

# Register list for 7 new names including Poseidoniales ord. 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>Poseidoniia</i>	[Po.se.i.do.ni'i.a] <b>N.L. fem. n.</b> <i>Poseidonia</i> , referring to the type genus <i>Poseidonia</i> ; <i>-ia</i> , ending to denote a class; <b>N.L. neut. pl. n.</b> <i>Poseidoniia</i> , the <i>Poseidonia</i> class	The description is the same as for <i>Poseidonia</i> gen. nov. with the following additions; <i>Poseidoniia</i> class. nov. comprises the type order <i>Poseidoniales</i> ord. nov. and order Marine group III (MGIII).	<i>Poseidoniota</i>	<i>Poseidonia</i>	<a href="https://seqco.de/i:41458">seqco.de/i:41458</a>
Order <i>Poseidoniales</i>	[Po.se.i.do.ni.a'les] <b>N.L. fem. n.</b> <i>Poseidonia</i> , referring to the type genus <i>Poseidonia</i> ; <i>-ales</i> , ending to denote an order; <b>N.L. fem. pl. n.</b> <i>Poseidoniales</i> , the <i>Poseidonia</i> order	The description is the same as for <i>Candidatus Poseidonia</i> gen. nov. with the following additions; <i>-ales</i> ending to denote a order. <i>Candidatus Poseidoniales</i> ord. nov. was previously known as “Marine Group II” and comprises two families <i>Candidatus Poseidoniaceae</i> fam. nov. and <i>Candidatus Thalassarchaeaceae</i> fam. nov.	<i>Poseidoniia</i>	<i>Poseidonia</i>	<a href="https://seqco.de/i:41459">seqco.de/i:41459</a>
Family <i>Poseidoniaceae</i>	[Po.se.i.do.ni.a'ce.ae] <b>N.L. fem. n.</b> <i>Poseidonia</i> , referring to the type genus <i>Poseidonia</i> ; <i>-aceae</i> , ending to denote a family; <b>N.L. fem. pl. n.</b> <i>Poseidoniaceae</i> , the <i>Poseidonia</i> family	The description is the same as for <i>Poseidonia</i> gen. nov. with the following additions. <i>Poseidoniaceae</i> fam. nov. was previously known as and “ <b>Group II-<math>\alpha</math></b> ” and “ <b>Marine Group IIa</b> ”. Eleven genus-level clades I, J1, J2, J3, K1, K2, L1, L2, L3, L4, and <i>Poseidonia</i> (M) representing the rank of genera were assigned to this family. All members of the family were inferred to be marine, motile heterotrophs, encoding phototrophic and non-phototrophic lifestyles with a distribution from surface waters to the deep sea (1m-500m). Type genus: <i>Poseidonia</i> gen. nov.	<i>Poseidoniales</i>	<i>Poseidonia</i>	<a href="https://seqco.de/i:41476">seqco.de/i:41476</a>

Proposed Taxon	Etymology	Description	Parent Taxon	Type	Registry URL
Family <i>Thalassarchaeaceae</i>	[Tha.las.sar.chae.a'ce.ae] <b>N.L. neut. n.</b> <i>Thalassarchaeum</i> , referring to the type genus <i>Thalassarchaeum</i> ; <i>-aceae</i> , ending to denote a family; <b>N.L. fem. pl. n.</b> <i>Thalassarchaeaceae</i> , the <i>Thalassarchaeum</i> family	<i>Thalassarchaeaceae</i> fam. nov. formerly Marine Group II (MGII) subgroup b, also known as MGIIb, is a family of the globally abundant marine order Poseidoniales.	<i>Poseidoniales</i>	<i>Thalassarchaeum</i>	<a href="https://seqco.de/i:41460">seqco.de/i:41460</a>
Genus <i>Thalassarchaeum</i>	[Tha.las.sar.chae'um] <b>Gr. fem. n.</b> <i>thalassa</i> , the sea; also the primeval spirit of the sea; ; <b>N.L. neut. n.</b> <i>archaeum</i> , (from Gr. adj. <i>archaios</i> -ê -on, ancient) archaeon; <b>N.L. neut. n.</b> <i>Thalassarchaeum</i> , the archaeon from the sea	<i>Thalassarchaeum</i> the archaeon from the sea. Inferred to be of marine origin, representing non-motile, aerobic heterotrophs containing phototrophic and non-phototrophic members. Formerly identified as <b>clade O</b> and now as <b>genus O4</b> (this study). This genus name is proposed for continuity with the orthographically incorrect " <i>Thalassoarchaea</i> " suggested by [10.1038/ismej.2014.249] for low GC MGIIb fosmid-genomes. Type species: <i>Thalassarchaeum betae</i> .	<i>Thalassarchaeaceae</i>	<i>Thalassarchaeum betae</i> <sup>TS</sup>	<a href="https://seqco.de/i:41473">seqco.de/i:41473</a>
Genus <i>Poseidonia</i>	[Po.se.i.do'ni.a] <b>N.L. fem. n.</b> <i>Poseidonia</i> , named after Poseidon, the Greek god of the sea	<i>Poseidonia</i> named after Poseidon, the Greek god of the sea. Inferred to be of marine origin, a motile, aerobic, photoheterotroph, and able to ferment a wide range of carbohydrates with a focus on peptides. Highest abundances were recorded for surface waters (0-10m). Formerly identified as <b>clade M</b> .	<i>Poseidoniaceae</i>	<i>Poseidonia alphae</i> <sup>TS</sup>	<a href="https://seqco.de/i:39404">seqco.de/i:39404</a>
Species <i>Poseidonia alphae</i> <sup>TS</sup>	[alphae] <b>N.L. gen. n.</b> <i>alphae</i> , alpha, the first letter of Greek alphabet; to honour the original description of this group as II- $\alpha$	<i>Poseidonia</i> named after Poseidon, the Greek god of the sea). Inferred to be of marine origin, a motile, aerobic, photoheterotroph, and able to ferment a wide range of carbohydrates with a focus on peptides. Highest abundances were recorded for surface waters (0-10m).	<i>Poseidonia</i>	NCBI Assembly: GCA_002505405.1 <sup>TS</sup>	<a href="https://seqco.de/i:41495">seqco.de/i:41495</a>
Species <i>Thalassarchaeum betae</i> <sup>TS</sup>	[be'tae] <b>N.L. gen. n.</b> <i>betae</i> , the second letter for the Greek alphabet; named to honour the original description of this group as II- $\beta$	Description is the same as for <i>Candidatus Thalassarchaeum</i> gen. nov. Represented by the MAG (metagenome-assembled genome) GCA_003193925.1 (former ID: PSPG00000000) with a genome size of 1.48 Mbp; obtained from metagenomic sequences retrieved from water deep sea water sample (1953 to 4946m) from the Mid-Cayman Rise, in western Caribbean Sea (18.32 N, 81.43 W).	<i>Thalassarchaeum</i>	NCBI Assembly: GCA_003193925.1 <sup>TS</sup>	<a href="https://seqco.de/i:44377">seqco.de/i:44377</a>

