

Contents

Preface to Volume Three of the Second Edition of <i>Bergey's Manual</i>® of <i>Systematic Bacteriology</i>	ix
Contributors	xvii
On using the <i>Manual</i>	xxv
Revised road map to the phylum <i>Firmicutes</i>	1
Taxonomic outline of the phylum <i>Firmicutes</i>	15
 Phylum XIII. <i>Firmicutes</i>	 19
Class I. " <i>Bacilli</i> "	19
Order I. <i>Bacillales</i>	20
Family I. <i>Bacillaceae</i>	20
Genus I. <i>Bacillus</i>	21
Genus II. <i>Alkalibacillus</i>	128
Genus III. <i>Amphibacillus</i>	130
Genus IV. <i>Anoxybacillus</i>	134
Genus V. <i>Cerasibacillus</i>	141
Genus VI. <i>Filobacillus</i>	142
Genus VII. <i>Geobacillus</i>	144
Genus VIII. <i>Gracilibacillus</i>	160
Genus IX. <i>Halobacillus</i>	164
Genus X. <i>Halolactibacillus</i>	168
Genus XI. <i>Lentibacillus</i>	175
Genus XII. <i>Marinococcus</i>	178
Genus XIII. <i>Oceanobacillus</i>	181
Genus XIV. <i>Paraliobacillus</i>	185
Genus XV. <i>Pontibacillus</i>	189
Genus XVI. <i>Saccharococcus</i>	190
Genus XVII. <i>Tenuibacillus</i>	191
Genus XVIII. <i>Thalassobacillus</i>	193
Genus XIX. <i>Virgibacillus</i>	193
Family II. " <i>Alicyclobacillaceae</i> "	229
Genus I. <i>Alicyclobacillus</i>	229
Family III. " <i>Listeriaceae</i> "	244
Genus I. <i>Listeria</i>	244
Genus II. <i>Brochothrix</i>	257
Family IV. " <i>Paenibacillaceae</i> "	269
Genus I. <i>Paenibacillus</i>	269
Genus II. <i>Ammoniphilus</i>	296
Genus III. <i>Aneurinibacillus</i>	298
Genus IV. <i>Brevibacillus</i>	305
Genus V. <i>Cohnella</i>	316
Genus VI. <i>Oxalophagus</i>	320
Genus VII. <i>Thermobacillus</i>	321

Family V. <i>Pasteuriaceae</i>	328
Genus I. <i>Pasteuria</i>	328
Family VI. <i>Planococcaceae</i>	348
Genus I. <i>Planococcus</i>	348
Genus II. <i>Caryophanon</i>	354
Genus III. <i>Filibacter</i>	359
Genus IV. <i>Jeotgalibacillus</i>	364
Genus V. <i>Kurthia</i>	364
Genus VI. <i>Marinibacillus</i>	370
Genus VII. <i>Planomicrobium</i>	373
Genus VIII. <i>Sporosarcina</i>	377
Genus IX. <i>Ureibacillus</i>	381
Family VII. " <i>Sporolactobacillaceae</i> "	386
Genus I. <i>Sporolactobacillus</i>	386
Family VIII. " <i>Staphylococcaceae</i> "	392
Genus I. <i>Staphylococcus</i>	392
Genus II. <i>Jeotigalicoccus</i>	421
Genus III. <i>Macrococcus</i>	422
Genus IV. <i>Salinicoccus</i>	426
Family IX. " <i>Thermoactinomycetaceae</i> "	434
Genus I. <i>Thermoactinomyces</i>	443
Genus II. <i>Laceyella</i>	444
Genus III. <i>Mechercharimyces</i>	445
Genus IV. <i>Planifilum</i>	446
Genus V. <i>Seinonella</i>	447
Genus VI. <i>Shimazuella</i>	448
Genus VII. <i>Thermoflavimicrobium</i>	449
Family X. <i>Incertae Sedis</i>	454
Genus I. <i>Thermicanus</i>	454
Family XI. <i>Incertae Sedis</i>	455
Genus I. <i>Gemella</i>	455
Family XII. <i>Incertae Sedis</i>	460
Genus I. <i>Exiguobacterium</i>	460
Order II. " <i>Lactobacillales</i> "	464
Family I. <i>Lactobacillaceae</i>	465
Genus I. <i>Lactobacillus</i>	465
Genus II. <i>Paralactobacillus</i>	511
Genus III. <i>Pediococcus</i>	513
Family II. " <i>Aerococcaceae</i> "	533
Genus I. <i>Aerococcus</i>	533
Genus II. <i>Abiotrophia</i>	536
Genus III. <i>Dolosicoccus</i>	538
Genus IV. <i>Eremococcus</i>	540
Genus V. <i>Facklamia</i>	541
Genus VI. <i>Globicatella</i>	544
Genus VII. <i>Ignavigranum</i>	546
Family III. " <i>Carnobacteriaceae</i> "	549
Genus I. <i>Carnobacterium</i>	549
Genus II. <i>Alkalibacterium</i>	557
Genus III. <i>Allofustis</i>	559
Genus IV. <i>Alloiococcus</i>	562
Genus V. <i>Atopobacter</i>	563
Genus VI. <i>Atopococcus</i>	565
Genus VII. <i>Atopostipes</i>	566
Genus VIII. <i>Desemzia</i>	568

Genus IX. <i>Dolosigranulum</i>	572
Genus X. <i>Granulicatella</i>	574
Genus XI. <i>Isobaculum</i>	579
Genus XII. <i>Marinilactibacillus</i>	580
Genus XIII. <i>Trichococcus</i>	585
Family IV. "Enterococcaceae".....	594
Genus I. <i>Enterococcus</i>	594
Genus II. <i>Melissococcus</i>	607
Genus III. <i>Tetragenococcus</i>	611
Genus IV. <i>Vagococcus</i>	616
Family V. "Leuconostocaceae".....	624
Genus I. <i>Leuconostoc</i>	624
Genus II. <i>Oenococcus</i>	635
Genus III. <i>Weissella</i>	643
Family VI. <i>Streptococcaceae</i>	655
Genus I. <i>Streptococcus</i>	655
Genus II. <i>Lactococcus</i>	711
Genus III. <i>Lactovum</i>	722
Class II. "Clostridia".....	736
Order I. <i>Clostridiales</i>	736
Family I. <i>Clostridiaceae</i>	736
Genus I. <i>Clostridium</i>	738
Genus II. <i>Alkaliphilus</i>	828
Genus III. <i>Anaerobacter</i>	830
Genus IV. <i>Anoxynatronum</i>	831
Genus V. <i>Caloramator</i>	834
Genus VI. <i>Caloranaerobacter</i>	839
Genus VII. <i>Caminicella</i>	840
Genus VIII. <i>Natronincola</i>	841
Genus IX. <i>Oxobacter</i>	842
Genus X. <i>Sarcina</i>	843
Genus XI. <i>Thermobrachium</i>	848
Genus XII. <i>Thermohalobacter</i>	848
Genus XIII. <i>Tindallia</i>	851
Family II. "Eubacteriaceae".....	865
Genus I. <i>Eubacterium</i>	865
Genus II. <i>Acetobacterium</i>	891
Genus III. <i>Alkalibacter</i>	896
Genus IV. <i>Anaerofustis</i>	897
Genus V. <i>Garciella</i>	900
Genus VI. <i>Pseudoramibacter</i>	902
Family III. "Gracilibacteraceae".....	910
Genus I. <i>Gracilibacter</i>	910
Family IV. "Heliobacteriaceae".....	913
Genus I. <i>Heliobacterium</i>	916
Genus II. <i>Heliobacillus</i>	918
Genus III. <i>Heliophilum</i>	918
Genus IV. <i>Heliorestis</i>	919
Family V. "Lachnospiraceae".....	921
Genus I. <i>Lachnospira</i>	921
Genus II. <i>Acetitomaculum</i>	923
Genus III. <i>Anaerostipes</i>	924
Genus IV. <i>Bryantella</i>	925
Genus V. <i>Butyrivibrio</i>	927
Genus VI. <i>Catonella</i>	937

Genus VII. <i>Coprococcus</i>	940
Genus VIII. <i>Dorea</i>	941
Genus IX. <i>Hespellia</i>	944
Genus X. <i>Johnsonella</i>	945
Genus XI. <i>Lachnobacterium</i>	946
Genus XII. <i>Moryella</i>	948
Genus XIII. <i>Oribacterium</i>	950
Genus XIV. <i>Parasporobacterium</i>	952
Genus XV. <i>Pseudobutyrvibrio</i>	952
Genus XVI. <i>Roseburia</i>	954
Genus XVII. <i>Shuttleworthia</i>	957
Genus XVIII. <i>Sporobacterium</i>	959
Genus XIX. <i>Syntrophococcus</i>	961
Family VI. <i>Peptococcaceae</i>	969
Genus I. <i>Peptococcus</i>	971
Genus II. <i>Cryptanaerobacter</i>	971
Genus III. <i>Dehalobacter</i>	974
Genus IV. <i>Desulfitobacterium</i>	975
Genus V. <i>Desulfonispota</i>	982
Genus VI. <i>Desulfosporosinus</i>	983
Genus VII. <i>Desulfotomaculum</i>	989
Genus VIII. <i>Pelotomaculum</i>	996
Genus IX. <i>Sporotomaculum</i>	999
Genus X. <i>Syntrophobotulus</i>	1000
Genus XI. <i>Thermincola</i>	1001
Family VII. " <i>Peptostreptococcaceae</i> "	1008
Genus I. <i>Peptostreptococcus</i>	1008
Genus II. <i>Filifactor</i>	1009
Genus III. <i>Tepidibacter</i>	1013
Family VIII. " <i>Ruminococcaceae</i> "	1016
Genus I. <i>Ruminococcus</i>	1016
Genus II. <i>Acetanaerobacterium</i>	1019
Genus III. <i>Acetivibrio</i>	1020
Genus IV. <i>Anaerofilum</i>	1022
Genus V. <i>Anaerotruncus</i>	1023
Genus VI. <i>Faecalibacterium</i>	1026
Genus VII. <i>Fastidiosipila</i>	1028
Genus VIII. <i>Oscillospira</i>	1031
Genus IX. <i>Papillibacter</i>	1033
Genus X. <i>Sporobacter</i>	1034
Genus XI. <i>Subdoligranulum</i>	1037
Family IX. <i>Syntrophomonadaceae</i>	1044
Genus I. <i>Syntrophomonas</i>	1045
Genus II. <i>Pelospira</i>	1051
Genus III. <i>Syntrophospora</i>	1052
Genus IV. <i>Syntrophothermus</i>	1053
Genus V. <i>Thermosyntropha</i>	1055
Family X. <i>Veillonellaceae</i>	1059
Genus I. <i>Veillonella</i>	1059
Genus II. <i>Acetonema</i>	1065
Genus III. <i>Acidaminococcus</i>	1067
Genus IV. <i>Allisonella</i>	1068
Genus V. <i>Anaeroarcus</i>	1069
Genus VI. <i>Anaeroglobus</i>	1071
Genus VII. <i>Anaeromusa</i>	1073

Genus VIII. <i>Anaerosinus</i>	1074
Genus IX. <i>Anaerovibrio</i>	1075
Genus X. <i>Centipeda</i>	1077
Genus XI. <i>Dendrosporobacter</i>	1079
Genus XII. <i>Dialister</i>	1080
Genus XIII. <i>Megasphaera</i>	1082
Genus XIV. <i>Mitsuokella</i>	1090
Genus XV. <i>Pectinatus</i>	1094
Genus XVI. <i>Phascolarctobacterium</i>	1100
Genus XVII. <i>Propionispira</i>	1102
Genus XVIII. <i>Propionispora</i>	1103
Genus XIX. <i>Quinella</i>	1104
Genus XX. <i>Schwartzia</i>	1105
Genus XXI. <i>Selenomonas</i>	1106
Genus XXII. <i>Sporomusa</i>	1112
Genus XXIII. <i>Succiniclasticum</i>	1116
Genus XXIV. <i>Succinispira</i>	1117
Genus XXV. <i>Thermosinus</i>	1118
Genus XXVI. <i>Zymophilus</i>	1119
Family XI. <i>Incertae Sedis</i>	1130
Genus I. <i>Anaerococcus</i>	1130
Genus II. <i>Fingoldia</i>	1131
Genus III. <i>Gallicola</i>	1132
Genus IV. <i>Helcococcus</i>	1132
Genus V. <i>Parvimonas</i>	1135
Genus VI. <i>Peptoniphilus</i>	1136
Genus VII. <i>Sedimentibacter</i>	1137
Genus VIII. <i>Soehngenia</i>	1141
Genus IX. <i>Sporanaerobacter</i>	1143
Genus X. <i>Tissierella</i>	1146
Family XII. <i>Incertae Sedis</i>	1150
Genus I. <i>Acidaminobacter</i>	1150
Genus II. <i>Fusibacter</i>	1151
Genus III. <i>Guggenheimella</i>	1154
Family XIII. <i>Incertae Sedis</i>	1156
Genus I. <i>Anaerovorax</i>	1156
Genus II. <i>Mogibacterium</i>	1157
Family XIV. <i>Incertae Sedis</i>	1161
Genus I. <i>Anaerobranca</i>	1161
Family XV. <i>Incertae Sedis</i>	1165
Genus I. <i>Aminobacterium</i>	1165
Genus II. <i>Aminomonas</i>	1167
Genus III. <i>Anaerobaculum</i>	1170
Genus IV. <i>Dethiosulfovibrio</i>	1174
Genus V. <i>Thermanaerovibrio</i>	1176
Family XVI. <i>Incertae Sedis</i>	1180
Genus I. <i>Carboxydocella</i>	1180
Family XVII. <i>Incertae Sedis</i>	1181
Genus I. <i>Sulfobacillus</i>	1181
Genus II. <i>Thermaerobacter</i>	1184
Family XVIII. <i>Incertae Sedis</i>	1188
Genus I. <i>Symbiobacterium</i>	1188
Family XIX. <i>Incertae Sedis</i>	1190
Genus I. <i>Acetoanaerobium</i>	1190
Order II. <i>Halanaerobiales</i>	1191

Family I. <i>Halanaerobiaceae</i>	1195
Genus I. <i>Halanaerobium</i>	1196
Genus II. <i>Halocella</i>	1201
Genus III. <i>Halothermothrix</i>	1202
Family II. <i>Halobacteroidaceae</i>	1207
Genus I. <i>Halobacteroides</i>	1208
Genus II. <i>Acetohalobium</i>	1209
Genus III. <i>Halanaerobacter</i>	1212
Genus IV. <i>Halonatronum</i>	1215
Genus V. <i>Natroniella</i>	1216
Genus VI. <i>Orenia</i>	1217
Genus VII. <i>Selenihalanaerobacter</i>	1221
Genus VIII. <i>Sporohalobacter</i>	1222
Order III. <i>Thermoanaerobacterales</i>	1224
Family I. <i>Thermoanaerobacteraceae</i>	1225
Genus I. <i>Thermoanaerobacter</i>	1225
Genus II. <i>Ammonifex</i>	1240
Genus III. <i>Caldanaerobacter</i>	1241
Genus IV. <i>Carboxydotherrmus</i>	1244
Genus V. <i>Gelria</i>	1246
Genus VI. <i>Moorella</i>	1247
Genus VII. <i>Thermacetogenium</i>	1253
Genus VIII. <i>Thermanaeromonas</i>	1256
Family II. <i>Thermodesulfobiaceae</i>	1268
Genus I. <i>Thermodesulfobium</i>	1268
Genus II. <i>Coprothermobacter</i>	1271
Family III. <i>Incertae Sedis</i>	1275
Genus I. <i>Caldicellulosiruptor</i>	1275
Genus II. <i>Thermoanaerobacterium</i>	1279
Genus III. <i>Thermosediminibacter</i>	1287
Genus IV. <i>Thermovenabulum</i>	1290
Family IV. <i>Incertae Sedis</i>	1296
Genus I. <i>Mahella</i>	1296
Class III. <i>Erysipelotrichia</i>	1298
Order I. <i>Erysipelotrichales</i>	1298
Family I. <i>Erysipelotrichaceae</i>	1299
Genus I. <i>Erysipelothrix</i>	1299
Genus II. <i>Allobaculum</i>	1306
Genus III. <i>Bulleidia</i>	1307
Genus IV. <i>Catenibacterium</i>	1309
Genus V. <i>Coprobacillus</i>	1310
Genus VI. <i>Holdemania</i>	1310
Genus VII. <i>Solobacterium</i>	1312
Genus VIII. <i>Turcibacter</i>	1314
Appendix 1. Validly published names, conserved and rejected names, and taxonomic opinions cited in the <i>International Journal of Systematic and Evolutionary Microbiology</i> since publication of Volume 2 of the Second Edition of the <i>Systematics</i>	1319
Index	1423