

## Supplementary Tables

Table S1 – Fungi reported on historical stained glass windows and glazed tiles in the literature.

Division <sup>1</sup>	Specie	Ident. Method <sup>2</sup>	Tipology	Type of silicate glass	Date (cent.) <sup>3</sup>	Prov. <sup>4</sup>	Monument/Collection, Country	Reference
Asc	<i>Trichoderma longibrachiatum</i>	Cult-DNA	Stained glass	<i>Na-rich</i>	20th	France	Basílica Santuário de Nazaré, Brazil	[36]
Asc	<i>Alternaria tenuissima</i>	DNA	Stained glass	<i>K-rich</i>	15th	German	King Ferdinand II's collection, Portugal	[18]
Asc	<i>Chaetomium coarctatum</i>	DNA	Stained glass	<i>mixed-alkali</i>	17th	Swiss	King Ferdinand II's collection, Portugal	[18]
Asc	<i>Cladosporium langeronii</i>	DNA	Stained glass	<i>mixed-alkali</i>	17th	Swiss	King Ferdinand II's collection, Portugal	[18]
Asc	<i>Cladosporium sphaerospermum</i>	DNA	Stained glass	<i>K-rich</i>	15th	German	King Ferdinand II's collection, Portugal	[18]
Asc	<i>Cladosporium sphaerospermum</i>	DNA	Stained glass	<i>mixed-alkali</i>	17th	Swiss	King Ferdinand II's collection, Portugal	[18]
Asc	<i>Didymella phacae</i>	DNA	Stained glass	<i>K-rich</i>	15th	German	King Ferdinand II's collection, Portugal	[18]
Asc	<i>Penicillium brevicompactum</i>	DNA	Stained glass	<i>mixed-alkali</i>	17th	Swiss	King Ferdinand II's collection, Portugal	[18]
Asc	<i>Penicillium citreonigrum</i>	DNA	Stained glass	<i>K-rich</i>	15th	German	King Ferdinand II's collection, Portugal	[18]
Asc	<i>Penicillium citreonigrum</i>	DNA	Stained glass	<i>mixed-alkali</i>	17th	Swiss	King Ferdinand II's collection, Portugal	[18]
Asc	<i>Penicillium roseopurpureum</i>	DNA	Stained glass	<i>mixed-alkali</i>	17th	Swiss	King Ferdinand II's collection, Portugal	[18]
Asc	<i>Penicillium sp.</i>	DNA	Stained glass	<i>mixed-alkali</i>	17th	Swiss	King Ferdinand II's collection, Portugal	[18]
Asc	<i>Penicillium sp.</i>	DNA	Stained glass	<i>K-rich</i>	15th	German	King Ferdinand II's collection, Portugal	[18]
Bas	<i>Sistotrema sp.</i>	DNA	Stained glass	<i>K-rich</i>	15th	German	King Ferdinand II's collection, Portugal	[18]
Asc	<i>Aspergillus arenarioides</i>	Cult-DNA	Stained glass	<i>Na-rich</i>	20th	France	Basílica Santuário de Nazaré, Brazil	[36]
Asc	<i>Aspergillus fumigatus</i>	MB	Stained glass	<i>n.i.</i>	19th	German	Church of St. Michael and Johann Baptist, Belgium	[37]
Asc	<i>Aspergillus fumigatus</i>	MB	Stained glass	<i>K-rich</i>	15th	Flemish	Cartuja de Miraflores Monastery, Burgos, Spain	[21]
Asc	<i>Aspergillus penicilloides</i>	MB	Stained glass	<i>K-rich</i>	15th	Flemish	Cartuja de Miraflores Monastery, Burgos, Spain	[21]
Asc	<i>Aspergillus restrictus</i>	MB	Stained glass	<i>K-rich</i>	15th	Flemish	Cartuja de Miraflores Monastery, Burgos, Spain	[21]
Asc	<i>Aspergillus tamaraii</i>	MB	Stained glass	<i>K-rich</i>	15th	Flemish	Cartuja de Miraflores Monastery, Burgos, Spain	[21]
Asc	<i>Aureobasidium pullulans</i>	MB	Stained glass	<i>n.i.</i>	19th	German	Church of St. Michael and Johann Baptist in Brakel	[37]
Asc	<i>Aureobasidium pullulans</i>	MB	Stained glass	<i>n.i.</i>	19th	German	Protestant chapel Stockkämpen;	[37]
Asc	<i>Capnobotryella renispora</i>	MB	Stained glass	<i>n.i.</i>	19th	German	Church of St. Michael and Johann Baptist in Brakel	[37]
Asc	<i>Cladosporium cladosporioides</i>	MB	Stained glass	<i>K-rich</i>	14th	Spanish	Cathedral of Tarragona, Spain	[23]
Asc	<i>Cladosporium cladosporioides</i>	MB	Stained glass	<i>K-rich</i>	?	Spanish	Church of Santa Maria del Mar in Barcelona, Spain	[23]
Asc	<i>Cladosporium sp.</i>	MB	Stained glass	<i>K-rich</i>	?	Spanish	Church of Santa Maria del Mar in Barcelona, Spain	[23]
Asc	<i>Cladosporium sphaerospermum</i>	MB	Stained glass	<i>K-rich</i>	14th	Spanish	Cathedral of Tarragona, Spain	[23]
Asc	<i>Cladosporium sphaerospermum</i>	MB	Stained glass	<i>K-rich</i>	?	Spanish	Church of Santa Maria del Mar in Barcelona, Spain	[23]
Asc	<i>Cladosporium spp.</i>	MB	Stained glass	<i>K-rich</i>	13 th	Spanish	Cathedral of Tarragona, Spain	[23]

Asc	<i>Coniosporum perforans</i>	MB	Stained glass	<i>n.i.</i>	19th	German	Church of St. Michael and Johann Baptist in Brakel	[37]
Asc	<i>Engyodontium album</i>	MB	Stained glass	<i>n.i.</i>	19th	German	Protestant chapel Stockkämpen	[37]
Asc	<i>Eurotium amstelodami</i>	MB	Stained glass	<i>K-rich</i>	14 th	Spanish	Cathedral of Tarragona, Spain	[23]
U. fungus	-	MB	Stained glass	K-rich	13 th	German	Cathedral of Altenberg, Germany	[47]
U. fungus	-	MB	Stained glass	Na-rich	20th	German	Church of Bad Driburg, Germany	[47]
U. fungus	-	MB	Stained glass	Na-rich	19th	German	Church of St. Michael and Johann Baptist in Brakel, Belgium	[47]
U. fungus	-	MB	Stained glass	Pb	19th	German	Protestant chapel Stockkämpen, Germany	[47]
Asc	<i>Geomyces asperulatus</i>	MB	Stained glass	<i>n.i.</i>	19th	German	Protestant chapel Stockkämpen, Germany	[37]
Asc	<i>Geomyces pannorum</i>	MB	Stained glass	<i>n.i.</i>	19th	German	Church of St. Michael and Johann Baptist in Brakel, Belgium	[37]
Asc	<i>Kirschsteiniothelia elaterascus</i>	MB	Stained glass	<i>n.i.</i>	19th	German	Protestant chapel Stockkämpen, Germany	[37]
Asc	<i>Leptosphaeria maculan</i>	MB	Stained glass	<i>n.i.</i>	19th	German	Protestant chapel Stockkämpen, Germany	[37]
Asc	<i>Penidiella venezuelensis</i>	MB	Stained glass	<i>K-rich</i>	13 th	Spanish	Cathedral of Tarragona, Spain	[23]
Asc	<i>Phoma glomerata</i>	MB	Stained glass	<i>K-rich</i>	?	Spanish	Church of Santa Maria del Mar in Barcelona, Spain	[23]
Asc	<i>Phoma sp.</i>	MB	Stained glass	<i>K-rich</i>	?	Spanish	Church of Santa Maria del Mar in Barcelona, Spain	[23]
Bas	<i>Rhodotorula minuta</i>	MB	Stained glass	<i>n.i.</i>	19th	German	Church of St. Michael and Johann Baptist in Brakel, Belgium	[37]
Asc	<i>Stanjemonium ochroroseum</i>	MB	Stained glass	<i>n.i.</i>	19th	German	Protestant chapel Stockkämpen, Germany	[37]
Bas	<i>Ustilago spp.</i>	MB	Stained glass	<i>n.i.</i>	19th	German	Protestant chapel Stockkämpen, Germany	[37]
Asc	<i>Verticillium spp.</i>	MB	Stained glass	<i>n.i.</i>	19th	German	Protestant chapel Stockkämpen, Germany	[37]
Asc	<i>Cladosporium</i>	Mor	Stained glass	<i>Na-rich</i>	20th	German	Church of Bad Driburg, Germany	[22]
U. fungus	Fungi	Mor	Stained glass	Na-rich	19th	German	Protestant chapel of Stockkämpen	[22]
U. fungus	Fungi	Mor	Stained glass	Na-rich	19th	German	Church of St. Michael and Johann Baptist in Brakel	[22]
Asc	<i>Hortaea werneckii</i>	Cult-MB	Stained glass	<i>Na-rich</i>	20th	France	Museu do Estado do Pará, in northern Brazil	[36]
Asc	<i>Fusarium oxysporum</i>	Cult-MB	Stained glass	<i>Na-rich</i>	19th	Portugal	Mausoleum of the family Britto Pontesin Belém, Brazil	[36]
Asc	<i>Myrothecium inundatum</i>	Cult-MB	Stained glass	<i>Na-rich</i>	19th	Portugal	Mausoleum of the family Britto Pontesin Belém, Brazil	[36]
U. fungus	Fungi	Mor	Stained glass	K-rich	12 th	German	Cathedral of Altenberg, Germany	[22]
U. fungus	<i>Uncultured ectomycorrhiza</i>	MB	Glazed tiles	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria (Venice, Italy)	[26]
Asc	<i>Aspergillus fumigatus</i>	Cult-MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	“Great View of Lisbon”Panel, Lisbon Museu Nacional do Azulejo Portugal	[30]
Asc	<i>Aspergillus sp.</i>	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Convento Santo António in Recife, Brazil	[31]
Asc	<i>Aureobasidium pullulans</i>	MB	Glazed tiles	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Asc	<i>Capnobotryella sp.</i>	Cult-MB	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]

Asc	<i>Capnobotryella</i> sp.	Cult-MB	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Asc	<i>Capnobotryella</i> sp.	Cult-MB	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Asc	<i>Capnodiales</i> sp.	MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Casa da Pesca, Portugal	[28]
Asc	<i>Capnodiales</i> sp.	MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Casa da Pesca, Portugal	[28]
Asc	<i>Capronia</i> sp.	MB	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Asc	<i>Devriesia imbrexigena</i>	Cult-MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Pena National Palace, Portugal	[38]
Asc	<i>Devriesia modesta</i>	Cult-MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Casa da Pesca, Portugal	[28]
Asc	<i>Devriesia modesta strain</i>	Cult-MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Casa da Pesca, Portugal	[28]
Asc	<i>Devriesia Neodevriesiaceae</i> sp.	Cult-MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Casa da Pesca, Portugal	[28]
Asc	<i>Devriesia xanthorrhoeae</i>	Cult-MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Casa da Pesca, Portugal	[28]
Asc	<i>Devriesia xanthorrhoeaec</i>	Cult-MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Casa da Pesca, Portugal	[28]
Bas	<i>Fellomyces sichuanensis</i> strain	Cult-MB	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
U. fungus	Fungal endophyte	MB	Glazed tiles	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Asc	<i>Fusarium</i> sp.	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Convento Santo António in Recife, Brazil	[31]
Asc	<i>Geotrichum</i> sp.	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Convento Santo António in Recife, Brazil	[31]
Asc	<i>Hortaea thailandica</i>	MB	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Bas	<i>Kockovaella schimae</i> strain	MB	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Asc	<i>Monodictys</i> sp.	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Convento Santo António in Recife, Brazil	[31]
U. fungus	<i>Mycelia sterilia</i>	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Convento Santo António in Recife, Brazil	[31]
Asc.	<i>Neodevriesiaceae</i> sp.	Cult-MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Casa da Pesca, Portugal	[28]
Asc.	<i>Penicillium</i> sp.	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	“Great View of Lisbon”Panel, Lisbon Museu Nacional do Azulejo Portugal	[30]

Asc.	<i>Penicillium</i> sp.	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Convento Santo António in Recife, Brazil	[31]
Asc.	<i>Phoma herbarum</i>	MB	Glazed tiles	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Asc.	<i>Saccharata</i> sp.	MB	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Bas.	<i>Sporobolomyces coprosmae</i>	MB	Glazed tiles	Pb-alkali Sn - opacified	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Asc.	<i>Stigmina</i> sp.	MB	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Asc.	<i>Umbilicaria calvescens</i>	MB	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]

<sup>1</sup> Division: Asc. Ascomycota; Bas. Basidiomycota; U. Fungi – Unidentified fungus

<sup>2</sup> Identification method: Culture-dependent; Mor. - Morphological and sensing; DNA. – DNA based analysis.

<sup>3</sup> Date cent. - Date (century)

<sup>4</sup> Prov. – Provenance

a

Table S2 – Bacteria reported on historical stained glass windows and glazed tiles in the literature.

Phylum <sup>1</sup>	Genera/species	Ident. Method <sup>2</sup>	Tipology	Type of silicate glass	Date (cent.) <sup>3</sup>	Prov. <sup>4</sup>	Monument/Collection, Country	Reference
Actinobacteria	<i>Arthrobacter agilis</i>	Cult-MB	Stained glass	<i>Na-rich</i>	15th	Italian	“Nativita” in the Florence Cathedral, Italy	[25]
Actinobacteria	<i>Arthrobacter crystallopoietes</i>	Cult-MB	Stained glass	<i>Na-rich</i>	15th	Italian	“Nativita” in the Florence Cathedral, Italy	[25]
Actinobacteria	<i>Arthrobacter</i> sp.	Cult-MB	Stained glass	<i>Na-rich</i>	15th	Italian	“Nativita” in the Florence Cathedral, Italy	[25]
Actinobacteria	<i>Leucobacter albus</i>	Cult-MB	Stained glass	<i>Na-rich</i>	15th	Italian	“Nativita” in the Florence Cathedral, Italy	[25]
Actinobacteria	<i>Leucobacter komagatae</i>	Cult-MB	Stained glass	<i>Na-rich</i>	15th	Italian	“Nativita” in the Florence Cathedral, Italy	[25]
Firmicutes	<i>Bacillus firmus</i>	Cult-MB	Stained glass	<i>Na-rich</i>	15th	Italian	“Nativita” in the Florence Cathedral, Italy	[25]
Firmicutes	<i>Bacillus licheniformis</i>	Cult-MB	Stained glass	<i>Na-rich</i>	15th	Italian	“Nativita” in the Florence Cathedral, Italy	[25]
Firmicutes	<i>Bacillus megaterium</i>	Cult-MB	Stained glass	<i>Na-rich</i>	15th	Italian	“Nativita” in the Florence Cathedral, Italy	[25]
Firmicutes	<i>Bacillus mojavensis</i>	Cult-MB	Stained glass	<i>Na-rich</i>	15th	Italian	“Nativita” in the Florence Cathedral, Italy	[25]
Firmicutes	<i>Bacillus pumilus</i>	Cult-MB	Stained glass	<i>Na-rich</i>	15th	Italian	“Nativita” in the Florence Cathedral, Italy	[25]
Firmicutes	<i>Bacillus simplex</i>	Cult-MB	Stained glass	<i>Na-rich</i>	15th	Italian	“Nativita” in the Florence Cathedral, Italy	[25]
Firmicutes	<i>Bacillus thuringiensis</i>	Cult-MB	Stained glass	<i>Na-rich</i>	15th	Italian	“Nativita” in the Florence Cathedral, Italy	[25]
Firmicutes	<i>Bacillus vallismortis</i>	Cult-MB	Stained glass	<i>Na-rich</i>	15th	Italian	“Nativita” in the Florence Cathedral, Italy	[25]
Firmicutes	<i>Paenibacillus amylolyticus</i>	Cult-MB	Stained glass	<i>Na-rich</i>	15th	Italian	“Nativita” in the Florence Cathedral, Italy	[25]
Firmicutes	<i>Paenibacillus kribbensis</i>	Cult-MB	Stained glass	<i>Na-rich</i>	15th	Italian	“Nativita” in the Florence Cathedral, Italy	[25]
Firmicutes	<i>Paenibacillus pabuli</i>	Cult-MB	Stained glass	<i>Na-rich</i>	15th	Italian	“Nativita” in the Florence Cathedral, Italy	[25]
Firmicutes	<i>Paenibacillus polymyxa</i>	Cult-MB	Stained glass	<i>Na-rich</i>	15th	Italian	“Nativita” in the Florence Cathedral, Italy	[25]
Proteobacteria	<i>Brevundimonas subvibrioides</i>	Cult-MB	Stained glass	<i>Na-rich</i>	15th	Italian	“Nativita” in the Florence Cathedral, Italy	[25]
Proteobacteria	<i>Brevundimonas variabilis</i>	Cult-MB	Stained glass	<i>Na-rich</i>	15th	Italian	“Nativita” in the Florence Cathedral, Italy	[25]
Proteobacteria	<i>Stenotrophomonas maltophilia</i>	Cult-MB	Stained glass	<i>Na-rich</i>	15th	Italian	“Nativita” in the Florence Cathedral, Italy	[25]

U. Bacteria	<i>uncultured soil bacterium</i>	Cult-MB	Stained glass	<i>Na-rich</i>	15th	Italian	“Nativita” in the Florence Cathedral, Italy	[25]
Proteobacteria	<i>Delftia acidovorans</i>	MB	Stained glass	<i>K-rich</i>	15th (20th)	Spanish	Church of Santa Maria del Mar in Barcelona, Spain	[23]
Proteobacteria	<i>Delftia</i> sp.	MB	Stained glass	<i>K-rich</i>	15th (20th)	Spanish	Church of Santa Maria del Mar in Barcelona, Spain	[23]
Proteobacteria	<i>Pseudomonas stutzeri</i>	MB	Stained glass	<i>K-rich</i>	15th (20th)	Spanish	Church of Santa Maria del Mar in Barcelona, Spain	[23]
Proteobacteria	<i>Ralstonia pickettii</i>	MB	Stained glass	<i>K-rich</i>	14th	Spanish	Cathedral of Tarragona, Spain	[23]
Proteobacteria	<i>Ralstonia</i> sp.	MB	Stained glass	<i>K-rich</i>	14th	Spanish	Cathedral of Tarragona, Spain	[23]
Proteobacteria	<i>Variovorax paradoxus</i>	MB	Stained glass	<i>K-rich</i>	14th	Spanish	Cathedral of Tarragona, Spain	[23]
Actinobacteria	<i>Actinomyces</i>	MB	Stained glass	<i>Pb-rich</i>	19th	German	Protestant chapel Stockkämpen	[47]
Actinobacteria	<i>Arthrobacter</i>	MB	Stained glass	<i>K-rich</i>	15th (20th)	Spanish	Church of Santa Maria del Mar in Barcelona, Spain	[23]
Actinobacteria	<i>Cellulomonas</i> sp.	MB	Stained glass	<i>K-rich</i>	14th	Spanish	Cathedral of Tarragona, Spain	[23]
Actinobacteria	<i>Kocuria aegyptia</i>	MB	Stained glass	<i>K-rich</i>	14th	Spanish	Cathedral of Tarragona, Spain	[23]
Actinobacteria	<i>Kocuria rosea</i>	MB	Stained glass	<i>K-rich</i>	14th	Spanish	Cathedral of Tarragona, Spain	[23]
Actinobacteria	<i>Kocuria</i> sp.	MB	Stained glass	<i>K-rich</i>	14th	Spanish	Cathedral of Tarragona, Spain	[23]
Actinobacteria	Uncultured <i>Kocuria</i> sp.	MB	Stained glass	<i>K-rich</i>	14th	Spanish	Cathedral of Tarragona, Spain	[23]
Actinobacteria	<i>Micrococcus</i> sp.	MB	Stained glass	<i>K-rich</i>	14th	Spanish	Cathedral of Tarragona, Spain	[23]
Actinobacteria	Uncultured <i>Actinobacterium</i>	MB	Stained glass	<i>K-rich</i>	14th	Spanish	Cathedral of Tarragona, Spain	[23]
Bacteroidetes	<i>Bacteroidetes</i> bacteria	MB	Stained glass	<i>K-rich</i>	14th	Spanish	Cathedral of Tarragona, Spain	[23]
Bacteroidetes	Uncultured <i>Bacteroidetes</i> bacterium	MB	Stained glass	<i>K-rich</i>	15th (20th)	Spanish	Church of Santa Maria del Mar in Barcelona, Spain	[23]
Bacteroidetes	<i>Prevotella</i> sp.	MB	Stained glass	<i>K-rich</i>	14th	Spanish	Cathedral of Tarragona, Spain	[23]
Bacteroidetes	<i>Sediminibacterium</i> sp.	MB	Stained glass	<i>K-rich</i>	14th	Spanish	Cathedral of Tarragona, Spain	[23]
Firmicutes	<i>Bacillus pumilus</i>	MB	Stained glass	<i>K-rich</i>	15th (20th)	Spanish	Church of Santa Maria del Mar in Barcelona, Spain	[23]
Firmicutes	<i>Enterococcus</i> sp.	MB	Stained glass	<i>K-rich</i>	14th	Spanish	Cathedral of Tarragona, Spain	[23]
Nitrospirae	<i>Nitrospira</i>	MB	Stained glass	<i>Pb-rich</i>	19th	German	Protestant chapel Stockkämpen	[47]
Proteobacteria	<i>Acinetobacter</i> sp.	MB	Stained glass	<i>K-rich</i>	14 th	Spanish	Cathedral of Tarragona, Spain	[23]
Proteobacteria	<i>Acinetobacter</i> sp.	MB	Stained glass	<i>K-rich</i>	14th	Spanish	Cathedral of Tarragona, Spain	[23]
Proteobacteria	<i>Bradyrhizobium elkanii</i>	MB	Stained glass	<i>K-rich</i>	14th	Spanish	Cathedral of Tarragona, Spain	[23]
Proteobacteria	<i>Bradyrhizobium</i> sp.	MB	Stained glass	<i>K-rich</i>	14th	Spanish	Cathedral of Tarragona, Spain	[23]
Proteobacteria	<i>Delftia acidovorans</i>	MB	Stained glass	<i>K-rich</i>	14th	Spanish	Cathedral of Tarragona, Spain	[23]
Proteobacteria	<i>Methylobacterium</i>	MB	Stained glass	<i>K-rich</i>	14th	Spanish	Cathedral of Tarragona, Spain	[23]
Proteobacteria	<i>Myxococcus xanthus</i>	MB	Stained glass	<i>K-rich</i>	15th (20th)	Spanish	Church of Santa Maria del Mar in Barcelona, Spain	[23]
Proteobacteria	<i>Thermomonas dokdonensis</i>	MB	Stained glass	<i>K-rich</i>	14th	Spanish	Cathedral of Tarragona, Spain	[23]
U. Bacteria	<i>Uncultured bacterium</i>	MB	Stained glass	<i>K-rich</i>	14th	Spanish	Cathedral of Tarragona, Spain	[23]
U. Bacteria	Uncultured soil bacterium clone	MB	Stained glass	<i>K-rich</i>	14th	Spanish	Cathedral of Tarragona, Spain	[23]
U. Bacteria	<i>Bacteria</i>	Mor-MB	Stained glass	<i>K-rich</i>	15th	Flemish	Cartuja de Miraflores Monastery, Burgos, Spain.	[21]
U. Bacteria	<i>Bacteria</i>	MB	Stained glass	<i>Pb-rich</i>	19th	German	Protestant chapel Stockkämpen	[47]
U. Bacteria	unspecified Bacteria	Mor	Stained glass	<i>Na-rich</i>	19th	German	Protestant chapel of Stockkämpen	[22]
U. Bacteria	unspecified Bacteria	Mor	Stained glass	<i>Na-rich</i>	19th	German	Protestant chapel of Stockkämpen	[22]
U. Bacteria	unspecified Bacteria	Mor	Stained glass	<i>Na-rich</i>	19th	German	Protestant chapel of Stockkämpen	[22]

<i>U. Bacteria</i>	unspecified Bacteria	Mor	Stained glass	<i>Na-rich</i>	19th	German	Protestant chapel of Stockkämpen	[22]
<i>U. Bacteria</i>	unspecified Bacteria	Mor	Stained glass	<i>Na-rich</i>	19th	German	Protestant chapel of Stockkämpen	[22]
<i>U. Bacteria</i>	Bacteria	Mor	Stained glass	<i>K-rich</i>	13th	German	Cathedral of Altenberg	[22]
Actinobacteria	Uncultured Microcella sp.	MB	Glazed tile	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Actinobacteria	<i>Modestobacter</i> sp.	MB	Glazed tile	Pb-alkali Sn-opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Actinobacteria	<i>Pseudonocardia</i> bacterium	MB	Glazed tile	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Actinobacteria	<i>Rhodovastum atsumiense</i> (AB381935)	MB	Glazed tile	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Actinobacteria	Uncultured actinobacterium	MB	Glazed tile	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Actinobacteria	<i>Yonghaparkia alkaliphila</i>	MB	Glazed tile	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Actinobacteria.	<i>Microcella putealis</i>	MB	Glazed tile	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Bacteroidetes	<i>Spirosoma aquatica</i>	MB	Glazed tile	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Bacteroidetes	Uncultured Bacteroidetes	MB	Glazed tile	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Bacteroidetes	Uncultured Bacteroidetes	MB	Glazed tile	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Chloroflexi	<i>Anaerolinea thermophila</i>	MB	Glazed tile	Pb-alkali Sn-opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Firmicutes	Uncultured Flexibacteriaceae	MB	Glazed tile	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Proteobacteria	<i>Aurantimonas</i> sp.	MB	Glazed tile	Pb-alkali Sn-opacified	19th	Portuguese	Pena National Palace (Sintra, Portugal)	[29]
Proteobacteria	<i>Beijerinckia fluminensis</i>	MB	Glazed tile	Pb-alkali Sn-opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Proteobacteria	<i>Mesorhizobium</i> sp.	MB	Glazed tile	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Proteobacteria	<i>Methylibium</i> sp.	MB	Glazed tile	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Proteobacteria	<i>Oxalicibacterium faecigallinarum</i>	MB	Glazed tile	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Proteobacteria	<i>Sphingomonas</i> sp.	MB	Glazed tile	Pb-alkali Sn-opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Proteobacteria	Uncultured alfa proteobacterium	MB	Glazed tile	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Proteobacteria	Uncultured alfa proteobacterium	MB	Glazed tile	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Proteobacteria	Uncultured beta proteobacterium	MB	Glazed tile	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Proteobacteria	Uncultured beta proteobacterium x	MB	Glazed tile	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Proteobacteria	Uncultured Methylibium sp.	MB	Glazed tile	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
<i>U. Bacteria</i>	Uncultured bacterium	MB	Glazed tile	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
<i>U. Bacteria</i>	Uncultured bacterium	MB	Glazed tile	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
<i>U. Bacteria</i>	Uncultured soil bacterium	MB	Glazed tile	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]

<sup>1</sup> Division: *U. Bacteria* – Unidentified Bacteria

<sup>2</sup> Identification method: Culture-dependent; Mor. - Morphological and sensing; DNA. – DNA based analysis.

<sup>3</sup> Date (cent.) - Date (century)

<sup>4</sup> Prov. – Provenance

Table S3 – Prototrophs (cyanobacteria and microalgae), Protista and Rotifera reported on historical stained glass windows and glazed tiles in the literature.

Phylum	Species	Ident. Method <sup>1</sup>	Tipology	Type of silicate glass	Date (cent.) <sup>2</sup>	Prov. <sup>3</sup>	Monument/Collection, Country	Reference
<b>Phototrophs</b>								
Chlorophyta	<i>Apatococcus lobatus</i> (Chodat) J. B. Petersen	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Chlorophyta	<i>Bracteacoccus minutus</i> Schwarz	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Chlorophyta	<i>Desmococcus olivaceus</i> (Pers. Ex. Ach.) Laundon	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Chlorophyta	<i>Diaphragma radiosum</i> Geitler	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Chlorophyta	<i>Dictyochloris pulchra</i> Deason & Herndon	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Chlorophyta	<i>Jaagiella alpicola</i> Vischer	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Chlorophyta	<i>Stichococcus bacillaris</i> Nägeli.	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Chlorophyta	<i>Trentepohlia monilia</i> Wildeman	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Chlorophyta	<i>Trentepohlia</i> sp.	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Chlorophyta	<i>Ulothrix</i> sp.	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Charophyta	<i>Klebsormidium flaccidum</i> (Kützing) P.C.Silva, K.R.Mattox & W.H.Blackwell var. <i>crassum</i> (R.Chodat) H.Ettl & Gärtner	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Charophyta	<i>Klebsormidium flaccidum</i> (Kützing) P.C.Silva, K.R.Mattox & W.H.Blackwell var. <i>nitens</i> (Kützing) T.Mrozinska	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Charophyta	<i>Klebsormidium pseudostichococcus</i> (Heering) H.Ettl & Gärtner	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Cyanobacteria	<i>Aphanocapsa parietina</i> Nägeli	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Cyanobacteria	<i>Calothrix</i> sp.	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Cyanobacteria	<i>Gloeocapsa</i> sp.	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Cyanobacteria	<i>Gloeotheca</i> sp.	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Cyanobacteria	<i>Nostoc commune</i> Vaucher ex Bornet & Flahault	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Cyanobacteria	<i>Nostoc paludosum</i> (Kützing) Bornet & Flahault	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Cyanobacteria	<i>Nostoc punctiforme</i> (Kützing) Hariot	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Cyanobacteria	<i>Plectonema edaphicum</i> (Elenkin) Vulina	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Cyanobacteria	<i>Tolypothrix distorta</i> Kützing	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	19th	Portuguese	Pena National Palace, Portugal	[29]
Chlorophyta	<i>Oocystis solitaria</i> chloroplast (FJ968739)	MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Pena National Palace, Portugal	[29]
Chlorophyta	<i>Chlorella saccharophila</i> chloroplast	MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Pena National Palace, Portugal	[29]
Chlorophyta	<i>Chlorella ellipsoidea</i> chloroplast	MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Pena National Palace, Portugal	[29]
Chlorophyta	<i>Chlorella saccharophila</i> chloroplast	MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Pena National Palace, Portugal	[29]
Chlorophyta	<i>Oocystis solitaria</i> chloroplast	MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Pena National Palace, Portugal	[29]

Chlorophyta	<i>Oocystis solitaria</i> chloroplast	MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Pena National Palace, Portugal	[29]
Chlorophyta	<i>Oocystis solitaria</i> chloroplast	MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Pena National Palace, Portugal	[29]
Cyanobacteria	<i>Tolypothrix</i> sp.	MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Pena National Palace, Portugal	[29]
Cyanobacteria	<i>Chroococcidiopsis</i> sp.	MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Pena National Palace, Portugal	[29]
Cyanobacteria	<i>Nostoc</i> sp.	MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Pena National Palace, Portugal	[29]
Cyanobacteria	<i>Chroococcidiopsis</i> sp.	MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Pena National Palace, Portugal	[29]
Chlorophyta	<i>Apatococcus lobatos</i>	MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Pena National Palace, Portugal	[29]
Chlorophyta	<i>Trentepohlia</i> sp.	MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Pena National Palace, Portugal	[29]
Chlorophyta	<i>Chlorella saccharophila</i> (chloroplast)	MB	Glazed tiles	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Cyanobacteria	Uncultured bacterium (cyanobacterium)	MB	Glazed tiles	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Chlorophyta	<i>Rosenvingiella radicans</i>	MB	Glazed tiles	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Cyanobacteria	<i>Synechococcus lividus</i>	MB	Glazed tiles	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Chlorophyta	<i>Phycopeltis</i> sp. HBI HB-YN1202	MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Casa da Pesca, Portugal	[28]
Cyanobacteria	Uncultures <i>Iphinoe</i> sp.	MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Casa da Pesca, Portugal	[28]
Cyanobacteria	<i>Iphinoe spelaebios</i>	MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Casa da Pesca, Portugal	[28]
Chlorophyta	<i>Oocystis solitaria</i> chloroplast	MB	Glazed tiles	Pb-alkali Sn - opacified	18th	Portuguese	Casa da Pesca, Portugal	[28]
Cyanobacteria	<i>Chroococcus</i> sp.	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	17th	Portuguese	St. Francis Church and Convent, Brazil	[27]
Cyanobacteria	<i>Cyanosarcina</i> sp.	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	17th	Portuguese	St. Francis Church and Convent, Brazil	[27]
Cyanobacteria	<i>Scytonema</i> sp.	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	17th	Portuguese	St. Francis Church and Convent, Brazil	[27]
Cyanobacteria	<i>Chroococcus</i> sp.	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	17th	Portuguese	St. Francis Church and Convent, Brazil	[27]
Cyanobacteria	<i>Chroococcus</i> sp.	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	17th	Portuguese	St. Francis Church and Convent, Brazil	[27]
Cyanobacteria	<i>Scytonema</i> sp.	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	17th	Portuguese	St. Francis Church and Convent, Brazil	[27]
Cyanobacteria	<i>Chroococcus</i> sp.	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	17th	Portuguese	St. Francis Church and Convent, Brazil	[27]
Cyanobacteria	<i>Chroococcus</i> sp.	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	17th	Portuguese	St. Francis Church and Convent, Brazil	[27]
Ochrophyta	<i>Navicula</i> sp	Cult-Mor	Glazed tiles	Pb-alkali Sn - opacified	17th	Portuguese	St. Francis Church and Convent, Brazil	[27]
Cyanobacteria	<i>Chroococcus</i> sp	Cult-Mor	Glazed tiles	High-Pb	19th	German	Palacete Pinho, Brazil	[27]
Cyanobacteria	<i>Lygnbya</i> sp.	Cult-Mor	Glazed tiles	High-Pb	19th	German	Palacete Pinho, Brazil	[27]
Cyanobacteria	<i>Chroococcus</i> sp.	Cult-Mor	Glazed tiles	High-Pb	19th	German	Palacete Pinho, Brazil	[27]
Cyanobacteria	<i>Chroococcus</i> sp	Cult-Mor	Glazed tiles	High-Pb	19th	German	Palacete Pinho, Brazil	[27]
Ochrophyta	<i>Navicula</i> sp.	Cult-Mor	Glazed tiles	High-Pb	19th	German	Palacete Pinho, Brazil	[27]
Chlorophyta	<i>Chlorella saccharophila</i> chloroplast	MB	Glazed tiles	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Cyanobacteria	Uncultured cyanobacterium	MB	Glazed tiles	High-Pb	20th	Italian	Grande Albergo Ausonia & Hungaria, Italy	[26]
Cyanobacteria	<i>Gloeocapsa</i> sp.	Mor	Stained glass	Na-rich	19th	France	Mausoleum of the Assis Chermont, Brazil	[24]

Cyanobacteria	<i>Oscillatoria</i> sp.	Mor	Stained Glass	Na-rich	19th	France	Mausoleum of the Assis Chermont, Brazil	[36]
<b>Others</b>								
Protista	<i>Stramenopile labyrinthula</i>	MB	Stained glass	K-rich	15th	Flemish	Cartuja de Miraflores Monastery, Burgos, Spain.	[21]
Rotifera	<i>Encentrum</i>	Mor	Stained glass	Na-rich	19th	France	Mausoleum of the Assis Chermont in Belém, northern Brazil	[24]

<sup>1</sup> Identification method: Culture-dependent; Mor. - Morphological and sensing; DNA. – DNA based analysis.

<sup>2</sup> Date cent. - Date (century)

<sup>3</sup> Prov. – Provenance