

Register list for 38 new names from Eremiobacterota including Xenobiaceae fam. nov.

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Class *Xenobiia*

Etymology

[Xe.no.bi'ia] N.L. neut. n. *Xenobium*, foreign life, referencing the artificial environment from which it was recovered; *-ia*, ending to denote a class; N.L. neut. pl. n. *Xenobiia*, the *Xenobium* class

Nomenclatural type

Genus *Xenobium*

Description

Class defined based on 16S rRNA phylogeny and phylogenomic analysis of 15 ribosomal proteins and the GTDB. Defined as a class-level lineage based on UBP9 in Parks et al (2017).

Classification

Bacteria » *Eremiobacterota* » *Xenobiia*

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:31316>

Class *Eremiobacteria*

Etymology

[E.re.mi.o.bac.te'ri.a] N.L. masc. n. *Eremiobacter*, a rod from a desert; *-ia*, ending to denote a class; N.L. neut. pl. n. *Eremiobacteria*, the *Eremiobacter* class

Nomenclatural type

Genus *Eremiobacter*

Description

Class defined based on 16S rRNA phylogeny and phylogenomic analysis of 15 ribosomal proteins and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria*

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:41723>

Order *Xenobiales*

Etymology

[Xe.no.bi.a'les] N.L. neut. n. *Xenobium*, foreign life, referencing the artificial environment from which it was recovered; *-ales*, ending to denote an order; N.L. fem. pl. n. *Xenobiales*, the *Xenobium* order

Nomenclatural type

Genus *Xenobium*

Description

Order defined based on 16S rRNA phylogeny and phylogenomic analysis of 15 ribosomal proteins and the GTDB. Defined as an order-level lineage based on UBA4705 in Parks et al (2017).

Classification

Bacteria » *Eremiobacterota* » *Xenobiia* » *Xenobiales*

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:31315>

Order *Eremiobacterales*

Etymology

[E.re.mi.o.bac.te.ra'les] **N.L. masc. n.** *Eremiobacter*, a rod from a desert; *-ales*, ending to denote an order; **N.L. fem. pl. n.** *Eremiobacterales*, the Eremiobacter order

Nomenclatural type

Genus *Eremiobacter*

Description

Order defined based on 16S rRNA phylogeny and phylogenomic analysis of 15 ribosomal proteins and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » *Eremiobacterales*

References

Effective publication: Ji et al., 2021 [1]

Assigned taxonomically: Yabe et al., 2023 [2]

Registry URL

<https://seqco.de/i:41907>

Family *Xenobiaceae*

Etymology

[Xe.no.bi.a.ce'ae] **N.L. neut. n.** *Xenobium*, foreign life, referencing the artificial environment from which it was recovered; *-aceae*, ending to denote a family; **N.L. fem. pl. n.** *Xenobiaceae*, the Xenobium family

Nomenclatural type

Genus *Xenobium*

Description

Family defined based on 16S rRNA phylogeny and phylogenomic analysis of 15 ribosomal proteins and the GTDB. Defined as a family-level lineage based on UBA4705 in Parks et al (2017).

Classification

Bacteria » *Eremiobacterota* » *Xenobiia* » *Xenobiales* » *Xenobiaceae*

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:41921>

Family *Eremiobacteraceae*

Etymology

[E.re.mi.o.bac.ter.a.ce'ae] N.L. **masc. n.** *Eremiobacter*, a rod from a desert; N.L. **suff.** *-aceae*, ending to denote a family; N.L. **fem. pl. n.** *Eremiobacteraceae*, the Eremiobacter family

Nomenclatural type

Genus *Eremiobacter*

Description

Family defined based on 16S rRNA phylogeny and phylogenomic analysis of 15 ribosomal proteins and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » *Eremiobacterales* » *Eremiobacteraceae*

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:41908>

Genus *Tumulicola*

Etymology

[Tu.mu.li'co.la] L. **masc. n.** *tumulus*, mound, hill; L. **masc. / fem. suff.** *-cola*, inhabitant, dweller; N.L. **fem. n.** *Tumulicola*, mound-dweller, in reference to the recovery from a palsa (mound)

Nomenclatural type

Species *Tumulicola scandinavensis*^{Ts}

Description

Genus defined based on 16S rRNA phylogeny and phylogenomic analysis of 15 ribosomal proteins and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » “Baltobacterales” » “Baltobacteraceae” » *Tumulicola*

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:43732>

Genus *Nyctobacter*

Etymology

[Nyc.to.ba'cter] Gr. **fem. n.** *Nyx*, primordial goddess of the night in Greek mythology; N.L. **masc. n.** *bacter*, a rod; N.L. **masc. n.** *Nyctobacter*, referring to a bacterium capable of 'dark' carbon fixation (chemolithoautotrophy), as well as the long and dark winter of Antarctica

Nomenclatural type

Species *Nyctobacter psychrophilus*^{Ss}

Description

Genus defined based on 16S rRNA phylogeny and phylogenomic analysis of 15 ribosomal proteins and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » “Baltobacterales” » “Baltobacteraceae” » *Nyctobacter*

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:42523>

Genus *Tityobacter*

Etymology

[Ti.ty.o.ba'cter] Gr. masc. n. *Tityos*, in Greek mythology, giant born from the earth, son of Elara; N.L. masc. n. *bacter*, a rod; N.L. masc. n. *Tityobacter*, bacterium named after Tityos (giant born from the earth), in reference to the recovery from soil

Nomenclatural type

Species *Tityobacter terrigena*^{Ts}

Description

Genus defined based on 16S rRNA phylogeny and phylogenomic analysis of 15 ribosomal proteins and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » “Baltobacterales” » “Baltobacteraceae” » *Tityobacter*

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:43379>

Genus *Meridianibacter*

Etymology

[Me.ri.di.a.ni.bac'ter] L. masc. adj. *meridianus*, southern; N.L. masc. n. *bacter*, a rod; N.L. masc. n. *Meridianibacter*, southern bacterium, in reference to the recovery from Antarctic soil

Nomenclatural type

Species *Meridianibacter frigidus*^{Ts}

Description

Genus defined based on 16S rRNA phylogeny and phylogenomic analysis of 15 ribosomal proteins and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » “Baltobacterales” » “Baltobacteraceae” » *Meridianibacter*

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:43148>

Genus *Xenobium*

Etymology

[Xe.no'bi.um] Gr. adj. *xenos*, strange, foreign; Gr. masc. n. *bios*, life; N.L. neut. n. *Xenobium*, foreign life, referencing the artificial environment from which it was recovered

Nomenclatural type

Species *Xenobium occultum*^{Ts}

Description

Genus defined based on 16S rRNA phylogeny and phylogenomic analysis of 15 ribosomal proteins and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Xenobiia* » *Xenobiales* » *Xenobiaceae* » *Xenobium*

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:41922>

Genus *Eremiobacter*

Etymology

[E.re.mi.o.bac'ter] **Gr. fem. n.** *eremia*, desert, wilderness; **N.L. masc. n.** *bacter*, a rod; **N.L. masc. n.** *Eremiobacter*, a rod from a desert

Nomenclatural type

Species *Eremiobacter antarcticus*^{T5}

Description

Type genus of Eremiobacterota. Genus defined based on phylogenomics of 38 conserved marker genes and the lack of any named close relative at the time.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » *Eremiobacterales* » *Eremiobacteraceae* » *Eremiobacter*

References

Effective publication: Ji et al., 2021 [1]

Original (not valid) publication: Ji et al., 2017 [3]

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

Registry URL

<https://seqco.de/i:42508>

Genus *Cybelea*

Etymology

[Cy.be'le.a] **N.L. fem. n.** *Cybelea*, a bacterium named after Cybele, an ancient Anatolian earth goddess, in reference to the recovery from soil

Nomenclatural type

Species *Cybelea septentrionalis*^{T5}

Description

Genus defined based on 16S rRNA phylogeny and phylogenomic analysis of 15 ribosomal proteins and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » “Baltobacterales” » “Baltobacteraceae” » *Cybelea*

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:42538>

Genus *Erabacter*

Etymology

[Era.bac'ter] Gr. fem. n. *era*, -ae, earth; N.L. masc. n. *bacter*, a rod; N.L. masc. n. *Erabacter*, earth bacterium, in reference to the recovery from soil

Nomenclatural type

Species *Erabacter solicola*^{Ts}

Description

Genus defined based on 16S rRNA phylogeny and phylogenomic analysis of 15 ribosomal proteins and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » “Baltobacterales” » “Baltobacteraceae” » *Erabacter*

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:43329>

Genus *Tyrphobacter*

Etymology

[Tyr.pho.ba'cter] Gr. n. *tyrpha*, -ae, peat; N.L. masc. n. *bacter*, a rod; N.L. masc. n. *Tyrphobacter*, bacterium from the peat, in reference to the recovery from peatlands

Nomenclatural type

Species *Tyrphobacter aquilonaris*^{Ts}

Description

Genus defined based on 16S rRNA phylogeny and phylogenomic analysis of 15 ribosomal proteins and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » “Baltobacterales” » “Baltobacteraceae” » *Tyrphobacter*

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:43316>

Genus *Velthaea*

Etymology

[Vel.tha'ea] N.L. fem. n. *Velthaea*, bacterium named after ancient Etruscan earth god Veltha, in reference to to the recovery from soil

Nomenclatural type

Species *Velthaea versatilis*^{Ts}

Description

Genus defined based on 16S rRNA phylogeny and phylogenomic analysis of 15 ribosomal proteins and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » “Baltobacterales” » “Baltobacteraceae” » *Velthaea*

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:43525>

Genus *Elarobacter*

Etymology

[E.la.ro.bac'ter] Gr. fem. n. *Elara*, maiden in Greek mythology who was hidden beneath the earth, where she gave birth to Tityus; N.L. masc. n. *bacter*, a rod; N.L. masc. n. *Elarobacter*, in reference to a bacterium recovered from soil

Nomenclatural type

Species *Elarobacter winogradskyi*^{Ts}

Description

Genus defined based on 16S rRNA phylogeny and phylogenomic analysis of 15 ribosomal proteins and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » "Baltobacterales" » "Baltobacteraceae" » *Elarobacter*

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:41726>

Genus *Mawsoniella*

Etymology

[Maw.so'ni.el.la] N.L. fem. dim. n. *Mawsoniella*, in honor of Sir Douglas Mawson, an Australian Antarctic explorer and pioneer

Nomenclatural type

Species *Mawsoniella australis*^{Ts}

Description

Genus defined based on 16S rRNA phylogeny and phylogenomic analysis of 15 ribosomal proteins and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » *Eremiobacterales* » *Eremiobacteraceae* » *Mawsoniella*

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:42719>

Genus *Bruticola*

Etymology

[Bru.ti.co'la] L. masc. n. *brutus*, of animals, beasts; L. masc. / fem. suff. *-cola*, inhabitant, dweller; N.L. fem. n. *Bruticola*, animal-dweller, in reference to the mammal (baboon) fecal microbiome

Nomenclatural type

Species *Bruticola papionis*^{Ts}

Description

Genus defined based on 16S rRNA phylogeny and phylogenomic analysis of 15 ribosomal proteins and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Xenobiia* » *Xenobiales* » *Xenobiaceae* » *Bruticola*

References

Effective publication: Ji et al., 2021 [1]

Registry URL<https://seqco.de/i:41962>

Genus *Zemelea*

Etymology

[Ze.me.le'a] N.L. fem. n. *Zemelea*, , named for Zemele, Lithuanian earth goddess, in reference to the recovery from soil

Nomenclatural type

Species *Zemelea palustris*^{Ts}

Description

Genus defined based on 16S rRNA phylogeny and phylogenomic analysis of 15 ribosomal proteins and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » “Baltobacterales” » “Baltobacteraceae” » *Zemelea*

References

Effective publication: Ji et al., 2021 [1]

Assigned taxonomically: Ji et al., 2021 [1]

Registry URL<https://seqco.de/i:48243>

Genus *Lustribacter*

Etymology

[Lus.tri.bac'ter] L. neut. n. *lustrum*, bog; N.L. masc. n. *bacter*, a rod; N.L. masc. n. *Lustribacter*, bacterium from the bog, in reference to the recovery from a bog

Nomenclatural type

Species *Lustribacter telmatis*^{Ts}

Description

Genus defined based on 16S rRNA phylogeny and phylogenomic analysis of 15 ribosomal proteins and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » “Baltobacterales” » “Baltobacteraceae” » *Lustribacter*

References

Effective publication: Ji et al., 2021 [1]

Registry URL<https://seqco.de/i:42844>

Species *Tityobacter terrigena*^{Ts}

Etymology

[ter.ri.ge'na] L. masc. adj. *terrigena*, born of or from the earth; L. masc. adj. *terrigena*, earth-born; in reference to the recovery from soil

Nomenclatural type

[NCBI Assembly: GCA_003156715.1](#)^{Ts}

Description

Heterotroph and autotroph. CO oxidation. Hydrogenotrophic chemolithoautotrophy using Group 1h [NiFe] hydrogenase and CBB cycle; capable of using atmospheric H₂. Organic substrates include peptides, amino acids, carboxylates, glycerol, taurine, acetate, alcohols (including methanol, ethanol, polyvinyl alcohol), aldehydes, poly- and oligosaccharides, sugars, fluoroacetate, catechol. Glycogen storage. Polyphosphate storage. BMC for sequestering toxic metabolites. Also defined based on ANI, and phylogenies of 16S rRNA gene, 15 ribosomal proteins, and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » “Baltobacterales” » “Baltobacteraceae” » *Tityobacter* » *Tityobacter terrigena*^{Ts}

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:43380>

Species *Velthaea versatilis*^{Ts}

Etymology

[ver.sa'ti.li:s] L. fem. adj. *versatilis*, versatile, in reference to metabolic versatility

Nomenclatural type

[NCBI Assembly: GCA_003134035.1](#)^{Ts}

Description

Heterotroph and autotroph. Hydrogenotrophic chemolithoautotrophy using Group 1h [NiFe] hydrogenase and CBB cycle; capable of using atmospheric H₂. Photoautotrophy; carboxysomes; photoreceptors. CO oxidation. Anaerobic respiration: sulfoxides. Assimilatory nitrate reduction. Organic substrates include peptides, amino acids, carboxylates, glycerol, taurine, urea, cyanate, sarcosine, alcohols (including methanol, ethanol), poly- and oligosaccharides, sugars, catechol, propane. PHA storage; glycogen storage. Motile by flagella (including phototaxis). Polyphosphate storage. Bidirectional [NiFe] hydrogenase (Group 3b). Also defined based on ANI, and phylogenies of 16S rRNA gene, 15 ribosomal proteins, and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » “Baltobacterales” » “Baltobacteraceae” » *Velthaea* » *Velthaea versatilis*^{Ts}

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:43526>

Species *Cybelea septentrionalis*^{Ts}

Etymology

[sep.ten.tri.o.na'lis] L. fem. adj. *septentrionalis*, northern

Nomenclatural type

[NCBI Assembly: GCA_003158175.1](#)^{Ts}

Description

Obligate heterotroph. Hydrogen oxidation using Group 1h [NiFe] hydrogenase. Organic substrates include peptides, amino acids, carboxylates, taurine, urea, sarcosine, PVA, arylsulfates, poly- and oligosaccharides, sugars, fluoroacetate. Degradation of β -glucan (GH1, GH16), cellulose/ β -glucan (GH5_40), chitin (GH18), β -D-galactoside (GH35), and xyloglucan (GH74). PHA storage. Polyphosphate storage. Also defined based on ANI, and phylogenies of 16S rRNA gene, 15 ribosomal proteins, and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » “Baltobacterales” » “Baltobacteraceae” » *Cybelea* » *Cybelea septentrionalis*^{Ts}

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:43849>

Species *Tyrphobacter aquilonaris*^{Ts}

Etymology

[aqui.lo.na'ris] L. **masc. adj.** *aquilonaris*, northern, northerly

Nomenclatural type

[NCBI Assembly: GCA_003133745.1](#)^{Ts}

Description

Obligate heterotroph. Organic substrates include peptides, amino acids, carboxylates, methanol, poly- and oligosaccharides, sugars. PHA storage. Polyphosphate storage. Also defined based on ANI, and phylogenies of 16S rRNA gene, 15 ribosomal proteins, and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » “Baltobacterales” » “Baltobacteraceae” » *Tyrphobacter* » *Tyrphobacter aquilonaris*^{Ts}

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:43739>

Species *Mawsoniella australis*^{Ts}

Etymology

[aus.tra'lis] L. **fem. adj.** *australis*, southern, of the south wind, in reference to the recovery from the southern continent of Antarctica

Nomenclatural type

[NCBI Assembly: GCA_014304875.1](#)^{Ts}

Description

Obligate heterotroph. Hydrogen oxidation using Group 1h [NiFe] hydrogenase. Organic substrates include peptides, amino acids, carboxylates, sarcosine, oligosaccharides, sugars, catechol, 4hydroxybenzoate. PHA storage. Polyphosphate storage. Also defined based on ANI, and phylogenies of 16S rRNA gene, 15 ribosomal proteins, and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » *Eremiobacterales* » *Eremiobacteraceae* » *Mawsoniella* » *Mawsoniella australis*^{Ts}

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:42720>

Species *Bruticola papionis*^{Ts}

Etymology

[pa.pi.o'nis] N.L. gen. n. *papionis*, pertaining to Papio, the primate genus that includes baboons

Nomenclatural type

[NCBI Assembly: GCA_002407045.1](#)^{Ts}

Description

Obligate heterotroph. Fermentative (no respiration). Organic substrates include peptides, amino acids, citrate, starch, maltodextrin, glucose. Bidirectional Fe-only hydrogenases (for redox balance?). Glycogen storage. Also defined based on ANI, and phylogenies of 16S rRNA gene, 15 ribosomal proteins, and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Xenobiia* » *Xenobiales* » *Xenobiaceae* » *Bruticola* » *Bruticola papionis*^{Ts}

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:41963>

Species *Eremiobacter antarcticus*^{Ts}

Etymology

[an.tar'cti.cus] L. masc. adj. *antarcticus*, southern, pertaining to Antarctica

Nomenclatural type

[NCBI Assembly: GCA_003244105.1](#)^{Ts}

Description

Heterotroph and autotroph. Hydrogenotrophic chemolithoautotrophy using Group 1h [NiFe] hydrogenase and CBB cycle; capable of using atmospheric H₂. Organic substrates include peptides, amino acids, carboxylates, acetate, sarcosine, formate, methanol, poly- and oligosaccharides, sugars, catechol, 4-hydroxybenzoate. Glycogen storage. Also defined based on ANI, and phylogenies of 16S rRNA gene, 15 ribosomal proteins, and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » *Eremiobacterales* » *Eremiobacteraceae* » *Eremiobacter* » *Eremiobacter antarcticus*^{Ts}

References

Effective publication: Ji et al., 2021 [1]

Assigned taxonomically: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:42509>

Species *Zemelea palustris*^{Ts}

Etymology

[pa.lus'tris] L. fem. adj. *palustris*, marshy, swampy

Nomenclatural type

[NCBI Assembly: GCA_003134695.1](#)^{Ts}

Description

Obligate heterotroph. Anaerobic respiration: nitrate. Organic substrates include peptides, amino acids, carboxylates, sarcosine, formate, poly- and oligosaccharides, sugars. PHA storage. Also defined based on ANI, and phylogenies of 16S rRNA gene, 15 ribosomal proteins, and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » “Baltobacterales” » “Baltobacteraceae” » *Zemelea* » *Zemelea palustris*^{Ts}

References

Effective publication: Ji et al., 2021 [1]
Assigned taxonomically: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:41948>

Species *Meridianibacter frigidus*^{Ts}

Etymology

[fri'gi.dus] L. masc. adj. *frigidus*, cold

Nomenclatural type

[NCBI Assembly: GCA_003243975.1](#)^{Ts}

Description

Obligate heterotroph. Organic substrates include peptides, amino acids, carboxylates, poly- and oligosaccharides, sugars. Polyphosphate storage. Also defined based on ANI, and phylogenies of 16S rRNA gene, 15 ribosomal proteins, and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » “Baltobacterales” » “Baltobacteraceae” » *Meridianibacter* » *Meridianibacter frigidus*^{Ts}

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:43149>

Species *Lustribacter telmatis*^{Ts}

Etymology

[tel'ma.tis] Gr. n. *telma*, swamp; N.L. gen. n. *telmatis*, of the bog

Nomenclatural type

[NCBI Assembly: GCA_003164045.1](#)^{Ts}

Description

Obligate heterotroph. Hydrogen oxidation using Group 1h [NiFe] hydrogenase. Anaerobic respiration: urocanate. Organic substrates include peptides, amino acids, carboxylates, taurine, urea, cyanate, acetate, formate, alcohols (including methanol, ethanol), arylsulfates, alkanesulfonates, oligosaccharides, sugars, fluoroacetate, halobenzoate, phenoxypropionate, ethylbenzene, 4-hydroxybenzoate, 4-sulfocatechol. PHA storage; glycogen storage. Motile by flagella. Polyphosphate storage. Also defined based on ANI, and phylogenies of 16S rRNA gene, 15 ribosomal proteins, and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » “Baltobacterales” » “Baltobacteraceae” » *Lustribacter* » *Lustribacter telmatis*^{Ts}

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:42845>

Species *Cybelea palsarum*

Etymology

[pa.sa'rum] N.L. fem. n. *palsa*, peat mound (from Finnish *palsa*); N.L. gen. pl. n. *palsarum*, from *palsa* wetlands

Nomenclatural type

[NCBI Assembly: GCA_003166915.1](#)^{Ts}

Description

Obligate heterotroph. Organic substrates include peptides, amino acids, carboxylates, taurine, urea, sarcosine, PVA, arylsulfates, poly- and oligosaccharides, sugars, fluoroacetate. Degradation of β -glucan (GH1, GH16), cellulose/ β -glucan (GH5_40), chitin (GH18), β -D-galactoside (GH35), and xyloglucan (GH74). PHA storage. Polyphosphate storage. Also defined based on ANI, and phylogenies of 16S rRNA gene, 15 ribosomal proteins, and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » “Baltobacterales” » “Baltobacteraceae” » *Cybelea* » *Cybelea palsarum*

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:43705>

Species *Xenobium occultum*^{Ts}

Etymology

[oc.cul'tum] L. neut. adj. *occultum*, hidden

Nomenclatural type

[NCBI Assembly: GCA_002423485.1](#)^{Ts}

Description

Obligate heterotroph. Microaerobic; anaerobic respiration by DNRA. Fermentative. Organic substrates include peptides, amino acids, carboxylates, glycerol, poly- and oligosaccharides, sugars, 4-hydroxybenzoate. Degradation of β -glucosides (GH3), cellulose (endoglucanase GH5_5), starch (cyclomaltodextrinase GH13, and GH13_2; 4- α -glucanotransferase GH77), maltodextrin (GH13_21), α -glucans (GH31), trehalose (GH37), and xyloglucan (GH74). PHA storage; glycogen storage. Also defined based on ANI, and phylogenies of 16S rRNA gene, 15 ribosomal proteins, and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Xenobiia* » *Xenobiales* » *Xenobiaceae* » *Xenobium* » *Xenobium occultum*^{Ts}

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:43215>

Species *Erabacter solicola*^{Ts}

Etymology

[so.li.co'la] L. neut. n. *solum*, soil; L. masc. / fem. suff. *-cola*, inhabitant, dweller; N.L. masc. n. *solicola*, inhabitant of the soil

Nomenclatural type

[NCBI Assembly: GCA_003136895.1](#)^{Ts}

Description

Obligate heterotroph. Organic substrates include peptides, amino acids, carboxylates, sarcosine, poly- and oligosaccharides, sugars. PHA storage. Also defined based on ANI, and phylogenies of 16S rRNA gene, 15 ribosomal proteins, and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » “Baltobacterales” » “Baltobacteraceae” » *Erabacter* » *Erabacter solicola*^{Ts}

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:43330>

Species *Nyctobacter psychrophilus*^{Ts}

Etymology

[psy.chro'phi.lus] Gr. adj. *psychros*, cold; Gr. adj. *philos*, loving; N.L. masc. adj. *psychrophilus*, cold-loving

Nomenclatural type

[NCBI Assembly: GCA_014305025.1](#)^{Ts}

Description

Heterotroph and autotroph. Hydrogenotrophic chemolithoautotrophy using Group 1h [NiFe] hydrogenase and CBB cycle; capable of using atmospheric H₂. Organic substrates include peptides, amino acids, carboxylates, poly- and oligosaccharides, sugars. PHA storage; glycogen storage. Polyphosphate storage. Also defined based on ANI, and phylogenies of 16S rRNA gene, 15 ribosomal proteins, and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » “Baltobacterales” » “Baltobacteraceae” » *Nyctobacter* » *Nyctobacter psychrophilus*^{Ts}

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:42524>

Species *Tumulicola scandinavensis*^{Ts}

Etymology

[scan.di.na.vi.en'sis] L. fem. n. *Scandinavia*, region in northern Europe; *-ensis*, of or from (a place); N.L. fem. adj. *scandinavensis*, from Scandinavia (Sweden)

Nomenclatural type

[NCBI Assembly: GCA_003140835.1](#)^{Ts}

Description

Obligate heterotroph. CO oxidation. Organic substrates include peptides, amino acids, carboxylates, taurine, acetate, sarcosine, arylsulfates, poly- and oligosaccharides, sugars. PHA storage. Also defined based on ANI, and phylogenies of 16S rRNA gene, 15 ribosomal proteins, and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » “Baltobacterales” » “Baltobacteraceae” » *Tumulicola* » *Tumulicola scandinavensis*^{Ts}

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:43733>

Species *Cybelea tumulisoli*

Etymology

[tu.mu.li.so'li] L. masc. n. *tumulus*, mound, hill; L. neut. n. *solum*, soil; N.L. gen. n. *tumulisoli*, from the mound soil, in reference to palsa

Nomenclatural type

[NCBI Assembly: GCA_003167155.1](#)^{Ts}

Description

Obligate heterotroph. Organic substrates include peptides, amino acids, carboxylates, taurine, urea, sarcosine, PVA, arylsulfates, poly- and oligosaccharides, sugars, fluoroacetate. Degradation of β -glucan (GH1), xylan (GH10), chitin (GH18), and xyloglucan (GH74). PHA storage. Polyphosphate storage. Also defined based on ANI, and phylogenies of 16S rRNA gene, 15 ribosomal proteins, and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » “Baltobacterales” » “Baltobacteraceae” » *Cybelea* » *Cybelea tumulisoli*

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:43786>

Species *Elarobacter winogradskyi*^{Ts}

Etymology

[wi.no.grad'skiy] N.L. gen. n. *winogradskyi*, in honor of Sergei Winogradsky, Russian microbiologist and ecologist

Nomenclatural type

[NCBI Assembly: GCA_003134965.1](#)^{Ts}

Description

Obligate heterotroph. CO oxidation. Organic substrates include peptides, amino acids, carboxylates, glycerol, urea, acetate, sarcosine, formate, ethanol, oligosaccharides, sugars, fluoroacetate. Degradation of trehalose (GH15), α -mannoside (GH38), and xyloglucan (GH74). PHA storage; glycogen storage. Polyphosphate storage. Motile by flagella. Also defined based on ANI, and phylogenies of 16S rRNA gene, 15 ribosomal proteins, and the GTDB.

Classification

Bacteria » *Eremiobacterota* » *Eremiobacteria* » “Baltobacterales” » “Baltobacteraceae” » *Elarobacter* » *Elarobacter winogradskyi*^{Ts}

References

Effective publication: Ji et al., 2021 [1]

Registry URL

<https://seqco.de/i:41727>

References

1. Ji et al. (2021). *Candidatus* Eremiobacterota, a metabolically and phylogenetically diverse terrestrial phylum with acid-tolerant adaptations. *The ISME Journal*. DOI:10.1038/s41396-021-00944-8
2. Yabe et al. (2023). Correction: *Vulcanimicrobium alpinus* gen. nov. sp. nov., the first cultivated representative of the candidate phylum “Eremiobacterota”, is a metabolically versatile aerobic anoxygenic phototroph. *ISME Communications*. DOI:10.1038/s43705-023-00301-0
3. Ji et al. (2017). Atmospheric trace gases support primary production in Antarctic desert surface soil. *Nature*. DOI:10.1038/nature25014

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:tgimo_87 submitted by **Ferrari, Belinda** and including 38 new names has been successfully validated.

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