

A Guide to Lichens in Burial Grounds

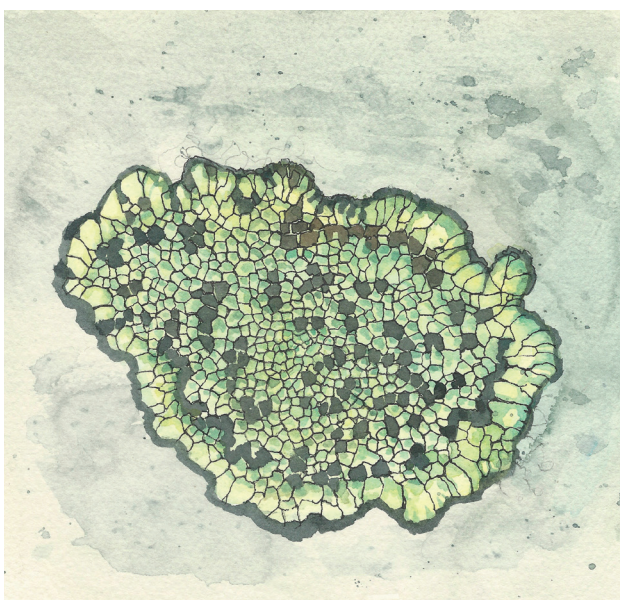


THE PRINCE OF WALES'S
CHARITABLE FUND

INTRODUCTION

Have you ever stopped to take a close look at the intricate and beautiful living patterns that decorate the stonework within burial grounds? These are organisms known as lichens. They are easy to find at any time of the year but seem to stand out particularly during the winter months when other wildlife takes a step back. Although found almost anywhere on land, churchyards and other burial grounds have long been known to be an important home for lichens as a result of the rich variety of stone substrates for them to grow on. They may also be found on wooden structures such as benches and lychgates, as well as on the bark and twigs of old trees. Churchyards and other burial grounds provide a stable and protected place for lichens to flourish.

The rich diversity and long-term survival of many lichens is dependent on how burial grounds are managed. You may be reading this because your churchyard or burial ground is known to have a fine array of lichens, some of which may be uncommon. This factsheet will help to explain the fascinating natural and cultural history of lichens as well as exploring some of their modern day uses. It will also provide practical information on how best to look after these incredibly beautiful but understated organisms, and where to find further help if needed.



Websites and Organisations

- **Caring for God's Acre** works nationally to support groups and individuals to investigate, care for, and enjoy burial grounds and graveyards. Our website has links to downloadable action packs including 'Learn about Lichens' (www.caringforgodsacre.org.uk/) We also have some fantastic resources for family and school activities, all within the Resources section of our website (www.caringforgodsacre.org.uk/resources/). Take a look at the 'Lets Investigate Lichens' in our Education Pack which include links to both English and Welsh national curricula.
- **The British Lichen Society** is a group dedicated to the study and conservation of churchyard lichens and provides a wealth of information and resources. It gives contact details of British Lichen Society members who are willing to answer queries and give advice about any specialist help required by those managing burial grounds, particularly churchyards. www.britishlichensociety.org.uk/

Books

- **Churchyard Lichens.** Field Studies Council fold-out chart (OP88). There are also several other fold out charts available from the Field Studies Council to help with lichen identification in a range of habitats.
- **A Field Key to Common Churchyard Lichens.** Frank Dobson.
- **God's Acre: The Flowers and Animals of the Parish Churchyard.** Francesca Greenoak.
- **Lichen Habitat Management.** A.Fletcher, British Lichen Society.
- **When Nature Moves In. A guide to managing wildlife in and around buildings.** D.J.Bullock and J. Fernyhough, National Trust.
- **Lichens** by William Purvis.
- **Lichens, An Illustrated Guide to the British and Irish Species** by Frank S Dobson.
- **Lichens** by Oliver Gilbert (HarperCollins).

Burial Ground Lichens

DISCOVER MORE ABOUT LICHENS

Despite their inconspicuous appearance, the natural history of lichens is a subject of fascination. Lichens are not individual as an organism, but they are made up of two or more different organisms living together as one, in what is known as a symbiotic relationship. This means that both benefit from the relationship. Lichens are a fungus, and the species name of the lichen is assigned to the fungal component. The most common type of fungi found within the lichen association are the cup fungi.

The other partner is usually an alga with around 90% of lichens being a fungus/alga partnership. For the remaining 10% the picture is a bit more complicated! Occasionally, instead of algae, the partner is a cyanobacterium, a microorganism related to bacteria but capable of photosynthesis, (although they are not algae, they are often referred to as blue-green algae). Some lichens may consist of a fungus with more than one type of algae or a mix of algae and cyanobacteria. In most cases, the fungus is highly specific in selecting an algal partner, but some species of fungi have the ability to 'switch' between the algal component, but this is a rare encounter in the natural world. Although this may give the lichen different appearances it will still be known by only one name – that of the fungus, and is then referred to as different morphs of the same species. There are an amazing number of different lichen species in the UK, we now know of over 2000 and this number is ever increasing.

It was not until 1868 that this relationship was first proposed by Swiss botanist Simon Schwendener. At the time this was considered laughable and was not widely accepted for decades. Another early advocate of the association between fungi and algae was the children's author Beatrix Potter. She became so interested in lichens that she wrote her own, beautifully illustrated, scientific paper on them for London's Linnaean Society (then an exclusively male society). However, as a woman, her research was not taken seriously at the time.

Q What's in it for the fungus?

A Food!

Although one in five fungi species exist as lichens, these fungi cannot survive by themselves, as they are dependent on having a co-species that can photosynthesise and produce carbohydrates. In most lichens the fungus is considered the dominant species, forming the main body (or thallus) of the lichen.

Q So what's in it for the algae?

A Accommodation!

In general algae live in damp places, susceptible to

freezing, getting washed away or drying out. In most lichens the algae live inside the body of the fungus where they benefit from the protection that the fungus offers from competition, extreme temperature and drought – which allows the algae to hugely expand its geographic range. There are only a few examples where the alga is dominant and these are often called 'jelly lichens'.

Although the fungus appears to benefit most from the partnership it is the mutual relationship that has allowed lichens to be so successful and to be able to colonise some of the most extreme environments on earth. They exist from the Sahara Desert to the top of Everest and the North Pole. The European Space Agency discovered that lichens can even survive unprotected in space.

There is a long unsolved debate about whether lichen symbiosis is mutualism (all organisms benefit) or parasitism (one organism benefits whilst the other is hindered). Some consider that the fungus is 'farming' the algae for its carbohydrates, whilst inhibiting its reproductive potential, others claim this is mutualism, as the algae can expand its geographic range.

Lichens commonly grow on a wide variety of surfaces such as leaves, branches, bare rock and soil. They can even live on asbestos roofs and rubber dustbin lids. When growing on mineral surfaces, some lichens slowly break down the substrate over time, which can result in the formation of soil (pedogenesis), changing the baseline conditions for ecological succession. Many are renowned for not needing a regular supply of water, as when wet they photosynthesise and grow but when they dry out they 'switch off' and become dormant. They can stay in this state for a considerable time. This is one of the reasons why many only grow extremely slowly (less than half a millimetre per year) and can be very long-lived, as they have the ability to withstand conditions when they are not favourable. It can take hundreds of years for some lichens to become established and there are some which will only grow on other well-established lichens.



Cladonia floerkeana – Devil's Matchstick

Burial Ground Lichens

Lichens do not have roots or vascular tissue to uptake or transport nutrients from the soil. Most of their water and chemical nutrients are absorbed across the lichen body from their surrounding environment. Lichens do not have the ability to differentiate between the necessities for survival and toxic chemicals and pollution, which makes them excellent indicators of environmental quality.

One way that lichens can reproduce is through the release of microscopic fungal spores from disc-shaped structures which look rather like tiny jam tarts, flasks or pimples. When they land on a surface, the fungal spores germinate, and if they are close to a suitable, naturally occurring algal partner, the fungus engulfs it, and a new lichen is formed. Lichens also spread vegetatively, by producing powder or minute projections and fragments which break off and are scattered in the wind and rain or moved by animals.

As well as being of interest in their own right, lichens also support other animals. They are home to many small mites and other invertebrates which in turn are eaten by insects and birds. The caterpillars of some moths are known to feed on lichens. These can be extremely well camouflaged and include the footman moths, the marbled beauty and the beautiful hooktip. Some birds use lichens as a nest material; long-tailed tits camouflage their nests with lichen interwoven with cobwebs.

Lichens are divided into three main groups based on their growth form:

- A **fruticose lichen** is highly branched and looks like a little bush. They can be upright and shrubby or dangling and hair-like. They can have round or flat branches, often tangled-up with each other. They are usually attached to the surface at a single point and can be easily removed. They can come in a variety of colours but are often pale green or grey.
- A **foliose lichen** has a more flattened shape, resembling leaves and addressed to the substrate. They can be very flat and leafy or convoluted and full of ridges and bumps. They are often loosely attached by root-like hairs but can be partially lifted off the substrate with a fingernail. Their colours vary from pale greens and browns to yellows and greys.
- A **crustose lichen** forms crusty mats that stick tightly to a substrate. These are the ones most frequently



found forming mosaics on gravestones. They cannot be easily removed without causing damage the surface they are growing on. They can come in many bright colours including green, yellow, orange, and red, as well as more subdued greys. The bright colours, particularly the yellows, are due to a chemical which acts as a natural sunscreen, protecting the lichen from potentially damaging ultraviolet light.

The identification of the lichen species can be quite tricky. Whilst some of our common lichens can be identified in the field many others, particularly crustose lichens require a microscope or carrying out chemical tests on a sample of the lichen. The colour of lichens may change depending on whether they are wet or dry, in the sun or shade or the surface they are growing on. Different coloured lichens may grow together and form complex communities. For this reason, when identifying lichens, it is important to note a variety of different characters, not just the colour but also the form of the lichen, the habitat it is in and what it is growing on etc.

There are some good guides to help you identify lichens, including a fold-out guide to 'Common Churchyard Lichens' by the Field Studies Council. This groups the lichens according to growth form and will help you identify over 50 of the commonest lichens found in churchyards in Britain. In addition, Frank Dobsons spiralbound 'A Field Guide to Common Churchyard Lichens' is a user-friendly key to this habitat.

Burial Ground Lichens

Here are some species to look out for....

- The orange star lichen, *Caloplaca flavescens*, forms colourful bright yellow/orange circles on limestone. The central area looks like crazy paving but is sometimes missing, leaving just an outer ring. It is very common in burial grounds and can be very old.
- The common greenshield lichen, *Flavoparmelia caperata* is a foliose lichen which is often found on trees, but also on gravestones. It has broad lobes that are apple green in colour, becoming yellow-grey when dry.

Although many lichens cannot be identified from a photograph alone, some of the more charismatic species can. When taking photos make sure you capture feature of both the upper and lower surfaces where possible. Always take close-ups, and focus in particular on the detail of the fruits and surface cracking. Taking photos with your phone down a x10 hand lens can be surprisingly successful in getting that extra magnification. Although not always guaranteed, if you want help with identifying your lichens from photos there are a range of friendly local and national social media groups who will be happy to assist, such as the British Lichens Society Twitter or Facebook pages.

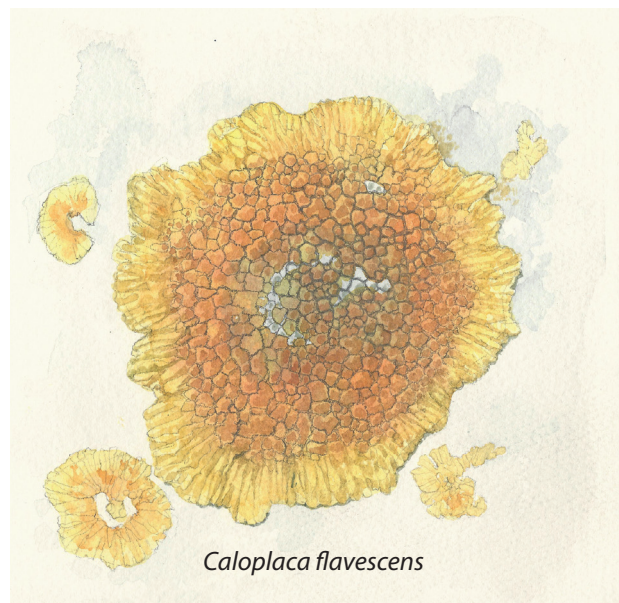
What you see and where you see it is important and we would love you to send us records of lichens you have identified. To make a record you need to tell us:

Who you are

What you found

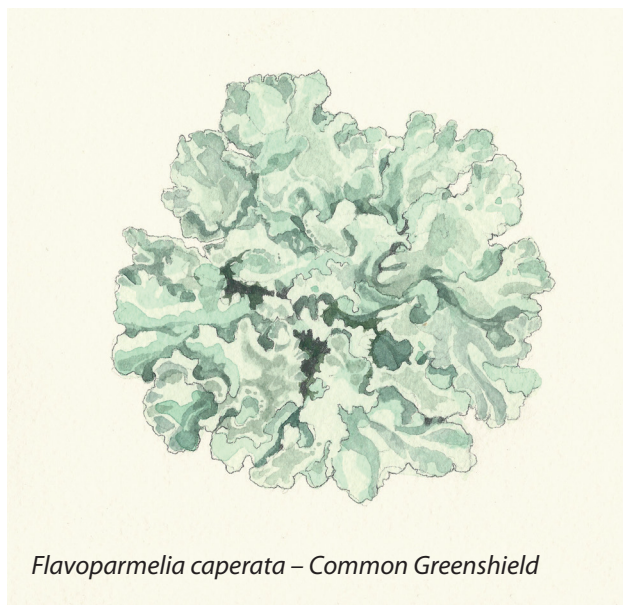
When and Where you saw it.

That's all there is to it and there are various ways to get these records to us...



Caloplaca flavescens

You can use our 'iRecord' form, accessed via the 'Share Your Records' page on our website www.caringforgodsacre.org.uk. However, if you do not want to use the online form and would rather send us a list of species that is fine too. Please post or email them to Caring for God's Acre (wildlife@cfga.org.uk), including your name, and how to contact you (Who), the date you saw the species (When) and the location (Where). Please give precise details; there are lots of St Marys! A postcode or grid reference is helpful. Most importantly, tell us What you have seen.



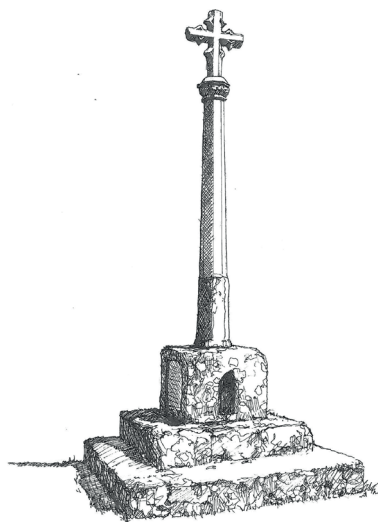
Flavoparmelia caperata – Common Greenshield

LICHENS THROUGH TIME

Churchyards and other burial grounds are supremely important for lichens, particularly our older churchyards. Of the 2,000 UK lichen species, over 700 have been found in burial grounds. Almost half of these are rare and seldom, if ever, occur in other places. It is the stonework in these sites that has the most significant collection of lichens, although old trees and timber constructions, such as lychgates, may also be home to many interesting species.

There are several reasons why churchyards and burial grounds hold such a wide and significant array of lichens.

- Firstly, they contain a lot of old, exposed stone, in some cases the oldest stonework in the parish. Stone was used for the boundary walls as well as the church or chapel buildings and some stone preaching crosses are known to date from medieval times. By the 18th century the now familiar gravestones became widespread and were often engraved. Many stones dating back to the 1700s can still be seen today, encrusted with lichens that are likely to be as old as the headstones themselves.
- Secondly, the types of stone within a single site varies hugely. Although historically gravestones and building stone were likely to be hewn from a local source, in the wealthier parishes stone (including sandstone, slate, fieldstones, granite, marble and limestone) may have been brought in from further afield. This practice has become more common in recent times as a result of improving transport and globalisation, and a range of different stone types may be frequently found in one small area. Different lichens prefer different types of stone, depending on its texture, water holding capacity and chemical composition (whether it is an acidic or calcareous i.e. the pH). Calcareous stones such as limestone or honed (unpolished) marble are likely to have different lichens than those on more acid stones such as sandstone or slate. This results in a potentially spectacular range of lichens in a very small area.
- Finally, the positioning of the stones and the carving influences the lichen distribution. The lichens on shaded stone, for example, will be very different to those exposed to the sun. Gravestones traditionally face east, but the presence of kerbs, chest tombs, monuments, buildings and walls mean that the aspects of stonework and microhabitats within a burial ground are many and varied. Lettering and decoration can create different conditions as well.



The lichens present in a burial ground are influenced by the geographical location. Upland burial ground will have some different lichens to those in the lowlands, whilst those on or near the coast may have maritime lichens that can thrive in salt spray.

Lichens are extremely sensitive to air pollution and chemicals. In general, churchyards and burial grounds are often traditionally managed without the use of fertilisers or herbicides, a practice that enables lichens to thrive. Although it may be assumed that urban burial grounds will be the most polluted and have lower numbers of lichens, rural areas may also be

affected by agricultural pollution, such as spray-drift from fertilisers, nitrogen emissions from poultry farms and salt spray from roads. Historically, sulphur dioxide from industry was the main source of air pollution, often dissolving in water to cause acid rain. After the Industrial Revolution the lichens of many industrial town centres became seriously depleted. Nowadays, these sites are recovering as a result of the Clean Air Act, but a new concern is increasing levels of nitrogen compounds from both intensive agriculture and vehicle exhausts.

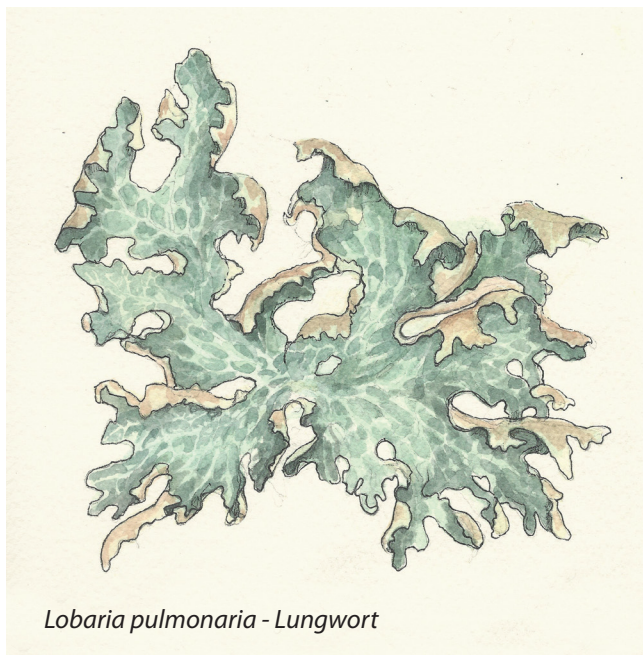
A lichen-rich burial ground may have well over 100 different species of lichens and detailed recording can turn up some surprising finds.

The British Lichen Society has long recognised the importance of burial grounds and have surveyed over 8,000 burial grounds, and know which sites are most important for lichens and how best to conserve them. Many a rarity has been found that is new to the area and, on several occasions, lichens once thought to be extinct have been found. The British Lichen Society website has a lot more information via their 'Churchyards Project', including downloadable resources such as a poster, factsheet, recording forms and management advice.

Perhaps one of the best things about studying the diversity of lichens in burial grounds is the ability to age them. Engraved headstones give the date of death, providing a clear indication of when the headstone was erected. Some lichens are likely to start colonising immediately so the largest examples of a given species may be as old as the headstone itself. Headstones of several different dates can be examined, and the largest lichens measured. As the size of the lichen increases with age this information can be extrapolated to estimate the age of other undated stonework that has the same lichen. Using lichens to age structures is called 'lichenometry'.

MANAGEMENT OF LICHENS

For many people, lichens are attractive, adding colours, textures and a natural interest to stonework. Some have described them as 'nature's cladding' or 'miniature gardens'. Others, however, believe that monuments should be kept clean and free of lichens, where chemical techniques are sometimes used to remove lichens from gravestones. It is important that the value of burial grounds for lichens are recognised and that an informed and balanced approach is taken, ensuring that the other biodiversity interests and cultural uses of these sites are taken into consideration.



Lobaria pulmonaria - Lungwort

How to look after your lichens:

Firstly, it is important to note that lichens are very sensitive to any changes to their surrounding environment. Therefore, for lichens specifically, a more traditional and low intensity approach to management is recommended.

- For the removal of vegetation, do not spray herbicides around memorials as this will damage lichens and leave unsightly stains. It is noteworthy that even if these are sprayed at a distance, the chemical can travel and still impact the lichens.
- Lichens are light-demanding organisms and if memorials become smothered in bramble, ivy or rank vegetation, the lichens could die from a lack of light. Any shading vegetation should therefore be sensitively removed e.g. cut ivy at the base for natural dieback. Likewise, do not leave grass cuttings to rot leaning against stonework as this will also overshadow the lichens.

- Most lichens are very susceptible to change. Removal or repositioning of memorials should be avoided wherever possible, as the development of lichen communities is due to the continuity of habitat and environmental factors. However, if headstones do need to be moved then lichens are more likely to survive if the orientation of the stone is kept the same, so keep the south side facing south!
- This is also true of repairs to walls and buildings; try to reuse original uncleaned materials wherever possible, and in the same position. If new building materials are bought in, seek to try and match to the original materials used. Any redundant stones with lichens on should be left on-site to aid recolonisation.
- Lime mortar supports the greatest number and variety of lichens and if old walls or buildings need repointing then use the same mortar type and, if possible, avoid damaging lichens. By carrying out piecemeal or phased repairs you will help lichens to recolonise new stonework.
- The shade from expanding tree crowns can kill old lichens which have developed in well-lit conditions, therefore light management of the crown is often recommended. The positions of new tree plantings should be carefully considered to avoid shading out established lichen communities.
- Cleaning stonework is not generally recommended as it exposes fresh layers to weathering; indeed a good covering of lichens offers some protection to the stone. The forceful removal of lichens may also cause unnecessary damage. If you do need to remove lichens this should be done with a soft brush (or toothbrush) and plain water – but this is not recommended.

Around 25 lichens are legally protected under the Wildlife and Countryside Act 1981 (Schedule 8) and it is illegal to interfere with them without the appropriate permissions. If work does need to be done that will impact lichens, please seek advice from an expert. The British Lichen Society will be able to put you in touch with someone that can help. Advice can be given about how to make repairs in such a way that lichens are safeguarded, whilst disruption arising from the works is kept to a minimum.

FOLKLORE AND LITERATURE OF LICHENS

Lichens have been used as a resource by people for many centuries. They have provided dyes, food, aphrodisiacs, perfumes and medicines. Ancient Egyptians even used them to fill the body cavity of mummies and, in more recent times, they have been widely used as incredibly sensitive indicators of pollution.

The coloured pigments produced by lichens can be extracted to create a range of dyes. There are reports, dating back almost 2,000 years, of purple colours from lichens being used in ancient Rome to dye togas. These dyes were very valuable up until the late 19th century when they started to be replaced by synthetic equivalents. In the Outer Hebrides various lichens are still used today to produce orange and brown wool dyes in the making of Harris Tweed. It is said that the smell of lichen gives the tweed its distinctive smell.

One of the best known dyes is 'orcein' or 'orchil' which is extracted from a group of lichens from the genus *Roccella* known as 'orchella weed'; within the British Isles, both species within this genus are considered as Near Threatened. It not only produces a range of colours used to dye wool and silk but is also used as a stain for the microscopic study of human tissue as well as in litmus paper, used for measuring pH. In the 1970s it was used as a food colouring, although this is no longer approved for human consumption.

A yellow dye from the lichen *Candelariella vitellina* was used to colour the candles used in churches. This small lichen can commonly be found in burial grounds where it forms a mustard coloured crust on the top of sandstone memorials, where birds have perched and enriched the stone with their droppings.

During the middle ages physicians practiced a 'Doctrine of Signatures'. They believed that plants and fungi could be used to treat ailments that resembled certain parts of the body. Many lichens were used for treating skin conditions as they resembled erupting or peeling skin, whilst those patients with a lung complaints would be made a concoction of lungwort (*Lobaria pulmonaria*), appropriately named because it resembled the lobes of lungs. Although the 'Doctrine of Signatures' is now considered 'absurd' many lichens are known to contain natural antibiotics and extracts from old-man's-beard lichen (*Usnea* species) were used to treat wounds until the mid-twentieth century. Although today lichens are still being investigated for anti-tumour and anti-viral properties, few lichen species are used medicinally.

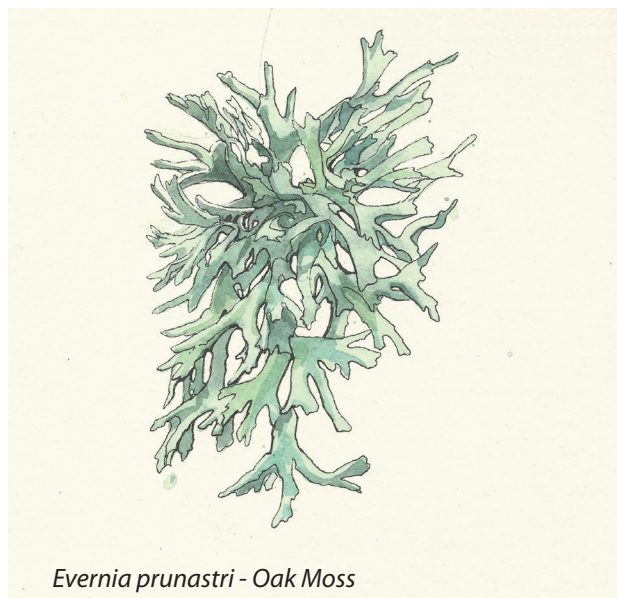
The highest value use of lichens today is in the manufacture of perfume. The major perfume lichens are the Oakmoss (*Evernia prunastri*) and Treemoss (*Pseudevernia furfuracea*). Lichen extracts act as fixatives and also provide the 'bass notes' to the scent. These evaporate slowly and give the perfume a longer

lasting quality which is highly valued in the industry. Indeed, the high price of some perfumes often relates directly to the amount of lichen extracts in them.

Since Victorian-times lichens have been known to be good indicators of air quality as any heavy metals, carbon, sulphur or other atmospheric pollutants are absorbed and retained. Because of this, coupled with the longevity of lichens, they not only provide us with valuable information about changes in pollution levels over time but also the levels of toxins that that are present in the environment around us today.

Lichens are also used as biological monitors of radioactive fall-out as they are able to pick up and store radioactive chemicals, especially caesium and strontium. The Chernobyl disaster in April 1986 was the most catastrophic nuclear accident in history. In addition to the local devastation, radioactive clouds were blown across Europe and heavy rain then washed the radioactive elements onto the land. In Lapland this fallout was taken up by lichens, the staple diet of the reindeer herds. The reindeer themselves then became contaminated and the traditional way of life of the Sami people, who rely on the reindeer herds for food and clothing, was threatened. In Britain the hill farms of North Wales were one of the areas worst affected as the sheep ate contaminated vegetation. Restrictions were placed on the sale of sheep and were not fully lifted until 26 years later. The use of lichens to monitor the levels of radioactive fallout in North Wales and elsewhere across Europe still continues today.

Despite their unusual appearance folklore tales about lichens are remarkably few. Two examples crop up. We read that *Lecanora esculenta* was reputed to have been the manna that fell from the skies during the biblical Exodus and that Apache Indians used lichens to paint crosses on their feet, believing it would enable them to pass by their enemies unseen.



Evernia prunastri - Oak Moss

TELLING THE STORY OF YOUR LICHENS

Telling the story of your lichens may take many forms and can be an important way of communicating the significance of your lichens to the wider community. This can often inspire people to be more involved and can certainly help in the care and protection of these amazing organisms.

Here are some practical guidelines for you to consider which may help in creating a plan for telling the story of lichens:

Who are you telling the story to?

Your church and burial ground is likely to be at the very heart of your community, visited by people for worship, celebration, funerals and remembrance. Burial grounds are often used as places of peace and solitude in an ever increasingly busy world; locals can walk there; children can play; and they are often the only local greenspace available for people to enjoy without driving or using public transport. Nature and wildlife are now recognised as playing a vital role in health and wellbeing, so the importance of this greenspace is better understood than perhaps it was previously.

Your church and churchyard can also be an important visitor destination, attracting tourists who are seeking the unique architecture of your church and monuments or ancient trees - research carried out by VisitEngland recently reported that 55% of day trips include a visit to church or cathedral and 83% of people in the UK believe churches are an important part of the UK heritage.

There is an opportunity to encourage all of these different groups of visitors to look at the little things – including the lichen and associated wildlife.

Why are you telling the story?

Lichens are amazing organisms, and they can fill us with wonder and amazement, especially when looking up close. They do however have a backstory, one which explains their significance in time and place and roots them in context with our own existence.

By telling the story of lichens, we are helping to conserve them for future generations. Any interpretation that you consider regarding lichens might want to inspire people to view them in a different way – so more than just an insignificant blob on a stone, rather a magnificent example of a species itself, something really quite special. You never know, the next custodian of your lichen may be the person who was inspired by their story after reading the interpretation that you produced!

What to say?

In general terms, interpretation for the wider public should be short and relevant, focusing on some key themes. Some of these themes have already been touched upon in this document such as historical significance, age of the lichens, folklore and biodiversity. These four themes should be sufficient to give people a pretty good understanding of how special your lichens are in a local and sometimes a national context. If you have any local knowledge relating to the lichen (particularly folklore), it is always worth including this, as this will help connect your lichens to people in a slightly more personal way.

What you say depends on where you will be saying it. For example, our website (www.caringforgodsacre.org.uk/) has lots to say as we are the national charity for burial grounds. You will notice however that many of our pages have basic information on key themes



Burial Ground Lichens

and we direct people to different resources for in-depth information. This includes toolkits, minifilms and factsheets.

Different groups of people will want different levels of information. A student for example, may wish to know absolutely everything that there is to know about your lichens whilst a casual tourist might only have a couple of minutes to read your interpretation, so there is a possible need to include further sources of information within your interpretation.

As a rule of thumb, 'less is more', resist the temptation to include everything you know!

Where to say it?

Interpretation boards are an excellent way to engage the public, but there are also many other ideas that can be used to raise the profile of lichens. Have you considered the following?

- How about a leaflet? This can go in your church or chapel, in a special leaflet dispenser on your churchyard notice board or in the porch. Leaflets can be distributed locally and can be sent to other heritage related visitor attractions. They can also go onto websites, available to download, and can be updated and reproduced cheaply and quickly, particularly if your leaflet can be printed on a home computer.
- Posters are a good way of conveying information. Posters can again be displayed in your church and noticeboards. Like leaflets, posters can easily be updated and sent electronically to others to share.
- Social media (Facebook, Twitter etc.) is a really fast and free way to reach people all over the world as well as within your local community. Social media posts can be easily updated on a regular basis and you can link into national campaigns to help get your message across. You may feel as though you don't have the skills or knowledge to develop a social media presence – if that is the case, put the word out through your congregation and perhaps someone will come forward who can help you. It is important to note that if you do create a social media presence, it is most effective when it is updated on a regular basis so that you can maintain interest, so this does need an on-going commitment.
- If you are feeling particularly media savvy, you may wish to contact your local BBC or independent radio station who might come and produce a short feature to be broadcast on the biodiversity of your churchyard including of course your lichens!
- You could join with other sites in your local area to make a 'lichen trail' which could link four or five local churches with lichens. Marked on a map, this could make a good route for people to walk or cycle between, encouraged to see what lichens are shared

between sites and which lichens are more rare, or specific to one particular site. It might be a good idea to include other features too, lichens alone may not be sufficient for all but the keenest.

How to say it?

There are many different ways to tell the story of lichens and some ideas include:

- Consider using images, drawings or illustrations. We have some excellent illustrations that you can download from our resources page
- Text should remain the main method of conveying information but keep it simple and brief.
- Keep your interpretation relatively basic but include ways in which people can find further information such as links to your social media sites, QR codes * or by including links to national organisations.
- If you or any of your congregation (including young people?) have the skills to produce and edit a short film, this can be a really nice way of conveying information – and it can also be hosted on your website or on social media sites.
- Perhaps the most important, tell people about them face-to-face. If you meet visitors, do you point out the lichen to them? Could someone lead a walk around the churchyard looking at lichen and other wildlife? These are often the moments and messages that we remember the most.

* This is a machine-readable code consisting of an array of black and white squares, typically used for storing URLs or other information for reading by the camera on a smartphone

Getting creative with your lichen

Your lichen are a great way to involve people in your burial ground. Lichens lend themselves very well to being the centre of attention at biodiversity discovery days for example. These events and activities could be open to all ages and abilities and could include:

- Launching a photography competition focusing on the small things and lichen in particular. A competition does take some time to organise as it involves judges and perhaps prizes, but it will be popular, and might result in a slideshow of all images submitted, to go onto your website or social media. This could generate some interesting shots which might include; macro shots (the tiny things); the lichen community; your lichen on stone; the wildlife surrounding lichen; and your lichen through the seasons.
- Contact your local school to see if they would like to come and undertake a topic on your lichen. Many areas of the curriculum could be covered, and any work undertaken by pupils could be displayed in the church.

- Hold a Story Telling session which includes a story on lichens. Storytelling is a popular and creative activity and there is likely to be a local storyteller that you can ask to run this.
- Run a guided walk with your lichen being a feature.
- Hold a nature explorer family activity, using your lichen as the starting point. Include things like guessing the age of the lichen, looking at different lichens with magnifying glasses, the lichen through time, basic lichen identification, drawing and painting images of the lichen and arranging a lichen hunt in your churchyard.

Some of these activities can be organised as 'stand alone' events, but you could also consider dovetailing in to national campaigns and initiatives such as

- Love Your Burial Ground Week
www.caringforgodsacre.org.uk/get-involved/love-your-burial-ground-week/ (June)
- World Environment Day
www.un.org/en/observances/environment-day, (June)
- Earth Day www.earthday.org/ (April)
- Eco Church Climate Sunday
www.ecochurch.arochoa.org.uk/climate-sunday/

Resources

Caring for God's Acre has some fantastic resources for family and school activities, all within the Resources section of our website (www.caringforgodsacre.org.uk/resources/). Many of these resources are relevant for Lichens and include links to both English and Welsh national curricula. Other resources can be found through The British Lichen Society (www.britishlichensociety.org.uk/) and The Woodland Trust (www.woodlandtrust.org.uk/trees-woods-and-wildlife/fungi-and-lichens/).

And finally

Lichens in churchyards need help. Caring for God's Acre is a member based charity and we are reliant on donations to make a difference. Please consider becoming a member – more information on becoming a member can be found on our website www.caringforgodsacre.org.uk

