Register list for 12 new names including Muellerivitota phy. nov.

Submitted by Sereika, Mantas

Phylum *Muellerivitota*

Etymology
[Mu.e.lle.ri.vi.to'ta] **N.L. fem. n.** *Muellerivita*, the type genus of the phylum; **L. neut. pl. suff.** *-ota*, ending to denote a phylum; **N.L. neut. pl. n.** *Muellerivitota*, the Muellerivita phylum

Nomenclatural type
Genus *Muellerivita*

Description
Phylum formerly known as "FCPU426" in GTDB R226. The description of the phylum is the same as for its type genus Muellerivita.

Classification
Bacteria » *Muellerivitota*

References
Effective publication: Sereika et al., 2025 [1]

Registry URL
https://seqco.de/i:51279

Phylum *Oederibacteriota*

Etymology
[Oe.de.ri.bac.te.ri.o'ta] **N.L. neut. n.** *Oederibacterium*, the type genus of the phylum; **L. neut. pl. suff.** *-ota*, ending to denote a phylum; **N.L. neut. pl. n.** *Oederibacteriota*, the Oederibacterium phylum

Nomenclatural type
Genus *Oederibacterium*

Description
The phylum is represented by a single genome and forms a monophyletic lineage based on the phylogeny of 120 concatenated bacterial protein markers, using GTDB R226 as a reference. The description of the phylum is the same as for its type genus Oederibacterium.

Classification
Bacteria » *Oederibacteriota*

References
Effective publication: Sereika et al., 2025 [1]

Registry URL
https://seqco.de/i:49856

Class *Muellerivitia*

Etymology
[Mu.e.lle.ri.vi'ti.a] **N.L. fem. n.** *Muellerivita*, the type genus of the class; **L. neut. pl. suff.** *-ia*, ending to denote a class; **N.L. neut. pl. n.** *Muellerivitia*, the Muellerivita class

Nomenclatural type
Genus *Muellerivita*

Description
Class formerly known as "Palsa-1180" in GTDB R226. The description of the class is the same as for its type genus Muellerivita.

Classification
Bacteria » *Muellerivitota* » *Muellerivitia*

References
Effective publication: Sereika et al., 2025 [1]

Registry URL
https://seqco.de/i:51278

Class *Oederibacteriia*

Etymology
[Oe.de.ri.bac.te.ri'i.a] **N.L. neut. n.** *Oederibacterium*, the type genus of the order; **L. neut. pl. suff.** *-ia*, ending to denote a class; **N.L. neut. pl. n.** *Oederibacteriia*, the Oederibacterium class

Nomenclatural type
Genus *Oederibacterium*

Description
The class is represented by a single genome and forms a monophyletic lineage based on the phylogeny of 120 concatenated bacterial protein markers, using GTDB R226 as a reference. The description of the class is the same as for its type genus Oederibacterium.

Classification
Bacteria » *Oederibacteriota* » *Oederibacteriia*

References
Effective publication: Sereika et al., 2025 [1]

Registry URL
https://seqco.de/i:49855

Order *Muellerivitales*

Etymology
[Mu.e.lle.ri.vi.ta'les] **N.L. fem. n.** *Muellerivita*, the type genus of the order; **L. fem. pl. suff.** *-ales*, ending to denote an order; **N.L. fem. pl. n.** *Muellerivitales*, the Muellerivita order

Nomenclatural type
Genus *Muellerivita*

Description
Order formerly known as "Palsa-1180" in GTDB R226. The description of the order is the same as for its type genus Muellerivita.

Classification
Bacteria » *Muellerivitota* » *Muellerivitia* » *Muellerivitales*

References
Effective publication: Sereika et al., 2025 [1]

Registry URL
https://seqco.de/i:51277

Order *Oederibacteriales*

Etymology
[Oe.de.ri.bac.te.ri.a'les] **N.L. neut. n.** *Oederibacterium*, the type genus of the order; **L. fem. pl. suff.** *-ales*, ending to denote an order; **N.L. fem. pl. n.** *Oederibacteriales*, the Oederibacterium order

Nomenclatural type
Genus *Oederibacterium*

Description
The order is represented by a single genome and forms a monophyletic lineage based on the phylogeny of 120 concatenated bacterial protein markers, using GTDB R226 as a reference. The description of the order is the same as for its type genus Oederibacterium.

Classification
Bacteria » *Oederibacteriota* » *Oederibacteriia* » *Oederibacteriales*

References
Effective publication: Sereika et al., 2025 [1]

Registry URL
https://seqco.de/i:49854

Family *Muellerivitaceae*

Etymology
[Mu.e.lle.ri.vi.ta'ce.ae] **N.L. fem. n.** *Muellerivita*, the type genus of the family; **L. fem. pl. suff.** *-aceae*, ending to denote a family; **N.L. fem. pl. n.** *Muellerivitaceae*, the Muellerivita family

Nomenclatural type
Genus *Muellerivita*

Description
Family formerly known as "Palsa-1180" in GTDB R226. The description of the family is the same as for its type genus Muellerivita.

Classification
Bacteria » *Muellerivitota* » *Muellerivitia* » *Muellerivitales* » *Muellerivitaceae*

References
Effective publication: Sereika et al., 2025 [1]

Registry URL
https://seqco.de/i:51276

Family *Oederibacteriaceae*

Etymology
[Oe.de.ri.bac.te.ri.a'ce.ae] **N.L. neut. n.** *Oederibacterium*, the type genus of the family; **L. fem. pl. suff.** *-aceae*, ending to denote a family; **N.L. fem. pl. n.** *Oederibacteriaceae*, the Oederibacterium family

Nomenclatural type
Genus *Oederibacterium*

Description
The family is represented by a single genome and forms a monophyletic lineage based on the phylogeny of 120 concatenated bacterial protein markers, using GTDB R226 as a reference. The description of the family is the same as for its type genus Oederibacterium.

Classification
Bacteria » *Oederibacteriota* » *Oederibacteriia* » *Oederibacteriales* » *Oederibacteriaceae*

References
Effective publication: Sereika et al., 2025 [1]

Registry URL
https://seqco.de/i:49853

Genus *Muellerivita*

Etymology
[Mu.e.lle.ri.vi'ta] **L. fem. n.** *vita*, life; **N.L. fem. n.** *Muellerivita*, a bacterium named in honor of Otto Friedrich Mueller

Nomenclatural type
Species *Muellerivita nordica*^{Ts}

Description
Genus named after Otto Friedrich Mueller (1730–1784) – scientist who contributed significantly to the Flora Danica project (1753-1883). Based on the phylogeny of 120 concatenated bacterial protein markers and ANI-based classification to GTDB R226, the genus is formerly known as "DATKNU01". Based on metabolic reconstruction, Muellerivita is inferred to encode the TCA cycle, peptidoglycan biosynthesis genes, and the rod shape-determining protein MreB.

Classification
Bacteria » *Muellerivitota* » *Muellerivitia* » *Muellerivitales* » *Muellerivitaceae* » *Muellerivita*

References
Effective publication: Sereika et al., 2025 [1]

Registry URL
https://seqco.de/i:51275

Genus *Oederibacterium*

Etymology
[Oe.de.ri.bac.te'ri.um] **N.L. neut. n.** *bacterium*, rod; **N.L. neut. n.** *Oederibacterium*, a bacterium named in honor of Georg Christian Oeder

Nomenclatural type
Species *Oederibacterium danicum*[Ts]

Description
Genus named after Georg Christian Oeder (1728-1791) – scientist who initiated the Flora Danica project (1753-1883). The genus is represented by a single genome and forms a monophyletic lineage based on the phylogeny of 120 concatenated bacterial protein markers and ANI-based classification to GTDB R226. Based on metabolic reconstruction, Oederibacterium is estimated to be motile, Gram-negative, and adapted to an anaerobic environment. Oederibacterium danicum genome encodes the potential to ferment glucose to acetate, use ethanolamine as a source of nitrogen and energy, and to fix or detoxify formaldehyde using the ribulose monophosphate pathway.

Classification
Bacteria » *Oederibacteriota* » *Oederibacteriia* » *Oederibacteriales* » *Oederibacteriaceae* » *Oederibacterium*

References
Effective publication: Sereika et al., 2025 [1]

Registry URL
https://seqco.de/i:49757

Species *Muellerivita nordica*[Ts]

Etymology
[nor.di'ca] **L. fem. adj.** *nordica*, Nordic, a species from the Nordic region (Northern Europe).

Nomenclatural type
Genome scJ0003917 [Ts]

Description
Species represented by a high-quality metagenome-assembled genome (MAG), recovered from Danish bog woodland soil, as part of the Microflora Danica project. The species lineage is based on the phylogeny of 120 concatenated bacterial protein markers and ANI-based classification to GTDB R226. The species is proposed to serve as the nomenclatural type for the Muellerivita genus, named after Otto Friedrich Mueller (1730–1784) – scientist who contributed significantly to the Flora Danica project (1753-1883).

Classification
Bacteria » *Muellerivitota* » *Muellerivitia* » *Muellerivitales* » *Muellerivitaceae* » *Muellerivita* » *Muellerivita nordica*[Ts]

References
Effective publication: Sereika et al., 2025 [1]

Registry URL
https://seqco.de/i:51274

Species *Oederibacterium danicum*[Ts]

Etymology
[da'ni.cum] **N.L. neut. adj.** *danicum*, Danish, named after Denmark, the country from which the type genome originates.

Nomenclatural type
Genome sc|0003307 [Ts]

Description
Species represented by a single and circular metagenome-assembled genome (MAG), recovered from a Danish lake sediment, as part of the Microflora Danica project. The species lineage is based on the phylogeny of 120 concatenated bacterial protein markers and ANI-based classification to GTDB R226. The species is proposed to serve as the nomenclatural type for the Oederibacterium genus, named after Georg Christian Oeder (1728-1791) – scientist who initiated the Flora Danica project (1753-1883).

Classification
Bacteria » *Oederibacteriota* » *Oederibacteriia* » *Oederibacteriales* » *Oederibacteriaceae* » *Oederibacterium* » *Oederibacterium danicum*[Ts]

References
Effective publication: Sereika et al., 2025 [1]

Registry URL
https://seqco.de/i:49756

References

1. Sereika et al. (2025). Genome-resolved long-read sequencing expands known microbial diversity across terrestrial habitats. *Nature Microbiology*. DOI: 10.1038/s41564-025-02062-z

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:vwa_l78e** submitted by **Sereika, Mantas** and including 12 new names has been successfully validated.

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