SOB seep 315
Ampharetidae seep 309
Frenulata seep 45
Reference site 78

New Zealand cold seep clone NZ_45_Bac_17 (JN884828)
New Zealand sediment clone NZ_78_Bac_04 (JN884923)
New Zealand cold seep clone NZ_315_Bac_02 (JN885018)
New Zealand sediment clone NZ_78_Bac_58 (JN884970)
Haakon Mosby mud volcano clone HMMVPog-66 (AJ704677)
New Zealand sediment clone NZ_78_Bac_20 (JN884936)
Hydrate Ridge enrichment clone LARHR_61-01E08 (FN549974)
New Zealand cold seep clone NZ_315_Bac_100 (JN885067)
New Zealand cold seep clone NZ_309_Bac_07 (JF268400)
Gulf of Mexico sediment clone GoM161_Bac9 (AM745163)
New Zealand sediment clone NZ_78_Bac_31 (JN884947)
Wadden Sea sediment clone SI29 (AY771939)
New Zealand cold seep clone NZ_309_Bac_45 (JF268376)
New Zealand cold seep clone NZ_315_Bac_18 (JN885028)
New Zealand sediment clone NZ_78_Bac_50 (JN884963)
Prestige oil spill clone OXIC-071 (JF344341)
New Zealand cold seep clone NZ_45_Bac_67 (JN884867)
New Zealand cold seep clone NZ_309_Bac_41 (JF268373)
Bay of Cadiz sediment clone D48 (GQ249590)
Desulfonema
New Zealand cold seep clone NZ_309_Bac_79 (JF268407)
Desulfosarcina
Olavius algarvensis endosymbiont (AJ620497)
New Zealand cold seep clone NZ_315_Bac_14 (JN885026)
New Zealand cold seep clone NZ_309_Bac_24 (JF268354)
New Zealand cold seep clone NZ_315_Bac_17 (JN885027)
New Zealand cold seep clone NZ_45_Bac_40 (JN884844)
Isis mud volcano enrichment clone LARIS_72-01H09 (FN550068)
New Zealand cold seep clone NZ_309_Bac_88 (JF268415)
New Zealand cold seep clone NZ_315_Bac_27 (JN885032)
Arctic sediment clone s5_8_III_5 (FN396728)
New Zealand cold seep clone NZ_309_Bac_39 (JF268370)
Desulfobacula
Loi'hi Seamount seafloor lava clone P9X2b7F01 (EU491202)
New Zealand cold seep clone NZ_309_Bac_86 (JF268413)
New Zealand cold seep clone NZ_309_Bac_68 (JF268398)
New Zealand cold seep clone NZ_315_Bac_10 (JN885022)
New Zealand cold seep clone NZ_45_Bac_46 (JN884849)
Desulfobacterium anilini (AJ237601)
Tommeliten sediment clone Tomm05_1274_3_Bac133 (FM179877)
New Zealand cold seep clone NZ_315_Bac_29 (JN885034)
New Zealand sediment clone NZ_78_Bac_19 (JN884935)
Sulfate-reducing bacterium NaphS6 (EU908727)
New Zealand cold seep clone NZ_315_Bac_56 (JN885051)
New Zealand cold seep clone NZ_45_Bac_21 (JN884831)
New Zealand sediment clone NZ_78_Bac_70 (JN884981)
Arctic fjord clone sediment_deep34 (GQ259289)
Syntrophobacter
New Zealand cold seep clone NZ_45_Bac_35 (JN884841)
New Zealand cold seep clone NZ_309_Bac_53 (JF268384)
Arctic sediment clone s5_0_VI_8 (FN396689)
New Zealand cold seep clone NZ_315_Bac_34 (JN885038)
New Zealand cold seep clone NZ_309_Bac_87 (JF268414)
New Zealand cold seep clone NZ_315_Bac_24 (JQ241767)
Hydrate Ridge sediment clone Hyd01-07 (AJ535230)
New Zealand cold seep clone NZ_309_Bac_84 (JF268411)
Desulfobacterium catecholicum (AJ237602)
New Zealand cold seep clone NZ_45_Bac_56 (JN884858)
New Zealand cold seep clone NZ_315_Bac_32 (JN885036)
Olavius crassitunicatus endosymbiont (AJ620509)
New Zealand cold seep clone NZ_309_Bac_03 (JF268360)
New Zealand cold seep clone NZ_45_Bac_05 (JN884820)
New Zealand cold seep clone NZ_309_Bac_30 (JF268361)
New Zealand cold seep clone NZ_45_Bac_23 (JQ241679)
Desulfocapsa sulfexigens (Y13672)
New Zealand cold seep clone NZ_309_Bac_15 (JF268345)
New Zealand cold seep clone NZ_315_Bac_83 (JQ241770)
Bay of Cadiz sediment clone A33 (GQ249497)
New Zealand cold seep clone NZ_309_Bac_60 (JF268391)
Gullfaks sediment clone Gullfaks_b131 (FM179901)
Hydrate Ridge sediment clone Hyd89-40 (AJ535251)
New Zealand cold seep clone NZ_315_Bac_126 (JN885079)
Desulfobulbus
New Zealand sediment clone NZ_78_Bac_64 (JN884975)
Desulfurivibrio alkaliphilus (EF422413)
New Zealand cold seep clone NZ_45_Bac_77 (JN884877)
New Zealand cold seep clone NZ_309_Bac_52 (JF268383)
New Zealand cold seep clone NZ_315_Bac_44 (JN885043)
New Zealand cold seep clone NZ_45_Bac_04 (JQ241676)
Prestige oil spill clone PET-019 (JF344143)
New Zealand cold seep clone NZ_45_Bac_50 (JN884853)
Eel River Basin sediment clone BC_B2_11d (EU622293)
New Zealand cold seep clone NZ_315_Bac_93 (JN885064)
Nitrospina gracilis (L35504)
New Zealand sediment clone NZ_78_Bac_53 (JN884966)
New Zealand sediment clone NZ_78_Bac_43 (JN884958)
New Zealand cold seep clone NZ_309_Bac_85 (JF268412)
New Zealand cold seep clone NZ_45_Bac_71 (JN884871)
New Zealand sediment clone NZ_78_Bac_40 (JN884955)
Loi'hi Seamount seafloor lava clone P9X2b2F06 (EU491271)
New Zealand sediment clone NZ_78_Bac_35 (JN884951)
Haakon Mosby mud volcano clone HMMVPog-10 (AJ704675)
New Zealand sediment clone NZ_78_Bac_37 (JN884953)
New Zealand cold seep clone NZ_315_Bac_04 (JN885020)
New Zealand sediment clone NZ_78_Bac_34 (JN884950)
Gulf of Mexico sediment clone GoM_SMBush_4593_Bac49 (AM404374)
New Zealand sediment clone NZ_78_Bac_41 (JN884956)
Loi'hi Seamount seafloor lava clone P9X2b2D12 (EU491257)
New Zealand cold seep clone NZ_45_Bac_73 (JN884873)
New Zealand sediment clone NZ_78_Bac_42 (JN884957)
Iron(II)-rich seep clone IS-49 (GQ339150)
New Zealand cold seep clone NZ_45_Bac_25 (JN884833)
New Zealand cold seep clone NZ_309_Bac_19 (JF268349)
Svalbard sediment clone Sva0556 (AJ241010)
New Zealand cold seep clone NZ_315_Bac_20 (JN885029)
Geopsychrobacter electrodiphilus (AY187303)
New Zealand sediment clone NZ_78_Bac_73 (JN884984)
New Zealand sediment clone NZ_78_Bac_49 (JN884962)
Desulfuromonas
New Zealand cold seep clone NZ_309_Bac_32 (JF268363)
New Zealand cold seep clone NZ_315_Bac_107 (JN885069)
Hydrate Ridge sediment clone Hyd24-27 (AJ535224)
New Zealand cold seep clone NZ_315_Bac_124 (JN885077)
New Zealand sediment clone NZ_78_Bac_69 (JN884980)
Namibian upwelling system clone N67e_125 (EF646124)
New Zealand cold seep clone NZ_315_Bac_21 (JN885030)
New Zealand sediment clone NZ_78_Bac_47 (JQ241709)
Guinea Basin sediment clone Ucb1579 (AM997803)
New Zealand sediment clone NZ_78_Bac_25 (JN884941)
New Zealand cold seep clone NZ_309_Bac_54 (JF268385)
New Zealand sediment clone NZ_78_Bac_30 (JN884946)
East Pacific Rise seafloor lava clone EPR3965-I2-Bc2 (EU491845)
New Zealand cold seep clone NZ_309_Bac_08 (JF268408)
Guaymas Basin sediment clone CS_B022 (AF420354)
Desulfovibrionales
New Zealand cold seep clone NZ_45_Bac_70 (JN884870)
Guinea Basin sediment clone Ucc1547 (AM997980)
New Zealand sediment clone NZ_78_Bac_72 (JN884983)
Mid-Atlantic Ridge hydrothermal sediment clone AT-s3-57 (AY225606)

SEEP-SRB 1
SEEP-SRB 4
SEEP-SRB 3

Desulfobacteraceae
Desulfobacula
Desulfarculales
Desulfobulbaceae
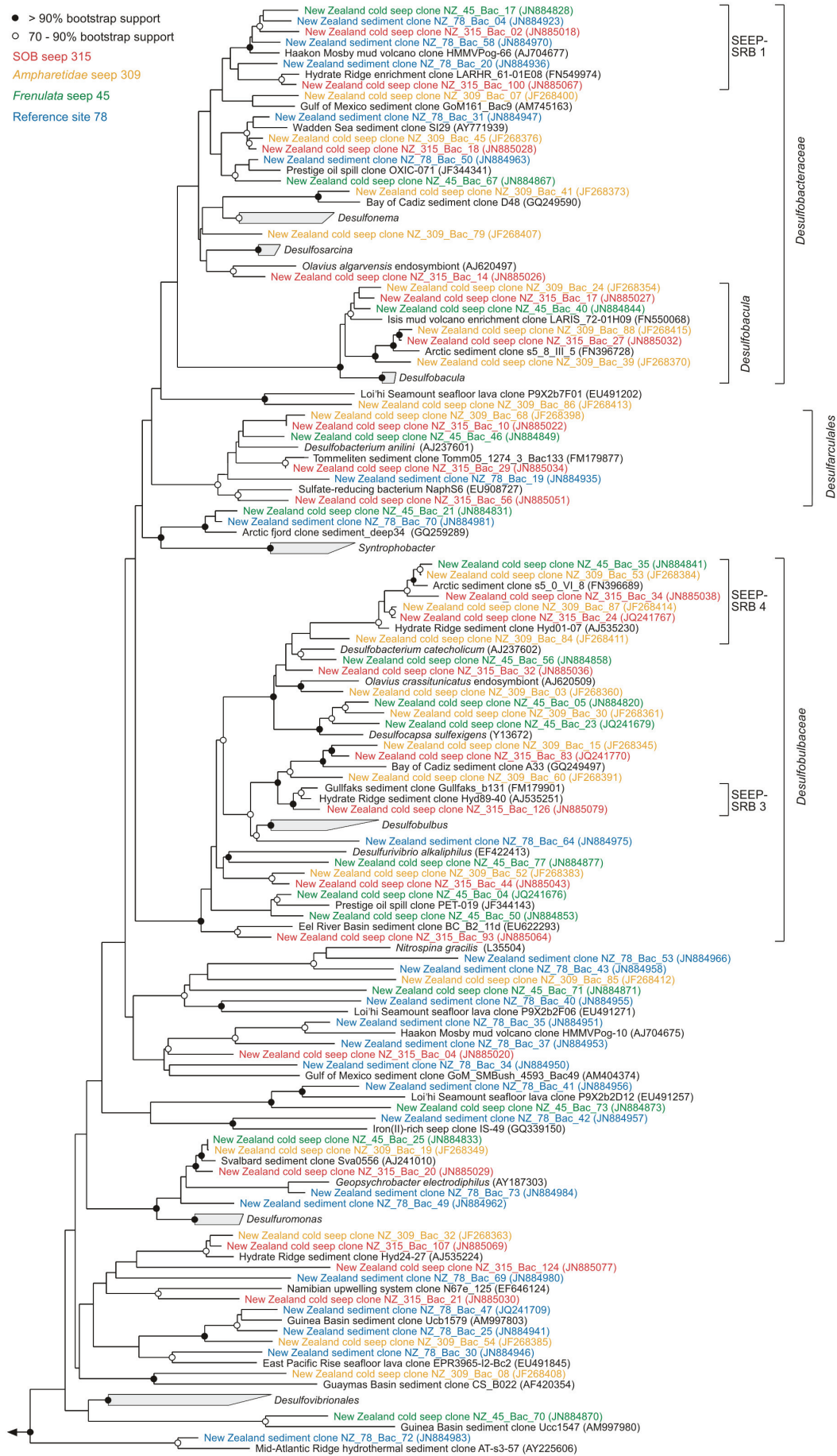
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Figure S3: Phylogeny of deltaproteobacterial 16S rRNA

16S rRNA based phylogenetic tree showing sequences of *Deltaproteobacteria* detected at the Hikurangi margin and selected reference sequences of that bacterial class. The tree is based on the RAxML algorithm as implemented in ARB. Full-length sequences were obtained from the ampharetid site 309 (yellow) and the frenulate site 45 (green). Partial sequences were retrieved from the SOB site 315 (red) and the reference site 78 (blue). Bar = 10% estimated sequence divergence.