

The Lichens of Grace Dieu Manor Farm Wall

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The massive stone wall to the east of the farmhouse drew the attention of Steve Woodward and Helen Ikin during a Loughborough Naturalists' Club wildlife survey on 23 May 2010. The abundant lichen growth on a section of the east-facing side seemed to justify closer inspection by a lichen specialist, so Ivan Pedley was asked to help. Ivan confirmed on 30 June that the wall had an important lichen flora. He returned on 10 August with two other members of the British Lichen Society, Brian Coppins and Mark Powell, to make a thorough survey.

A lichen is a fungus that grows in a symbiotic relationship with an alga. The alga receives shelter and support from the fungus; the fungus is nourished by the photosynthetic products of the alga. Hence, unlike ordinary fungi, lichens require light to grow. Lichens on walls grow very slowly, as the supply of nutrients (from the atmosphere and the substrate) is very meagre. Similarly, water is essential for growth and it is only sporadically available on a wall. There are many hundreds of species of lichen, many of which are only



Tephromela atra., a common species of siliceous walls. The structures with black centres are the apothecia, where the fungal spores are produced.



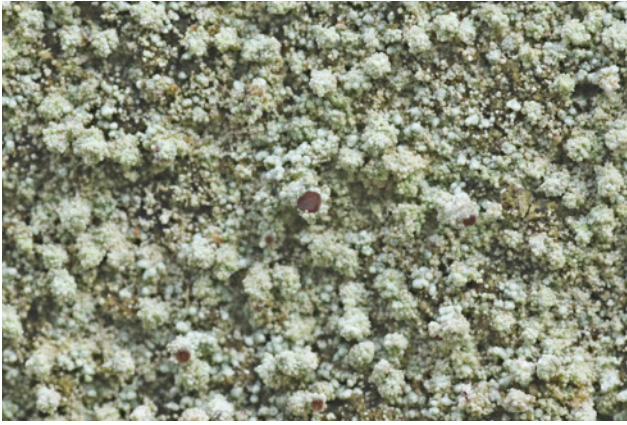
The northern section of the wall, east side, which receives full sunlight in the mornings.

distinguished from each other by simple chemical tests that can be done in the field.

This wall is a remarkable structure both historically and also in terms of the lichens which it supports. There are few structures in the county which are comparable—the walls of Bradgate Park and Croxton Park do support more species, but these are much longer. Nevertheless, the lichen community on this shorter wall is still of county importance, and every effort should be taken to conserve what is present and to encourage further colonization of sections which, at present, are overgrown and devoid of lichens.

Two sections of the wall were studied closely and recorded separately. The Northern section (between SK43711819 and 43701827) occupying the sloping ground down to the fishing lake appears to be of great age—the lichen community indicates a long period of ecological continuity of several hundred years. This section may possibly be associated with the ruined C13th Grace Dieu Priory close by (Leics & Rutland Historic Environment Record entry MLE11396). The southern section adjacent to the farmhouse (between 43731808 and 43741809) is more recent, probably built of stone robbed from the older main wall (modern cement has been used to stabilize the capping stones) but even this section has some age to it and has had time to develop a good lichen cover.

Fifty-nine different lichens were recorded from the wall, an impressive number for a Charnwood wall in spite of its modest length, and included amongst them are several species which are scarce



Stereocaulon pileatum, a scarce lichen in Leicestershire. The chestnut-brown apothecia in this species are raised on stalks, looking like tiny mushrooms

in the county—*Stereocaulon pileatum* and *Leptogium turgidum* were both pleasing records. The reasons why the wall supports such a diverse lichen community are due to:

1. The great age of the wall (in terms of lichen colonization, the older the structure the more lichens will have had time to grow).
2. The wall is constructed from a combination of acid rock and basic (high pH) lime mortar and this has encouraged two distinct groups of lichens to grow which are adapted to each of these conditions.
3. The wall is orientated North-South and hence offers an east-facing side which is well illuminated (at least away from the shade of the copse east of the farm) and one that is west-facing and is shaded and receives less light.
4. The wall has remained untouched for some considerable time.

The wall, and its covering of lichens, has been the boundary of this meadow for several hundreds of years. With sympathetic management it, together with the lichens it supports, will stand for many more years.

Management recommendations:

- Ivy and brambles should be removed from the wall (ivy should be cut and allowed to fall off naturally with time; pulling it off will remove lime mortar).
- The copse close to the farm has effectively shaded out all lichen interest from the section of the wall immediately to the west, when these trees need felling replacements should be planted well away from the wall.
- The post and wire fence close up against the wall, west of the copse, should be removed, gaps in the wall rebuilt to make it sound. This will prevent scrub development close to the wall (which is now occurring between the fence and the wall) which will shade out and prevent future lichen colonization and also disrupt the wall's foundations.
- If rebuilding of the low sections takes place, stone similar to the original volcanic rock should be used (much of the wall appears to be of Tuff, if this is not available then local granite should be substituted) and bonded with lime mortar.
- Rabbits should be controlled to prevent their burrows disrupting the foundations and making the wall unstable.



Caloplaca aurantia

Grace Dieu Manor Farm Wall - Species List

Southern section, from SK43731808 to 43741809, facing south

Recorded by I.G. Pedley, B. Coppins & M. Powell, 10 Aug 2010

<i>Name</i>	<i>Substrate</i>	<i>Status in Leics</i>
<i>Acarospora fuscata</i>	stone	common
<i>Bilimbia sabuletorum</i>	on moss	occasional
<i>Caloplaca citrina s.s.</i>	mortar	common
<i>Caloplaca flavocitrina</i>	mortar	frequent
<i>Caloplaca holocarpa</i>	stone	common
<i>Candelariella vitellina f. vitellina</i>	stone	common
<i>Catillaria chalybeia var. chalybeia</i>	stone	frequent
<i>Catillaria lenticularis</i>	mortar	occasional
<i>Evernia prunastri</i>	gate	occasional
<i>Lecanora albescens</i>	mortar	frequent
<i>Lecanora dispersa</i>	stone	common
<i>Lecanora muralis</i>	stone	common
<i>Lecanora polytropa</i>	stone	common
<i>Lecanora soralifera</i>	stone	occasional
<i>Lecidella stigmatea</i>	mortar	common
<i>Lecidella scabra</i>	stone	common
<i>Lepraria incana s.s.</i>	stone	common
<i>Lepraria lobificans</i>	mortar	frequent
<i>Melanelixia fuliginosa subsp. fuliginosa</i>	stone	frequent
<i>Melanelixia subaurifera</i>	gate	occasional
<i>Parmelia sulcata</i>	gate	common
<i>Phaeophyscia orbicularis</i>	stone	common
<i>Physcia adscendens</i>	stone	common
<i>Physcia caesia</i>	stone	common
<i>Physcia tenella</i>	stone	common
<i>Placynthiella icmalea</i>	stone	occasional

Grace Dieu Manor Farm Wall - Species List

Southern section, from SK43731808 to 43741809, facing south (continued)

Recorded by I.G. Pedley, B. Coppins & M. Powell, 10 Aug 2010

<i>Name</i>	<i>Substrate</i>	<i>Status in Leics</i>
<i>Porpidia soresizodes</i>	stone	occasional
<i>Porpidia tuberculosa</i>	stone	occasional
<i>Rhizocarpon reductum</i>	stone	frequent
<i>Rinodina oleae</i>	mortar	frequent
<i>Psilolechia lucida</i>	stone	occasional
<i>Sarcogyne regularis</i>	mortar	occasional
<i>Scoliciosporum umbrinum</i>	mortar	occasional
<i>Stereocaulon pileatum</i>	stone	rare
<i>Trapelia coarctata</i>	stone	occasional
<i>Trapelia placodioides</i>	stone	occasional
<i>Verrucaria muralis</i>	mortar	frequent
<i>Verrucaria nigrescens f. nigrescens</i>	mortar	common
<i>Verrucaria nigrescens f. tectorum</i>	mortar	occasional
<i>Xanthoparmelia mougeotii</i>	stone	occasional
<i>Xanthoria candelaria</i>	mortar	rare
<i>Xanthoria parietina</i>	stone	common
<i>Xanthoria ucrainica</i>	stone	frequent

Grace Dieu Manor Farm Wall - Species List

Northern section, from SK43711819 to 43701827, facing east

Recorded by I.G. Pedley, B. Coppins & M. Powell, 10 Aug 2010

<i>Name</i>	<i>Substrate</i>	<i>Status in Leics</i>
<i>Acarospora fuscata</i>	stone	occasional
<i>Agonimia tristicula</i>	moss	occasional
<i>Botryolepraria lesdainii</i>	mortar	occasional
<i>Buellia aethalea</i>	stone	occasional
<i>Caloplaca arcis</i>	mortar	occasional
<i>Caloplaca aurantia</i>	mortar	occasional
<i>Caloplaca chlorina</i>	stone	rare
<i>Caloplaca citrina s.s.</i>	mortar	frequent
<i>Caloplaca flavescens</i>	mortar	frequent
<i>Caloplaca flavocitrina</i>	mortar	occasional
<i>Caloplaca saxicola</i>	mortar	occasional
<i>Collema crispum var. crispum</i>	mortar	occasional
<i>Diploica canescens</i>	stone	occasional
<i>Lecanora albescens</i>	mortar	common
<i>Lecanora conferta</i>	stone	frequent
<i>Lecanora dispersa</i>	stone	common
<i>Lecanora orosthea</i>	stone	occasional
<i>Lecanora polytropa</i>	stone	occasional
<i>Lecanora sulphurea</i>	stone	occasional
<i>Lecidella scabra</i>	stone	occasional
<i>Lepraria incana s.s.</i>	stone	frequent
<i>Leptogium turgidum</i>	mortar	rare
<i>Porpidea tuberculosa</i>	stone	frequent
<i>Psilolechia lucida</i>	stone	occasional
<i>Scoliciosporum umbrinum</i>	stone	frequent
<i>Tephromela atra var. atra</i>	stone	occasional

Grace Dieu Manor Farm Wall - Species List

Northern section, from SK43711819 to 43701827, facing east (continued)

Recorded by I.G. Pedley, B. Coppins & M. Powell, 10 Aug 2010

<i>Name</i>	<i>Substrate</i>	<i>Status in Leics</i>
<i>Toninia aromatica</i>	mortar	occasional
<i>Trapelia placodioides</i>	stone	occasional
<i>Verrucaria nigrescens</i>	mortar	common