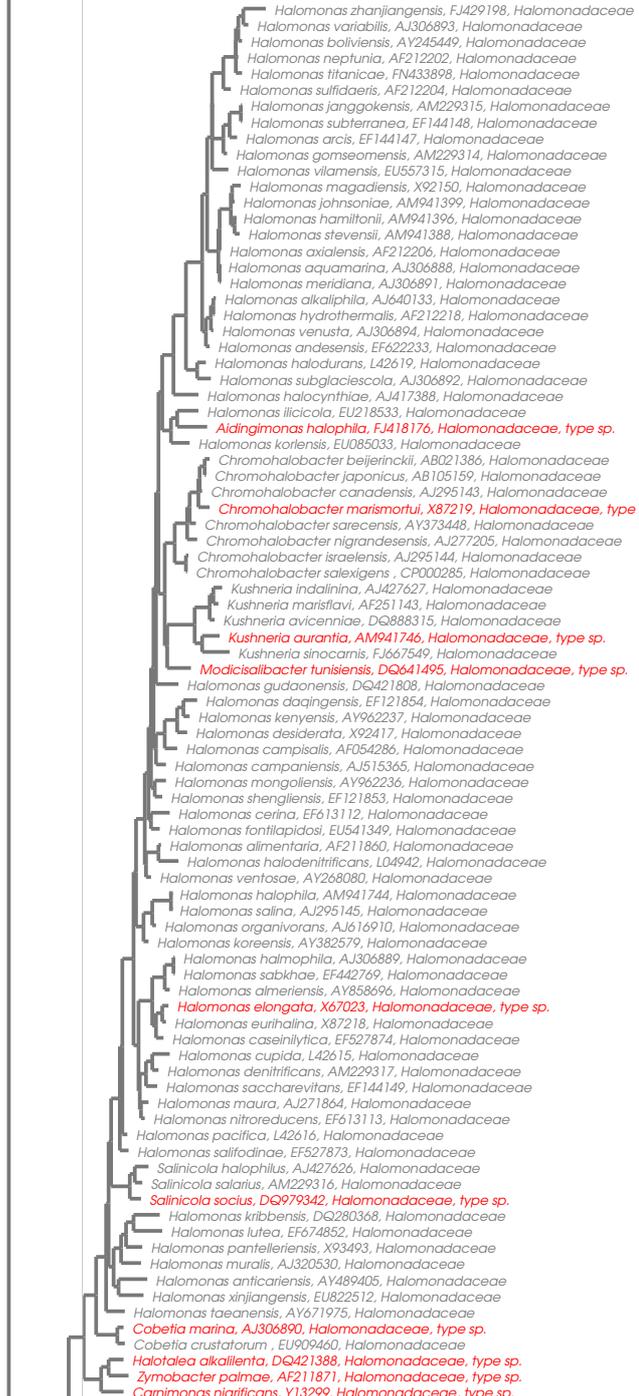
**Alteromonadaceae (25)**

- Glaciecola agarilytica, DQ784575, Alteromonadaceae
- Glaciecola chathamensis, AB247623, Alteromonadaceae
- Glaciecola polaris, AJ293820, Alteromonadaceae
- Glaciecola mesophila, AJ488501, Alteromonadaceae
- Glaciecola psychrophila, DQ007436, Alteromonadaceae
- Aestuuriibacter littoralis, AB473549, Alteromonadaceae
- Glaciecola lipolytica, EU183316, Alteromonadaceae
- Glaciecola punicea, U85853, Alteromonadaceae, type sp.**
- Glaciecola nitratireducens, AY787042, Alteromonadaceae
- Glaciecola pallidula, U85854, Alteromonadaceae
- Aestuuriibacter halophilus, AY207503, Alteromonadaceae
- Aestuuriibacter salexigens, AY207502, Alteromonadaceae, type sp.**
- Aestuuriibacter aggregatus, FJ847832, Alteromonadaceae
- Alteromonas macleodii, Y18228, Alteromonadaceae, type sp.**
- Alteromonas simiduii, DQ836766, Alteromonadaceae
- Alteromonas marina, AF529060, Alteromonadaceae
- Alteromonas tagae, DQ836765, Alteromonadaceae
- Alteromonas addita, AY682202, Alteromonadaceae
- Alteromonas stellipolaris, AJ295715, Alteromonadaceae
- Alteromonas litorea, AY428573, Alteromonadaceae
- Alteromonas genovensis, AM885866, Alteromonadaceae
- Alteromonas hispanica, AY926460, Alteromonadaceae
- Salinimonas chungwhensis, AY553295, Alteromonadaceae, type sp.**
- Bowmanella denitrificans, DQ343294, Alteromonadaceae, type sp.**
- Bowmanella pacifica, EU440951, Alteromonadaceae

- Thiomicrospira arctica, AJ404731, Piscirickettsiaceae
- Thiomicrospira psychrophila, AJ404732, Piscirickettsiaceae
- Thiomicrospira chilensis, AF013975, Piscirickettsiaceae
- Thiomicrospira frisa, AF013974, Piscirickettsiaceae
- Thiomicrospira crunogena, L40810, Piscirickettsiaceae
- Thiomicrospira thermophila, AB166731, Piscirickettsiaceae

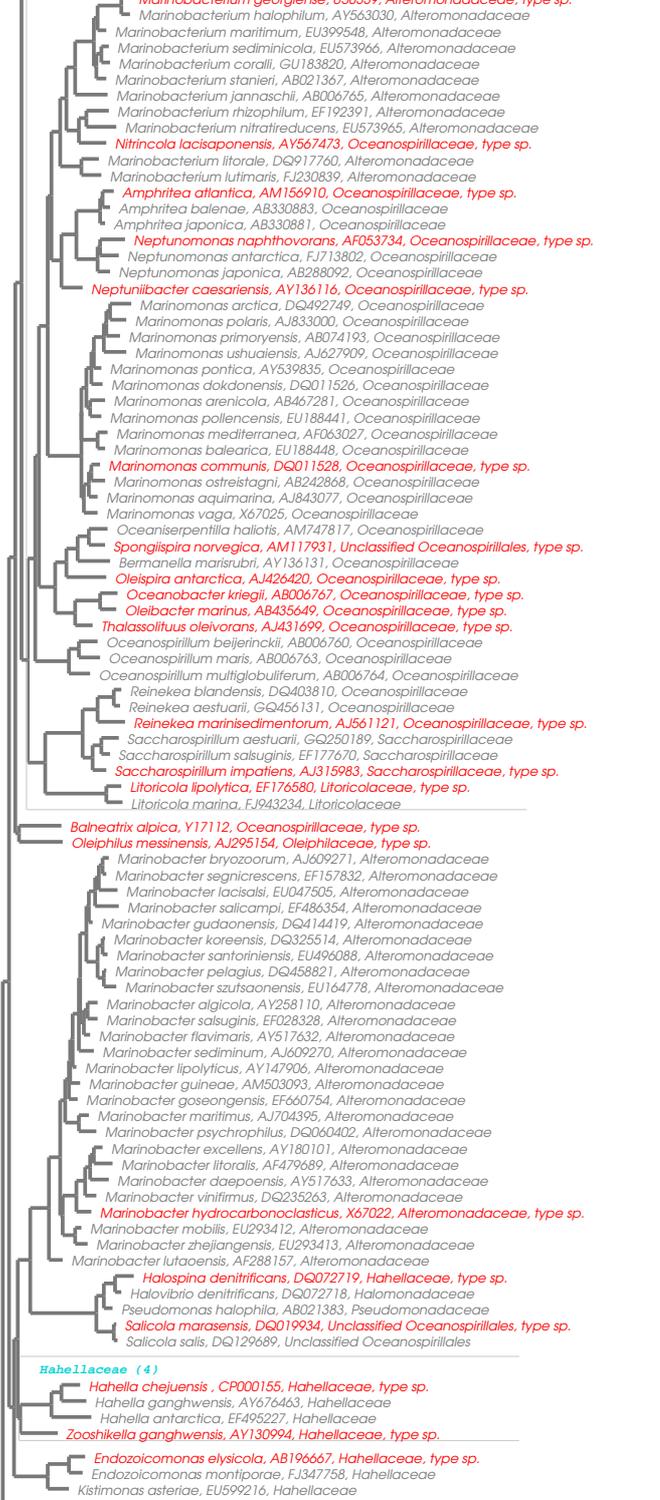


**Halomonadaceae (87)**



**Oceanospirillaceae (51)**





**Pseudomonadaceae (138)**





**Alcanivoracaceae (10)**

- Alcanivorax balearicus*, AY686709, *Alcanivoracaceae*
- Alcanivorax dieselolei*, AY683537, *Alcanivoracaceae*
- Alcanivorax venustensis*, AF328762, *Alcanivoracaceae*
- Alcanivorax borkumensis*, Y12579, *Alcanivoracaceae*, type sp.
- Alcanivorax jadensis*, AJ001150, *Alcanivoracaceae*
- Alcanivorax hongdengensis*, EU438901, *Alcanivoracaceae*
- Kangiella aquimarina*, AY520561, *Alcanivoracaceae*
- Kangiella koreensis*, AY520560, *Alcanivoracaceae*, type sp.

Legionellaceae (50)

- Legionella dumoffii, Z32637, Legionellaceae
- Legionella gormanii, Z32639, Legionellaceae
- Legionella cherrii, Z49720, Legionellaceae
- Legionella parisiensis, Z49731, Legionellaceae
- Legionella anisa, Z32635, Legionellaceae
- Legionella wadsworthii, Z49738, Legionellaceae
- Legionella steigerwaltii, Z49737, Legionellaceae
- Legionella tucsonensis, Z32644, Legionellaceae
- Legionella cincinnatiensis, Z49721, Legionellaceae
- Legionella saintelensis, Z49734, Legionellaceae
- Legionella longbeachae, AY444740, Legionellaceae
- Legionella gratiana, Z49725, Legionellaceae
- Legionella lytica, X97364, Legionellaceae
- Legionella rowbothamii, X97359, Legionellaceae
- Legionella drancourtii, X97366, Legionellaceae
- Legionella fallonii, X97363, Legionellaceae
- Legionella maravica, Z49729, Legionellaceae
- Legionella shakespearei, Z49736, Legionellaceae
- Legionella quateirensis, Z49732, Legionellaceae
- Legionella worsleiensis, Z49739, Legionellaceae
- Legionella pneumophila subsp. fraseri, HQ287902, Legionellaceae
- Legionella pneumophila subsp. pasculei, AF122885, Legionellaceae
- Legionella pneumophila subsp. pneumophila, AE017354, Legionellaceae, type sp.**
- Legionella waitersii, AF122886, Legionellaceae
- Legionella rubrilucens, Z32643, Legionellaceae
- Legionella taurinensis, DQ667196, Legionellaceae
- Legionella erythra, Z32638, Legionellaceae
- Legionella geestiana, Z49723, Legionellaceae
- Legionella fairfieldensis, Z49722, Legionellaceae
- Legionella lansingensis, Z49727, Legionellaceae
- Legionella busanensis, AF424887, Legionellaceae
- Legionella greslensis, AF122883, Legionellaceae
- Legionella bellardiensis, AF122884, Legionellaceae
- Legionella maceachernii, AF227161, Legionellaceae
- Legionella micdadei, AF227162, Legionellaceae
- Legionella impletisoli, AB233209, Legionellaceae
- Legionella yabuuchiiae, AB233210, Legionellaceae
- Legionella oakridgensis, Z32642, Legionellaceae
- Legionella israelensis, Z32640, Legionellaceae
- Legionella londiniensis, Z49730, Legionellaceae
- Legionella birminghamensis, Z49717, Legionellaceae
- Legionella quinlivanii, Z49733, Legionellaceae
- Legionella adelaidensis, Z49716, Legionellaceae
- Legionella brunensis, Z32636, Legionellaceae
- Legionella jordanis, Z32667, Legionellaceae
- Legionella jamestownensis, Z49726, Legionellaceae
- Legionella nautarum, Z49728, Legionellaceae
- Legionella dresdenensis, AM747393, Legionellaceae
- Legionella drozanskii, X97355, Legionellaceae
- Legionella feeli, X73395, Legionellaceae

Coxiellaceae (2)

- Aquicella lusitana, AY359282, Coxiellaceae, type sp.**
- Aquicella siphonis, AY359283, Coxiellaceae

**Marinicella litoralis, AB500095, Unclassified Gammaproteobacteria, type sp.**

Francisellaceae (7)

- Francisella noatunensis subsp. orientalis, EU683030, Francisellaceae
- Francisella noatunensis subsp. noatunensis, DQ295795, Francisellaceae
- Francisella philomiragia, AY928394, Francisellaceae
- Francisella tularensis subsp. tularensis, Z21931, Francisellaceae, type sp.**
- Francisella tularensis subsp. mediasiatica, CP000915, Francisellaceae
- Francisella tularensis subsp. novicida, AY928396, Francisellaceae
- Francisella hispaniensis, FN252413, Francisellaceae

- Walbachia persica, M21292, Anaplasmataceae
- Caedibacter taeniospiralis, AY102612, Unclassified Thiotrichales, type sp.**
- Fangia hongkongensis, AB176554, Unclassified Thiotrichales, type sp.
- Piscirickettsia salmonis, U36941, Piscirickettsiaceae, type sp.

Thiotrichaceae (9)

- Thiothrix fructosivorans, GU269554, Thiotrichaceae
- Thiothrix caldifontis, EU642573, Thiotrichaceae
- Thiothrix lacustris, EU642572, Thiotrichaceae
- Thiothrix nivea, L40993, Thiotrichaceae, type sp.**
- Thiothrix unzii, L79961, Thiotrichaceae
- Thiothrix disciformis, AB042532, Thiotrichaceae
- Thiothrix eikelboomii, AB042819, Thiotrichaceae
- Thiothrix flexilis, AB042545, Thiotrichaceae
- Thiothrix defluvii, AF127020, Thiotrichaceae

Methylococcaceae (4)

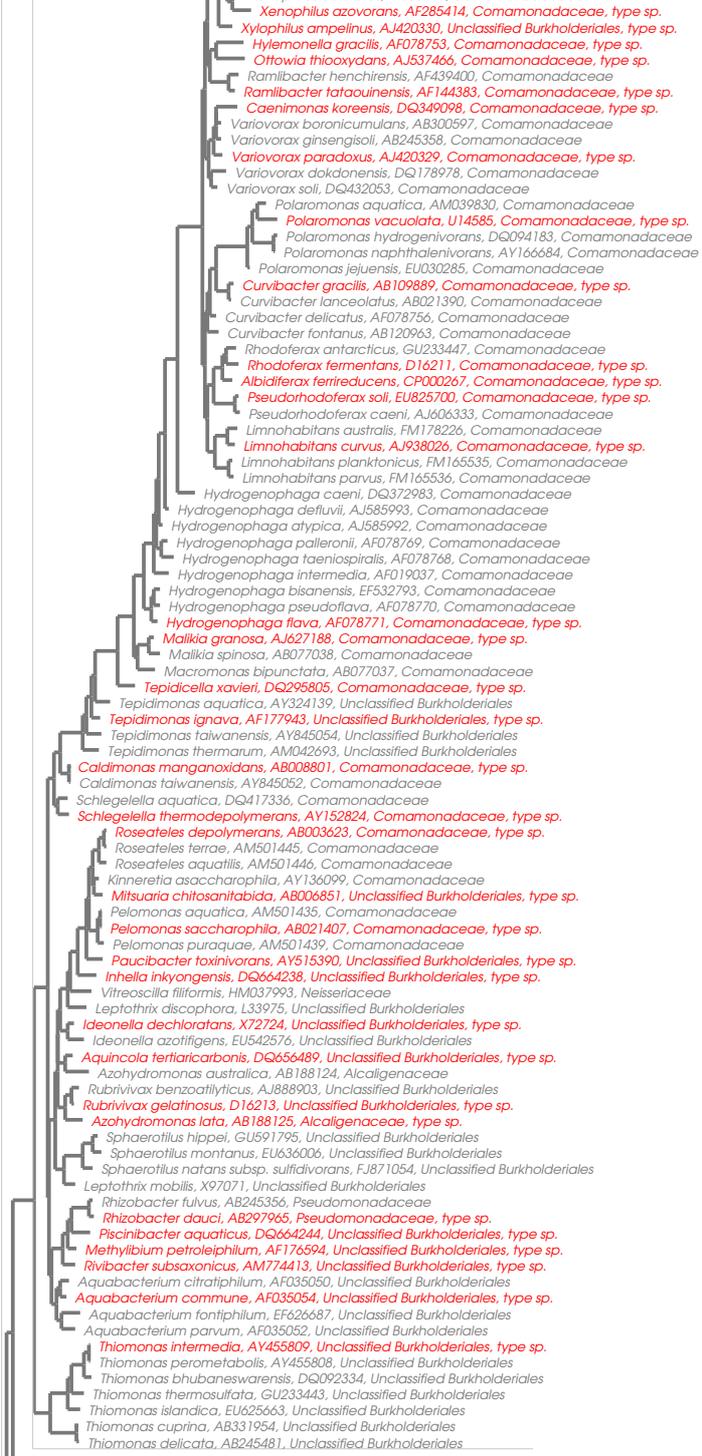
- Methylocaldum gracile, U89298, Methylococcaceae
- Methylocaldum szegediense, U89300, Methylococcaceae, type sp.**
- Methylocaldum tepidum, U89297, Methylococcaceae
- Methylococcus capsulatus, AJ563935, Methylococcaceae, type sp.**

Betaproteobacteria (456)

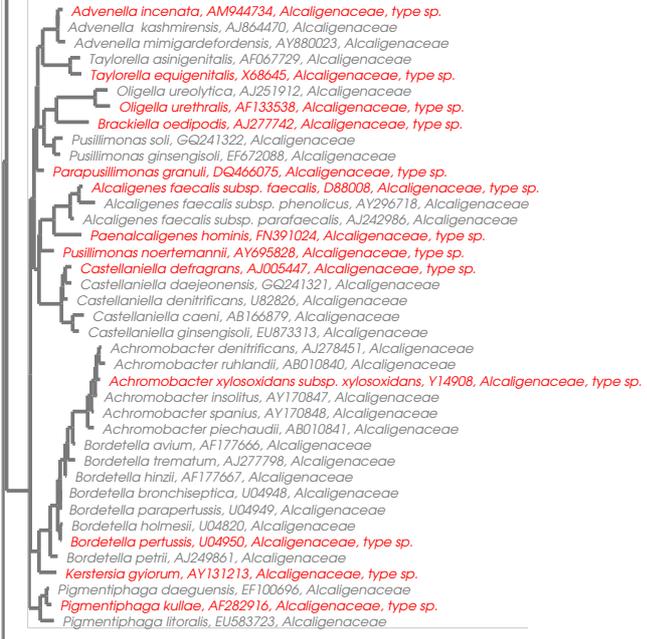
Burkholderiales (318)

Comamonadaceae (134)

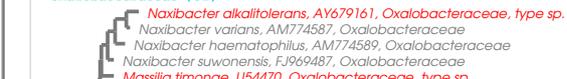
- Brachymonas chironomi, EU346912, Comamonadaceae
- Brachymonas denitificans, D14320, Comamonadaceae
- Lampropedia hyalina, AB089485, Comamonadaceae, type sp.**
- Comamonas composti, EF015884, Comamonadaceae
- Comamonas testosteroni, M11224, Comamonadaceae
- Delftia lacustris, EU888308, Comamonadaceae
- Delftia tsuruhatensis, AB075017, Comamonadaceae
- Delftia acidovorans, AB021417, Comamonadaceae, type sp.**
- Comamonas odontotermis, DQ453128, Comamonadaceae
- Comamonas koreensis, AF275377, Comamonadaceae
- Comamonas denitificans, AF233877, Comamonadaceae
- Comamonas nitrivorans, AJ251577, Comamonadaceae
- Comamonas aquatica, AJ430344, Comamonadaceae
- Comamonas kerstersii, AJ430347, Comamonadaceae
- Comamonas ferrigena, AF078772, Comamonadaceae, type sp.**
- Comamonas badia, AB164432, Comamonadaceae
- Comamonas zongiliani, GQ245981, Comamonadaceae
- Alicyciphilus denitificans, AJ418042, Comamonadaceae, type sp.**
- Acidovorax caeni, AM084006, Comamonadaceae
- Diaphorobacter nitroreducens, AB064317, Comamonadaceae, type sp.**
- Diaphorobacter oryzae, EU342381, Comamonadaceae
- Acidovorax delafieldii, AF078764, Comamonadaceae
- Acidovorax soli, FJ599672, Comamonadaceae
- Verminephrobacter eiseniae, DQ327663, Comamonadaceae, type sp.**
- Acidovorax defluvii, Y18616, Comamonadaceae
- Acidovorax facilis, AF078765, Comamonadaceae, type sp.**
- Acidovorax temperans, AF078766, Comamonadaceae
- Acidovorax anthurii, AJ007013, Comamonadaceae
- Acidovorax valerianellae, AJ431731, Comamonadaceae
- Giesbergeria anulus, AB074527, Comamonadaceae
- Giesbergeria kuznetsovii, AY780907, Comamonadaceae
- Giesbergeria voronezhensis, AY780905, Comamonadaceae, type sp.**
- Giesbergeria giesbergeri, AB074522, Comamonadaceae
- Giesbergeria sinuosa, AF078754, Comamonadaceae
- Pseudacidovorax intermedius, EF469609, Comamonadaceae, type sp.**
- Acidovorax avenae, AF137505, Comamonadaceae
- Acidovorax cattleyae, AF137504, Comamonadaceae
- Acidovorax citrulli, AF137506, Comamonadaceae
- Acidovorax oryzae, DQ360414, Comamonadaceae
- Acidovorax konjaci, AJ420325, Comamonadaceae
- Simplicispira psychrophila, AF078755, Comamonadaceae
- Simplicispira limi, DQ372987, Comamonadaceae
- Simplicispira metamorpha, Y18618, Comamonadaceae, type sp.**
- Xenophilus aerolatus, EF660342, Comamonadaceae



**Alcaligenaceae (39)**



**Oxalobacteraceae (51)**



- Telluria chitinolytica*, X65590, Oxalobacteraceae
- Telluria mixta*, X65589, Oxalobacteraceae, type sp.**
- Massilia aerilata*, EF588526, Oxalobacteraceae
- Massilia niastensis*, EU808005, Oxalobacteraceae
- Massilia aurea*, AM231588, Oxalobacteraceae
- Massilia niabensis*, EU808006, Oxalobacteraceae
- Massilia jejuensis*, JF969486, Oxalobacteraceae
- Massilia brevitalea*, EF546777, Oxalobacteraceae
- Duganella violaceinigra*, AY376163, Oxalobacteraceae
- Massilia albidiflava*, AY965999, Oxalobacteraceae
- Massilia lutea*, AY966001, Oxalobacteraceae
- Massilia dura*, AY965998, Oxalobacteraceae
- Massilia plicata*, AY966000, Oxalobacteraceae
- Janthinobacterium agaricidamnorum*, Y08845, Oxalobacteraceae
- Janthinobacterium lividum*, Y08846, Oxalobacteraceae, type sp.**
- Aquaspirillum arcticum*, AB074523, Neisseriaceae
- Duganella zoogloeoides*, D14256, Oxalobacteraceae, type sp.**
- Rugomonas rubra*, HM038005, Pseudomonadaceae, type sp.**
- Hermnimonas fonticola*, AY676462, Oxalobacteraceae, type sp.**
- Hermnimonas saxobsidens*, AM493906, Oxalobacteraceae
- Hermnimonas glaciei*, EU489741, Oxalobacteraceae
- Hermnimonas arsenic oxydans*, AY728038, Oxalobacteraceae
- Hermnimonas aquatilis*, AM085762, Oxalobacteraceae
- Oxalicibacterium faecigallinarum*, AB469788, Oxalobacteraceae
- Oxalicibacterium horii*, AB469786, Oxalobacteraceae
- Oxalicibacterium flavum*, AY061962, Oxalobacteraceae, type sp.**
- Oxalicibacterium solutis*, AB008503, Oxalobacteraceae
- Collimonas arenae*, AY281146, Oxalobacteraceae
- Collimonas pratensis*, AY281137, Oxalobacteraceae
- Collimonas fungivorans*, AJ310394, Oxalobacteraceae, type sp.**
- Herbaspirillum hilineri*, DQ150563, Oxalobacteraceae
- Herbaspirillum lusitanum*, AF543312, Oxalobacteraceae
- Herbaspirillum rhizosphaerae*, DQ188986, Oxalobacteraceae
- Undibacterium pigrum*, AM397630, Oxalobacteraceae, type sp.**
- Undibacterium oligocarboniphilum*, GQ379228, Oxalobacteraceae
- Undibacterium parvum*, AM397629, Oxalobacteraceae
- Herbaspirillum autotrophicum*, AB074524, Oxalobacteraceae
- Herbaspirillum chlorophenolicum*, AB094401, Oxalobacteraceae
- Herbaspirillum frisingense*, AJ238358, Oxalobacteraceae
- Herbaspirillum huttlense* subsp. huttlense, AB021366, Oxalobacteraceae
- Herbaspirillum huttlense* subsp. putei, AB109890, Oxalobacteraceae
- Herbaspirillum aquaticum*, FJ267649, Oxalobacteraceae
- Herbaspirillum rubrisubalbicans*, AF137508, Oxalobacteraceae
- Herbaspirillum seropedicaceae*, Y10146, Oxalobacteraceae, type sp.**
- Oxalobacter formigenes*, U49757, Oxalobacteraceae, type sp.**
- Paucimonas temolignei*, X92555, Burkholderiaceae, type sp.**
- Cupriavidus laharis*, AB054961, Burkholderiaceae
- Cupriavidus pinatubonensis*, AB121221, Burkholderiaceae
- Cupriavidus oxalaticus*, AF155567, Burkholderiaceae
- Cupriavidus taiwanensis*, AF300324, Burkholderiaceae
- Wauteria numazuensis*, AB104447, Burkholderiaceae
- Cupriavidus basiliensis*, AF312022, Burkholderiaceae
- Cupriavidus campinensis*, AF312020, Burkholderiaceae
- Cupriavidus necator*, AF191737, Burkholderiaceae, type sp.**
- Cupriavidus metallidurans*, D87999, Burkholderiaceae
- Cupriavidus pauculus*, AF085226, Burkholderiaceae
- Cupriavidus gilardii*, AF076645, Burkholderiaceae
- Cupriavidus respiraculi*, AF500583, Burkholderiaceae
- Cupriavidus pampae*, FN430567, Burkholderiaceae
- Ralstonia mannifolyltica*, AJ270258, Burkholderiaceae
- Ralstonia pickettii*, AY741342, Burkholderiaceae, type sp.**
- Ralstonia insidiosa*, AF488779, Burkholderiaceae
- Ralstonia solanacearum*, EF016361, Burkholderiaceae
- Ralstonia syzygii*, AB021403, Burkholderiaceae
- Polynucleobacter necessarius* subsp. *necessarius*, AM397067, Burkholderiaceae, type sp.**
- Polynucleobacter necessarius* subsp. *asymbioticus*, AJ879783, Burkholderiaceae
- Polynucleobacter acidiphobus*, FM208180, Burkholderiaceae
- Polynucleobacter cosmopolitanus*, AJ550672, Burkholderiaceae
- Polynucleobacter rarus*, FM208182, Burkholderiaceae

**Burkholderiaceae (65)**

- Burkholderia silvaticola*, AY965240, Burkholderiaceae
- Burkholderia heleia*, AB495123, Burkholderiaceae
- Burkholderia mimosarum*, AY752958, Burkholderiaceae
- Burkholderia ferrariae*, DQ514537, Burkholderiaceae
- Burkholderia nodosa*, AY773189, Burkholderiaceae
- Burkholderia sacchari*, AF263278, Burkholderiaceae
- Burkholderia oxyphila*, AB488693, Burkholderiaceae
- Burkholderia tropica*, AJ420332, Burkholderiaceae
- Burkholderia unamae*, AY221956, Burkholderiaceae
- Burkholderia kururiensis*, AB024310, Burkholderiaceae
- Burkholderia acidipaludis*, AB513180, Burkholderiaceae
- Burkholderia tuberum*, AJ302311, Burkholderiaceae
- Burkholderia phenoliruptrix*, AY435213, Burkholderiaceae
- Burkholderia graminis*, U96939, Burkholderiaceae
- Burkholderia terricola*, AY040362, Burkholderiaceae
- Burkholderia xenovorans*, U86373, Burkholderiaceae
- Burkholderia bryophila*, AM489501, Burkholderiaceae
- Burkholderia caledonica*, AF215704, Burkholderiaceae
- Burkholderia ginsengisoli*, AB201286, Burkholderiaceae
- Burkholderia phytotomans*, AY497470, Burkholderiaceae
- Burkholderia sediminicola*, EU035613, Burkholderiaceae
- Burkholderia fungorum*, AF215705, Burkholderiaceae
- Burkholderia phymatum*, AJ302312, Burkholderiaceae
- Burkholderia sabiae*, AY773186, Burkholderiaceae
- Burkholderia caribensis*, Y17009, Burkholderiaceae
- Burkholderia hospita*, AY040365, Burkholderiaceae
- Burkholderia terrae*, AB201285, Burkholderiaceae
- Burkholderia megapolitana*, AM489502, Burkholderiaceae
- Burkholderia phenazineum*, U96936, Burkholderiaceae
- Burkholderia sartisoli*, AF061872, Burkholderiaceae
- Burkholderia glathei*, U96935, Burkholderiaceae
- Burkholderia sordidicola*, AF512827, Burkholderiaceae
- Burkholderia caryophylli*, AB021423, Burkholderiaceae
- Burkholderia soli*, DQ465451, Burkholderiaceae
- Burkholderia ambifaria*, AF043302, Burkholderiaceae
- Burkholderia diffusa*, AM747629, Burkholderiaceae
- Burkholderia arboris*, AM747630, Burkholderiaceae
- Burkholderia lata*, CP000150, Burkholderiaceae
- Burkholderia cepacia*, U96927, Burkholderiaceae, type sp.**
- Burkholderia seminalis*, AM747631, Burkholderiaceae
- Burkholderia metallica*, AM747632, Burkholderiaceae
- Burkholderia pyrrocinia*, U96930, Burkholderiaceae
- Burkholderia stabilis*, AF097533, Burkholderiaceae
- Burkholderia cenocepacia*, AF148556, Burkholderiaceae
- Burkholderia latens*, AM747628, Burkholderiaceae
- Burkholderia vietnamiensis*, AF097534, Burkholderiaceae
- Burkholderia ubonensis*, AB030584, Burkholderiaceae
- Burkholderia multivorans*, Y18703, Burkholderiaceae
- Burkholderia glumae*, U96931, Burkholderiaceae
- Burkholderia gladioli*, EU024168, Burkholderiaceae
- Burkholderia plantarii*, U96933, Burkholderiaceae
- Burkholderia oklahomensis*, DQ108388, Burkholderiaceae
- Burkholderia mallei*, AF110188, Burkholderiaceae
- Burkholderia pseudomallei*, DQ108392, Burkholderiaceae
- Burkholderia thailandensis*, U91838, Burkholderiaceae
- Burkholderia endofungorum*, AM420302, Burkholderiaceae
- Burkholderia rhizoxinica*, AJ938142, Burkholderiaceae
- Pandoraea apista*, AF139173, Burkholderiaceae, type sp.**
- Pandoraea norimbergensis*, Y09879, Burkholderiaceae
- Pandoraea pnomensua*, AY268170, Burkholderiaceae
- Pandoraea sputorum*, AF139176, Burkholderiaceae
- Pandoraea pulmonicola*, AF139175, Burkholderiaceae
- Pandoraea thiooxydans*, EF397578, Burkholderiaceae
- Limnobacter litoralis*, AB366174, Burkholderiaceae
- Limnobacter thiooxydans*, AJ289885, Burkholderiaceae, type sp.**

**Sutterellaceae (5)**

- Sutterella demissum*, AF544840, Sutterellaceae

Sulfarella stercorialis, AJ306849, Sulfarellaceae  
Sulfarella wadsworthensis, GU585669, Sulfarellaceae, type sp.  
Sulfarella parvibrata, AB300989, Sulfarellaceae  
Parasulfarella excrementihominis, AB370250, Sulfarellaceae, type sp.  
Parasulfarella secunda, AB491209, Sulfarellaceae

**Neisseriaceae (68)**

Eikenella corrodens, ACEA01000028, Neisseriaceae, type sp.  
Kingella denitrificans, M22516, Neisseriaceae  
Neisseria elongata subsp. elongata, L06171, Neisseriaceae  
Neisseria elongata subsp. glycolytica, ADBF01000003, Neisseriaceae  
Bergeriella denitrificans, AB087265, Neisseriaceae, type sp.  
Simonsiella muelleri, AF328147, Neisseriaceae, type sp.  
Neisseria animalis, AJ239288, Neisseriaceae  
Neisseria gonorrhoeae, X07714, Neisseriaceae, type sp.  
Neisseria lactamica, AJ239286, Neisseriaceae  
Neisseria polysaccharea, AJ239289, Neisseriaceae  
Neisseria cinerea, ACY02000019, Neisseriaceae  
Neisseria sicca, ACK02000016, Neisseriaceae  
Neisseria subflava, AJ239291, Neisseriaceae  
Neisseria flavescens, L06168, Neisseriaceae  
Neisseria iguanae, GU233442, Neisseriaceae  
Kingella kingae, AY551999, Neisseriaceae, type sp.  
Kingella patus, AJ629192, Neisseriaceae  
Neisseria bacilliformis, AY560519, Neisseriaceae  
Kingella oralis, L06164, Neisseriaceae  
Conchiformibus kuhniei, AF328150, Neisseriaceae  
Conchiformibus steedae, AB087261, Neisseriaceae, type sp.  
Uruburuella suis, AJ586614, Neisseriaceae, type sp.  
Neisseria wadsworthii, FJ654662, Neisseriaceae  
Neisseria shayeganii, FJ654664, Neisseriaceae  
Neisseria canis, L06170, Neisseriaceae  
Neisseria dentiae, AF487709, Neisseriaceae  
Neisseria zoodegmatidis, DQ006843, Neisseriaceae  
Alysiella crassa, AB087264, Neisseriaceae  
Alysiella filiformis, AF487710, Neisseriaceae, type sp.  
Stenoxymbacter acetivorans, EF212897, Neisseriaceae  
Neisseria animalaris, DQ006842, Neisseriaceae  
Vitreoscilla stercoraria, L06174, Neisseriaceae  
Chromobacterium violaceum, AE016825, Neisseriaceae, type sp.  
Chromobacterium pseudoviolaceum, AJ871128, Neisseriaceae  
Chromobacterium subtsugae, AY344056, Neisseriaceae  
Chromobacterium aquaticum, EU109734, Neisseriaceae  
Chromobacterium haemolyticum, DQ785104, Neisseriaceae  
Aquitalea magnusonii, DQ018117, Neisseriaceae, type sp.  
Aquitalea denitrificans, EU594330, Neisseriaceae  
Gulbenkiantia indica, DQ415656, Neisseriaceae  
Gulbenkiantia mobilis, AM295491, Neisseriaceae, type sp.  
Pseudogulbenkiantia subflava, EF626692, Neisseriaceae, type sp.  
Pseudogulbenkiantia subflava, EF626692, Neisseriaceae, type sp.  
Aquaespirillum putridiconchylium, AB076000, Neisseriaceae  
Aquaespirillum serpens, AB074518, Neisseriaceae, type sp.  
Vogesella perlucida, EF626691, Neisseriaceae  
Vogesella mureivorans, GQ246809, Neisseriaceae  
Vogesella lacus, EU287927, Neisseriaceae  
Vogesella indigofera, AB021385, Neisseriaceae, type sp.  
Laribacter hongkongensis, AF389085, Neisseriaceae, type sp.  
Microvirgula aerodennitrificans, U89333, Neisseriaceae, type sp.  
Leeia oryzae, DQ280369, Neisseriaceae, type sp.  
Chitinilyticum litopenaei, EU682455, Neisseriaceae  
Chitinilyticum aquatile, DQ314581, Neisseriaceae, type sp.  
Chitinibacter alvei, FJ593907, Neisseriaceae  
Chitinibacter taiwanensis, AY264287, Neisseriaceae, type sp.  
Chitiniphilus shinanensis, AB453176, Neisseriaceae, type sp.  
Formivibrio citricus, Y17602, Neisseriaceae, type sp.  
Deefgea rivuli, AM397080, Neisseriaceae, type sp.  
Deefgea chitinilytica, FJ347759, Neisseriaceae  
Silvimonas amylolytica, AB326111, Neisseriaceae  
Silvimonas iriomotensis, AB326110, Neisseriaceae  
Silvimonas terrae, AB194302, Neisseriaceae, type sp.  
Andreprevotia chitinilytica, DQ836355, Neisseriaceae, type sp.  
Andreprevotia lacus, EU287926, Neisseriaceae  
Jeongeupia naejangsanensis, FJ669217, Neisseriaceae  
Chitinimonas koreensis, DQ256728, Burkholderiaceae  
Chitinimonas taiwanensis, AY323827, Burkholderiaceae, type sp.  
Thiobacillus denitrificans, AJ243144, Hydrogenophilaceae  
Thiobacillus thioparus, M79426, Hydrogenophilaceae, type sp.  
Thiobacillus thiophilus, EU685841, Hydrogenophilaceae  
Thiobacillus aquaesulis, U58019, Hydrogenophilaceae  
Spirillum volutans, GU585672, Spirillaceae, type sp.  
Spirillum winogradskyi, AY845251, Spirillaceae  
Thiobacter subterraneus, AB180657, Unclassified Burkholderiales, type sp.

**Methylophilaceae (9)**

Methylophilus methylotrophus, AB193724, Methylophilaceae, type sp.  
Methylophilus rhizosphaerae, EU194887, Methylophilaceae  
Methylophilus luteus, FJ872109, Methylophilaceae  
Methylophilus flavus, FJ872108, Methylophilaceae  
Methylophilus leisingeri, AB193725, Methylophilaceae  
Methylophilus mobilis, DQ287786, Methylophilaceae, type sp.  
Methylovorus mays, AY486132, Methylophilaceae  
Methylobacillus flagellatus, DQ287787, Methylophilaceae  
Methylobacillus pratensis, AY298905, Methylophilaceae  
Sulfuricella denitrificans, AB506456, Hydrogenophilaceae, type sp.

**Nitrosomonadaceae (3)**

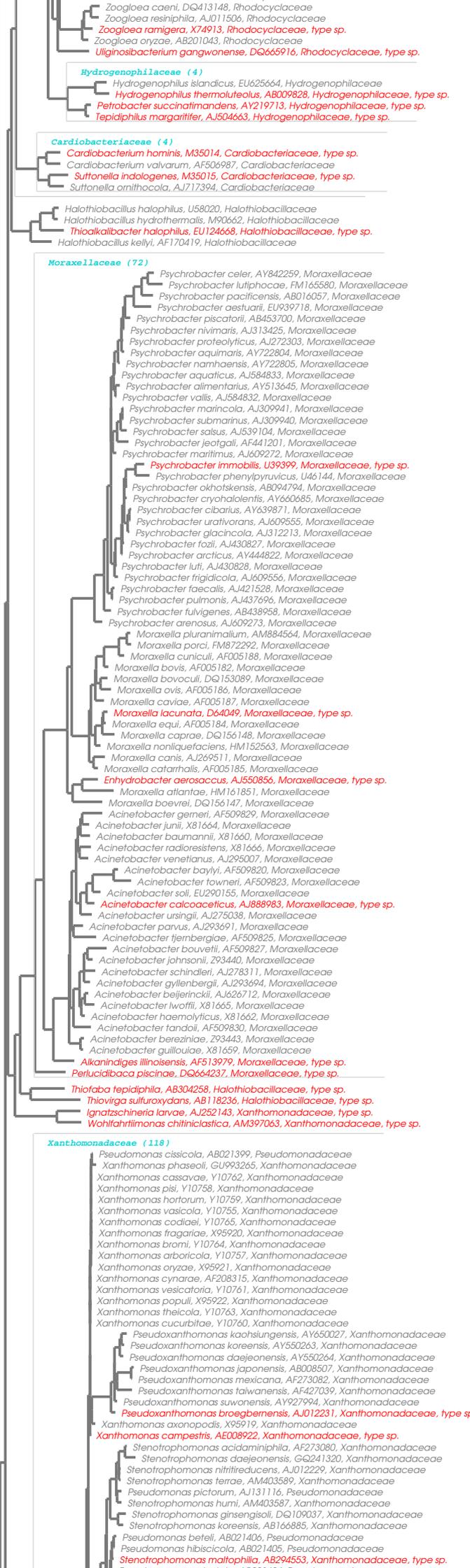
Nitrosomonas europaea, AB070982, Nitrosomonadaceae, type sp.  
Nitrosomonas europha, AY123795, Nitrosomonadaceae  
Nitrosospira multiformis, CP000103, Nitrosomonadaceae

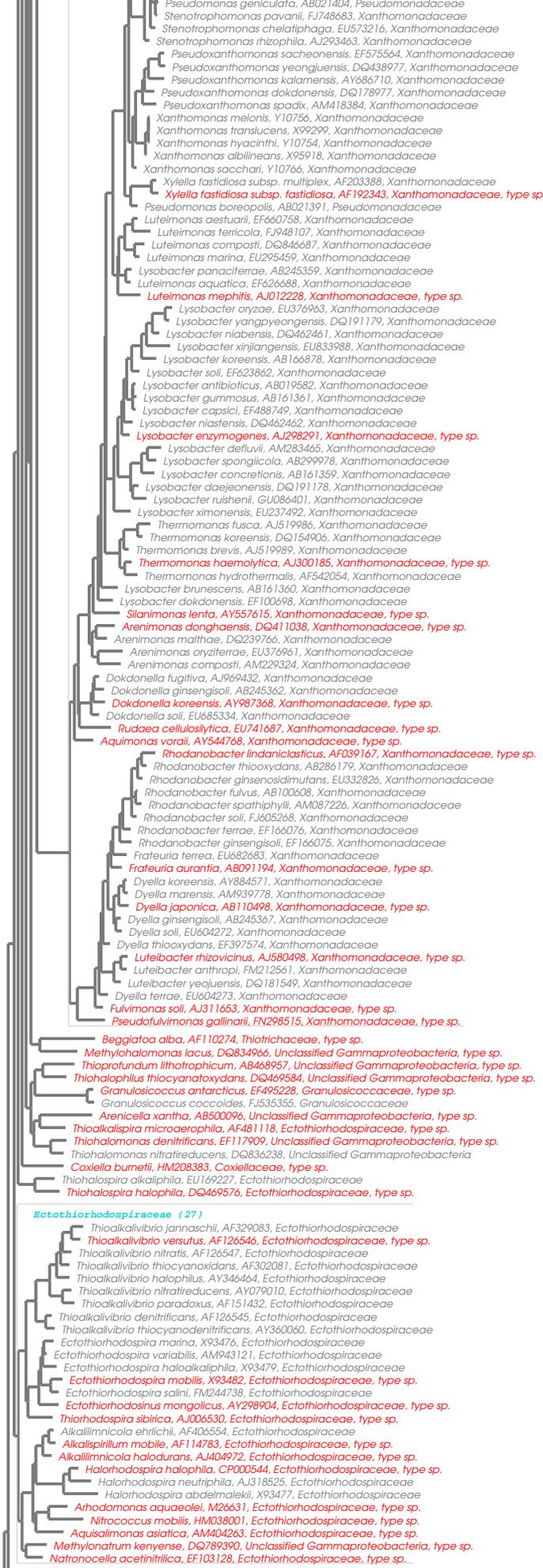
Georgfuchsia toluolica, EF219370, Rhodocyclaceae, type sp.  
Methyloversatilis universalis, DQ442273, Rhodocyclaceae, type sp.  
Sterolibacterium denitrificans, AJ306683, Rhodocyclaceae, type sp.  
Denitratisoma oestradiolicum, AY879297, Rhodocyclaceae, type sp.

**Rhodocyclaceae (16)**

Dechloromonas denitrificans, AJ318917, Rhodocyclaceae  
Dechloromonas hortensis, AY277821, Rhodocyclaceae  
Fenibacterium limneticum, Y17060, Rhodocyclaceae, type sp.  
Quatronicoccus australiensis, AY007722, Rhodocyclaceae, type sp.  
Dechloromonas agitata, AF047462, Rhodocyclaceae, type sp.  
Azonexus caeni, AB166882, Rhodocyclaceae  
Azonexus hydrophilus, EF158390, Rhodocyclaceae  
Azonexus fungiphilus, AF011350, Rhodocyclaceae, type sp.  
Propionivibrio dicarboxylicus, Y17601, Rhodocyclaceae, type sp.  
Propionivibrio pelophilus, AF016090, Rhodocyclaceae  
Propionivibrio limicola, AJ307983, Rhodocyclaceae  
Rhodocyclus purpureus, M34132, Rhodocyclaceae, type sp.  
Rhodocyclus tenuis, D16208, Rhodocyclaceae  
Azospira oryzae, AF011347, Rhodocyclaceae, type sp.  
Azospira restricta, DQ974114, Rhodocyclaceae  
Azovibrio restrictus, AF011346, Rhodocyclaceae, type sp.

Thauera butanivorans, AB021377, Rhodocyclaceae  
Thauera linaloolentis, AJ005816, Rhodocyclaceae  
Thauera chlorobenzoica, AF123264, Rhodocyclaceae  
Thauera mechenichensis, Y17590, Rhodocyclaceae  
Thauera aminoaromatica, AJ315677, Rhodocyclaceae  
Thauera aromatica, X77118, Rhodocyclaceae  
Thauera phenylacetica, AJ315678, Rhodocyclaceae  
Thauera selenatis, Y17591, Rhodocyclaceae, type sp.  
Thauera terpenica, AJ005817, Rhodocyclaceae  
Azoarcus communis, AF011343, Rhodocyclaceae  
Azoarcus indigenus, AF011345, Rhodocyclaceae, type sp.  
Azoarcus evansii, X77679, Rhodocyclaceae  
Azoarcus toluovorans, L33692, Rhodocyclaceae  
Azoarcus toluolyticus, L33694, Rhodocyclaceae  
Azoarcus toluoclasticus, AF123077, Rhodocyclaceae  
Azoarcus anaerobius, Y14701, Rhodocyclaceae  
Azoarcus buckelii, AJ315676, Rhodocyclaceae

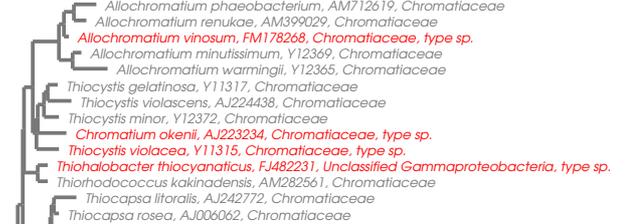


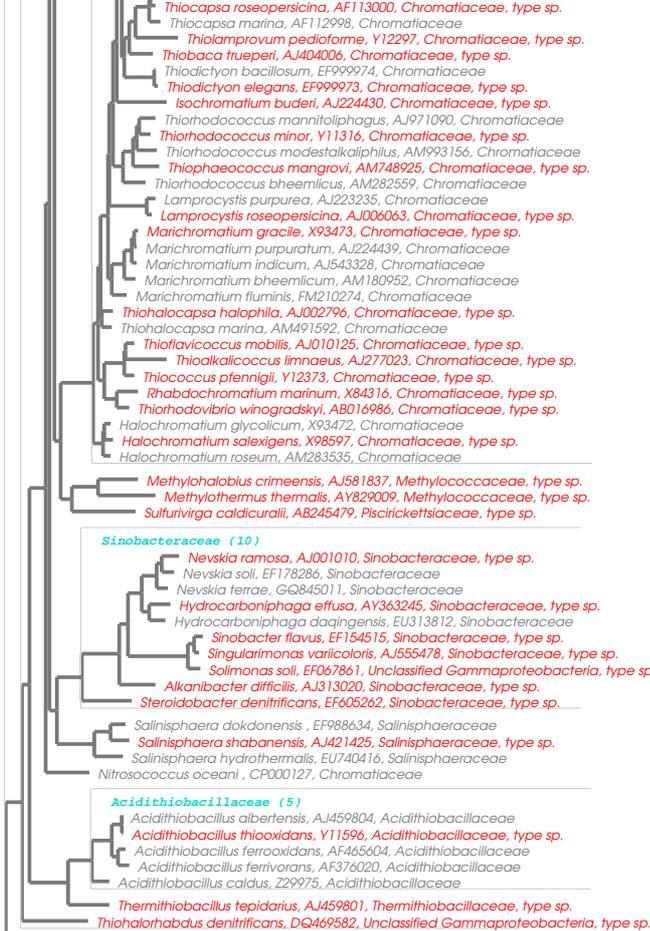


**Ectothiorhodospiraceae (27)**



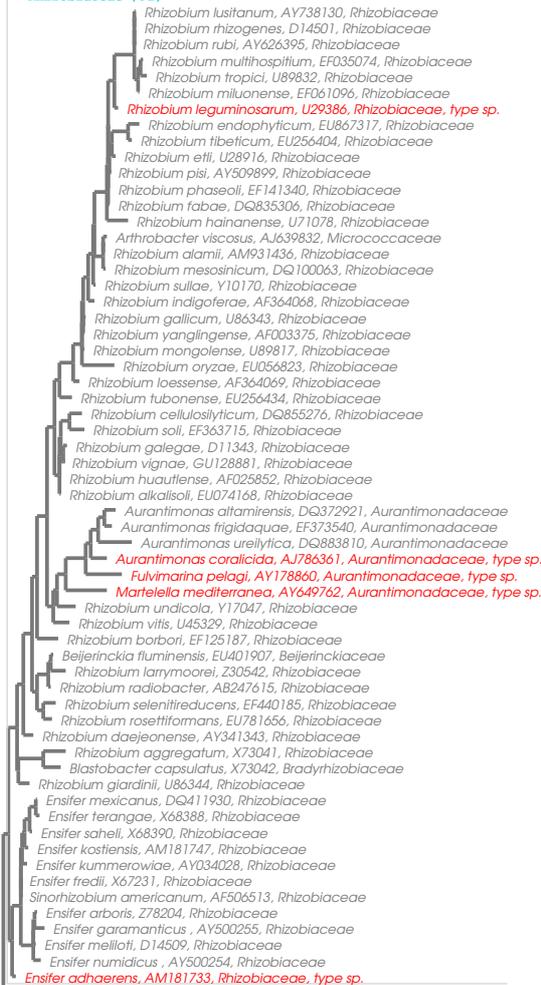
**Chromatiaceae (43)**





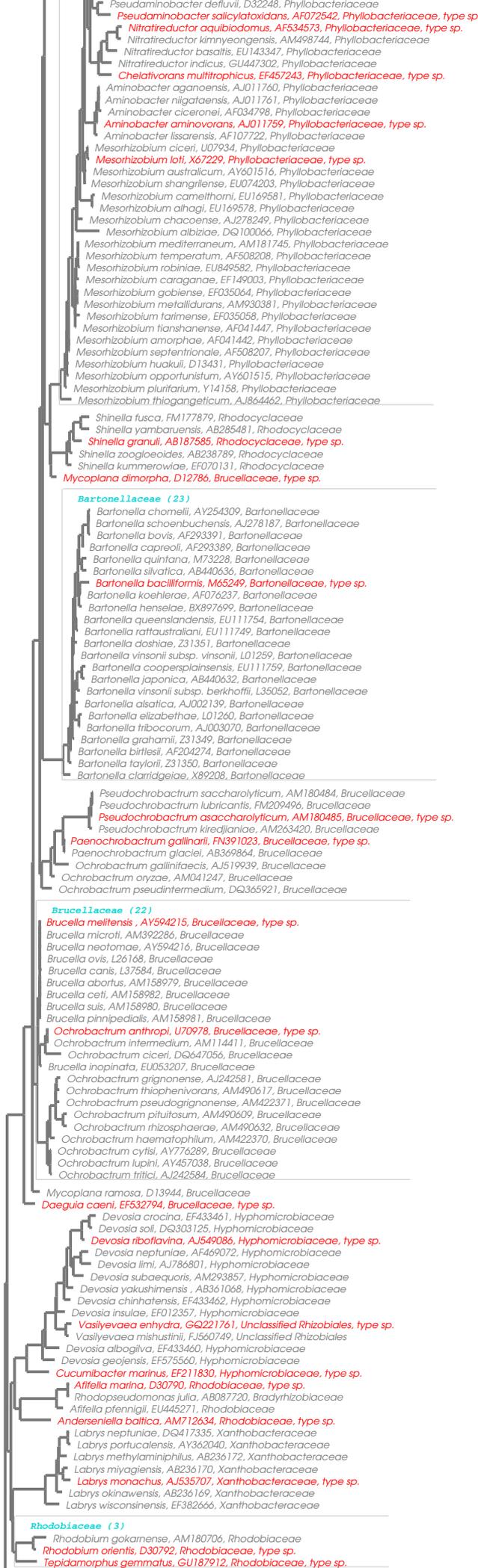
**Alphaproteobacteria (963)**

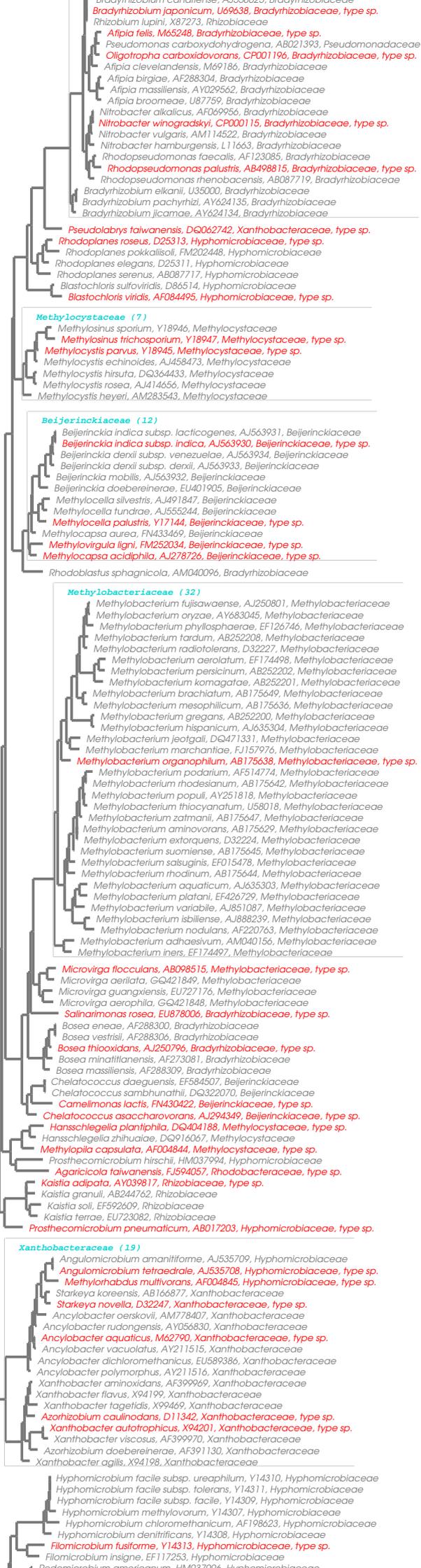
**Rhizobiaceae (61)**



**Phyllobacteriaceae (48)**







*Pedomicrobium ferrugineum*, GU269548, Hyphomicrobiaceae, type sp.  
*Pedomicrobium manganicum*, GU269549, Hyphomicrobiaceae  
*Hyphomicrobium vulgare*, AB543807, Hyphomicrobiaceae, type sp.  
*Hyphomicrobium zavarzinii*, Y14305, Hyphomicrobiaceae  
*Hyphomicrobium hollandicum*, Y14303, Hyphomicrobiaceae  
*Hyphomicrobium sulfanivorans*, AF235089, Hyphomicrobiaceae  
*Germineococcus roseus*, AM403172, Unclassified Alphaproteobacteria, type sp.  
*Rhizomicrobium palustre*, AB081581, Unclassified Alphaproteobacteria, type sp.  
*Meganema perideroedes*, AF180468, Methylobacteriaceae, type sp.  
*Pleomorphomonas koreensis*, AB129722, Methylocystaceae  
*Pleomorphomonas oryzae*, AB159680, Methylocystaceae, type sp.

**Caulobacteraceae (36)**

*Brevundimonas vancouverii*, AJ227779, Caulobacteraceae  
*Brevundimonas naejangsensis*, FJ544245, Caulobacteraceae  
*Brevundimonas diminuta*, AB021415, Caulobacteraceae, type sp.  
*Brevundimonas terrae*, DQ335215, Caulobacteraceae  
*Brevundimonas halotolerans*, M83810, Caulobacteraceae  
*Brevundimonas bullata*, D12785, Caulobacteraceae  
*Brevundimonas staleyii*, AJ227798, Caulobacteraceae  
*Brevundimonas poindexteriae*, AJ227797, Caulobacteraceae  
*Brevundimonas subviridis*, AJ227784, Caulobacteraceae  
*Brevundimonas lenta*, EF363713, Caulobacteraceae  
*Brevundimonas kwangchunensis*, AY971368, Caulobacteraceae  
*Brevundimonas bacteroides*, AJ227782, Caulobacteraceae  
*Brevundimonas variabilis*, AJ227783, Caulobacteraceae  
*Brevundimonas basaltis*, EU143355, Caulobacteraceae  
*Brevundimonas alba*, AJ227785, Caulobacteraceae  
*Brevundimonas aveniformis*, DQ372984, Caulobacteraceae  
*Asticcacaulis benevessitus*, AM087199, Caulobacteraceae  
*Asticcacaulis taihuensis*, AY500141, Caulobacteraceae  
*Brevundimonas mediterranea*, AJ227801, Caulobacteraceae  
*Streptomyces longisporoflavus*, DQ442520, Streptomycetaceae  
*Brevundimonas intermedia*, AJ227786, Caulobacteraceae  
*Brevundimonas nosaiae*, AB071954, Caulobacteraceae  
*Brevundimonas vesicularis*, AJ227780, Caulobacteraceae  
*Brevundimonas aurantiaca*, AJ227787, Caulobacteraceae  
*Caulobacter segnis*, AB023427, Caulobacteraceae  
*Caulobacter vibratoides*, AJ009957, Caulobacteraceae, type sp.  
*Caulobacter henricii*, AJ227758, Caulobacteraceae  
*Caulobacter fusiformis*, AJ227759, Caulobacteraceae  
*Caulobacter mirabilis*, AJ227774, Caulobacteraceae  
*Phenylobacterium conjunctum*, AJ227767, Caulobacteraceae  
*Phenylobacterium haematophilum*, AJ244650, Caulobacteraceae  
*Phenylobacterium composti*, EU022524, Caulobacteraceae  
*Phenylobacterium lituiforme*, AY534887, Caulobacteraceae  
*Phenylobacterium falsum*, AJ717391, Caulobacteraceae  
*Phenylobacterium koreense*, AB166881, Caulobacteraceae  
*Phenylobacterium immobile*, Y18216, Caulobacteraceae, type sp.

*Pseudoxanthobacter soli*, EF465533, Xanthobacteraceae, type sp.  
*Amorphus coralli*, DQ097300, Unclassified Rhizobiales, type sp.  
*Amorphus orientalis*, FJ998414, Unclassified Rhizobiales  
*Bauldia consociata*, FJ560750, Unclassified Rhizobiales  
*Bauldia littoralis*, GQ221764, Unclassified Rhizobiales, type sp.  
*Breoghania corrubedonensis*, GQ272328, Unclassified Alphaproteobacteria, type sp.  
*Stappia indica*, EU726271, Rhodobacteraceae  
*Stappia stellulata*, D88525, Rhodobacteraceae, type sp.  
*Pannonibacter phragmitetus*, AJ400704, Rhodobacteraceae, type sp.  
*Labrenzia aggregata*, AAUW01000023, Rhodobacteraceae  
*Labrenzia marina*, AY628423, Rhodobacteraceae  
*Labrenzia alba*, AJ878875, Rhodobacteraceae  
*Roseibium denhamense*, D85832, Rhodobacteraceae, type sp.  
*Roseibium hamelinense*, D85836, Rhodobacteraceae  
*Labrenzia alexandrii*, AJ582083, Rhodobacteraceae, type sp.  
*Nesiotobacter exalbescens*, AF513441, Rhodobacteraceae, type sp.  
*Pseudovibrio ascidiaceicola*, AB175663, Rhodobacteraceae  
*Pseudovibrio japonicus*, AB246748, Rhodobacteraceae  
*Pseudovibrio denitrificans*, AY486423, Rhodobacteraceae, type sp.  
*Cohaesibacter gelatinilyticus*, DQ386307, Cohaesibacteraceae, type sp.  
*Cohaesibacter marisflavi*, GQ200200, Cohaesibacteraceae

**Rhodobacteraceae (194)**

*Loktanella atrilutea*, AB246747, Rhodobacteraceae  
*Loktanella fryxellensis*, AJ582225, Rhodobacteraceae  
*Loktanella salsilacus*, AJ440997, Rhodobacteraceae, type sp.  
*Loktanella agnita*, AY682198, Rhodobacteraceae  
*Loktanella vestfoldensis*, AJ582226, Rhodobacteraceae  
*Loktanella hongkongensis*, AY600300, Rhodobacteraceae  
*Loktanella pyoseonensis*, AM983542, Rhodobacteraceae  
*Loktanella maricola*, EF202613, Rhodobacteraceae  
*Loktanella rosea*, AY682199, Rhodobacteraceae  
*Loktanella koreensis*, DQ344498, Rhodobacteraceae  
*Ruegeria atlantica*, D88526, Rhodobacteraceae, type sp.  
*Silicibacter lacuscaerulensis*, U77644, Rhodobacteraceae, type sp.  
*Ruegeria marina*, FJ872535, Rhodobacteraceae  
*Silicibacter pomeroyi*, AF098491, Rhodobacteraceae  
*Ruegeria mobilis*, AB255401, Rhodobacteraceae  
*Ruegeria scottomollicae*, AM905330, Rhodobacteraceae  
*Ruegeria faecimaris*, GU057915, Rhodobacteraceae  
*Sulfitobacter delicatus*, AY180103, Rhodobacteraceae  
*Sulfitobacter dubius*, AY180102, Rhodobacteraceae  
*Oceanibulbus indolifex*, AJ550939, Rhodobacteraceae, type sp.  
*Sulfitobacter donghicola*, EF202614, Rhodobacteraceae  
*Sulfitobacter guttififormis*, Y16427, Rhodobacteraceae  
*Sulfitobacter brevis*, Y16425, Rhodobacteraceae  
*Sulfitobacter marinus*, DQ683726, Rhodobacteraceae  
*Sulfitobacter littoralis*, DQ097527, Rhodobacteraceae  
*Sulfitobacter pontiacus*, Y13155, Rhodobacteraceae, type sp.  
*Sulfitobacter mediterraneus*, Y17387, Rhodobacteraceae  
*Roseobacter denitrificans*, L01784, Rhodobacteraceae  
*Roseobacter littoralis*, X78312, Rhodobacteraceae, type sp.  
*Roseivivax halotolerans*, D85831, Rhodobacteraceae  
*Roseivivax halodurans*, D85829, Rhodobacteraceae, type sp.  
*Citiremonas salinaria*, AY962295, Rhodobacteraceae, type sp.  
*Rubellimicrobium aerolatum*, EU338486, Rhodobacteraceae  
*Rubellimicrobium mesophilum*, EF547368, Rhodobacteraceae  
*Rubellimicrobium thermophilum*, AJ844281, Rhodobacteraceae, type sp.  
*Citricella marina*, EU928765, Rhodobacteraceae  
*Citricella thiooxidans*, AY639887, Rhodobacteraceae, type sp.  
*Yangia pacifica*, AJ877265, Rhodobacteraceae, type sp.  
*Ketogulonicigenium robustum*, AF136850, Rhodobacteraceae  
*Ketogulonicigenium vulgare*, AF136849, Rhodobacteraceae, type sp.  
*Oceanicola granulosus*, AY424896, Rhodobacteraceae, type sp.  
*Roseisalinus antarcticus*, AJ605747, Rhodobacteraceae, type sp.  
*Oceanicola nanhaiensis*, DQ414420, Rhodobacteraceae  
*Oceanicola nitratireducens*, EU581832, Rhodobacteraceae  
*Oceanicola batsensis*, AY424898, Rhodobacteraceae  
*Oceanicola marinus*, DQ822569, Rhodobacteraceae  
*Phaeobacter arcticus*, DQ514304, Rhodobacteraceae  
*Seohaecicola saemankumensis*, EU221274, Rhodobacteraceae, type sp.  
*Phaeobacter inhibens*, AY177712, Rhodobacteraceae  
*Phaeobacter gallaeciensis*, Y13244, Rhodobacteraceae, type sp.  
*Nautella italica*, AM904562, Rhodobacteraceae, type sp.  
*Leisingera aquimarina*, AM900415, Rhodobacteraceae  
*Leisingera methylaldivorans*, AY005463, Rhodobacteraceae, type sp.  
*Phaeobacter caeruleus*, AM943630, Rhodobacteraceae  
*Phaeobacter daeponensis*, DQ981486, Rhodobacteraceae  
*Leisingera nanhaiensis*, FJ232451, Rhodobacteraceae  
*Mameliella alba*, EU734592, Rhodobacteraceae, type sp.  
*Sagittula stellata*, U58356, Rhodobacteraceae, type sp.  
*Antarctobacter heliothermus*, Y11552, Rhodobacteraceae, type sp.  
*Ponticoccus littoralis*, EF211829, Rhodobacteraceae, type sp.  
*Tropicobacter naphthalenivorans*, AB302370, Rhodobacteraceae, type sp.  
*Tateyamaria pelophila*, AJ968651, Rhodobacteraceae  
*Tateyamaria omphalii*, AB193438, Rhodobacteraceae, type sp.  
*Nereida ignava*, AJ748748, Rhodobacteraceae, type sp.  
*Shimia marina*, AY962292, Rhodobacteraceae, type sp.  
*Shimia isopatae*, FJ976449, Rhodobacteraceae

*Thalassobacter aestuarii*, AY442178, Rhodobacteraceae  
*Octadecabacter antarcticus*, U14583, Rhodobacteraceae  
*Octadecabacter arcticus*, U73725, Rhodobacteraceae, type sp.  
*Marivita litorea*, EU512918, Rhodobacteraceae  
*Marivita cryptomonadis*, EU512919, Rhodobacteraceae, type sp.  
*Gaetbulicola byunsanensis*, FJ467624, Rhodobacteraceae, type sp.  
*Thalassobius gelatinivorus*, D88523, Rhodobacteraceae  
*Thalassobius mediterraneus*, AJ878874, Rhodobacteraceae, type sp.  
*Donghicolia eburneus*, DQ667965, Rhodobacteraceae, type sp.  
*Donghicolia xiamenensis*, DQ120728, Rhodobacteraceae  
*Rosevivax lentus*, FJ875966, Rhodobacteraceae  
*Pontibaca methylaminivorans*, AJ505788, Rhodobacteraceae, type sp.  
*Thalassococcus halodurans*, DQ397336, Rhodobacteraceae, type sp.  
*Palleronia marisminaris*, AY926462, Rhodobacteraceae, type sp.  
*Tranquillimonas alkanivorans*, AB302386, Rhodobacteraceae, type sp.  
*Salpiger mucosus*, AY527274, Rhodobacteraceae, type sp.  
*Pelagibaca bermudensis*, DQ178660, Rhodobacteraceae, type sp.  
*Marinovum algicola*, X78315, Rhodobacteraceae, type sp.  
*Roseovarius pacificus*, DQ120726, Rhodobacteraceae  
*Roseovarius halotolerans*, EU431217, Rhodobacteraceae  
*Roseovarius aestuarii*, EU156066, Rhodobacteraceae  
*Roseovarius nubinhibens*, AF098495, Rhodobacteraceae  
*Pelagiolica litoralis*, EF192392, Rhodobacteraceae, type sp.  
*Roseovarius nanhaiticus*, FJ403243, Rhodobacteraceae  
*Roseovarius mucosus*, AJ534215, Rhodobacteraceae  
*Roseovarius tolerans*, Y11551, Rhodobacteraceae, type sp.  
*Jannaschia helgolandensis*, AJ438157, Rhodobacteraceae, type sp.  
*Jannaschia rubra*, AJ748747, Rhodobacteraceae  
*Jannaschia seohaensis*, EU156067, Rhodobacteraceae  
*Jannaschia seosinensis*, AY906862, Rhodobacteraceae  
*Jannaschia pohangensis*, DQ643999, Rhodobacteraceae  
*Jannaschia donghaensis*, EF202612, Rhodobacteraceae  
*Litoreibacter janthinus*, AB518880, Rhodobacteraceae  
*Litoreibacter albidus*, AB518881, Rhodobacteraceae, type sp.  
*Thalassobacter arenae*, EU342372, Rhodobacteraceae  
*Thalassobacter stenotrophicus*, AJ631302, Rhodobacteraceae, type sp.  
*Maribius pelagius*, DQ514326, Rhodobacteraceae  
*Maribius salinus*, AY906863, Rhodobacteraceae, type sp.  
*Hwanghaeicola aestuarii*, FJ230842, Rhodobacteraceae, type sp.  
*Maritimibacter alkaliphilus*, DQ915443, Rhodobacteraceae, type sp.  
*Roseovarius crassostreae*, AF114484, Rhodobacteraceae  
*Roseovarius marinus*, GQ243422, Rhodobacteraceae  
*Pseudoruegeria aquimaris*, DQ675021, Rhodobacteraceae, type sp.  
*Pseudoruegeria lutimaris*, FJ374173, Rhodobacteraceae  
*Celeribacter neptunius*, FJ535354, Rhodobacteraceae, type sp.  
*Roseicyclus mahoneyensis*, AJ315682, Rhodobacteraceae, type sp.  
*Wenxinia marina*, DQ640643, Rhodobacteraceae, type sp.  
*Sediminimonas qiaohouensis*, EU878003, Rhodobacteraceae, type sp.  
*Salinhabitans flavidus*, FJ265707, Rhodobacteraceae, type sp.  
*Dinoroseobacter shogbae*, AJ534211, Rhodobacteraceae, type sp.  
*Roseibacterium elongatum*, AB601471, Rhodobacteraceae, type sp.  
*Lutimibacter saemankumensis*, EU336981, Rhodobacteraceae, type sp.  
*Oceanicola pacificus*, DQ659449, Rhodobacteraceae  
*Tropicimonas isalkalinivorans*, AB302379, Rhodobacteraceae, type sp.  
*Thioclava pacifica*, AY656719, Rhodobacteraceae, type sp.  
*Paracoccus halophilus*, DQ423482, Rhodobacteraceae  
*Paracoccus sphaerophysae*, GU129567, Rhodobacteraceae  
*Paracoccus sulfuroxidans*, DQ512861, Rhodobacteraceae  
*Paracoccus methylutens*, AF250334, Rhodobacteraceae  
*Paracoccus versutus*, AY014174, Rhodobacteraceae  
*Paracoccus bengalensis*, AJ844469, Rhodobacteraceae  
*Paracoccus pantotrophus*, Y16933, Rhodobacteraceae  
*Paracoccus denitrificans*, Y16927, Rhodobacteraceae, type sp.  
*Paracoccus aminophilus*, AY014176, Rhodobacteraceae  
*Paracoccus thiocyanatus*, D32242, Rhodobacteraceae  
*Paracoccus yeeli*, AY014173, Rhodobacteraceae  
*Paracoccus alcaliphilus*, AY014177, Rhodobacteraceae  
*Paracoccus aminovorans*, D32240, Rhodobacteraceae  
*Paracoccus alkenifer*, Y13827, Rhodobacteraceae  
*Paracoccus solventivorans*, AY014175, Rhodobacteraceae  
*Paracoccus kocurii*, D32241, Rhodobacteraceae  
*Paracoccus koreensis*, AB187584, Rhodobacteraceae  
*Paracoccus chinensis*, EU660389, Rhodobacteraceae  
*Paracoccus marinus*, AB185957, Rhodobacteraceae  
*Paracoccus kondratievae*, AF250332, Rhodobacteraceae  
*Paracoccus carotinifaciens*, AB006899, Rhodobacteraceae  
*Paracoccus marcusii*, Y12703, Rhodobacteraceae  
*Paracoccus haundaensis*, AY189743, Rhodobacteraceae  
*Paracoccus aestuarii*, EF660757, Rhodobacteraceae  
*Paracoccus seniniphilus*, AJ428275, Rhodobacteraceae  
*Paracoccus zeaxanthinifaciens*, AF461158, Rhodobacteraceae  
*Paracoccus homiensis*, DQ342239, Rhodobacteraceae  
*Paracoccus fistulariae*, GQ260189, Rhodobacteraceae  
*Paracoccus isoporaie*, FJ593906, Rhodobacteraceae  
*Methylarcula marina*, AF030436, Rhodobacteraceae, type sp.  
*Methylarcula ferricola*, AF030437, Rhodobacteraceae  
*Paracoccus saliphilus*, DQ923133, Rhodobacteraceae  
*Rhodovulum adriaticum*, D16418, Rhodobacteraceae  
*Rhodovulum robiginosum*, Y15012, Rhodobacteraceae  
*Rhodovulum imhoffii*, AM180953, Rhodobacteraceae  
*Rhodovulum iodosum*, Y15011, Rhodobacteraceae  
*Rhodovulum marinum*, AJ891122, Rhodobacteraceae  
*Rhodovulum kholense*, AM748927, Rhodobacteraceae  
*Rhodovulum visakhapatnamense*, AM180707, Rhodobacteraceae  
*Rhodovulum sulfidophilum*, D16423, Rhodobacteraceae, type sp.  
*Rhodovulum steppense*, EU741680, Rhodobacteraceae  
*Rhodovulum strictum*, D16419, Rhodobacteraceae  
*Rhodovulum lacipuneiae*, AM921780, Rhodobacteraceae  
*Rhodovulum euryhalinum*, D16426, Rhodobacteraceae  
*Albidovulum inexpectatum*, AF465833, Rhodobacteraceae, type sp.  
*Catellibacterium aquatile*, EU313813, Rhodobacteraceae  
*Rhodobacter changlensis*, AM399030, Rhodobacteraceae  
*Pseudorhodobacter ferrugineus*, D88522, Rhodobacteraceae, type sp.  
*Rhodobacter azotofomans*, D70846, Rhodobacteraceae  
*Rhodobacter johrii*, AM398152, Rhodobacteraceae  
*Rhodobacter megalophilus*, AM421024, Rhodobacteraceae  
*Rhodobacter sphaeroides*, X53853, Rhodobacteraceae  
*Catellibacterium nectarophilum*, AB101543, Rhodobacteraceae, type sp.  
*Rhodobacter blasticus*, DQ342322, Rhodobacteraceae  
*Haematobacter massiliensis*, AF452106, Rhodobacteraceae  
*Haematobacter missouriensis*, DQ342315, Rhodobacteraceae, type sp.  
*Rhodobaca barguzinensis*, EF554833, Rhodobacteraceae  
*Rhodobaca bogoriensis*, AF248638, Rhodobacteraceae, type sp.  
*Roseinatronobacter manicus*, DQ659236, Rhodobacteraceae  
*Roseibaca ekhonensis*, AJ605746, Rhodobacteraceae, type sp.  
*Roseinatronobacter thiooxidans*, AF249749, Rhodobacteraceae, type sp.  
*Rhodobacter veldkampii*, D16421, Rhodobacteraceae  
*Rhodobacter aestuarii*, AM748926, Rhodobacteraceae  
*Rhodobacter maris*, AM745438, Rhodobacteraceae  
*Rhodobacter capsulatus*, D16428, Rhodobacteraceae, type sp.  
*Rhodobacter vinaykumarii*, AM408117, Rhodobacteraceae  
*Albimonas donghaensis*, DQ280370, Rhodobacteraceae, type sp.  
*Rubrimonas cliffonensis*, D85834, Rhodobacteraceae, type sp.  
*Rubribacterium polymorphum*, EU857676, Rhodobacteraceae  
*Amaricoccus macauensis*, U88042, Rhodobacteraceae  
*Amaricoccus veronensis*, U88043, Rhodobacteraceae  
*Amaricoccus tamworthensis*, U88044, Rhodobacteraceae  
*Amaricoccus kaplicensis*, U88041, Rhodobacteraceae, type sp.  
*Parvibaculum lavamentivorans*, AY387398, Rhodobiaceae, type sp.  
*Parvibaculum indicum*, FJ182044, Rhodobiaceae

**Hyphomonadaceae (23)**

*Henriciella aquimarina*, EU819081, Hyphomonadaceae, type sp.  
*Henriciella marina*, EF660760, Hyphomonadaceae, type sp.  
*Henriciella litoralis*, FJ230835, Hyphomonadaceae  
*Ponticaulis koreensis*, FM202497, Hyphomonadaceae, type sp.  
*Hyphomonas neptunium*, CP000158, Hyphomonadaceae  
*Hyphomonas rosenbergii*, AF082795, Hyphomonadaceae  
*Hyphomonas hischigana*, AF082794, Hyphomonadaceae

- Hyphomonas oceanifis*, AF082797, Hyphomonadaceae
- Hyphomonas johnsonii*, AF082791, Hyphomonadaceae
- Hyphomonas adhaerens*, AF082790, Hyphomonadaceae
- Hyphomonas jannaschiana*, AJ227814, Hyphomonadaceae
- Hirschia baltica*, AJ421782, Hyphomonadaceae, type sp.
- Hirschia maritima*, FM202386, Hyphomonadaceae
- Hellea balneolensis*, AY576758, Hyphomonadaceae, type sp.
- Robiginitomaculum antarcticum*, EF495229, Hyphomonadaceae, type sp.
- Maricaulis salignorans*, AJ227806, Hyphomonadaceae
- Maricaulis washingtonensis*, AJ227804, Hyphomonadaceae
- Maricaulis maris*, AJ227802, Hyphomonadaceae, type sp.
- Maricaulis parjimensis*, AJ227808, Hyphomonadaceae
- Maricaulis virginensis*, AJ301667, Hyphomonadaceae
- Oceanicaulis alexandrii*, AJ309862, Hyphomonadaceae, type sp.
- Woodsholea maritima*, AJ578476, Hyphomonadaceae, type sp.

**Parvularculaceae (2)**

- Parvularcula bermudensis*, AF544015, Parvularculaceae, type sp.
- Parvularcula lutaonensis*, EU346850, Parvularculaceae

- Maritalea myrionectae*, EF988631, Hyphomicrobiaceae, type sp.
- Zhangella mobilis*, EU255260, Hyphomicrobiaceae, type sp.

**Rhodospirillaceae (23)**

- Roseospira goensis*, AM283537, Rhodospirillaceae
- Roseospira marina*, AJ298879, Rhodospirillaceae
- Roseospira visakhapatnamensis*, AM282560, Rhodospirillaceae
- Roseospira navarrensis*, AJ298880, Rhodospirillaceae
- Rhodospira trueperi*, X99671, Rhodospirillaceae, type sp.
- Rhodospirillum photometricum*, AJ222662, Rhodospirillaceae
- Rhodospirillum sulfurexigens*, AM710622, Rhodospirillaceae
- Rhodospirillum rubrum*, CP000230, Rhodospirillaceae, type sp.
- Phaeovibrio sulfiphilus*, FN391894, Rhodospirillaceae, type sp.
- Thalassospira xiamenensis*, AY189753, Rhodospirillaceae
- Thalassospira xianhensis*, EU017546, Rhodospirillaceae
- Thalassospira lucentensis*, AF358664, Rhodospirillaceae, type sp.
- Thalassospira profundimaris*, AY186195, Rhodospirillaceae
- Thalassospira tepidiphila*, AB265822, Rhodospirillaceae
- Terasakiella pusilla*, AB006768, Methylocystaceae, type sp.
- Kiloniella laminariae*, AM749667, Kiloniellaceae, type sp.
- Insoltspirillum peregrinum* subsp. *integrum*, EF612768, Rhodospirillaceae
- Insoltspirillum peregrinum* subsp. *peregrinum*, EF612767, Rhodospirillaceae, type sp.
- Marispirillum indicum*, EU642410, Rhodospirillaceae, type sp.
- Novispirillum itersonii* subsp. *nipponicum*, AB074520, Rhodospirillaceae
- Novispirillum itersonii* subsp. *itersonii*, EF612765, Rhodospirillaceae, type sp.
- Caenispirillum bisanense*, EF100694, Rhodospirillaceae, type sp.
- Roseospirillum parvum*, AJ011919, Rhodospirillaceae, type sp.

- Kordilimonas gwangyangensis*, AY682384, Kordilimonadaceae, type sp.
- Kordilimonas lacus*, FJ847942, Kordilimonadaceae
- Rhodothalassium salexigens*, D14431, Rhodobacteraceae, type sp.

**Sphingomonadaceae and Erythrobacteraceae (142)**

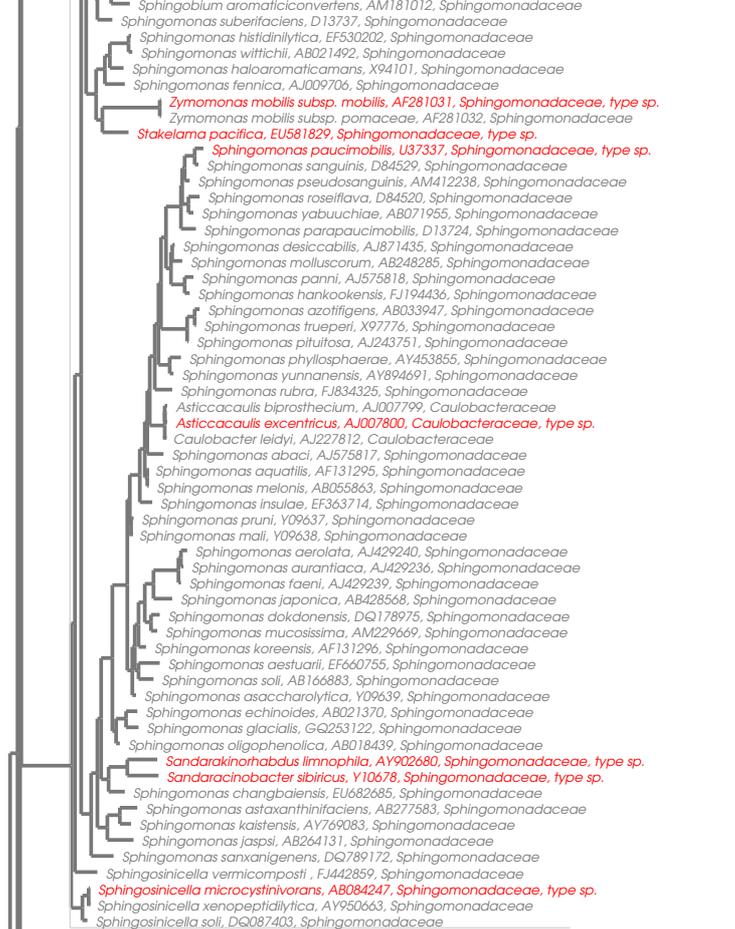
**Erythrobacteraceae (24)**

- Erythromicrobium ramosum*, AF465837, Erythrobacteraceae, type sp.
- Porphyrobacter donghaensis*, AY559428, Erythrobacteraceae
- Porphyrobacter cryptus*, AF465834, Erythrobacteraceae
- Porphyrobacter dokdonensis*, DQ011529, Erythrobacteraceae
- Porphyrobacter sanguineus*, AB021493, Erythrobacteraceae
- Porphyrobacter tepidarius*, AB033328, Erythrobacteraceae
- Porphyrobacter neustonensis*, AB033327, Erythrobacteraceae, type sp.
- Erythrobacter litoralis*, AF465836, Erythrobacteraceae
- Erythrobacter flavus*, AF500004, Erythrobacteraceae
- Erythrobacter gaetbuli*, AY562220, Erythrobacteraceae
- Erythrobacter aquimaris*, AY461441, Erythrobacteraceae
- Erythrobacter longus*, AF465835, Erythrobacteraceae, type sp.
- Erythrobacter nanhaediminis*, FJ654473, Erythrobacteraceae
- Erythrobacter vulgaris*, AY706935, Erythrobacteraceae
- Erythrobacter citreus*, AF118020, Erythrobacteraceae
- Erythrobacter seohaensis*, AY562219, Erythrobacteraceae
- Altererythrobacter aestuarii*, FJ997597, Erythrobacteraceae
- Erythrobacter gangjinensis*, EU428782, Erythrobacteraceae
- Altererythrobacter namhicola*, FJ935793, Erythrobacteraceae
- Altererythrobacter marinus*, EU726272, Erythrobacteraceae
- Altererythrobacter marensis*, FM177586, Erythrobacteraceae
- Altererythrobacter epoxidivorans*, DQ304436, Erythrobacteraceae, type sp.
- Altererythrobacter luteolus*, AY739662, Erythrobacteraceae
- Altererythrobacter indicus*, DQ399262, Erythrobacteraceae

**Croceicoccus marinus**, EF623998, Erythrobacteraceae, type sp.

- Sphingopyxis chilensis*, AF367204, Sphingomonadaceae
- Sphingopyxis bauzansensis*, GQ131578, Sphingomonadaceae
- Sphingopyxis soil*, FJ599671, Sphingomonadaceae
- Sphingopyxis taejonensis*, AF131297, Sphingomonadaceae
- Sphingomonas macrogolftabidus*, D13723, Sphingomonadaceae
- Sphingopyxis alaskensis*, Z73631, Sphingomonadaceae
- Sphingopyxis ginsengisoli*, AB245343, Sphingomonadaceae
- Sphingomonas terrae*, D13722, Sphingomonadaceae
- Sphingopyxis ummariensis*, EF424391, Sphingomonadaceae
- Sphingomonas adhaesiva*, D13722, Sphingomonadaceae
- Sphingopyxis panaciterulca*, EU075217, Sphingomonadaceae
- Sphingopyxis wittariensis*, AJ416410, Sphingomonadaceae
- Sphingopyxis litonis*, DQ781321, Sphingomonadaceae
- Sphingopyxis marina*, DQ781320, Sphingomonadaceae
- Sphingopyxis flavimaris*, AY554010, Sphingomonadaceae
- Sphingopyxis baekyungensis*, AY608604, Sphingomonadaceae
- Novosphingobium pentaromativorans*, AF502400, Sphingomonadaceae
- Novosphingobium mathurense*, EF424403, Sphingomonadaceae
- Novosphingobium panipatense*, EF424402, Sphingomonadaceae
- Novosphingobium indicum*, EF549586, Sphingomonadaceae
- Novosphingobium soil*, FJ425737, Sphingomonadaceae
- Novosphingobium naphthalenivorans*, AB177883, Sphingomonadaceae
- Novosphingobium resinovorum*, EF029110, Sphingomonadaceae
- Novosphingobium nitrogenifigens*, DQ444852, Sphingomonadaceae
- Sphingomonas stygia*, AB025013, Sphingomonadaceae
- Novosphingobium taihuense*, AY500142, Sphingomonadaceae
- Novosphingobium acidiphilum*, EU336977, Sphingomonadaceae
- Sphingomonas capsulata*, D16147, Sphingomonadaceae
- Sphingomonas aromaticivorans*, CP000248, Sphingomonadaceae
- Sphingomonas subterranea*, AB025014, Sphingomonadaceae
- Novosphingobium tardaugens*, AB070237, Sphingomonadaceae
- Novosphingobium hassiacum*, AJ416411, Sphingomonadaceae
- Novosphingobium lentum*, AJ303009, Sphingomonadaceae
- Sphingomonas rosa*, D13945, Sphingomonadaceae
- Blastomonas natatoria*, AB024288, Sphingomonadaceae, type sp.

- Sphingomonas ursincola*, AB024289, Sphingomonadaceae
- Sphingobium chinhatense*, EF190507, Sphingomonadaceae
- Sphingobium francense*, AY519130, Sphingomonadaceae
- Sphingobium indicum*, AY519129, Sphingomonadaceae
- Sphingobium japonicum*, AF039168, Sphingomonadaceae
- Sphingomonas chlorophenolica*, X87161, Sphingomonadaceae
- Sphingobium chungbukense*, AF159257, Sphingomonadaceae
- Sphingobium vulgare*, FJ177535, Sphingomonadaceae
- Sphingobium vermicomposti*, AM998824, Sphingomonadaceae
- Sphingobium aiguoii*, EU095328, Sphingomonadaceae
- Sphingomonas herbicidivorans*, AB022428, Sphingomonadaceae
- Sphingobium quisquillarum*, EU781657, Sphingomonadaceae
- Sphingobium fuliginis*, DQ092757, Sphingomonadaceae
- Sphingobium cloacae*, AB040739, Sphingomonadaceae
- Sphingobium faniae*, FJ373058, Sphingomonadaceae
- Sphingobium ummariense*, EF207155, Sphingomonadaceae
- Sphingobium scionense*, EU009209, Sphingomonadaceae
- Sphingomonas yanoikuyae*, D13728, Sphingomonadaceae
- Sphingobium amiense*, AB047364, Sphingomonadaceae
- Sphingobium rhizovicinum*, EF465534, Sphingomonadaceae
- Sphingobium abikonense*, AB021416, Sphingomonadaceae
- Sphingobium lactosutens*, EU675846, Sphingomonadaceae
- Sphingobium olei*, AM489507, Sphingomonadaceae
- Sphingobium xenophagum*, X94098, Sphingomonadaceae



**Sneathiellaceae (2)**

- Sneathiella chinensis*, DQ219355, Sneathiellaceae, type sp.
- Sneathiella glossodaripedis*, AB289439, Sneathiellaceae

**Rickettsiaceae (20)**

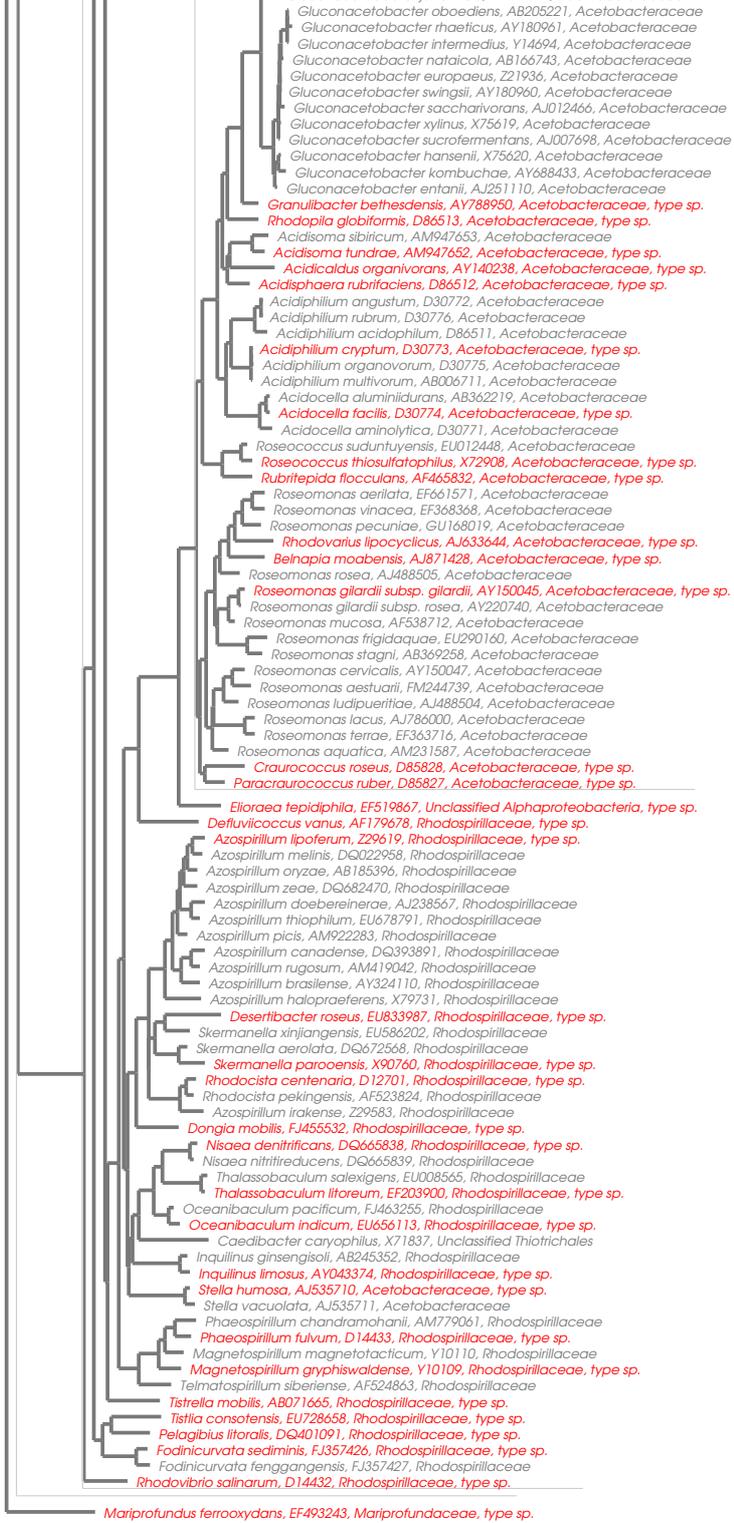
- Rickettsia conorii*, AF541999, Rickettsiaceae
- Rickettsia parkeri*, L36673, Rickettsiaceae
- Rickettsia rickettsii*, L36217, Rickettsiaceae
- Rickettsia honei*, U17645, Rickettsiaceae
- Rickettsia sibirica*, D38628, Rickettsiaceae
- Rickettsia hellongjiangensis*, AF178037, Rickettsiaceae
- Rickettsia raoultii*, DQ365810, Rickettsiaceae
- Rickettsia aeschlimannii*, U74757, Rickettsiaceae
- Rickettsia rhipicephali*, L36216, Rickettsiaceae
- Rickettsia montanensis*, L36215, Rickettsiaceae
- Rickettsia tamurae*, AY049981, Rickettsiaceae
- Rickettsia asiatica*, AF394906, Rickettsiaceae
- Rickettsia massiliae*, L36214, Rickettsiaceae
- Rickettsia prowazekii*, M21789, Rickettsiaceae, type sp.
- Rickettsia typhi*, U12463, Rickettsiaceae
- Rickettsia canadensis*, L36104, Rickettsiaceae
- Rickettsia akari*, L36099, Rickettsiaceae
- Rickettsia australis*, L36101, Rickettsiaceae
- Rickettsia bellii*, L36103, Rickettsiaceae

**Orientia tsutsugamushi**, D38623, Rickettsiaceae, type sp.

- Ehrlichia chaffeensis*, M73222, Anaplasmataceae
- Ehrlichia muris*, U15527, Anaplasmataceae
- Ehrlichia ewingii*, M73227, Anaplasmataceae
- Ehrlichia ruminantium*, X61659, Anaplasmataceae
- Anaplasma phagocytophilum*, U02521, Anaplasmataceae
- Neorickettsia risticii*, M21290, Anaplasmataceae
- Neorickettsia sennetsu*, M73219, Anaplasmataceae

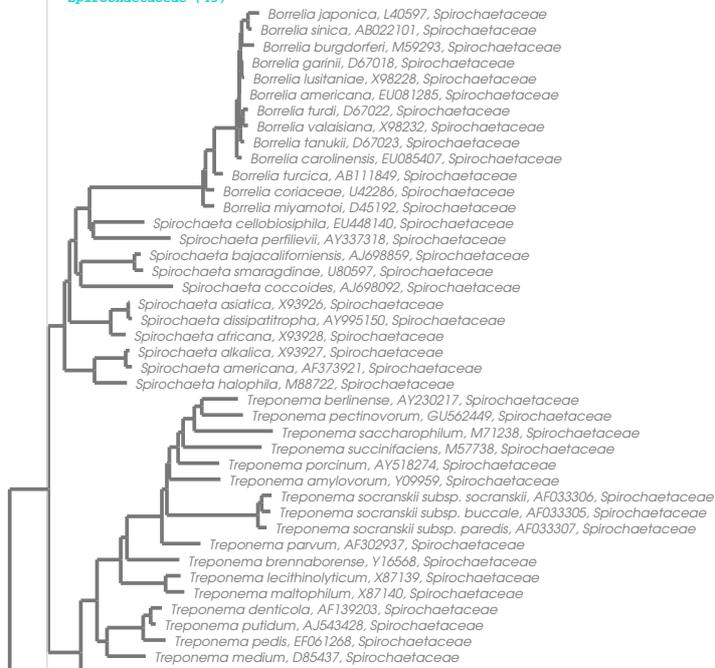
**Acetobacteraceae (95)**

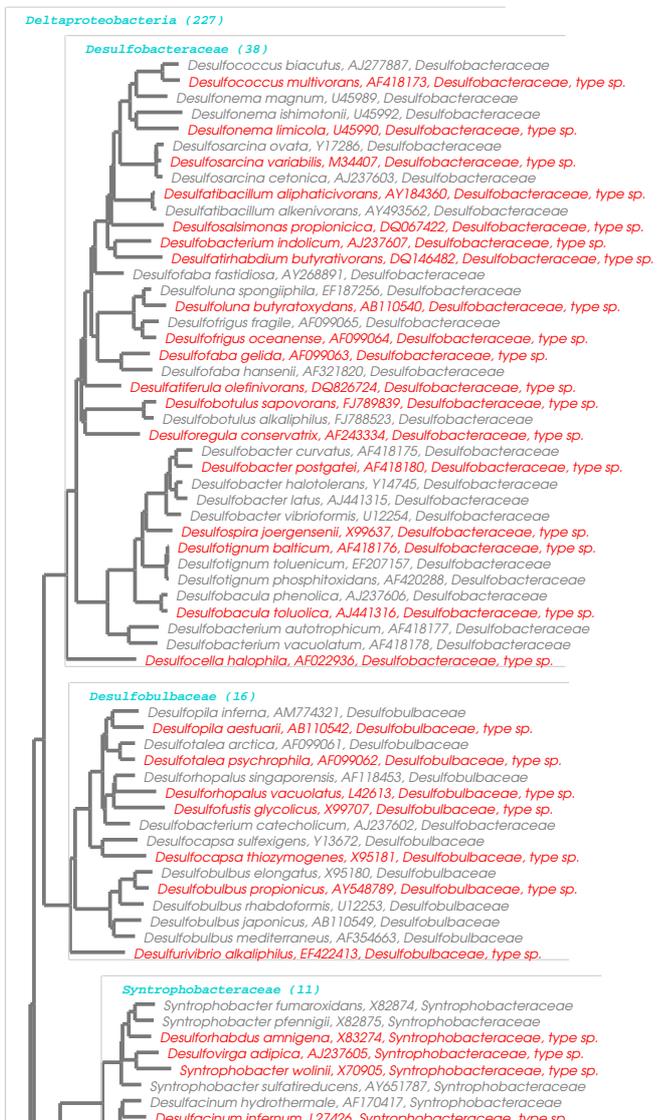
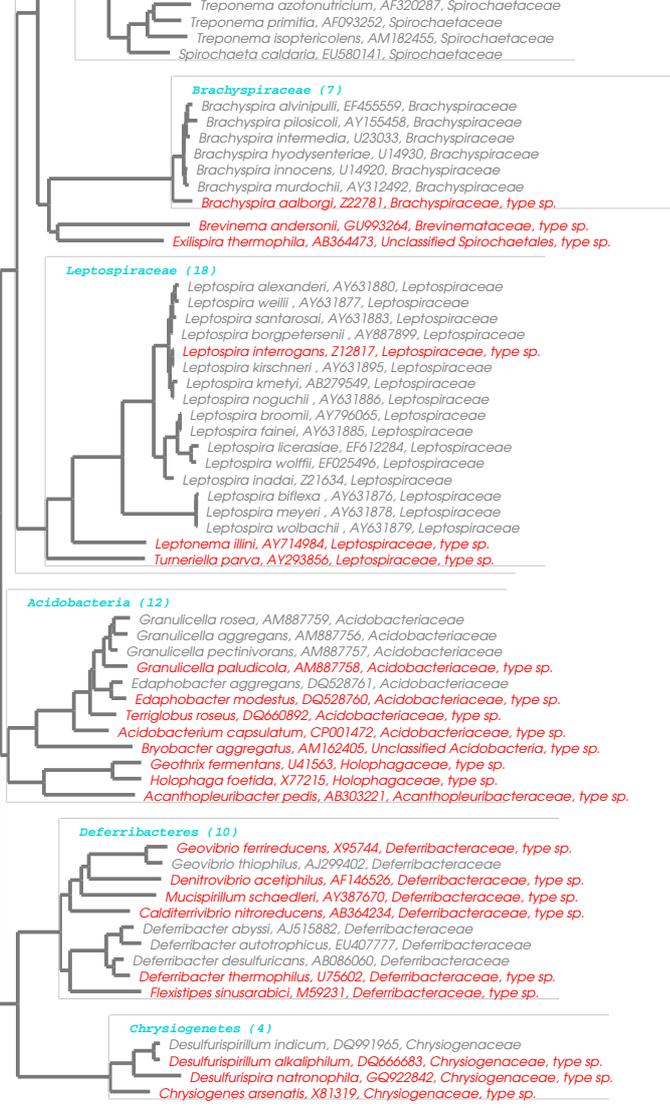
- Acetobacter cerevisiae*, AJ419843, Acetobacteraceae
- Acetobacter malorum*, AJ419844, Acetobacteraceae
- Acetobacter orleanensis*, AB032350, Acetobacteraceae
- Acetobacter senegalensis*, AY883036, Acetobacteraceae
- Acetobacter tropicalis*, AB032355, Acetobacteraceae
- Acetobacter cibinongensis*, AB052710, Acetobacteraceae
- Acetobacter orientalis*, AB052706, Acetobacteraceae
- Acetobacter indonesiensis*, AB032356, Acetobacteraceae
- Acetobacter acetii*, X74066, Acetobacteraceae, type sp.
- Acetobacter nitrogenifigens*, AY669513, Acetobacteraceae
- Acetobacter oeni*, AY829472, Acetobacteraceae
- Acetobacter estunensis*, AJ419838, Acetobacteraceae
- Acetobacter fabarum*, AM905849, Acetobacteraceae
- Acetobacter lovaniensis*, AB032351, Acetobacteraceae
- Acetobacter ghanensis*, EF030713, Acetobacteraceae
- Acetobacter syzygii*, AB052712, Acetobacteraceae
- Acetobacter pasteurianus* subsp. *pasteurianus*, X71863, Acetobacteraceae
- Acetobacter pomorum*, AJ419835, Acetobacteraceae
- Acetobacter peroxydans*, AB032352, Acetobacteraceae
- Gluconobacter frateurii*, X82290, Acetobacteraceae
- Gluconobacter thailandicus*, AB128050, Acetobacteraceae
- Gluconobacter japonicus*, AB253435, Acetobacteraceae
- Gluconobacter cerinus*, AB178406, Acetobacteraceae
- Gluconobacter wancheniae*, AB511060, Acetobacteraceae
- Gluconobacter oxydans*, X73820, Acetobacteraceae, type sp.
- Gluconobacter roseus*, AB178429, Acetobacteraceae
- Gluconobacter albidus*, AB178392, Acetobacteraceae
- Gluconobacter sphaericus*, AB178431, Acetobacteraceae
- Gluconobacter kanchanaburiensis*, AB459530, Acetobacteraceae
- Saccharibacter floricola*, AB110421, Acetobacteraceae, type sp.
- Ameyamaea chiangmaiensis*, AB303366, Acetobacteraceae, type sp.
- Tanticharoenia sakaeratensis*, AB304087, Acetobacteraceae, type sp.
- Asaia bogorensis*, AB025928, Acetobacteraceae, type sp.
- Asaia krungthepensis*, AB102953, Acetobacteraceae
- Asaia siamensis*, AB035416, Acetobacteraceae
- Asaia spathodeae*, AB511277, Acetobacteraceae
- Asaia lannensis*, AB286050, Acetobacteraceae
- Swaminathaniantha salifolerans*, AF459454, Acetobacteraceae, type sp.
- Kozakia baliensis*, AB056321, Acetobacteraceae, type sp.
- Neosaia chiangmaiensis*, AB208549, Acetobacteraceae, type sp.
- Acidomonas methanolica*, X77468, Acetobacteraceae, type sp.
- Gluconacetobacter liquefaciens*, X75617, Acetobacteraceae, type sp.
- Gluconacetobacter sacchari*, AF127407, Acetobacteraceae
- Gluconacetobacter diazotrophicus*, X75618, Acetobacteraceae
- Gluconacetobacter azotocaptans*, AF192761, Acetobacteraceae
- Gluconacetobacter johannae*, AF111841, Acetobacteraceae

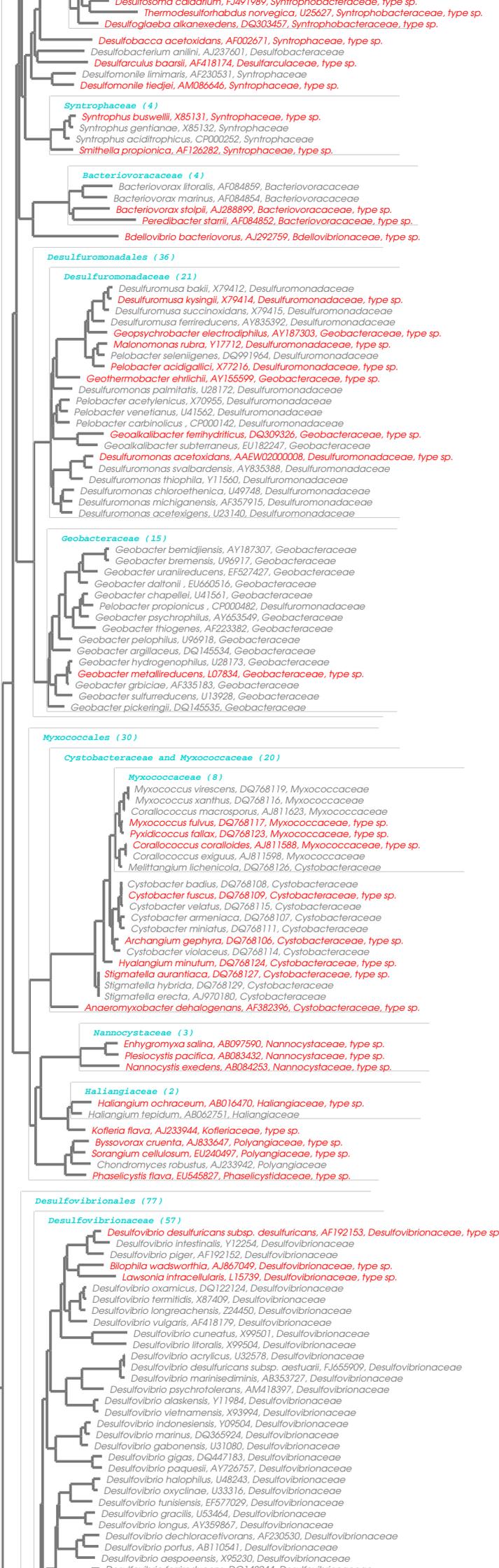


Spirochaetes (72)

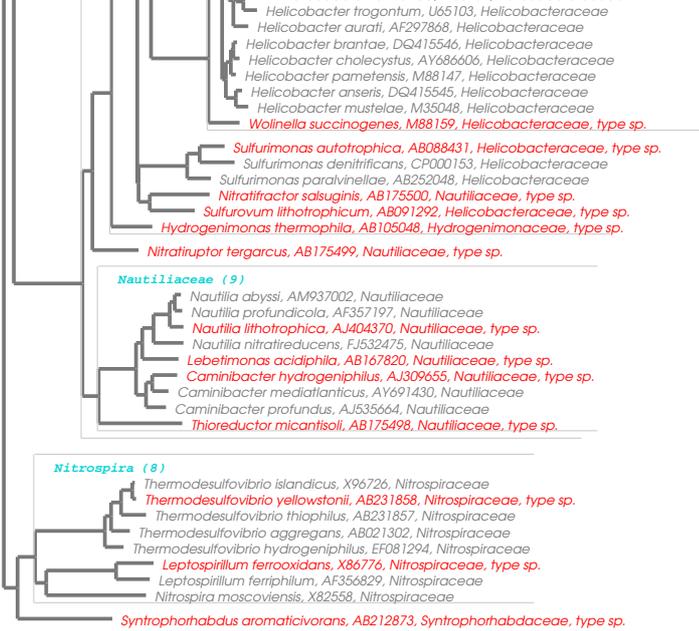
Spirochaetaceae (45)





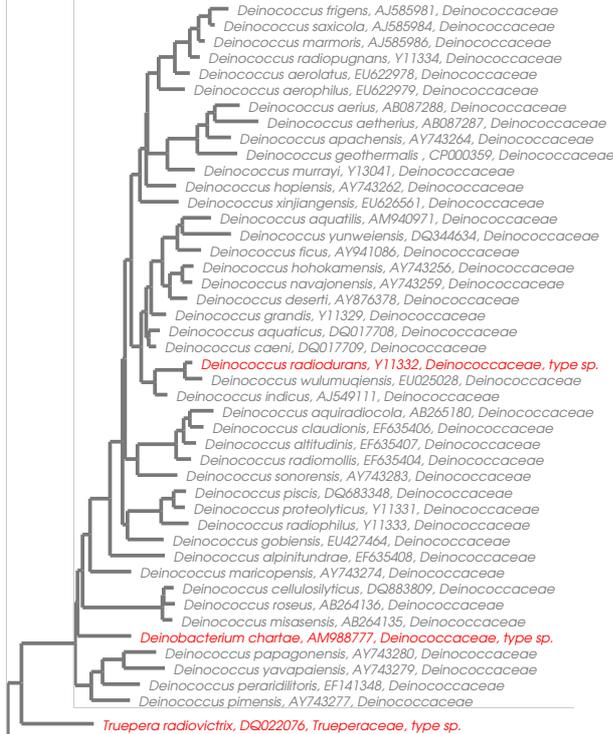




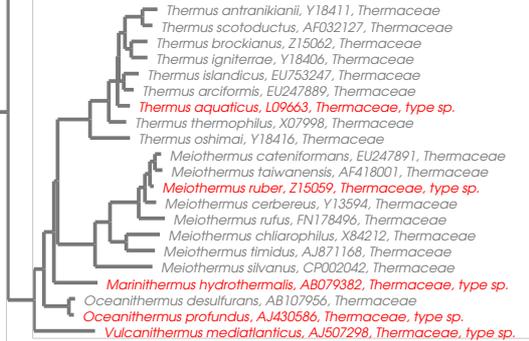


**Deinococcus-Thermus (66)**

**Deinococcaceae (44)**

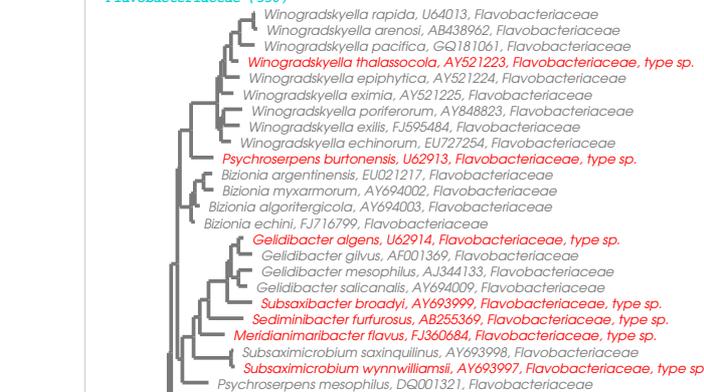


**Thermaceae (21)**

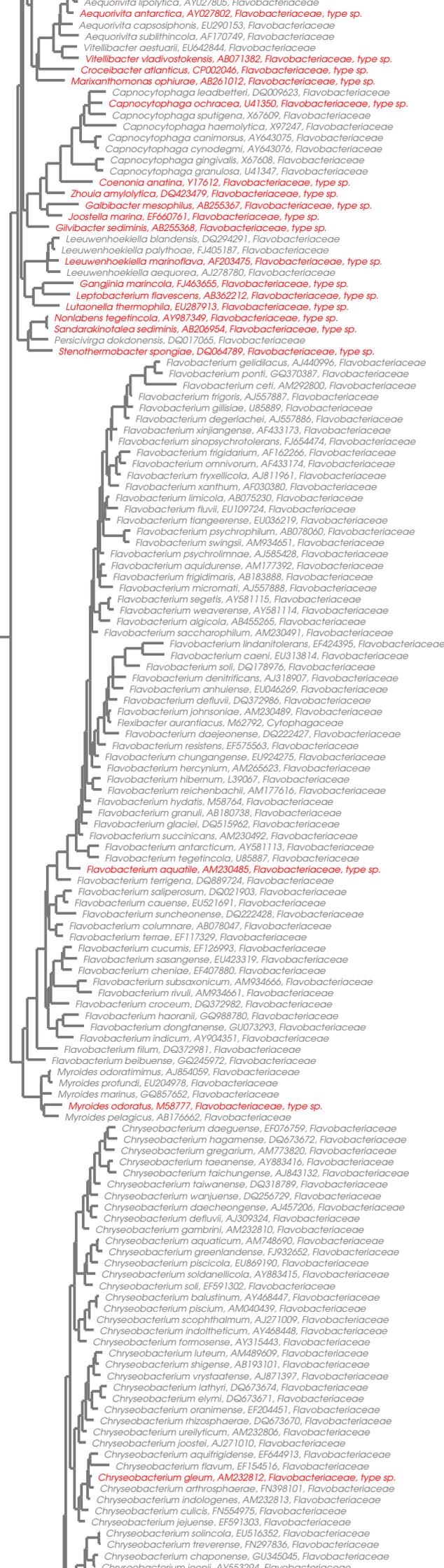


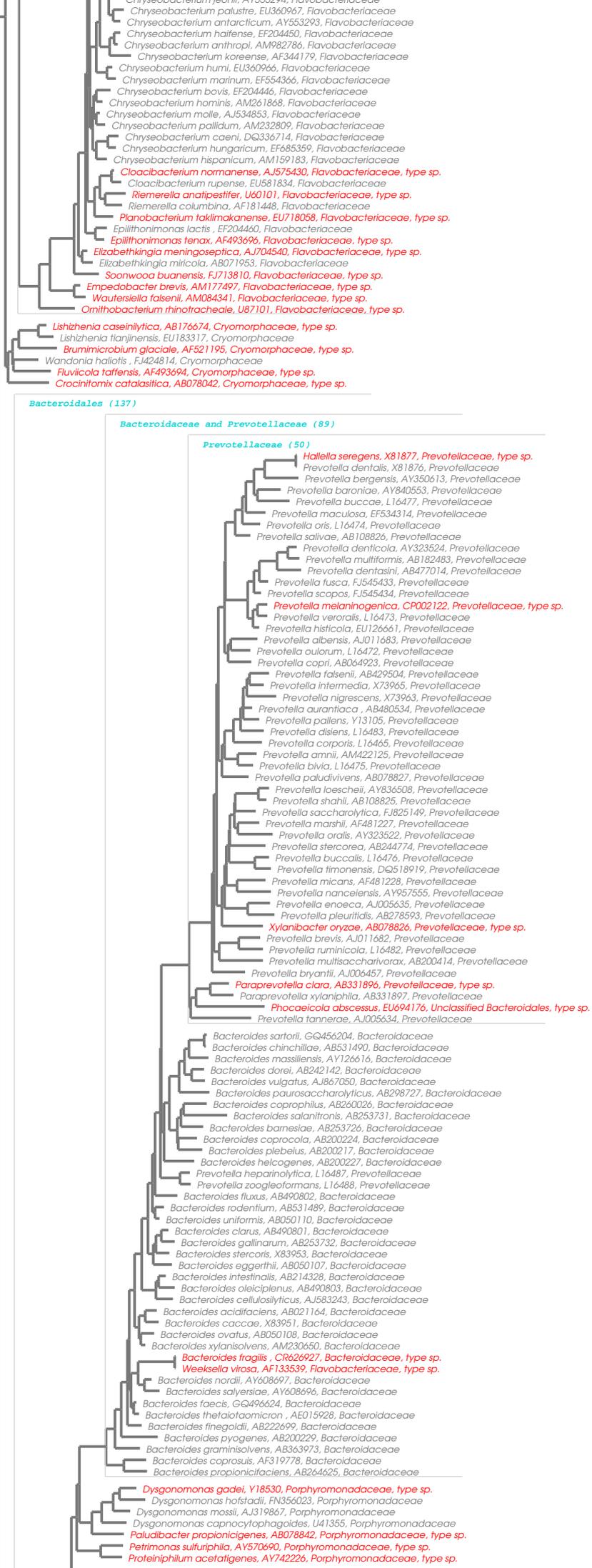
**Bacteroidetes (722)**

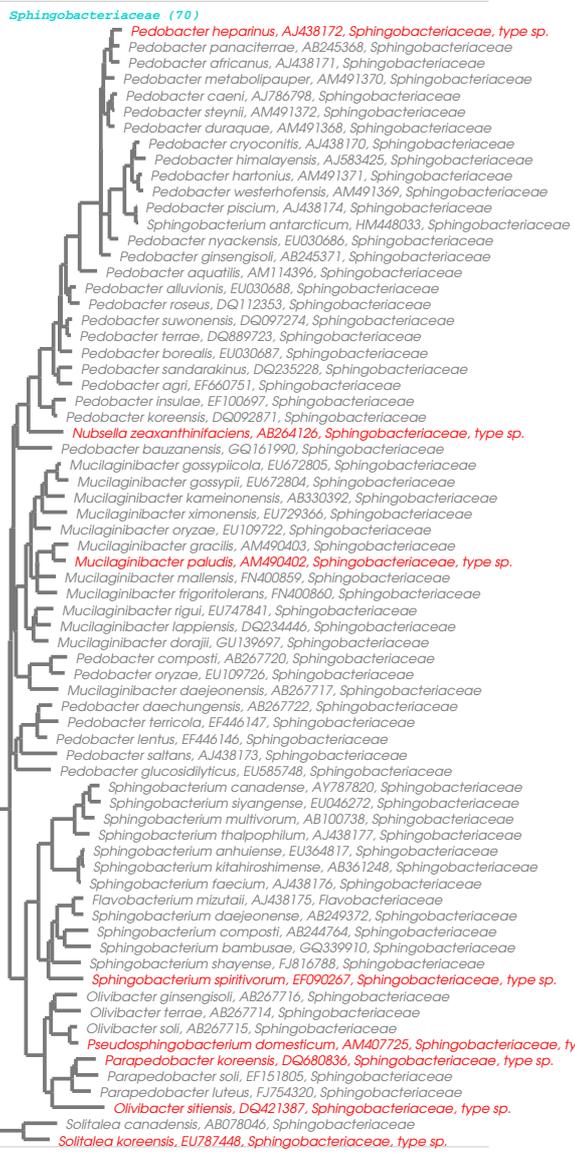
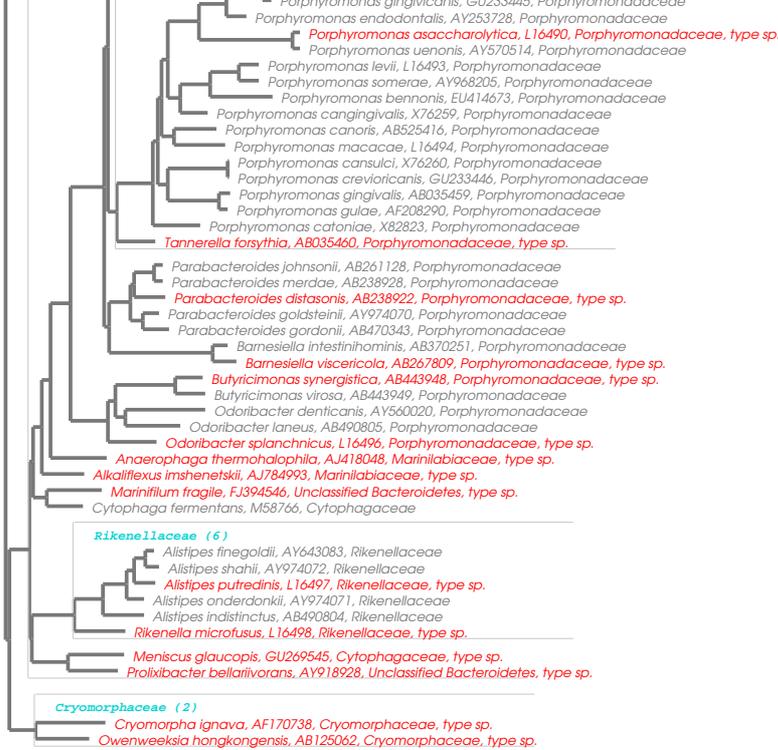
**Flavobacteriaceae (330)**

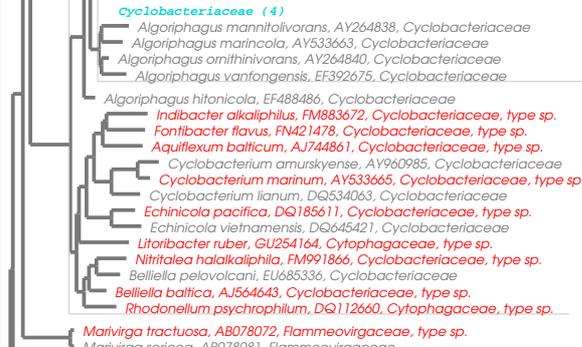
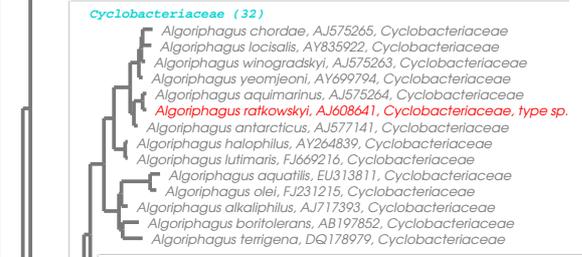
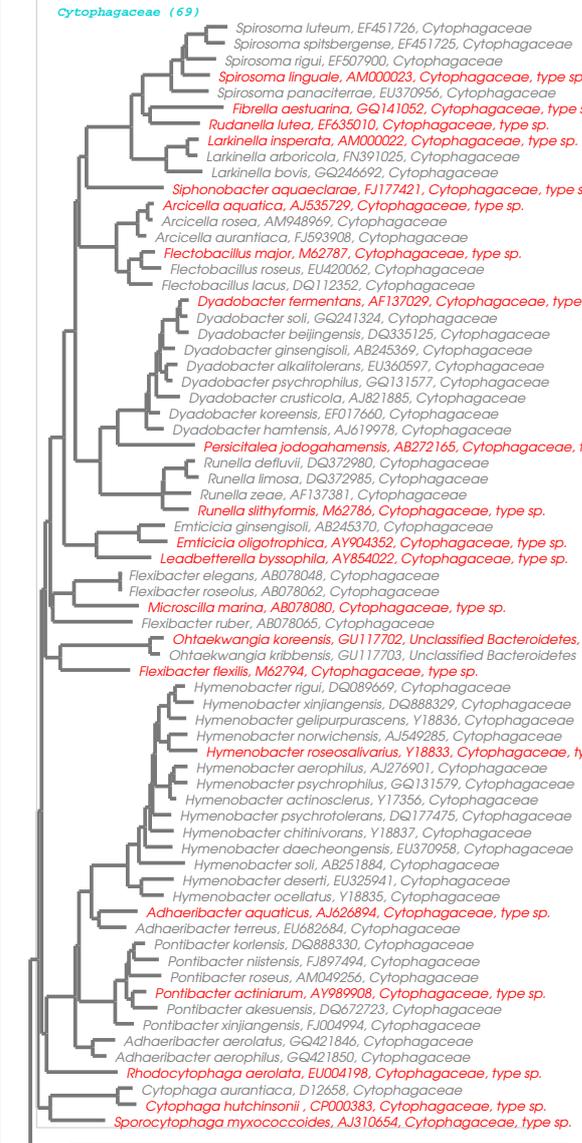


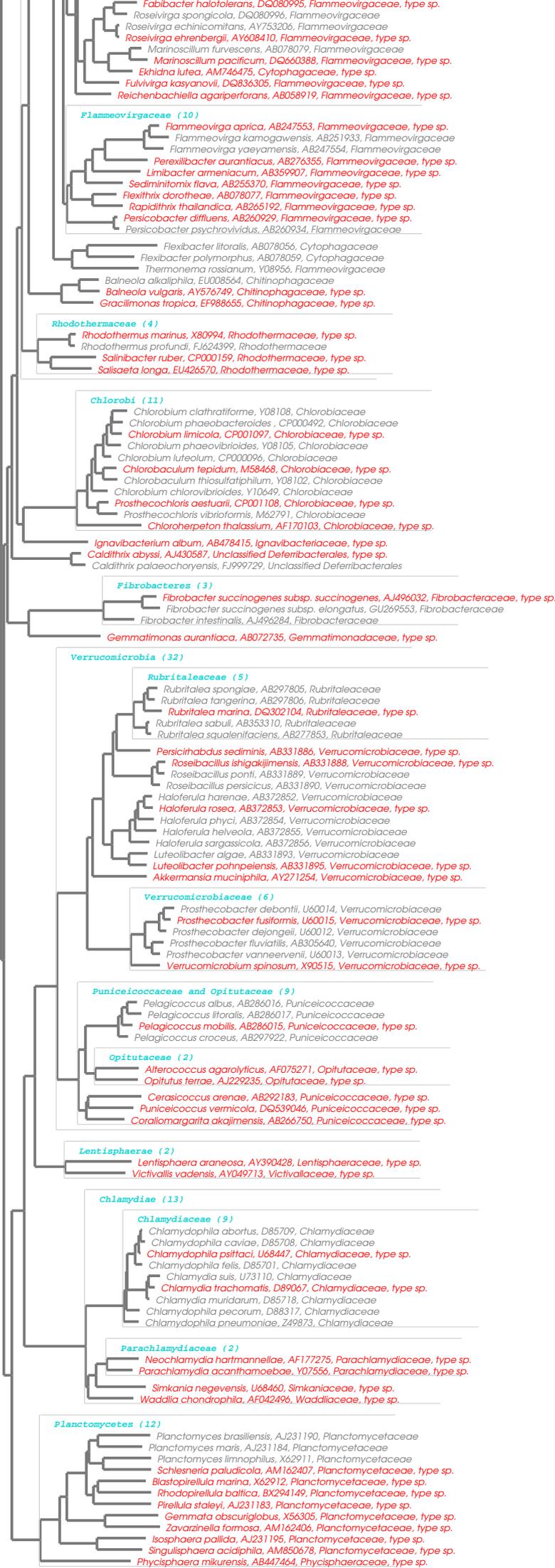
*Bizionia gelidissuliginis*, AY694004, Flavobacteriaceae  
*Bizionia salefrena*, AY694005, Flavobacteriaceae  
*Bizionia paragongiae*, AY651070, Flavobacteriaceae, type sp.  
*Formosa agariphila*, AY187688, Flavobacteriaceae  
*Formosa algae*, AY228461, Flavobacteriaceae, type sp.  
*Formosa spongicola*, FJ348469, Flavobacteriaceae  
*Tamlana agarivorans*, EU221275, Flavobacteriaceae  
*Tamlana crocina*, AM286230, Flavobacteriaceae, type sp.  
*Flaviramus basaltis*, DQ361033, Flavobacteriaceae, type sp.  
*Gaetbulbacter marinus*, EF108219, Flavobacteriaceae  
*Yeosuana aromatorans*, AY682382, Flavobacteriaceae, type sp.  
*Hyunsoonleella jejuensis*, EF217419, Flavobacteriaceae, type sp.  
*Jejuia pallidulitea*, EU443204, Flavobacteriaceae, type sp.  
*Gaetbulbacter saemankumensis*, AY883937, Flavobacteriaceae, type sp.  
*Mariniflexile fucanivorans*, AJ628046, Flavobacteriaceae  
*Mariniflexile gromovii*, DQ312294, Flavobacteriaceae, type sp.  
*Algibacter lectus*, AY187689, Flavobacteriaceae, type sp.  
*Algibacter mikhailovii*, AM491809, Flavobacteriaceae  
*Lacinutrix algicola*, DQ167238, Flavobacteriaceae  
*Lacinutrix mariniflava*, DQ167239, Flavobacteriaceae  
*Lacinutrix copepodicola*, AY694001, Flavobacteriaceae, type sp.  
*Olleya aquimaris*, FJ886713, Flavobacteriaceae  
*Mesoflavibacter zeaxanthinifaciens*, AB265181, Flavobacteriaceae, type sp.  
*Tenacibaculum ovolyticum*, AB078058, Flavobacteriaceae  
*Tenacibaculum soleae*, AM746476, Flavobacteriaceae  
*Tenacibaculum aiptasiae*, EF416572, Flavobacteriaceae  
*Tenacibaculum aestuarii*, DQ314760, Flavobacteriaceae  
*Tenacibaculum amyolyticum*, AB032505, Flavobacteriaceae  
*Tenacibaculum skagerakense*, AF469612, Flavobacteriaceae  
*Tenacibaculum litopenaei*, DQ822567, Flavobacteriaceae  
*Tenacibaculum lutimaris*, AY661691, Flavobacteriaceae  
*Tenacibaculum mesophilum*, AB032501, Flavobacteriaceae  
*Tenacibaculum gallaicum*, AM746477, Flavobacteriaceae  
*Tenacibaculum litoreum*, AY962294, Flavobacteriaceae  
*Tenacibaculum discolor*, AM411030, Flavobacteriaceae  
*Tenacibaculum adriaticum*, AM412314, Flavobacteriaceae  
*Tenacibaculum crassostreae*, EU428783, Flavobacteriaceae  
*Polaribacter butkevichii*, AY189722, Flavobacteriaceae  
*Polaribacter irgensii*, M61002, Flavobacteriaceae  
*Polaribacter filamentosus*, U73726, Flavobacteriaceae, type sp.  
*Polaribacter franzmannii*, U14586, Flavobacteriaceae  
*Polaribacter dokdonensis*, DQ004686, Flavobacteriaceae  
*Tenacibaculum maritimum*, AB078057, Flavobacteriaceae, type sp.  
*Maritimimonas rapanae*, EU290161, Flavobacteriaceae, type sp.  
*Lutibacter littoralis*, AY962293, Flavobacteriaceae, type sp.  
*Lutibacter maritimus*, FJ598048, Flavobacteriaceae  
*Aestuariaicola saemankumensis*, EU239499, Flavobacteriaceae, type sp.  
*Lutimonas vermicola*, EF108218, Flavobacteriaceae, type sp.  
*Actibacter sediminis*, EF670651, Flavobacteriaceae, type sp.  
*Fuviobacter tottoriensis*, AB294107, Flavobacteriaceae, type sp.  
*Kordia algicida*, AY195836, Flavobacteriaceae, type sp.  
*Kordia periserrulae*, GLU233518, Flavobacteriaceae  
*Aquimarina muelleri*, AY608406, Flavobacteriaceae, type sp.  
*Aquimarina macrocephali*, AB517144, Flavobacteriaceae  
*Aquimarina latercula*, M58769, Flavobacteriaceae  
*Aquimarina intermedia*, AM113977, Flavobacteriaceae  
*Aquimarina spongiae*, FJ348470, Flavobacteriaceae  
*Aquimarina brevivatae*, AY987367, Flavobacteriaceae  
*Dokdonia donghaensis*, DQ003276, Flavobacteriaceae, type sp.  
*Krokinobacter genikus*, AB198086, Flavobacteriaceae, type sp.  
*Krokinobacter diaphorus*, AB198089, Flavobacteriaceae  
*Krokinobacter eikastus*, AB198088, Flavobacteriaceae  
*Salegentibacter agarivorans*, DQ191176, Flavobacteriaceae  
*Salegentibacter halothurium*, AB116148, Flavobacteriaceae  
*Salegentibacter salegens*, M92279, Flavobacteriaceae, type sp.  
*Salegentibacter salarius*, EF486353, Flavobacteriaceae  
*Salegentibacter mishustinae*, AY576653, Flavobacteriaceae  
*Salegentibacter salinarum*, EF612764, Flavobacteriaceae  
*Salegentibacter flavus*, AY682200, Flavobacteriaceae  
*Gramella portivictoriae*, DQ002871, Flavobacteriaceae  
*Gramella marina*, AY753911, Flavobacteriaceae  
*Gramella echinicola*, AY608409, Flavobacteriaceae, type sp.  
*Mesonion mobilis*, DQ367409, Flavobacteriaceae  
*Mesonion phycicola*, FM882228, Flavobacteriaceae  
*Mesonion algae*, AF536383, Flavobacteriaceae, type sp.  
*Psychroflexus sediminis*, EU135715, Flavobacteriaceae  
*Psychroflexus tropicus*, AF513434, Flavobacteriaceae  
*Psychroflexus torquis*, U85881, Flavobacteriaceae, type sp.  
*Psychroflexus salinarum*, EU874390, Flavobacteriaceae  
*Zunongwangia profunda*, DQ855467, Flavobacteriaceae, type sp.  
*Gillisia hiemivivida*, AY694006, Flavobacteriaceae  
*Gillisia mitskevichiae*, AY576655, Flavobacteriaceae  
*Gillisia illustrilutea*, AY694008, Flavobacteriaceae  
*Gillisia sandarakina*, AY694007, Flavobacteriaceae  
*Gillisia limnaea*, AJ440991, Flavobacteriaceae, type sp.  
*Gillisia myxillae*, DQ202393, Flavobacteriaceae  
*Salinimicrobium terrae*, EU135614, Flavobacteriaceae  
*Salinimicrobium xinjiangense*, EF520007, Flavobacteriaceae  
*Salinimicrobium marinum*, GQ866112, Flavobacteriaceae  
*Salinimicrobium catena*, DQ640642, Flavobacteriaceae, type sp.  
*Muricauda flavescens*, AY445073, Flavobacteriaceae  
*Muricauda ruestingensis*, AF218782, Flavobacteriaceae, type sp.  
*Muricauda aquimarina*, AY445075, Flavobacteriaceae  
*Muricauda lutimaris*, EU156065, Flavobacteriaceae  
*Muricauda olearia*, EU888117, Flavobacteriaceae  
*Muricauda lutoaensis*, EU564844, Flavobacteriaceae  
*Croceitalea dokdonensis*, DQ191182, Flavobacteriaceae  
*Croceitalea eckloniae*, DQ191183, Flavobacteriaceae, type sp.  
*Flagellimonas eckloniae*, DQ191180, Flavobacteriaceae, type sp.  
*Euzebryella saccharophila*, FN554868, Flavobacteriaceae, type sp.  
*Pseudozobellia thermophila*, AB084261, Flavobacteriaceae, type sp.  
*Costertonia aggregata*, DQ167246, Flavobacteriaceae, type sp.  
*Muricola jejuensis*, EU443206, Flavobacteriaceae, type sp.  
*Zeaxanthinibacter enoshimensis*, AB264057, Flavobacteriaceae, type sp.  
*Eudoraea adriatica*, AM745437, Flavobacteriaceae, type sp.  
*Robiginitalea bifurcata*, CP001712, Flavobacteriaceae, type sp.  
*Robiginitalea myxolifaciens*, AB270585, Flavobacteriaceae  
*Maribacter aquivivus*, AY271625, Flavobacteriaceae  
*Pibocella ponti*, AY576654, Flavobacteriaceae, type sp.  
*Maribacter arcticus*, AY771762, Flavobacteriaceae  
*Maribacter antarcticus*, EU512921, Flavobacteriaceae  
*Maribacter dokdonensis*, AY960749, Flavobacteriaceae  
*Maribacter sedimenticola*, AY271623, Flavobacteriaceae, type sp.  
*Maribacter stanieri*, EU246691, Flavobacteriaceae  
*Maribacter orientalis*, AY271624, Flavobacteriaceae  
*Maribacter forsetii*, AM712900, Flavobacteriaceae  
*Maribacter ulvicola*, AY271626, Flavobacteriaceae  
*Maribacter polysiphoniae*, AM497875, Flavobacteriaceae  
*Zobellia amurskyensis*, AB121974, Flavobacteriaceae  
*Zobellia laminariae*, AB121975, Flavobacteriaceae  
*Zobellia russellii*, AB121976, Flavobacteriaceae  
*Zobellia uliginosa*, M62799, Flavobacteriaceae  
*Zobellia galactanivorans*, AF208293, Flavobacteriaceae, type sp.  
*Kriegella aquimaris*, AB084262, Flavobacteriaceae, type sp.  
*Arenibacter palladensis*, AJ575643, Flavobacteriaceae  
*Arenibacter troitsensis*, AB080771, Flavobacteriaceae  
*Arenibacter echinorum*, EF536748, Flavobacteriaceae  
*Arenibacter certesi*, AY271622, Flavobacteriaceae  
*Arenibacter laterculus*, AF052742, Flavobacteriaceae, type sp.  
*Arenibacter nanhallicus*, EU999955, Flavobacteriaceae  
*Sediminicola luteus*, AB206957, Flavobacteriaceae, type sp.  
*Cellulophaga algicola*, AF001366, Flavobacteriaceae  
*Cellulophaga baltica*, AJ005972, Flavobacteriaceae  
*Cellulophaga pacifica*, AB100840, Flavobacteriaceae  
*Cellulophaga tyrosinoydans*, EU443205, Flavobacteriaceae  
*Cellulophaga fucicola*, AJ005973, Flavobacteriaceae  
*Ulvibacter antarcticus*, EF554364, Flavobacteriaceae  
*Ulvibacter littoralis*, AY243096, Flavobacteriaceae, type sp.  
*Aequorivita crocea*, AY027806, Flavobacteriaceae











**Micrococcaceae and Yaniellaceae (120)**

- Arthrobacter psychrolactophilus, AF134179, Micrococcaceae
- Arthrobacter psychrochitiniphilus, AB588633, Micrococcaceae
- Arthrobacter stackebrandtii, AJ640198, Micrococcaceae
- Arthrobacter alpinus, GQ227413, Micrococcaceae
- Arthrobacter livingstonensis, GQ406811, Micrococcaceae
- Acaricomus phytoseiuli, AJ812213, Micrococcaceae, type sp.**
- Arthrobacter sanguinis, EU086805, Micrococcaceae
- Renibacterium salmoninarum, AF180950, Micrococcaceae, type sp.**
- Arthrobacter ruscus, AB071950, Micrococcaceae
- Arthrobacter defluvii, AM409361, Micrococcaceae
- Arthrobacter niigatensis, AB248526, Micrococcaceae
- Arthrobacter chlorophenolicus, AF102267, Micrococcaceae
- Arthrobacter phenanthrenivorans, AM176541, Micrococcaceae
- Arthrobacter polychromogenes, X80741, Micrococcaceae
- Arthrobacter oxydans, X83408, Micrococcaceae
- Arthrobacter scleromae, AF330692, Micrococcaceae
- Arthrobacter roseus, AJ278870, Micrococcaceae
- Arthrobacter nicotinovorans, X80743, Micrococcaceae
- Arthrobacter ureafaciens, X80744, Micrococcaceae
- Arthrobacter histidinovorans, X83406, Micrococcaceae
- Arthrobacter illicis, X83407, Micrococcaceae
- Arthrobacter aurescens, X83405, Micrococcaceae
- Arthrobacter nitroguajacolicus, AJ512504, Micrococcaceae
- Arthrobacter alkaliophilus, AB248527, Micrococcaceae
- Arthrobacter methylotrophus, AF235090, Micrococcaceae
- Arthrobacter sulfonivorans, AF235091, Micrococcaceae
- Arthrobacter humicola, AB279890, Micrococcaceae
- Arthrobacter oryzae, AB279889, Micrococcaceae
- Arthrobacter parietis, AJ639830, Micrococcaceae
- Arthrobacter tumbae, AJ315069, Micrococcaceae
- Arthrobacter subterraneus, DQ097525, Micrococcaceae
- Arthrobacter tecti, AJ639829, Micrococcaceae
- Arthrobacter agilis, X80748, Micrococcaceae
- Arthrobacter flavus, AB537168, Micrococcaceae
- Arthrobacter pascens, X80740, Micrococcaceae
- Arthrobacter ramosus, X80742, Micrococcaceae
- Arthrobacter globiformis, X80736, Micrococcaceae, type sp.**
- Arthrobacter gangotriensis, AJ606061, Micrococcaceae
- Arthrobacter antarcticus, AM931709, Micrococcaceae
- Arthrobacter rhombi, Y15885, Micrococcaceae
- Arthrobacter sulfureus, X83409, Micrococcaceae
- Arthrobacter psychrophenicus, AJ616763, Micrococcaceae
- Arthrobacter kerguelensis, AJ606062, Micrococcaceae
- Arthrobacter mysorens, AJ617482, Micrococcaceae
- Arthrobacter nicotiana, X80739, Micrococcaceae
- Arthrobacter arilifensis, AJ609628, Micrococcaceae
- Arthrobacter uratoxydans, X83410, Micrococcaceae
- Arthrobacter arleyensis, AJ551163, Micrococcaceae
- Arthrobacter bergerei, AJ609630, Micrococcaceae
- Arthrobacter protophormiae, X80745, Micrococcaceae
- Arthrobacter soli, EF660748, Micrococcaceae
- Arthrobacter creatinolyticus, D88211, Micrococcaceae
- Arthrobacter cryotolerans, GQ406812, Micrococcaceae
- Arthrobacter woluwensis, X93353, Micrococcaceae
- Micrococcus endophyticus, EU005372, Micrococcaceae
- Micrococcus flavus, DQ491453, Micrococcaceae
- Micrococcus luteus, AJ536198, Micrococcaceae, type sp.**
- Micrococcus yunnanensis, FJ214355, Micrococcaceae
- Micrococcus antarcticus, AJ005932, Micrococcaceae
- Micrococcus lylae, X80750, Micrococcaceae
- Micrococcus terreus, FJ423763, Micrococcaceae
- Zhihengliuella halotolerans, DQ372937, Micrococcaceae, type sp.**
- Zhihengliuella alba, EU847536, Micrococcaceae
- Nesterenkonia aethiopica, AY574575, Micrococcaceae
- Nesterenkonia xinjiangensis, AY226510, Micrococcaceae
- Nesterenkonia flava, EF680886, Micrococcaceae
- Nesterenkonia lacusekhoensis, AJ290397, Micrococcaceae
- Nesterenkonia alba, EU566871, Micrococcaceae
- Nesterenkonia halobia, X80747, Micrococcaceae, type sp.**
- Nesterenkonia halophila, AY820953, Micrococcaceae
- Nesterenkonia halotolerans, AY226508, Micrococcaceae
- Nesterenkonia sandarakina, AY588277, Micrococcaceae
- Nesterenkonia jeotgali, AY928901, Micrococcaceae
- Nesterenkonia lutea, AY588278, Micrococcaceae
- Yaniella flava, AY684123, Micrococcaceae
- Yaniella halotolerans, AY228479, Micrococcaceae, type sp.**
- Yaniella fodinae, FJ871122, Micrococcaceae
- Aurifidibacter ignavus, FN554542, Micrococcaceae, type sp.**
- Arthrobacter albus, AJ243421, Micrococcaceae
- Arthrobacter cumminsii, X93354, Micrococcaceae
- Citricoccus alkaliolerans, AJ376164, Micrococcaceae
- Citricoccus muralis, AJ344143, Micrococcaceae, type sp.**
- Citricoccus parietis, FM992367, Micrococcaceae
- Citricoccus zhacaiensis, EU305672, Micrococcaceae
- Arthrobacter castelli, AJ639826, Micrococcaceae
- Arthrobacter pigmenti, AJ639827, Micrococcaceae
- Arthrobacter nasiphocae, AJ292364, Micrococcaceae
- Arthrobacter albidus, AB248533, Micrococcaceae
- Sinomonas atrocyanea, X80746, Micrococcaceae
- Sinomonas flava, EU370704, Micrococcaceae, type sp.**
- Arthrobacter echigonensis, AB248531, Micrococcaceae
- Arthrobacter gandavensis, AJ316140, Micrococcaceae
- Arthrobacter koreensis, AY116496, Micrococcaceae
- Arthrobacter luteolus, AJ243422, Micrococcaceae
- Arthrobacter citreus, X80737, Micrococcaceae
- Arthrobacter monumenti, AJ315070, Micrococcaceae
- Arthrobacter crystallopalietis, X80738, Micrococcaceae
- Kocuria camiphila, AJ622907, Micrococcaceae
- Kocuria gwangallensis, EU286964, Micrococcaceae
- Kocuria atrinae, FJ607311, Micrococcaceae
- Kocuria marina, AY211385, Micrococcaceae
- Kocuria rhizophila, Y16264, Micrococcaceae
- Kocuria salsicia, GQ352404, Micrococcaceae
- Kocuria varians, X87754, Micrococcaceae
- Kocuria halotolerans, DQ979377, Micrococcaceae
- Kocuria koreensis, FJ607312, Micrococcaceae
- Kocuria kristinae, X80749, Micrococcaceae
- Kocuria palustris, Y16263, Micrococcaceae
- Kocuria polaris, AJ278868, Micrococcaceae
- Kocuria rosea, X87756, Micrococcaceae, type sp.**
- Kocuria himachalensis, AY987383, Micrococcaceae
- Kocuria aegyptia, DQ059617, Micrococcaceae
- Kocuria turfanensis, DQ531634, Micrococcaceae
- Kocuria flava, EF602041, Micrococcaceae
- Rothia aeria, AB071952, Micrococcaceae
- Rothia dentocariosa, M59055, Micrococcaceae, type sp.**
- Rothia mucilaginosus, X87758, Micrococcaceae
- Rothia nasimurium, AJ131121, Micrococcaceae
- Rothia terrae, DQ822568, Micrococcaceae
- Rothia amarae, AY043359, Micrococcaceae

**Brevibacteriaceae (24)**

- Brevibacterium picturae, AJ620364, Brevibacteriaceae
- Brevibacterium sandarakinum, FN293377, Brevibacteriaceae
- Brevibacterium marinum, AM421807, Brevibacteriaceae
- Brevibacterium antiquum, AY243344, Brevibacteriaceae
- Brevibacterium aurantiacum, X76566, Brevibacteriaceae
- Brevibacterium celere, AY228463, Brevibacteriaceae
- Brevibacterium sanguinis, AJ564859, Brevibacteriaceae
- Brevibacterium casei, AJ251418, Brevibacteriaceae
- Brevibacterium avium, Y17962, Brevibacteriaceae
- Brevibacterium oceani, AM158906, Brevibacteriaceae
- Brevibacterium epidermidis, X76565, Brevibacteriaceae
- Brevibacterium iodinum, X83813, Brevibacteriaceae
- Brevibacterium linens, X77451, Brevibacteriaceae, type sp.**
- Brevibacterium permense, AY243343, Brevibacteriaceae
- Brevibacterium luteolum, AJ488509, Brevibacteriaceae

Brevibacterium oihidis, AF133534, Brevibacteriaceae  
Brevibacterium paucivorans, AJ251463, Brevibacteriaceae  
Brevibacterium ravenburgense, EU086793, Brevibacteriaceae  
Brevibacterium massiliense, EU868814, Brevibacteriaceae  
Brevibacterium album, EF158852, Brevibacteriaceae  
Brevibacterium salifolerans, GU117109, Brevibacteriaceae  
Brevibacterium pilyocampae, EU484189, Brevibacteriaceae  
Brevibacterium samyangense, DQ344485, Brevibacteriaceae

#### Dermabacteraceae (16)

Brachybacterium alimentarium, X91031, Dermabacteraceae  
Brachybacterium tyrofermentans, X91657, Dermabacteraceae  
Brachybacterium fresconis, AJ415378, Dermabacteraceae  
Brachybacterium conglomeratum, AB537169, Dermabacteraceae  
Brachybacterium paraconglomeratum, AJ415377, Dermabacteraceae  
**Brachybacterium faecium, X83810, Dermabacteraceae, type sp.**  
Brachybacterium saecelli, AJ415384, Dermabacteraceae  
Brachybacterium zhongshanense, EF125186, Dermabacteraceae  
Brachybacterium nesterenkovi, X91033, Dermabacteraceae  
Brachybacterium thamosum, AJ415376, Dermabacteraceae  
Brachybacterium muris, AJ537574, Dermabacteraceae  
Brachybacterium squillarum, GQ339911, Dermabacteraceae  
Brachybacterium phenoliresistens, DQ822566, Dermabacteraceae  
**Devriesea agamarum, EU009865, Dermabacteraceae, type sp.**  
**Dermabacter hominis, X91034, Dermabacteraceae, type sp.**  
**Helcobacillus massiliensis, EU477050, Dermabacteraceae, type sp.**

Demequina lutea, EF451745, Demequinaceae  
Demequina salsinensis, AB471559, Demequinaceae  
**Demequina aestuarii, DQ010160, Demequinaceae, type sp.**

#### Actinomycetaceae (54)

Actinomyces hyovaginalis, X69616, Actinomycetaceae  
Actinomyces radlingae, X78719, Actinomycetaceae  
Actinomyces suimastitidis, AJ277385, Actinomycetaceae  
Actinomyces funkei, AJ404889, Actinomycetaceae  
Actinomyces georgiae, X80413, Actinomycetaceae  
Actinomyces meyeri, X82451, Actinomycetaceae  
Actinomyces odontolyticus, AJ234040, Actinomycetaceae  
Actinomyces canis, AJ243891, Actinomycetaceae  
Actinomyces turicensis, X78720, Actinomycetaceae  
Actinomyces cardiffensis, AJ421779, Actinomycetaceae  
Actinomyces vaccinaxillae, AJ427451, Actinomycetaceae  
**Mobiluncus curtisii subsp. curtisii, AJ318408, Actinomycetaceae, type sp.**  
Mobiluncus curtisii subsp. holmesii, AJ427624, Actinomycetaceae  
Mobiluncus mulleris, AJ318410, Actinomycetaceae  
Actinomyces europaeus, Y08828, Actinomycetaceae  
Actinomyces hominis, FJ617539, Actinomycetaceae  
Actinomyces coleocanis, AJ249326, Actinomycetaceae  
Actinomyces neuii subsp. neuii, AM084228, Actinomycetaceae  
Actinomyces neuii subsp. anitratus, AM084229, Actinomycetaceae  
**Varibaculum cambriense, AJ428402, Actinomycetaceae, type sp.**  
Actinomyces gerencseriae, X80414, Actinomycetaceae  
Actinomyces israelii, X82450, Actinomycetaceae  
Actinomyces massiliensis, EF558367, Actinomycetaceae  
Actinomyces dentalis, AJ697409, Actinomycetaceae  
Actinomyces ruminicola, DQ072005, Actinomycetaceae  
Actinomyces oricola, AJ507295, Actinomycetaceae  
Actinomyces denticolens, X80412, Actinomycetaceae  
Actinomyces timonensis, EU484334, Actinomycetaceae  
Actinomyces naeslundii, X81062, Actinomycetaceae  
Actinomyces viscosus, X82453, Actinomycetaceae  
Actinomyces bowdenii, AJ234039, Actinomycetaceae  
Actinomyces slackii, AJ234066, Actinomycetaceae  
**Actinomyces bovis, X81061, Actinomycetaceae, type sp.**  
Actinomyces urogenitalis, AJ243791, Actinomycetaceae  
Actinomyces catuli, AJ276805, Actinomycetaceae  
Actinomyces howelli, X80411, Actinomycetaceae  
Actinomyces radidentis, AJ251986, Actinomycetaceae  
Actinomyces graevenitzi, AJ540309, Actinomycetaceae  
Actinomyces hongkongensis, AF433168, Actinomycetaceae  
Actinomyces marimammillum, AJ276405, Actinomycetaceae  
Actinomyces hordeovulneris, X82448, Actinomycetaceae  
Actinomyces nasicola, AJ508455, Actinomycetaceae  
Arcanobacterium bernardiae, X79224, Actinomycetaceae  
Arcanobacterium abortusis, AB305159, Actinomycetaceae  
Arcanobacterium pyogenes, X79225, Actinomycetaceae  
Arcanobacterium bialowiezense, AJ879696, Actinomycetaceae  
Arcanobacterium bonasi, AJ879697, Actinomycetaceae  
Actinobaculum massiliense, AF487679, Actinomycetaceae  
**Actinobaculum suis, S83623, Actinomycetaceae, type sp.**  
Actinobaculum schaalii, Y12329, Actinomycetaceae  
Actinobaculum urinale, AJ439453, Actinomycetaceae  
**Arcanobacterium haemolyticum, AJ234059, Actinomycetaceae, type sp.**  
Arcanobacterium pluranimallum, AJ250999, Actinomycetaceae  
Arcanobacterium hippocoleae, AJ300767, Actinomycetaceae

#### Jonesiaceae (2)

**Jonesia denitrificans, X78420, Jonesiaceae, type sp.**  
Jonesia quinghaiensis, AJ626896, Jonesiaceae

**Haloactinobacterium album, FJ969847, Ruaniaceae, type sp.**  
**Ruania albidiflava, DQ343153, Ruaniaceae, type sp.**

#### Bogoriellaceae (6)

Georgenia ruanii, DQ203185, Bogoriellaceae  
Georgenia thermotolerans, AB436534, Bogoriellaceae  
Georgenia halophila, FJ717681, Bogoriellaceae  
**Georgenia muralis, X94155, Bogoriellaceae, type sp.**  
Georgenia soli, FN356976, Bogoriellaceae  
**Bogoriella caseilytica, Y09911, Bogoriellaceae, type sp.**

#### Beutenbergiaceae (4)

**Serinibacter salmonis, AB455532, Beutenbergiaceae, type sp.**  
**Minimonas arenae, AB522642, Beutenbergiaceae, type sp.**  
**Salana multivorans, AJ400627, Beutenbergiaceae, type sp.**  
**Beutenbergia cavernae, Y18378, Beutenbergiaceae, type sp.**

#### Promicromonosporaceae (20)

Promicromonospora aerolata, AJ487303, Promicromonosporaceae  
Promicromonospora vindobonensis, AJ487302, Promicromonosporaceae  
Promicromonospora sukumae, AB023375, Promicromonosporaceae  
Promicromonospora kroppenstedtii, AM709608, Promicromonosporaceae  
Promicromonospora umidemergens, FN293378, Promicromonosporaceae  
**Promicromonospora citrea, X83808, Promicromonosporaceae, type sp.**  
Myceligenans halotolerans, EU910872, Promicromonosporaceae  
**Myceligenans xilgoense, AY354285, Promicromonosporaceae, type sp.**  
**Xylanibacterium ulmi, AY273185, Promicromonosporaceae, type sp.**  
**Xylanimicrobium pachnodae, AF105422, Promicromonosporaceae, type sp.**  
**Xylanimonas cellulolytica, AF403541, Promicromonosporaceae, type sp.**  
**Isoptericola variabilis, AJ298873, Promicromonosporaceae, type sp.**  
Promicromonospora flava, AM992980, Promicromonosporaceae  
Isoptericola hypogaeus, AJ854061, Promicromonosporaceae  
Isoptericola halotolerans, AV789835, Promicromonosporaceae  
Isoptericola dokdonensis, DQ387860, Promicromonosporaceae  
Isoptericola jiangsuensis, EU852101, Promicromonosporaceae  
Cellulosimicrobium terreum, EF076760, Promicromonosporaceae  
**Cellulosimicrobium cellulans, X83809, Promicromonosporaceae, type sp.**  
Cellulosimicrobium funkei, AY501364, Promicromonosporaceae  
Luteimicrobium subarcticum, AB489904, Unclassified Micrococcineae

#### Sanguibacteraceae (6)

Sanguibacter inulinus, X79451, Sanguibacteraceae  
Sanguibacter suarezii, X79452, Sanguibacteraceae  
**Sanguibacter keddiei, X79450, Sanguibacteraceae, type sp.**  
Sanguibacter antarcticus, EF211071, Sanguibacteraceae  
Sanguibacter marinus, AJ783958, Sanguibacteraceae  
Sanguibacter soli, EF547937, Sanguibacteraceae

**Rarobacteriaceae (2)**

- Rarobacter faecitabidus*, Y17870, Rarobacteriaceae, type sp.
- Rarobacter incanus*, AB056129, Rarobacteriaceae

**Cellulomonadaceae (26)**

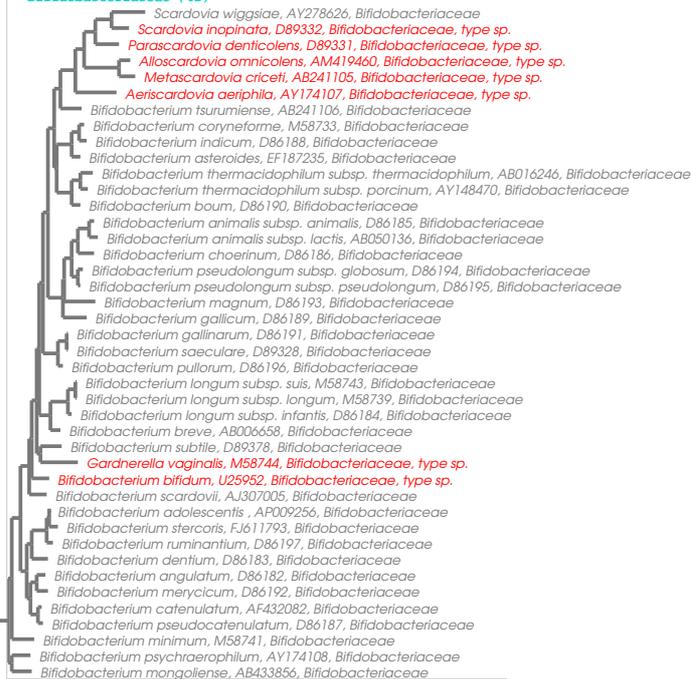
- Cellulomonas flavigena*, X79463, Cellulomonadaceae, type sp.
- Cellulomonas persica*, AF064701, Cellulomonadaceae
- Cellulomonas iranensis*, AF064702, Cellulomonadaceae
- Cellulomonas gelida*, X79461, Cellulomonadaceae
- Cellulomonas uda*, X83801, Cellulomonadaceae
- Cellulomonas composti*, AB166887, Cellulomonadaceae
- Cellulomonas chitinilytica*, AB268586, Cellulomonadaceae
- Cellulomonas biozofica*, X83802, Cellulomonadaceae
- Cellulomonas firmi*, X83803, Cellulomonadaceae
- Cellulomonas aerilata*, EU550979, Cellulomonadaceae
- Cellulomonas cellasea*, X83804, Cellulomonadaceae
- Cellulomonas humilata*, X82449, Cellulomonadaceae
- Cellulomonas xylanilytica*, AY303668, Cellulomonadaceae
- Cellulomonas terrae*, AY884570, Cellulomonadaceae
- Oerskovia paurometabola*, AJ314851, Cellulomonadaceae
- Oerskovia furbata*, X79454, Cellulomonadaceae, type sp.
- Oerskovia jenensis*, AJ314848, Cellulomonadaceae
- Oerskovia enterophila*, X83807, Cellulomonadaceae
- Koreibacter algae*, FM996111, Unclassified Micrococcineae, type sp.
- Paraoerskovia marina*, AB445007, Cellulomonadaceae, type sp.
- Cellulomonas hominis*, X82598, Cellulomonadaceae
- Cellulomonas denverensis*, AY501362, Cellulomonadaceae
- Pseudoclavibacter soli*, AB329630, Microbacteriaceae
- Tropheryma whippelii*, AF251035, Cellulomonadaceae, type sp.
- Actinotalea fermentans*, X79458, Cellulomonadaceae, type sp.
- Cellulomonas bogoriensis*, X92152, Cellulomonadaceae

**Microbacteriaceae (191)**

- Microbacterium hatanonis*, AB274908, Microbacteriaceae
- Microbacterium invictum*, AM949677, Microbacteriaceae
- Microbacterium aurum*, Y17229, Microbacteriaceae
- Microbacterium lacus*, AB286030, Microbacteriaceae
- Microbacterium terregens*, AB004721, Microbacteriaceae
- Microbacterium terricola*, AB234025, Microbacteriaceae
- Microbacterium pygmaeum*, AB248875, Microbacteriaceae
- Microbacterium lacticum*, X77441, Microbacteriaceae, type sp.
- Microbacterium schleiferi*, Y17237, Microbacteriaceae
- Microbacterium flavum*, AB286029, Microbacteriaceae
- Microbacterium koreense*, AY962574, Microbacteriaceae
- Microbacterium aoyamense*, AB234028, Microbacteriaceae
- Microbacterium deminutum*, AB234026, Microbacteriaceae
- Microbacterium pumilum*, AB234027, Microbacteriaceae
- Microbacterium fluvii*, AB286028, Microbacteriaceae
- Microbacterium awajense*, AB286027, Microbacteriaceae
- Microbacterium mitrae*, GQ351351, Microbacteriaceae
- Microbacterium laevaniformans*, Y17234, Microbacteriaceae
- Microbacterium aurantiacum*, AB004726, Microbacteriaceae
- Microbacterium kitamiense*, AB013907, Microbacteriaceae
- Microbacterium chocolateum*, AB004725, Microbacteriaceae
- Microbacterium dextranolyticum*, Y17230, Microbacteriaceae
- Microbacterium soli*, EF593038, Microbacteriaceae
- Microbacterium xylanilyticum*, AJ853908, Microbacteriaceae
- Microbacterium hominis*, AM181504, Microbacteriaceae
- Microbacterium halophilum*, AB004714, Microbacteriaceae
- Microbacterium insulae*, EU239498, Microbacteriaceae
- Microbacterium trichothecenolyticum*, Y17240, Microbacteriaceae
- Microbacterium flavescens*, Y17232, Microbacteriaceae
- Microbacterium ketosireducens*, AB004724, Microbacteriaceae
- Microbacterium terrae*, AB004720, Microbacteriaceae
- Microbacterium thalassium*, AM181507, Microbacteriaceae
- Microbacterium oleivorans*, AJ698725, Microbacteriaceae
- Microbacterium testaceum*, X77445, Microbacteriaceae
- Microbacterium arborescens*, X77443, Microbacteriaceae
- Microbacterium imperiale*, X77442, Microbacteriaceae
- Microbacterium ginsengisoli*, AB271048, Microbacteriaceae
- Microbacterium radiodurans*, GQ329713, Microbacteriaceae
- Microbacterium marinilacus*, AB286020, Microbacteriaceae
- Microbacterium paludicola*, AJ853909, Microbacteriaceae
- Microbacterium sediminicola*, AB286021, Microbacteriaceae
- Microbacterium kribbense*, EF466125, Microbacteriaceae
- Microbacterium ulmi*, AY062021, Microbacteriaceae
- Microbacterium gubbeenense*, AF263563, Microbacteriaceae
- Microbacterium indicum*, AM158907, Microbacteriaceae
- Microbacterium barkeri*, X77446, Microbacteriaceae
- Microbacterium luticocci*, AM747814, Microbacteriaceae
- Microbacterium aquimaris*, AM778449, Microbacteriaceae
- Microbacterium pseudoresistens*, FJ865214, Microbacteriaceae
- Microbacterium aeorolatum*, AJ309929, Microbacteriaceae
- Microbacterium paroxydans*, AJ491806, Microbacteriaceae
- Microbacterium ginsengiterrae*, EU873314, Microbacteriaceae
- Microbacterium maritpicum*, AJ853910, Microbacteriaceae
- Microbacterium oxydans*, Y17227, Microbacteriaceae
- Microbacterium liquefaciens*, X77444, Microbacteriaceae
- Microbacterium luteolum*, AB004718, Microbacteriaceae
- Microbacterium saperdae*, AB004719, Microbacteriaceae
- Microbacterium foliarum*, AJ249780, Microbacteriaceae
- Microbacterium hydrocarbonoxydans*, AJ698726, Microbacteriaceae
- Microbacterium phyllosphaerae*, AJ277840, Microbacteriaceae
- Microbacterium binotii*, EF567306, Microbacteriaceae
- Microbacterium halotolerans*, AY376165, Microbacteriaceae
- Microbacterium profundum*, EF623999, Microbacteriaceae
- Microbacterium keratanolyticum*, AB004717, Microbacteriaceae
- Microbacterium notariense*, AY566291, Microbacteriaceae
- Microbacterium resistens*, Y14699, Microbacteriaceae
- Microbacterium arabinogalactanolyticum*, Y17228, Microbacteriaceae
- Microbacterium esteraromaticum*, Y17231, Microbacteriaceae
- Microbacterium agarici*, FJ807673, Microbacteriaceae
- Microbacterium lindanitolerans*, EU873539, Microbacteriaceae
- Microbacterium humi*, FJ865215, Microbacteriaceae
- Mycetocola lacteus*, AB012648, Microbacteriaceae
- Mycetocola saprophilus*, AB012647, Microbacteriaceae, type sp.
- Mycetocola tolaasinivorans*, AB012646, Microbacteriaceae
- Mycetocola reblochoni*, DQ062097, Microbacteriaceae
- Plantibacter auratus*, AB177868, Microbacteriaceae
- Plantibacter flavus*, AJ310417, Microbacteriaceae, type sp.
- Okibacterium fritillariae*, AB042094, Microbacteriaceae, type sp.
- Cryobacterium roopkundense*, EF467640, Microbacteriaceae
- Cryobacterium psychrophilum*, AJ544063, Microbacteriaceae, type sp.
- Cryobacterium psychrotolerans*, DQ515963, Microbacteriaceae
- Labeledella gwakjiensis*, DQ533552, Microbacteriaceae, type sp.
- Annibacterium kyonggiense*, FJ527819, Microbacteriaceae, type sp.
- Cryobacterium mesophilum*, EF466127, Microbacteriaceae
- Klugiella xanthophilulae*, AY372075, Microbacteriaceae, type sp.
- Frigoribacterium mesophilum*, EF466126, Microbacteriaceae
- Rathayibacter iranicus*, AM410684, Microbacteriaceae
- Rathayibacter toxicus*, D84127, Microbacteriaceae
- Rathayibacter caricis*, AF159364, Microbacteriaceae
- Rathayibacter rathayi*, X77439, Microbacteriaceae, type sp.
- Rathayibacter festucae*, AM410683, Microbacteriaceae
- Rathayibacter tritici*, X77438, Microbacteriaceae
- Clavibacter michiganensis subsp. insidiosus*, U09761, Microbacteriaceae
- Clavibacter michiganensis subsp. fessellarius*, U30254, Microbacteriaceae
- Clavibacter michiganensis subsp. michiganensis*, X77435, Microbacteriaceae, type sp.
- Clavibacter michiganensis subsp. sepedonicus*, AM849034, Microbacteriaceae
- Clavibacter michiganensis subsp. nebraskensis*, X77434, Microbacteriaceae
- Microcella alkaliphila*, AJ717385, Microbacteriaceae
- Microcella putealis*, AJ717388, Microbacteriaceae, type sp.
- Yonghaparkia alkaliphila*, DQ256087, Microbacteriaceae, type sp.
- Fronthabitans australicus*, DQ256859, Microbacteriaceae, type sp.
- Fronthabitans peucedani*, FM998017, Microbacteriaceae
- Frigoribacterium faeni*, Y18807, Microbacteriaceae, type sp.
- Marisediminicola antarctica*, GQ496083, Microbacteriaceae, type sp.
- Leucobacter alluvii*, AM072820, Microbacteriaceae
- Leucobacter chromiresistens*, GJ1300657, Microbacteriaceae

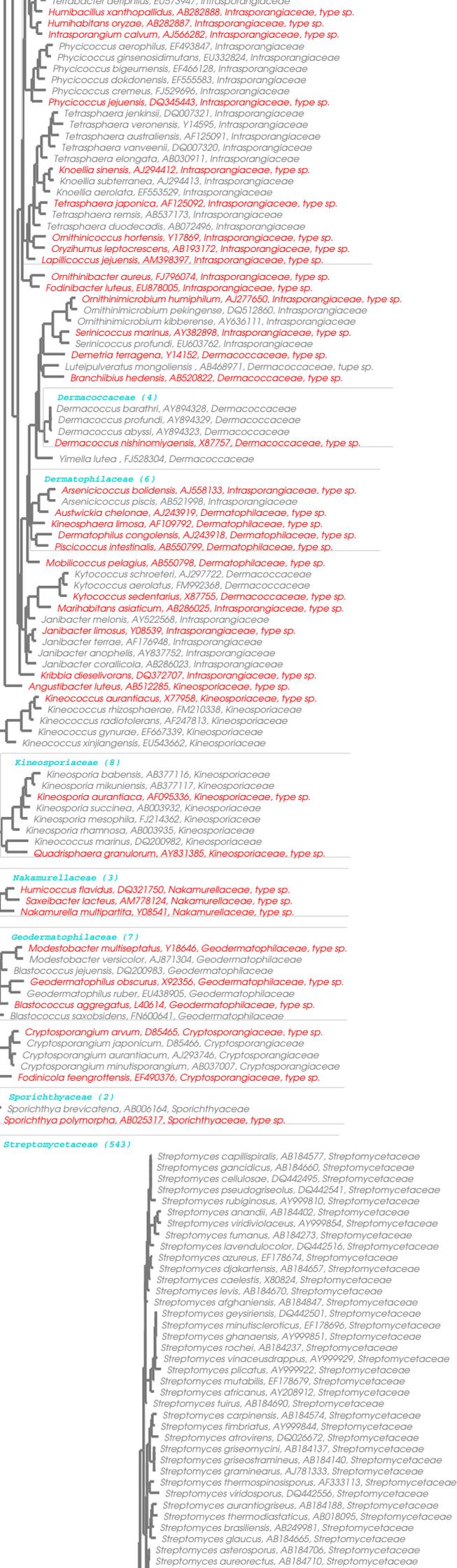


**Bifidobacteriaceae (42)**



**Intrasporangiaceae (31)**





*Streptomyces vires*, DQ442554, Streptomycetaceae  
*Streptomyces calvus*, AB184329, Streptomycetaceae  
*Streptomyces janthinus*, AB184851, Streptomycetaceae  
*Streptomyces violaceus*, AB184315, Streptomycetaceae  
*Streptomyces roseoviolaceus*, AJ399484, Streptomycetaceae  
*Streptomyces albosporus* subsp. *albosporus*, AJ781327, Streptomycetaceae  
*Streptomyces hawaiiensis*, AB184143, Streptomycetaceae  
*Streptomyces massaporeus*, AB184152, Streptomycetaceae  
*Streptomyces luteogriseus*, AB184379, Streptomycetaceae  
*Streptomyces cinerochromogenes*, AB184507, Streptomycetaceae  
*Streptomyces niveiscabiei*, AF361786, Streptomycetaceae  
*Streptomyces flavoviridis*, AB184842, Streptomycetaceae  
*Streptomyces pilosus*, AB184161, Streptomycetaceae  
*Streptomyces lomondensis*, AB184673, Streptomycetaceae  
*Streptomyces indiaensis*, AB184553, Streptomycetaceae  
*Streptomyces purpurascens*, AJ399486, Streptomycetaceae  
*Streptomyces iakyrus*, AB184877, Streptomycetaceae  
*Streptomyces bellus*, AB184849, Streptomycetaceae  
*Streptomyces coeruleus*, AY999720, Streptomycetaceae  
*Streptomyces lusitanus*, AB184424, Streptomycetaceae  
*Streptomyces thermocarboxydus*, U94490, Streptomycetaceae  
*Streptomyces speibonae*, AF452714, Streptomycetaceae  
*Streptomyces longisporuber*, AB184440, Streptomycetaceae  
*Streptomyces viridolastaticus*, AY999852, Streptomycetaceae  
*Streptomyces coeruleorubidus*, AY999719, Streptomycetaceae  
*Streptomyces parvulus*, AB184326, Streptomycetaceae  
*Streptomyces hyderabadensis*, FM998652, Streptomycetaceae  
*Streptomyces spinoverrucosus*, AB184578, Streptomycetaceae  
*Streptomyces malachitospinus*, AB249954, Streptomycetaceae  
*Streptomyces olivaceus*, AB184743, Streptomycetaceae  
*Streptomyces pactum*, AB184398, Streptomycetaceae  
*Streptomyces chattanoogensis*, AY295791, Streptomycetaceae  
*Streptomyces lienomycini*, AJ781353, Streptomycetaceae  
*Streptomyces albogriseolus*, AY177662, Streptomycetaceae  
*Streptomyces marokkonensis*, AJ965470, Streptomycetaceae  
*Streptomyces thinghirensis*, FM202482, Streptomycetaceae  
*Streptomyces althoticus*, AY999808, Streptomycetaceae  
*Streptomyces matensis*, AB184221, Streptomycetaceae  
*Streptomyces heliomycini*, AB184712, Streptomycetaceae  
*Streptomyces griseorubens*, AB184139, Streptomycetaceae  
*Streptomyces labedae*, AB184704, Streptomycetaceae  
*Streptomyces griseoincarnatus*, AJ781321, Streptomycetaceae  
*Streptomyces variabilis*, DQ442551, Streptomycetaceae  
*Streptomyces erythragriseus*, AJ781328, Streptomycetaceae  
*Streptomyces albaduncus*, AY999757, Streptomycetaceae  
*Streptomyces griseoalbus*, AB184275, Streptomycetaceae  
*Streptomyces malachitofuscus*, AB184282, Streptomycetaceae  
*Streptomyces griseoflavus*, AJ781322, Streptomycetaceae  
*Streptomyces callinus*, AB184123, Streptomycetaceae  
*Streptomyces paradoxus*, AB184628, Streptomycetaceae  
*Streptomyces violaceochromogenes*, AY999867, Streptomycetaceae  
*Streptomyces ambofaciens*, AB184182, Streptomycetaceae  
*Streptomyces viridochromogenes*, DQ442555, Streptomycetaceae  
*Streptomyces glaucescens*, AB184843, Streptomycetaceae  
*Streptomyces pharetrae*, AY699792, Streptomycetaceae  
*Streptomyces flaveolus*, AB184764, Streptomycetaceae  
*Streptomyces misionensis*, EF178678, Streptomycetaceae  
*Streptomyces phaeoluteichromatogenes*, AJ391814, Streptomycetaceae  
*Streptomyces achromogenes* subsp. *rubradilis*, AY999846, Streptomycetaceae  
*Streptomyces nodosus*, AF114033, Streptomycetaceae  
*Streptomyces eurythermus*, D63870, Streptomycetaceae  
*Streptomyces tritolerans*, DQ345779, Streptomycetaceae  
*Streptomyces coelestis*, AF503496, Streptomycetaceae  
*Streptomyces violaceorubidus*, AJ781374, Streptomycetaceae  
*Streptomyces fendae*, D63873, Streptomycetaceae  
*Streptomyces humiferus*, AF503491, Streptomycetaceae  
*Streptomyces violaceoruber*, AF503492, Streptomycetaceae  
*Streptomyces violaceolatus*, AF503497, Streptomycetaceae  
*Streptomyces rubrogriseus*, AB184681, Streptomycetaceae  
*Streptomyces tricolor*, AB184687, Streptomycetaceae  
*Streptomyces anthocyanicus*, AB184631, Streptomycetaceae  
*Streptomyces coelicoflavus*, AB184650, Streptomycetaceae  
*Streptomyces diastaticus* subsp. *ardesiacus*, DQ026631, Streptomycetaceae  
*Streptomyces fragilis*, AY999917, Streptomycetaceae  
*Streptomyces bangladeshensis*, AY750056, Streptomycetaceae  
*Streptomyces rameus*, AY999821, Streptomycetaceae  
*Streptomyces griseosporus*, AB184419, Streptomycetaceae  
*Streptomyces thermocaprophilus*, AJ007402, Streptomycetaceae  
*Streptomyces coeruleoprunus*, AB184651, Streptomycetaceae  
*Streptomyces fraidae*, DQ026630, Streptomycetaceae  
*Streptomyces somaliensis*, AJ007403, Streptomycetaceae  
*Streptomyces glomeratus*, AB249917, Streptomycetaceae  
*Streptomyces bluensis*, AB184421, Streptomycetaceae  
*Streptomyces thermocarboxydovorans*, U94489, Streptomycetaceae  
*Streptomyces thermoviolaceus* subsp. *thermoviolaceus*, Z68096, Streptomycetaceae  
*Streptomyces thermoviolaceus* subsp. *apingens*, Z68095, Streptomycetaceae  
*Streptomyces thermogriseus*, AB249980, Streptomycetaceae  
*Streptomyces thermovulgaris*, Z68094, Streptomycetaceae  
*Streptomyces thermalcallifolerans*, AB249909, Streptomycetaceae  
*Streptomyces mexicanus*, AB249966, Streptomycetaceae  
*Streptomyces cinereospinus*, AB184648, Streptomycetaceae  
*Streptomyces coeruleofuscus*, DQ026668, Streptomycetaceae  
*Streptomyces chromofuscus*, AB184194, Streptomycetaceae  
*Streptomyces fumigatiscleroticus*, DQ442499, Streptomycetaceae  
*Streptomyces bambergiensis*, AB184869, Streptomycetaceae  
*Streptomyces prasinus*, DQ026658, Streptomycetaceae  
*Streptomyces cyanoalbus*, AB184882, Streptomycetaceae  
*Streptomyces emeiensis*, DQ462649, Streptomycetaceae  
*Streptomyces prasinopilosus*, AB249948, Streptomycetaceae  
*Streptomyces roseiscleroticus*, AB184251, Streptomycetaceae  
*Streptomyces ruber*, AB184604, Streptomycetaceae  
*Streptomyces poonensis*, DQ445792, Streptomycetaceae  
*Streptomyces albidoflavus*, AB184255, Streptomycetaceae  
*Streptomyces daghestanicus*, DQ442497, Streptomycetaceae  
*Streptomyces hydrogenans*, AB184868, Streptomycetaceae  
*Streptomyces griseochromogenes*, AJ399491, Streptomycetaceae  
*Streptomyces violascens*, AY999737, Streptomycetaceae  
*Streptomyces resistomycellicus*, AJ399472, Streptomycetaceae  
*Streptomyces koyangensis*, AY079156, Streptomycetaceae  
*Streptomyces taenioliticus*, FN429653, Streptomycetaceae  
*Streptomyces arenae*, AJ399485, Streptomycetaceae  
*Streptomyces violarus*, AB184316, Streptomycetaceae  
*Streptomyces griseoviridis*, AY999807, Streptomycetaceae  
*Streptomyces zincresistens*, GU225938, Streptomycetaceae  
*Streptomyces spiralis*, EF178683, Streptomycetaceae  
*Streptomyces nogalatae*, AB231805, Streptomycetaceae  
*Streptomyces prasinosporus*, AB184390, Streptomycetaceae  
*Streptomyces nagashii*, DQ442529, Streptomycetaceae  
*Streptomyces silaceus*, EU812170, Streptomycetaceae  
*Streptomyces scopiformis*, AF184081, Streptomycetaceae  
*Streptomyces griseocaurantiacus*, AB184676, Streptomycetaceae  
*Streptomyces jietaisiensis*, AY314783, Streptomycetaceae  
*Streptomyces flavofungini*, AB184359, Streptomycetaceae  
*Streptomyces flavissimus*, AB184787, Streptomycetaceae  
*Streptomyces spectabilis*, AB184393, Streptomycetaceae  
*Streptomyces alboflavus*, EF178699, Streptomycetaceae  
*Streptomyces variegatus*, AJ781371, Streptomycetaceae  
*Streptomyces gougerotii*, AB184742, Streptomycetaceae  
*Streptomyces rutgersensis*, AB184170, Streptomycetaceae  
*Streptomyces diastaticus* subsp. *diastaticus*, AB184785, Streptomycetaceae  
*Streptomyces intermedius*, AB184277, Streptomycetaceae  
*Streptomyces aureovermicillatus*, AY999774, Streptomycetaceae  
*Streptomyces filamentosus*, AB184130, Streptomycetaceae  
*Streptomyces gulbargensis*, DQ317411, Streptomycetaceae  
*Streptomyces roseolus*, AB184168, Streptomycetaceae  
*Streptomyces roseofulvus*, AB184327, Streptomycetaceae  
*Streptomyces lemitium*, AB184302, Streptomycetaceae  
*Streptomyces laurentii*, AJ781342, Streptomycetaceae  
*Streptomyces viridobrunneus*, AJ781372, Streptomycetaceae

*Streptomyces roseovivians*, AB184239, Streptomycetaceae  
*Streptomyces showdoensis*, AB184389, Streptomycetaceae  
*Streptomyces cinereoruber* subsp. *cinereoruber*, AY999771, Streptomycetaceae  
*Streptomyces hisutus*, DQ442506, Streptomycetaceae  
*Streptomyces violaceoerectus*, AB184314, Streptomycetaceae  
*Streptomyces bikinlensis*, X79851, Streptomycetaceae  
*Streptomyces vietnamensis*, DQ311081, Streptomycetaceae  
*Streptomyces laterifolius*, AJ781326, Streptomycetaceae  
*Streptomyces venezuelae*, AB045890, Streptomycetaceae  
*Streptomyces narbonensis*, DQ445794, Streptomycetaceae  
*Streptomyces exfoliatus*, AB184324, Streptomycetaceae  
*Streptomyces zaomyces*, EF178685, Streptomycetaceae  
*Streptomyces clavuligerus*, AY999718, Streptomycetaceae  
*Streptomyces omiyaensis*, EF178697, Streptomycetaceae  
*Streptomyces wedmorensis*, DQ442557, Streptomycetaceae  
*Streptomyces litmocidini*, AB184149, Streptomycetaceae  
*Streptomyces yerevanensis*, EF178684, Streptomycetaceae  
*Streptomyces nashvillensis*, AB184286, Streptomycetaceae  
*Streptomyces flavidovirens*, AB184270, Streptomycetaceae  
*Streptomyces coacervatus*, AB500703, Streptomycetaceae  
*Streptomyces albidochromogenes*, AB249953, Streptomycetaceae  
*Streptomyces enissocaesilis*, AB249930, Streptomycetaceae  
*Streptomyces chryseus*, AY999787, Streptomycetaceae  
*Streptomyces helveticus*, AB184367, Streptomycetaceae  
*Streptomyces hypolithicus*, EU196762, Streptomycetaceae  
*Streptomyces albosporus* subsp. *labilomyces*, AB184638, Streptomycetaceae  
*Streptomyces nojiriensis*, AJ781355, Streptomycetaceae  
*Streptomyces vinaceus*, AB184394, Streptomycetaceae  
*Streptomyces xanthophaeus*, DQ442560, Streptomycetaceae  
*Streptomyces spororaveus*, AJ781370, Streptomycetaceae  
*Streptomyces cirratus*, AY999794, Streptomycetaceae  
*Streptomyces avidinii*, AB184395, Streptomycetaceae  
*Streptomyces subrutilis*, X80825, Streptomycetaceae  
*Streptomyces colombiensis*, DQ026646, Streptomycetaceae  
***Streptomyces lavendulae* subsp. *lavendulae*, D85116, Streptomycetaceae, type sp.**  
*Streptomyces goshikiensis*, EF178693, Streptomycetaceae  
*Streptomyces lavendulae* subsp. *grasserius*, AY999841, Streptomycetaceae  
*Streptomyces sporoverrucosus*, DQ442544, Streptomycetaceae  
*Streptomyces cinnamomensis*, AB184707, Streptomycetaceae  
*Streptomyces virginiae*, AB184175, Streptomycetaceae  
*Streptomyces flavotricini*, AY999915, Streptomycetaceae  
*Streptomyces globosus*, AJ781330, Streptomycetaceae  
*Streptomyces toxytricini*, DQ442548, Streptomycetaceae  
*Streptomyces polychromogenes*, AB184292, Streptomycetaceae  
*Streptomyces racemochromogenes*, DQ026656, Streptomycetaceae  
*Streptomyces katrae*, AB184409, Streptomycetaceae  
*Streptomyces acidiscabies*, D63865, Streptomycetaceae  
*Streptomyces alanosinicus*, AB184442, Streptomycetaceae  
*Streptomyces griseoruber*, AB184209, Streptomycetaceae  
*Streptomyces antibioticus*, AY999776, Streptomycetaceae  
*Streptomyces curacoi*, AB184841, Streptomycetaceae  
*Streptomyces longisporus*, AJ399475, Streptomycetaceae  
*Streptomyces lincolniensis*, AB184279, Streptomycetaceae  
*Streptomyces caeruleatus*, GQ329712, Streptomycetaceae  
*Streptomyces canus*, AY999775, Streptomycetaceae  
*Streptomyces ciscaucasicus*, AB184208, Streptomycetaceae  
*Streptomyces griseorubiginosus*, AJ781339, Streptomycetaceae  
*Streptomyces phaeopurpureus*, DQ026666, Streptomycetaceae  
*Streptomyces capoanus*, AB045877, Streptomycetaceae  
*Streptomyces regensis*, DQ026649, Streptomycetaceae  
*Streptomyces galbus*, X79852, Streptomycetaceae  
*Streptomyces longwoodensis*, AB184580, Streptomycetaceae  
*Streptomyces bungoensis*, AB184696, Streptomycetaceae  
*Streptomyces corchorusii*, AB184267, Streptomycetaceae  
*Streptomyces olivaceoviridis*, AB184288, Streptomycetaceae  
*Streptomyces canarius*, AB184396, Streptomycetaceae  
*Streptomyces lucensis*, DQ442522, Streptomycetaceae  
*Streptomyces niveoruber*, DQ445796, Streptomycetaceae  
*Streptomyces achromogenes* subsp. *achromogenes*, AB184109, Streptomycetaceae  
*Streptomyces griseofuscus*, AB184206, Streptomycetaceae  
*Streptomyces murinus*, AB184155, Streptomycetaceae  
*Streptomyces costaricanus*, AB249939, Streptomycetaceae  
*Streptomyces phaeogriseichromatogenes*, AJ391813, Streptomycetaceae  
*Streptomyces lanatus*, AB184845, Streptomycetaceae  
*Streptomyces durhamensis*, AY999785, Streptomycetaceae  
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*Streptomyces echinatus*, AJ399465, Streptomycetaceae  
*Streptomyces yokosukanensis*, DQ026652, Streptomycetaceae  
*Streptomyces cellostaticus*, AY999742, Streptomycetaceae  
*Streptomyces avermitilis*, BA000030, Streptomycetaceae  
*Streptomyces atriruber*, EU812169, Streptomycetaceae  
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*Streptomyces seoulensis*, AB249970, Streptomycetaceae  
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*Streptomyces phaeoluteigriseus*, AJ391815, Streptomycetaceae  
*Streptomyces bobili*, AB184328, Streptomycetaceae  
*Streptomyces galliaeus*, AB045878, Streptomycetaceae  
*Streptomyces cinereus*, AB184072, Streptomycetaceae  
*Streptomyces flavus*, DQ026643, Streptomycetaceae  
*Streptomyces vastus*, DQ442552, Streptomycetaceae  
*Streptomyces aureocirculatus*, AY999861, Streptomycetaceae  
*Streptomyces novaecaesareae*, AB184357, Streptomycetaceae  
*Streptomyces aurantiacus*, AJ781383, Streptomycetaceae  
*Streptomyces glomerourantiacus*, AB249983, Streptomycetaceae  
*Streptomyces tauricus*, AB045879, Streptomycetaceae  
*Streptomyces ederensis*, AY999824, Streptomycetaceae  
*Streptomyces umbrinus*, AB184305, Streptomycetaceae  
*Streptomyces phaeochromogenes*, AB184738, Streptomycetaceae  
*Streptomyces stelliscabiei*, AJ007429, Streptomycetaceae  
*Streptomyces bottropensis*, AB184262, Streptomycetaceae  
*Streptomyces deccanensis*, EF219459, Streptomycetaceae  
*Streptomyces europaiscabiei*, AY207598, Streptomycetaceae  
*Streptomyces scabiei*, D63862, Streptomycetaceae  
*Streptomyces hygroscopicus* subsp. *ossamyceticus*, AB184560, Streptomycetaceae  
*Streptomyces torulosus*, AJ781367, Streptomycetaceae  
*Streptomyces ipomoeae*, AB184857, Streptomycetaceae  
*Streptomyces decoyicus*, EU170127, Streptomycetaceae  
*Streptomyces neyagawaensis*, D63869, Streptomycetaceae  
*Streptomyces diastatochromogenes*, D63867, Streptomycetaceae  
*Streptomyces cinereoruber* subsp. *fructofermentans*, AY999758, Streptomycetaceae  
*Streptomyces reticuliscabiei*, AJ007428, Streptomycetaceae  
*Streptomyces turgidiscabies*, AB026221, Streptomycetaceae  
*Streptomyces phaeofaciens*, AB184360, Streptomycetaceae  
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*Streptomyces cacaoi* subsp. *asoensis*, DQ026644, Streptomycetaceae  
*Streptomyces humidus*, DQ442508, Streptomycetaceae  
*Streptomyces flavovariabilis*, EF178691, Streptomycetaceae  
*Streptomyces durmitorensis*, DQ067287, Streptomycetaceae  
*Streptomyces reactivolaceus*, DQ026660, Streptomycetaceae  
*Streptomyces aureus*, AY094368, Streptomycetaceae  
*Streptomyces kanamyceticus*, DQ442511, Streptomycetaceae  
*Streptomyces beijingensis*, AF385681, Streptomycetaceae  
*Streptomyces drozdowiczii*, AB249957, Streptomycetaceae  
*Streptomyces atratus*, DQ026638, Streptomycetaceae  
*Streptomyces yanii*, AB006159, Streptomycetaceae  
*Streptomyces sanglieri*, AB249945, Streptomycetaceae  
*Streptomyces neltiglicus*, DQ026636, Streptomycetaceae

*Streptomyces pulveraceus*, AB184806, Streptomycetaceae  
*Streptomyces flavivirens*, DQ026635, Streptomycetaceae  
*Streptomyces flavogriseus*, AJ494864, Streptomycetaceae  
*Streptomyces nitrosporeus*, EF178680, Streptomycetaceae  
*Streptomyces griseolus*, AB184768, Streptomycetaceae  
*Streptomyces halstedii*, EF178695, Streptomycetaceae  
*Streptomyces cinereorectus*, AB184646, Streptomycetaceae  
*Streptomyces fulvorangeus*, AB184711, Streptomycetaceae  
*Streptomyces microflavus*, DQ445795, Streptomycetaceae  
*Streptomyces griseus*, AY207604, Streptomycetaceae  
*Streptomyces cyaneofuscatus*, AB184860, Streptomycetaceae  
*Streptomyces clavifer*, DQ026670, Streptomycetaceae  
*Streptomyces mutomycini*, AB249951, Streptomycetaceae  
*Streptomyces finlayi*, AY999788, Streptomycetaceae  
*Streptomyces atroolivaceus*, AJ781320, Streptomycetaceae  
*Streptomyces anulatus*, DQ026637, Streptomycetaceae  
*Streptomyces chrysomallus* subsp. *chrysomallus*, AB184120, Streptomycetaceae  
*Streptomyces fimicarius*, AY999784, Streptomycetaceae  
*Streptomyces griseoplanus*, AY999894, Streptomycetaceae  
*Streptomyces rubiginosohelvolus*, AB184240, Streptomycetaceae  
*Streptomyces tanashiensis*, AY999856, Streptomycetaceae  
*Streptomyces albovinaeus*, AB249958, Streptomycetaceae  
*Streptomyces pluricalorescens*, DQ442540, Streptomycetaceae  
*Streptomyces globisporus*, EF178686, Streptomycetaceae  
*Streptomyces sindhensis*, AB184759, Streptomycetaceae  
*Streptomyces badius*, AY999783, Streptomycetaceae  
*Streptomyces parvus*, DQ442537, Streptomycetaceae  
*Streptomyces albolongus*, AB184425, Streptomycetaceae  
*Streptomyces cavourensis*, DQ445791, Streptomycetaceae  
*Streptomyces celluloflavus*, AB184476, Streptomycetaceae  
*Streptomyces yousoufensis*, FN421338, Streptomycetaceae  
*Streptomyces candidus*, DQ026663, Streptomycetaceae  
*Streptomyces bacillaris*, AB184439, Streptomycetaceae  
*Streptomyces luridus*, DQ442523, Streptomycetaceae  
*Streptomyces roseoillacinus*, AB184167, Streptomycetaceae  
*Streptomyces gobiliticini*, AB184666, Streptomycetaceae  
*Streptomyces lavendofoliae*, AJ781336, Streptomycetaceae  
*Streptomyces amakusaensis*, AY999781, Streptomycetaceae  
*Streptomyces inustatus*, AB184445, Streptomycetaceae  
*Streptomyces michiganensis*, AB184153, Streptomycetaceae  
*Streptomyces xanthochromogenes*, DQ442559, Streptomycetaceae  
*Streptomyces mauvecolor*, AB184532, Streptomycetaceae  
*Streptomyces melanogenes*, AB184222, Streptomycetaceae  
*Streptomyces noboritoensis*, AB184267, Streptomycetaceae  
*Streptomyces crystallinus*, AB184652, Streptomycetaceae  
*Streptomyces spiroverticillatus*, AB184814, Streptomycetaceae  
*Streptomyces kussanovii*, AB184325, Streptomycetaceae  
*Streptomyces xantholiticus*, AB184349, Streptomycetaceae  
*Streptomyces peuceilus*, AB045887, Streptomycetaceae  
*Streptomyces cremeus*, AY999744, Streptomycetaceae  
*Kitasatospora kazusensis*, AB278569, Streptomycetaceae  
*Kitasatospora mediocidica*, U93324, Streptomycetaceae  
*Kitasatospora gansuensis*, AY442265, Streptomycetaceae  
*Kitasatospora atroaurantiaca*, DQ026645, Streptomycetaceae  
*Streptomyces purpeofuscus*, AJ781364, Streptomycetaceae  
*Kitasatospora azatica*, U93312, Streptomycetaceae  
*Kitasatospora nipponensis*, AY442263, Streptomycetaceae  
*Kitasatospora kifunensis*, U93322, Streptomycetaceae  
*Streptomyces herbaricolor*, AB184801, Streptomycetaceae  
*Streptomyces indigoferus*, AB184214, Streptomycetaceae  
*Streptomyces aureofaciens*, AY207608, Streptomycetaceae  
*Streptomyces xanthocidicus*, AY999858, Streptomycetaceae  
*Streptomyces avellaneus*, AB184413, Streptomycetaceae  
*Streptomyces psammotlicus*, AY999862, Streptomycetaceae  
*Kitasatospora pulterlickiae*, AY189976, Streptomycetaceae  
*Kitasatospora sampliensis*, AY260167, Streptomycetaceae  
*Streptomyces chrysomallus* subsp. *fumigatus*, AB184645, Streptomycetaceae  
*Streptomyces purpureus*, AJ781324, Streptomycetaceae  
*Streptomyces aburaviensis*, AY999886, Streptomycetaceae  
*Kitasatospora terrestris*, AY442266, Streptomycetaceae  
*Kitasatospora paranensis*, AY442268, Streptomycetaceae  
*Kitasatospora cineracea*, AB022875, Streptomycetaceae  
*Kitasatospora niigatensis*, AB249960, Streptomycetaceae  
*Kitasatospora setae*, U93332, Streptomycetaceae, type sp.  
*Kitasatospora cochleata*, U93316, Streptomycetaceae  
*Kitasatospora paracochleata*, U93328, Streptomycetaceae  
*Kitasatospora cystarginea*, AY999887, Streptomycetaceae  
*Kitasatospora griseola*, U93320, Streptomycetaceae  
*Kitasatospora phosalacina*, AB022869, Streptomycetaceae  
*Kitasatospora saccharophila*, AB278568, Streptomycetaceae  
*Kitasatospora cheerisanensis*, AF050493, Streptomycetaceae  
*Kitasatospora arboriphila*, AY442267, Streptomycetaceae  
*Kitasatospora viridis*, AY613990, Streptomycetaceae  
*Streptacidiphilus oryzae*, DQ208700, Streptomycetaceae  
*Streptacidiphilus anmyonensis*, DQ904546, Streptomycetaceae  
*Streptacidiphilus jiangxiensis*, AB249948, Streptomycetaceae  
*Streptacidiphilus melanogenes*, DQ994689, Streptomycetaceae  
*Streptacidiphilus rugosus*, DQ904547, Streptomycetaceae  
*Streptacidiphilus neutrinimicus*, AB249949, Streptomycetaceae  
*Streptacidiphilus albus*, AF074415, Streptomycetaceae, type sp.  
*Streptacidiphilus carbonis*, AF074412, Streptomycetaceae  
*Streptomyces sannanensis*, AB184579, Streptomycetaceae  
*Streptomyces polyantibioticus*, DQ141528, Streptomycetaceae  
*Actinomadura glauciflava*, AB184612, Thermomonosporaceae  
*Streptomyces netropsis*, EF178671, Streptomycetaceae  
*Streptomyces eurocidicus*, AY999790, Streptomycetaceae  
*Streptomyces werraensis*, DQ442558, Streptomycetaceae  
*Streptomyces stramineus*, AB184720, Streptomycetaceae  
*Streptomyces olivoverticillatus*, AB184636, Streptomycetaceae  
*Streptomyces varsoviensis*, DQ026653, Streptomycetaceae  
*Streptomyces blastmyceticus*, AY999802, Streptomycetaceae  
*Streptomyces orinoci*, AB184866, Streptomycetaceae  
*Streptomyces arduus*, AB184864, Streptomycetaceae  
*Streptomyces cinnamomeus*, AB184850, Streptomycetaceae  
*Streptomyces pseudochinosporeus*, AB184100, Streptomycetaceae  
*Streptomyces illacinus*, AB184819, Streptomycetaceae  
*Streptomyces luteosporeus*, DQ442525, Streptomycetaceae  
*Streptomyces hiroshimensis*, AB184789, Streptomycetaceae  
*Streptomyces caeruleus*, EF178675, Streptomycetaceae  
*Streptomyces abikoensis*, AY999834, Streptomycetaceae  
*Streptomyces angustmyceticus*, DQ442509, Streptomycetaceae  
*Streptomyces griseocameus*, X99943, Streptomycetaceae  
*Streptomyces morookaense*, AJ781349, Streptomycetaceae  
*Streptomyces thioluteus*, AB184753, Streptomycetaceae  
*Streptomyces lavenduligriseus*, DQ442515, Streptomycetaceae  
*Streptomyces nanshensis*, EU589334, Streptomycetaceae  
*Streptomyces sulphureus*, DQ442546, Streptomycetaceae  
*Streptomyces luteireticuli*, AB249969, Streptomycetaceae  
*Streptomyces lacticiproducens*, GQ184344, Streptomycetaceae  
*Streptomyces kasugaensis*, AB024441, Streptomycetaceae  
*Streptomyces mashuensis*, X79323, Streptomycetaceae  
*Streptomyces mobaraensis*, DQ442528, Streptomycetaceae  
*Streptomyces ochraceiscleroticus*, AB184094, Streptomycetaceae  
*Streptomyces violens*, AJ621605, Streptomycetaceae  
*Streptomyces purpurogeniscleroticus*, AJ621604, Streptomycetaceae  
*Streptomyces niger*, AJ621607, Streptomycetaceae  
*Streptomyces olivaceiscleroticus*, AJ621606, Streptomycetaceae  
*Streptomyces monomycini*, DQ445790, Streptomycetaceae  
*Streptomyces caniferus*, AB184640, Streptomycetaceae  
*Streptomyces libani* subsp. *rufus*, AJ781351, Streptomycetaceae  
*Streptomyces hygrosopicus* subsp. *decovicus*, AY999883, Streptomycetaceae  
*Streptomyces hygrosopicus* subsp. *glebosus*, AB184479, Streptomycetaceae  
*Streptomyces platensis*, AB045882, Streptomycetaceae  
*Streptomyces albospinus*, AY999753, Streptomycetaceae  
*Streptomyces slovaensis*, DQ026654, Streptomycetaceae  
*Streptomyces libani* subsp. *libani*, AB184414, Streptomycetaceae  
*Streptomyces tubercidicus*, AJ621612, Streptomycetaceae  
*Streptomyces nigrescens*, DQ442530, Streptomycetaceae  
*Streptomyces lydicus*, Y15507, Streptomycetaceae



**Catenulisporaceae (4)**  
 Catenulispora subtropica, AB327248, Catenulisporaceae  
 Catenulispora yoronensis, AB327250, Catenulisporaceae  
 Catenulispora rubra, AB180773, Catenulisporaceae  
**Catenulispora acidiphila, AJ865857, Catenulisporaceae, type sp.**

**Actinospicaceae (2)**  
 Actinospica acidiphila, AJ865861, Actinospicaceae  
**Actinospica robiniae, AJ865863, Actinospicaceae, type sp.**





**Nocardiaceae (37)**



*Williamsia maris*, AB01909, Nocardiaceae  
*Williamsia delgens*, AJ920290, Nocardiaceae  
*Williamsia serinedens*, AM283464, Nocardiaceae  
*Gordonia hankookensis*, FJ572038, Nocardiaceae  
*Gordonia soli*, AY995560, Nocardiaceae

*Millisia brevis*, AY534742, Nocardiaceae, type sp.  
*Skermania piniformis*, Z35435, Nocardiaceae, type sp.

#### Corynebacteriaceae (85)

*Corynebacterium afermentans* subsp. *afermentans*, X82054, Corynebacteriaceae  
*Corynebacterium afermentans* subsp. *lipophilum*, X82055, Corynebacteriaceae  
*Corynebacterium pilbarensis*, FN295567, Corynebacteriaceae  
*Corynebacterium mucifaciens*, Y11200, Corynebacteriaceae  
*Corynebacterium ureicelovorans*, AM397636, Corynebacteriaceae  
*Corynebacterium coyleae*, X96497, Corynebacteriaceae  
*Corynebacterium capitivus*, AJ297402, Corynebacteriaceae  
*Corynebacterium mycetoides*, X84241, Corynebacteriaceae  
*Corynebacterium glucuronolyticum*, X86688, Corynebacteriaceae  
*Corynebacterium pyruviciproducens*, FJ185225, Corynebacteriaceae  
*Corynebacterium cystitidis*, X84252, Corynebacteriaceae  
*Corynebacterium lipophiloflavum*, Y09045, Corynebacteriaceae  
*Corynebacterium auris*, X81873, Corynebacteriaceae  
*Corynebacterium timonense*, EF217055, Corynebacteriaceae  
*Corynebacterium appendicis*, AJ314919, Corynebacteriaceae  
*Corynebacterium sundsvallense*, Y09655, Corynebacteriaceae  
*Corynebacterium thomssenii*, AF010474, Corynebacteriaceae  
*Corynebacterium imitans*, Y09044, Corynebacteriaceae  
*Corynebacterium glaucum*, AJ431634, Corynebacteriaceae  
*Corynebacterium rieglisii*, Y14651, Corynebacteriaceae  
*Corynebacterium tuscaniense*, AY677186, Corynebacteriaceae  
*Corynebacterium camporealensis*, Y09569, Corynebacteriaceae  
*Corynebacterium propinquum*, X84438, Corynebacteriaceae  
*Corynebacterium pseudodiphtheriticum*, AJ439343, Corynebacteriaceae  
*Corynebacterium ciconiae*, AJ555193, Corynebacteriaceae  
*Corynebacterium massiliense*, EF217056, Corynebacteriaceae  
*Corynebacterium accolens*, AJ439346, Corynebacteriaceae  
*Corynebacterium macginleyi*, AJ439345, Corynebacteriaceae  
*Corynebacterium tuberculostearicum*, AJ438050, Corynebacteriaceae  
*Corynebacterium confusum*, Y15886, Corynebacteriaceae  
*Corynebacterium stationis*, FJ172667, Corynebacteriaceae  
*Corynebacterium ammoniagenes*, X84440, Corynebacteriaceae  
*Corynebacterium casei*, AF267152, Corynebacteriaceae  
*Corynebacterium pilosum*, X81908, Corynebacteriaceae  
*Corynebacterium lubricantis*, FM173119, Corynebacteriaceae  
*Corynebacterium flavescens*, X84441, Corynebacteriaceae  
*Corynebacterium phocae*, Y10076, Corynebacteriaceae  
*Corynebacterium minutissimum*, X84678, Corynebacteriaceae  
*Corynebacterium singulare*, Y10999, Corynebacteriaceae  
*Corynebacterium aurimucosum*, AJ309207, Corynebacteriaceae  
*Corynebacterium simulans*, AJ012837, Corynebacteriaceae  
*Corynebacterium striatum*, X84442, Corynebacteriaceae  
*Corynebacterium atypicum*, AJ441057, Corynebacteriaceae  
***Turicella otitidis*, X73976, Corynebacteriaceae, type sp.**  
*Corynebacterium mastitidis*, Y09806, Corynebacteriaceae  
*Corynebacterium durum*, Z97069, Corynebacteriaceae  
*Corynebacterium caspium*, AJ566641, Corynebacteriaceae  
*Corynebacterium renale*, X81909, Corynebacteriaceae  
*Corynebacterium kutscheri*, X81871, Corynebacteriaceae  
*Corynebacterium pseudotuberculosis*, X81916, Corynebacteriaceae  
*Corynebacterium ulcerans*, X84256, Corynebacteriaceae  
***Corynebacterium diphtheriae*, X84248, Corynebacteriaceae, type sp.**  
*Corynebacterium matruchotii*, X82065, Corynebacteriaceae  
*Corynebacterium mustelae*, FJ374773, Corynebacteriaceae  
*Corynebacterium felinum*, AJ401282, Corynebacteriaceae  
*Corynebacterium testudinoris*, AJ295841, Corynebacteriaceae  
*Corynebacterium aquilae*, AJ496733, Corynebacteriaceae  
*Corynebacterium halotolerans*, AY226509, Corynebacteriaceae  
*Corynebacterium maris*, FJ423600, Corynebacteriaceae  
*Corynebacterium doosanense*, EU998655, Corynebacteriaceae  
*Corynebacterium humireducens*, GQ421281, Corynebacteriaceae  
*Corynebacterium marinum*, DQ219354, Corynebacteriaceae  
*Corynebacterium spheniscorum*, AJ429234, Corynebacteriaceae  
*Corynebacterium callunae*, X84251, Corynebacteriaceae  
*Corynebacterium glutamicum*, AF314192, Corynebacteriaceae  
*Corynebacterium efficiens*, AB055963, Corynebacteriaceae  
*Corynebacterium auriscanis*, AJ243819, Corynebacteriaceae  
*Corynebacterium resistens*, AB128981, Corynebacteriaceae  
*Corynebacterium suicordis*, AJ504424, Corynebacteriaceae  
*Corynebacterium jeikeium*, X84250, Corynebacteriaceae  
*Corynebacterium urealyticum*, X81913, Corynebacteriaceae  
*Corynebacterium falsenii*, Y13024, Corynebacteriaceae  
*Corynebacterium bovis*, X84444, Corynebacteriaceae  
*Corynebacterium terpenotabidum*, AB004730, Corynebacteriaceae  
*Corynebacterium variabile*, AJ222815, Corynebacteriaceae  
*Corynebacterium kroppenstedtii*, Y10077, Corynebacteriaceae  
*Corynebacterium freiburgense*, FJ157329, Corynebacteriaceae  
*Corynebacterium canis*, GQ871934, Corynebacteriaceae  
*Corynebacterium frenyii*, AJ292762, Corynebacteriaceae  
*Corynebacterium hansenii*, AM946639, Corynebacteriaceae  
*Corynebacterium amycolatium*, X82057, Corynebacteriaceae  
*Corynebacterium xerosis*, X81914, Corynebacteriaceae  
*Corynebacterium sputi*, AM930556, Corynebacteriaceae  
*Corynebacterium sphenisci*, AJ440964, Corynebacteriaceae  
*Corynebacterium ulceribovis*, AM922112, Corynebacteriaceae

#### Dietziaceae (11)

*Dietzia cercidiphyllii*, EU375846, Dietziaceae  
*Dietzia natronolimnaea*, X92157, Dietziaceae  
*Dietzia psychrotaliphila*, AB049630, Dietziaceae  
*Dietzia kunjimensis*, AY972480, Dietziaceae  
***Dietzia maris*, X79290, Dietziaceae, type sp.**  
*Dietzia schimae*, EU375845, Dietziaceae  
*Dietzia lutea*, EU821598, Dietziaceae  
*Dietzia aerolata*, FM995533, Dietziaceae  
*Dietzia cinnamiae*, AJ920289, Dietziaceae  
*Dietzia papillomatosis*, AY643401, Dietziaceae  
*Dietzia timorensis*, AB377289, Dietziaceae

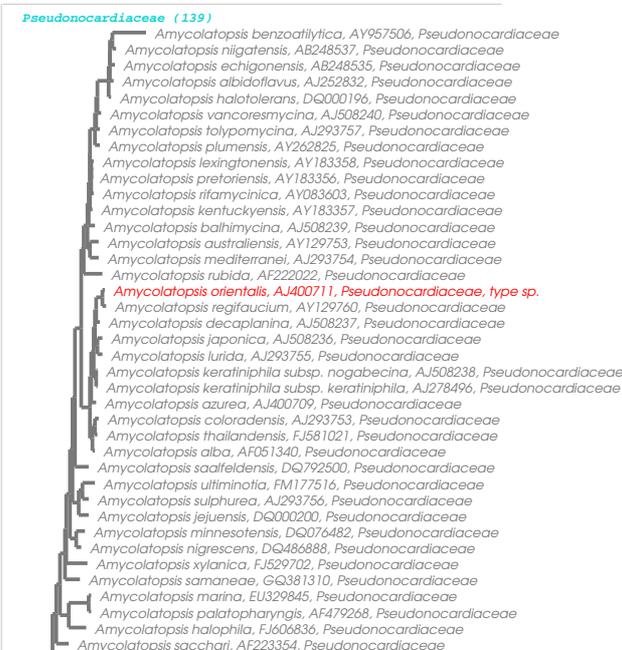
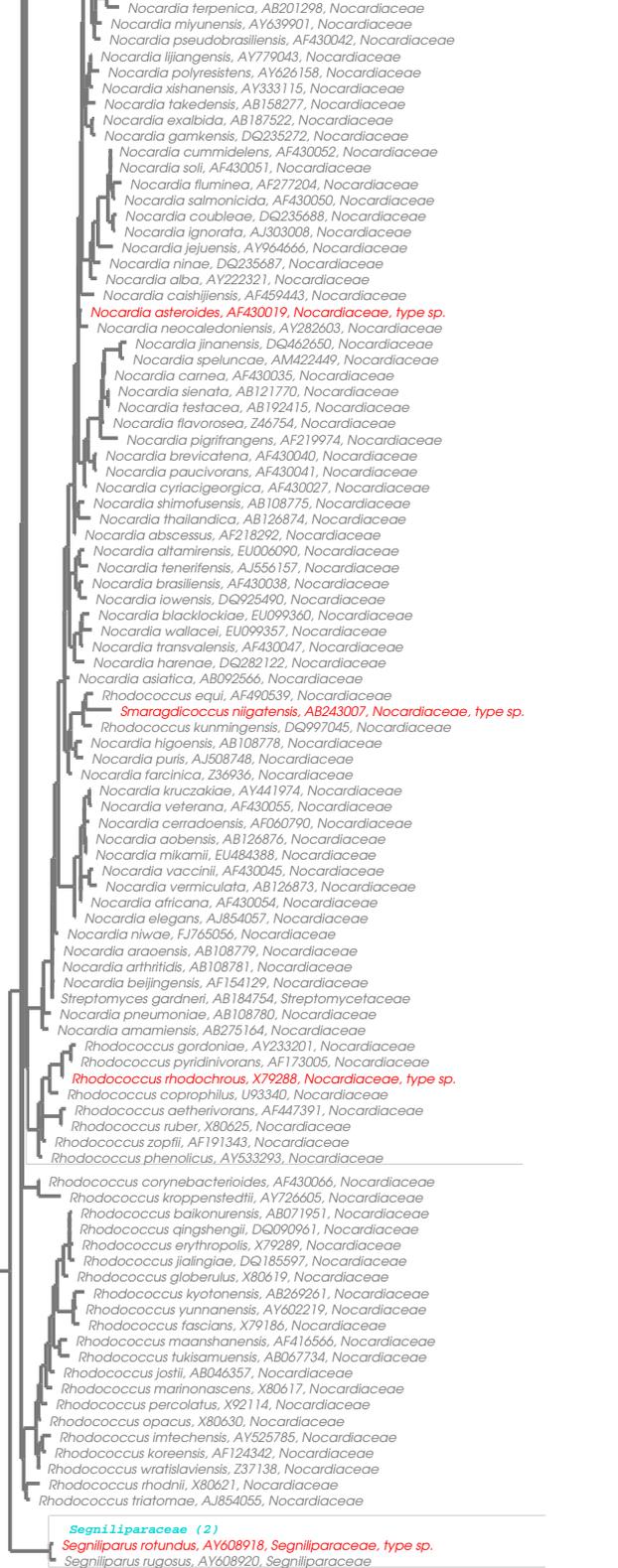
#### Tsukamurellaceae (11)

*Tsukamurella pseudospumae*, AY238513, Tsukamurellaceae  
*Tsukamurella sunchonensis*, AF150494, Tsukamurellaceae  
*Tsukamurella pulmonis*, X92981, Tsukamurellaceae  
*Tsukamurella spongiae*, AY714239, Tsukamurellaceae  
*Tsukamurella carboxydivorans*, EU521689, Tsukamurellaceae  
*Tsukamurella tyrosinosolvens*, AY238514, Tsukamurellaceae  
*Tsukamurella strandjordii*, AF283283, Tsukamurellaceae  
***Tsukamurella paurometabola*, AF283280, Tsukamurellaceae, type sp.**  
*Tsukamurella incheonensis*, AF283281, Tsukamurellaceae  
*Tsukamurella spumae*, Z37150, Tsukamurellaceae  
*Tsukamurella soli*, FJ917743, Tsukamurellaceae

***Tamella bifornata*, AB491283, Unclassified Corynebacterineae, type sp.**

#### Nocardiaceae (88)

*Nocardia concava*, AB126880, Nocardiaceae  
*Nocardia seriolae*, AF430039, Nocardiaceae  
*Nocardia otitidiscaviarum*, AF430067, Nocardiaceae  
*Nocardia uniformis*, AF430044, Nocardiaceae  
*Nocardia inohanensis*, AB092560, Nocardiaceae  
*Nocardia yamanashiensis*, AB092561, Nocardiaceae  
*Nocardia niigatensis*, DQ6659910, Nocardiaceae  
*Nocardia acidivorans*, AM402972, Nocardiaceae  
*Nocardia crassostreae*, AF430049, Nocardiaceae  
*Nocardia nova*, AF430028, Nocardiaceae  
*Nocardia anaemiae*, AB162801, Nocardiaceae  
*Nocardia pseudovaccinii*, AF430046, Nocardiaceae  
*Nocardia vinacea*, AB024312, Nocardiaceae  
*Nocardia jiangxiensis*, AY639902, Nocardiaceae  
*Nocardia callitridis*, FJ805428, Nocardiaceae



Amicolatopsis eurytherma, AJ000085, Pseudonocardiaceae  
Amicolatopsis tucumanensis, DQ886938, Pseudonocardiaceae  
Amicolatopsis methanolica, AJ249135, Pseudonocardiaceae  
Amicolatopsis thermoflava, AF052390, Pseudonocardiaceae  
Amicolatopsis helveola, AB327253, Pseudonocardiaceae  
Amicolatopsis taiwanensis, DQ160215, Pseudonocardiaceae  
Amicolatopsis pigmentata, AB327254, Pseudonocardiaceae  
**Haloechinothrix alba, GQ366705, Pseudonocardiaceae, type sp.**  
**Scissionella marina, EU503139, Pseudonocardiaceae, type sp.**  
**Yuhushiella deserti, FJ526746, Pseudonocardiaceae, type sp.**  
Thermocrispum agreste, X79183, Pseudonocardiaceae  
**Thermocrispum municipale, X79184, Pseudonocardiaceae, type sp.**  
Prauserella salsuginis, FJ444992, Pseudonocardiaceae  
Prauserella sediminis, FJ444995, Pseudonocardiaceae  
Prauserella flava, FJ444993, Pseudonocardiaceae  
Prauserella alba, AF435077, Pseudonocardiaceae  
Prauserella halophila, AF446190, Pseudonocardiaceae  
Prauserella aicingensis, FJ444994, Pseudonocardiaceae  
**Prauserella rugosa, AF051342, Pseudonocardiaceae, type sp.**  
Micropolyspora internatus, AB588632, Nocardiaceae  
**Saccharomonospora viridis, Z38007, Pseudonocardiaceae, type sp.**  
Saccharomonospora glauca, Z38003, Pseudonocardiaceae  
Saccharomonospora cyanea, Z38018, Pseudonocardiaceae  
Saccharomonospora xinjiangensis, AJ306300, Pseudonocardiaceae  
Saccharomonospora azurea, Z38017, Pseudonocardiaceae  
Saccharomonospora saliphila, DQ367416, Pseudonocardiaceae  
Saccharomonospora halophila, AJ278497, Pseudonocardiaceae  
Saccharomonospora paurometabolica, AF540959, Pseudonocardiaceae  
Actinopolyspora Iraqensis, EF372523, Actinopolysporaceae  
Prauserella marina, FJ444996, Pseudonocardiaceae  
Prauserella muralis, FM956091, Pseudonocardiaceae  
Saccharomonospora marina, FJ812357, Pseudonocardiaceae  
Saccharopolyspora hirsuta subsp. kobensis, EU267029, Pseudonocardiaceae  
Saccharopolyspora jiangxiensis, EF143926, Pseudonocardiaceae  
Saccharopolyspora antimicrobica, EF693956, Pseudonocardiaceae  
**Saccharopolyspora hirsuta subsp. hirsuta, DQ381814, Pseudonocardiaceae, type sp.**  
Saccharopolyspora shandongensis, EF104116, Pseudonocardiaceae  
Saccharopolyspora flava, AF154128, Pseudonocardiaceae  
Saccharopolyspora triptenygii, FJ214364, Pseudonocardiaceae  
Saccharopolyspora halophila, DQ923129, Pseudonocardiaceae  
Saccharopolyspora phatthalungensis, GQ381309, Pseudonocardiaceae  
Saccharopolyspora spinosa, AF002818, Pseudonocardiaceae  
Saccharopolyspora thermophila, AF127526, Pseudonocardiaceae  
Saccharopolyspora rosea, AM992060, Pseudonocardiaceae  
**Actinopolyspora halophila, X54287, Actinopolysporaceae, type sp.**  
Actinopolyspora mortivallis, DQ883812, Actinopolysporaceae  
Actinopolyspora xinjiangensis, GU479394, Actinopolysporaceae  
Saccharopolyspora qijiaojingensis, EF687715, Pseudonocardiaceae  
Saccharopolyspora gloriosa, EU005371, Pseudonocardiaceae  
Saccharopolyspora gregorii, X76962, Pseudonocardiaceae  
Saccharopolyspora cebuensis, EF030715, Pseudonocardiaceae  
Saccharopolyspora erythraea, AM420293, Pseudonocardiaceae  
Saccharopolyspora spinosporotrichia, Y09571, Pseudonocardiaceae  
Saccharopolyspora taberi, AF002819, Pseudonocardiaceae  
Actinophytocola timorensis, AB511315, Pseudonocardiaceae  
Actinophytocola catalina, AB511316, Pseudonocardiaceae  
Actinophytocola burenkhanensis, AB535095, Pseudonocardiaceae  
**Actinophytocola oryzae, EU420070, Pseudonocardiaceae, type sp.**  
Pseudonocardia asaccharolytica, Y08536, Pseudonocardiaceae  
Pseudonocardia acaciae, EU921261, Pseudonocardiaceae  
Pseudonocardia babensis, AB514449, Pseudonocardiaceae  
Pseudonocardia xinjiangensis, EU722520, Pseudonocardiaceae  
Pseudonocardia satumea, AJ252829, Pseudonocardiaceae  
Pseudonocardia petroleophila, AJ252828, Pseudonocardiaceae  
Pseudonocardia khuvsgulensis, AB521672, Pseudonocardiaceae  
**Pseudonocardia thermophila, EF588218, Pseudonocardiaceae, type sp.**  
Pseudonocardia adelaidensis, FJ805427, Pseudonocardiaceae  
Pseudonocardia zijingensis, AF326725, Pseudonocardiaceae  
Pseudonocardia spinosa, AB547126, Pseudonocardiaceae  
Pseudonocardia spinospora, AJ249206, Pseudonocardiaceae  
Pseudonocardia yunnanensis, AJ252822, Pseudonocardiaceae  
Pseudonocardia chloroethenivorans, AF454510, Pseudonocardiaceae  
Pseudonocardia mongoliensis, AB521671, Pseudonocardiaceae  
Pseudonocardia benzenivorans, AJ556156, Pseudonocardiaceae  
Pseudonocardia dioxanivorans, AY340622, Pseudonocardiaceae  
Pseudonocardia tetracycloruforanoydans, AJ249200, Pseudonocardiaceae  
Pseudonocardia hydrocarbonoxydans, AJ252826, Pseudonocardiaceae  
Pseudonocardia sulfidoxydans, Y08537, Pseudonocardiaceae  
Pseudonocardia endophytica, DQ867489, Pseudonocardiaceae  
Pseudonocardia kongjuensis, AJ252833, Pseudonocardiaceae  
Pseudonocardia ammonioxydans, AY500143, Pseudonocardiaceae  
Pseudonocardia autotrophica, AJ252824, Pseudonocardiaceae  
Pseudonocardia compacta, AJ252825, Pseudonocardiaceae  
Pseudonocardia nitrificans, X55609, Pseudonocardiaceae  
Pseudonocardia antarctica, AJ576010, Pseudonocardiaceae  
Pseudonocardia alni, AJ252823, Pseudonocardiaceae  
Pseudonocardia carboxylivorans, EF114314, Pseudonocardiaceae  
Pseudonocardia tropica, GQ906587, Pseudonocardiaceae  
Pseudonocardia parietis, FM863703, Pseudonocardiaceae  
Pseudonocardia eucalypti, FJ805426, Pseudonocardiaceae  
Pseudonocardia ailaonensis, DQ344632, Pseudonocardiaceae  
Pseudonocardia oroxyli, DQ343154, Pseudonocardiaceae  
Pseudonocardia halophobica, AJ252827, Pseudonocardiaceae  
Pseudonocardia artemisiae, GU227146, Pseudonocardiaceae  
**Actinomycesopora chlangmalensis, AM398646, Pseudonocardiaceae, type sp.**  
Kibdelosporangium aridum subsp. largum, AJ512463, Pseudonocardiaceae  
Kibdelosporangium philippinense, AJ512464, Pseudonocardiaceae  
**Kibdelosporangium aridum subsp. aridum, AJ311174, Pseudonocardiaceae, type sp.**  
**Streptoalloteichus hindustanus, D85497, Pseudonocardiaceae, type sp.**  
Streptoalloteichus tenebrarius, AB184722, Pseudonocardiaceae

**Actinosynnemataceae (41)**

Saccharothrix mutabilis subsp. capreolus, X76965, Pseudonocardiaceae  
Saccharothrix mutabilis subsp. mutabilis, X76966, Pseudonocardiaceae  
Saccharothrix varisporea, GQ917213, Pseudonocardiaceae  
Saccharothrix espanaensis, AF114807, Pseudonocardiaceae  
Saccharothrix texasensis, AF114814, Pseudonocardiaceae  
Saccharothrix violaceirubra, AB284261, Pseudonocardiaceae  
Saccharothrix algeriensis, AY054972, Pseudonocardiaceae  
**Saccharothrix australiensis, AF114803, Pseudonocardiaceae, type sp.**  
Saccharothrix coeruleofusca, AF114805, Pseudonocardiaceae  
Saccharothrix syringae, AF114812, Pseudonocardiaceae  
Saccharothrix xinjiangensis, AY135693, Pseudonocardiaceae  
Saccharothrix longispora, AF114809, Pseudonocardiaceae  
**Actinosynema mirum, AF328679, Pseudonocardiaceae, type sp.**  
Actinosynema pretiosum subsp. auranticum, AB303364, Pseudonocardiaceae  
Actinosynema pretiosum subsp. pretiosum, AF114800, Pseudonocardiaceae  
**Lentzea albidocapitata, AF328680, Pseudonocardiaceae, type sp.**  
Lentzea violacea, AJ242633, Pseudonocardiaceae  
Lentzea flaviverrucosa, AF183957, Pseudonocardiaceae  
Lentzea californiensis, AF174435, Pseudonocardiaceae  
Lentzea waywayandensis, AB020029, Pseudonocardiaceae  
Lentzea albida, AB006176, Pseudonocardiaceae  
Lechevalieria fradiae, AY114175, Pseudonocardiaceae  
Lentzea kentuckyensis, DQ291145, Pseudonocardiaceae  
Actinokineospora enzanensis, AB058395, Pseudonocardiaceae  
Actinokineospora inagensis, AF114799, Pseudonocardiaceae  
**Actinokineospora riparia, AF114802, Pseudonocardiaceae, type sp.**  
Actinokineospora terrae, AB058394, Pseudonocardiaceae  
Actinokineospora globicatena, AF114798, Pseudonocardiaceae  
Actinokineospora diospyrosa, AF114797, Pseudonocardiaceae  
Actinokineospora cianjurenensis, AB473945, Pseudonocardiaceae  
Actinokineospora baliensis, AB447488, Pseudonocardiaceae  
Actinokineospora auranticolor, AB058396, Pseudonocardiaceae  
**Lechevalieria aerocolonigenes, AF114804, Pseudonocardiaceae, type sp.**  
Lechevalieria atacamensis, EU551684, Pseudonocardiaceae  
Lechevalieria roselyniiae, EU551683, Pseudonocardiaceae  
Lechevalieria xinjiangensis, DQ898283, Pseudonocardiaceae  
Lechevalieria flava, AF114808, Pseudonocardiaceae

- Allokutzneria albata*, AJ12462, *Pseudonocardiaceae*, type sp.
- Actinokineospora cibodasensis*, AB447489, *Pseudonocardiaceae*
- Alloactinosynema album*, EU438907, *Pseudonocardiaceae*, type sp.
- Actinokineospora fastidiosa*, GQ200601, *Pseudonocardiaceae*
- Crossiella cryophila*, AF114806, *Pseudonocardiaceae*, type sp.
- Crossiella equi*, AF245017, *Pseudonocardiaceae*
- Kutzneria albida*, EF543522, *Pseudonocardiaceae*
- Kutzneria viridigrisea*, U58530, *Pseudonocardiaceae*, type sp.
- Kutzneria kofuenis*, AF114801, *Pseudonocardiaceae*
- Actinoalloleichus cyanogriseus*, AB006178, *Pseudonocardiaceae*, type sp.
- Actinoalloleichus spitiensis*, AY426714, *Pseudonocardiaceae*
- Actinoalloleichus hymeniactidonis*, DQ144222, *Pseudonocardiaceae*
- Actinoalloleichus nanshanensis*, GQ926935, *Pseudonocardiaceae*
- Goodfellowiella coeruleoviolacea*, DQ093349, *Pseudonocardiaceae*, type sp.
- Umezawaea tangerina*, AB020031, *Pseudonocardiaceae*, type sp.

**Thermomonosporaceae (64)**

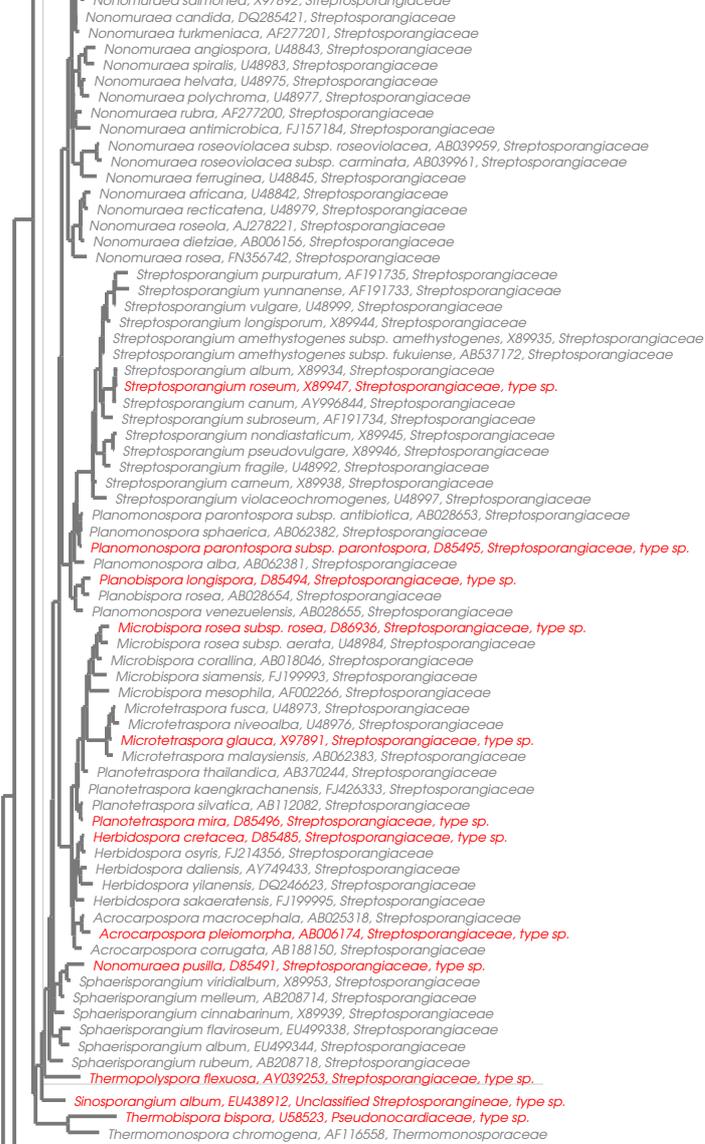
- Actinocarallia aurantiaca*, AJ293701, *Thermomonosporaceae*
- Actinocarallia libanotica*, U49007, *Thermomonosporaceae*
- Actinocarallia aurea*, AB006177, *Thermomonosporaceae*
- Actinocarallia herbida*, D85473, *Thermomonosporaceae*, type sp.
- Actinocarallia glomerata*, AJ293704, *Thermomonosporaceae*
- Actinocarallia longicatena*, AJ293707, *Thermomonosporaceae*
- Actinocarallia cavernosa*, AY966427, *Thermomonosporaceae*
- Spirillospora rubra*, AF163123, *Thermomonosporaceae*
- Actinomadura rudeniformis*, DQ285420, *Thermomonosporaceae*
- Actinomadura fulvescens*, AJ420137, *Thermomonosporaceae*
- Spirillospora albida*, D85498, *Thermomonosporaceae*, type sp.
- Actinomadura fibrosa*, AJ293702, *Thermomonosporaceae*
- Actinomadura keratinolytica*, EU637009, *Thermomonosporaceae*
- Actinomadura miaoliensis*, EF116925, *Thermomonosporaceae*
- Actinomadura rubrobrunnea*, EU637008, *Thermomonosporaceae*
- Actinomadura viridilutea*, D86943, *Thermomonosporaceae*
- Actinomadura oligospora*, AF163118, *Thermomonosporaceae*
- Actinomadura kijaniata*, X97890, *Thermomonosporaceae*
- Actinomadura namibiensis*, AJ420134, *Thermomonosporaceae*
- Actinomadura hibisca*, AJ293705, *Thermomonosporaceae*
- Actinomadura nitritigenes*, AY035999, *Thermomonosporaceae*
- Actinomadura bangladeshensis*, AB331652, *Thermomonosporaceae*
- Actinomadura chokoriensis*, AB331730, *Thermomonosporaceae*
- Actinomadura meyeriae*, AY273787, *Thermomonosporaceae*
- Actinomadura napierensis*, AY568292, *Thermomonosporaceae*
- Actinomadura atramentaria*, U49000, *Thermomonosporaceae*
- Actinomadura flavalba*, FJ157185, *Thermomonosporaceae*
- Actinomadura rugatobispora*, U49010, *Thermomonosporaceae*
- Actinomadura luteofluorescens*, U49008, *Thermomonosporaceae*
- Actinomadura verrucospora*, U49011, *Thermomonosporaceae*
- Actinomadura macra*, U49009, *Thermomonosporaceae*
- Actinomadura coerulea*, U49002, *Thermomonosporaceae*
- Actinomadura cremea* subsp. *cremea*, AF134067, *Thermomonosporaceae*
- Actinomadura cremea* subsp. *rifamycinii*, U49003, *Thermomonosporaceae*
- Actinomadura pelletieri*, AJ293710, *Thermomonosporaceae*
- Actinomadura citrea*, AJ420139, *Thermomonosporaceae*
- Actinomadura mexicana*, AF277195, *Thermomonosporaceae*
- Actinomadura formosensis*, AJ293703, *Thermomonosporaceae*
- Actinomadura madurae*, X97889, *Thermomonosporaceae*, type sp.
- Actinomadura latina*, AY035998, *Thermomonosporaceae*
- Actinomadura vinacea*, AF134070, *Thermomonosporaceae*
- Actinomadura viridis*, AJ420141, *Thermomonosporaceae*
- Actinomadura yumaensis*, AF163122, *Thermomonosporaceae*
- Actinomadura chibensis*, AB264086, *Thermomonosporaceae*
- Actinomadura catellatispora*, AF154127, *Thermomonosporaceae*
- Actinomadura livida*, AJ293706, *Thermomonosporaceae*
- Actinomadura hallensis*, DQ076484, *Thermomonosporaceae*
- Actinomadura sputi*, FM957483, *Thermomonosporaceae*
- Actinomadura umbrina*, AJ293713, *Thermomonosporaceae*
- Thermomonospora curvata*, D86945, *Thermomonosporaceae*, type sp.
- Actinomadura echinospira*, AJ420135, *Thermomonosporaceae*
- Actinoallomurus caesius*, AB364589, *Thermomonosporaceae*
- Actinoallomurus acaciae*, EU429322, *Thermomonosporaceae*
- Actinoallomurus amamiensis*, AB364583, *Thermomonosporaceae*
- Actinoallomurus fulvus*, AB364582, *Thermomonosporaceae*
- Actinoallomurus yoronensis*, AB364584, *Thermomonosporaceae*
- Actinoallomurus coprocola*, AB364579, *Thermomonosporaceae*
- Actinoallomurus iriomotensis*, AB364586, *Thermomonosporaceae*
- Actinoallomurus oryzae*, EU420071, *Thermomonosporaceae*
- Actinoallomurus spadix*, AF163120, *Thermomonosporaceae*, type sp.
- Actinoallomurus purpureus*, AB364588, *Thermomonosporaceae*
- Actinoallomurus luridus*, AB364585, *Thermomonosporaceae*
- Actinomadura scrupuli*, FM210339, *Thermomonosporaceae*
- Actinomadura alba*, DQ985164, *Thermomonosporaceae*

**Nocardioleptaceae (46)**

- Nocardioleptis exhalans*, AY028325, *Nocardioleptaceae*
- Nocardioleptis valliformis*, AY336503, *Nocardioleptaceae*
- Nocardioleptis ganjahuensis*, AY336513, *Nocardioleptaceae*
- Nocardioleptis metallicus*, AJ420769, *Nocardioleptaceae*
- Nocardioleptis prasina*, X97884, *Nocardioleptaceae*
- Nocardioleptis alkaliophila*, AY230848, *Nocardioleptaceae*
- Nocardioleptis listeri*, X97887, *Nocardioleptaceae*
- Nocardioleptis tropica*, AF105971, *Nocardioleptaceae*
- Nocardioleptis umidischolae*, AY036001, *Nocardioleptaceae*
- Nocardioleptis alba*, X97883, *Nocardioleptaceae*
- Nocardioleptis quinghaiensis*, EF597511, *Nocardioleptaceae*
- Nocardioleptis sinuspersici*, EU410476, *Nocardioleptaceae*
- Nocardioleptis arandica*, EU410477, *Nocardioleptaceae*
- Nocardioleptis aegyptia*, AJ539401, *Nocardioleptaceae*
- Nocardioleptis lucentensis*, X97888, *Nocardioleptaceae*
- Nocardioleptis dassonvillei* subsp. *dassonvillei*, X97886, *Nocardioleptaceae*, type sp.
- Nocardioleptis synnemataformans*, Y13593, *Nocardioleptaceae*
- Nocardioleptis halotolerans*, AJ290448, *Nocardioleptaceae*
- Nocardioleptis dassonvillei* subsp. *albirubida*, X97882, *Nocardioleptaceae*
- Nocardioleptis kunsanensis*, AF195412, *Nocardioleptaceae*
- Nocardioleptis litoralis*, EU583726, *Nocardioleptaceae*
- Nocardioleptis xinjiangensis*, AF251709, *Nocardioleptaceae*
- Nocardioleptis salina*, AY373031, *Nocardioleptaceae*
- Nocardioleptis nikkonensis*, AB491226, *Nocardioleptaceae*
- Nocardioleptis composita*, AF360734, *Nocardioleptaceae*
- Nocardioleptis potens*, FM253114, *Nocardioleptaceae*
- Nocardioleptis baichengensis*, AY619716, *Nocardioleptaceae*
- Nocardioleptis halophila*, AJ421018, *Nocardioleptaceae*
- Nocardioleptis chromatogenes*, AY619715, *Nocardioleptaceae*
- Nocardioleptis rhodophaea*, AY619714, *Nocardioleptaceae*
- Nocardioleptis rosea*, AY619713, *Nocardioleptaceae*
- Nocardioleptis gilva*, AY619712, *Nocardioleptaceae*
- Nocardioleptis trehalosi*, AF105972, *Nocardioleptaceae*
- Streptomonospora flavalba*, EU442553, *Nocardioleptaceae*
- Streptomonospora alba*, AF462347, *Nocardioleptaceae*
- Streptomonospora salina*, AF178988, *Nocardioleptaceae*, type sp.
- Streptomonospora amylyolytica*, EU442551, *Nocardioleptaceae*
- Nocardioleptis arabia*, EF095149, *Nocardioleptaceae*
- Streptomonospora halophila*, EF423989, *Nocardioleptaceae*
- Haloactinospora alba*, DQ923130, *Nocardioleptaceae*, type sp.
- Murinocardioleptis flavida*, FN393755, *Nocardioleptaceae*, type sp.
- Marinactinospora thermotolerans*, EU698029, *Nocardioleptaceae*, type sp.
- Thermobifida cellulolytica*, AJ298058, *Nocardioleptaceae*
- Thermobifida fusca*, AF028245, *Nocardioleptaceae*
- Thermobifida alba*, AF002260, *Nocardioleptaceae*, type sp.
- Thermobifida halotolerans*, EU250489, *Nocardioleptaceae*

**Streptosporangiaceae (75)**

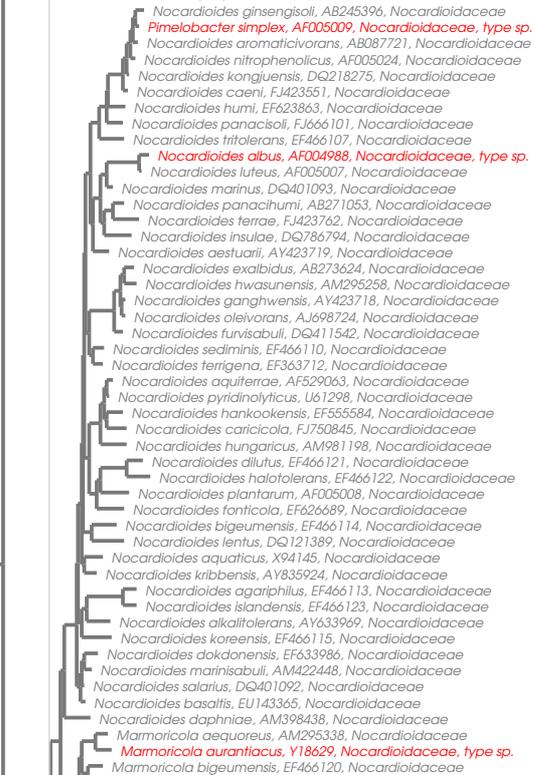
- Nonomuraea coxensis*, AB274967, *Streptosporangiaceae*
- Nonomuraea fastidiosa*, U48844, *Streptosporangiaceae*
- Nonomuraea bangladeshensis*, AB274966, *Streptosporangiaceae*
- Nonomuraea kuesteri*, AJ746362, *Streptosporangiaceae*
- Nonomuraea maheshkhalensis*, AB299014, *Streptosporangiaceae*
- Nonomuraea longicatena*, GJ367158, *Streptosporangiaceae*
- Nonomuraea endophytica*, Y07890, *Streptosporangiaceae*



#### Glycomycetaceae (13)



#### Nocardioideaceae (62)



- Nocardioideae mesophilus, EF461117, Nocardioideae
- Nocardioideae jensenii, AF005006, Nocardioideae
- Nocardioideae daedukensis, FJ842646, Nocardioideae
- Nocardioideae dubius, AY928902, Nocardioideae
- Aeromicrobium ginsengisoli, AB245394, Nocardioideae
- Aeromicrobium panaciferae, AB245387, Nocardioideae
- Aeromicrobium marinum, AY166703, Nocardioideae
- Aeromicrobium fastidiosum, AF005022, Nocardioideae
- Aeromicrobium alkaliferae, AY822044, Nocardioideae
- Aeromicrobium flavum, EF133690, Nocardioideae
- Aeromicrobium famlense, DQ411541, Nocardioideae
- Aeromicrobium erythreum, AF005021, Nocardioideae, type sp.**
- Aeromicrobium ponti, AM778683, Nocardioideae
- Aeromicrobium halocynthiae, FJ042789, Nocardioideae

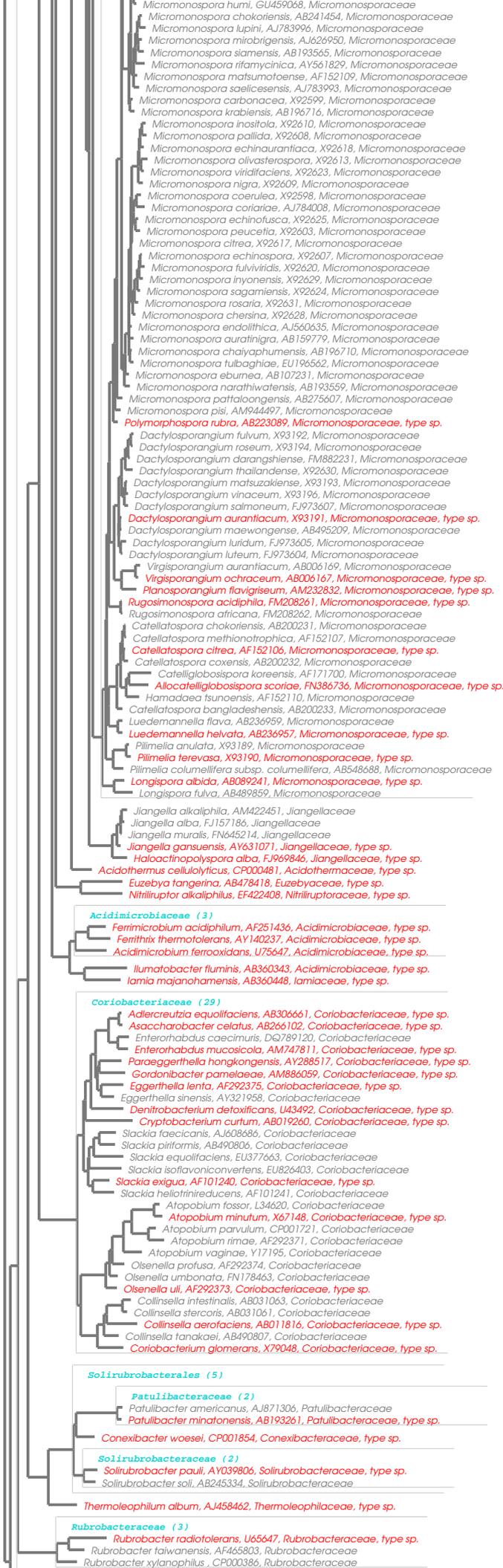
**Propionibacteriaceae (41)**

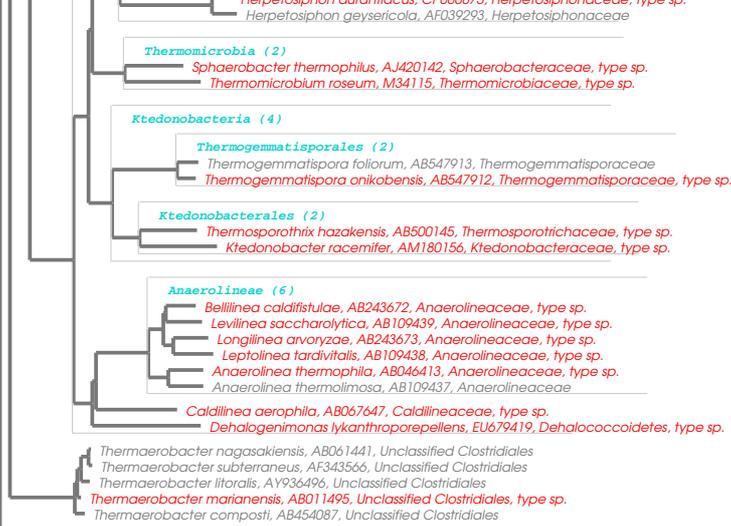
- Propionibacterium acidipropionici, AJ704570, Propionibacteriaceae
- Propionibacterium microaerophilum, AF234623, Propionibacteriaceae
- Propionibacterium jensenii, AJ704571, Propionibacteriaceae
- Propionibacterium thoenii, AJ704572, Propionibacteriaceae
- Propionibacterium granulosum, AJ003057, Propionibacteriaceae
- Propionibacterium avidum, AJ003055, Propionibacteriaceae
- Propionibacterium propionicum, AJ003058, Propionibacteriaceae
- Propionibacterium acnes, AB042288, Propionibacteriaceae
- Propionibacterium acidifaciens, EU979537, Propionibacteriaceae
- Propionibacterium australiense, AF225962, Propionibacteriaceae
- Propionibacterium cyclohexanicum, D82046, Propionibacteriaceae
- Propionibacterium freudenreichii subsp. freudenreichii, X53217, Propionibacteriaceae, type sp.**
- Propionibacterium freudenreichii subsp. shermanii, Y10819, Propionibacteriaceae
- Brooklawia cerclae, DQ196625, Propionibacteriaceae, type sp.**
- Propionimicrobium lymphophilum, AJ003056, Propionibacteriaceae, type sp.**
- Tessaracoccus bendigoensis, AF038504, Propionibacteriaceae, type sp.**
- Tessaracoccus flavescens, AM393882, Propionibacteriaceae
- Tessaracoccus lubricantis, FM178840, Propionibacteriaceae
- Luteococcus japonicus, D85487, Propionibacteriaceae, type sp.**
- Luteococcus sanguinis, AJ416758, Propionibacteriaceae
- Luteococcus peritonei, AJ132334, Propionibacteriaceae
- Aestuarmicrobium kwangyangense, DQ830982, Propionibacteriaceae, type sp.**
- Auraticoccus monumenti, FN552748, Propionibacteriaceae, type sp.**
- Friedmanniella antarctica, Z78206, Propionibacteriaceae, type sp.**
- Friedmanniella spumicola, AF062535, Propionibacteriaceae
- Friedmanniella sagamiensis, AB445456, Propionibacteriaceae
- Friedmanniella okinawensis, AB445455, Propionibacteriaceae
- Friedmanniella capsulata, AF084529, Propionibacteriaceae
- Friedmanniella lacustris, AJ132943, Propionibacteriaceae
- Friedmanniella luteola, AB445453, Propionibacteriaceae
- Friedmanniella lucida, AB445454, Propionibacteriaceae
- Microbunus aurantiacus, EF601828, Propionibacteriaceae
- Microbunus phosphovorus, Z78207, Propionibacteriaceae, type sp.**
- Microbunus soli, FJ807672, Propionibacteriaceae
- Microbunus parietis, FN556016, Propionibacteriaceae
- Microbunus ginsengisoli, AB245389, Propionibacteriaceae
- Microbunus panaciferae, AB271051, Propionibacteriaceae
- Micropruina glycoigena, AB012607, Propionibacteriaceae, type sp.**
- Propionicicella superfundia, DQ176646, Propionibacteriaceae, type sp.**
- Granulococcus phenolivorans, AY566575, Propionibacteriaceae, type sp.**
- Propioniferax innocua, AF227165, Propionibacteriaceae, type sp.**

- Kribbella jejuensis, AY253866, Nocardioideae
- Kribbella swartbergensis, AY995147, Nocardioideae
- Kribbella aluminosa, EF126967, Nocardioideae
- Kribbella hippodromi, EF472955, Nocardioideae
- Kribbella solani, AY253862, Nocardioideae
- Kribbella catacumbae, AM778575, Nocardioideae
- Kribbella karonensis, AY995146, Nocardioideae
- Kribbella sandramycini, AY253864, Nocardioideae
- Kribbella yunnanensis, AY082061, Nocardioideae
- Kribbella antibiotica, AY082063, Nocardioideae
- Kribbella ginsengisoli, AB245391, Nocardioideae
- Kribbella koreensis, Y09159, Nocardioideae
- Kribbella sancticallisti, AM778577, Nocardioideae
- Kribbella alba, AY082062, Nocardioideae
- Kribbella flavida, AY253863, Nocardioideae, type sp.**
- Kribbella lupini, AJ811962, Nocardioideae
- Actinopolymorpha rutila, EF601829, Nocardioideae
- Actinopolymorpha cephalotaxi, EU438909, Nocardioideae
- Actinopolymorpha singaporensis, AF237815, Nocardioideae, type sp.**
- Actinopolymorpha alba, EU706350, Nocardioideae
- Thermosporomyces compositi, AB535715, Nocardioideae, type sp.**

**Micromonosporaceae (126)**

- Actinoplanes cyaneus, AB036997, Micromonosporaceae
- Actinoplanes liguriensis, AJ865471, Micromonosporaceae
- Actinoplanes italicus, AB037005, Micromonosporaceae
- Actinoplanes couchii, AM400230, Micromonosporaceae
- Actinoplanes rectilineatus, AB037010, Micromonosporaceae
- Actinoplanes sichuanensis, EU531458, Micromonosporaceae
- Actinoplanes xinjiangensis, EU531457, Micromonosporaceae
- Actinoplanes derwentensis, AB036999, Micromonosporaceae
- Actinoplanes missouriensis, AJ277572, Micromonosporaceae
- Actinoplanes auranticolor, U58526, Micromonosporaceae
- Actinoplanes lobatus, AB037006, Micromonosporaceae
- Actinoplanes campanulatus, AB036995, Micromonosporaceae
- Actinoplanes capillaceus, AB013495, Micromonosporaceae
- Actinoplanes philippinensis, U58525, Micromonosporaceae, type sp.**
- Actinoplanes utahensis, AJ277574, Micromonosporaceae
- Actinoplanes palleroni, AJ277573, Micromonosporaceae
- Actinoplanes regularis, X93188, Micromonosporaceae
- Actinoplanes consettensis, AB036996, Micromonosporaceae
- Actinoplanes humidus, AB037004, Micromonosporaceae
- Actinoplanes digitatis, AB037000, Micromonosporaceae
- Actinoplanes durhamensis, AJ277568, Micromonosporaceae
- Actinoplanes ferrugineus, AJ277569, Micromonosporaceae
- Actinoplanes terejensis, AB468944, Micromonosporaceae
- Actinoplanes toevensis, AB468943, Micromonosporaceae
- Actinoplanes globisporus, AB048219, Micromonosporaceae
- Actinoplanes deccanensis, AJ277565, Micromonosporaceae
- Krasnikovia cinnamomea, AB236956, Micromonosporaceae
- Pseudosporangium ferrugineum, AB302183, Micromonosporaceae, type sp.**
- Couchioplanes caeruleus subsp. caeruleus, D85479, Micromonosporaceae, type sp.**
- Couchioplanes caeruleus subsp. azureus, X93202, Micromonosporaceae
- Actinoplanes brasiliensis, X93185, Micromonosporaceae
- Actinoplanes teichomyces, AB047513, Micromonosporaceae
- Spirilliplanes yamanashiensis, D63912, Micromonosporaceae, type sp.**
- Catenuloplanes castaneus, AB588634, Micromonosporaceae
- Catenuloplanes japonicus, X93201, Micromonosporaceae, type sp.**
- Catenuloplanes atrovivus, AJ294716, Micromonosporaceae
- Catenuloplanes indicus, AJ294717, Micromonosporaceae
- Catenuloplanes niger, AB588635, Micromonosporaceae
- Catenuloplanes crispus, AB024701, Micromonosporaceae
- Catenuloplanes nepalensis, FJ15941, Micromonosporaceae
- Verrucosipora lutea, EF191199, Micromonosporaceae
- Verrucosipora sediminis, EU870859, Micromonosporaceae
- Verrucosipora giffomensis, Y15523, Micromonosporaceae, type sp.**
- Asanoa iriomotensis, AB112081, Micromonosporaceae
- Asanoa ishikariensis, AJ294715, Micromonosporaceae
- Asanoa ferruginea, AF152108, Micromonosporaceae, type sp.**
- Phytohabetans suffuscus, AB490769, Micromonosporaceae, type sp.**
- Salinispora arenicola, AY040619, Micromonosporaceae, type sp.**
- Salinispora tropica, AY040617, Micromonosporaceae
- Micromonospora rhizosphaerae, FJ261956, Micromonosporaceae
- Jishengella endophytica, EU560726, Micromonosporaceae, type sp.**
- Actinaurispora siamensis, AB454379, Micromonosporaceae, type sp.**
- Plantactinospora mayteni, FJ214343, Micromonosporaceae, type sp.**
- Micromonospora chalcone, X92594, Micromonosporaceae, type sp.**
- Micromonospora marina, AB196712, Micromonosporaceae
- Micromonospora aurantiaca, X92604, Micromonosporaceae
- Micromonospora halophytica, X92601, Micromonosporaceae
- Micromonospora purpureochromogenes, X92611, Micromonosporaceae
- Micromonospora coxensis, AB241455, Micromonosporaceae



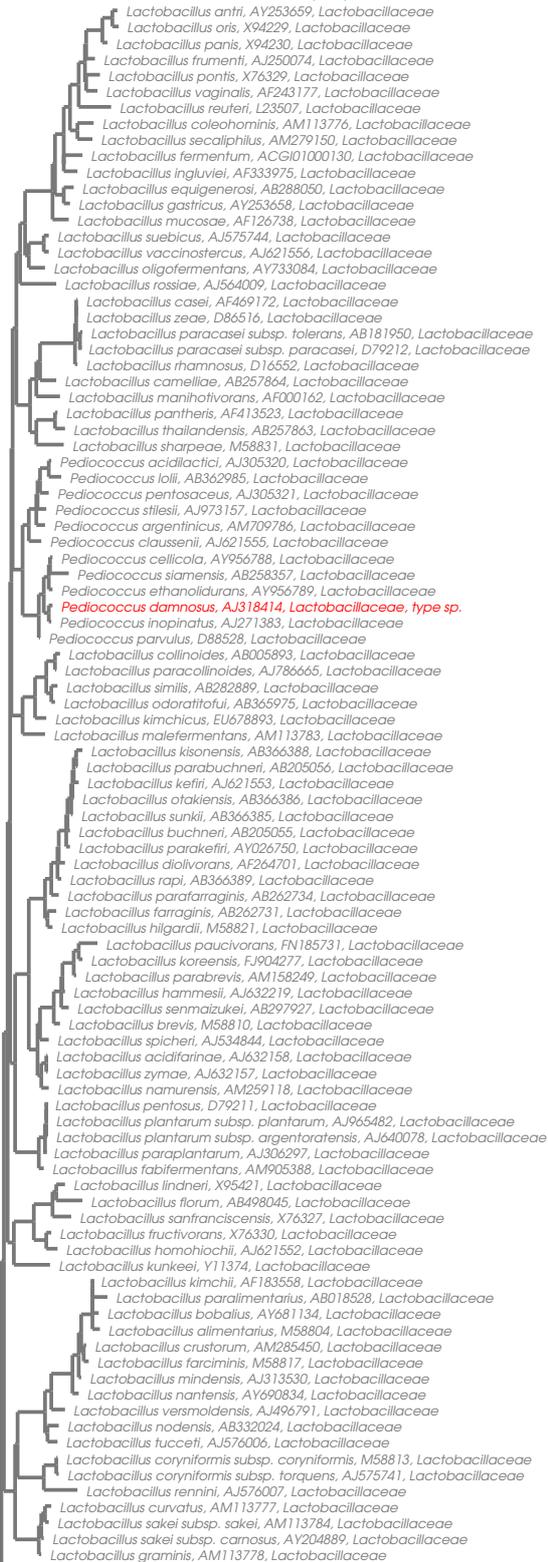


Firmicutes (1876)

Bacilli (1309)

Lactobacillales (380)

Lactobacillaceae and Leuconostocaceae (192)



Leuconostocaceae (35)

*Leuconostoc gelidum*, AF175402, Leuconostocaceae

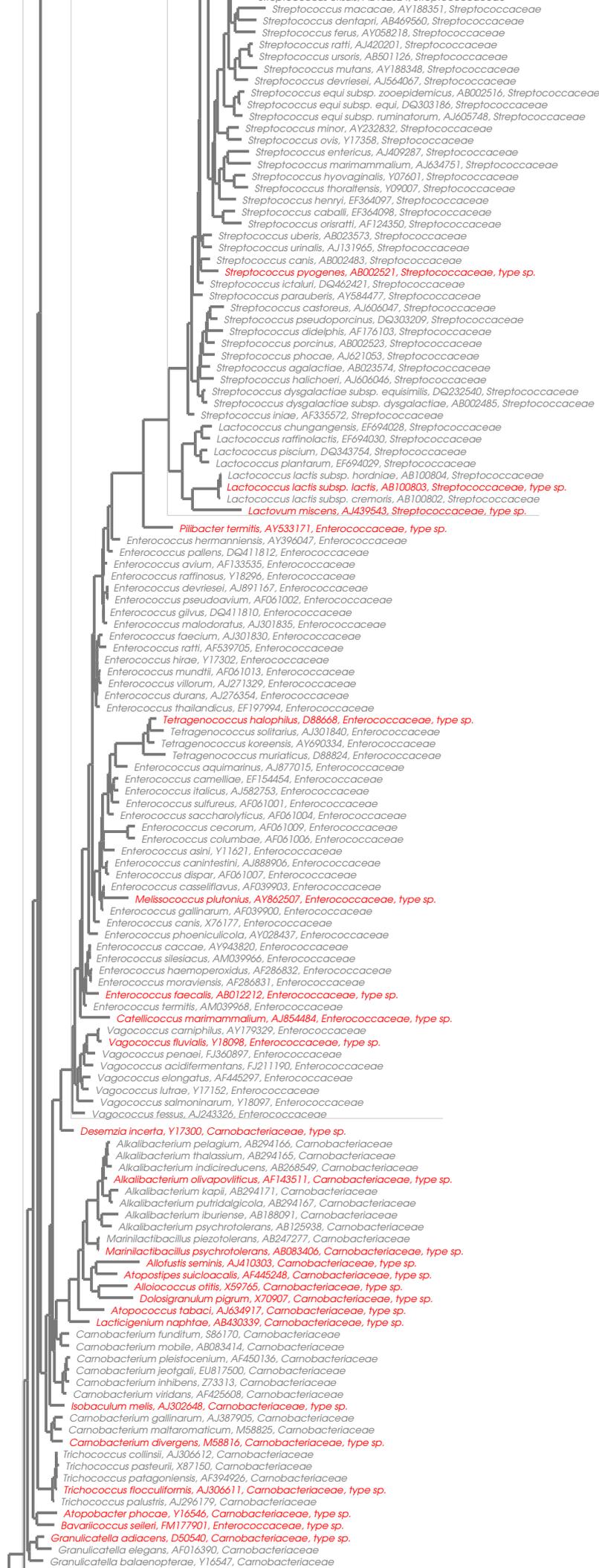
Leuconostoc kimchii, AF173960, Leuconostocaceae  
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 Leuconostoc gascomitatum, AF231131, Leuconostocaceae  
 Leuconostoc camosum, AB022925, Leuconostocaceae  
 Leuconostoc citreum, AF111948, Leuconostocaceae  
 Leuconostoc holzapfelli, AM600682, Leuconostocaceae  
 Leuconostoc palmae, AM940225, Leuconostocaceae  
 Leuconostoc lactis, AB023968, Leuconostocaceae  
 Leuconostoc pseudomesenteroides, AB023237, Leuconostocaceae  
 Leuconostoc mesenteroides subsp. cremoris, AB023247, Leuconostocaceae  
**Leuconostoc mesenteroides subsp. mesenteroides, CP000414, Leuconostocaceae, type sp.**  
 Leuconostoc mesenteroides subsp. dextranicum, AB023244, Leuconostocaceae  
 Fructobacillus pseudoficulus, AY169967, Leuconostocaceae  
 Fructobacillus tropaeoli, AB542054, Leuconostocaceae  
 Fructobacillus ficulus, AF360736, Leuconostocaceae  
 Fructobacillus durionis, AJ780981, Leuconostocaceae  
 Fructobacillus fructosus, AF360737, Leuconostocaceae  
 Leuconostoc fallax, AF360738, Leuconostocaceae  
 Oenococcus kitaharae, AB221475, Leuconostocaceae  
**Oenococcus oeni, AB022924, Leuconostocaceae, type sp.**  
 Weissella minor, AB022920, Leuconostocaceae  
**Weissella viridescens, AB023236, Leuconostocaceae, type sp.**  
 Weissella halotolerans, AB022926, Leuconostocaceae  
 Weissella paramesenteroides, AB023238, Leuconostocaceae  
 Weissella thailandensis, AB023838, Leuconostocaceae  
 Weissella hellenica, S67831, Leuconostocaceae  
 Weissella confusa, AB023241, Leuconostocaceae  
 Weissella cibaria, AJ295989, Leuconostocaceae  
 Weissella kandleri, M23038, Leuconostocaceae  
 Weissella koreensis, AY035891, Leuconostocaceae  
 Weissella soli, AY028260, Leuconostocaceae  
 Weissella ghanensis, AM882997, Leuconostocaceae  
 Weissella fabaria, FM179678, Leuconostocaceae  
 Weissella beninensis, EU439435, Leuconostocaceae

Lactobacillus amylolyticus, Y17361, Lactobacillaceae  
 Lactobacillus hamsteri, AJ306298, Lactobacillaceae  
 Lactobacillus acidophilus, AY773947, Lactobacillaceae  
 Lactobacillus amylovorus, AY944408, Lactobacillaceae  
 Lactobacillus kitasatonis, AB107638, Lactobacillaceae  
 Lactobacillus kefiranoferens subsp. kefiranoferens, AM113781, Lactobacillaceae  
 Lactobacillus kefiranoferens subsp. kefirgranum, AM113782, Lactobacillaceae  
 Lactobacillus crispatus, AF257097, Lactobacillaceae  
 Lactobacillus ultunensis, AY253660, Lactobacillaceae  
 Lactobacillus gallinarum, AJ417737, Lactobacillaceae  
 Lactobacillus helveticus, AM113779, Lactobacillaceae  
 Lactobacillus intestinalis, AJ306299, Lactobacillaceae  
 Lactobacillus kalkanensis, AY253657, Lactobacillaceae  
 Lactobacillus delbrueckii subsp. lactis, AY050173, Lactobacillaceae  
**Lactobacillus delbrueckii subsp. delbrueckii, AY773949, Lactobacillaceae, type sp.**  
 Lactobacillus delbrueckii subsp. indicus, AY421720, Lactobacillaceae  
 Lactobacillus delbrueckii subsp. bulgaricus, CR954253, Lactobacillaceae  
 Lactobacillus equicursoris, AB290830, Lactobacillaceae  
 Lactobacillus acetotolerans, M58801, Lactobacillaceae  
 Lactobacillus formicis, Y18654, Lactobacillaceae  
 Lactobacillus jensenii, AF243176, Lactobacillaceae  
 Lactobacillus psittaci, AJ272391, Lactobacillaceae  
 Lactobacillus gasserii, AF519171, Lactobacillaceae  
 Lactobacillus taiwanensis, EU487512, Lactobacillaceae  
 Lactobacillus johnsonii, AJ002515, Lactobacillaceae  
 Lactobacillus iners, Y16329, Lactobacillaceae  
 Lactobacillus amylophilus, M58806, Lactobacillaceae  
 Lactobacillus amylophilus, AM236149, Lactobacillaceae  
 Lactobacillus concavus, AY683322, Lactobacillaceae  
 Lactobacillus dextrinicus, D87679, Lactobacillaceae  
 Lactobacillus harbinensis, AB196123, Lactobacillaceae  
 Lactobacillus perolens, Y19167, Lactobacillaceae  
 Lactobacillus composti, AB268118, Lactobacillaceae  
**Paralactobacillus selangorensis, AF049745, Lactobacillaceae, type sp.**  
 Lactobacillus hayakifensis, AB267406, Lactobacillaceae  
 Lactobacillus salivarius, AF089108, Lactobacillaceae  
 Lactobacillus saerimneri, AY255802, Lactobacillaceae  
 Lactobacillus ceti, AM292799, Lactobacillaceae  
 Lactobacillus acidipiscis, AB023836, Lactobacillaceae  
 Lactobacillus pobuzinii, AB326358, Lactobacillaceae  
 Lactobacillus aviarius subsp. aviarius, M58808, Lactobacillaceae  
 Lactobacillus agilis, M58803, Lactobacillaceae  
 Lactobacillus equi, AB048833, Lactobacillaceae  
 Lactobacillus ruminis, AB326354, Lactobacillaceae  
 Lactobacillus animalis, AB326350, Lactobacillaceae  
 Lactobacillus apodermi, AJ871178, Lactobacillaceae  
 Lactobacillus murinus, AJ621554, Lactobacillaceae  
 Lactobacillus ghanensis, DQ6523489, Lactobacillaceae  
 Lactobacillus nagellii, AB162131, Lactobacillaceae  
 Lactobacillus vini, AJ576009, Lactobacillaceae  
 Lactobacillus aquaticus, DQ664203, Lactobacillaceae  
 Lactobacillus uvarum, AY681126, Lactobacillaceae  
 Lactobacillus sucicola, AB433982, Lactobacillaceae  
 Lactobacillus capillatus, AB365976, Lactobacillaceae  
 Lactobacillus satsumensis, AB154519, Lactobacillaceae  
 Lactobacillus oeni, AY681127, Lactobacillaceae  
 Lactobacillus hordei, EU074850, Lactobacillaceae  
 Lactobacillus mali, M58824, Lactobacillaceae  
 Lactobacillus cacaonum, AM905389, Lactobacillaceae  
 Lactobacillus algidus, AB033209, Lactobacillaceae

**Enterococcaceae and Streptococcaceae (134)**

**Streptococcaceae (84)**

Streptococcus pneumoniae, AF003930, Streptococcaceae  
 Streptococcus pseudopneumoniae, AY612844, Streptococcaceae  
 Streptococcus mitis, AF003929, Streptococcaceae  
 Streptococcus oralis, AY485602, Streptococcaceae  
 Streptococcus infantis, AY485603, Streptococcaceae  
 Streptococcus australis, AY485604, Streptococcaceae  
 Streptococcus parasanguinis, AF003933, Streptococcaceae  
 Streptococcus anginosus, AF104678, Streptococcaceae  
 Streptococcus massiliensis, AY769997, Streptococcaceae  
 Streptococcus intermedius, AF104671, Streptococcaceae  
 Streptococcus constellatus subsp. constellatus, AF104676, Streptococcaceae  
 Streptococcus constellatus subsp. pharyngis, AY309095, Streptococcaceae  
 Streptococcus sanguinis, AF003928, Streptococcaceae  
 Streptococcus gordonii, AF003931, Streptococcaceae  
 Streptococcus oligofermentans, AY099095, Streptococcaceae  
 Streptococcus sinensis, AF432856, Streptococcaceae  
 Streptococcus cristatus, AY188347, Streptococcaceae  
 Streptococcus perarisi, AB008314, Streptococcaceae  
 Streptococcus lactarius, GU045364, Streptococcaceae  
 Streptococcus plurextorum, AM774228, Streptococcaceae  
 Streptococcus porci, AM941160, Streptococcaceae  
 Streptococcus suis, AF009477, Streptococcaceae  
 Streptococcus gallinae, AJ307888, Streptococcaceae  
 Streptococcus hyointestinalis, AF201898, Streptococcaceae  
 Streptococcus merionis, AM396401, Streptococcaceae  
 Streptococcus alactolyticus, AF201899, Streptococcaceae  
 Streptococcus gallolyticus subsp. macedonicus, Z94012, Streptococcaceae  
 Streptococcus gallolyticus subsp. pasteurianus, DQ232528, Streptococcaceae  
 Streptococcus gallolyticus subsp. gallolyticus, X94337, Streptococcaceae  
 Streptococcus infantarius subsp. coli, AF429763, Streptococcaceae  
 Streptococcus lutetiensis, AJ297215, Streptococcaceae  
 Streptococcus infantarius subsp. infantarius, AF177729, Streptococcaceae  
 Streptococcus equinus, AJ301607, Streptococcaceae  
 Streptococcus salivarius subsp. salivarius, AY188352, Streptococcaceae  
 Streptococcus vestibularis, AY188353, Streptococcaceae  
 Streptococcus salivarius subsp. thermophilus, AY188354, Streptococcaceae  
 Streptococcus dentirosetti, AB259061, Streptococcaceae  
 Streptococcus downei, AY188350, Streptococcaceae  
 Streptococcus sobrinus, AY188349, Streptococcaceae  
 Streptococcus criceti, AJ420198, Streptococcaceae  
 Streptococcus orisus, AB182324, Streptococcaceae



**Aerococcaceae (17)**

- Facklamia languida*, Y18053, Aerococcaceae
- Facklamia mirongae*, AJ277381, Aerococcaceae
- Facklamia hominis*, Y10772, Aerococcaceae, type sp.**
- Facklamia ignava*, Y15716, Aerococcaceae
- Facklamia tabacinassalis*, Y17820, Aerococcaceae
- Ignavigranum ruoffiae*, Y16426, Aerococcaceae, type sp.**

- Ulosiococcus paucivorans*, AJJ12606, Aerococcaceae, type sp.
- Facklamia sourekiti*, Y17312, Aerococcaceae
- Globicatella sulfidifaciens*, AJ297627, Aerococcaceae
- Eremococcus coleocola*, Y17780, Aerococcaceae, type sp.
- Abiotrophia defectiva*, D50541, Aerococcaceae, type sp.
- Aerococcus christensenii*, Y17005, Aerococcaceae
- Aerococcus urinae*, M77819, Aerococcaceae
- Aerococcus sanguinicola*, AJ276512, Aerococcaceae
- Aerococcus urinaequi*, D87677, Aerococcaceae
- Aerococcus suis*, AM230658, Aerococcaceae
- Aerococcus urinaehominis*, AJ278341, Aerococcaceae

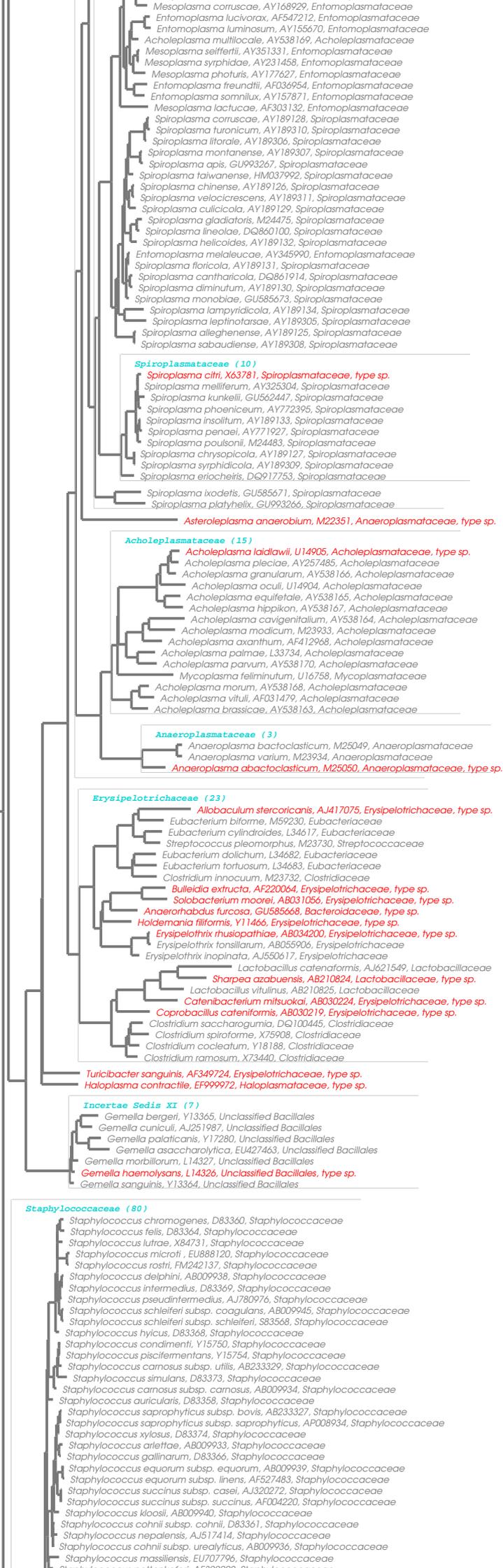
Tenericutes (184)

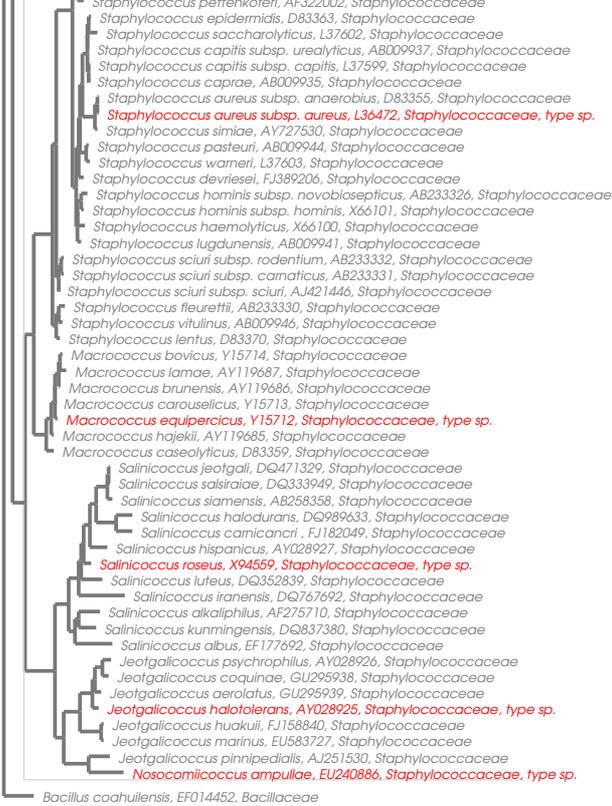
Mycoplasmatales (108)

- Mycoplasma adleri*, U67943, Mycoplasmataceae
- Mycoplasma felifaucium*, U15795, Mycoplasmataceae
- Mycoplasma leopharyngis*, U16760, Mycoplasmataceae
- Mycoplasma maculosum*, AF221116, Mycoplasmataceae
- Mycoplasma caviae*, AF221111, Mycoplasmataceae
- Mycoplasma fermentans*, M24289, Mycoplasmataceae
- Mycoplasma spermatophilum*, AF221119, Mycoplasmataceae
- Mycoplasma lipofaciens*, AF221115, Mycoplasmataceae
- Mycoplasma opalescens*, AF221117, Mycoplasmataceae
- Mycoplasma agalactiae*, M24290, Mycoplasmataceae
- Mycoplasma bovis*, U02968, Mycoplasmataceae
- Mycoplasma primatum*, AF221118, Mycoplasmataceae
- Mycoplasma bovigenitalium*, M24291, Mycoplasmataceae
- Mycoplasma californicum*, M24582, Mycoplasmataceae
- Mycoplasma simbae*, U16323, Mycoplasmataceae
- Mycoplasma phocichinis*, AF304324, Mycoplasmataceae
- Mycoplasma mucosicanis*, AM774638, Mycoplasmataceae
- Mycoplasma columbinum*, AF221113, Mycoplasmataceae
- Mycoplasma iners*, AF221114, Mycoplasmataceae
- Mycoplasma columbinasale*, AF221112, Mycoplasmataceae
- Mycoplasma meleagridis*, L24106, Mycoplasmataceae
- Mycoplasma gallinarum*, L24105, Mycoplasmataceae
- Mycoplasma hyapharyngis*, U58997, Mycoplasmataceae
- Mycoplasma lipophilum*, M24581, Mycoplasmataceae
- Mycoplasma citelli*, AF412973, Mycoplasmataceae
- Mycoplasma oxaniensis*, AF412987, Mycoplasmataceae
- Mycoplasma columborale*, AF412975, Mycoplasmataceae
- Mycoplasma sturni*, U22013, Mycoplasmataceae
- Mycoplasma buteonis*, AF412971, Mycoplasmataceae
- Mycoplasma gallopavonis*, AF412980, Mycoplasmataceae
- Mycoplasma glycopilum*, AF412981, Mycoplasmataceae
- Mycoplasma corogypsi*, L08054, Mycoplasmataceae
- Mycoplasma canis*, AF340023, Mycoplasmataceae
- Mycoplasma cynos*, AF412978, Mycoplasmataceae
- Mycoplasma bovirhinis*, U44765, Mycoplasmataceae
- Mycoplasma leonicaptivi*, U116759, Mycoplasmataceae
- Mycoplasma synoviae*, X52083, Mycoplasmataceae
- Mycoplasma felis*, U09787, Mycoplasmataceae
- Mycoplasma mustelae*, AF412986, Mycoplasmataceae
- Mycoplasma gallinaceum*, L24104, Mycoplasmataceae
- Mycoplasma anatls*, AF412970, Mycoplasmataceae
- Mycoplasma pullorum*, U58504, Mycoplasmataceae
- Mycoplasma alligatoris*, AF412969, Mycoplasmataceae
- Mycoplasma crocodyli*, AF412977, Mycoplasmataceae
- Mycoplasma verecundum*, AF412989, Mycoplasmataceae
- Mycoplasma agassizii*, U09786, Mycoplasmataceae
- Mycoplasma testudineum*, U19768, Mycoplasmataceae
- Mycoplasma pulmonis*, AF125582, Mycoplasmataceae
- Mycoplasma indienne*, AF125593, Mycoplasmataceae
- Mycoplasma orale*, AY796060, Mycoplasmataceae
- Mycoplasma hyosynoviae*, U26730, Mycoplasmataceae
- Mycoplasma faucium*, AF125590, Mycoplasmataceae
- Mycoplasma subdolium*, AF125588, Mycoplasmataceae
- Mycoplasma salivarium*, AF125583, Mycoplasmataceae
- Mycoplasma buccale*, AF125586, Mycoplasmataceae
- Mycoplasma arthritidis*, M24580, Mycoplasmataceae
- Mycoplasma equihinis*, AF125585, Mycoplasmataceae
- Mycoplasma phocidae*, AF304325, Mycoplasmataceae
- Mycoplasma hominis*, AF443616, Mycoplasmataceae
- Mycoplasma arginini*, AF125581, Mycoplasmataceae
- Mycoplasma gatsea*, U15796, Mycoplasmataceae
- Mycoplasma canadense*, U44769, Mycoplasmataceae
- Mycoplasma alkalescens*, U44764, Mycoplasmataceae
- Mycoplasma auris*, U67944, Mycoplasmataceae
- Mycoplasma phocicebrale*, AF304323, Mycoplasmataceae
- Mycoplasma falconis*, AF125591, Mycoplasmataceae
- Mycoplasma spumans*, AF125587, Mycoplasmataceae
- Mycoplasma cloacale*, AF125592, Mycoplasmataceae
- Mycoplasma anseris*, AF125584, Mycoplasmataceae
- Mycoplasma gypis*, AF125589, Mycoplasmataceae
- Mycoplasma elephantis*, AF221121, Mycoplasmataceae
- Mycoplasma equigenitalium*, AF221120, Mycoplasmataceae
- Mycoplasma dispar*, AF412979, Mycoplasmataceae
- Mycoplasma ovipneumoniae*, U44771, Mycoplasmataceae
- Mycoplasma flocculare*, X62699, Mycoplasmataceae
- Mycoplasma hypopneumoniae*, AE017243, Mycoplasmataceae
- Mycoplasma bovovulv*, U44768, Mycoplasmataceae
- Mycoplasma conjunctivae*, U44770, Mycoplasmataceae
- Mycoplasma hyothinis*, AF412982, Mycoplasmataceae
- Mycoplasma collis*, AF538681, Mycoplasmataceae
- Mycoplasma cricetuli*, AF412976, Mycoplasmataceae
- Mycoplasma neurolyticum*, M23944, Mycoplasmataceae
- Mycoplasma lagogenitalium*, AF412983, Mycoplasmataceae
- Mycoplasma molare*, AF538683, Mycoplasmataceae
- Mycoplasma iguanae*, AY714305, Mycoplasmataceae
- Mycoplasma mobile*, M24480, Mycoplasmataceae
- Mycoplasma moatsii*, AF412984, Mycoplasmataceae
- Mycoplasma sualvi*, AF412988, Mycoplasmataceae
- Ureaplasma felinum*, D78651, Mycoplasmataceae
- Ureaplasma cati*, D78649, Mycoplasmataceae
- Ureaplasma canigenitalium*, D78648, Mycoplasmataceae
- Ureaplasma diversum*, D78650, Mycoplasmataceae
- Ureaplasma parvum*, AF073456, Mycoplasmataceae
- Ureaplasma urealyticum*, AF073450, Mycoplasmataceae, type sp.
- Ureaplasma gallorale*, U62937, Mycoplasmataceae
- Ureaplasma iowae*, M24293, Mycoplasmataceae
- Mycoplasma muris*, M23939, Mycoplasmataceae
- Mycoplasma penetrans*, L10839, Mycoplasmataceae
- Mycoplasma microti*, AF212859, Mycoplasmataceae
- Mycoplasma amphoriforme*, AY531655, Mycoplasmataceae
- Mycoplasma testudinis*, U09788, Mycoplasmataceae
- Mycoplasma imitans*, L24103, Mycoplasmataceae
- Mycoplasma pirum*, M23940, Mycoplasmataceae
- Mycoplasma alvi*, U44765, Mycoplasmataceae
- Mycoplasma genitalium*, X77334, Mycoplasmataceae
- Mycoplasma pneumoniae*, AF132740, Mycoplasmataceae
- Mycoplasma cavipharyngis*, AF125879, Mycoplasmataceae
- Mycoplasma fastidiosum*, AF125878, Mycoplasmataceae

Entomoplasmatales (57)

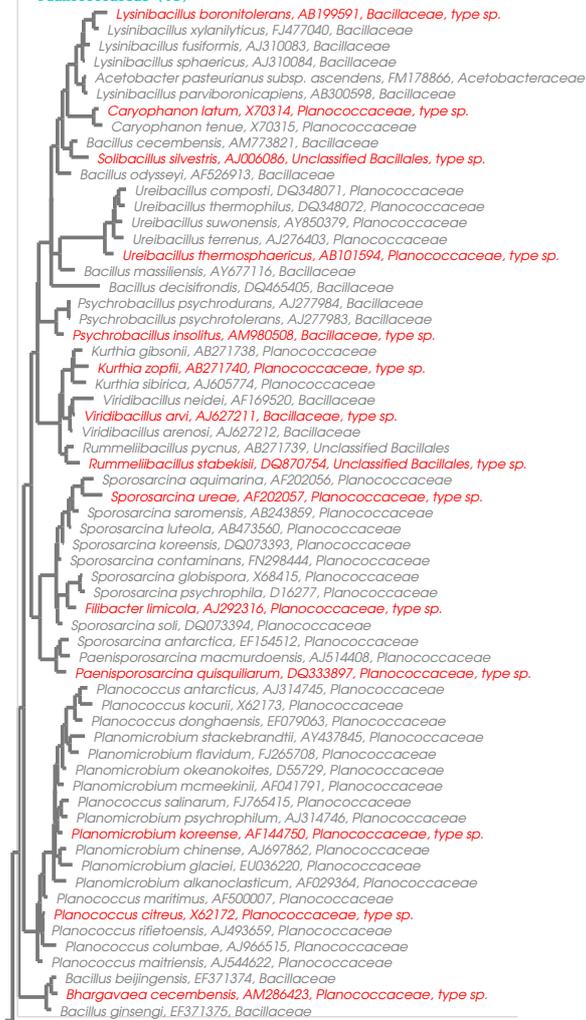
- Mycoplasma capricolum* subsp. *capricolum*, U26046, Mycoplasmataceae
- Mycoplasma capricolum* subsp. *capripneumoniae*, M94728, Mycoplasmataceae
- Mycoplasma leachii*, U26054, Mycoplasmataceae
- Mycoplasma mycoides* subsp. *mycoides*, BX293980, Mycoplasmataceae, type sp.
- Mycoplasma mycoides* subsp. *capri*, U26037, Mycoplasmataceae
- Mycoplasma cottewii*, U67945, Mycoplasmataceae
- Mycoplasma yeatsii*, U67946, Mycoplasmataceae
- Mycoplasma putrefaciens*, U26055, Mycoplasmataceae
- Mesoplasma entomophilum*, AF305693, Entomoplasmataceae
- Mesoplasma tabanidae*, AY187288, Entomoplasmataceae
- Mesoplasma grammopterae*, AY174170, Entomoplasmataceae
- Mesoplasma florum*, AF300327, Entomoplasmataceae, type sp.
- Mesoplasma coleopterae*, DG614605, Entomoplasmataceae
- Mesoplasma chauliocola*, AY166704, Entomoplasmataceae





Bacillus coahuilensis, EF014452, Bacillaceae

**Planococcaceae (63)**



**Listeriaceae (11)**



- Bacillus cereus, AE016877, Bacillaceae
- Bacillus anthracis, AB190217, Bacillaceae
- Bacillus pseudomycoloides, AF013121, Bacillaceae
- Bacillus funiculus, AB049195, Bacillaceae
- Bacillus panaciterrae, AB245380, Bacillaceae
- Bacillus flexus, AB021185, Bacillaceae
- Bacillus megaterium, D16273, Bacillaceae
- Bacillus korensis, AY667496, Bacillaceae

**Bacillaceae 1 (18)**

- Bacillus aerius, AJ831843, Bacillaceae
- Bacillus aerophilus, AJ831844, Bacillaceae
- Bacillus stratosphericus, AJ831841, Bacillaceae
- Bacillus licheniformis, CP000002, Bacillaceae
- Bacillus sonorensis, AF302118, Bacillaceae
- Bacillus amyloliquefaciens, AB255669, Bacillaceae
- Bacillus siamensis, GQ281299, Bacillaceae
- Bacillus methylotrophicus, EU194897, Bacillaceae
- Bacillus subtilis subsp. subtilis, AJ276351, Bacillaceae, type sp.**
- Bacillus subtilis subsp. spizizenii, AF074970, Bacillaceae
- Bacillus vallismortis, AB021198, Bacillaceae
- Bacillus tequilensis, HQ223107, Bacillaceae
- Bacillus majavensis, AB021191, Bacillaceae
- Brevibacterium halotolerans, AM747812, Brevibacteriaceae
- Bacillus atrophaeus, AB021181, Bacillaceae
- Bacillus pumilus, AY876289, Bacillaceae
- Bacillus safensis, AF234854, Bacillaceae
- Bacillus altitudinis, AJ831842, Bacillaceae

- Bacillus ginsenghumi, AB245378, Bacillaceae
- Bacillus acidiproducens, EF379274, Bacillaceae
- Bacillus acidicola, AF547209, Bacillaceae
- Bacillus oleronius, AY988598, Bacillaceae
- Bacillus sporothermodurans, U49078, Bacillaceae
- Bacillus carboniphilus, AB021182, Bacillaceae
- Bacillus chungangensis, FJ514932, Bacillaceae
- Bacillus endophyticus, AF295302, Bacillaceae
- Bacillus isabelliae, AM503357, Bacillaceae
- Bacillus shackletonii, AJ250318, Bacillaceae
- Bacillus circulans, AY043084, Bacillaceae
- Bacillus nealsonii, EU665111, Bacillaceae
- Bacillus korensis, EU603328, Bacillaceae
- Bacillus siralis, AFD71856, Bacillaceae
- Bacillus benzoevorans, X60611, Bacillaceae
- Bacillus firmus, D16268, Bacillaceae
- Bacillus infantis, AY904032, Bacillaceae
- Bacillus oceanisediminis, GQ292772, Bacillaceae
- Bacillus kribbensis, DQ280367, Bacillaceae
- Falsibacillus pallidus, EU364818, Bacillaceae, type sp.**
- Bacillus homeckiae, EU861362, Bacillaceae

**Paenibacillaceae 2 (24)**

- Brevibacillus centrosporus, D78458, Paenibacillaceae
- Brevibacillus choshinensis, AB112713, Paenibacillaceae
- Brevibacillus reuseri, AB112715, Paenibacillaceae
- Brevibacillus parabravis, AB112714, Paenibacillaceae
- Brevibacillus brevis, AB271756, Paenibacillaceae, type sp.**
- Brevibacillus formosus, AB112712, Paenibacillaceae
- Brevibacillus agri, AB112716, Paenibacillaceae
- Brevibacillus limnophilus, AB112717, Paenibacillaceae
- Brevibacillus invocatus, AF378232, Paenibacillaceae
- Brevibacillus panacihumi, EU383033, Paenibacillaceae
- Brevibacillus borstelensis, AB112721, Paenibacillaceae
- Brevibacillus ginsengisoli, AB245376, Paenibacillaceae
- Brevibacillus laterosporus, D16271, Paenibacillaceae
- Brevibacillus fluminis, EU375457, Paenibacillaceae
- Brevibacillus levickii, AJ715378, Paenibacillaceae
- Brevibacillus thermoruber, Z26921, Paenibacillaceae
- Aneurinibacillus aneurinilyticus, X94194, Paenibacillaceae, type sp.**
- Aneurinibacillus migulanus, X94195, Paenibacillaceae
- Aneurinibacillus danicus, AB112725, Paenibacillaceae
- Aneurinibacillus thermoaerophilus, X94196, Paenibacillaceae
- Aneurinibacillus terranovaensis, AJ715385, Paenibacillaceae
- Ammoniphilus oxalaticus, Y14578, Paenibacillaceae, type sp.**
- Ammoniphilus oxalivorans, Y14580, Paenibacillaceae
- Oxalophagus oxalicus, Y14581, Paenibacillaceae, type sp.**

**Incertae Sedis XII (13)**

- Exiguobacterium antarcticum, DQ019164, Unclassified Bacillales
- Exiguobacterium soli, AY864633, Unclassified Bacillales
- Exiguobacterium oxidotolerans, AB105164, Unclassified Bacillales
- Exiguobacterium artemiae, AM072763, Unclassified Bacillales
- Exiguobacterium undae, DQ019165, Unclassified Bacillales
- Exiguobacterium sibiricum, CP001022, Unclassified Bacillales
- Exiguobacterium acetylicum, DQ019167, Unclassified Bacillales
- Exiguobacterium indicum, AJ846291, Unclassified Bacillales
- Exiguobacterium aurantiacum, DQ019166, Unclassified Bacillales, type sp.**
- Exiguobacterium mexicanum, AM072764, Unclassified Bacillales
- Exiguobacterium aestuarii, AY594264, Unclassified Bacillales
- Exiguobacterium profundum, AY818050, Unclassified Bacillales
- Exiguobacterium marinum, AY594266, Unclassified Bacillales

- Bacillus badius, X77790, Bacillaceae
- Bacillus smithii, Z26935, Bacillaceae
- Anoxybacillus gonensis, AY122325, Bacillaceae
- Anoxybacillus kestanbolensis, AY248711, Bacillaceae
- Anoxybacillus ayderensis, AF001963, Bacillaceae
- Anoxybacillus kamchatkensis, AF510985, Bacillaceae
- Anoxybacillus salavatliensis, EU326496, Bacillaceae
- Anoxybacillus pushchinoensis, AJ101078, Bacillaceae, type sp.**
- Anoxybacillus tengchongensis, FJ438370, Bacillaceae
- Anoxybacillus eryuanensis, GQ153549, Bacillaceae
- Anoxybacillus flavithermus, Z26932, Bacillaceae
- Anoxybacillus bogrovensis, AM409184, Bacillaceae
- Anoxybacillus contaminans, AJ551330, Bacillaceae
- Anoxybacillus voinovskii, AB110008, Bacillaceae
- Anoxybacillus amylolyticus, AJ618979, Bacillaceae
- Geobacillus tepidamans, AY563003, Bacillaceae
- Anoxybacillus rupeus, AJ879076, Bacillaceae
- Geobacillus kaustophilus, X60618, Bacillaceae
- Geobacillus lituanicus, AY044055, Bacillaceae
- Geobacillus thermoleovorans, Z26923, Bacillaceae
- Geobacillus vulcani, AJ293805, Bacillaceae
- Geobacillus stearothermophilus, AB021196, Bacillaceae, type sp.**
- Geobacillus thermocatenulatus, AY608935, Bacillaceae
- Geobacillus jurassicus, AY312404, Bacillaceae
- Geobacillus uzonensis, AF276304, Bacillaceae
- Geobacillus subterraneus, AF276306, Bacillaceae
- Geobacillus thermodenitrificans, AY608961, Bacillaceae
- Geobacillus debilis, AJ564616, Bacillaceae
- Geobacillus toeblii, AF326278, Bacillaceae
- Geobacillus thermoglucosidastus, AY608981, Bacillaceae
- Geobacillus caldofostoliticus, AF067651, Bacillaceae
- Saccharococcus thermophilus, L09227, Bacillaceae, type sp.**
- Bacillus aeolius, AJ504797, Bacillaceae

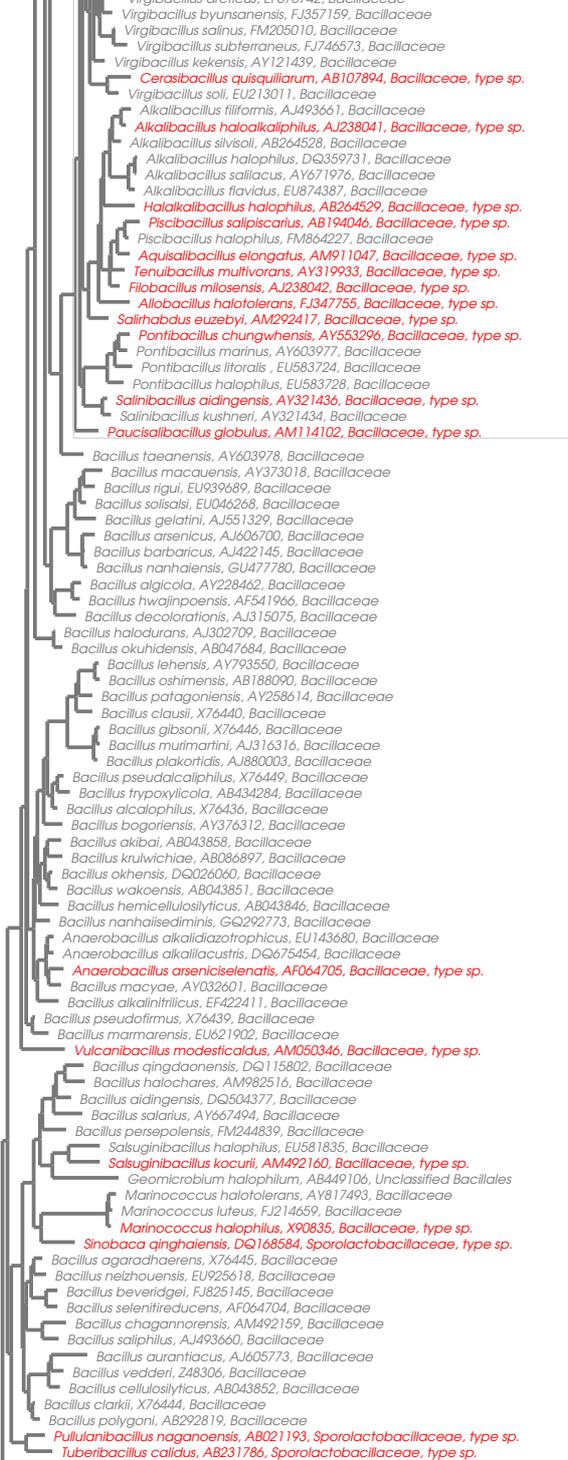
**Sporolactobacillaceae (8)**

- Sporolactobacillus nakayamae subsp. racemicus, AJ698860, Sporolactobacillaceae
- Sporolactobacillus nakayamae subsp. nakayamae, AJ634663, Sporolactobacillaceae
- Sporolactobacillus laevolacticus, D16270, Sporolactobacillaceae
- Sporolactobacillus kofuensis, AB374517, Sporolactobacillaceae
- Sporolactobacillus inulinus, AB101595, Sporolactobacillaceae, type sp.**
- Sporolactobacillus terrae, AJ634662, Sporolactobacillaceae
- Sporolactobacillus putidus, AB374522, Sporolactobacillaceae
- Sporolactobacillus vineae, EF581819, Sporolactobacillaceae
- Bacillus coagulans, AB271752, Bacillaceae
- Bacillus alveayensis, AY605232, Bacillaceae
- Aeribacillus pallidus, Z26930, Bacillaceae, type sp.**
- Bacillus thermoamylovorans, L27478, Bacillaceae
- Bacillus fordii, AY443039, Bacillaceae

*Bacillus fortis*, AY443038, Bacillaceae  
*Bacillus farraginis*, AY443036, Bacillaceae  
*Bacillus galactosidilyticus*, AJ535638, Bacillaceae  
*Bacillus raris*, AJ535639, Bacillaceae  
*Bacillus lentus*, AB021189, Bacillaceae  
*Bacillus novalis*, AJ542512, Bacillaceae  
*Bacillus virefi*, AJ542509, Bacillaceae  
*Bacillus bataviensis*, AJ542508, Bacillaceae  
*Bacillus drentensis*, AJ542506, Bacillaceae  
*Bacillus soli*, AJ542513, Bacillaceae  
*Bacillus fumarioli*, AJ250056, Bacillaceae  
*Bacillus niacini*, AB021194, Bacillaceae  
*Bacillus pocheonensis*, AB245377, Bacillaceae  
*Bacillus boroniphilus*, AB198719, Bacillaceae  
*Bacillus selenatarsonatis*, AB262082, Bacillaceae  
*Bacillus jeotgali*, AF221061, Bacillaceae  
*Bacillus thioparans*, DQ371431, Bacillaceae  
*Bacillus foraminis*, AJ717382, Bacillaceae  
*Bacillus canaveraius*, DQ870688, Bacillaceae  
*Bacillus infernus*, U20385, Bacillaceae  
*Bacillus methanolicus*, AB112727, Bacillaceae  
*Bacillus butanolivorans*, EF206294, Bacillaceae  
*Bacillus simplex*, AJ439078, Bacillaceae  
*Brevibacterium frigoritolerans*, AM747813, Brevibacteriaceae  
*Bacillus muralis*, AJ316309, Bacillaceae  
*Bacillus psychrosaccharolyticus*, AB021195, Bacillaceae  
*Bacillus asahii*, AB109209, Bacillaceae  
*Bacillus indicus*, AJ583158, Bacillaceae  
*Bacillus cibi*, AY550276, Bacillaceae  
*Bacillus idriensis*, AY904033, Bacillaceae  
*Bacillus niabensis*, AY998119, Bacillaceae  
*Bacillus fastidiosus*, X60615, Bacillaceae  
*Bacillus litoralis*, AY608605, Bacillaceae  
*Bacillus galliciensis*, FM162181, Bacillaceae  
*Bacillus herbersteinensis*, AJ781029, Bacillaceae  
*Bacillus alkalifelluris*, AY829448, Bacillaceae  
*Bacillus humi*, AJ627210, Bacillaceae  
*Bacillus halmopalus*, X76447, Bacillaceae  
*Bacillus harikoshii*, AB043865, Bacillaceae  
*Bacillus cohnii*, X76437, Bacillaceae  
*Bacillus acidiceles*, DQ374637, Bacillaceae  
*Bacillus luciferensis*, AJ419629, Bacillaceae  
*Bacillus azotoformans*, AB363732, Bacillaceae

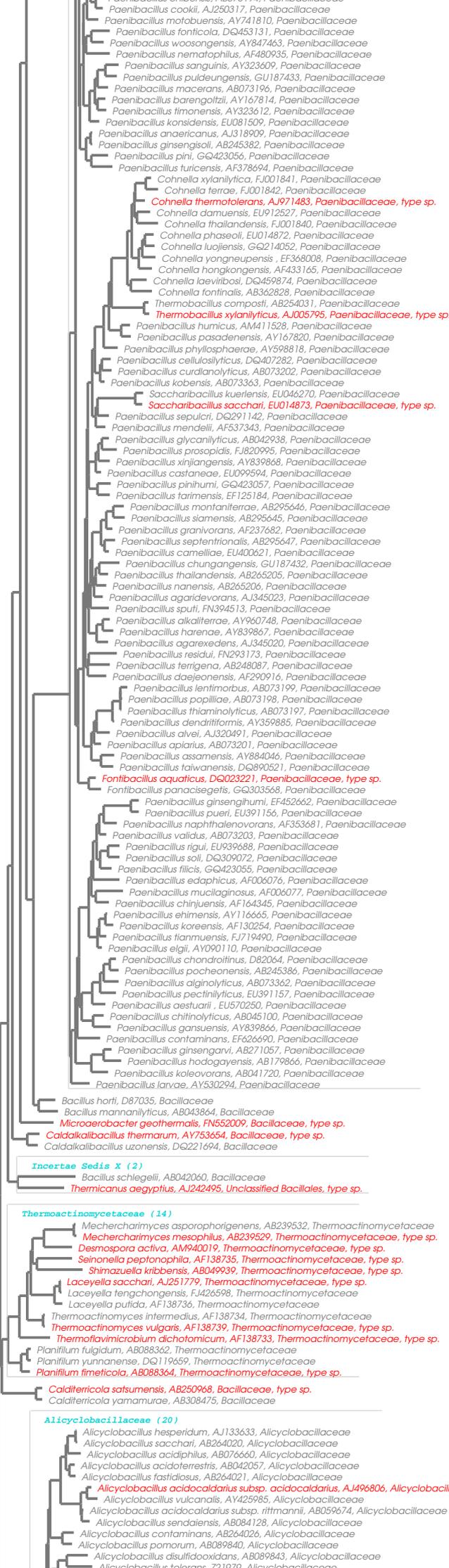
**Bacillaceae 2 (122)**

*Halobacillus seohaensis*, EF612763, Bacillaceae  
*Halobacillus saisuginis*, FJ456889, Bacillaceae  
*Halobacillus campisalis*, EF486356, Bacillaceae  
*Halobacillus alkaliphilus*, AM295006, Bacillaceae  
*Salimicrobium halophilum*, AB021188, Bacillaceae  
*Salimicrobium luteum*, DQ227305, Bacillaceae  
*Salimicrobium flavidum*, FJ357160, Bacillaceae  
*Salimicrobium album*, X90834, Bacillaceae, type sp.  
*Halobacillus locisalis*, AY190534, Bacillaceae  
*Halobacillus salinus*, AF500003, Bacillaceae  
*Halobacillus kuroshimensis*, AB195680, Bacillaceae  
*Halobacillus trueperi*, AJ310149, Bacillaceae  
*Halobacillus ailingensis*, AY351389, Bacillaceae  
*Halobacillus faecis*, AB243865, Bacillaceae  
*Halobacillus litoralis*, X94558, Bacillaceae  
*Halobacillus yeomjeoni*, AY881246, Bacillaceae  
*Halobacillus profundus*, AB189298, Bacillaceae  
*Halobacillus karajensis*, AJ486874, Bacillaceae  
*Halobacillus dabanensis*, AY351395, Bacillaceae  
*Halobacillus mangrovi*, DQ888316, Bacillaceae  
*Thalassobacillus devorans*, AJ71299, Bacillaceae, type sp.  
*Thalassobacillus cyri*, FM864226, Bacillaceae  
*Thalassobacillus pellis*, FN690978, Bacillaceae  
*Thalassobacillus hwangdonensis*, EU817571, Bacillaceae  
*Sediminibacillus halophilus*, AM905297, Bacillaceae, type sp.  
*Sediminibacillus albus*, DQ989634, Bacillaceae  
*Virgibacillus koreensis*, AY616012, Bacillaceae  
*Halolactibacillus halophilus*, AB196783, Bacillaceae, type sp.  
*Halolactibacillus miurensis*, AB196784, Bacillaceae  
*Halolactibacillus alkaliphilus*, EF554593, Bacillaceae  
*Streptohalobacillus salinus*, FJ746578, Bacillaceae, type sp.  
*Amphibacillus sediminis*, AB243866, Bacillaceae  
*Amphibacillus jilinensis*, FJ169626, Bacillaceae  
*Natronobacillus azotifigens*, EU143681, Bacillaceae, type sp.  
*Amphibacillus tropicus*, AF418602, Bacillaceae  
*Amphibacillus fermentum*, AF418603, Bacillaceae  
*Paralobacillus quinghaiensis*, EU135728, Bacillaceae  
*Amphibacillus xylanus*, D82065, Bacillaceae, type sp.  
*Paralobacillus rykyuensis*, AB087828, Bacillaceae, type sp.  
*Gracilibacillus lacisalsi*, DQ664540, Bacillaceae  
*Gracilibacillus thailandensis*, FJ182214, Bacillaceae  
*Gracilibacillus saliphilus*, EU784646, Bacillaceae  
*Gracilibacillus orientalis*, AM040716, Bacillaceae  
*Gracilibacillus dipsosauri*, AB101591, Bacillaceae  
*Gracilibacillus urelyticus*, EU709020, Bacillaceae  
*Gracilibacillus boracitolerans*, AB197126, Bacillaceae  
*Gracilibacillus halotolerans*, AF036922, Bacillaceae, type sp.  
*Gracilibacillus halophilus*, EU135704, Bacillaceae  
*Terribacillus goriensis*, DQ519571, Bacillaceae, type sp.  
*Terribacillus saccharophilus*, AB243845, Bacillaceae, type sp.  
*Terribacillus halophilus*, AB243849, Bacillaceae  
*Terribacillus ailingensis*, FJ386524, Bacillaceae  
*Oceanobacillus oncorhynchi* subsp. *oncorhynchi*, AB188089, Bacillaceae  
*Oceanobacillus locisalsi*, EU817570, Bacillaceae  
*Oceanobacillus oncorhynchi* subsp. *incaldanensis*, AJ640134, Bacillaceae  
*Oceanobacillus neutriphilus*, EU709018, Bacillaceae  
*Oceanobacillus sojae*, AB473561, Bacillaceae  
*Oceanobacillus iheyensis*, AB010863, Bacillaceae, type sp.  
*Oceanobacillus kimchii*, GU784860, Bacillaceae  
*Oceanobacillus chironomi*, DQ298074, Bacillaceae  
*Oceanobacillus kapialis*, AB366005, Bacillaceae  
*Oceanobacillus picturae*, AJ315060, Bacillaceae  
*Oceanobacillus caeni*, AB275883, Bacillaceae  
*Oceanobacillus profundus*, DQ386635, Bacillaceae  
*Bacillus thermocloacae*, Z26939, Bacillaceae  
*Virgibacillus halophilus*, AB243851, Bacillaceae  
*Ornithinibacillus bavariensis*, Y13066, Bacillaceae, type sp.  
*Ornithinibacillus californiensis*, AF326365, Bacillaceae  
*Ornithinibacillus contaminans*, FN597064, Bacillaceae  
*Virgibacillus sediminis*, AY121430, Bacillaceae  
*Virgibacillus xinjiangensis*, DQ664543, Bacillaceae  
*Virgibacillus salexigens*, Y11603, Bacillaceae  
*Virgibacillus marismortui*, AJ009793, Bacillaceae  
*Virgibacillus salarius*, AB197851, Bacillaceae  
*Virgibacillus olivae*, DQ139839, Bacillaceae  
*Virgibacillus halodentificans*, AY543169, Bacillaceae  
*Virgibacillus chiguensis*, EF101168, Bacillaceae  
*Virgibacillus dokdonensis*, AY822043, Bacillaceae  
*Virgibacillus pantothenicus*, D16275, Bacillaceae, type sp.  
*Virgibacillus proomii*, AJ012667, Bacillaceae  
*Lentibacillus halodurans*, AY321433, Bacillaceae  
*Lentibacillus salarius*, AY667493, Bacillaceae  
*Lentibacillus salinarum*, EF601571, Bacillaceae  
*Lentibacillus salicampi*, AY057394, Bacillaceae, type sp.  
*Lentibacillus persicus*, FN376846, Bacillaceae  
*Lentibacillus kapialis*, AB231905, Bacillaceae  
*Lentibacillus jeotgali*, FJ182050, Bacillaceae  
*Lentibacillus halophilus*, AB191345, Bacillaceae  
*Lentibacillus juripiscarius*, AB127980, Bacillaceae  
*Lentibacillus salis*, AY762976, Bacillaceae  
*Lentibacillus lacisalsi*, AY667497, Bacillaceae  
*Virgibacillus siamensis*, AB365482, Bacillaceae  
*Virgibacillus carmonensis*, AJ316302, Bacillaceae  
*Virgibacillus necropolis*, AJ315056, Bacillaceae  
*Virgibacillus arcticus* s. *EF425742*, Bacillaceae



**Paenibacillaceae 1 (143)**





- Alicyclobacillus tereoxydans, EU137838, Alicyclobacillaceae
- Alicyclobacillus cycloheptanicus, AB042059, Alicyclobacillaceae
- Alicyclobacillus aeris, FM179383, Alicyclobacillaceae
- Alicyclobacillus macrosporangioides, AB264025, Alicyclobacillaceae
- Alicyclobacillus kakegawensis, AB264022, Alicyclobacillaceae
- Alicyclobacillus shizuokensis, AB264024, Alicyclobacillaceae
- Alicyclobacillus herbarius, AB042055, Alicyclobacillaceae
- Bacillus fusciae, AB042062, Bacillaceae
- Alicyclobacillus pohliae, AJ564766, Alicyclobacillaceae
- Tumebacillus permanentifrigoris, DQ444975, Bacillaceae, type sp.**

**Fusobacteria (38)**

**Fusobacteriaceae (27)**

- Fillifactor alocis, X55406, Peptostreptococcaceae
- Fusobacterium nucleatum subsp. animals, X55404, Fusobacteriaceae
- Fusobacterium simiae, M58685, Fusobacteriaceae
- Fusobacterium nucleatum subsp. nucleatum, AF009951, Fusobacteriaceae, type sp.**
- Fusobacterium nucleatum subsp. vincentii, AABF01000111, Fusobacteriaceae
- Fusobacterium nucleatum subsp. fusiforme, X55403, Fusobacteriaceae
- Fusobacterium canifelinum, AY162221, Fusobacteriaceae
- Fusobacterium periodonticum, X55405, Fusobacteriaceae
- Fusobacterium nucleatum subsp. polymorphum, AF287812, Fusobacteriaceae
- Fusobacterium russii, M58681, Fusobacteriaceae
- Fusobacterium necrophorum subsp. necrophorum, AJ867039, Fusobacteriaceae
- Fusobacterium necrophorum subsp. funduliforme, AM905356, Fusobacteriaceae
- Fusobacterium equinum, AJ295750, Fusobacteriaceae
- Fusobacterium goniatiformans, X55410, Fusobacteriaceae
- Fusobacterium ulcerans, X55412, Fusobacteriaceae
- Fusobacterium varium, AJ867036, Fusobacteriaceae
- Clostridium rectum, X77850, Clostridiaceae
- Fusobacterium mortiferum, AJ867032, Fusobacteriaceae
- Fusobacterium necrogenes, AJ867034, Fusobacteriaceae
- Fusobacterium perforans, M58684, Fusobacteriaceae
- Cetobacterium somerae, AJ438155, Fusobacteriaceae
- Cetobacterium celi, X78419, Fusobacteriaceae, type sp.**
- Ilyobacter polytropus, AJ307981, Fusobacteriaceae, type sp.**
- Propionigenium maris, X84049, Fusobacteriaceae
- Ilyobacter tartaricus, AJ307982, Fusobacteriaceae
- Propionigenium modestum, X54275, Fusobacteriaceae, type sp.**
- Ilyobacter insuetus, AJ307980, Fusobacteriaceae
- Psychilyobacter atlanticus, AY579753, Fusobacteriaceae, type sp.**

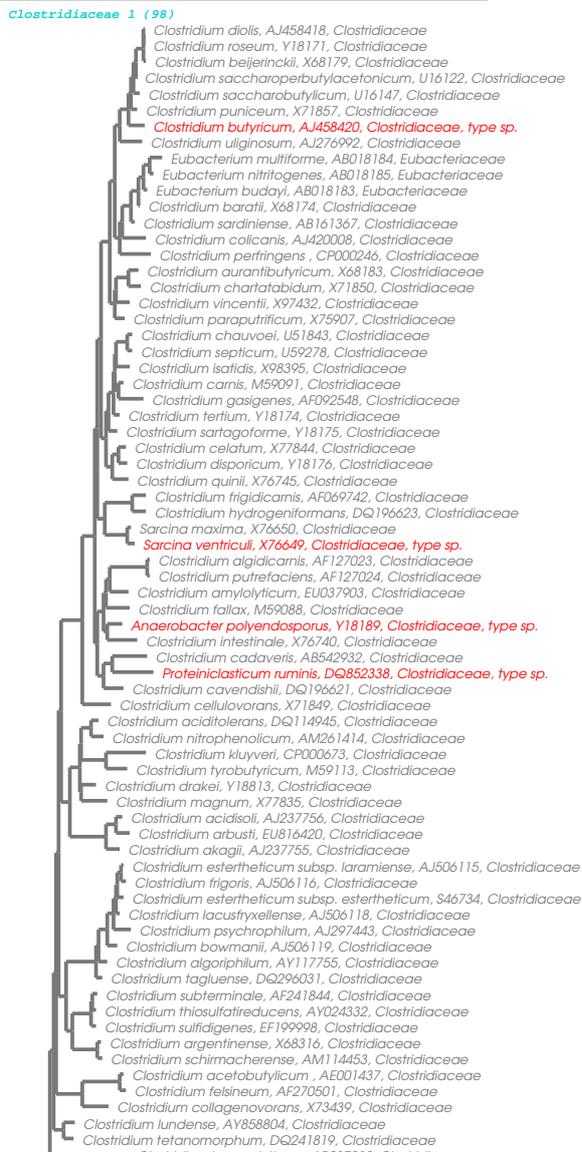
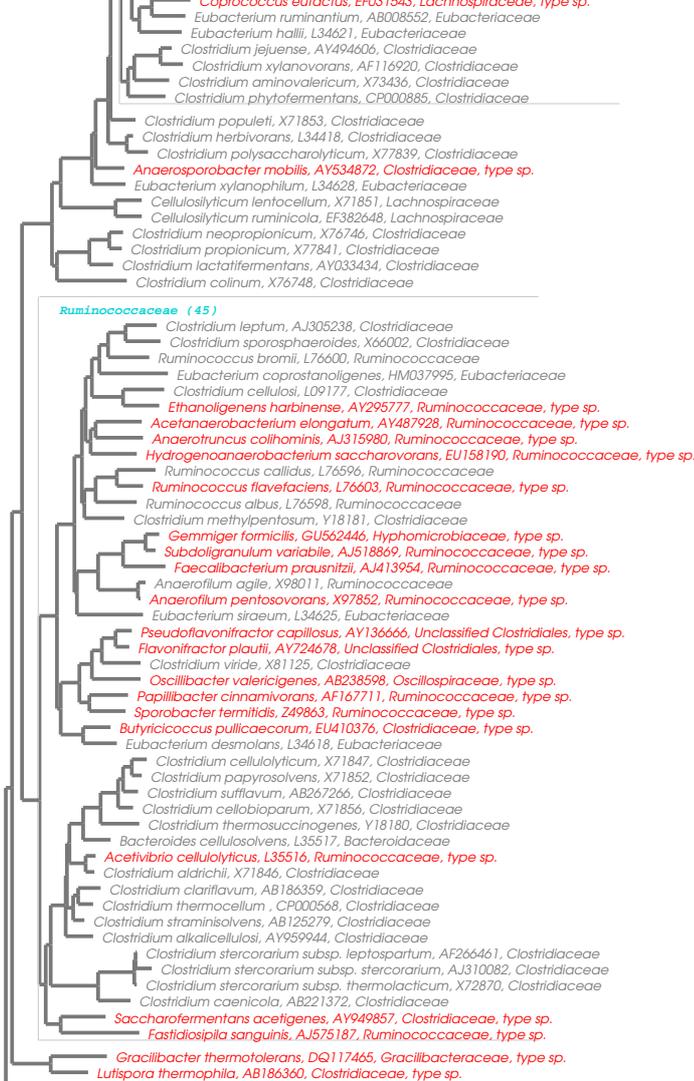
**Leptotrichiaceae (10)**

- Leptotrichia hongkongensis, EU919515, Leptotrichiaceae
- Leptotrichia trevisanii, AF206305, Leptotrichiaceae
- Leptotrichia shahii, AY029806, Leptotrichiaceae
- Leptotrichia wadei, AY029802, Leptotrichiaceae
- Leptotrichia buccalis, CP001685, Leptotrichiaceae, type sp.**
- Leptotrichia hotstaali, AY029803, Leptotrichiaceae
- Leptotrichia goodfellowii, AY029807, Leptotrichiaceae
- Streptobacillus moniliformis, Z35305, Leptotrichiaceae, type sp.**
- Sneathia sanguinegens, AJ344093, Leptotrichiaceae, type sp.**
- Sebadella terminalis, M58678, Leptotrichiaceae, type sp.**

**Clostridia (503)**

**Lachnospiraceae (87)**

- Roseburia hominis, AJ270482, Lachnospiraceae
- Roseburia intestinalis, AJ312385, Lachnospiraceae
- Roseburia faecis, AY305310, Lachnospiraceae
- Roseburia cecicola, GU233441, Lachnospiraceae, type sp.**
- Roseburia inulinivorans, AJ270473, Lachnospiraceae
- Eubacterium rectale, L34627, Eubacteriaceae
- Pseudobutyrvibrio ruminis, X95893, Lachnospiraceae, type sp.**
- Pseudobutyrvibrio xylanivorans, AJ428548, Lachnospiraceae
- Shuttleworthia satelles, AF399956, Lachnospiraceae, type sp.**
- Lachnobacterium bovis, AF298663, Lachnospiraceae, type sp.
- Oribacterium sinus, AY323228, Lachnospiraceae, type sp.**
- Butyrvibrio hungatei, AJ428553, Lachnospiraceae
- Butyrvibrio proteoclasticus, U37378, Lachnospiraceae
- Butyrvibrio fibrisolvens, U41172, Lachnospiraceae, type sp.**
- Clostridium aminophilum, L04165, Clostridiaceae
- Eubacterium saburreum, AB525414, Eubacteriaceae
- Johnsonella ignava, X87152, Lachnospiraceae, type sp.**
- Eubacterium cellulosolvens, X71860, Eubacteriaceae
- Syntrophococcus sucromutans, AF202264, Lachnospiraceae, type sp.**
- Fusobacterium naviforme, HQ223106, Fusobacteriaceae
- Moryella indoligenes, DQ377947, Lachnospiraceae, type sp.**
- Clostridium aerotolerans, X76163, Clostridiaceae
- Clostridium xylanolyticum, X76739, Clostridiaceae
- Clostridium algidixylanolyticum, AF092549, Clostridiaceae
- Clostridium hathewayi, AJ311620, Clostridiaceae
- Clostridium saccharolyticum, Y18185, Clostridiaceae
- Clostridium sphenoides, AB075772, Clostridiaceae
- Desulfotomaculum guttoideum, Y11568, Peptococcaceae
- Clostridium celerecrescens, X71848, Clostridiaceae
- Clostridium indolis, Y18184, Clostridiaceae
- Clostridium methoxybenzovorans, AF067965, Clostridiaceae
- Clostridium amygdalinum, AY353957, Clostridiaceae
- Clostridium aldenense, DQ279736, Clostridiaceae
- Clostridium citroniae, DQ279737, Clostridiaceae
- Clostridium clostridioforme, M59089, Clostridiaceae
- Clostridium asparagiforme, AJ582080, Clostridiaceae
- Clostridium lavalense, EF564277, Clostridiaceae
- Clostridium bolteae, AJ508452, Clostridiaceae
- Clostridium symbiosum, M59112, Clostridiaceae
- Ruminococcus gaurreuii, EF529620, Ruminococcaceae
- Blautia lufi, AJ133124, Unclassified Clostridiales
- Ruminococcus obeum, X85101, Ruminococcaceae
- Blautia wexlerae, EF036467, Unclassified Clostridiales
- Blautia glucerasea, AB439724, Unclassified Clostridiales
- Blautia schinkii, X94965, Unclassified Clostridiales
- Blautia coccoides, AB571656, Unclassified Clostridiales
- Blautia producta, L76595, Unclassified Clostridiales
- Blautia hansenii, AB534168, Unclassified Clostridiales
- Blautia hydrogenotrophica, X95624, Unclassified Clostridiales
- Lactonifactor longoviformis, DQ100449, Clostridiaceae, type sp.**
- Ruminococcus lactaris, L76602, Ruminococcaceae
- Ruminococcus torques, L76604, Ruminococcaceae
- Clostridium glycyrrhizinilyticum, AB233029, Clostridiaceae
- Coprococcus comes, EF031542, Lachnospiraceae
- Clostridium nexile, X73443, Clostridiaceae
- Clostridium hylemonae, AB023973, Clostridiaceae
- Clostridium scindens, AF262238, Clostridiaceae
- Dorea formicigenerans, L34619, Lachnospiraceae, type sp.**
- Dorea longicatena, AJ132842, Lachnospiraceae
- Hespella porcina, AF445239, Lachnospiraceae
- Hespella stercorisus, AF445264, Lachnospiraceae, type sp.**
- Ruminococcus gnavus, X94967, Ruminococcaceae
- Eubacterium uniforme, GU269550, Eubacteriaceae
- Eubacterium ventriosum, L34421, Eubacteriaceae
- Acetivomaculum ruminis, M59083, Lachnospiraceae, type sp.**
- Marvinbryantia formicigens, AJ506973, Lachnospiraceae, type sp.**
- Parasporobacterium paucivorans, AJ272036, Lachnospiraceae, type sp.**
- Sporobacterium olearium, AF116854, Lachnospiraceae, type sp.**
- Robinsoniella peoriensis, AF445285, Lachnospiraceae, type sp.**
- Bacteroides galacturonicus, DQ497994, Bacteroidaceae
- Lactobacillus rogosae, GU269544, Lactobacillaceae
- Eubacterium eligens, L34420, Eubacteriaceae
- Butyrvibrio crossotus, ABWN01000012, Lachnospiraceae
- Howardella urelytica, DQ925472, Unclassified Clostridiales, type sp.**
- Bacteroides pectinophilus, ABVQ01000036, Bacteroidaceae
- Catonella morbi, X87151, Lachnospiraceae, type sp.**
- Coprococcus catus, AB038359, Lachnospiraceae
- Anaerostipes cocciae, AJ270487, Lachnospiraceae, type sp.**
- Anaerostipes butyraticus, FJ947528, Lachnospiraceae
- Clostridium firmatarium, AF126687, Clostridiaceae





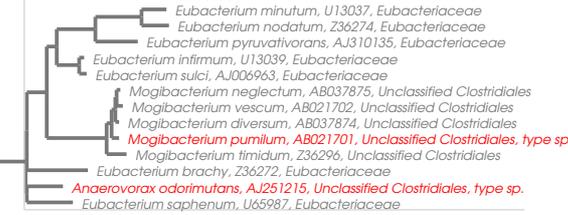
**Peptostreptococcaceae (23)**



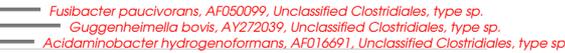
**Clostridiaceae 2 (15)**



**Incertae Sedis XIII (13)**



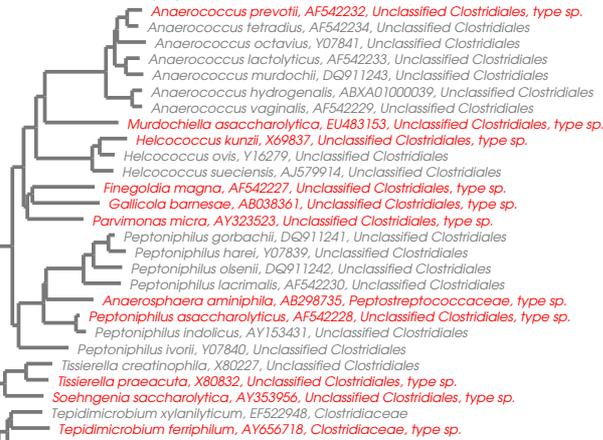
**Incertae Sedis XII (3)**

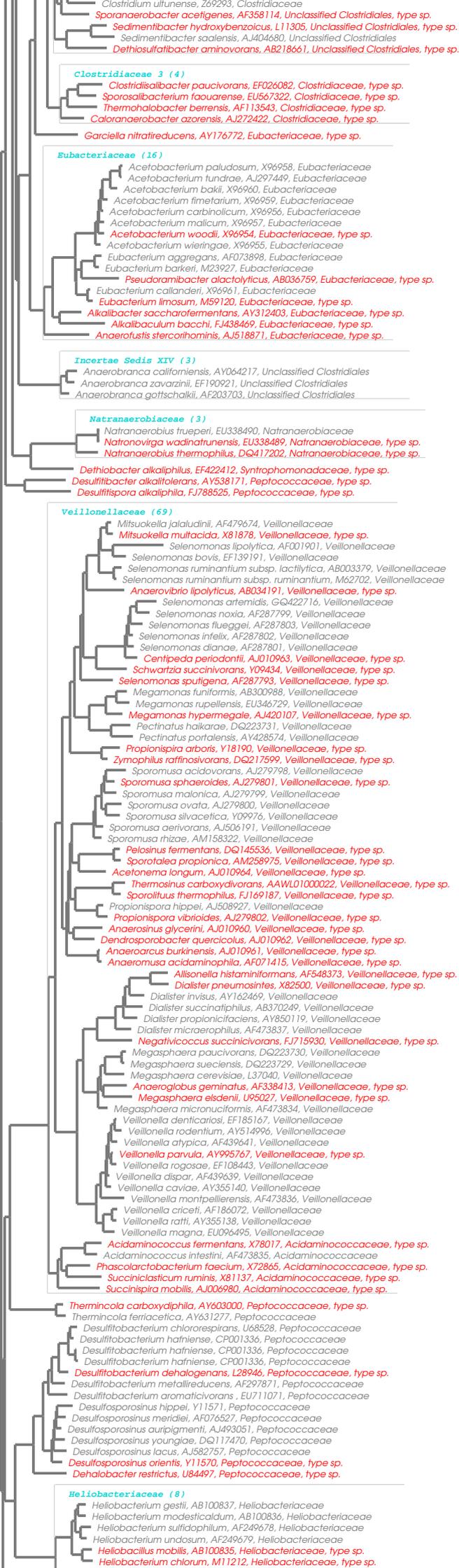


**Clostridiaceae 4 (5)**



**Incertae Sedis XI (32)**







*Sulturnydragenibium yellowstonense*, AY080713, Hydrogenothermaceae  
*Venerivibrio stagnipumantis*, DQ989208, Hydrogenothermaceae, type sp.  
*Persephonella hydrogeniphila*, AB086419, Hydrogenothermaceae  
*Persephonella marina*, AF188332, Hydrogenothermaceae, type sp.  
*Persephonella guaymasensis*, AF385630, Hydrogenothermaceae

**Desulfurobacteriaceae (7)**

*Thermovibrio ammonificans*, AY263403, Desulfurobacteriaceae  
*Thermovibrio guaymasensis*, AY268937, Desulfurobacteriaceae  
*Balnearium lithotrophicum*, AB105049, Desulfurobacteriaceae, type sp.  
*Thermovibrio ruber*, AJ316619, Desulfurobacteriaceae, type sp.  
*Desulfurobacterium atlanticum*, AY268939, Desulfurobacteriaceae  
*Desulfurobacterium pacificum*, AY268936, Desulfurobacteriaceae  
*Desulfurobacterium thermolithotrophicum*, AJ001049, Desulfurobacteriaceae, type sp.  
*Thermosulfidibacter takaii*, AB282756, Unclassified Aquificales, type sp.

**Thermodesulfobacteria (7)**

*Thermodesulfobacterium hveragerdense*, X96725, Thermodesulfobacteriaceae  
*Thermodesulfobacterium thermophilum*, AF334601, Thermodesulfobacteriaceae  
*Thermodesulfobacterium commune*, AF418169, Thermodesulfobacteriaceae, type sp.  
*Thermodesulfobacterium hydrogeniphilum*, AF332514, Thermodesulfobacteriaceae  
*Caldimicrobium rima*, EF554596, Thermodesulfobacteriaceae, type sp.  
*Thermodesulfatator indicus*, AF393376, Thermodesulfobacteriaceae, type sp.  
*Thermodesulfatator atlanticus*, EU435435, Thermodesulfobacteriaceae  
*Caldicellulosiruptor acetigenus*, AY772476, Unclassified Thermoanaerobacterales  
*Caldicellulosiruptor kristjanssonii*, AJ004811, Unclassified Thermoanaerobacterales  
*Caldicellulosiruptor lactoacetificus*, X82842, Unclassified Thermoanaerobacterales  
*Caldicellulosiruptor saccharolyticus*, L09178, Unclassified Thermoanaerobacterales, type sp.  
*Caldicellulosiruptor owensensis*, U80596, Unclassified Thermoanaerobacterales  
*Caldicellulosiruptor hydrothermalis*, EF100908, Unclassified Thermoanaerobacterales  
*Caldicellulosiruptor kronatskyensis*, EF100909, Unclassified Thermoanaerobacterales  
*Caldicellulosiruptor bescii*, CP001393, Unclassified Thermoanaerobacterales  
*Elusimicrobium minutum*, AM490846, Elusimicrobiaceae  
*Caldisericum exile*, AB428365, Caldiseriaceae

**Thermoanaerobacteraceae (26)**

*Thermoanaerobacter sulfurophilus*, Y16940, Thermoanaerobacteraceae  
*Thermoanaerobacter wiegellii*, X92513, Thermoanaerobacteraceae  
*Thermoanaerobacter siderophilus*, AF120479, Thermoanaerobacteraceae  
*Thermoanaerobacter acetioethylicus*, L09163, Thermoanaerobacteraceae  
*Thermoanaerobacter ethanolicus*, L09162, Thermoanaerobacteraceae, type sp.  
*Thermoanaerobacter pseudethanolicus*, CP000924, Thermoanaerobacteraceae  
*Thermoanaerobacter thermohydrosulfuricus*, L09161, Thermoanaerobacteraceae  
*Thermoanaerobacter kivui*, L09160, Thermoanaerobacteraceae  
*Thermoanaerobacter brockii* subsp. *brockii*, L09165, Thermoanaerobacteraceae  
*Thermoanaerobacter brockii* subsp. *finnii*, L09166, Thermoanaerobacteraceae  
*Thermoanaerobacter brockii* subsp. *lactioethylicus*, U14330, Thermoanaerobacteraceae  
*Thermoanaerobacter pseudethanolicus*, CP000924, Thermoanaerobacteraceae  
*Thermoanaerobacter mathranii* subsp. *alimentarius*, AY701758, Thermoanaerobacteraceae  
*Thermoanaerobacter mathranii* subsp. *mathranii*, Y11279, Thermoanaerobacteraceae  
*Thermoanaerobacter italicus*, AJ250846, Thermoanaerobacteraceae  
*Thermoanaerobacter thermocopriae*, L09167, Thermoanaerobacteraceae  
*Thermoanaerobacter sulfuriginens*, AF234164, Thermoanaerobacteraceae  
*Thermoanaerobacter uzonensis*, EF530067, Thermoanaerobacteraceae  
*Caldanaerobacter subterraneus* subsp. *pacificus*, ABXP01000185, Thermoanaerobacteraceae  
*Caldanaerobacter subterraneus* subsp. *tengcongensis*, AE008691, Thermoanaerobacteraceae  
*Caldanaerobacter uzonensis*, EF195126, Thermoanaerobacteraceae  
*Caldanaerobacter subterraneus* subsp. *yonselensis*, AF212925, Thermoanaerobacteraceae  
*Ammonifex degensii*, CP001785, Thermoanaerobacteraceae, type sp.  
*Ammonifex thiophilus*, EF554597, Thermoanaerobacteraceae  
*Desulfovulgula thermocuniculi*, DQ208689, Thermoanaerobacteraceae, type sp.  
*Thermanaeromonas toyohensis*, AB062280, Thermoanaerobacteraceae, type sp.  
*Thermosediminibacter littoriperuensis*, AY703479, Unclassified Thermoanaerobacterales  
*Thermosediminibacter oceani*, AY703478, Unclassified Thermoanaerobacterales, type sp.  
*Tepidanaerobacter syntrophicus*, AB108353, Thermoanaerobacteraceae, type sp.  
*Caldanaerovirga acetiginens*, EF530069, Thermodesulfobiaceae, type sp.  
*Feravidicola ferreducens*, EU443728, Syntrophomonadaceae, type sp.  
*Thermovenabulum ferriorganovorum*, AY033493, Unclassified Thermoanaerobacterales, type sp.  
*Thermovenabulum gondwanense*, EU443729, Unclassified Thermoanaerobacterales  
*Dictyoglomus thermophilum*, X69194, Dictyoglomaceae, type sp.  
*Dictyoglomus turgidum*, CP001251, Dictyoglomaceae

**Incertae Sedis XV (16)**

*Dethiosulfovibrio marinus*, AF234544, Synergistaceae  
*Dethiosulfovibrio russensis*, AF234542, Synergistaceae  
*Dethiosulfovibrio peptidovorans*, U52817, Synergistaceae, type sp.  
*Dethiosulfovibrio acidaminovorans*, AY005466, Synergistaceae  
*Dethiosulfovibrio saluginis*, EU719657, Synergistaceae  
*Jonquetella anthropi*, EF436500, Synergistaceae, type sp.  
*Pyramidobacter piscolens*, EU309492, Synergistaceae, type sp.  
*Aminobacterium colombiense*, AF069287, Synergistaceae, type sp.  
*Aminobacterium mobile*, AF073521, Synergistaceae  
*Claacibacillus evryensis*, CU463952, Synergistaceae, type sp.  
*Synergistes jonesii*, L08066, Synergistaceae, type sp.  
*Aminiphilus circumscriptus*, AY642589, Synergistaceae, type sp.  
*Thermanaerovibrio acidaminovorans*, CP001818, Synergistaceae, type sp.  
*Thermoviga lienii*, DQ071273, Synergistaceae, type sp.  
*Anaerobaculum mobile*, AJ243189, Synergistaceae  
*Anaerobaculum thermoterrenum*, U50711, Synergistaceae, type sp.  
*Coprothermobacter platensis*, Y08935, Thermodesulfobiaceae  
*Coprothermobacter proteolyticus*, X69335, Thermodesulfobiaceae, type sp.  
*Thermodesulfobium narugense*, AB077817, Thermodesulfobiaceae, type sp.

**Thermotogae (35)**

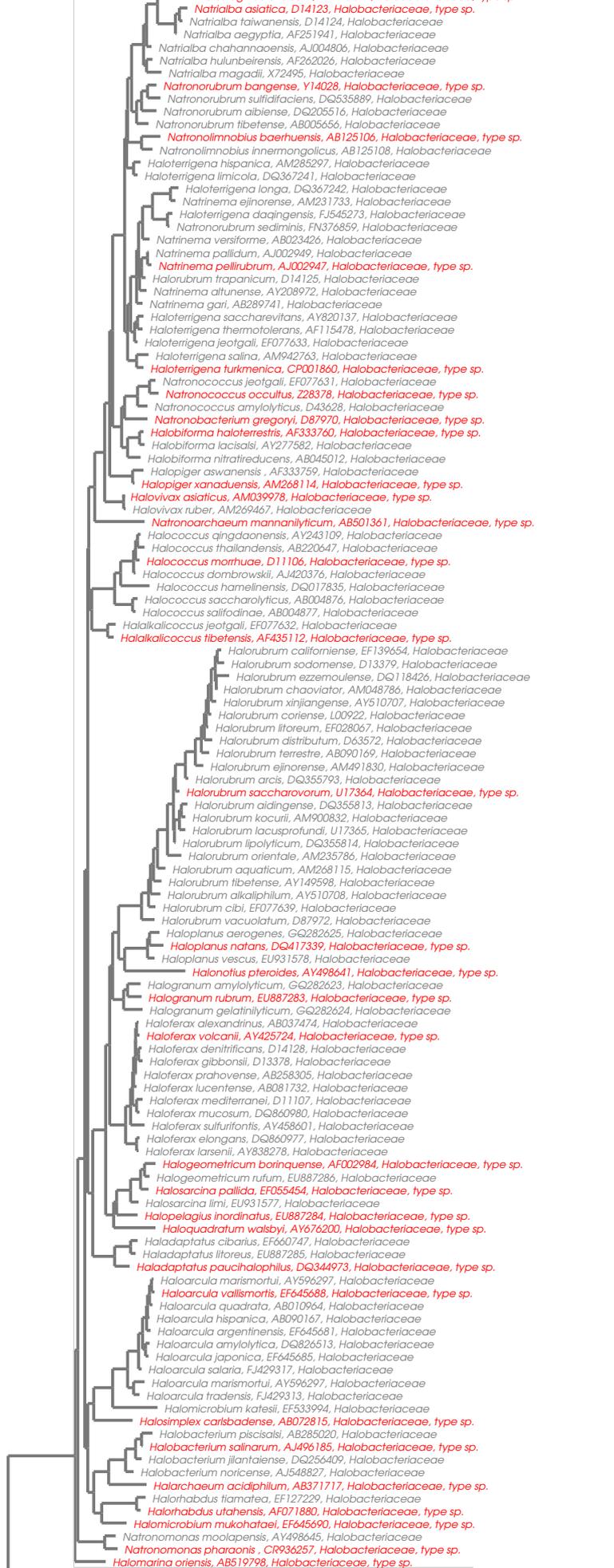
*Petrotoga halophila*, AY800102, Thermotogaceae  
*Petrotoga mobilis*, Y15479, Thermotogaceae  
*Petrotoga mexicana*, AY125964, Thermotogaceae  
*Petrotoga olearia*, AJ311703, Thermotogaceae  
*Petrotoga sibirica*, AJ311702, Thermotogaceae  
*Geotoga petraea*, HM037999, Thermotogaceae, type sp.  
*Geotoga subterranea*, L10659, Thermotogaceae  
*Oceanotoga teriensis*, EU588727, Unclassified Thermotogales, type sp.  
*Marinitoga camini*, AJ250439, Thermotogaceae, type sp.  
*Marinitoga littoralis*, FM253687, Thermotogaceae  
*Marinitoga okinawensis*, AB262395, Thermotogaceae  
*Marinitoga piezophila*, AF326121, Thermotogaceae  
*Marinitoga hydrogenitolans*, AJ786363, Thermotogaceae  
*Kosmotoga olearia*, EU980631, Thermotogaceae, type sp.  
*Thermococcoides shengliensis*, EU276414, Thermotogaceae  
*Kosmotoga arenicorallina*, AB530678, Thermotogaceae  
*Thermosipho africanus*, DQ647057, Thermotogaceae, type sp.  
*Thermosipho japonicus*, AB024932, Thermotogaceae  
*Thermosipho atlanticus*, AJ577471, Thermotogaceae  
*Thermosipho geolei*, AJ272022, Thermotogaceae  
*Thermosipho affectus*, GQ292553, Thermotogaceae  
*Thermosipho melanesiensis*, Z70248, Thermotogaceae  
*Fervidobacterium changbaicum*, AY878719, Thermotogaceae  
*Fervidobacterium islandicum*, M59176, Thermotogaceae  
*Fervidobacterium gondwanense*, Z49117, Thermotogaceae  
*Fervidobacterium nodosum*, CP000771, Thermotogaceae, type sp.  
*Thermotoga elfli*, X80790, Thermotogaceae  
*Thermotoga lettingae*, AF355615, Thermotogaceae  
*Thermotoga subterranea*, U22664, Thermotogaceae  
*Thermotoga hypogaea*, U89768, Thermotogaceae  
*Thermotoga thermarum*, AB039769, Thermotogaceae  
*Thermotoga maritima*, M21774, Thermotogaceae, type sp.  
*Thermotoga neapolitana*, AB039768, Thermotogaceae  
*Thermotoga petrophila*, AJ872269, Thermotogaceae  
*Thermotoga naphthophila*, AJ872268, Thermotogaceae

**Archaea (321)**

**Euryarchaeota (275)**

**Halobacteria (125)**

*Halostagnicola kamekurae*, AB489220, Halobacteriaceae  
*Halostagnicola alkaliphila*, AB533255, Halobacteriaceae  
*Halostagnicola larsenii*, AM117571, Halobacteriaceae, type sp.



Methanomicrobia (57)

Methanomicrobiales (32)

- Methanocalculus chunghsingensis*, AF347025, Unclassified Methanomicrobiales
- Methanocalculus halotolerans*, AF033672, Unclassified Methanomicrobiales, type sp.
- Methanocalculus taiwanensis*, AF411470, Unclassified Methanomicrobiales
- Methanocalculus pumilus*, AB008853, Unclassified Methanomicrobiales

Methanocorpusculaceae (3)

- Methanocorpusculum bavaricum*, AY196676, Methanocorpusculaceae
- Methanocorpusculum parvum*, M59147, Methanocorpusculaceae, type sp.
- Methanocorpusculum labreanum*, AY260436, Methanocorpusculaceae

Methanofollis liminatans, Y16428, Methanomicrobiales

- Methanofollis tationis*, AF095272, Methanomicrobiales, type sp.
- Methanofollis ethanolicus*, AB371073, Methanomicrobiales
- Methanofollis aquaemaris*, AF262035, Methanomicrobiales

