Table S1. Coordinates of the sampling points.

Strain	**Coordinates**	**Year**
Heřmanice 1	N49 52.121 E18 19.011	2016
Heřmanice 2	N49 52.118 E18 19.022	2016
Heřmanice 3	N49 52.117 E18 19.024	2016
Heřmanice 4	N49 52.117 E18 19.014	2016
Heřmanice 5	N49 52.114 E18 19.012	2016
Heřmanice 6	N49 52.094 E18 19.022	2015

Table S2. List and accession numbers of sequences analyzed in this study.

Strain/clone	Named in NCBI	Species	Locality	Country	Gene	Accesion Number
009A	*Galdieria sulphuraria*	***Galdieria phlegrea***	Viterbo	Italy	*CaM*	DQ916810
009B	*Galdieria sulphuraria*	***Galdieria phlegrea***	Viterbo	Italy	*CaM*	DQ916808
009C	*Galdieria sulphuraria*	***Galdieria phlegrea***	Viterbo	Italy	*CaM*	DQ916807
009C1	*Galdieria sulphuraria*	***Galdieria phlegrea***	Viterbo	Italy	*CaM*	DQ916811
009C5	*Galdieria sulphuraria*	***Galdieria phlegrea***	Viterbo	Italy	*CaM*	DQ916812
009E	*Galdieria sulphuraria*	***Galdieria phlegrea***	Viterbo	Italy	*CaM*	DQ916806
009F	*Galdieria sulphuraria*	***Galdieria phlegrea***	Viterbo	Italy	*CaM*	DQ916809
A12	Uncultured *Cyanidiales*	***Galdieria sulphuraria***	Pisciarelli	Italy	*rbcL*	AY541313
ACUF 398	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Seltun	Iceland	*rbcL*	KC883973
ACUF 464	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Viti	Iceland	*rbcL*	KC883876
ACUF 465	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Viti	Iceland	*rbcL*	KC883877
ACUF 466	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Viti	Iceland	*rbcL*	KC883878
ACUF 467	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Viti	Iceland	*rbcL*	KC883879
ACUF 470	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Seltun	Iceland	*rbcL*	KC883882
ACUF 472	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Seltun	Iceland	*rbcL*	KC883883
ACUF 473	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Seltun	Iceland	*rbcL*	KC883884
ACUF 474	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Seltun	Iceland	*rbcL*	KC883885
ACUF 475	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Seltun	Iceland	*rbcL*	KC883886
B15	Uncultured *Cyanidiales*	***Galdieria phlegrea***	Pisciarelli	Italy	*rbcL*	AY541314
B19	Uncultured *Cyanidiales*	***Galdieria phlegrea***	Pisciarelli	Italy	*rbcL*	AY541315
B20	Uncultured *Cyanidiales*	***Galdieria phlegrea***	Pisciarelli	Italy	*rbcL*	AY541316
C1	Uncultured *Cyanidiales*	***Galdieria phlegrea***	Pisciarelli	Italy	*rbcL*	AY541317
CCALA 965	*Galdieria phlegrea*	***Galdieria phlegrea***	Soos Nature Reserve	Czech Republic	*rbcL*	MF163159
CCALA 965	*Galdieria phlegrea*	***Galdieria phlegrea***	Soos Nature Reserve	Czech Republic	*CaM*	MF163160
CCMEE 5706	*Galdieria sp.*	***Galdieria sulphuraria***	Craters of the Moon	New Zealand	*rbcL*	EF675177
CCMEE 5707	*Galdieria* sp.	***Galdieria sulphuraria***	Waiotapu	New Zealand	*rbcL*	EF675181
CCMEE 5708	*Galdieria* sp.	***Galdieria sulphuraria***	Whaka	New Zealand	*rbcL*	EF675172

Table S2 Cont.

CCMEE 5710	*Galdieria* sp.	***Galdieria sulphuraria***	White Island	New Zealand	*rbcL*	EF675183
CCMEE 5711	*Galdieria* sp.	***Galdieria sulphuraria***	White Island	New Zealand	*rbcL*	EF675173
CCMEE 5712	*Galdieria* sp.	***Galdieria sulphuraria***	Craters of the Moon	New Zealand	*rbcL*	EF675178
CCMEE 5714	*Galdieria* sp.	***Galdieria sulphuraria***	Waimangu	New Zealand	*rbcL*	EF675180
CCMEE 5717	*Galdieria* sp.	***Galdieria sulphuraria***	Rotorua	New Zealand	*rbcL*	EF675176
CCMEE 5718	*Galdieria* sp.	***Galdieria sulphuraria***	Whaka	New Zealand	*rbcL*	EF675179
CCMEE 5719	*Galdieria* sp.	***Galdieria sulphuraria***	Waiotapu	New Zealand	*rbcL*	EF675175
CHJ-4	*Cyanidiales* sp.	***Galdieria sulphuraria***	Yellowstone National Park	USA	*rbcL*	JQ269635
D15	Uncultured *Cyanidiales*	***Galdieria sulphuraria***	Pisciarelli	Italy	*rbcL*	AY541322
D5	Uncultured *Cyanidiales*	***Galdieria sulphuraria***	Pisciarelli	Italy	*rbcL*	AY541321
DBV 002	*Galdieria sulphuraria*	***Galdieria phlegrea***	Pisciarelli	Italy	*rbcL*	AY541311
DBV 009	*Galdieria sulphuraria*	***Galdieria phlegrea***	Viterbo	Italy	*rbcL*	AY119768
DBV 011	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Caserta	Italy	*rbcL*	AY541303
DBV 012	*Galdieria sulphuraria*	***Galdieria phlegrea***	Benevento	Italy	*rbcL*	AY541310
DBV 015	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Ischia-fango	Italy	*rbcL*	AY541305
DBV 017	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Solfatara	Italy	*rbcL*	AY541306
DBV 018	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Scarfoglio	Italy	*rbcL*	AY541304
DBV 021	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Vulcano	Italy	*rbcL*	AY541307
DBV 063	*Galdieria sulphuraria*	***Galdieria phlegrea***	Agrigento	Italy	*rbcL*	AY119769
DBV 074	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Java	Indonesia	*rbcL*	AY541308
DBV 135	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Agua-Azul	Mexico	*rbcL*	AY541309
DS1-9	*Cyanidiales* sp.	***Galdieria sulphuraria***	Yellowstone National Park	USA	*rbcL*	JQ269631
DS2-5	*Cyanidiales* sp.	***Galdieria sulphuraria***	Yellowstone National Park	USA	*rbcL*	JQ269629
DS3-1	*Cyanidiales* sp.	***Galdieria sulphuraria***	Yellowstone National Park	USA	*rbcL*	JQ269633
DS5-4	*Cyanidiales* sp.	***Galdieria sulphuraria***	Yellowstone National Park	USA	*rbcL*	JQ269632
E11	Uncultured *Cyanidiales*	***Galdieria sulphuraria***	Pisciarelli	Italy	*rbcL*	AY541324
E12	Uncultured Cyanidiales	***Galdieria sulphuraria***	Pisciarelli	Italy	*rbcL*	AY541325
Her-a	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Heřmanice, Ostrava	Czech Republic	*CaM*	MF163161

Table S2 Cont.

Her-b	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Heřmanice, Ostrava	Czech Republic	*CaM*	MF163164
Her-c	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Heřmanice, Ostrava	Czech Republic	*CaM*	MF163165
Her-d	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Heřmanice, Ostrava	Czech Republic	*CaM*	MF163162
Her-e	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Heřmanice, Ostrava	Czech Republic	*CaM*	MF163163
Her-f	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Heřmanice, Ostrava	Czech Republic	*CaM*	MF163166
Her-g	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Heřmanice, Ostrava	Czech Republic	*CaM*	MF163167
Her-h	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Heřmanice, Ostrava	Czech Republic	*CaM*	MF163168
Her-i	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Heřmanice, Ostrava	Czech Republic	*CaM*	MF163169
Her-j	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Heřmanice, Ostrava	Czech Republic	*CaM*	MF163170
Hermanice 1	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Heřmanice, Ostrava	Czech Republic	*rbcL*	MF163153
Hermanice 2	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Heřmanice, Ostrava	Czech Republic	*rbcL*	MF163155
Hermanice 3	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Heřmanice, Ostrava	Czech Republic	*rbcL*	MF163154
Hermanice 4	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Heřmanice, Ostrava	Czech Republic	*rbcL*	MF163157
Hermanice 5	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Heřmanice, Ostrava	Czech Republic	*rbcL*	MF163156
Hermanice 6	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Heřmanice, Ostrava	Czech Republic	*rbcL*	MF163158
IPPAS P500	*Galdieria partita*	***Galdieria sulphuraria***	Kamchatka	Russia	*rbcL*	AB018008
IPPAS P508	*Galdieria daedala*	***Galdieria sulphuraria***	Kunashir	Russia	*rbcL*	AY541302
LCATERR-7	*Cyanidiales* sp.	***Galdieria sulphuraria***	Yellowstone National Park	USA	*rbcL*	JQ269608
LCBCEL-5	*Cyanidiales* sp.	***Galdieria sulphuraria***	Yellowstone National Park	USA	*rbcL*	JQ269609
LCBTERR-6	*Cyanidiales* sp.	***Galdieria sulphuraria***	Yellowstone National Park	USA	*rbcL*	JQ269612
MR4-21	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*rbcL*	DQ916745
MR4-C5	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916776
MR4-C6	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916775
MR5-1	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916781
MR5-10	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916790
MR5-2	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916783
MR5-3	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916784
MR5-4	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916785

Table S2 Cont.

MR5-5	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916786
MR5-6	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916787
MR5-7	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916788
MR5-8	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916782
MR5-9	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916789
MR5-C17	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*rbcL*	DQ916746
MR5-C2	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916777
MR5-C3	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916778
MR5-C5	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916779
MR5-C6	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916780
MR6-1	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916791
MR6-2	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916792
MR6-3	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916793
MR6-4	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916794
MR6-5	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916795
MR6-6	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916796
MR6-7	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916805
MR6-8	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916804
MR6-9	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916803
MR6-C2R	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916801
MR6-C36	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*rbcL*	DQ916747
MR6-C3F	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916798
MR6-C4F	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916799
MR6-C5F	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916797
MR6-C6R	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Monte Rotondo	Italy	*CaM*	DQ916800
PB1	*Galdieria sulphuraria*	***Galdieria phlegrea***	Pisciarelli	Italy	*CaM*	DQ916816
PB10	*Galdieria sulphuraria*	***Galdieria phlegrea***	Pisciarelli	Italy	*CaM*	DQ916824
PB11	*Galdieria sulphuraria*	***Galdieria phlegrea***	Pisciarelli	Italy	*CaM*	DQ916813

Table S2 Cont.

PB12	*Galdieria sulphuraria*	***Galdieria phlegrea***	Pisciarelli	Italy	*CaM*	DQ916815
PB13	*Galdieria sulphuraria*	***Galdieria phlegrea***	Pisciarelli	Italy	*CaM*	DQ916822
PB15	*Galdieria sulphuraria*	***Galdieria phlegrea***	Pisciarelli	Italy	*CaM*	DQ916825
PB16	*Galdieria sulphuraria*	***Galdieria phlegrea***	Pisciarelli	Italy	*CaM*	DQ916814
PB2	*Galdieria sulphuraria*	***Galdieria phlegrea***	Pisciarelli	Italy	*CaM*	DQ916821
PB3	*Galdieria sulphuraria*	***Galdieria phlegrea***	Pisciarelli	Italy	*CaM*	DQ916818
PB4	*Galdieria sulphuraria*	***Galdieria phlegrea***	Pisciarelli	Italy	*CaM*	DQ916817
PB5	*Galdieria sulphuraria*	***Galdieria phlegrea***	Pisciarelli	Italy	*CaM*	DQ916819
PB6	*Galdieria sulphuraria*	***Galdieria phlegrea***	Pisciarelli	Italy	*CaM*	DQ916826
PB7	*Galdieria sulphuraria*	***Galdieria phlegrea***	Pisciarelli	Italy	*CaM*	DQ916827
PB8	*Galdieria sulphuraria*	***Galdieria phlegrea***	Pisciarelli	Italy	*CaM*	DQ916820
PB9	*Galdieria sulphuraria*	***Galdieria phlegrea***	Pisciarelli	Italy	*CaM*	DQ916823
SAG 108.79	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Yellowstone National Park	USA	*rbcL*	AY119767
SFFL-5	*Cyanidiales* sp.	***Galdieria sulphuraria***	Yellowstone National Park	USA	*rbcL*	JQ269630
SP1-10	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Sasso Pissano	Italy	*rbcL*	DQ916748
SP3-1	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Sasso Pissano	Italy	*CaM*	DQ916761
SP3-2	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Sasso Pissano	Italy	*CaM*	DQ916769
SP3-3	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Sasso Pissano	Italy	*CaM*	DQ916771
SP3-4	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Sasso Pissano	Italy	*CaM*	DQ916762
SP3-5	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Sasso Pissano	Italy	*CaM*	DQ916774
SP3-6	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Sasso Pissano	Italy	*CaM*	DQ916766
SP3-7	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Sasso Pissano	Italy	*CaM*	DQ916760
SP3-8	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Sasso Pissano	Italy	*CaM*	DQ916763
SP3-9	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Sasso Pissano	Italy	*CaM*	DQ916755
SP3-C1F	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Sasso Pissano	Italy	*CaM*	DQ916757
SP3-C2	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Sasso Pissano	Italy	*rbcL*	DQ916749
SP3-C2F	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Sasso Pissano	Italy	*CaM*	DQ916767
SP3-C3F	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Sasso Pissano	Italy	*CaM*	DQ916772

Table S2 Cont.

SP3-C4F	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Sasso Pissano	Italy	*CaM*	DQ916756
SP3-C52	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Sasso Pissano	Italy	*CaM*	DQ916770
SP3-C56	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Sasso Pissano	Italy	*CaM*	DQ916765
SP3-C57	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Sasso Pissano	Italy	*CaM*	DQ916759
SP3-C58	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Sasso Pissano	Italy	*CaM*	DQ916764
SP3-C5R	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Sasso Pissano	Italy	*CaM*	DQ916758
SP3-C63	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Sasso Pissano	Italy	*CaM*	DQ916768
SP3-C6F	*Galdieria sulphuraria*	***Galdieria sulphuraria***	Sasso Pissano	Italy	*CaM*	DQ916773
UTEX 2393	*Galdieria sulphuraria*	***Galdieria sulphuraria***	unknown	USA	*rbcL*	AF233069
UTEX 2393	*Galdieria sulphuraria*	***Galdieria sulphuraria***	-	-	*CaM*	DQ916754



Fig. S1. Map of Europe and Czech Republic showing localities where *Galdieria* was found: Soos Nature Reserve and Heřmanice (a part of the city of Ostrava).