

TABLE S2- Bacteria detected on limestone cultural heritage by molecular methods in the literature

Name of the Cultural Heritage	Phylum	Class	Order	Family	Genus	Specie	Culture	Molecular biology	Indoors/ Outdoors	Country	Color	Reference
Limestone sculptures from the Portuguese National Museum of Ancient Art	Firmicutes	Bacilli	Lactobacillales	Streptococcaceae	Lactococcus	not identified	none	NGS	Indoors	Portugal	yellow, red	Dias et al 2019 [73]
Limestone sculptures from the Portuguese National Museum of Ancient Art	Firmicutes	Bacilli	Lactobacillales	Lactobacillaceae	Leuconostoc	gasicomitatum	none	NGS	Indoors	Portugal	yellow, red	Dias et al 2019 [73]
Limestone sculptures from the Portuguese National Museum of Ancient Art	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	aryabhatai	none	NGS	Indoors	Portugal	yellow, red	Dias et al 2019 [73]
Limestone sculptures from the Portuguese National Museum of Ancient Art	Firmicutes	Bacilli	Lactobacillales	Streptococcaceae	Lactococcus	raffinolactis	none	NGS	Indoors	Portugal	yellow, red	Dias et al 2019 [73]
Limestone sculptures from the Portuguese National Museum of Ancient Art	Firmicutes	Bacilli	Lactobacillales	Carnobacteriaceae	Carnobacterium	maltaromaticum	none	NGS	Indoors	Portugal	yellow, red	Dias et al 2019 [73]
Limestone sculptures from the Portuguese National Museum of Ancient Art	Firmicutes	Bacilli	Lactobacillales	Streptococcaceae	Streptococcus	agalactiae	none	NGS	Indoors	Portugal	yellow, red	Dias et al 2019 [73]
Limestone sculptures from the Portuguese National Museum of Ancient Art	Firmicutes	Bacilli	Lactobacillales	Streptococcaceae	Streptococcus	not identified	none	NGS	Indoors	Portugal	yellow, red	Dias et al 2019 [73]
Limestone sculptures from the Portuguese National Museum of Ancient Art	Firmicutes	Bacilli	Bacillales	Staphylococcaceae	Staphylococcus	aureus	Nutrient Agar, Malt Extract Agar, and Cook Rose Bengal	PCR	Indoors	Portugal	yellow, red	Dias et al 2019 [73]
Limestone sculptures from the Portuguese National Museum of Ancient Art	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	licheniformis	Nutrient Agar, Malt Extract Agar, and Cook Rose Bengal	PCR	Indoors	Portugal	yellow, red	Dias et al 2019 [73]
Limestone sculptures from the Portuguese National Museum of Ancient Art	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	stutzeri	Nutrient Agar, Malt Extract Agar, and Cook Rose Bengal	PCR	Indoors	Portugal	yellow, red	Dias et al 2019 [73]
The old cathedral of Coimbra	Acidobacteria	Blastocatellia	Blastocatellales	Blastocatellaceae	Blastocatella	not identified	none	NGS	Both	Portugal	dark, green	Coelho et al 2021 [57]

The old cathedral of Coimbra	Actinobacteria	Rubrobacteria	Rubrobacteriales	Rubrobacteriaceae	Rubrobacter	not identified	none	NGS	Both	Portugal	dark, green	Coelho et al 2021 [57]
The old cathedral of Coimbra	Actinobacteria	Actinomycetes	Pseudonocardiales	Pseudonocardiaceae	Crossiella	not identified	none	NGS	Both	Portugal	dark, green	Coelho et al 2021 [57]
The old cathedral of Coimbra	Actinobacteria	Actinomycetes	Pseudonocardiales	Pseudonocardiaceae	Actinomycetospora	not identified	none	NGS	Both	Portugal	dark, green	Coelho et al 2021 [57]
The old cathedral of Coimbra	Actinobacteria	Actinomycetes	Pseudonocardiales	Pseudonocardiaceae	Actinokineospora	not identified	none	NGS	Both	Portugal	dark, green	Coelho et al 2021 [57]
The old cathedral of Coimbra	Actinobacteria	Actinomycetes	Pseudonocardiales	Pseudonocardiaceae	Pseudonocardia	not identified	none	NGS	Both	Portugal	dark, green	Coelho et al 2021 [57]
The old cathedral of Coimbra	Actinobacteria	Actinomycetes	Micrococcales	Intrasporangiaceae	Ornithinimicrobium	not identified	none	NGS	Both	Portugal	green	Coelho et al 2021 [57]
The old cathedral of Coimbra	Balneolota	Balneolia	Balneolales	Balneolaceae	not identified	not identified	none	NGS	Both	Portugal	green	Coelho et al 2021 [57]
The old cathedral of Coimbra	Proteobacteria	Betaproteobacteria	Burkholderiales	Burkholderiaceae	not identified	not identified	none	NGS	Both	Portugal	dark, green	Coelho et al 2021 [57]
The old cathedral of Coimbra	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Qipengyuania	sediminis	none	NGS	Both	Portugal	dark, green	Coelho et al 2021 [57]
The old cathedral of Coimbra	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	not identified	none	NGS	Both	Portugal	dark, green	Coelho et al 2021 [57]
The old cathedral of Coimbra	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Altererythrobacter	not identified	none	NGS	Both	Portugal	dark, green	Coelho et al 2021 [57]
The old cathedral of Coimbra	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Novosphingobium	not identified	none	NGS	Both	Portugal	dark, green	Coelho et al 2021 [57]
The old cathedral of Coimbra	Proteobacteria	Alphaproteobacteria	Rhodobacterales	Rhodobacteraceae	Rubellimicrobium	not identified	none	NGS	Both	Portugal	dark, green	Coelho et al 2021 [57]
The old cathedral of Coimbra	Bacteroidetes	Alphaproteobacteria	Rhodobacterales	Rhodothermaceae	Rubrivirga	not identified	none	NGS	Both	Portugal	dark, green	Coelho et al 2021 [57]
The old cathedral of Coimbra	Bacteroidetes	Flavobacteriia	Flavobacteriales	Flavobacteriaceae	not identified	not identified	none	NGS	Both	Portugal	dark, green	Coelho et al 2021 [57]
The old cathedral of Coimbra	Bacteroidetes	Cytophagia	Cytophagales	Cyclobacteriaceae	Tunicatimonas	not identified	none	NGS	Both	Portugal	dark, green	Coelho et al 2021 [57]
The old cathedral of Coimbra	Bacteroidetes	Chitinophagia	Chitinophagales	Chitinophagaceae	Flavisolibacter	not identified	none	NGS	Both	Portugal	dark, green	Coelho et al 2021 [57]
The old cathedral of Coimbra	Bacteroidetes	not identified	not identified	not identified	not identified	not identified	none	NGS	Both	Portugal	dark, green	Coelho et al 2021 [57]
The old cathedral of Coimbra	Acidobacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Both	Portugal	dark, green	Coelho et al 2021 [57]
The old cathedral of Coimbra	Chloroflexi	not identified	not identified	not identified	not identified	not identified	none	NGS	Both	Portugal	dark, green	Coelho et al 2021 [57]

The old cathedral of Coimbra	Planctomycetota	several	several	several families except for Tepidisphaeraceae and Gemmataceae	not identified	not identified	none	NGS	Both	Portugal	dark, green	Coelho et al 2021 [57]
The old cathedral of Coimbra	Gemmatimonadota	Gemmatimonadetes	Gemmatimonadales	Longimicrobiaceae	not identified	not identified	none	NGS	Both	Portugal	dark, green	Coelho et al 2021 [57]
The old cathedral of Coimbra	Gemmatimonadota	Gemmatimonadetes	Gemmatimonadales	Gemmatimonadaceae	not identified	not identified	none	NGS	Both	Portugal	dark, green	Coelho et al 2021 [57]
The old cathedral of Coimbra	Verrucomicrobia	not identified	not identified	not identified	not identified	not identified	none	NGS	Both	Portugal	/	Coelho et al 2021 [57]
The old cathedral of Coimbra	Patescibacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Both	Portugal	/	Coelho et al 2021 [57]
The old cathedral of Coimbra	Nitrospirae	not identified	not identified	not identified	not identified	not identified	none	NGS	Both	Portugal	/	Coelho et al 2021 [57]
The old cathedral of Coimbra	Deinococcus	not identified	not identified	not identified	not identified	not identified	none	NGS	Both	Portugal	/	Coelho et al 2021 [57]
The old cathedral of Coimbra	Latescibacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Both	Portugal	/	Coelho et al 2021 [57]
The old cathedral of Coimbra	Firmicutes	not identified	not identified	not identified	not identified	not identified	none	NGS	Both	Portugal	/	Coelho et al 2021 [57]
The old cathedral of Coimbra	Chlamydiae	not identified	not identified	not identified	not identified	not identified	none	NGS	Both	Portugal	/	Coelho et al 2021 [57]
The old cathedral of Coimbra	Dependentiae	not identified	not identified	not identified	not identified	not identified	none	NGS	Both	Portugal	/	Coelho et al 2021 [57]
The old cathedral of Coimbra	Elusimicrobia	not identified	not identified	not identified	not identified	not identified	none	NGS	Both	Portugal	/	Coelho et al 2021 [57]
The old cathedral of Coimbra	Zixibacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Both	Portugal	/	Coelho et al 2021 [57]
The old cathedral of Coimbra	Rokubacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Both	Portugal	/	Coelho et al 2021 [57]
The old cathedral of Coimbra	Armatimonadetes	not identified	not identified	not identified	not identified	not identified	none	NGS	Both	Portugal	/	Coelho et al 2021 [57]
The old cathedral of Coimbra	Hydrogenedentes	not identified	not identified	not identified	not identified	not identified	none	NGS	Both	Portugal	/	Coelho et al 2021 [57]
The old cathedral of Coimbra	Epsilonbacteraeota	not identified	not identified	not identified	not identified	not identified	none	NGS	Both	Portugal	/	Coelho et al 2021 [57]
The old cathedral of Coimbra	Dadabacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Both	Portugal	/	Coelho et al 2021 [57]
Batalha Monastery	Proteobacteria	Alphaproteobacteria	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Portugal	/	Ding et al., 2021 [26]
Batalha Monastery	Proteobacteria	Gammaproteobacteria	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Portugal	/	Ding et al., 2021 [26]

Batalha Monastery	Actinobacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Portugal	/	Ding et al., 2021 [26]
Batalha Monastery	Bacteroidetes	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Portugal	/	Ding et al., 2021 [26]
Batalha Monastery	Acidobacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Portugal	/	Ding et al., 2021 [26]
Batalha Monastery	Firmicutes	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Portugal	/	Ding et al., 2021 [26]
Batalha Monastery	Verrucomicrobia	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Portugal	/	Ding et al., 2021 [26]
Batalha Monastery	Planctomycetota	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Portugal	/	Ding et al., 2021 [26]
Batalha Monastery	Deinococcus	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Portugal	/	Ding et al., 2021 [26]
Senusret I obelisk and Mosque of Elkadi Abd El Basset	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	safensis	inorganic salt starch agar, glycerol asparagine agar, yeast-malt extract agar and soybean meal agar	CDM (PCR)	Outdoors	Egypt	CaCO3 degradati on	ElBaghda dy et al., 2019 [3]
Senusret I obelisk and Mosque of Elkadi Abd El Basset	Actinobacteria	Actinomycetes	Kitasatosporales	Streptomycetaceae	Streptomyces	rochei	inorganic salt starch agar, glycerol asparagine agar, yeast-malt extract agar and soybean meal agar	CDM (PCR)	Outdoors	Egypt	CaCO3 degradati on	ElBaghda dy et al., 2019 [3]
El-Amir Muhammad's minaret in Akhmim	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	cereus	Deveze-Bruni medium (for CaCO3 dissolution)	CDM (PCR)	Both	Egypt	CaCO3 dissolving	Ahmed and Mohamed , 2022 [29]
El-Amir Muhammad's minaret in Akhmim	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	subtilis	Deveze-Bruni medium (for CaCO3 dissolution)	CDM (PCR)	Both	Egypt	CaCO3 dissolving	Ahmed and Mohamed , 2022 [29]
El-Amir Muhammad's minaret in Akhmim	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Micrococcus	ruseus	Deveze-Bruni medium (for CaCO3 dissolution)	CDM (PCR)	Outdoors	Egypt	rose	Ahmed and Mohamed , 2022 [29]
El-Amir Muhammad's minaret in Akhmim	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Micrococcus	luteus	Deveze-Bruni medium (for CaCO3 dissolution)	CDM (PCR)	Both	Egypt	yellow	Ahmed and Mohamed

												, 2022 [29]
El-Amir Muhammad's minaret in Akhmim	Firmicutes	Bacilli	Bacillales	Staphylococcaceae	Staphylococcus	aureus	Deveze-Bruni medium (for CaCO3 dissolution)	CDM (PCR)	Both	Egypt	orange	Ahmed and Mohamed , 2022 [29]
El-Amir Muhammad's minaret in Akhmim	Actinobacteria	Actinomycetes	Kitasatosporales	Streptomyetaceae	Streptomyces	not identified	Deveze-Bruni medium (for CaCO3 dissolution)	CDM (PCR)	Both	Egypt	white	Ahmed and Mohamed , 2022 [29]
El-Amir Muhammad's minaret in Akhmim	Proteobacteria	Gammaproteobacteria	Enterobacterales	Yersiniaceae	Serratia	marcescens	Deveze-Bruni medium (for CaCO3 dissolution)	CDM (PCR)	Both	Egypt	yellow	Ahmed and Mohamed , 2022 [29]
El-Amir Muhammad's minaret in Akhmim	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	oryzihabitan	Deveze-Bruni medium (for CaCO3 dissolution)	CDM (PCR)	Both	Egypt	red	Ahmed and Mohamed , 2022 [29]
The Klippe statues in Hangzhou	Bacteroidetes	Sphingobacteriia	Sphingobacteriales	Sphingobacteriaceae	Mucilaginibacter	not identified	none	NGS	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Proteobacteria	Alphaproteobacteria	Hyphomicrobiales	Methylobacteriaceae	Methylobacterium	not identified	none	NGS	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Nitrospirota	Nitrospira	Nitrospirales	Nitrospiraceae	Nitrospira	not identified	none	NGS	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Actinobacteria	Actinomycetes	Propionibacteriales	Nocardiodiaceae	Nocardioidea	not identified	none	NGS	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Chloroflexi	Caldilineae	Caldilineales	Caldilineaceae	Caldilinea	not identified	none	NGS	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Proteobacteria	Alphaproteobacteria	Caulobacteriales	Caulobacteraceae	Brevundimonas	not identified	none	NGS	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Bacteroidetes	Cytophagia	Cytophagales	Flexibacteraceae	Flexibacter	not identified	none	NGS	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Actinobacteria	Actinomycetes	Pseudonocardiales	Pseudonocardiaceae	Pseudonocardia	not identified	none	NGS	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Bacteroidetes	Cytophagia	Cytophagales	Hymenobacteraceae	Adhaeribacter	not identified	none	NGS	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	Rhodocytophaga	not identified	none	NGS	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Cyanobacteriota	Cyanophyceae	Pseudanabaenales	Leptolyngbyaceae	Leptolyngbya	not identified	none	NGS	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Actinobacteria	Actinomycetes	Pseudonocardiales	Pseudonocardiaceae	Actinomycetospora	not identified	none	NGS	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Proteobacteria	Gammaproteobacteria	Nevskiales	Steroidobacteraceae	Steroidobacter	not identified	none	NGS	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Bacteroidetes	Chitinophagia	Chitinophagales	Chitinophagaceae	Flavisolibacter	not identified	none	NGS	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	not identified	none	NGS	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Acidobacteria	Terriglobia	Bryobacteriales	Bryobacteraceae	Bryobacter	not identified	none	NGS	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Actinobacteria	Rubrobacteria	Rubrobacteriales	Rubrobacteriaceae	Rubrobacter	not identified	none	NGS	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Actinobacteria	Actinomycetes	Pseudonocardiales	Pseudonocardiaceae	Crossiella	not identified	none	NGS	Outdoors	China	/	Li et al., 2017 [20]

The Klippe statues in Hangzhou	Proteobacteria	Gammaproteobacteria	Enterobacterales	Erwiniaceae	Pantoea	vagans	LB medium	CDM (PCR)	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Proteobacteria	Gammaproteobacteria	Enterobacterales	Erwiniaceae	Pantoea	not identified	LB medium	CDM (PCR)	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	aryabhatai	LB medium	CDM (PCR)	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	oryzihabitans	LB medium	CDM (PCR)	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Bacteroidetes	Sphingobacteriia	Sphingobacteriales	Sphingobacteriaceae	Mucilaginibacter	not identified	LB medium	CDM (PCR)	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	megaterium	LB medium	CDM (PCR)	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	cereus	LB medium	CDM (PCR)	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	muralis	LB medium	CDM (PCR)	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	not identified	LB medium	CDM (PCR)	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Proteobacteria	Gammaproteobacteria	Enterobacterales	Erwiniaceae	Erwinia	aphidicola	LB medium	CDM (PCR)	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Proteobacteria	Alphaproteobacteria	Hyphomicrobiales	Rhizobiaceae	Agrobacterium	not identified	LB medium	CDM (PCR)	Outdoors	China	/	Li et al., 2017 [20]
The Klippe statues in Hangzhou	Proteobacteria	Gammaproteobacteria	Enterobacterales	Enterobacteriaceae	Enterobacter	hormaechei	LB medium	CDM (PCR)	Outdoors	China	/	Li et al., 2017 [20]
Qingxing palace and Lingyin and Kaihua temple	Deinococcota	Deinococci	Trueperales	Trueperaceae	Truepera	not identified	none	NGS	Outdoors	China	/	Li et al., 2016 [31]
Qingxing palace and Lingyin and Kaihua temple	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	Spirosoma	not identified	none	NGS	Outdoors	China	/	Li et al., 2016 [31]
Qingxing palace and Lingyin and Kaihua temple	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	not identified	none	NGS	Outdoors	China	/	Li et al., 2016 [31]
Qingxing palace and Lingyin and Kaihua temple	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	Rudanella	not identified	none	NGS	Outdoors	China	/	Li et al., 2016 [31]
Qingxing palace and Lingyin and Kaihua temple	Actinobacteria	Rubrobacteria	Rubrobacterales	Rubrobacteriaceae	Rubrobacter	not identified	none	NGS	Outdoors	China	/	Li et al., 2016 [31]
Qingxing palace and Lingyin and Kaihua temple	Proteobacteria	Alphaproteobacteria	Rhodospirillales	Acetobacteraceae	Roseomonas	not identified	none	NGS	Outdoors	China	/	Li et al., 2016 [31]
Qingxing palace and Lingyin and Kaihua temple	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	Rhodocytophaga	not identified	none	NGS	Outdoors	China	/	Li et al., 2016 [31]
Qingxing palace and Lingyin and Kaihua temple	Bacteroidetes	Flavobacteriia	Flavobacteriales	Flavobacteriaceae	Pseudozobellia	not identified	none	NGS	Outdoors	China	/	Li et al., 2016 [31]
Qingxing palace and Lingyin and Kaihua temple	Actinobacteria	Actinomycetes	Pseudonocardiales	Pseudonocardaceae	Pseudonocardia	not identified	none	NGS	Outdoors	China	/	Li et al., 2016 [31]
Qingxing palace and Lingyin and Kaihua temple	Planctomycetota	Planctomycetia	Planctomycetales	Planctomycetaceae	Planctomyces	not identified	none	NGS	Outdoors	China	/	Li et al., 2016 [31]
Qingxing palace and Lingyin and Kaihua temple	Actinobacteria	Actinomycetes	Geodermatophilales	Geodermatophilaceae	Modestobacter	not identified	none	NGS	Outdoors	China	/	Li et al., 2016 [31]

Qingxing palace and Lingyin and Kaihua temple	Proteobacteria	Alphaproteobacteria	Hyphomicrobiales	Methylobacteriaceae	Methylobacterium	not identified	none	NGS	Outdoors	China	/	Li et al., 2016 [31]
Qingxing palace and Lingyin and Kaihua temple	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Lysobacter	not identified	none	NGS	Outdoors	China	/	Li et al., 2016 [31]
Qingxing palace and Lingyin and Kaihua temple	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Lutibacterium	not identified	none	NGS	Outdoors	China	/	Li et al., 2016 [31]
Qingxing palace and Lingyin and Kaihua temple	Bacteroidetes	Cytophagia	Cytophagales	Hymenobacteraceae	Hymenobacter	not identified	none	NGS	Outdoors	China	/	Li et al., 2016 [31]
Qingxing palace and Lingyin and Kaihua temple	Bacteroidetes	Chitinophagia	Chitinophagales	Chitinophagaceae	Flavisolibacter	not identified	none	NGS	Outdoors	China	/	Li et al., 2016 [31]
Lingyan Temple	Proteobacteria	Gammaproteobacteria	Enterobacterales	Enterobacteriaceae	Citrobacter	not identified	none	NGS	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Firmicutes	Bacilli	Lactobacillales	Enterococcaceae	Enterococcus	not identified	none	NGS	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Actinobacteria	Actinomycetes	Pseudonocardiales	Pseudonocardaceae	Saccharopolyspora	not identified	none	NGS	Indoors	China	/	Li et al., 2023 [67]
Lingyan Temple	Actinobacteria	Actinomycetes	Kineosporiales	Kineosporiaceae	Quadrisphaera	not identified	none	NGS	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Proteobacteria	Alphaproteobacteria	Rhodospirillales	Acetobacteraceae	Acidiphilium	not identified	none	NGS	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Proteobacteria	Alphaproteobacteria	Hyphomicrobiales	Methylobacteriaceae	Methylobacterium	not identified	none	NGS	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Bacteroidetes	Cytophagia	Cytophagales	Hymenobacteraceae	Hymenobacter	not identified	none	NGS	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Bacteroidetes	Chitinophagia	Chitinophagales	Chitinophagaceae	Flavisolibacter	not identified	none	NGS	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	Spirosoma	not identified	none	NGS	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Actinobacteria	Rubrobacteria	Rubrobacterales	Rubrobacteriaceae	Rubrobacter	not identified	none	NGS	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Acidobacteria	Blastocatellia	Blastocatellales	Blastocatellaceae	Blastocatella	not identified	none	NGS	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Actinobacteria	Actinomycetes	Pseudonocardiales	Pseudonocardaceae	Pseudonocardia	not identified	none	NGS	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	not identified	none	NGS	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Actinobacteria	Actinomycetes	Micrococcales	Microbacteriaceae	Curtobacterium	not identified	none	NGS	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	not identified	none	NGS	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Firmicutes	Bacilli	Bacillales	Planococcaceae	Planococcus	not identified	none	NGS	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Firmicutes	Bacilli	Bacillales	Planococcaceae	Planomicrobium	not identified	none	NGS	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	not identified	none	NGS	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Proteobacteria	Gammaproteobacteria	Enterobacterales	Erwiniaceae	Pantoea	not identified	none	NGS	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Pseudarthrobacter	not identified	none	NGS	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Proteobacteria	Alphaproteobacteria	Caulobacterales	Caulobacteraceae	Brevundimonas	not identified	none	NGS	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Bacteroidetes	Sphingobacteriia	Sphingobacteriales	Sphingobacteriaceae	Pedobacter	not identified	none	NGS	Both	China	/	Li et al., 2023 [67]

Lingyan Temple	Bacteroidetes	Flavobacteriia	Flavobacteriales	Flavobacteriaceae	Flavobacterium	not identified	none	NGS	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	not identified	none	NGS	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Bacteroidetes	Flavobacteriia	Flavobacteriales	Weeksellaceae	Chryseobacterium	not identified	none	NGS	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Actinobacteria	Actinomycetes	Micrococcales	Microbacteriaceae	Curtobacterium	herbarum	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Actinobacteria	Actinomycetes	Micrococcales	Microbacteriaceae	Curtobacterium	flaccumfaciens	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Actinobacteria	Actinomycetes	Micrococcales	Microbacteriaceae	Curtobacterium	not identified	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Bacteroidetes	Sphingobacteriia	Sphingobacteriales	Sphingobacteriaceae	Pedobacter	quisquiliarum	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	not identified	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Firmicutes	Bacilli	Bacillales	Bacillaceae	Psychrobacillus	psychrodurans	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Firmicutes	Bacilli	Bacillales	incertae sedis	Exiguobacterium	mexicanum	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Proteobacteria	Betaproteobacteria	Burkholderiales	Alcaligenaceae	Alcaligenes	faecalis	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	tequilensis	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Paenarthrobacter	nitroguajacolicus	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Proteobacteria	Gammaproteobacteria	Enterobacterales	Erwiniaceae	Erwinia	gerundensis	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Bacteroidetes	Flavobacteriia	Flavobacteriales	Weeksellaceae	Chryseobacterium	not identified	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Proteobacteria	Gammaproteobacteria	Enterobacterales	Erwiniaceae	Pantoea	rodasii	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Bacteroidetes	Flavobacteriia	Flavobacteriales	Flavobacteriaceae	Flavobacterium	not identified	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	muralis	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Proteobacteria	Betaproteobacteria	Burkholderiales	Sphaerotilaceae	Leptothrix	ginsengisoli	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	argentinensis	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	thuringiensis	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]



Lingyan Temple	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	megaterium	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Arthrobacter	not identified	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	megaterium	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	aryabhattai	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	simplex	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	altitudinis	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	not identified	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
Lingyan Temple	Proteobacteria	Betaproteobacteria	Burkholderiales	Sphaerotilaceae	Leptothrix	not identified	LB medium	CDM (barcode PCR)	Both	China	/	Li et al., 2023 [67]
The House of the Bicentenary (Herculaneum)	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Arthrobacter	agilis	TSA, TSA supplemented with NaCl (3%, w/v) and MgSO4·7H2O (2%, w/v), TSA supplemented with NaCl (15%, w/v) and MgSO4·7H2O (2%, w/v), TSA supplemented with 50 mg·L <sup>-1</sup> cycloheximide	CDM (PCR)	Indoors	Italy	dark pink-red	Tescari et al., 2018 [4]
The House of the Bicentenary (Herculaneum)	Actinobacteria	Actinomycetes	Mycobacteriales	Dietziaceae	Dietzia	maris	TSA, TSA supplemented with NaCl (3%, w/v) and MgSO4·7H2O (2%, w/v), TSA supplemented with NaCl (15%, w/v) and MgSO4·7H2O (2%, w/v), TSA supplemented with 50 mg·L <sup>-1</sup> cycloheximide	DNA barcode PCR	Indoors	Italy	orange	Tescari et al., 2018 [4]

The House of the Bicentenary (Herculaneum)	Actinobacteria	Actinomycetes	Mycobacteriales	Gordoniaceae	Gordonia	rubripertincta	TSA, TSA supplemented with NaCl (3%, w/v) and MgSO4·7H2O (2%, w/v), TSA supplemented with NaCl (15%, w/v) and MgSO4·7H2O (2%, w/v), TSA supplemented with 50 mg·L <sup>-1</sup> cycloheximide	DNA barcode PCR	Indoors	Italy	orange-red	Tescari et al., 2018 [4]
The House of the Bicentenary (Herculaneum)	Proteobacteria	Alphaproteobacteria	Hyphomicrobiales	Methylobacteriaceae	Methylobacterium	extorquens	TSA, TSA supplemented with NaCl (3%, w/v) and MgSO4·7H2O (2%, w/v), TSA supplemented with NaCl (15%, w/v) and MgSO4·7H2O (2%, w/v), TSA supplemented with 50 mg·L <sup>-1</sup> cycloheximide	DNA barcode PCR	Indoors	Italy	pink	Tescari et al., 2018 [4]
The House of the Bicentenary (Herculaneum)	Actinobacteria	Actinomycetes	Mycobacteriales	Nocardiaceae	Rhodococcus	corynebacterioides	TSA, TSA supplemented with NaCl (3%, w/v) and MgSO4·7H2O (2%, w/v), TSA supplemented with NaCl (15%, w/v) and MgSO4·7H2O (2%, w/v), TSA supplemented with 50 mg·L <sup>-1</sup> cycloheximide	DNA barcode PCR	Indoors	Italy	orange-red	Tescari et al., 2018 [4]
Lutetian limestones of the Paris Basin	Actinobacteria	Actinomycetes	Mycobacteriales	Nocardiaceae	Rhodococcus	cerastii	nutrient agar	CDM (PCR)	Outdoors	France	orange	Chuine et al, 2021 [7]
The Notre Dame Gothic Cathedral in Rheims	Actinobacteria	Actinomycetes	Mycobacteriales	Nocardiaceae	Rhodococcus	fascians	nutrient agar	CDM (PCR)	Outdoors	France	orange	Chuine et al, 2021 [7]
The Notre Dame Gothic Cathedral in Rheims	Actinobacteria	Actinomycetes	Mycobacteriales	Nocardiaceae	Rhodococcus	not identified	nutrient agar	CDM (PCR)	Outdoors	France	orange	Chuine et al, 2021 [7]

The Notre Dame Gothic Cathedral in Rheims	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Arthrobacter	agilis	nutrient agar	CDM (PCR)	Outdoors	France	red	Chuine et al, 2021 [7]
The Notre Dame Gothic Cathedral in Rheims	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Arthrobacter	not identified	nutrient agar	CDM (PCR)	Outdoors	France	pink, red	Chuine et al, 2021 [7]
The Notre Dame Gothic Cathedral in Rheims	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	safensis	nutrient agar	CDM (PCR)	Outdoors	France	yellow	Chuine et al, 2021 [7]
The Notre Dame Gothic Cathedral in Rheims	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	subtilis	nutrient agar	CDM (PCR)	Outdoors	France	Beige-beige-yellow	Chuine et al, 2021 [7]
The Notre Dame Gothic Cathedral in Rheims	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Stenotrophomonas	not identified	nutrient agar	CDM (PCR)	Outdoors	France	beige	Chuine et al, 2021 [7]
The Notre Dame Gothic Cathedral in Rheims	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Stenotrophomonas	not identified	nutrient agar	CDM (PCR)	Outdoors	France	beige	Chuine et al, 2021 [7]
The Notre Dame Gothic Cathedral in Rheims	Actinobacteria	Actinomycetes	Micrococcales	Microbacteriaceae	Microbacterium	phyllosphaerae	nutrient agar	CDM (PCR)	Outdoors	France	yellow	Chuine et al, 2021 [7]
The Chaalis abbey	Thermomicrobia	Thermomicrobia	Sphaerobacterales	Sphaerobacteraceae	Sphaerobacter	thermophilus	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	discolouration	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Proteobacteria	Alphaproteobacteria	Rhodospirillales	Acetobacteraceae	Acidisphaera	rubrifaciens	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	discolouration	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	mali	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	discolouration	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	roseiflava	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	discolouration	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	ediminicola	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	discolouration	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	rubra	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	discolouration	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	wittichii	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	discolouration	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	faeni	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	discolouration	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingobium	baderi	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	discolouration	Mihajlovs ki et al., 2017 [18]

The Chaalis abbey	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Novosphingobium	hassiacum	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	discolouration	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Actinobacteria	Rubrobacteria	Rubrobacterales	Rubrobacteraceae	Rubrobacter	radiotolerans	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	discolouration	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Actinobacteria	Actinomycetes	Pseudonocardiales	Pseudonocardaceae	Pseudonocardia	xinjiangensis	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	discolouration	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Actinobacteria	Actinomycetes	Pseudonocardiales	Pseudonocardaceae	Pseudonocardia	yuanmonensis	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	discolouration	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Actinobacteria	Actinomycetes	Kineosporiales	Kineosporiaceae	Kineococcus	glutinitus	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	discolouration	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Acidobacteria	Blastocatellia	Blastocatellales	Blastocatellaceae	Aridibacter	kavangonensis	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	discolouration	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Bacteroidetes	Cytophagia	Cytophagales	Spirosomaceae	Fibrella	aestuarina	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	discolouration	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Thermomicrobia	Thermomicrobia	Sphaerobacterales	Sphaerobacteraceae	Sphaerobacter	thermophilus	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	damaged area	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Deinococcota	Deinococci	Trueperales	Trueperaceae	Truepera	radiovictrix	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	damaged area	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	changbaiensis	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	damaged area	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	daechungensis	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	damaged area	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	desiccabilis	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	damaged area	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	sediminicola	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	damaged area	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	alpina	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	damaged area	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Proteobacteria	Alphaproteobacteria	Caulobacterales	Caulobacteraceae	Asticcacaulis	benevestitus	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	damaged area	Mihajlovs ki et al., 2017 [18]

The Chaalis abbey	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Arthrobacter	parietis	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	damaged area	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Arthrobacter	agilis	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	damaged area	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Arthrobacter	subterraneus	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	damaged area	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Arthrobacter	tecti	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	damaged area	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Actinobacteria	Rubrobacteria	Rubrobacterales	Rubrobacteraceae	Rubrobacter	radiotolerans	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	damaged area	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Kocuria	polaris	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	damaged area	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Actinobacteria	Thermoleophilia	Solirubrobacterales	Solirubrobacteraceae	Solirubrobacter	ginsenosidimutans	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	damaged area	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Actinobacteria	Actinomycetes	Acidothermales	Acidothermaceae	Acidothermus	cellulolyticus	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	damaged area	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Bacteroidetes	Cytophagia	Cytophagales	Hymenobacteraceae	Pontibacter	humii	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	damaged area	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Bacteroidetes	Cytophagia	Cytophagales	Hymenobacteraceae	Adhaeribacter	aquaticus	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	damaged area	Mihajlovs ki et al., 2017 [18]
The Chaalis abbey	Bacteroidetes	Cytophagia	Cytophagales	Hymenobacteraceae	Adhaeribacter	aerolatus	LB agar containing 50 mg/mL ampicillin	CDM (PCR)	Outdoors	France	damaged area	Mihajlovs ki et al., 2017 [18]
Qing Dynasty's temporary palace in West Lake Cultural Landscape of Hangzhou	Proteobacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	China	/	Wu et al., 2021 [16]
Qing Dynasty's temporary palace in West Lake Cultural Landscape of Hangzhou	Firmicutes	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	China	/	Wu et al., 2021 [16]
Qing Dynasty's temporary palace in West Lake Cultural Landscape of Hangzhou	Nitrospirae	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	China	/	Wu et al., 2021 [16]

Qing Dynasty's temporary palace in West Lake Cultural Landscape of Hangzhou	Actinobacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	China	/	Wu et al., 2021 [16]
Qing Dynasty's temporary palace in West Lake Cultural Landscape of Hangzhou	Acidobacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	China	/	Wu et al., 2021 [16]
Qing Dynasty's temporary palace in West Lake Cultural Landscape of Hangzhou	Bacteroidetes	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	China	/	Wu et al., 2021 [16]
Qing Dynasty's temporary palace in West Lake Cultural Landscape of Hangzhou	Chloroflexi	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	China	/	Wu et al., 2021 [16]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Moraxellales	Moraxellaceae	Acinetobacter	johnsonii	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al, 2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Azotobacter	chroococcum	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al, 2022 [38]
Holy Aedicule (Holly rock)	Actinobacteria	Actinomycetes	Propionibacteriales	Propionibacteriaceae	Cutibacterium	acnes	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al, 2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	aeruginosa	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al, 2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	alcaligenes	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al, 2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	fulva	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al, 2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	guariconensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al, 2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	guguanensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al, 2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	hydrolytica	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al, 2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	knackmussii	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al, 2022 [38]

Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	nitroreducens	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	otitidis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	plecoglossicida	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	putida	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	resinovorans	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	stutzeri	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	stutzeri	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Bacilli	Bacillales	Staphylococcaceae	Staphylococcus	saccharolyticus	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Zhihengliuella	somnathii	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	mangrovi	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	oryzihabitans	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	glareae	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	khazarica	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	oleovorans	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Moraxellales	Moraxellaceae	Acinetobacter	chinensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]

Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Moraxellales	Moraxellaceae	Acinetobacter	tjernbergiae	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	aestus	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	citronellolis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Bacilli	Bacillales	Staphylococcaceae	Staphylococcus	epidermidis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	monteilii	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	oceanii	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	sagittaria	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	mendocina	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	urumgiensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	reidholzensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Moraxellales	Moraxellaceae	Acinetobacter	haemolyticus	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Marinobacteraceae	Marinobacter	lutaoensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Moraxellales	Moraxellaceae	Acinetobacter	bouvetii	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Moraxellales	Moraxellaceae	Acinetobacter	baumannii	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	aurea	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]



Holy Aedicule (Holly rock)	Firmicutes	Bacilli	Bacillales	Staphylococcaceae	Staphylococcus	capitis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	amygdali	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	benzenivorans	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	argentinensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	indica	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Burkholderiaceae	Ralstonia	syzygii	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Bacilli	Bacillales	Staphylococcaceae	Staphylococcus	hominis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	multiresinivora ns	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Cellvibrionales	Microbulbiferaceae	Microbulbifer	salipaludis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	chengduensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	flavescens	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Comamonadaceae	Comamonas	denitrificans	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Comamonadaceae	Comamonas	nitrativorans	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Rehaibacterium	terrae	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Moraxellales	Moraxellaceae	Acinetobacter	schindleri	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]

Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Moraxellales	Moraxellaceae	Acinetobacter	equi	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Moraxellales	Moraxellaceae	Acinetobacter	junii	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Moraxellales	Moraxellaceae	Acinetobacter	proteolyticus	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Comamonadaceae	Comamonas	phosphati	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Bacilli	Bacillales	Staphylococcaceae	Staphylococcus	devriesei	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Aeromonadales	Aeromonadaceae	Aeromonas	hydrophila	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	pohangensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Aeromonadales	Aeromonadaceae	Aeromonas	enteropelogenes	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Bacilli	Bacillales	Staphylococcaceae	Staphylococcus	croceilyticus	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Moraxellales	Moraxellaceae	Acinetobacter	albensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Burkholderiaceae	Ralstonia	pickettii	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Bacilli	Bacillales	Staphylococcaceae	Staphylococcus	caprae	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	formosensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Moraxellales	Moraxellaceae	Moraxella	osloensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Moraxellales	Moraxellaceae	Acinetobacter	calcoaceticus	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]

Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Enterobacterales	Enterobacteriaceae	Escherichia	fergusonii	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	timonae	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Enterobacterales	Enterobacteriaceae	Citrobacter	murlinae	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Moraxellales	Moraxellaceae	Acinetobacter	variabilis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Comamonadaceae	Comamonas	testosteroni	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Enterobacterales	Enterobacteriaceae	Leclercia	adecarboxylata	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Comamonadaceae	Delftia	acidovorans	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	hussainii	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	oryzae	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Chromatiales	Chromatiaceae	Rheinheimera	sediminis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Moraxellales	Moraxellaceae	Acinetobacter	seohaensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	punonensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Moraxellales	Moraxellaceae	Acinetobacter	tandooi	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Enterobacterales	Enterobacteriaceae	Shigella	flexneri	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Enterobacterales	Enterobacteriaceae	Shigella	sonnei	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]

Holy Aedicule (Holly rock)	Campylobacterota	Epsilonproteobacteria	Campylobacterales	Arcobacteraceae	Arcobacter	cryaerophilus	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaaproteobacteria	Enterobacterales	Erwiniaceae	Pantoea	allii	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Comamonadaceae	Hydrogenophaga	taeniospiralis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaaproteobacteria	Methylococcales	Methylococcaceae	Methylomonas	methanica	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaaproteobacteria	Moraxellales	Moraxellaceae	Acinetobacter	lwoffii	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Comamonadaceae	Acidovorax	temperans	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Bacilli	Bacillales	Bacillaceae	Priestia	flexa	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaaproteobacteria	Moraxellales	Moraxellaceae	Alkanindiges	illinoisensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Comamonadaceae	Comamonas	jiangduensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae	Duganella	gianjiadongensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaaproteobacteria	Enterobacterales	Enterobacteriaceae	Enterobacter	cancerogenus	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaaproteobacteria	Xanthomonadales	Rhodanobacteraceae	Chiayivirga	flava	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Alphaproteobacteria	Rhodospirillales	Acetobacteraceae	Paracraurococcus	ruber	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaaproteobacteria	Moraxellales	Moraxellaceae	Acinetobacter	radioresistens	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Comamonadaceae	Comamonas	terrigena	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]

Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Moraxellales	Moraxellaceae	Psychrobacter	faecalis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Bacilli	Bacillales	Staphylococcaceae	Staphylococcus	saprophyticus	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Bacilli	Bacillales	Staphylococcaceae	Ralstonia	solanacearum	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Bacilli	Bacillales	Staphylococcaceae	Staphylococcus	pasteuri	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	atriviola	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Chromatiales	Chromatiaceae	Pararheinheimera	solis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Bacilli	Bacillales	Staphylococcaceae	Staphylococcus	warneri	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Moraxellales	Moraxellaceae	Acinetobacter	oleivorans	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Enterobacterales	Enterobacteriaceae	Enterobacter	mori	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	migulae	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	weihenstephanensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Burkholderiaceae	Ralstonia	mannitolilytica	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Thermomonas	carbonis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Alphaproteobacteria	Caulobacterales	Caulobacteraceae	Brevundimonas	naejangsensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Alphaproteobacteria	Caulobacterales	Caulobacteraceae	Brevundimonas	nasdae	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]

Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Enterobacterales	Pectobacteriaceae	Pectobacterium	aroidearum	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Stenotrophomonas	maltophilia	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae	Janthinobacterium	rivuli	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Actinobacteria	Actinomycetes	Micrococcales	Microbacteriaceae	Microbacterium	sediminis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Erysipelotrichia	Erysipelotrichales	Erysipelotrichaceae	Absiella	tortuosum	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Rhodanobacteraceae	Rhodanobacter	lindaniclasticus	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae	Janthinobacterium	violaceinigrum	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Bacilli	Bacillales	Staphylococcaceae	Staphylococcus	edaphicus	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Enterobacterales	Enterobacteriaceae	Escherichia	marmotae	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Chromatiales	Incertae Sedis	Thiohalobacter	thiocyanaticus	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	dura	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	glaciei	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	putida	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Enterobacterales	Enterobacteriaceae	Klebsiella	aerogenes	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Sphingobacteriia	Sphingobacteriales	Sphingobacteriaceae	Sphingobacterium	mizutaii	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]

Holy Aedicule (Holly rock)	Firmicutes	Bacilli	Lactobacillales	Streptococcaceae	Streptococcus	termophilus	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Bacilli	Bacillales	Paenibacillaceae	Cohnella	faecalis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Comamonadaceae	Comamonas	aquatica	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Rhodocyclales	Zoogloeaceae	Uliginosibacterium	paludis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Comamonadaceae	Delftia	lacustris	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gamma proteobacteria	Xanthomonadales	Xanthomonadaceae	Stenotrophomonas	rhizophila	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	agri	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gamma proteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	protegens	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	aquatica	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	brevitalea	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	namucuoensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	yuzufengensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae	Janthinobacterium	lividum	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	oculi	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae	Duganella	albus	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]

Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Alteromonadales	Idiomarinaceae	Pseudidiomarina	maritima	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Rhodocyclales	Rhodocyclaceae	Rhodocyclus	purpureus	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Comamonadaceae	Polaromonas	hydrogenivorans	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	nealsonii	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Bacilli	Bacillales	Bacillaceae	Metabacillus	niabensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Comamonadaceae	Acidovorax	defluvii	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Comamonadaceae	Limnohabitans	parvus	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	cereus	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Enterobacterales	Enterobacteriaceae	Escherichia	albertii	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Rhodanobacteraceae	Rhodanobacter	caeni	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Chromatiales	Chromatiaceae	Pararheinheimera	mesophila	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Alphaproteobacteria	Rhodobacterales	Roseobacteraceae	Rubellimicrobium	roseum	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae	Noviherbaspirillum	suwonense	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Bacilli	Bacillales	Staphylococcaceae	Salinicoccus	kekensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	mannanilyticus	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]



Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae	Duganella	fentianensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Actinobacteria	Actinomycetes	Micrococcales	Microbacteriaceae	Frigoribacterium	endophyticum	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	chloroacetimidivorans	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	gessardii	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Aeromonadales	Aeromonadaceae	Aeromonas	media	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Rhodocyclales	Rhodocyclaceae	Azospira	oryzae	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Tissierellia	Tissierellales	Peptoniphilaceae	Anaerococcus	nagya	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Tissierellia	Tissierellales	Peptoniphilaceae	Anaerococcus	urinomassiliensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Burkholderiales	Sphaerotilaceae	Aquicola	tertiaricarbonis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Arthrobacter	agilis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Deinococcota	Deinococci	Deinococcales	Deinococcaceae	Deinococcus	hopiensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Deinococcota	Deinococci	Deinococcales	Deinococcaceae	Deinococcus	oregonensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Alphaproteobacteria	Hyphomicrobiales	Devosiaceae	Devosia	submarina	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Bacilli	Bacillales	Incertae Sedis	Exiguobacterium	acetylicum	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Bacteroidetes	Cytophagia	Cytophagales	Hymenobacteraceae	Hymenobacter	chitinivorans	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]

Holy Aedicule (Holly rock)	Bacteroidetes	Cytophagia	Cytophagales	Hymenobacteraceae	Hymenobacter	gummosus	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Bacteroidetes	Cytophagia	Cytophagales	Hymenobacteraceae	Hymenobacter	knuensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Bacteroidetes	Cytophagia	Cytophagales	Hymenobacteraceae	Hymenobacter	luteus	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Bacteroidetes	Cytophagia	Cytophagales	Hymenobacteraceae	Hymenobacter	monticola	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Bacteroidetes	Cytophagia	Cytophagales	Hymenobacteraceae	Hymenobacter	psychrotolerans	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Bacteroidetes	Cytophagia	Cytophagales	Hymenobacteraceae	Hymenobacter	swuensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Bacteroidetes	Cytophagia	Cytophagales	Hymenobacteraceae	Hymenobacter	tibetensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	<a href="#">Alphaproteobacteria</a>	Hyphomicrobiales	Methylobacteriaceae	Methylobacterium	hispanicum	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	Rhodocytophaga	aerolata	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Alphaproteobacteria	Rhodobacterales	Rhodobacteraceae	Rubellimicrobium	rubrum	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Bacilli	Bacillales	Paenibacillaceae	Saccharibacillus	gingshengii	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Bacilli	Bacillales	Staphylococcaceae	Salinicoccus	qingdaonensis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	fonticola	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Erythrobacteraceae	Tsuneonella	rigui	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Neisseriales	Neisseriaceae	Neisseria	sicca	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al,2022 [38]

Holy Aedicule (Holly rock)	Proteobacteria	Betaproteobacteria	Rhodocyclales	Rhodocyclaceae	Aromatoleum	buckelii	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al, 2022 [38]
Holy Aedicule (Holly rock)	Proteobacteria	Gammaproteobacteria	Enterobacterales	Erwiniaceae	Erwinia	persicina	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al, 2022 [38]
Holy Aedicule (Holly rock)	Firmicutes	Bacilli	Lactobacillales	Streptococcaceae	Streptococcus	oralis	none	Nanopore sequencing	Indoors	Israel	/	Delegou et. al, 2022 [38]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	licheniformis	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Actinobacteria	Actinomycetes	Bifidobacteriales	Bifidobacteriaceae	Bifidobacterium	longum	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Proteobacteria	Alphaproteobacteria	Caulobacterales	Caulobacteraceae	Brevundimonas	not identified	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Actinobacteria	Actinomycetes	Propionibacteriales	Nocardioidaceae	Friedmanniella	sagamiharensis	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Incertae Sedis	Gemella	morbilorum	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Actinobacteria	Coriobacteriia	Eggerthellales	Eggerthellaceae	Gordonibacter	not identified	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the	Proteobacteria	Gammaproteobacteria	Pasteurellales	Pasteurellaceae	Haemophilus	influenza	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]

Blessed Virgin Mary's Church												
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Actinobacteria	Actinomycetes	<a href="#">Kineosporiales</a>	Kineosporiaceae	Kineococcus	bacterium	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Tissierellia	Tissierellales	Peptoniphilaceae	Peptoniphilus	not identified	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Actinobacteria	Actinomycetes	Mycobacteriales	Nocardiaceae	Rhodococcus	not identified	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Proteobacteria	Gammaproteobacteria	Enterobacterales	Enterobacteriaceae	Shigella	coli	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Proteobacteria	Gammaproteobacteria	Moraxellales	Moraxellaceae	Acinetobacter	johnsonii	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Arthrobacter	protophormiae	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	aerophilus	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	foraminis	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]

Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	infantis	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	licheniformis	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	muralis	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	niacin	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	psychrosaccharolyticus	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	sporothermodurans	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	CaCO <sub>3</sub> dissolution	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Paenibacillaceae	Brevibacillus	brevis	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Actinobacteria	Actinomycetes	Micrococcales	Promicromonosporaceae	Isoptricola	variabilis	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint	Firmicutes	Bacilli	Bacillales	Bacillaceae	Lysinibacillus	fusiformis	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]

Andrew and the Blessed Virgin Mary's Church												
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Bacillaceae	Lysinibacillus	parviboronicapiens	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Bacillaceae	Microbacterium	not identified	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Bacillaceae	Microbacterium	pseudoresistens	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Bacillaceae	Microbacterium	schleiferi	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Bacillaceae	Microbacterium	thalassium	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Paenibacillaceae	Paenibacillus	lactis	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Paenibacillaceae	Paenibacillus	lautus	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Paenibacillaceae	Paenibacillus	pabuli	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]

Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	brassicacearum	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	not identified	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Bacillaceae	Psychrobacillus	psychrodurans	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Actinobacteria	Actinomycetes	Kitasatosporales	Streptomycetaceae	Streptomyces	microflavus	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Proteobacteria	Gammaproteobacteria	Moraxellales	Moraxellaceae	Acinetobacter	baylyi	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Proteobacteria	Gammaproteobacteria	Moraxellales	Moraxellaceae	Acinetobacter	calcoaceticus	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Proteobacteria	Gammaproteobacteria	Moraxellales	Moraxellaceae	Acinetobacter	twoffii	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Arthrobacter	agilis	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	CaCO3 dissolution	Skipper et al., 2022 [56]

Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	cereus	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	CaCO3 dissolution	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	mycoides	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	pumilis	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	safensis	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	simplex	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	subtilis	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	CaCO3 dissolution	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Actinobacteria	Actinomycetes	Micrococcales	Microbacteriaceae	Curtobacterium	flaccumfaciens	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Lactobacillales	Enterococcaceae	Enterococcus	irae	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint	Proteobacteria	Gammaproteobacteria	Enterobacterales	Enterobacteriaceae	Escherichia	coli	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]



Nicholas, Saint Andrew and the Blessed Virgin Mary's Church												
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Micrococcus	halobius	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Micrococcus	luteus	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	CaCO3 dissolution	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Micrococcus	roseus	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	CaCO3 dissolution	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Paenibacillaceae	Paenibacillus	not identified	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	fluorescens	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	putida	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	CaCO3 dissolution	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	stutzeri	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	CaCO3 dissolution	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Sphingobacteriia	Sphingobacteriales	Sphingobacteriaceae	Sphingobacterium	faecium	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]

Andrew and the Blessed Virgin Mary's Church												
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Planococcaceae	Sporosarcina	saromensis	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	Bacilli	Bacillales	Staphylococcaceae	Staphylococcus	xylosus	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	CaCO3 dissolution	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Stenotrophomonas	maltophilia	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	CaCO3 dissolution	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Stenotrophomonas	rhizophila	Nutrient Agar	CDM (PCR)	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Actinobacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Proteobacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Bacteroidetes	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Deinococcus	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Great Britain	/	Skipper et al., 2022 [56]

Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Firmicutes	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Chloroflexi	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Lentisphaerae	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Planctomycetes	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Verrucomicrobia	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Acidobacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Deferribacteres	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Lincoln Cathedral, Saint Botolph-by-Bargate, Saint Nicholas, Saint Andrew and the Blessed Virgin Mary's Church	Gemmatimonadota	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Great Britain	/	Skipper et al., 2022 [56]
Petroglyph sites from the Negev Desert	Actinobacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Israel	/	Nir et al., 2019 [32]
Petroglyph sites from the Negev Desert	Proteobacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Israel	dark	Nir et al., 2019 [32]

Petroglyph sites from the Negev Desert	Bacteroidetes	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Israel	dark	Nir et al., 2019 [32]
Petroglyph sites from the Negev Desert	Chloroflexi	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Israel	dark	Nir et al., 2019 [32]
Petroglyph sites from the Negev Desert	Deinococcus	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Israel	dark	Nir et al., 2019 [32]
Petroglyph sites from the Negev Desert	Gemmatimonadota	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Israel	dark	Nir et al., 2019 [32]
Petroglyph sites from the Negev Desert	Acidobacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Israel	dark	Nir et al., 2019 [32]
Petroglyph sites from the Negev Desert	Planctomycetota	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Israel	dark	Nir et al., 2019 [32]
Petroglyph sites from the Negev Desert	Firmicutes	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Israel	dark	Nir et al., 2019 [32]
Petroglyph sites from the Negev Desert	Nitrospirae	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Israel	dark	Nir et al., 2019 [32]
Petroglyph sites from the Negev Desert	Verrucomicrobia	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Israel	dark	Nir et al., 2019 [32]
Orologio Tower (Martano)	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Lysobacter	not identified	BG11 liquid medium	CDM (PCR)	Outdoors	Italy	green	Miller et al., 2009 [64]
Orologio Tower (Martano)	Proteobacteria	Alphaproteobacteria	Caulobacteriales	Caulobacteraceae	Nitrobacteria	not identified	BG11 liquid medium	CDM (PCR)	Outdoors	Italy	green	Miller et al., 2009 [64]
Orologio Tower (Martano)	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Stenotrophomonas	not identified	BG11 liquid medium	CDM (PCR)	Outdoors	Italy	green	Miller et al., 2009 [64]
Orologio Tower (Martano)	Proteobacteria	Betaproteobacteria	Burkholderiales	Comamonadaceae	Variovorax	not identified	BG11 liquid medium	CDM (PCR)	Outdoors	Italy	green	Miller et al., 2009 [64]
Santa Clara-a-Velha Monastery	Bacteroidetes	not identified	not identified	not identified	not identified	not identified	BG11 liquid medium	CDM (PCR)	Outdoors	Portugal	green	Miller et al., 2009 [64]
Santa Clara-a-Velha Monastery	Verrucomicrobia	not identified	not identified	not identified	not identified	not identified	BG11 liquid medium	CDM (PCR)	Outdoors	Portugal	green	Miller et al., 2009 [64]
Santa Clara-a-Velha Monastery	Actinobacteria	not identified	not identified	not identified	not identified	not identified	BG11 liquid medium	CDM (PCR)	Outdoors	Portugal	green	Miller et al., 2009 [64]
Ajuda National Palace (Lisbon)	Acidobacteria	Alphaproteobacteria	Hyphomicrobiales	Methylobacteriaceae	Methylobacterium	not identified	BG11 liquid medium	CDM (PCR)	Outdoors	Portugal	green	Miller et al., 2009 [64]
Ajuda National Palace (Lisbon)	Acidobacteria	not identified	not identified	not identified	not identified	not identified	BG11 liquid medium	CDM (PCR)	Outdoors	Portugal	green	Miller et al., 2009 [64]
Cathedral of Seville	Actinobacteria	not identified	not identified	not identified	not identified	not identified	BG11 liquid medium	CDM (PCR)	Outdoors	Spain	green	Miller et al., 2009 [64]

Cathedral of Seville	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Marinobacteraceae	Marinobacter	not identified	BG11 liquid medium	CDM (PCR)	Outdoors	Spain	green	Miller et al., 2009 [64]
Cathedral of Seville	Acidobacteria	Alphaproteobacteria	Hyphomicrobiales	Methylobacteriaceae	Methylobacterium	not identified	BG11 liquid medium	CDM (PCR)	Outdoors	Spain	green	Miller et al., 2009 [64]
Cathedral of Seville	Proteobacteria	Alphaproteobacteria	Caulobacterales	Caulobacteraceae	Nitrobacteria	not identified	BG11 liquid medium	CDM (PCR)	Outdoors	Spain	green	Miller et al., 2009 [64]
Cathedral of Seville	Proteobacteria	Gammaproteobacteria	Oceanospirillales	Saccharospirillaceae	Saccharospirillum	not identified	BG11 liquid medium	CDM (PCR)	Outdoors	Spain	green	Miller et al., 2009 [64]
Cathedral of Seville	Verrucomicrobia	not identified	not identified	not identified	not identified	not identified	BG11 liquid medium	CDM (PCR)	Outdoors	Spain	green	Miller et al., 2009 [64]
Cathedral of Granada (Granada)	Bacteroidetes	not identified	not identified	not identified	not identified	not identified	BG11 liquid medium	CDM (PCR)	Outdoors	Spain	green	Miller et al., 2009 [64]
Cathedral of Granada (Granada)	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Erythrobacteraceae	Porphyrobacter	not identified	BG11 liquid medium	CDM (PCR)	Outdoors	Spain	green	Miller et al., 2009 [64]
Cathedral of Granada (Granada)	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	not identified	BG11 liquid medium	CDM (PCR)	Outdoors	Spain	green	Miller et al., 2009 [64]
Cathedral of Granada (Granada)	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Stenotrophomonas	not identified	BG11 liquid medium	CDM (PCR)	Outdoors	Spain	green	Miller et al., 2009 [64]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Proteobacteria	Alphaproteobacteria	Hyphomicrobiales	Rhizobiaceae	Agrobacterium	tumefaciens	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Arthrobacter	agilis	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Arthrobacter	parietis	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	flexus	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	pocheonensis	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	safensis	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	subtilis	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Micrococcales	Brevibacteriaceae	Brevibacterium	iodinum	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Micrococcales	Brevibacteriaceae	Brevibacterium	not identified	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]

Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Firmicutes	Clostridia	Eubacteriales	Clostridiaceae	Clostridium	not identified	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Proteobacteria	Gammaproteobacteria	Enterobacterales	Enterobacteriaceae	Klebsiella	oxytoca	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Kocuria	sediminis	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Kocuria	not identified	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Kocuria	turfanensis	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Micromonospora	not identified	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	fluorescens	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	oryzihabitans	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	not identified	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Proteobacteria	Alphaproteobacteria	Hyphomicrobiales	Rhizobiaceae	Rhizobium	not identified	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Kitasatosporales	Streptomycetaceae	Streptomyces	flavoviridis	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Kitasatosporales	Streptomycetaceae	Streptomyces	griseoflavus	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Kitasatosporales	Streptomycetaceae	Streptomyces	griseus	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Kitasatosporales	Streptomycetaceae	Streptomyces	heliomycini	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Kitasatosporales	Streptomycetaceae	Streptomyces	lavendulocolor	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Kitasatosporales	Streptomycetaceae	Streptomyces	marokkonensis	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Xanthomonas	campestris	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Xanthomonas	not identified	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Micrococcus	luteus	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Micromonosporales	Micromonosporaceae	Micromonospora	not identified	BR11 medium with 0.05% cycloheximide	CDM (PCR)	Outdoors	Egypt	/	Rizk et al., 2023 [30]

Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Geodermatophilales	Geodermatophilaceae	Blastococcus	not identified	none	NGS	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Firmicutes	Bacilli	Bacillales	Planococcaceae	Planococcus	not identified	none	NGS	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Kocuria	not identified	none	NGS	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	not identified	none	NGS	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Frankiales	not identified	not identified	not identified	none	NGS	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Arthrobacter	not identified	none	NGS	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Thermomicrobia	Thermomicrobia	Thermomicrobiales	not identified	not identified	not identified	none	NGS	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Bacteroidetes	Cytophagia	Cytophagales	Hymenobacteraceae	Pontibacter	not identified	none	NGS	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Propionibacteriales	Nocardioidaceae	Nocardioides	not identified	none	NGS	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Gemmatimonadota	Longimicrobia	Longimicrobiales	Longimicrobiaceae	not identified	not identified	none	NGS	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Micrococcales	Cellulomonadaceae	Cellulomonas	not identified	none	NGS	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Propionibacteriales	Nocardioidaceae	Marmoricola	not identified	none	NGS	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Deinococcota	Deinococci	Trueperales	Trueperaceae	Truepera	not identified	none	NGS	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Kineosporiales	Kineosporiaceae	Quadrifidraera	not identified	none	NGS	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Geodermatophilales	Geodermatophilaceae	Modestobacter	not identified	none	NGS	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Rubrobacteria	Rubrobacteriales	Rubrobacteraceae	Rubrobacter	not identified	none	NGS	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Firmicutes	Bacilli	Bacillales	Planococcaceae	not identified	not identified	none	NGS	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Firmicutes	Bacilli	Bacillales	Bacillaceae	not identified	not identified	none	NGS	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Proteobacteria	Betaproteobacteria	Burkholderiales	Burkholderiaceae	Ralstonia	not identified	none	NGS	Outdoors	Egypt	/	Rizk et al., 2023 [30]
Memphis necropolis of Egypt (Djoser and Lahun Pyramids)	Actinobacteria	Actinomycetes	Pseudonocardiales	Pseudonocardiaceae	Amycolatopsis	not identified	none	NGS	Outdoors	Egypt	/	Rizk et al., 2023 [30]

The West Lake area statues	Actinobacteria	Actinomycetes	Frankiales	Frankiaceae	Frankia	not identified	none	NGS	Outdoors	China	white	Zhu et al., 2023 [6]
The West Lake area statues	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	not identified	none	NGS	Outdoors	China	white	Zhu et al., 2023 [6]
The West Lake area statues	Nitrospirota	<a href="#">Nitrospira</a>	Nitrospirales	Nitrospiraceae	Nitrospira	not identified	none	NGS	Outdoors	China	white	Zhu et al., 2023 [6]
The West Lake area statues	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingorhabdus	not identified	none	NGS	Outdoors	China	white	Zhu et al., 2023 [6]
The West Lake area statues	Acidobacteria	Blastocatellia	Blastocatellales	Blastocatellaceae	Stenotrophobacter	not identified	none	NGS	Outdoors	China	white	Zhu et al., 2023 [6]
The West Lake area statues	Proteobacteria	Gammaproteobacteria	Nevskiales	Steroidobacteraceae	Povalibacter	not identified	none	NGS	Outdoors	China	white	Zhu et al., 2023 [6]
The West Lake area statues	Proteobacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	China	yellow	Zhu et al., 2023 [6]
The West Lake area statues	Acidobacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	China	yellow	Zhu et al., 2023 [6]
The West Lake area statues	Bacteroidetes	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	China	yellow	Zhu et al., 2023 [6]
Tombstones of the Monumental Cemetery of Milano	Proteobacteria	Alphaproteobacteria	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Italy	/	Gambino et al., 2021 [33]
Tombstones of the Monumental Cemetery of Milano	Proteobacteria	Gammaproteobacteria	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Italy	/	Gambino et al., 2021 [33]
Tombstones of the Monumental Cemetery of Milano	Actinobacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Italy	/	Gambino et al., 2021 [33]
Tombstones of the Monumental Cemetery of Milano	Chloroflexi	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Italy	/	Gambino et al., 2021 [33]
Tombstones of the Monumental Cemetery of Milano	Acidobacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Italy	/	Gambino et al., 2021 [33]
Tombstones of the Monumental Cemetery of Milano	Gemmatimonadota	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Italy	/	Gambino et al., 2021 [33]
Tombstones of the Monumental Cemetery of Milano	Bacteroidetes	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Italy	/	Gambino et al., 2021 [33]
Tombstones of the Monumental Cemetery of Milano	Firmicutes	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Italy	/	Gambino et al., 2021 [33]
Petroglyph sites from the Negev Desert	Proteobacteria	not identified	not identified	not identified	not identified	not identified	none	whole-genome shotgun sequencing	Outdoors	Israel	/	Nir et al., 2022 [24]
Petroglyph sites from the Negev Desert	Actinobacteria	not identified	not identified	not identified	not identified	not identified	none	whole-genome shotgun sequencing	Outdoors	Israel	/	Nir et al., 2022 [24]
Petroglyph sites from the Negev Desert	Chloroflexi	not identified	not identified	not identified	not identified	not identified	none	whole-genome shotgun sequencing	Outdoors	Israel	/	Nir et al., 2022 [24]
Petroglyph sites from the Negev Desert	Firmicutes	not identified	not identified	not identified	not identified	not identified	none	whole-genome shotgun sequencing	Outdoors	Israel	/	Nir et al., 2022 [24]
Petroglyph sites from the Negev Desert	Bacteroidetes	not identified	not identified	not identified	not identified	not identified	none	whole-genome	Outdoors	Israel	/	Nir et al., 2022 [24]



								shotgun sequencing				
Petroglyph sites from the Negev Desert	Thermodesulfobacteria	not identified	not identified	not identified	not identified	not identified	none	whole-genome shotgun sequencing	Outdoors	Israel	/	Nir et al., 2022 [24]
Petroglyph sites from the Negev Desert	Deinococcus	not identified	not identified	not identified	not identified	not identified	none	whole-genome shotgun sequencing	Outdoors	Israel	/	Nir et al., 2022 [24]
Petroglyph sites from the Negev Desert	Acidobacteria	not identified	not identified	not identified	not identified	not identified	none	whole-genome shotgun sequencing	Outdoors	Israel	/	Nir et al., 2022 [24]
Petroglyph sites from the Negev Desert	Nitrospirae	not identified	not identified	not identified	not identified	not identified	none	whole-genome shotgun sequencing	Outdoors	Israel	/	Nir et al., 2022 [24]
Petroglyph sites from the Negev Desert	Nitrospirae	not identified	not identified	not identified	not identified	not identified	none	whole-genome shotgun sequencing	Outdoors	Israel	/	Nir et al., 2022 [24]
Stone of Saint Helena	Actinobacteria	Micrococcales	Microbacteriaceae	Gulosibacter	Zimmermannella	faecalis	BHI, LM, CM	REP and RAMP PCR	Indoors	Slovakia	/	Pangallo et al., 2009 [27]
Stone of Saint Helena	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	simplex	BHI, LM, CM	REP and RAMP PCR	Indoors	Slovakia	/	Pangallo et al., 2009 [27]
Stone of Saint Helena	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	not identified	BHI, LM, CM	REP and RAMP PCR	Indoors	Slovakia	/	Pangallo et al., 2009 [27]
Stone of Saint Helena	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	subtilis	BHI, LM, CM	REP and RAMP PCR	Indoors	Slovakia	/	Pangallo et al., 2009 [27]
Stone of Saint Helena	Proteobacteria	Betaproteobacteria	Burkholderiales	Burkholderiaceae	Burkholderia	not identified	BHI, LM, CM	REP and RAMP PCR	Indoors	Slovakia	/	Pangallo et al., 2009 [27]
Stone of Saint Helena	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Micrococcus	not identified	BHI, LM, CM	REP and RAMP PCR	Indoors	Slovakia	/	Pangallo et al., 2009 [27]
Stone of Saint Helena	Actinobacteria	Actinomycetes	Micrococcales	Micrococcaceae	Micrococcus	luteus	BHI, LM, CM	REP and RAMP PCR	Indoors	Slovakia	/	Pangallo et al., 2009 [27]
Santa Clara-a-Velha Monastery	Actinobacteria	not identified	not identified	not identified	not identified	not identified	culture medium	CDM (PCR)	Outdoors	Portugal	/	Pinheiro et al., 2018 [25]
Santa Clara-a-Velha Monastery	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	Cytophaga	not identified	culture medium	CDM (PCR)	Outdoors	Portugal	/	Pinheiro et al., 2018 [25]
Santa Clara-a-Velha Monastery	Bacteroidetes	Flavobacteriia	Flavobacteriales	Flavobacteriaceae	Flavobacterium	not identified	culture medium	CDM (PCR)	Outdoors	Portugal	/	Pinheiro et al., 2018 [25]
Santa Clara-a-Velha Monastery	Verrucomicrobia	not identified	not identified	not identified	not identified	not identified	culture medium	CDM (PCR)	Outdoors	Portugal	/	Pinheiro et al., 2018 [25]
Mayan monuments in Uxmal	Proteobacteria	Gammaproteobacteria	Nevskiales	Nevskiaceae	Nevskia	ramosa	none	NGS	Outdoors	Mexico	dark green, powdered white	Ortega-Morales et al. 2004 [17]

Mayan monuments in Uxmal	Proteobacteria	Gammaproteobacteria	Chromatiales	Ectothiorhodospiraceae	Ectothiorhodospira	not identified	none	NGS	Outdoors	Mexico	dark green, olive green, black	Ortega-Morales et al. 2004 [17]
Mayan monuments in Uxmal	Proteobacteria	Gammaproteobacteria	Chromatiales	Ectothiorhodospiraceae	Arhodomonas	aquaeolei	none	NGS	Outdoors	Mexico	powdered white	Ortega-Morales et al. 2004 [17]
Mayan monuments in Uxmal	Proteobacteria	Gammaproteobacteria	Oceanospirillales	Halomonadaceae	Halomonas	cupida	none	NGS	Outdoors	Mexico	black	Ortega-Morales et al. 2004 [17]
Mayan monuments in Uxmal	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	adhaesiva	none	NGS	Outdoors	Mexico	reddish	Ortega-Morales et al. 2004 [17]
Mayan monuments in Uxmal	Proteobacteria	Alphaproteobacteria	Hyphomicrobiales	Rhizobiaceae	Mycoplana	dimorpha	none	NGS	Outdoors	Mexico	black	Ortega-Morales et al. 2004 [17]
Mayan monuments in Uxmal	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	carboniphilus	none	NGS	Outdoors	Mexico	dark green	Ortega-Morales et al. 2004 [17]
Mayan monuments in Uxmal	Rhodothermota	Rhodothermia	Rhodothermales	Salinibacteraceae	Salinibacter	ruber	none	NGS	Outdoors	Mexico	dark green	Ortega-Morales et al. 2004 [17]
Mayan monuments in Uxmal	Bacteroidetes	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	not identified	none	NGS	Outdoors	Mexico	dark green, powdered white	Ortega-Morales et al. 2004 [17]
Mayan monuments in Uxmal	Bacteroidetes	Bacteroidetes	Cytophagia	Cytophagales	Cytophagaceae	linguale	none	NGS	Outdoors	Mexico	reddish	Ortega-Morales et al. 2004 [17]
Mayan monuments in Uxmal	Actinobacteria	Rubrobacteria	Rubrobacterales	Rubrobacteraceae	Rubrobacter	xylanophilus	none	NGS	Outdoors	Mexico	reddish, powdered white	Ortega-Morales et al. 2004 [17]
Mayan monuments in Uxmal	Actinobacteria	Rubrobacteria	Rubrobacterales	Rubrobacteraceae	Rubrobacter	radioresistens	none	NGS	Outdoors	Mexico	reddish	Ortega-Morales et al. 2004 [17]
Tombs in the Père-Lachaise Cemetery	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae	Burkholderia	not identified	R2A agar, LB liquid medium	CDM (PCR)	Outdoors	France	/	Balland-Bolou-Bi et al., 2023 [49]
Tombs in the Père-Lachaise Cemetery	Proteobacteria	Betaproteobacteria	Burkholderiales	Oxalobacteraceae	Massilia	not identified	R2A agar, LB liquid medium	CDM (PCR)	Outdoors	France	/	Balland-Bolou-Bi et al., 2023 [49]
Tombs in the Père-Lachaise Cemetery	Proteobacteria	Bacilli	Bacillales	Bacillaceae	Bacillus	simplex	R2A agar, LB liquid medium	CDM (PCR)	Outdoors	France	/	Balland-Bolou-Bi et al., 2023 [49]
Tombs in the Père-Lachaise Cemetery	Proteobacteria	Bacilli	Bacillales	Bacillaceae	Bacillus	licheniformis	R2A agar, LB liquid medium	CDM (PCR)	Outdoors	France	/	Balland-Bolou-Bi et al., 2023 [49]

Tombs in the Père-Lachaise Cemetery	Proteobacteria	Bacilli	Bacillales	Bacillaceae	Bacillus	muralia	R2A agar, LB liquid medium	CDM (PCR)	Outdoors	France	/	Balland-Bolou-Bi et al., 2023 [49]
Tombs in the Père-Lachaise Cemetery	Proteobacteria	Bacilli	Bacillales	Bacillaceae	Bacillus	not identified	R2A agar, LB liquid medium	CDM (PCR)	Outdoors	France	/	Balland-Bolou-Bi et al., 2023 [49]
Tombs in the Père-Lachaise Cemetery	Proteobacteria	Bacilli	Bacillales	Paenibacilliaaceae	Paenibacillus	not identified	R2A agar, LB liquid medium	CDM (PCR)	Outdoors	France	/	Balland-Bolou-Bi et al., 2023 [49]
Tombs in the Père-Lachaise Cemetery	Actinobacteria	Actinobacteria	Actinomycetes	Micrococcales	Microbacterium	not identified	R2A agar, LB liquid medium	CDM (PCR)	Outdoors	France	/	Balland-Bolou-Bi et al., 2023 [49]
Tombs in the Père-Lachaise Cemetery	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Stenotrophomonas	maltoiphilia	R2A agar, LB liquid medium	CDM (PCR)	Outdoors	France	/	Balland-Bolou-Bi et al., 2023 [49]
Tombs in the Père-Lachaise Cemetery	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Stenotrophomonas	not identified	R2A agar, LB liquid medium	CDM (PCR)	Outdoors	France	/	Balland-Bolou-Bi et al., 2023 [49]
Tombs in the Père-Lachaise Cemetery	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	gessardii	R2A agar, LB liquid medium	CDM (PCR)	Outdoors	France	/	Balland-Bolou-Bi et al., 2023 [49]
Tombs in the Père-Lachaise Cemetery	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	not identified	R2A agar, LB liquid medium	CDM (PCR)	Outdoors	France	/	Balland-Bolou-Bi et al., 2023 [49]
Tombs in the Père-Lachaise Cemetery	Proteobacteria	Gammaproteobacteria	Enterobacteriales	Enterobacteriaceae	Pantoea	agglomerans	R2A agar, LB liquid medium	CDM (PCR)	Outdoors	France	/	Balland-Bolou-Bi et al., 2023 [49]
Tombs in the Père-Lachaise Cemetery	Proteobacteria	Gammaproteobacteria	Enterobacteriales	Enterobacteriaceae	Pantoea	vagans	R2A agar, LB liquid medium	CDM (PCR)	Outdoors	France	/	Balland-Bolou-Bi et al., 2023 [49]
Tombs in the Père-Lachaise Cemetery	Proteobacteria	Gammaproteobacteria	Enterobacteriales	Enterobacteriaceae	Enterobacter	not identified	R2A agar, LB liquid medium	CDM (PCR)	Outdoors	France	/	Balland-Bolou-Bi et al., 2023 [49]
Tombs in the Père-Lachaise Cemetery	Proteobacteria	Gammaproteobacteria	Enterobacteriales	Enterobacteriaceae	Erwinia	billingiae	R2A agar, LB liquid medium	CDM (PCR)	Outdoors	France	/	Balland-Bolou-Bi et al., 2023 [49]
Tombs in the Père-Lachaise Cemetery	Actinobacteria	Actinobacteria	Actinomycetales	Brevibacteriaceae	Brevibacterium	frigoritolerans	R2A agar, LB liquid medium	CDM (PCR)	Outdoors	France	/	Balland-Bolou-Bi et al., 2023 [49]
Tombs in the Père-Lachaise Cemetery	Actinobacteria	Actinobacteria	Microbacteriales	Microbacteriaceae	Clavibacter	michiganensis	R2A agar, LB liquid medium	CDM (PCR)	Outdoors	France	/	Balland-Bolou-Bi et al., 2023 [49]
Tombs in the Père-Lachaise Cemetery	Actinobacteria	Actinobacteria	Microbacteriales	Microbacteriaceae	Curtobacterium	not identified	R2A agar, LB liquid medium	CDM (PCR)	Outdoors	France	/	Balland-Bolou-Bi et al., 2023 [49]

Tombs in the Père-Lachaise Cemetery	Actinobacteria	Actinobacteria	Streptomycetales	Streptomycetaceae	Streptomyces	not identified	R2A agar, LB liquid medium	CDM (PCR)	Outdoors	France	/	Balland-Bolou-Bi et al., 2023 [49]
Tombs in the Père-Lachaise Cemetery	Bacteroidetes	Sphingobacteria	Sphingobacteriales	Sphingobacteriaceae	Pedobacter	not identified	R2A agar, LB liquid medium	CDM (PCR)	Outdoors	France	/	Balland-Bolou-Bi et al., 2023 [49]
Tombs in the Père-Lachaise Cemetery	Bacteroidetes	Sphingobacteria	Sphingobacteriales	Sphingobacteriaceae	Rhodococcus	not identified	R2A agar, LB liquid medium	CDM (PCR)	Outdoors	France	/	Balland-Bolou-Bi et al., 2023 [49]
Acropolis at Ek' Balam, Yucatan	Acidobacteria	Acidobacteriota	Terriglobales	Acidobacteriaceae	Acidobacterium	not identified	none	NGS	Outdoors	Mexico	/	McNamar a et al., 2006 [36]
Acropolis at Ek' Balam, Yucatan	Acidobacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Mexico	/	McNamar a et al., 2006 [36]
Acropolis at Ek' Balam, Yucatan	Acidobacteria	Holophagae	Holophagales	Holophagaceae	Holophaga	not identified	none	NGS	Outdoors	Mexico	/	McNamar a et al., 2006 [36]
Acropolis at Ek' Balam, Yucatan	Chloroflexi	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Mexico	/	McNamar a et al., 2006 [36]
Acropolis at Ek' Balam, Yucatan	Actinobacteria	Actinomycetes	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Mexico	/	McNamar a et al., 2006 [36]
Acropolis at Ek' Balam, Yucatan	Actinobacteria	Actinomycetes	Pseudonocardiales	Pseudonocardiaceae	Saccharothrix	flava	none	NGS	Outdoors	Mexico	/	McNamar a et al., 2006 [36]
Acropolis at Ek' Balam, Yucatan	Actinobacteria	Rubrobacteria	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Mexico	/	McNamar a et al., 2006 [36]
Acropolis at Ek' Balam, Yucatan	Actinobacteria	Acidimicrobiia	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Mexico	/	McNamar a et al., 2006 [36]
Acropolis at Ek' Balam, Yucatan	Proteobacteria	Bacilli	Bacillales	Bacillaceae	Bacillus	cereus	none	NGS	Outdoors	Mexico	/	McNamar a et al., 2006 [36]
Acropolis at Ek' Balam, Yucatan	Proteobacteria	Bacilli	Bacillales	Bacillaceae	Bacillus	thuringiensis	none	NGS	Outdoors	Mexico	/	McNamar a et al., 2006 [36]
Acropolis at Ek' Balam, Yucatan	Proteobacteria	Bacilli	Bacillales	Bacillaceae	Bacillus	barbaricus	none	NGS	Outdoors	Mexico	/	McNamar a et al., 2006 [36]
Acropolis at Ek' Balam, Yucatan	Nitrospirota	Nitrospiria	Nitrospirales	Nitrospiraceae	Nitrospira	moscoviensis	none	NGS	Outdoors	Mexico	/	McNamar a et al., 2006 [36]
Acropolis at Ek' Balam, Yucatan	Proteobacteria	Alphaproteobacteria	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Mexico	/	McNamar a et al., 2006 [36]
Acropolis at Ek' Balam, Yucatan	Proteobacteria	Alphaproteobacteria	Hyphomicrobiales	Rhizobiaceae	Rhizobium	not identified	none	NGS	Outdoors	Mexico	/	McNamar a et al., 2006 [36]
Acropolis at Ek' Balam, Yucatan	Proteobacteria	Alphaproteobacteria	Hyphomicrobiales	Hyphomicrobiaceae	Rhodoplanes	elegans	none	NGS	Outdoors	Mexico	/	McNamar a et al., 2006 [36]
Acropolis at Ek' Balam, Yucatan	Proteobacteria	Alphaproteobacteria	Hyphomicrobiales	Incertae Sedis	Nordella	oligomobilis	none	NGS	Outdoors	Mexico	/	McNamar a et al., 2006 [36]

Acropolis at Ek' Balam, Yucatan	Proteobacteria	Betaproteobacteria	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Mexico	/	McNamar a et al., 2006 [36]
Acropolis at Ek' Balam, Yucatan	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Thermomonas	haemolytica	none	NGS	Outdoors	Mexico	/	McNamar a et al., 2006 [36]
Acropolis at Ek' Balam, Yucatan	Proteobacteria	Deltaproteobacteria	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Mexico	/	McNamar a et al., 2006 [36]
Acropolis at Ek' Balam, Yucatan	Tectomicrobia	incertae sedis	incertae sedis	Incertae Sedis	Entotheonella	palauensis	none	NGS	Outdoors	Mexico	/	McNamar a et al., 2006 [36]
Santa Clara-a-Velha Monastery	Proteobacteria	Alphaproteobacteria	not identified	not identified	not identified	not identified	liquid medium BG11	CDM (PCR)	Outdoors	Portugal	green	Miller et al., 2008 [63]
Santa Clara-a-Velha Monastery	Actinobacteria	not identified	not identified	not identified	not identified	not identified	liquid medium BG11	CDM (PCR)	Outdoors	Portugal	green	Miller et al., 2008 [63]
Santa Clara-a-Velha Monastery	Bacteroidetes	not identified	not identified	not identified	not identified	not identified	liquid medium BG11	CDM (PCR)	Outdoors	Portugal	green	Miller et al., 2008 [63]
Santa Clara-a-Velha Monastery	Verrucomicrobia	not identified	not identified	not identified	not identified	not identified	liquid medium BG11	CDM (PCR)	Outdoors	Portugal	green	Miller et al., 2008 [63]
Austrian petroglyphs from Hallstatt-Dachstein/Salzkammergut	Actinobacteria	Rubrobacteria	Rubrobacterales	not identified	not identified	not identified	none	Nanopore sequencing	Outdoors	Austria	green	Rabbachin et al., 2023 [15]
Austrian petroglyphs from Hallstatt-Dachstein/Salzkammergut	Bacteroidetes	Chitinophagia	Chitinophagales	not identified	not identified	not identified	none	Nanopore sequencing	Outdoors	Austria	dark	Rabbachin et al., 2023 [15]
Austrian petroglyphs from Hallstatt-Dachstein/Salzkammergut	Bacteroidetes	Cytophagia	Cytophagales	not identified	not identified	not identified	none	Nanopore sequencing	Outdoors	Austria	dark	Rabbachin et al., 2023 [15]
Austrian petroglyphs from Hallstatt-Dachstein/Salzkammergut	Bacteroidetes	Flavobacteriia	Flavobacteriales	not identified	not identified	not identified	none	Nanopore sequencing	Outdoors	Austria	dark, dark green	Rabbachin et al., 2023 [15]
Austrian petroglyphs from Hallstatt-Dachstein/Salzkammergut	Bacteroidetes	Sphingobacteriia	Sphingobacterales	not identified	not identified	not identified	none	Nanopore sequencing	Outdoors	Austria	dark	Rabbachin et al., 2023 [15]
Austrian petroglyphs from Hallstatt-Dachstein/Salzkammergut	Firmicutes	Bacilli	Lactobacillales	not identified	not identified	not identified	none	Nanopore sequencing	Outdoors	Austria	dark	Rabbachin et al., 2023 [15]
Austrian petroglyphs from Hallstatt-Dachstein/Salzkammergut	Proteobacteria	Betaproteobacteria	Burkholderiales	not identified	not identified	not identified	none	Nanopore sequencing	Outdoors	Austria	dark, dark green	Rabbachin et al., 2023 [15]
Austrian petroglyphs from Hallstatt-Dachstein/Salzkammergut	Proteobacteria	Alphaproteobacteria	Hyphomicrobiales	not identified	not identified	not identified	none	Nanopore sequencing	Outdoors	Austria	dark, dark green	Rabbachin et al., 2023 [15]
Austrian petroglyphs from Hallstatt-Dachstein/Salzkammergut	Proteobacteria	Gammaproteobacteria	Moraxellales	not identified	not identified	not identified	none	Nanopore sequencing	Outdoors	Austria	dark green	Rabbachin et al., 2023 [15]

Austrian petroglyphs from Hallstatt-Dachstein/Salzkammergut	Proteobacteria	Gammaproteobacteria	Pseudomonadales	not identified	not identified	not identified	none	Nanopore sequencing	Outdoors	Austria	dark, dark green	Rabbachin et al., 2023 [15]
Austrian petroglyphs from Hallstatt-Dachstein/Salzkammergut	Proteobacteria	Alphaproteobacteria	Sphingomonadales	not identified	not identified	not identified	none	Nanopore sequencing	Outdoors	Austria	dark	Rabbachin et al., 2023 [15]
Austrian petroglyphs from Hallstatt-Dachstein/Salzkammergut	Proteobacteria	Gammaproteobacteria	Xanthomonadales	not identified	not identified	not identified	none	Nanopore sequencing	Outdoors	Austria	dark green	Rabbachin et al., 2023 [15]
Church of San Leonardo di Siponto	Firmicutes	Bacilli	Bacillales	not identified	not identified	not identified	none	NGS	Outdoors	Italy	gray-brownish and white	Chimienti et al., 2016 [26]
Church of San Leonardo di Siponto	Proteobacteria	Gammaproteobacteria	Oceanospirillales	not identified	not identified	not identified	none	NGS	Outdoors	Italy	gray-brownish and white	Chimienti et al., 2016 [26]
Church of San Leonardo di Siponto	Proteobacteria	Gammaproteobacteria	Alteromonadales	not identified	not identified	not identified	none	NGS	Outdoors	Italy	gray-brownish and white	Chimienti et al., 2016 [26]
Church of San Leonardo di Siponto	Myxococcota	Myxococcia	Myxococcales	not identified	not identified	not identified	none	NGS	Outdoors	Italy	gray-brownish and white	Chimienti et al., 2016 [26]
Church of San Leonardo di Siponto	Proteobacteria	Betaproteobacteria	Burkholderiales	not identified	not identified	not identified	none	NGS	Outdoors	Italy	gray-brownish and white	Chimienti et al., 2016 [26]
Church of San Leonardo di Siponto	Proteobacteria	Alphaproteobacteria	Sphingomonadales	not identified	not identified	not identified	none	NGS	Outdoors	Italy	gray-brownish and white	Chimienti et al., 2016 [26]
Church of San Leonardo di Siponto	Proteobacteria	Alphaproteobacteria	Rhodospirillales	not identified	not identified	not identified	none	NGS	Outdoors	Italy	gray-brownish and white	Chimienti et al., 2016 [26]
Church of San Leonardo di Siponto	Proteobacteria	Alphaproteobacteria	Rhodobacterales	not identified	not identified	not identified	none	NGS	Outdoors	Italy	gray-brownish and white	Chimienti et al., 2016 [26]
Church of San Leonardo di Siponto	Deinococcota	Deinococci	Deinococcales	not identified	not identified	not identified	none	NGS	Outdoors	Italy	gray-brownish and white	Chimienti et al., 2016 [26]
Church of San Leonardo di Siponto	Bacteroidetes	Sphingobacteriia	Sphingobacteriales	not identified	not identified	not identified	none	NGS	Outdoors	Italy	gray-brownish and white	Chimienti et al., 2016 [26]
Church of San Leonardo di Siponto	Bacteroidetes	Cytophagia	Cytophagales	not identified	not identified	not identified	none	NGS	Outdoors	Italy	gray-brownish and white	Chimienti et al., 2016 [26]
Church of San Leonardo di Siponto	Actinobacteria	Rubrobacteria	Gaiellales	not identified	not identified	not identified	none	NGS	Outdoors	Italy	gray-brownish and white	Chimienti et al., 2016 [26]
Church of San Leonardo di Siponto	Actinobacteria	Thermoleophilia	Solirubrobacterales	not identified	not identified	not identified	none	NGS	Outdoors	Italy	gray-brownish and white	Chimienti et al., 2016 [26]
Church of San Leonardo di Siponto	Actinobacteria	Rubrobacteria	Rubrobacterales	not identified	not identified	not identified	none	NGS	Outdoors	Italy	gray-brownish and white	Chimienti et al., 2016 [26]
Church of San Leonardo di Siponto	Actinobacteria	Actinobacteria	Actinomycetales	not identified	not identified	not identified	none	NGS	Outdoors	Italy	gray-brownish and white	Chimienti et al., 2016 [26]
Church of San Leonardo di Siponto	Actinobacteria	Acidimicrobiia	Acidimicrobiales	not identified	not identified	not identified	none	NGS	Outdoors	Italy	gray-brownish and white	Chimienti et al., 2016 [26]

Pindal Cave	Acidobacteria	Acidobacteriota	Terriglobales	not identified	not identified	not identified	none	NGS	Cave	Spain	yellow	Martin-Pozas et al., 2023 [11]
Pindal Cave	Acidobacteria	Vicinamibacteria	Vicinamibacterales	not identified	not identified	not identified	none	NGS	Cave	Spain	yellow	Martin-Pozas et al., 2023 [11]
Pindal Cave	Acidobacteria	Vicinamibacteria	Vicinamibacterales	Vicinamibacteraceae	not identified	not identified	none	NGS	Cave	Spain	yellow	Martin-Pozas et al., 2023 [11]
Pindal Cave	Actinobacteria	Actinomycetes	Pseudonocardiales	Pseudonocardaceae	Crossiella	not identified	none	NGS	Cave	Spain	yellow	Martin-Pozas et al., 2023 [11]
Pindal Cave	Actinobacteria	Rubrobacteria	Gaiellales	Gaiellaceae	Gaiella	not identified	none	NGS	Cave	Spain	yellow	Martin-Pozas et al., 2023 [11]
Pindal Cave	Chloroflexi	Anaerolineae	Anaerolineales	Anaerolineaceae	not identified	not identified	none	NGS	Cave	Spain	yellow	Martin-Pozas et al., 2023 [11]
Pindal Cave	Bacteria candidate phyla	Candidatus Babeliae	Candidatus Babeliales	not identified	not identified	not identified	none	NGS	Cave	Spain	none	Martin-Pozas et al., 2023 [11]
Pindal Cave	Fibrobacterota	Fibrobacteria	Fibrobacterales	Fibrobacteraceae	not identified	not identified	none	NGS	Cave	Spain	none	Martin-Pozas et al., 2023 [11]
Pindal Cave	Proteobacteria	Bacilli	Bacillales	Paenibacilliaiceae	Paenibacillus	not identified	none	NGS	Cave	Spain	none	Martin-Pozas et al., 2023 [11]
Pindal Cave	Gemmatimonadota	Gemmatimonadetes	Gemmatimonadales	Gemmatimonadaceae	not identified	not identified	none	NGS	Cave	Spain	none	Martin-Pozas et al., 2023 [11]
Pindal Cave	Nitrospirota	Nitrospiria	Nitrospirales	Nitrospiraceae	Leptospirillum	not identified	none	NGS	Cave	Spain	none	Martin-Pozas et al., 2023 [11]
Pindal Cave	Candidatus Kerfeldbacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Cave	Spain	none	Martin-Pozas et al., 2023 [11]
Pindal Cave	Candidatus Woesebacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Cave	Spain	none	Martin-Pozas et al., 2023 [11]
Pindal Cave	Candidatus Azambacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Cave	Spain	yellow	Martin-Pozas et al., 2023 [11]
Pindal Cave	Candidatus Portnoybacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Cave	Spain	yellow	Martin-Pozas et al., 2023 [11]

Pindal Cave	Candidatus Nomurabacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Cave	Spain	none	Martin-Pozas et al., 2023 [11]
Pindal Cave	Candidatus Yanofskybacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Cave	Spain	yellow	Martin-Pozas et al., 2023 [11]
Pindal Cave	Planctomycetota	Planctomycetia	Gemmatales	Gemmataceae	not identified	not identified	none	NGS	Cave	Spain	none	Martin-Pozas et al., 2023 [11]
Pindal Cave	Proteobacteria	Alphaproteobacteria	Rhodospirillales	Acetobacteraceae	Rhodovastum	not identified	none	NGS	Cave	Spain	yellow	Martin-Pozas et al., 2023 [11]
Pindal Cave	Proteobacteria	Alphaproteobacteria	Rhodospirillales	Dongiaceae	Dongia	not identified	none	NGS	Cave	Spain	yellow	Martin-Pozas et al., 2023 [11]
Pindal Cave	Proteobacteria	Alphaproteobacteria	Hyphomicrobiales	Reyranellaceae	Reyranella	not identified	none	NGS	Cave	Spain	yellow	Martin-Pozas et al., 2023 [11]
Pindal Cave	Proteobacteria	Alphaproteobacteria	Hyphomicrobiales	Incertae Sedis	Nordella	not identified	none	NGS	Cave	Spain	yellow	Martin-Pozas et al., 2023 [11]
Pindal Cave	Proteobacteria	Alphaproteobacteria	Hyphomicrobiales	Xanthobacteraceae	not identified	not identified	none	NGS	Cave	Spain	yellow	Martin-Pozas et al., 2023 [11]
Pindal Cave	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	not identified	none	NGS	Cave	Spain	none	Martin-Pozas et al., 2023 [11]
Pindal Cave	Proteobacteria	Gammaproteobacteria	Legionellales	Coxiellaceae	Aquicella	not identified	none	NGS	Cave	Spain	yellow	Martin-Pozas et al., 2023 [11]
Pindal Cave	Proteobacteria	Gammaproteobacteria	Legionellales	Diplorickettsiaceae	not identified	not identified	none	NGS	Cave	Spain	yellow	Martin-Pozas et al., 2023 [11]
Pindal Cave	Proteobacteria	Gammaproteobacteria	Nevskiales	Steroidobacteraceae	Steroidobacter	not identified	none	NGS	Cave	Spain	yellow	Martin-Pozas et al., 2023 [11]
Pindal Cave	Proteobacteria	Gammaproteobacteria	not identified	not identified	not identified	not identified	none	NGS	Cave	Spain	yellow	Martin-Pozas et al., 2023 [11]
Pindal Cave	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Arenimonas	not identified	none	NGS	Cave	Spain	yellow	Martin-Pozas et al., 2023 [11]
Pindal Cave	Chlamydiae	Chlamydiia	Parachlamydiales	Simkaniaceae	not identified	not identified	none	NGS	Cave	Spain	yellow	Martin-Pozas et al., 2023 [11]



Pindal Cave	Candidatus Omnitrophus	not identified	not identified	not identified	not identified	not identified	none	NGS	Cave	Spain	none	Martin-Pozas et al., 2023 [11]
Pindal Cave	Candidatus Udaeobacter	not identified	not identified	not identified	not identified	not identified	none	NGS	Cave	Spain	none	Martin-Pozas et al., 2023 [11]
Lascaux Cave	Bacteroidetes	Chitinophagia	Chitinophagales	Chitinophagaceae	Niabella	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Lascaux Cave	Proteobacteria	Gammaproteobacteria	Nevskiales	Steroidobacteraceae	Steroidobacter	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Lascaux Cave	Actinobacteria	Actinomycetes	Acidothermales	Acidothermaceae	Acidothermus	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Lascaux Cave	Myxococcota	Polyangia	Polyangiales	Phaselicystidaceae	Phaselicystis	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Lascaux Cave	Actinobacteria	Actinomycetes	Pseudonocardiales	Pseudonocardaceae	Saccharopolyspora	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Lascaux Cave	Nitrospirota	<a href="#">Nitrospira</a>	Nitrospirales	Nitrospiraceae	Nitrospira	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Lascaux Cave	Actinobacteria	Actinomycetes	Jatrophihabिताntales	Jatrophihabिताntaceae	Jatrophihabिताns	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Lascaux Cave	Actinobacteria	Actinomycetes	Streptosporangiales	Streptosporangiaceae	Nonomuraea	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Lascaux Cave	Planctomycetota	Planctomycetia	Isosphaerales	Isosphaeraceae	Tundrisphaera	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Lascaux Cave	Acidobacteria	Terriglobia	Bryobacterales	Bryobacteraceae	Bryobacter	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Lascaux Cave	Bacteroidetes	Chitinophagia	Chitinophagales	Chitinophagaceae	Flavihumibacter	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Lascaux Cave	Actinobacteria	Actinomycetes	Pseudonocardiales	Pseudonocardaceae	Actinophytocola	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Lascaux Cave	Actinobacteria	Actinomycetes	Micrococcales	Microbacteriaceae	Galbitalea	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Lascaux Cave	Proteobacteria	Alphaproteobacteria	Geminicoccales	Geminicoccaceae	Alysiosphaera	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Lascaux Cave	Actinobacteria	Thermoleophilia	Solirubrobacterales	not identified	not identified	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Lascaux Cave	Thermomicrobiota	Thermomicrobia	Thermomicrobiales	not identified	not identified	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Lascaux Cave	Actinobacteria	Actinomycetes	Jiangellales	Jiangellaceae	Jiangella	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]

Lascaux Cave	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingopyxis	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Lascaux Cave	Proteobacteria	<a href="#">Alphaproteobacteria</a>	Hyphomicrobiales	Nitrobacteraceae	Afipia	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Lascaux Cave	Proteobacteria	<a href="#">Alphaproteobacteria</a>	Caulobacterales	Caulobacteraceae	Phenylobacterium	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Lascaux Cave	Proteobacteria	<a href="#">Alphaproteobacteria</a>	Hyphomicrobiales	Methylocystaceae	Methylopila	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Lascaux Cave	Actinobacteria	Actinomycetes	Kitasatosporales	Streptomyetaceae	Streptomyces	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Lascaux Cave	Proteobacteria	Alphaproteobacteria	Hyphomicrobiales	Reyranellaceae	Reyranella	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Lascaux Cave	Proteobacteria	Alphaproteobacteria	Hyphomicrobiales	Nitrobacteraceae	Rhodopseudomonas	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Lascaux Cave	Proteobacteria	Betaproteobacteria	Burkholderiales	Alcaligenaceae	not identified	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Lascaux Cave	Proteobacteria	Gammaproteobacteria	Pseudomonadales	Pseudomonadaceae	Pseudomonas	not identified	none	NGS	Cave	France	dark	Bontemps et al., 2023 [9]
Sorcerer's Cave	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	herbersteinensis	Reasoner's 2A Agar	CDM (PCR)	Cave	France	saline efflorescence	Lepinay et al., 2018 [37]
Sorcerer's Cave	Firmicutes	Bacilli	Bacillales	Planococcaceae	Paenisporsarcina	indica	Reasoner's 2A Agar	CDM (PCR)	Cave	France	saline efflorescence	Lepinay et al., 2018 [37]
Sorcerer's Cave	Firmicutes	Bacilli	Bacillales	Planococcaceae	Paenisporsarcina	macmurdoensis	Reasoner's 2A Agar	CDM (PCR)	Cave	France	saline efflorescence	Lepinay et al., 2018 [37]
Sorcerer's Cave	Firmicutes	Bacilli	Bacillales	Bacillaceae	Virgibacillus	necropolis	Reasoner's 2A Agar	CDM (PCR)	Cave	France	saline efflorescence	Lepinay et al., 2018 [37]
Sorcerer's Cave	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	koreensis	Reasoner's 2A Agar	CDM (PCR)	Cave	France	saline efflorescence	Lepinay et al., 2018 [37]
Sorcerer's Cave	Firmicutes	Bacilli	Bacillales	Planococcaceae	Paenisporsarcina	macmurdoensis	Reasoner's 2A Agar	CDM (PCR)	Cave	France	saline efflorescence	Lepinay et al., 2018 [37]
Sorcerer's Cave	Firmicutes	Bacilli	Bacillales	Bacillaceae	Bacillus	toyonensis	Reasoner's 2A Agar	CDM (PCR)	Cave	France	saline efflorescence	Lepinay et al., 2018 [37]
Sorcerer's Cave	Proteobacteria	Alphaproteobacteria	Sphingomonadales	Sphingomonadaceae	Sphingomonas	desiccabilis	Reasoner's 2A Agar	CDM (PCR)	Cave	France	saline efflorescence	Lepinay et al., 2018 [37]
Sorcerer's Cave	Proteobacteria	Gammaproteobacteria	Moraxellales	Moraxellaceae	Acinetobacter	twoffii	Reasoner's 2A Agar	CDM (PCR)	Cave	France	saline efflorescence	Lepinay et al., 2018 [37]
Sorcerer's Cave	Actinobacteria	Actinobacteria	Propionibacteriales	Propionibacteriaceae	Haloactinopolyspora	not identified	none	NGS	Cave	France	saline efflorescence	Lepinay et al., 2018 [37]
Sorcerer's Cave	Actinobacteria	Actinobacteria	Pseudonocardiales	Pseudonocardiaceae	Crossiella	not identified	none	NGS	Cave	France	saline efflorescence	Lepinay et al., 2018 [37]

Sorcerer's Cave	Actinobacteria	Actinobacteria	Pseudonocardiales	Pseudonocardiaceae	Pseudonocardia	not identified	none	NGS	Cave	France	saline efflorescence	Lepinay et al., 2018 [37]
Sorcerer's Cave	Bacteroidetes	Flavobacteriia	Flavobacteriales	Flavobacteriaceae	Gillisia	not identified	none	NGS	Cave	France	saline efflorescence	Lepinay et al., 2018 [37]
Sorcerer's Cave	Planctomycetota	Planctomycetia	Planctomycetales	Planctomycetaceae	Planctomyces	not identified	none	NGS	Cave	France	saline efflorescence	Lepinay et al., 2018 [37]
Sorcerer's Cave	Proteobacteria	Alphaproteobacteria	Rhizobiales	Hyphomicrobiaceae	Hyphomicrobium	not identified	none	NGS	Cave	France	saline efflorescence	Lepinay et al., 2018 [37]
Sorcerer's Cave	Proteobacteria	Alphaproteobacteria	Rhizobiales	Phyllobacteriaceae	Mesorhizobium	not identified	none	NGS	Cave	France	saline efflorescence	Lepinay et al., 2018 [37]
Sorcerer's Cave	Proteobacteria	Gammaproteobacteria	Oceanospirillales	Halomonadaceae	Halomonas	not identified	none	NGS	Cave	France	saline efflorescence	Lepinay et al., 2018 [37]
Sorcerer's Cave	Proteobacteria	Gammaproteobacteria	Salinisphaerales	Salinisphaeraceae	Salinisphaera	not identified	none	NGS	Cave	France	saline efflorescence	Lepinay et al., 2018 [37]
Sorcerer's Cave	Proteobacteria	Gammaproteobacteria	Xanthomonadales	Xanthomonadaceae	Lysobacter	not identified	none	NGS	Cave	France	saline efflorescence	Lepinay et al., 2018 [37]
Sorcerer's Cave	Proteobacteria	Gammaproteobacteria	Thiotrichales	Thiotrichaceae	Methylohalomonas	not identified	none	NGS	Cave	France	saline efflorescence	Lepinay et al., 2018 [37]
Sorcerer's Cave	Chloroflexi	Thermomicrobia	not identified	not identified	not identified	not identified	none	NGS	Cave	France	saline efflorescence	Lepinay et al., 2018 [37]
Sorcerer's Cave	Proteobacteria	Alphaproteobacteria	Rhodospirillales	not identified	not identified	not identified	none	NGS	Cave	France	saline efflorescence	Lepinay et al., 2018 [37]
Sorcerer's Cave	Proteobacteria	Gammaproteobacteria	Chromatiales	Ectothiorhodospiraceae	not identified	not identified	none	NGS	Cave	France	saline efflorescence	Lepinay et al., 2018 [37]
Assyrian palace in Tel Megiddo	Acidobacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Israel	/	Zhang et al., 2023 [66]
Assyrian palace in Tel Megiddo	Actinobacteria	Actinomycetes	Propionibacteriales	not identified	not identified	not identified	none	NGS	Outdoors	Israel	/	Zhang et al., 2023 [66]
Assyrian palace in Tel Megiddo	Proteobacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Israel	/	Zhang et al., 2023 [66]
Assyrian palace in Tel Megiddo	Firmicutes	not identified	not identified	not identified	not identified	not identified	none	NGS	Outdoors	Israel	/	Zhang et al., 2023 [66]
Assyrian palace in Tel Megiddo	Actinobacteria	Rubrobacteria	Rubrobacterales	Rubrobacteriaceae	Rubrobacter	radiotolerans	none	NGS	Outdoors	Israel	orange	Zhang et al., 2023 [66]
Lascaux Cave	Proteobacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Cave	France	black	Alonso et al., 2018 [10]

Lascaux Cave	Planctomycetota	Planctomycetia	Planctomycetales	not identified	not identified	not identified	none	NGS	Cave	France	black	Alonso et al., 2018 [10]
Lascaux Cave	Chloroflexi	not identified	not identified	not identified	not identified	not identified	none	NGS	Cave	France	black	Alonso et al., 2018 [10]
Lascaux Cave	Bacteroidetes	not identified	not identified	not identified	not identified	not identified	none	NGS	Cave	France	black	Alonso et al., 2018 [10]
Lascaux Cave	Acidobacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Cave	France	black	Alonso et al., 2018 [10]
Lascaux Cave	Actinobacteria	not identified	not identified	not identified	not identified	not identified	none	NGS	Cave	France	black	Alonso et al., 2018 [10]
Lascaux Cave	Chlamydiae	not identified+D1411:O1411	not identified	not identified	not identified	not identified	none	NGS	Cave	France	black	Alonso et al., 2018 [10]
Lascaux Cave	Nitrospirota	<a href="#">Nitrospiria</a>	Nitrospirales	not identified	not identified	not identified	none	NGS	Cave	France	black	Alonso et al., 2018 [10]

Lascaux Cave	Verrucomicrobia	not identified	not identified	not identified	not identified	not identified	none	NGS	Cave	France	black	Alonso et al., 2018 [10]
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