

# Regnicoccus gen. nov. and Regnicoccus antarcticus comb. nov.

Submitted by Rodriguez-R, Luis M

## Genus *Regnicoccus*

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### Etymology

[Reg.ni.coc'cus] L. neut. n. *regnum*, rule, dominion or control, referring to an abundant organism; N.L. masc. n. *coccus*, a coccus; N.L. masc. n. *Regnicoccus*, referring to an abundant coccus

### Nomenclatural type

Species *Regnicoccus antarcticus*<sup>Ts</sup>

### Description

The genus *Regnicoccus* was proposed by [Walter et al., 2017](#) on the basis of genomic analyses, and is part of “Cyanobiaceae” if considered a separate family ([Panwar et al., 2022](#)) or part of *Synechococcaceae* otherwise.

### Classification

*Bacteria* » *Cyanobacteriota* » *Cyanophyceae* » “*Synechococcales*” » *Synechococcaceae* » *Regnicoccus*

### References

Effective publication: Ernster, Rodriguez-R, 2025 [1]

Original (not valid) publication: Coutinho et al., 2016 [2] and Walter et al., 2017 [3]

Assigned taxonomically: Walter et al., 2017 [3]

### Registry URL

<https://seqco.de/i:23580>

## Species *Regnicoccus antarcticus*<sup>Ts</sup>

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### Etymology

[ant.arc'ti.cus] L. masc. adj. *antarcticus*, referring to the increased abundance of this organism at the Antarctic province

### Nomenclatural type

[NCBI Assembly: GCA\\_049578805.1](#)<sup>Ts</sup>

### Reference Strain

[Strain scl0038565](#): WH 5701 = SYN = [CCMP 1333](#) = [NEPCC 539](#)

### Description

**Ernster & Rodriguez-R (2024):** The genome assembly is established as type material, and the reference strain is WH 5701.

[Coutinho et al., 2016](#): The phycobilisome pigmentation of this strain belongs to class 1. Bacteriocin gene clusters detected in this genome belong to class I. Type strain is WH5701(T), which has a genome of 3.28 Mbp with a GC content of 65.4% that encodes 3185 genes that include 593 diagnostic orthologous groups. Taxonomic affiliation to *Parasynochococcus antarcticus* WH5701 can be defined by the presence of Ammonium transporter, Ferric iron ABC transporter: ATP-binding protein, Ferric iron ABC transporter: iron-binding protein, Ferric iron ABC transporter: permease protein, Ferrous iron transport protein B, *GlnN*, *NifS*, *NifU*, Nitrate ABC transporter, PiuC, Protein PII, *UreD*, *UreE*, *UreF*, *UreG*, *UrtA*, *UrtB*, *UrtC*, *UrtD*, *UrtE*, *phnE*, *phoB*, *phoH*, *phoR*, *pstA*, *pstB*, *pstC*, *pstS*.

[Walter et al., 2017](#): This species is characterized by  $\alpha$ -carboxysome. Type strain is WH 5701, isolated from marine habitat in Long Island Sound, Connecticut, USA. The genome of this strain contains 3.28 Mbp (GC = 65.4%) harboring 2,917 coding DNA sequences.

### Classification

*Bacteria* » *Cyanobacteriota* » *Cyanophyceae* » "Synechococcales" » *Synechococcaceae* » *Regnicoccus* » *Regnicoccus antarcticus*<sup>Ts</sup>

### References

Effective publication: Ernster, Rodriguez-R, 2025 [1]  
Original (not valid) publication: Walter et al., 2017 [3] and Coutinho et al., 2016 [2]  
Assigned taxonomically: Walter et al., 2017 [3]

### Registry URL

<https://seqco.de/i:23582>

## References

1. Ernster, Rodriguez-R (2025). A practical guide on environmental genomics for prokaryotic systematics. *Systematic and Applied Microbiology*. DOI:10.1016/j.syapm.2025.126643
2. Coutinho et al. (2016). Proposal of fifteen new species of *Parasynochococcus* based on genomic, physiological and ecological features. *Archives of Microbiology*. DOI:10.1007/s00203-016-1256-y
3. Walter et al. (2017). Ecogenomics and Taxonomy of Cyanobacteria Phylum. *Frontiers in Microbiology*. DOI:10.3389/fmicb.2017.02132

## 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:rmu87cu5](https://seqco.de/r:rmu87cu5) submitted by **Rodriguez-R, Luis M** and including 2 new names has been successfully validated.

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