

## **CHURCHYARD LICHENS**

### **A Fact Sheet – your questions answered**

Last updated January 2014

Many requests for information about churchyard lichens are received. The information below is an attempt to provide at least some partial answers and to suggest other sources of information.

#### **The Importance of Churchyards**

Churches, with their surrounding churchyards, are a unique cultural heritage in Britain. As well as representing 1,000 years of history and the lives of those living nearby, they conserve important aspects of our natural history.

It is estimated that there are 20,000 churchyards in England alone, each occupying roughly an acre of land. In lowland England, where natural outcrops of rock are absent, the churchyard is the most important site for lichens growing on stone. Some species rarely occur in other habitats. For example, Churchyard Lecanographa, a form of *Lecanographa grumulosa*, is confined to plaster walls on ancient churches in southern England. In Britain as a whole, over 800 species (about 46% of the British list) have been found, mainly on stone, but also on wood, trees and soil in churchyards, cemeteries and the surrounds of abbeys and cathedrals. Lichen records from churchyards make a significant contribution to the lichen data for Britain - in England, especially.

#### **The Churchyards Project**

The British Lichen Society's Lowland Churchyard project was instigated in the early 1990s by the late Tom Chester. One of the aims of the project was to survey at least one churchyard in each of the Ordnance Survey's 10km squares covering lowland Britain. This aim, as a Millennium Project, was achieved and its success was reflected, both in a better knowledge of the distribution of the more common lichen species and the rediscovery of a few that were considered to be extinct, and also in a number of important spin-offs. Not least amongst these were ways of assessing within regions the relative value of each churchyard for lichens; the importance of conserving such places as long-term habitats; and also in broadening their appeal to all ages by using them as an educational resource for talks, guided walks, projects and workshops.

Further churchyard surveys covering the south west (now almost completed), Wales and the Welsh Borders, Northern England (almost complete) and Scotland and Northern Ireland are being undertaken. This ongoing work has continued to emphasise the importance of the Churchyard Environment to our lichen flora.

The Churchyards Project is coordinated and managed by Ivan Pedley and Ishpi Blatchley, the latter having particular interest in conservation. The Churchyards Sub-committee deals primarily with data collection, conservation, and research, and annually holds a field-meeting which enables useful discussion and updating. Regional coordinators, members of this Sub-committee, manage areas of England: 'the lowland triangle', comprising 35 vice-counties of lowland England (coordinator Ken Sandell); South-west England (Ann Allen); West Midlands & Welsh Borders (Ivan

Pedley); and Northern England (Ivan Pedley). The coordinators for Wales and Ireland are, respectively, Ivan Pedley and Mike Simms.

**Scottish Lichen Group** In March 2004 lichenologist and former British Lichen Society (BLS) President, Sandy Coppins invited Joy Ricketts of the BLS to hold a churchyard lichen meeting in Alloa and in late August 2004 John Douglass and Peder Aspen organized a Scottish Churchyard Lichen Group meeting in Walston and Dolphinton, South Lanarkshire. Several meetings and workshops have taken place since in South Lanarkshire, the Lothians, Stirling, and Perthshire. The Group has worked with Historic Scotland, Council for Scottish Archaeology and Perth and Kinross and South Lanarkshire Councils.

Scottish churchyards differ from English and Welsh churchyards in that more upland species can be present. The *Lobarion* community of leafy lichens is often well developed in NW Scotland and when old woodlands are close to churchyards it can be well developed on churchyard trees, walls, buildings and monuments. For further information on the Scottish Churchyard Lichen Group please contact John Douglass.

### **Data Collection**

Surveys of churchyard lichens are carried out regularly by committee members and by others in the Society. A standard A4 survey sheet is used. On the front, this lists about 200 of the more commonly found or characteristic churchyard species and provides room for additional species, substrate and habitat details. Beginners who may wish to make use of these 'mapping cards' must note that the species names are shown in an abbreviated form (e.g. *Aspi calc* for *Aspicilia calcarea*). The back of the sheet provides space for additional species, for site details and assessment, and for conservation recommendations, as well as a key to essential abbreviations. The sheet can be downloaded and printed from the BLS website.

The recorder is asked to make an overall assessment/evaluation rating of the churchyard in the context of the region and to indicate those of national or county importance for conservation purposes.

Copies of completed cards should be sent to the Project Coordinator Ivan Pedley (or for the South-west to Ann Allen) and in both cases a copy should also be sent to the Mapping Recorder, Prof Mark Seaward. It is essential that, if any doubt exists in regard to the identification of a species, it should be confirmed by an experienced lichenologist before records are passed on. No information is preferable to erroneous information.

The data will be stored in the BLS Database, which is based on the biological recording package Recorder 6. Records are imported to the database from spreadsheets, either the BLS general spreadsheet or, for more detailed surveys, the customized spreadsheet designed particularly for churchyards. Both can be downloaded from the BLS website. Completed spreadsheets should be emailed to the Data Manager, Janet Simkin.

### **Conservation Information**

Helped by a grant from English Nature, a leaflet *Churchyard Lichens* was published in 1994 and updated in 2009. As well as conservation guidelines, it includes brief sections on the biology of lichens, the importance of churchyards, and churchyard habitats. It is available to download from the BLS website. More comprehensive management guidelines on all major lichen habitats

including churchyards have been published in **Lichen Habitat Management** (see Publications at the end of this article). An abbreviated version of these guidelines, 'Management Guidelines for Churchyard Lichens', is now available on the BLS website.

An attractive A4 poster 'The Churchyard - A Sanctuary for Lichens' can be downloaded from the BLS website. It is especially suitable for display in church porches. Please note that if the poster is printed on an inkjet printer, it should be encapsulated to protect it from the weather.

Diocesan Contacts (listed on the BLS website) are BLS members willing to represent the Society locally with respect to churches and churchyards. The role is mostly advisory answering queries, for example, about conservation and ecology; the best person to contact for specialist help; and where to find information. Advice may also be sought on the identification of lichens, and for this a Local Contact of the BLS may assist. People seeking advice include local parishes, natural history societies, dioceses and, on occasion, local authorities. If there is no Diocesan Contact for your Diocese, your Churchyards Regional Coordinator may be able to help or contact the BLS Secretary (c.ellis@rbge.ac.uk).

## Education

Exploration of lichens on churches and in churchyards provides an excellent opportunity for learning about lichens. Straightforward projects enable worthwhile study of lichen ecology for individuals, as well as groups of students. While projects can be simple, there is scope for the collection of data and statistical analysis, so they are suitable for young primary-age children up to degree-level and beyond. Remember always to work safely and to do a risk-assessment in advance of your visit.

The BLS formed an Education and Promotions Committee in late 1994. Six months later a pack of educational projects *Exploring Churchyard Lichens* was produced and 300 copies were distributed to schools and youth groups, such as WATCH, for testing. Subsequently, the projects were revised, extended and adapted for downloading from the BLS website. Four churchyard projects are suitable for beginners or older primary and younger secondary school pupils (National Curriculum Key Stages 2 and 3). These are accompanied by teachers' notes, background information and a reference list. Additional, more advanced, projects (also available on the BLS website) are suitable for people with more experience of lichens or students at Key Stages 3 and 4, in the sixth form and beyond. These include a popular project on 'Lichens and Air Pollution: Trunks and Twigs'. For further information and guidance on topics please contact Dr. Ann Allen (see Useful Addresses below).

## Identification

Identification of lichens depends on keen observation. Many lichens can be identified in the field, with the aid of a hand-lens and, possibly, chemicals (see section on hand-lenses below; information about chemicals can be found on the BLS website). As a start, note:

1. The type of stone on which the lichen grows (eg granite, sandstone, limestone)
2. The direction of growth (eg flat, facing up, N, S, E or W)
3. The growth form (crustose, leafy or shrubby)
4. Colour
5. Presence of fruiting bodies
6. Other features

Helpful guidance on identifying lichens, and good illustrations, are available in several publications.

Frank Dobson's comprehensive general guide *Lichens. An Illustrated Guide to the British and Irish Species* is now in its sixth edition. It includes over half the British lichen species, most represented by excellent colour photographs. Frank Dobson has also produced a book *A Field Key to Common Churchyard Lichens* (2006), and a Field Studies Council AIDGAP guide *Guide to Common Churchyard Lichens* (2004). A sound introductory book by George Baron includes 4 colour plates illustrating 24 species and a short account of the churchyard habitat. Oliver Gilbert's more detailed study in the Collins New Naturalist series also provides invaluable references, while the beautifully illustrated paperback by William Purvis contains suggestions for churchyard projects. Frank Dobson has also produced an excellent and easy to use multi-access *Lichen Identifier* CD, now available in Version 3 (see details on the BLS website under 'Identification'). Full details of the books mentioned above can be found at the end of this Fact Sheet.

The surest way to learn the skills of identification is to accompany an experienced lichenologist on field visits. For help with identification please consult the list of Local Lichen Contacts on the BLS website.

### **Surveys and Courses**

Churchyard committee members and others carry out surveys from time to time usually in their home areas and are generally pleased to have some company. Such surveys are being conducted by Ann Allen and David Hill in the South-west, Ishpi Blatchley in Kent, Ivan Pedley in the Midlands, and Ken Sandell and Lesley Balfe in Wiltshire. For Scottish churchyards please contact John Douglass or Peder Aspen. If the opportunity of one-to-one tuition is not forthcoming, the next best thing is to attend a week or weekend course. Details of a number of excellent courses run by the Field Studies Council are given in their annual brochure, available from the headquarters at Preston Montford. Most of these courses cover a range of lichen habitats including churchyards. Information on BLS field meetings and courses (and sometimes others) is included in each BLS Bulletin; details are also on the BLS website.

### **Hand-Lenses**

A hand-lens is the one essential piece of equipment. Lenses of 8x or 10x magnification are ideal and obtainable from the internet, stamp shops, photographers or opticians. Prices range from around £2 to over £30, and for a superior illuminated hand-lens from £10 to £250. The 18mm 10x glass lens in a metal body is ideal for beginners. Unlike a magnifying glass, a hand-lens has to be held equidistant, as close to the eye as to the object.

### **Pollution Studies**

Lichens are traditionally linked with clean air, some species particularly. Other lichen species can tolerate certain pollutants. Thus lichens can be used as indicators of air quality. While, a generation ago, sulphur dioxide was the main atmospheric pollutant, nitrogen compounds (from agricultural fertilizers and car exhausts) are now most significant. No detailed pollution study has been carried out using lichens growing on stone in churchyards because the distribution of lichens depends on so many factors that direct correlations are almost impossible to achieve. For example:

- (1) because some lichens live for so long, a species may have established itself a hundred years ago when pollution levels were lower and has managed to survive as a relict population;

(2) calcareous stone surfaces may buffer species from the acidity of pollutants in urban churchyards.

While lichens growing on churchyard stones are not suitable for use as pollution indicators, those growing on twigs are suitable and provide scope for studying air quality.

### Useful Books

For prices and availability go to BLS Publications link and/or see Richmond Publishing contact details below.

Baron, G. (1999) *Understanding Lichens*. Slough: Richmond Publishing. [A useful general introduction.]

Broad, K. (1989) *Lichens in Southern Woodlands*. Forestry Commission Handbook 4. HMSO.

Chalmers, N. & Parker, P. (1986) *The OU Project Guide*. Field Studies Council.

Cooper, N. (1995) *Wildlife in Church and Churchyard: Plants, Animals and their Management*. Published for the Council for the Care of Churches by Church House Publishing.

Dobson, F.S. (2011) *Lichens. An Illustrated Guide to the British and Irish Species*. 6th full colour edition. Slough: Richmond Publishing.

Dobson, F.S. (2005) *Guide to Common Urban Lichens 1 (on trees and wood) OP98 and 2 (on stone and soil) OP100*. Field Studies Council/AIDGAP.

Dobson, F.S. (2004) *Guide to Common Churchyard Lichens OP88*. Field Studies Council/AIDGAP.

Dobson, F.S. (2006) *A Field Key to Common Churchyard Lichens 2<sup>nd</sup> edition* [available from Frank Dobson, 57 Acacia Grove, New Malden, Surrey KT3 3BU].

Fletcher, A. (ed) (2001) *Lichen Habitat Management*. British Lichen Society.

Gilbert, O.L. (2000) *Lichens*. Collins New Naturalist Series.

Gilbert, O.L. (2004) *Lichens Naturally Scottish*. Scottish Natural Heritage.

Laundon, J. (1986) *Lichens*. Shire Publications. [A concise introduction to the biology and ecology of lichens.]

Purvis, W. (2000) *Lichens*. LIFE SERIES. The Natural History Museum.

Richardson, D. (1992) *Pollution Monitoring with Lichens*. Naturalists' Handbooks 19. Slough: Richmond Publishing.

Wolseley, P., James, P. and Alexander, D. (2002) *Key to Lichens on Twigs OP74*. Field Studies Council/AIDGAP.

The lichen books and OU guide are available from The Richmond Publishing Co. Ltd, P.O. Box 963, Slough, SL2 3RS (tel: 01753 643104; fax: 01543 480068). For up to date prices and availability

contact Richmond Publishing directly. The AIDGAP guides are also available from Field Studies Council.

The address of Church House Publishing is Church House, Great Smith Street, London SW1P 3NZ.

### **Useful Articles**

Anon (2006) *Churchyard Lichen Conservation* [Available on BLS website].

Chester, T. (1994) Churchyards Project: Quinquennial Report 1990-94. *BLS Bulletin* No.75 pp.28-33.

Chester, T. (1997) And Some Fell On Stony Ground - The Saxicolous Churchyard Lichens of Lowland England. *British Wildlife* Vol.8 No.3 (February 1997) pp 161-172.

Chester, T. (1999) Churchyard Project Decennial Report. *BLS Bulletin* No. 85 pp 23-28.

Dennis, E. (1993) The Living Churchyard - Sanctuaries for Wildlife. *British Wildlife* Vol.4 No.4 pp. 230-241 [A general account of churchyard conservation by the former director of the Living Churchyards & Cemetery Project].

### **Useful Contacts**

#### **Email box for general enquiries related to The Churchyard Project:**

ivan.pedley@gmail.com [Ivan Pedley, BLS Churchyard Project Coordinator].

Allen, M.A. Dr (Education Projects) email: maallen@eclipse.co.uk

Aspen, P. 28 The Wynd, Dalgetty Bay, Fife, Scotland KY11 9SJ

Balfe, L. Mrs 155 High Street, Dilton Marsh, Westbury, Wilts BA13 4DR

Blatchley, I. Dr (Conservation in Churchyards) email: ishpi.blatchley@gmail.com

British Lichen Society Secretary, Dr C. Ellis, Royal Botanic Garden, 20A Inverleith Row, Edinburgh EH3 5LR; email: c.ellis@rbge.ac.uk

Butler, M. email: bedslichens@gmail.com

Caring for God's Acre, 6 West Street, Leominster, Herefordshire, HR6 8ES (website: [www.caringforgodsacre.co.uk](http://www.caringforgodsacre.co.uk)) [A national charity concerned with the conservation of churchyards, cemeteries and burial grounds]

Dobson F.S. email: fsdobson@sky.com

Douglass J.R. 171 Murray Drive, Stonehouse, Larkhall, Strathclyde, Scotland ML9 3NJ . email: [jrdouglasslichens@gmail.com](mailto:jrdouglasslichens@gmail.com)

Field Studies Council, Head Office, Montford Bridge, Preston Montford, Shrewsbury SY4 1HW (tel: 01743 852100; fax: 01743 852101)

Hill, D. Dr email: d.j.hill@bris.ac.uk

Pedley I.G. (Churchyard Project Coordinator) email: ivan.pedley@gmail.com

Sandell K. 95 Porter Rd, Basingstoke, Hampshire RG22 4JR

Seaward M.R.D. Prof (BLS Mapping Recorder) email: m.r.d.seaward@bradford.ac.uk

Simkin, J. Dr .email: janetsimkin@btinternet.com

Simms, M.J. Dr Department of Geology, Ulster Museum, Botanic Gardens, BELFAST BT9 5AB (tel: 028 90383133; fax: 028 90383103)

### **British Lichen Society**

Applications for membership may be made to BLS Secretary. A prospectus, giving current membership details, and a membership application form are available on the BLS website.