The major lichen communities of British lowland churchyards

Adapted from work by Tom Chester

Well-lit, vertical, calcareous gravestones, church and boundary walls

Athallia holocarpa (Caloplaca holocarpa)
Bagliettoa parmigera s. lat. (Verrucaria baldensis)
Calogaya decipiens (Caloplaca decipiens)
Calogaya pusilla (Caloplaca saxicola) ch mo
Candelariella aurella ch mo
Catillaria lenticularis
Circinaria calcarea
Diploicia canescens
Diplotomma alboatrum ch mo
Flavoplaca citrina s. lat. (Caloplaca citrina)
Flavoplaca ruderum (Caloplaca ruderum) ch sl
Kuettlingeria teicholyta (Caloplaca teicholyta)
Lecania inundata
Lecania rabenhorstii
Lecanora campestris
Lecidella stigmatea
Myriolecis albescens
Myriolecis crenulata
Myriolecis dispersa
Placopyrenium fuscellum (Verrucaria glaucina)
Protoblastenia rupestris
Rinodina gennarii ch mo
Sarcogyne regularis
Solenopsora candicans
Toniniopsis aromatica ch mo
Variospora aurantia (Caloplaca aurantia) ch sl
Variospora flavescens (Caloplaca flavescens)
Verrucaria hochstetteri
Verrucaria macrostoma
Verrucaria muralis
Verrucaria nigrescens
Verrucaria viridula

Where to look:
South and west facing, sunny church and boundary walls made of limestone, calcareous sandstone and ironstone. Includes generally softer courses of lime mortar and slopes of often harder stone used in buttresses, chamfered plinths and window sills. West faces and south edges of calcareous headstones, and sunnier sides of tombs. Some species (as indicated above) are more commonly found on the church (ch) than on the surrounding gravestones or on mortar (mo) or slopes (sl). Concrete posts.

Regional variation:
Flavoplaca ruderum is common in East Anglia and Kent but rarely occurs further west or north. *Variospora aurantia*, *Kuettlingeria teicholyta* and *Candelariella medians* are also less common in the west and north, while *Variospora flavescens* and *Diploicia canescens* are relatively rare in Scotland.

Nutrient-enriched tops of calcareous headstones and boundary walls

Athallia holocarpa
Caloplaca chlorina (Caloplaca isidiigera)
Candelariella medians
Diploicia canescens
Flavoplaca citrina s.lat. (Caloplaca citrina)
Lecidella stigmatea
Phaeophyscia orbicularis
Physcia adscendens
Physcia caesia
Physconia grisea
Xanthoria calcicola
Xanthoria parietina

Where to look:
The tops of limestone, marble, calcareous sandstone and ironstone headstones and crosses enriched by bird-droppings. To a lesser extent, the sides of headstones where there is nutrient run-off and the corners of chest-tombs. These species may also occur on the slopes and ledges of the church, especially under bird perches. Nutrients also drip from the branches and foliage of trees onto stonework below and have an enriching effect, provided this is not counter acted by too dense a shade. Boundary wall tops provide a similar habitat, particularly if there are farm animals in the vicinity.

Well-lit, slow-drying, horizontal tops of calcareous tombs and walls

Agonimia tristicula
Bilimbia sabuletorum
Blennothallia crispa (Collema crispum)
Caloplaca chlorina (Caloplaca isidiigera)
Circinaria calcarea
Circinaria contorta
Flavoplaca citrina s. lat. (Caloplaca citrina)
Kuettlingeria teicholyta (Caloplaca teicholyta)
Lathagrium auriforme (Collema auriforme)
Lecania inundata
Lecania rabenhorstii
Lecidella stigmatea
Lobothallia radiosa (Aspicilia subcircinata)
Placynthium nigrum
Protoblastenia rupestris
Pyrenodesmia variabilis (Caloplaca variabilis)
Solenopsora candicans
Toniniopsis aromatica (Toninia aromatica)
Verrucaria glaucina
Verrucaria viridula

Where to look:
Limestone and ironstone chest, coped and coffin tombs, kerbs and chippings; low limestone or concrete slabs; the damp tops of retaining walls at ground level. *Agonimia tristicula, Bilimbia sabuletorum* and jelly lichen genera are frequently found over or among mosses and in the damper recesses of inscriptions. The basal ledges of a church's north wall and the damper parts of boundary walls also provide habitat for these muscicolous species. Some of the rarer jelly lichen species may occur in water-filled depressions.

Regional variations:
Lobothallia radiosa (Aspicilia subcircinata) is locally common in Central and Eastern England.

Shaded, dry, vertical, calcareous church and boundary walls

Arthonia calcarea (Opegrapha saxatilis)
Dirina massiliensis f. sorediata
Lepraria vouauxii
Leproplaca chrysodeta
Verrucaria macrostoma f. furfurcea

Where to look:
North and east-facing church walls made of limestone, calcareous sandstone and ironstone and on lime mortar. These species occur occasionally on the north sides of chest tombs. *Dirina* is rare on gravestones and is characteristically found on the north walls of churches. *Lepraria vouauxii* is common on mortar courses and over mosses on both walls and shaded, calcareous memorials. Crevices and dry underhangs on walls provide a niche for *Leproplaca chrysodeta* (and the much-overlooked *Botryolepraria lesdainii*). A number of lirellate species may occur on damper, vertical surfaces and mortar, the most common being the chalky white *Arthonia calcarea*.

Well-lit, vertical siliceous gravestones, church and boundary walls

Acarospora fuscata
Buellia aethalea
Candelariella vitellina
Diploschistes scruposus
Lecanora caesiosora
Lecanora orosthea
Lecanora pannonica
Lecanora polytropa
Lecanora soralifera
Lecidea fuscoatra
Melanelixia fuliginosa
Parmelia saxatilis
Parmelia sulcata
Porpidia tuberculosa

Where to look:
South and west-facing, sunny church and boundary walls made of sandstone, siliceous ironstone, granite, flint and brick. West faces and south edges of sandstone, siliceous ironstone, granite and slate headstones and the sunnier sides of tombs. Some of these species may also be found on acid mortars used occasionally on church walls.

Regional variations:
Lecanora soralifera is especially common on the generally more siliceous stones of northern England. *Lecanora pannonica* occurs regularly on sandstone and ironstone in Central England and more infrequently in North and East Yorkshire. *Lecanora caesiosora* rarely found beyond Lincolnshire, NE England and the Borders.

Nutrient-enriched tops of siliceous headstones and boundary walls

Acarospora fuscata
Buellia aethalea
Buellia occelata
Candelariella vitellina
Cladonia fimbriata
Diploschistes scruposus
Protoparmeliopsis muralis (Lecanora muralis)
Lecanora polytropa
Lecanora sulphurea
Lecidella scabra
Ochrolechia parella
Melanelixia fuliginosa
Parmelia saxatilis
Parmelia sulcata
Physcia caesia
Physcia dubia
Porpidia tuberculosa
Rhizocarpon reductum
Rinodina gennarii
Rinodina teichophila
Scoliciosporum umbrinum
Tephromela atra
Polycauliona ucrainica (Xanthoria ucrainica)
Xanthoria parietina

Where to look:
The tops of sandstone, siliceous ironstone, granite and slate headstones and crosses enriched with bird droppings. To a lesser extent, the sides of headstones where there is nutrient run-off, and the corners of chest-tombs. These species may also occur on the slopes and ledges of the church, including those of flint and brick, especially under bird perches. Nutrients also drip from the branches and foliage of trees on to the stonework below and have an enriching effect, provided this is not counter-acted by too dense a shade. Boundary wall tops also provide a similar habitat, particularly if there are farm animals in the vicinity.

Well-lit, slow-drying horizontal tops of siliceous tombs and walls

Buellia aethalea	grch	*Porpidia tuberculosa*	
Protoparmeliopsis muralis		*Rhizocarpon reductum*	grch
Lecanora polytropa	grch	*Trapelia coarctata*	
Lecidella scabra		*Trapelia placodioides*	
Melanelixia fuliginosa	grch	*Xanthoparmelia mougeotii*	grch
Parmelia saxatilis			

Where to look:
Sandstone and granite coped tombs, coffin tombs, kerbs, sandstone ledgers and low chest-tombs, also the damp tops of sandstone, granite and brick retaining walls at ground level. Some species (as indicated) are especially common on granite chippings. Other species found on such chippings include *Lecanora campestris, L. dispersa, Parmelia sulcata, Physcia adscendens* and *Xanthoria parietina*.

Shaded, vertical siliceous gravestones, church and boundary walls

Catillaria chalybeia
Haematomma ochroleucm var. porphyrium
Lecanora expallens
Lecidea orosthea
Lepra amara (Pertusaria amara)
Lepraria incana
Melanelixia fuliginosa
Psilolechia lucida
Tephromela atra

Where to look:
North and shaded, east-facing church and boundary walls made of sandstone, siliceous ironstone, granite, flint and brick. These species are to be found on the east sides of headstones, and on the west sides too where these are shaded by walls or vegetation. *Psilolechia lucida* may grow within the damper recesses of the lettering where inscriptions are cut into the stone. It sometimes picks out the lines of mortar courses on the church walls when an acid mix is used.

Stone subject to metal run-off

Candelariella vitellina
Flavoplaca citrina s. lat.
Lecanora polytropa
Lepraria incana
Psilolechia leprosa
Psilolechia lucida
Rhizocarpon reductum
Scoliciosporum umbrinum

Where to look:
Run-off from lead, iron or copper. For example, on windowsills under metal grilles, at the base of iron railings, or adjacent to lead lettering, sopper plaques and lightening conductors. Run-off from copper roofs may stain buttresses, or walls on either side of vertical drainpipes. *Psilolechia leprosa* is usually present in these copper-rich niches and seems to favour mortar, crevices and underhangs. *Flavoplaca citrina s. lat.* often borders areas of wall stained by copper. *Scoliciosporum umbrinum* is frequent on windowsills below iron grilles, a niche also exploited by the rarer *Arthonia fusca*. Occasionally these species may be found growing directly on metal.

Acid stone subject to calcareous run-off

Bacidia sabuletorum
Buellia aethalea
Flavoplaca citrina s. lat.
Candelariella vitellina
Clauzadea monticola
Diplotomma alboatrum
Myriolecis crenulata (Lecanora crenulata)
Myriolecis dispersa (Lecanora dispersa)
Protoparmeliopsis muralis (Lecanora muralis)
Lecidella scabra
Lecidella stigmatea
Lepra amara (Pertusaria amara)
Protoblastenia rupestris
Rhizocarpon reductum
Trapelia coarctata
Bagliettoa parmigera s. lat. (Verrucaria baldensis)
Verrucaria glaucina
Verrucaria hochstetteri
Verrucaria muralis
Verrucaria viridula

Where to look:
Lime-mortared sandstone, granite, flint and brick walls. Sandstone bases to limestone tombs. More typically calcareous species such as *Variospora flavescens* are occasionally found near the base of porous sandstone headstones set in calcareous soil, probably due to capillary action.

A note on rapid colonisers

Athallia holocarpa (Caloplaca holocarpa)
Buellia aethalia
Buellia ocellata
Calogaya decipiens (Caloplaca decipiens)
Caloplaca citrina s. lat.
Candelariella aurella
Lecanora campestris
Lecidella scabra
Myriolecis albescens (Lecanora albescens)
Myriolecis dispersa (Lecanora dispersa)
Phaeophyscia orbicularis
Physcia adscendens
Physcia caesia
Physconia grisea
Porpidia tuberculosa
Rinodina gennarii
Verrucaria nigrescens
Xanthoria parietina

Where to look:
The tops of limestone, ironstone and sandstone headstones erected within the last 30 years. These are usually in one place towards the edge of the churchyard or in an extension yard nearby. Such species commonly occur in cemeteries. The first visible signs of colonisation usually appear after about three years. However, some species, at this stage, may be too small to identify. The colonisation of granites, marbles and artificial stones, particularly if they are polished may take much longer. Other less common species found on recent memorials are *Phaeophyscia nigricans* and *Rusavskia elegans (Xanthoria elegans)*.

Lignicolous species on wood

Amandinea punctata
Athallia holocarpa (Caloplaca holocarpa)
Caloplaca citrina s. lat.
Candelariella vitellina
Cladonia coniocraea
Cladonia macilenta
Cyphelium inquinans
Hypocenomyce scalaris
Hypogymnia physodes
Lecanora expallens
Lecanora symmicta
Lecanora varia
Lecidella elaeochroma
Melanelixia glabratula
Melanelixia subaurifera
Micarea denigrata
Myriolecis dispersa (Lecanora dispersa)
Parmelia sulcata
Phaeophyscia orbicularis
Physcia adscendens
Physcia caesia
Physcia tenella
Placynthiella icmalea
Polycauliona ucrainica

Trapeliopsis flexuosa
Trapeliopsis granulosa
Xanthoria parietina

Where to look:
Wooden crosses, leaping-boards, fences, posts, seats, noticeboards, sheds.

Corticolous species on trees

Amandinea punctata
Arthonia atra
Arthonia radiata
Cliostomum griffithii
Evernia prunastri
Hypogymnia physodes
Lecanora chlarotera
Lecanora hybocarpa
Lecanora expallens
Lecidella elaeochroma
Zwackhia prosodea (Opegrapha prosodea)
Melanelixia glabratula
Melanelixia subaurifera
Parmelia sulcata
Phaeophyscia orbicularis
Phlyctis argena
Physcia adscendens
Physcia tenella
Physconia grisea
Polycauliona ucrainica
Polycauliona polycarpa (Xanthoria polycarpa)
Punctelia subrudecta
Ramalina farinacea
Ramalina fastigiata
Ramalina fraxinea
Xanthoria parietina

Where to look:
Isolated trees are often richer than those in clumps or hedgerows, especially youngish smooth-barked trees. *Zwackhia prosodea* is one of the few species to be found on yew trees.

Terricolous species on soil

Cladonia chlorophaea
Cladonia fimbriata
Cladonia pocillum
Cladonia pyxidata
Lathagrium auriforme (Collema auriforme)
Blennothallia crispa (Collema crispum)
Enchylium tenax (Collema tenax)
Scytinium gelatinosum (Leptogium gelatinosum)
Scytinium schraderi (Leptogium schraderi)
Scytinium turgidum (Leptogium turgidum)
Peltigera didactyla
Peltigera hymenina
Peltigera membranacea
Peltigera rufescens
Vezdaea aestivalis
Vezdaea leprosa

Where to look:
On short turf between memorials in churchyard, soil on paths, over chippings and in crevices on gravestones and walls.

Other substrata

Lichens are, occasionally, found growing on other man-made substrata such as terracotta gravestones, roofing felt, various metals, stained-glass windows and rubber dustbin lids.