

Register list for 5 new names including *Methanoliparum* gen. 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
Class <i>Methanoliparia</i>	[Me.tha.no.li.pa'ri.a] N.L. neut. n. <i>Methanoliparum</i> , referring to the type genus <i>Methanoliparum</i> ; <i>-ia</i> , ending to denote a class; N.L. neut. pl. n. <i>Methanoliparia</i> , the <i>Methanoliparum</i> class	Analyses of enrichment cultures indicate that members of this class can utilize long-chain alkanes as substrate for methanogenesis.	<i>Methanobacteriota</i>	<i>Methanoliparum</i>	seqco.de/i:465
Order <i>Methanoliparales</i>	[Me.tha.no.li.pa.ra'les] N.L. neut. n. <i>Methanoliparum</i> , referring to the type genus <i>Methanoliparum</i> ; <i>-ales</i> , ending to denote an order; N.L. fem. pl. n. <i>Methanoliparales</i> , the <i>Methanoliparum</i> order	Analyses of enrichment cultures indicate that members of this order can utilize long-chain alkanes as substrate for methanogenesis.	<i>Methanoliparia</i>	<i>Methanoliparum</i>	seqco.de/i:32050
Family <i>Methanoliparaceae</i>	[Me.tha.no.li.pa.ra.ce'ae] N.L. neut. n. <i>Methanoliparum</i> , referring to the type genus <i>Methanoliparum</i> ; <i>-aceae</i> , ending to denote a family; N.L. fem. pl. n. <i>Methanoliparaceae</i> , the <i>Methanoliparum</i> family	Analyses of enrichment cultures indicate that members of this family can utilize long-chain alkanes as substrate for methanogenesis.	<i>Methanoliparales</i>	<i>Methanoliparum</i>	seqco.de/i:32049
Genus <i>Methanoliparum</i>	[Me.tha.no.li.pa'rum] N.L. pref. <i>methano-</i> , pertaining to methane; Gr. adj. <i>liparos</i> , fat, greasy; N.L. neut. n. <i>Methanoliparum</i> , methane-producing/consuming organism present in oil-rich environments	Analyses of enrichment cultures indicate that members of this genus can utilize long-chain alkanes as substrate for methanogenesis.	<i>Methanoliparaceae</i>	<i>Methanoliparum thermophilum</i> ^{Ts}	seqco.de/i:32051

Proposed Taxon	Etymology	Description	Parent Taxon	Type	Registry URL
Species <i>Methanoliparum thermophilum</i> ^{Ts}	[ther.mo.phi'lum] Gr. n. <i>thermé</i> , heat; N.L. neut. adj. suff. <i>-philum</i> , friend, loving (from Gr. adj. <i>philos</i> -ê -on); N.L. neut. adj. <i>thermophilum</i> , heat-loving	This organism is not isolated. It is represented by a near-complete MAG, NM1a, (GCA_004212075.1) obtained from an enrichment culture (50°C) using biodegraded oil as inoculum from Brazil. Analyses of enrichment cultures (Borrel et al., 2019; Laso-Perez et al., 2019; Zhou et al., 2022) indicate that this organism can utilize long-chain alkanes as substrate for methanogenesis.	<i>Methanoliparum</i>	NCBI Assembly: GCA_004212075.1 ^{Ts}	seqco.de/i:32048