

# Australlarchaeum erebusii sp. nov.

Submitted by Herbold, Craig William

## Genus *Australarchaeum*

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### Etymology

[Aus.tral.ar.chae'um] L. masc. adj. *australis*, Southern; N.L. neut. n. *archaeum*, archaeum, ancient one, archaeon; N.L. neut. n. *Australarchaeum*, an archaeon from the south

### Nomenclatural type

Species *Australarchaeum erebusense*<sup>T5</sup>

### Description

The type of the genus is an Archaeon found only in soils heated by volcanic activity (65 degree C) on Mt. Erebus in Antarctica. Analysis of metabolic pathways indicates the presence of fatty acid oxidation, amino acid degradation and an aerobic lifestyle. There are indications that either the same species or another species of the same genus can be found on Mt. Melbourne and Mt. Rittmann, both also in Antarctica. GTDB-Tk indicates that this genome represented a novel Order of Nitrososphaeria.

### Classification

*Incertae sedis* (Archaea) » *Australarchaeum*

### References

Effective publication: Herbold et al., 2024 [1]

### Registry URL

<https://seqco.de/i:49006>

## Species *Australarchaeum erebusense*<sup>T5</sup>

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### Etymology

[e.re.bu.sen'se] N.L. neut. adj. *erebusense*, of Erebus, referring to Mt. Erebus, Antarctica

### Nomenclatural type

[NCBI Assembly: GCA\\_040290255.1](#)<sup>T5</sup>

### Description

Archaeon found only in soils heated by volcanic activity (65 degree C) on Mt. Erebus in Antarctica. Very deep branching and novel lineage of Nitrososphaeria. Encodes *aa3*-type (low-affinity) cytochrome C-oxidases.

### Classification

*Incertae sedis* (Archaea) » *Australarchaeum* » *Australarchaeum erebusense*<sup>T5</sup>

### References

Effective publication: Herbold et al., 2024 [1]

### Registry URL

<https://seqco.de/i:24045>

## References

1. Herbold et al. (2024). Nutritional niches of potentially endemic, facultatively anaerobic heterotrophs from an isolated Antarctic terrestrial hydrothermal refugium elucidated through metagenomics. *Environmental Microbiome*. [DOI:10.1186/s40793-024-00655-5](https://doi.org/10.1186/s40793-024-00655-5)

### Register List Certificate of Validation

On behalf of the *Committee on the Systematics of Prokaryotes Described from Sequence Data* (SeqCode Committee), we hereby certify that the Register List [seqco.de/r:v4ac-osb](https://seqco.de/r:v4ac-osb) submitted by Herbold, Craig William and including 2 new names has been successfully validated.

**Date of Priority:** 2025-01-07 10:26 UTC

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