Collection of extreme environments microorganisms (CEEM)

CEEM CATALOGUE

Collection of Central Asia extremophiles microorganisms (CEEM), Institute of General and Experimental Biology, Siberian Branch, Russian Academy of Sciences

Curator Dr. Erzhena Danilova erzhena_danilova@mail.ru

CONTENT

Prokaryota

Domain *Bacteria*

Phylum *Firmicutes*

Anoxybacillus mongoliensis
CEEC № = T4 / Microbial mat, Tsenkher, Mongolia / Medium Pfenniga, 60°C, faculty anaerobic.

Bacillus licheniformis
CEEC № = Br-2-2 / Microbial mat, Bolsherechenskiy, Buryatia, Russia / Medium Pfenniga, 55°C, faculty aerobic.

Anoxybacillus pushchinoensis
CEEC № = Al-9-1 / Microbial mat, Alla, Buryatia, Russia / Medium Pfenniga, 55°C, faculty anaerobic.

Anoxybacillus pushchinoensis
CEEC № = Ga-9-2 / Microbial mat, Garga, Buryatia, Russia / Medium Pfenniga, 55°C, faculty anaerobic.

Anoxybacillus eryuanensis
CEEC № = Se-1-10 / Microbial mat, Seya, Buryatia, Russia / Medium Pfenniga, 50°C, faculty aerobic.

Bacillus licheniformis
CEEC № = Um-09m / Microbial mat, Umkhey, Buryatia, Russia / Medium Pfenniga, 45°C, faculty aerobic.

Paenibacillus dendritiformis
CEEC № = Gor-10s / Microbial mat, Goryachinsk, Buryatia, Russia / Medium Pfenniga, 40°C, faculty aerobic.

Paenibacillus dendritiformis
CEEC № = Га-35 / Microbial mat, Garga, Buryatia, Russia / Medium Pfenniga, 45°C, faculty aerobic.

Amphibacillus alashanensis
CEEC № = A11 / Sand mat, Lake desert Badain Jaran, Inner Mongolia, China / Medium Pfenniga, 30°C, facultative anaerobic.

Bacillus simplex
CEEC № = 4 Cy / Bottoms, Sulfatnoye lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

Bacillus idriensis
CEEC № = 2 Cy / Bottoms, Sulfatnoye lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

Bacillus safensis

CEEC № = 10 Cy / Bottoms, Sulfatnoye lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

Bacillus safensis
CEEC № = Be a / Water, Beloye lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

Jeotgalibacillus campisalis
CEEC № = 8 Cy / Bottoms, Sulfatnoye lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

Sporosarcina aquamarina
CEEC № = 5 Cy / Bottoms, Sulfatnoye lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

Amphibacillus fermentum
CEEC № = Z-7984 / Microbial mat, Lake desert Badain Jaran, Inner Mongolia, China / Medium Pfenniga, 30°C, facultative anaerobic.

Salisediminibacterium haloalkalitolerans
CEEC № = 10nlg / Microbial mat, Lake desert Badain Jaran, Inner Mongolia, China / Medium Pfenniga, 30°C, facultative anaerobic.

Bacillus saliphilus
CEEC № = K 5 / Bottom sediment, Lake Solenoe, Buryatia, Russia / Medium 2, 30°C, facultative anaerobic.

Oceanobacillus iheyensis
CEEC № = D1 / Bottom sediment, Doloon Davst Nuur, Mongolia / Medium 2, 30°C, facultative anaerobic

Lyalikoviella elongate
CEEC № = Sк1 / Bottom sediment, Lake Solenoe, Buryatia, Russia / Medium 2, 30°C, aerobic

Sanguinoglea alkalitolerans
CEEC № = Nu / Water, Lake Nuhe-Nur, Buryatia, Russia / Medium 2, 30°C, aerobic

Bacillus pseudofirmus
CEEC № = CM3 / Bottoms, Solenoye lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

Phylum *Bacteroidetes*

Belliella pelovolcani
CEEC № = 1C / Water, Solenoye lake, Buryatia, Russia / Medium Marine agar, 30°C, aerobic.

Belliella pelovolcani
CEEC № = 2C / Water, Solenoye lake, Buryatia, Russia / Medium Marine agar, 30°C, aerobic.

Belliella pelovolcani
CEEC № = 3C / Water, Solenoye lake, Buryatia, Russia / Medium Marine agar, 30°C, aerobic.

Belliella pelovolcani
CEEC № = 4C / Water, Solenoye lake, Buryatia, Russia / Medium Marine agar, 30°C, aerobic.

Belliella pelovolcani
CEEC № = 5C / Water, Solenoye lake, Buryatia, Russia / Medium Marine agar, 30°C, aerobic.

Phylum *Protepbacteria*

Halomonas aquamarina
CEEC № = K6 / Bottom sediment, Lake Solenoe, Buryatia, Russia / Medium 2, 30°C, facultative anaerobic

Halomonas mongoliensis strain
CEEC № = Z-7009 / Columnar mat, Lake desert Badain Jaran, Inner Mongolia, China / Medium Pfenniga, 30°C, facultative anaerobic.

Paracoccus alcaliphilus
CEEC № = 6C / Water, Solenoe lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

Bogoriella caseolytica
CEEC № = CM1 / Water, Solenoye lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

Bogoriella caseolytica
CEEC № = CM2 / Water, Solenoye lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

Aliihoeflea aestuarii strain
CEEC № = CM4 / Water, Solenoye lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

Marinobacter excellens
CEEC № = CM5 / Water, Solenoye lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

Duganella zoogleoides
CEEC № = Bus-21 / sediments, Buksykhen, Northern Pribaikalie, Buryatia, Russia / Medium Pfenniga, 7-10°C, faculty anaerobic.

Janthinobacterium lividum
CEEC № = Buzh-1 / sediments, Buksykhen, Northern Pribaikalie, Buryatia, Russia / Medium Pfenniga, 7-10°C, faculty anaerobic.

Yersinia kristensenii
CEEC № = Bush-16 / sediments, Buksykhen, Northern Pribaikalie, Buryatia, Russia / Medium Pfenniga, 7-10°C, faculty anaerobic.

Pseudomonas fluorescens

CEEC № = LBPr5 / Water, shallow bay of Proval (Lake Baikal), Buryatia, Russia / Fish-peptone agar, 25°C, faculty aerobic.

Pseudomonas fluorescens
CEEC № = LBPS2 / Water, shallow bay of Posolsk Sor (Lake Baikal), Buryatia, Russia / Fish-peptone agar, 25°C, faculty aerobic.

Desulfonatronum acetoxidans
CEEC № = Al915-01 / sediments, Alla, Buryatia, Russia / Medium Pfenniga, 36°C, faculty anaerobic.

Desulfonatronum lacustre
CEEC № = B918-01/ sediments, Lake Beloe, Buryatia, Russia / Medium Pfenniga, 10-40°C, faculty anaerobic.

Phylum *Actinobacteria*

Micrococcus endophiticus
CEEC № = 7C / Water, Solenoye lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

Rothia nasimurium
CEEC № = 8C / Water, Solenoye lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

Bogoriella caseolytica
CEEC № = CM1 / Bottoms, Solenoye lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

Citrococcus zhacaensis
CEEC № = 8 Cy / Bottoms, Sulfatnoye lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

Brevibacterium casei
CEEC № = LBPr6 / Water, shallow bay of Proval (Lake Baikal), Buryatia, Russia / Fish-peptone agar, 25°C, faculty aerobic.

Brevibacterium sp. 2
CEEC № = LBPr24 / Water, shallow bay of Proval (Lake Baikal), Buryatia, Russia / Fish-peptone agar, 25°C, faculty aerobic.

Brevibacterium sp. SA312
CEEC № = LBPr25 / Water, shallow bay of Proval (Lake Baikal), Buryatia, Russia / Fish-peptone agar, 25°C, faculty aerobic.

Brevibacterium sp. 2
CEEC № = LBChiv2 / Water, Chivyrkuy Bay (Lake Baikal), Buryatia, Russia / Fish-peptone agar, 25°C, faculty aerobic.

Agrococcus sp. Everest-gws-11

CEEC № = LBB2 / Water, Boyarsk (Lake Baikal), Buryatia, Russia / Fish-peptone agar, 25°C, faculty aerobic.

Phylum *Chloroflexi*

Chloroflexus aurantiacus

CEEC № = Al-14-1/ Microbial mat, Alla, Buryatia, Russia / Medium Pfenniga, 55°C, faculty aerobic

Phylum C*yanobacteria*

Phormidium breve
CEEC № = Cya 1 / Microbial mat, Sulphatnoe, Buryatia, Russia / Modified medium “M”, 25°C, pH 9.5, 1-5 g/l NaCl, alkalophilic.

Phormidium breve
CEEC № = Cya 2 / Microbial mat, Ekhe Torom, Buryatia, Russia / Modified medium “M”, 25°C, pH 9.5, 1-5 g/l NaCl, alkalophilic.

***Gloeocapsa* sp.** (Котокель 1, т.з.налет)
CEEC № = K 1 / Microbial mat, Kotokelskoe, Buryatia, Russia / Medium “Z8”, 25°C, pH 8, 10 g/l NaCl, neutrophilic and halotolerant.

Leptolyngbya fragilis (Котокель 1-1)
CEEC № = K 2 / Microbial mat, Kotokelskoe, Buryatia, Russia / Medium “Z8”, 25°C, pH 8, 10 g/l NaCl, neutrophilic and halotolerant.

***Phormidium* sp.** (Котокель1, т.з.нить)
CEEC № = K 3 / Microbial mat, Kotokelskoe, Buryatia, Russia / Medium “Z8”, 25°C.

***Phormidium* sp.** (Котокель1, ж.з.налет)
CEEC № = K 4 / Microbial mat, Kotokelskoe, Buryatia, Russia / Medium “Z8”, 25°C.

***Leptolyngbya* sp.**
CEEC № = Kh-11.8.1 / Microbial mat, Khilganta, Buryatia, Russia / Medium Zarruka, 25°C.

***Leptolyngbya* sp.**
CEEC № = Kh-11.5 / Microbial mat, Khilganta, Buryatia, Russia / Medium Zarruka, 25°C.

***Leptolyngbya* sp.**
CEEC № = S 142 / Microbial mat, Khilganta, Buryatia, Russia / Medium Zarruka, 25°C.

***Oscillatoria* sp.**
CEEC № = Kh-11.5 / Microbial mat, Khilganta, Buryatia, Russia / Medium Zarruka, 25°C.

***Nodularia* sp.**
CEEC № = S 134 / Microbial mat, Khilganta, Buryatia, Russia / Medium Zarruka, 25°C.

***Microcoleus* sp.**
CEEC № = Kh-11-10 №2 / Microbial mat, Khilganta, Buryatia, Russia / Medium Zarruka, 25°C.

***Gleocapsa* sp.**
CEEC № = Dor-08 / Microbial mat, Doroninskoe, Buryatia, Russia / Medium Zarruka, 25°C, nanotriphic, halophilic.

***Halothece* sp.**
CEEC № = Bor / Microbial mat, Borzinskoe, Buryatia, Russia / Medium Zarruka, 25°C.

***Scytonema* sp.**
CEEC № = Scyt / Microbial mat, Garga, Buryatia, Russia / Medium Kastinkholtsa, 40°C, thermophilic.

***Spirulina* sp.**
CEEC № = S 144 / Microbial mat, Kiran, Buryatia, Russia / Medium Zarruka, 25°C.

***Oscillatoria* sp.**
CEEC № = Kh-11/ Microbial mat, Khilganta, Buryatia, Russia / Medium Zarruka, 25°C.

Phormidium breve
CEEC № = 3KL / Microbial mat, Kulunda, Altai / Medium Zarruka, 25°C.

***Gloeocapsa* sp.**
CEEC № = 9KL / Microbial mat, Kulunda, Altai / Medium Zarruka, 25°C, nanotriphic, halophilic.

***Nodularia* sp.**
CEEC № = 10KL T1 / Microbial mat, Kulunda, Altai / Medium Zarruka, 25°C, nanotriphic, halophilic.

***Nodularia* sp.**
CEEC № = 10KL T2 / Microbial mat, Kulunda, Altai / Medium Zarruka, 25°C, neutrophilic and halotolerant.

Phylum *Deinococcus-Thermus*

Meiothermus ruber
CEEC № = Al-14-3 / Microbial mat, Alla, Buryatia, Russia / Medium Pfenniga, 50°C, thermophilic.

Meiothermus ruber
CEEC № = Ga-14-2 / Microbial mat, Garga, Buryatia, Russia / Medium Pfenniga, 45°C, thermophilic.

Meiothermus ruber
CEEC № = Um-14 / Microbial mat, Umkhei, Buryatia, Russia / Medium Pfenniga, 45°C, thermophilic.

Meiothermus ruber
CEEC № = Al-15-1p / Microbial mat, Alla, Buryatia, Russia / Medium Pfenniga, 50°C, thermophilic.

Thermus igniterrae

CEEC № = Al-15-1ж / Microbial mat, Alla, Buryatia, Russia / Medium Pfenniga, 50°C, thermophilic.

Unidentified strains

CEEC № = Um-09s1 / Bottom sediment, Umkhey, Buryatia, Russia / Medium Pfenniga, 40°C, faculty aerobic.

CEEC № = Um-09s2 / Bottom sediment, Umkhey, Buryatia, Russia / Medium Pfenniga, 40°C, faculty aerobic.

CEEC № = Gor-10-3 / Microbial mat, Goryachinsk, Buryatia, Russia / Medium Pfenniga, 40°C, faculty aerobic.

CEEC № = Gor-10-1m / Microbial mat, Goryachinsk, Buryatia, Russia / Medium Pfenniga, 40°C, faculty aerobic.

CEEC № = Gor-10-2 / Microbial mat, Goryachinsk, Buryatia, Russia / Medium Pfenniga, 50°C, faculty aerobic.

CEEC № = A2 / Bottom sediment, Goryachinsk, Buryatia, Russia / Medium Ashby, 30°C, faculty aerobic.

CEEC № = A5 / Bottom sediment, Alla, Buryatia, Russia / Medium Ashby, 30°C, faculty aerobic.

CEEC № = 7A / Microbial mat, Lake desert Badain Jaran, Inner Mongolia, China / Medium Pfenniga, 37°C, aerobic.

CEEC № = 7P / Microbial mat, Lake desert Badain Jaran, Inner Mongolia, China / Medium Pfenniga, 37°C, aerobic.

CEEC № = 7B / Microbial mat, Lake desert Badain Jaran, Inner Mongolia, China / Medium Pfenniga, 37°C, aerobic.

CEEC № = 7-300 / Microbial mat, Lake desert Badain Jaran, Inner Mongolia, China / Medium Pfenniga, 37°C, aerobic.

CEEC № = 7G / Microbial mat, Lake desert Badain Jaran, Inner Mongolia, China / Medium Pfenniga, 37°C, aerobic.

CEEC № = 5-300 / Microbial mat, Lake desert Badain Jaran, Inner Mongolia, China / Medium Pfenniga, 37°C, aerobic.

CEEC № = A1 / Bottom sediment , Lake Alga, Buryatia, Russia / Medium 2, 30°C, facultative anaerobic

CEEC № = A3 / Bottom sediment, Lake Alga, Buryatia, Russia / Medium 2, 30°C, facultative anaerobic

CEEC № = A4 / Bottom sediment, Lake Alga, Buryatia, Russia / Medium 2, 30°C, facultative anaerobic

CEEC № = D2 / Bottom sediment, Doloon Davst Nuur, Mongolia / Medium 2, 30°C, facultative anaerobic

CEEC № = D3 / Bottom sediment, Doloon Davst Nuur, Mongolia / Medium 2, 30°C, facultative anaerobic

CEEC № = X1 / Bottom sediment, Lake Khilganta, Buryatia, Russia / Medium 2, 30°C, facultative anaerobic

CEEC № = X3 / Bottom sediment, Lake Khilganta, Buryatia, Russia / Medium 2, 30°C, facultative anaerobic

CEEC № = X4 / Bottom sediment, Lake Khilganta, Buryatia, Russia / Medium 2, 30°C, facultative anaerobic

CEEC № = K3 / Bottom sediment, Lake Solenoe, Buryatia, Russia / Medium 2, 30°C, facultative anaerobic

CEEC № = K7 / Bottom sediment, Lake Solenoe, Buryatia, Russia / Medium 2, 30°C, facultative anaerobic

CEEC № = K8 / Bottoms Lake Solenoe, Buryatia, Russia / Medium 2, 30°C, facultative anaerobic

CEEC № = C1K / Bottom sediment, Lake Solenoe, Buryatia, Russia / Medium 1, 30°C, facultative anaerobic

CEEC № = C2K / Bottom sediment, Lake Solenoe, Buryatia, Russia / Medium 1, 30°C, facultative anaerobic

CEEC № = C4K / Bottom sediment, Lake Solenoe, Buryatia, Russia / Medium 1, 30°C, facultative anaerobic

CEEC № = L1K / Bottom sediment, Lake Solenoe, Buryatia, Russia / Medium 1, 30°C, facultative anaerobic

CEEC № = 2a / Bottom sediment, Lake Gorbunka, Buryatia, Russia / Medium 1, 30°C, facultative anaerobic

CEEC № = 8a / Bottom sediment, Lake Gorbunka, Buryatia, Russia / Medium 1, 30°C, facultative anaerobic

CEEC № = 10a / Bottom sediment, Lake Gorbunka, Buryatia, Russia / Medium 1, 30°C, facultative anaerobic

CEEC № = N2 / Water, Lake Nuhe-Nur, Buryatia, Russia / Medium 2, 30°C, facultative anaerobic

CEEC № = Gu-1 / Microbial mat, Gusikha, Buryatia, Russia / Medium Pfenniga, 55°C, faculty aerobic

CEEC № = Ur-5 / Microbial mat, Uro, Buryatia, Russia / Medium Pfenniga, 55°C, faculty aerobic

CEEC № = Ur-6 / Microbial mat, Uro, Buryatia, Russia / Medium Pfenniga, 55°C, faculty aerobic

CEEC № = Ur-7 / Microbial mat, Uro, Buryatia, Russia / Medium Pfenniga, 55°C, faculty aerobic

CEEC № = Br-2-1 / Microbial mat, Bolsherechenskiy, Buryatia, Russia / Medium Pfenniga, 55°C, faculty aerobic

CEEC № = Br-5 / Microbial mat, Bolsherechenskiy, Buryatia, Russia / Medium Pfenniga, 55°C, faculty aerobic

CEEC № = Se-1 / Microbial mat, Seyuya, Buryatia, Russia / Medium Pfenniga, 55°C, faculty aerobic

CEEC № = Se-3 / Microbial mat, Seyuya, Buryatia, Russia / Medium Pfenniga, 55°C, faculty aerobic

CEEC № = НБ-12-8 / Bottoms, Nizhnee beloe lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

CEEC № = НБ-12-9 / Bottoms, Nizhnee beloe lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

CEEC № = ВБ-12-14 / Bottoms, Verhnee beloe lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

CEEC № = ВБ-12-15 / Bottoms, Verhnee beloe lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

CEEC № = ВБ-12-12 / Bottoms, Verhnee beloe lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

CEEC № = НБ-12-5 / Bottoms, Nizhnee beloe lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

CEEC № = Б12-4 / Bottoms, Beloe lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

CEEC № = Б12-3 / Bottoms, Beloe lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

CEEC № = Б12-1 / Bottoms, Beloe lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

CEEC № = Б12-6 / Bottoms, Beloe lake, Buryatia, Russia / Medium Plate count agar (1:10), 30°C, aerobic.

CEEC № = H1 / Bottoms, Huzhirt, Mongolia / Medium Pfenniga, 55°C, faculty aerobic.

CEEC № = H2 / Bottoms, Huzhirt, Mongolia / Medium Pfenniga, 55°C, faculty aerobic.

CEEC № = H5 / Bottoms, Huzhirt, Mongolia / Medium Pfenniga, 55°C, faculty aerobic.

CEEC № = H6 / Bottoms, Huzhirt, Mongolia / Medium Pfenniga, 55°C, faculty aerobic.

CEEC № = T1 / Bottoms, Tsenkher, Mongolia / Medium Pfenniga, 55°C, faculty aerobic.

CEEC № = T2 / Bottoms, Tsenkher, Mongolia / Medium Pfenniga, 55°C, faculty aerobic.

CEEC № = T3 / Bottoms, Tsenkher, Mongolia / Medium Pfenniga, 55°C, faculty aerobic.

CEEC № = T5 / Bottoms, Tsenkher, Mongolia / Medium Pfenniga, 55°C, faculty aerobic.

CEEC № = S2 / Bottoms, Shivert, Mongolia / Medium Pfenniga, 55°C, faculty aerobic.

CEEC № = S3 / Bottoms, Shivert, Mongolia / Medium Pfenniga, 55°C, faculty aerobic.

CEEC № = S4 / Bottoms, Shivert, Mongolia / Medium Pfenniga, 55°C, faculty aerobic.

CEEC № = Pr7 / Water, shallow bay of Proval (Lake Baikal), Buryatia, Russia / Fish-peptone agar, 25°C, faculty aerobic.

CEEC № = Ps1 / Water, shallow bay of Posolskiy Sor (Lake Baikal), Buryatia, Russia / Fish-peptone agar, 25°C, faculty aerobic.

CEEC № = Ps3 / Water, shallow bay of Posolskiy Sor (Lake Baikal), Buryatia, Russia / Fish-peptone agar, 25°C, faculty aerobic.

CEEC № = 21 Chiv / Water, shallow bay of Chivurkuy (Lake Baikal), Buryatia, Russia / Fish-peptone agar, 25°C, faculty aerobic.

Eukaryota

Domain *Algae*

Phylum *Green algae*

Chlorococcum sp.
CEEC № = D 1 / Microbial mat, Dikoe, Buryatia, Russia / Medium “Z8”, 25°C, pH 8, neutrophilic.

Chlorococcum sp.
CEEC № = D 2 / Microbial mat, Dikoe, Buryatia, Russia / Medium “Z8”, 25°C, pH 8, 10 g/l NaCl, neutrophilic and halotolerant.