

Caldarchaeum subterraneum gen. nov. sp. nov.

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Table 1: Complete list of names proposed in the current register list.

Proposed Taxon	Etymology	Description	Parent Taxon	Type	Registry URL
Genus <i>Caldarchaeum</i>	[Cald.ar.chae'um] L. masc. adj. <i>caldus</i> , warm; N.L. neut. n. <i>archaeum</i> , archaeon; N.L. neut. n. <i>Caldarchaeum</i> , a warm archaeon	Nunoura et al., 2011 : Here, we show the genome sequence of <i>Candidatus</i> 'Caldiarchaeum subterraneum' that represents an uncultivated crenarchaeotic group. A composite genome was reconstructed from a metagenomic library previously prepared from a microbial mat at a geothermal water stream of a sub surface gold mine. The genome was found to be clearly distinct from those of the known phyla/divisions, <i>Crenarchaeota</i> (hyperthermophiles), <i>Euryarchaeota</i> , <i>Thaumarchaeota</i> and <i>Korarchaeota</i> . The unique traits suggest that this crenarchaeotic group can be considered as a novel archaeal phylum/division. Moreover, <i>C. subterraneum</i> harbors an ubiquitin-like protein modifier system consisting of Ub, E1, E2 and small Zn RING finger family protein with structural motifs specific to eukaryotic system proteins, a system clearly distinct from the prokaryote-type system recently identified in <i>Haloferax</i> and <i>Mycobacterium</i> . The presence of such a eukaryote-type system is unprecedented in prokaryotes, and indicates that a prototype of the eukaryotic protein modifier system is present in the <i>Archaea</i> .	<i>Caldarchaeaceae</i>	<i>Caldarchaeum subterraneum</i> ^{Ts}	seqco.de/i:32064
Species <i>Caldarchaeum subterraneum</i> ^{Ts}	[sub.ter.ra'ne.um] L. neut. adj. <i>subterraneum</i> , underground	<i>C. subterraneum</i> harbors an ubiquitin-like protein modifier system consisting of Ub, E1, E2 and small Zn RING finger family protein with structural motifs specific to eukaryotic system proteins, a system clearly distinct from the prokaryote-type system. A composite genome was reconstructed from a metagenomic library previously prepared from a microbial mat at a geothermal water stream of a sub-surface gold mine.	<i>Caldarchaeum</i>	NCBI Assembly: GCA_000270325.1 ^{Ts}	seqco.de/i:32063