

# Epilinea brevis sp. nov.

Submitted by Petriglieri, Francesca

## Order *Epilineales*

---

### Etymology

[E.pi.li.ne.a'les] N.L. fem. n. *Epilinea*, referring to the type genus *Epilinea*; *-ales*, ending to denote an order; N.L. fem. pl. n. *Epilineales*, the *Epilinea* order

### Nomenclatural type

Genus *Epilinea*

### Description

An order established on the basis of MiGA taxonomic novelty analyses, 16S rRNA gene phylogenetic reconstruction, FISH and phylogenomic analyses and is classified as a member of the Anaerolineae class. The type species is *Epilinea brevis*.

### Classification

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Epilineales*

### References

Effective publication: Petriglieri et al., 2023 [1]

### Registry URL

<https://seqco.de/i:43966>

## Family *Epilineaceae*

---

### Etymology

[E.pi.li.ne.a'ce.ae] N.L. fem. n. *Epilinea*, referring to the type genus *Epilinea*; *-aceae*, ending to denote a family; N.L. fem. pl. n. *Epilineaceae*, the *Epilinea* family

### Nomenclatural type

Genus *Epilinea*

### Description

A family established on the basis of MiGA taxonomic novelty analyses, 16S rRNA gene phylogenetic reconstruction, FISH and phylogenomic analyses and is classified as a member of the *Epilineales* order. The type species is *Epilinea brevis*.

### Classification

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Epilineales* » *Epilineaceae*

### References

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

### Registry URL

<https://seqco.de/i:43956>

## Family *Villigracilaceae*

---

**Etymology**

[Vi.lli.gra.ci.la'ce.ae] N.L. masc. n. *Villigracilis*, referring to the type genus *Villigracilis*; *-aceae*, ending to denote a family; N.L. fem. pl. n. *Villigracilaceae*, the *Villigracilis* family

**Nomenclatural type**

Genus *Villigracilis*

**Description**

A family established on the basis of MiGA taxonomic novelty analyses, 16S rRNA gene phylogenetic reconstruction, FISH and phylogenomic analyses and is classified as a member of the Anaerolineales order. The type species is *Villigracilis saccharophilus*.

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Anaerolineales* » *Villigracilaceae*

**References**

Effective publication: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43974>

## Family *Flexifilaceae*

---

**Etymology**

[Fle.xi.fi.la'ce.ae] N.L. neut. n. *Flexifilum*, referring to the type genus *Flexifilum*; *-aceae*, ending to denote a family; N.L. fem. pl. n. *Flexifilaceae*, the *Flexifilum* family

**Nomenclatural type**

Genus *Flexifilum*

**Description**

A family established on the basis of MiGA taxonomic novelty analyses, 16S rRNA gene phylogenetic reconstruction, FISH and phylogenomic analyses and is classified as a member of the Epilineales order. The type species is *Flexifilum breve*.

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Aggregatilineales* » *Flexifilaceae*

**References**

Effective publication: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:44001>

## Genus *Defluviilinea*

---

**Etymology**

[De.flu.vi.i.li.ne'a] L. neut. n. *defluvium*, sewage; L. fem. n. *linea*, line, filament; N.L. fem. n. *Defluviilinea*, filamentous bacterium found in sewage

**Nomenclatural type**

Species *Defluviilinea gracilis*<sup>T5</sup>

**Description**

A genus established on the basis of MiGA taxonomic novelty analyses, ANI, 16S rRNA gene phylogenetic reconstruction, FISH and phylogenomic analyses and is classified as a member of the Villigracilaceae family. The type species of the genus is *Defluviilinea gracilis*.

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Anaerolineales* » *Villigracilaceae* » *Defluviilinea*

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43973>

## Genus *Villigracilis*

---

**Etymology**

[Vi.lli.gra.ci'lis] L. masc. n. *villus*, tuft of hair; L. masc. adj. *gracilis*, slim, slender; N.L. masc. n. *Villigracilis*, bacteria shaped as a slender tuft of hair

**Nomenclatural type**

Species *Villigracilis saccharophilus*<sup>Ts</sup>

**Description**

A genus established on the basis of MiGA taxonomic novelty analyses, ANI, 16S rRNA gene phylogenetic reconstruction, FISH and phylogenomic analyses and is classified as a member of the Villigracilaceae. The type species of the genus is *Villigracilis saccharophilus*.

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Anaerolineales* » *Villigracilaceae* » *Villigracilis*

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43977>

## Genus *Flexifilum*

---

**Etymology**

[Fle.xi.fi'lum] L. masc. part. *flexus*, bent; L. neut. n. *filum*, thread; N.L. neut. n. *Flexifilum*, bent-shaped filamentous bacterium

**Nomenclatural type**

Species *Flexifilum breve*<sup>Ts</sup>

**Description**

A genus established on the basis of MiGA taxonomic novelty analyses, ANI, 16S rRNA gene phylogenetic reconstruction, FISH and phylogenomic analyses and is classified as a member of the Promineofilaceae family. The type species of the genus is *Flexifilum breve*.

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Aggregatilineales* » *Flexifilaceae* » *Flexifilum*

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:44000>

## Genus *Flexicrinis*

---

**Etymology**

[Fle.xi.cri'nis] L. **masc. part.** *flexus*, bent; L. **masc. n.** *crinis*, hair, filament; N.L. **masc. n.** *Flexicrinis*, bent-shaped filamentous bacterium

**Nomenclatural type**

Species *Flexicrinis affinis*<sup>Ts</sup>

**Description**

A genus established on the basis of MiGA taxonomic novelty analyses, ANI, 16S rRNA gene phylogenetic reconstruction and phylogenomic analyses and is classified as a member of the Promineofilaceae family. The type species of the genus is *Flexicrinis affinis*.

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Aggregatilineales* » *Flexifilaceae* » *Flexicrinis*

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43997>

## Genus *Amarobacter*

---

**Etymology**

[A.ma.ro.bac'ter] Gr. **fem. n.** *amara*, trench, conduit, here a sewage conduit; N.L. **masc. n.** *bacter*, rod-shaped bacterium; N.L. **masc. n.** *Amarobacter*, rod-shaped bacterium found in sewage sludge

**Nomenclatural type**

Species *Amarobacter glycogenicus*<sup>Ts</sup>

**Description**

A genus established on the basis of MiGA taxonomic novelty analyses, ANI, 16S rRNA gene phylogenetic reconstruction, FISH and phylogenomic analyses and is classified as a member of the Tepidiformalceae family. The type species of the genus is *Amarobacter glycogenicus*.

**Classification**

*Bacteria* » *Chloroflexota* » *Tepidiformia* » *Tepidiformales* » *Tepidiformaceae* » *Amarobacter*

**References**

Effective publication: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:44011>

## Genus *Amarobacillus*

---

**Etymology**

[A.ma.ro.ba.cil'lus] Gr. **fem. n.** *amara*, trench, conduit, here a sewage conduit; N.L. **masc. n.** *bacillus*, rod-shaped bacterium; N.L. **masc. n.** *Amarobacillus*, rod-shaped bacterium from activated sludge

**Nomenclatural type**

Species *Amarobacillus elongatus*<sup>Ts</sup>

**Description**

A genus established on the basis of MiGA taxonomic novelty analyses, ANI, 16S rRNA gene phylogenetic reconstruction, FISH and phylogenomic analyses and is classified as a member of the Tepidiformaceae family. The type species of the genus is *Amarobacillus elongatus*.

**Classification**

*Bacteria* » *Chloroflexota* » *Tepidiformia* » *Tepidiformales* » *Tepidiformaceae* » *Amarobacillus*

**References**

Effective publication: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:44013>

## Genus *Epilinea*

---

**Etymology**

[E.pi.li.ne'a] Gr. pref. *epi*, on; L. fem. n. *linea*, line; N.L. fem. n. *Epilinea*, filamentous bacteria attached to other filaments

**Nomenclatural type**

Species *Epilinea brevis*<sup>T5</sup>

**Description**

A genus established on the basis of MiGA taxonomic novelty analyses, ANI, 16S rRNA gene phylogenetic reconstruction, FISH and phylogenomic analyses and is classified as a member of the *Epilineaceae* family. The type species of the genus is *Epilinea brevis*.

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Epilineales* » *Epilineaceae* » *Epilinea*

**References**

Effective publication: Petriglieri et al., 2023 [1]

Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43955>

## Genus *Avedoeria*

---

**Etymology**

[A.ve.doe'ri.a] N.L. fem. n. *Avedoeria*, arbitrarily formed genus name to refer to a bacterium named after the city Avedoere where the MAG has been retrieved

**Nomenclatural type**

Species *Avedoeria danica*<sup>T5</sup>

**Description**

A genus established on the basis of MiGA taxonomic novelty analyses, ANI, 16S rRNA gene phylogenetic reconstruction, FISH and phylogenomic analyses and is classified as a member of the *Epilineaceae* family. The type species of the genus is *Avedoeria danica*.

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Epilineales* » *Epilineaceae* » *Avedoeria*

**References**

Effective publication: Petriglieri et al., 2023 [1]

Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43968>

## Genus *Fredericiella*

---

**Etymology**

[Fre.de.ri.ci.el'la] N.L. fem. dim. n. *Fredericiella*, Bacterium named after the city Fredericia

**Nomenclatural type**

Species *Fredericiella danica*<sup>Ts</sup>

**Description**

A genus established on the basis of MiGA taxonomic novelty analyses, ANI, 16S rRNA gene phylogenetic reconstruction and phylogenomic analyses and is classified as a member of the Caldilineaceae family. The type species of the genus is *Fredericiella danica*.

**Classification**

*Bacteria* » *Chloroflexota* » *Caldilineae* » *Caldilineales* » *Caldilineaceae* » *Fredericiella*

**References**

Effective publication: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:44004>

## Genus *Ribeiella*

---

**Etymology**

[Ri.be.i.el'la] N.L. fem. dim. n. *Ribeiella*, Bacterium named after the city of Ribe

**Nomenclatural type**

Species *Ribeiella danica*<sup>Ts</sup>

**Description**

A genus established on the basis of MiGA taxonomic novelty analyses, ANI, 16S rRNA gene phylogenetic reconstruction and phylogenomic analyses and is classified as a member of the Roseiflexaceae family. The type species of the genus is *Ribeiella danica*.

**Classification**

*Bacteria* » *Chloroflexota* » *Chloroflexia* » *Chloroflexales* » *Roseiflexaceae* » *Ribeiella*

**References**

Effective publication: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:44006>

## Genus *Hadersleviella*

---

**Etymology**

[Ha.der.sle.vi.e'lla] N.L. fem. n. *Hadersleviella*, bacterium named after the city Haderslev where the MAG has been retrieved

**Nomenclatural type**

Species *Hadersleviella danica*<sup>Ts</sup>

**Description**

A genus established on the basis of MiGA taxonomic novelty analyses, ANI, 16S rRNA gene phylogenetic reconstruction, FISH and phylogenomic analyses and is classified as a member of the Promineofilaceae family. The type species of the genus is *Hadersleviella danica*.

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Promineifilales* » *Promineofilaceae* » *Hadersleviella*

**References**

Effective publication: Petriglieri et al., 2023 [1]

**Registry URL**<https://seqco.de/i:43984>

## Genus *Leptofilum*

---

**Etymology**

[Lep.to.fi'lum] Gr. **masc. adj.** *leptos*, thin; L. **neut. adj.** *filum*, thread; N.L. **neut. n.** *Leptofilum*, bacterium with thin filamentous morphology

**Nomenclatural type**

Species *Leptofilum gracile*<sup>Ts</sup>

**Description**

A genus established on the basis of MiGA taxonomic novelty analyses, ANI, 16S rRNA gene phylogenetic reconstruction, FISH and phylogenomic analyses and is classified as a member of the Promineofilaceae family. The type species of the genus is *Leptofilum gracile*.

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Promineifilales* » *Promineofilaceae* » *Leptofilum*

**References**

Effective publication: Petriglieri et al., 2023 [1]

**Registry URL**<https://seqco.de/i:43990>

## Genus *Leptovillus*

---

**Etymology**

[Lep.to.vi'llus] Gr. **masc. adj.** *leptos*, thin; L. **masc. n.** *villus*, hair, filament; N.L. **masc. n.** *Leptovillus*, thin filamentous bacterium

**Nomenclatural type**

Species *Leptovillus gracilis*<sup>Ts</sup>

**Description**

A genus established on the basis of MiGA taxonomic novelty analyses, ANI, 16S rRNA gene phylogenetic reconstruction, FISH and phylogenomic analyses and is classified as a member of the Promineofilaceae family. The type species of the genus is *Leptovillus gracilis*.

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Promineifilales* » *Promineofilaceae* » *Leptovillus*

**References**

Effective publication: Petriglieri et al., 2023 [1]

**Registry URL**<https://seqco.de/i:43994>

## Genus *Trichofilum*

---

**Etymology**

[Tri.cho.fi'lum] Gr. **fem. n.** *thrix*, hair, filament; L. **neut. n.** *filum*, thread; N.L. **neut. n.** *Trichofilum*, bacterium with filamentous morphology

**Nomenclatural type**

Species *Trichofilum aggregatum*<sup>Ts</sup>

**Description**

A genus established on the basis of MiGA taxonomic novelty analyses, ANI, 16S rRNA gene phylogenetic reconstruction, FISH and phylogenomic analyses and is classified as a member of the Promineofilaceae family. The type species of the genus is *Trichofilum aggregatum*.

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Promineifilales* » *Promineofilaceae* » *Trichofilum*

**References**

Effective publication: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43986>

## Genus *Kouleothrix*

---

**Etymology**

[Ko.u.le.oth'rix] Gr. neut. n. *kouleon*, sheath; Gr. fem. n. *thrix*, hair, filament; N.L. fem. n. *Kouleothrix*, sheath filamentous bacteria

**Nomenclatural type**

Species *Kouleothrix ribensis*<sup>Ts</sup>

**Description**

Filamentous organisms abundant in activated sludge worldwide, sometime associated with bulking episodes. They are often arranged in bundles of filaments with epiphytic bacteria. Specialized in metabolism of sugars.

**Classification**

*Bacteria* » *Chloroflexota* » *Chloroflexia* » *Chloroflexales* » *Roseiflexaceae* » *Kouleothrix*

**References**

Effective publication: Petriglieri et al., 2023 [1]

Original (not valid) publication: Klappenbach, Pierson, 2004 [2]

**Registry URL**

<https://seqco.de/i:35217>

## Species *Epilinea brevis*<sup>Ts</sup>

---

**Etymology**

[bre'vis] L. fem. adj. *brevis*, short

**Nomenclatural type**

[NCBI Assembly: GCA\\_016710785.1](https://ncbi.nlm.nih.gov/assembly/GCA_016710785.1)<sup>Ts</sup>

**Description**

The species is established on the same basis as the genus and the type material is the genome Hirt\_BATAC.427. Fluorescence in situ hybridization with genus-specific FISH probes shows filamentous morphology (4-57 × 0.4-0.7 μm).

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Epilineales* » *Epilineaceae* » *Epilinea* » *Epilinea brevis*<sup>Ts</sup>

**References**

Effective publication: Petriglieri et al., 2023 [1]

Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43954>



## Species *Avedoeria danica*<sup>Ts</sup>

---

### Etymology

[da.ni'ca] L. fem. adj. *danica*, Danish

### Nomenclatural type

[NCBI Assembly: GCA\\_016703025.1](#)<sup>Ts</sup>

### Description

The species is established on the same basis as the genus and the type material is the genome Aved\_BATAC.767.

### Classification

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Epilineales* » *Epilineaceae* » *Avedoeria* » *Avedoeria danica*<sup>Ts</sup>

### References

Effective publication: Petriglieri et al., 2023 [1]

Assigned taxonomically: Petriglieri et al., 2023 [1]

### Registry URL

<https://seqco.de/i:43967>

## Species *Defluviilinea gracilis*<sup>Ts</sup>

---

### Etymology

[gra.ci'lis] L. fem. adj. *gracilis*, slender

### Nomenclatural type

[NCBI Assembly: GCA\\_016716235.1](#)<sup>Ts</sup>

### Description

The species is established on the same basis as the genus and the type material is the genome Kalu\_BAT3C.361. Fluorescence in situ hybridization with genus-specific FISH probes shows filamentous morphology (12-50 × 0.3-0.4 μm).

### Classification

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Anaerolineales* » *Villigracilaceae* » *Defluviilinea* » *Defluviilinea gracilis*<sup>Ts</sup>

### References

Effective publication: Petriglieri et al., 2023 [1]

Assigned taxonomically: Petriglieri et al., 2023 [1]

### Registry URL

<https://seqco.de/i:43972>

## Species *Defluviilinea proxima*

---

### Etymology

[pro.xi'ma] L. fem. adj. *proxima*, next of kin

### Nomenclatural type

[NCBI Assembly: GCA\\_016721115.1](#)<sup>Ts</sup>

### Description

The species is established on the same basis as the genus and the type material is the genome Skiv\_MAXAC.174. Fluorescence in situ hybridization with genus-specific FISH probes shows filamentous morphology (12-50 × 0.3-0.4 μm).

### Classification

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Anaerolineales* » *Villigracilaceae* » *Defluviilinea* » *Defluviilinea proxima*

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43975>

---

**Species *Villigracilis vicinus***

---

**Etymology**

[vi.ci'nus] L. masc. adj. *vicinus*, close

**Nomenclatural type**

[NCBI Assembly: GCA\\_016721315.1](#)<sup>Ts</sup>

**Description**

The species is established on the same basis as the genus and the type material is the genome Skiv\_MAXAC.043. Fluorescence in situ hybridization with genus-specific FISH probes shows filamentous morphology (12-50 × 0.3-0.4 μm).

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Anaerolineales* » *Villigracilaceae* » *Villigracilis* » *Villigracilis vicinus*

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43976>

---

**Species *Villigracilis propinquus***

---

**Etymology**

[pro.pin'quus] L. masc. adj. *propinquus*, next of kin

**Nomenclatural type**

[NCBI Assembly: GCA\\_016714565.1](#)<sup>Ts</sup>

**Description**

The species is established on the same basis as the genus and the type material is the genome OdNW\_BATAC.378. Fluorescence in situ hybridization with genus-specific FISH probes shows filamentous morphology (12-50 × 0.3-0.4 μm).

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Anaerolineales* » *Villigracilaceae* » *Villigracilis* » *Villigracilis propinquus*

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43979>

---

**Species *Villigracilis affinis***

---

**Etymology**

[af.fi'nis] L. masc. adj. *affinis*, next of kin

**Nomenclatural type**

[NCBI Assembly: GCA\\_016718275.1](#)<sup>Ts</sup>

**Description**

The species is established on the same basis as the genus and the type material is the genome OdNW\_MAXAC.037. Fluorescence in situ hybridization with genus-specific FISH probes shows filamentous morphology (12-50 × 0.3-0.4 μm).

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Anaerolineales* » *Villigracilaceae* » *Villigracilis* » *Villigracilis affinis*

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43980>

---

**Species *Villigracilis proximus***

---

**Etymology**

[pro.xi'mus] L. masc. adj. *proximus*, next of kin

**Nomenclatural type**

[NCBI Assembly: GCA\\_016714625.1](#)<sup>Ts</sup>

**Description**

The species is established on the same basis as the genus and the type material is the genome OdNE\_MAXAC.047. Fluorescence in situ hybridization with genus-specific FISH probes shows filamentous morphology (12-50 × 0.3-0.4 μm).

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Anaerolineales* » *Villigracilaceae* » *Villigracilis* » *Villigracilis proximus*

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43981>

---

**Species *Villigracilis saccharophilus*<sup>Ts</sup>**

---

**Etymology**

[sac.cha.ro.phi'lus] Gr. neut. n. *saccharon*, sugar; Gr. masc. n. *philos*, lover; N.L. masc. adj. *saccharophilus*, indicating a preference for sugars as carbon sources

**Nomenclatural type**

[NCBI Assembly: GCA\\_016709305.1](#)<sup>Ts</sup>

**Description**

The species is established on the same basis as the genus and the type material is the genome EsbW\_MAXAC.021. Fluorescence in situ hybridization with genus-specific FISH probes shows filamentous morphology (12-50 × 0.3-0.4 μm).

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Anaerolineales* » *Villigracilaceae* » *Villigracilis* » *Villigracilis saccharophilus*<sup>Ts</sup>

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43982>

---

**Species *Hadersleviella danica*<sup>Ts</sup>**

---

**Etymology**

[da.ni'ca] L. fem. adj. *danica*, Danish

**Nomenclatural type**

[NCBI Assembly: GCA\\_016711405.1](#)<sup>Ts</sup>

**Description**

The species is established on the same basis as the genus and the type material is the genome Hade\_MAXAC.236\_sub.

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Promineifilales* » *Promineifilaceae* » *Hadersleviella* » *Hadersleviella danica*<sup>Ts</sup>

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43983>

---

**Species *Trichofilum aggregatum*<sup>Ts</sup>**

---

**Etymology**

[ag.gre.ga'tum] L. neut. adj. *aggregatum*, indicating the bundles often formed with other filaments

**Nomenclatural type**

[NCBI Assembly: GCA\\_016716885.1](#)<sup>Ts</sup>

**Description**

The species is established on the same basis as the genus and the type material is the genome Hirt\_MAXAC.142. Fluorescence in situ hybridization with genus-specific FISH probes shows filamentous morphology (60-200 × 0.6-0.8 µm).

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Promineifilales* » *Promineifilaceae* » *Trichofilum* » *Trichofilum aggregatum*<sup>Ts</sup>

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43985>

---

**Species *Leptofilum proximum***

---

**Etymology**

[pro.xi'mum] L. neut. adj. *proximum*, next of kin

**Nomenclatural type**

[NCBI Assembly: GCA\\_016710325.1](#) <sup>TS</sup>

**Description**

The species is established on the same basis as the genus and the type material is the genome Kalu\_MAXAC.106v2. Fluorescence in situ hybridization with genus-specific FISH probes shows filamentous morphology (10-70 × 0.7-0.9 µm).

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Promineifilales* » *Promineifilaceae* » *Leptofilum* » *Leptofilum proximum*

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43991>

## Species *Leptovillus affinis*

---

**Etymology**

[af.fi'nis] L. masc. adj. *affinis*, next of kin

**Nomenclatural type**

[NCBI Assembly: GCA\\_016705235.1](#) <sup>TS</sup>

**Description**

The species is established on the same basis as the genus and the type material is the genome AaLE\_BATAC.251. Fluorescence in situ hybridization with genus-specific FISH probes shows filamentous morphology (10-70 × 0.7-0.9 µm).

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Promineifilales* » *Promineifilaceae* » *Leptovillus* » *Leptovillus affinis*

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43993>

## Species *Flexicrinis affinis* <sup>TS</sup>

---

**Etymology**

[af.fi'nis] L. masc. adj. *affinis*, next of kin

**Nomenclatural type**

[NCBI Assembly: GCA\\_016716525.1](#) <sup>TS</sup>

**Description**

The species is established on the same basis as the genus and the type material is the genome Kalu\_BAT3C.186. Fluorescence in situ hybridization with genus-specific FISH probes shows filamentous morphology (40-110 × 0.7-1.1 µm).

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Aggregatilineales* » *Flexifilaceae* » *Flexicrinis* » *Flexicrinis affinis* <sup>TS</sup>

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43995>

## Species *Flexicrinis proximus*

---

**Etymology**

[pro.xi'mus] L. masc. adj. *proximus*, next of kin

**Nomenclatural type**

[NCBI Assembly: GCA\\_016712885.1](#)<sup>Ts</sup>

**Description**

The species is established on the same basis as the genus and the type material is the genome Fred\_MAXAC.112. Fluorescence in situ hybridization with genus-specific FISH probes shows filamentous morphology (40-110 × 0.7-1.1 μm).

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Aggregatilineales* » *Flexifilaceae* » *Flexicrinis* » *Flexicrinis proximus*

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43996>

## Species *Flexifilum breve*<sup>Ts</sup>

---

**Etymology**

[bre've] L. neut. adj. *breve*, short

**Nomenclatural type**

[NCBI Assembly: GCA\\_016717205.1](#)<sup>Ts</sup>

**Description**

The species is established on the same basis as the genus and the type material is the genome Ribe\_BATAC.253. Fluorescence in situ hybridization with genus-specific FISH probes shows filamentous morphology (>100 × 0.8-1.1 μm).

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Aggregatilineales* » *Flexifilaceae* » *Flexifilum* » *Flexifilum breve*<sup>Ts</sup>

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43998>

## Species *Flexifilum affine*

---

**Etymology**

[af.fi'ne] L. neut. adj. *affine*, next of kin

**Nomenclatural type**

[NCBI Assembly: GCA\\_016713325.1](#)<sup>Ts</sup>

**Description**

The species is established on the same basis as the genus and the type material is the genome Fred\_MAXAC.112. Fluorescence in situ hybridization with genus-specific FISH probes shows filamentous morphology (40-110 × 0.7-1.1 µm).

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Aggregatilineales* » *Flexifilaceae* » *Flexifilum* » *Flexifilum affine*

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43999>

## Species *Amarolinea dominans*

---

**Etymology**

[do'mi.nans] L. part. adj. *dominans*, indicating the high abundance in sewage sludge

**Nomenclatural type**

[NCBI Assembly: GCA\\_016719785.1](#)<sup>Ts</sup>

**Description**

A species of filamentous bacteria abundant in activated sludge globally.

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » "Amarolineales" » *Amarolineaceae* » *Amarolinea* » *Amarolinea dominans*

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Andersen et al., 2019 [3]

**Registry URL**

<https://seqco.de/i:44002>

## Species *Fredericiella danica*<sup>Ts</sup>

---

**Etymology**

[da.ni'ca] L. fem. adj. *danica*, Danish

**Nomenclatural type**

[NCBI Assembly: GCA\\_016713335.1](#)<sup>Ts</sup>

**Description**

A species established on the basis of MiGA taxonomic novelty analyses, ANI, 16S rRNA gene phylogenetic reconstruction and phylogenomic analyses.

**Classification**

*Bacteria* » *Chloroflexota* » *Caldilineae* » *Caldilineales* » *Caldilineaceae* » *Fredericiella* » *Fredericiella danica*<sup>Ts</sup>

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:44003>

## Species *Caldilinea saccharophila*

---

### Etymology

[sac.cha.ro'phi.la] Gr. neut. n. *saccharon*, sugar; Gr. masc. n. *philos*, lover; N.L. fem. adj. *saccharophila*, indicating a preference for sugars as carbon sources

### Nomenclatural type

[NCBI Assembly: GCA\\_016710365.1](#) <sup>Ts</sup>

### Description

A species established on the basis of MiGA taxonomic novelty analyses, ANI, 16S rRNA gene phylogenetic reconstruction, FISH and phylogenomic analyses.

### Classification

*Bacteria* » *Chloroflexota* » *Caldilineae* » *Caldilineales* » *Caldilineaceae* » *Caldilinea* » *Caldilinea saccharophila*

### References

Effective publication: Petriglieri et al., 2023 [1]

### Registry URL

<https://seqco.de/i:44005>

## Species *Ribeiella danica*<sup>Ts</sup>

---

### Etymology

[da.ni'ca] L. fem. adj. *danica*, Danish

### Nomenclatural type

[NCBI Assembly: GCA\\_016717335.1](#) <sup>Ts</sup>

### Description

A species abundant in activated sludge, established on the basis of MiGA taxonomic novelty analyses, ANI, 16S rRNA gene phylogenetic reconstruction and phylogenomic analyses.

### Classification

*Bacteria* » *Chloroflexota* » *Chloroflexia* » *Chloroflexales* » *Roseiflexaceae* » *Ribeiella* » *Ribeiella danica*<sup>Ts</sup>

### References

Effective publication: Petriglieri et al., 2023 [1]

Assigned taxonomically: Petriglieri et al., 2023 [1]

### Registry URL

<https://seqco.de/i:44007>

## Species *Kouleothrix ribensis*<sup>Ts</sup>

---

### Etymology

[ri.ben'sis] N.L. fem. adj. *ribensis*, pertinent to the city of Ribe

### Nomenclatural type

[NCBI Assembly: GCA\\_016722075.1](#) <sup>Ts</sup>

### Description

A species of filamentous bacteria abundant in activated sludge, established on the basis of MiGA taxonomic novelty analyses, ANI, 16S rRNA gene phylogenetic reconstruction and phylogenomic analyses

### Classification

*Bacteria* » *Chloroflexota* » *Chloroflexia* » *Chloroflexales* » *Roseiflexaceae* » *Kouleothrix* » *Kouleothrix ribensis*<sup>Ts</sup>

### References

Effective publication: Petriglieri et al., 2023 [1]



**Registry URL**

<https://seqco.de/i:44008>

---

**Species *Amarobacter glycogenicus*<sup>Ts</sup>**

---

**Etymology**

[gly.co.ge'ni.cus] N.L. masc. adj. *glycogenicus*, indicating the presence of intracellular glycogen

**Nomenclatural type**

[NCBI Assembly: GCA\\_016719395.1](#)<sup>Ts</sup>

**Description**

A species of rod-shape bacteria abundant in activated sludge, established on the basis of MiGA taxonomic novelty analyses, ANI, 16S rRNA gene phylogenetic reconstruction, FISH and phylogenomic analyses.

**Classification**

*Bacteria* » *Chloroflexota* » *Tepidiformia* » *Tepidiformales* » *Tepidiformaceae* » *Amarobacter* » *Amarobacter glycogenicus*<sup>Ts</sup>

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:44010>

---

**Species *Amarobacillus elongatus*<sup>Ts</sup>**

---

**Etymology**

[e.lon.ga'tus] L. masc. adj. *elongatus*, with elongated shape

**Nomenclatural type**

[NCBI Assembly: GCA\\_016703545.1](#)<sup>Ts</sup>

**Description**

A species of bacteria abundant in activated sludge, established on the basis of MiGA taxonomic novelty analyses, ANI, 16S rRNA gene phylogenetic reconstruction, FISH and phylogenomic analyses.

**Classification**

*Bacteria* » *Chloroflexota* » *Tepidiformia* » *Tepidiformales* » *Tepidiformaceae* » *Amarobacillus* » *Amarobacillus elongatus*<sup>Ts</sup>

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:44012>

---

**Species *Villigracilis adiacens***

---

**Etymology**

[a.di.a'cens] L. masc. part. adj. *adiacens*, close

**Nomenclatural type**

[NCBI Assembly: GCA\\_016703605.1](#)<sup>Ts</sup>

**Description**

The species is established on the same basis as the genus and the type material is the genome Aved\_BAT3C.518. Fluorescence in situ hybridization with genus-specific FISH probes shows filamentous morphology (12-50 × 0.3-0.4 µm).

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Anaerolineales* » *Villigracilaceae* » *Villigracilis* » *Villigracilis adiacens*

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43978>

---

**Species *Leptofilum gracile*<sup>Ts</sup>**

---

**Etymology**

[gra.ci'le] L. neut. adj. *gracile*, thin

**Nomenclatural type**

[NCBI Assembly: GCA\\_016713825.1](#)<sup>Ts</sup>

**Description**

The species is established on the same basis as the genus and the type material is the genome Fred\_BAT3C.445. Fluorescence in situ hybridization with genus-specific FISH probes shows filamentous morphology (10-70 × 0.7-0.9 µm).

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Promineifilales* » *Promineifilaceae* » *Leptofilum* » *Leptofilum gracile*<sup>Ts</sup>

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43989>

---

**Species *Leptovillus gracilis*<sup>Ts</sup>**

---

**Etymology**

[gra.ci'lis] L. masc. adj. *gracilis*, slender

**Nomenclatural type**

[NCBI Assembly: GCA\\_016716065.1](#)<sup>Ts</sup>

**Description**

The species is established on the same basis as the genus and the type material is the genome Kalu\_BATAC.47. Fluorescence in situ hybridization with genus-specific FISH probes shows filamentous morphology (10-70 × 0.7-0.9 µm).

**Classification**

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Promineifilales* » *Promineifilaceae* » *Leptovillus* » *Leptovillus gracilis*<sup>Ts</sup>

**References**

Effective publication: Petriglieri et al., 2023 [1]  
Assigned taxonomically: Petriglieri et al., 2023 [1]

**Registry URL**

<https://seqco.de/i:43992>

## Species *Promineifilum glycoenicum*

### Etymology

[gly.co.ge.ni'cum] N.L. neut. adj. *glycoenicum*, indicating the presence of intracellular glycogen

### Nomenclatural type

[NCBI Assembly: GCA\\_016707605.1](#)<sup>Ts</sup>

### Description

The species is established on the same basis as the genus and the type material is the genome Ega\_BAT3C.159. Fluorescence in situ hybridization with genus-specific FISH probes shows filamentous morphology (20-140 × 0.8 µm).

### Classification

*Bacteria* » *Chloroflexota* » *Anaerolineae* » *Promineifilales* » *Promineifilaceae* » *Promineifilum* » *Promineifilum glycoenicum*

### References

Effective publication: Petriglieri et al., 2023 [1]

### Registry URL

<https://seqco.de/i:43987>

## References

1. Petriglieri et al. (2023). A comprehensive overview of the Chloroflexota community in wastewater treatment plants worldwide. *mSystems*. [DOI:10.1128/msystems.00667-23](https://doi.org/10.1128/msystems.00667-23)
2. Klappenbach, Pierson (2004). Phylogenetic and physiological characterization of a filamentous anoxygenic photoautotrophic bacterium ?Candidatus Chlorothrix halophila? gen. nov., sp. nov., recovered from hypersaline microbial mats. *Archives of Microbiology*. [DOI:10.1007/s00203-003-0615-7](https://doi.org/10.1007/s00203-003-0615-7)
3. Andersen et al. (2019). Genomic insights into Candidatus Amarolinea aalborgensis gen. nov., sp. nov., associated with settleability problems in wastewater treatment plants. *Systematic and Applied Microbiology*. [DOI:10.1016/j.syapm.2018.08.001](https://doi.org/10.1016/j.syapm.2018.08.001)

## 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:82uy5hy3](https://seqco.de/r:82uy5hy3) submitted by Petriglieri, Francesca and including 47 new names has been successfully validated.

Date of Priority: 2024-04-26 11:27 UTC

DOI: 10.57973/seqcode.r:82uy5hy3



